2020
Annual
Report

origin



good energy

"Good energy is helping Australia transition to a cleaner energy future"

Scott Andreas
Field Manager East
Asset Services

Brooke Geary
Field Project Engineer

Featured on our front cover are Scott Andreas and Brooke Geary

Scott is Field Manager East, Asset Services and Brooke is Field Project Engineer, both in our Integrated Gas business. Scott and Brooke work to safely deliver gas to our customers, helping support the transition to a cleaner future.

Scott and Brooke were photographed at an Australia Pacific LNG well site at Condabri Central. Origin owns 37.5 per cent of Australia Pacific LNG, and as upstream operator, produces coal seam gas (CSG) from the Surat and Bowen basins in Queensland. Australia Pacific LNG provides ~30 per cent of Australian east coast gas and is a major exporter of liquefied natural gas to Asia.

Contents

Welcome to the 2020 Annual Report 2

20-year Timeline 4

About Origin 6

Where We Operate 7

Board of Directors 8

Executive Leadership Team 10

Operating and Financial Review 12

Directors' Report 49

Remuneration Report 52

Lead Auditor's Independence Declaration 73

Financial Statements 75

Directors' Declaration 131

Independent Auditor's Report 132

Share and Shareholder Information 140

Exploration and Production Permits and Data 144

Annual Reserves Report 146

Five-year Financial History 152

Glossary and Interpretation 154



A message from Gordon

Dear Shareholder,

I was elected Chairman of Origin Energy in October 2013. As announced, I will be stepping down at this year's AGM in October.

I looked back at our message to shareholders in the 2014 Annual Report. We commented that our industry was at the forefront of economic, social and political debate. We noted in particular that our challenge every day was to deliver reliable, affordable and cleaner energy. And we bore witness to the substantial change in energy policy settings. How prescient we were, and how tumultuous that seven years has been. But how resilient Origin has demonstrated, in embracing the challenges and transforming its business.

We are very different to the company of 2014. We have become a customer obsessed retailer, and our strategic investment in Octopus Energy, I am certain, will be a step change in that journey. We are pivoting to a greener future with gas as the transition fuel and a leading role in renewables. We have demonstrated the financial viability of investing in APLNG, with production costs competitive with US shale gas. We are at the forefront of building IoT propositions to harness data and to connect customers to the latest technology. We look confidently to the future with e-mobility, hydrogen and LNG for transport extending us beyond the core.

As a backdrop to all of this we have demonstrated sound capital management, maintaining our investment grade rating, reducing debt, and maintaining our dividend. The externalities have not changed, arguably have got more challenging, but we have focused on what we can control, and shown commitment and resilience.

For this I owe a deep well of thanks. Firstly, to a management team, superbly led by Frank. If a Board's first priority is to appoint the right CEO, we succeeded.

Secondly, to a wonderful Board of fellow directors who demonstrate every day the value of our mantra "the obligation to dissent". This constructive contestability has made for better decisions. And finally, to our shareholders and their proxy advisors. I have enjoyed our regular interactions, listened and learned, and we as a company are the better for their counsel.

And so I leave optimistic about the future of Origin. Board renewal has been front of mind for the Board for some time, and after a rigorous chair development and succession program, Scott Perkins was the unanimous choice of his fellow directors. We have worked together closely over the past five years and he and I will ensure a seamless handover. Scott and Frank will form a formidable team, as the leadership of the company, shaping this future.

I will cheer from the sidelines.



Gordon Cairns
Chairman



A message from Frank

Welcome to the 2020 Annual Report.

In an extraordinary year, Origin quietly turned 20. In February 2000, Origin was first listed on the ASX and today we are Australia's number one energy retailer, a significant energy producer and a major contributor to the Australian economy.

It has taken a dedicated group of people to create our business, and I thank our more than 5,200 people who represent Origin every day, from the Surat Basin to Sydney, and from Minto to Melbourne. Two of those people are Scott Andreas and Brooke Geary, who are featured on the front cover of this report.

Scott and Brooke were photographed at a well site at Condabri Central, in Queensland. As part of our Integrated Gas team, Scott and Brooke work to safely deliver gas to our customers and are also helping Origin as we transition to a cleaner energy future.

Our philanthropic foundation also achieved a milestone, celebrating its 10-year anniversary in February. Over this time, the Origin Energy Foundation has provided more than $27 million to good causes across Australia and supported more than 62,000 young people to achieve success in education. I am exceptionally proud of the work the Foundation undertakes to create better lives for young Australians through the power of education.

Progress on our commitments

In response to significant challenges this year, Origin's focus has been on maintaining reliable energy supply, keeping our people safe, and supporting our customers and communities. Against this backdrop, Origin's underlying business performance continued to improve across the year, driving growth in free cash flow, which allowed further debt reduction, disciplined investment in growth opportunities and distributions to shareholders.

Origin delivered a stable underlying profit of $1,023 million in FY2020, and our capital structure continued to improve, with adjusted net debt of $5,158 million at 30 June 2020. Through our Integrated Gas business, strong field production helped drive record production for Australia Pacific LNG and a record cash distribution to Origin of $1,275 million. In Energy Markets, electricity gross profit was lower following the introduction of retail price regulation, while we were able to utilise the flexibility of our generation fleet and wholesale gas portfolio to adapt to the reduced demand caused by the pandemic.

Importantly, our focus on a safety culture based on learning has yielded strong improvements this year. Our Total Recordable Injury Frequency Rate (TRIFR) reduced to 2.6, from 4.4 the previous year.

In keeping with our commitment to progressively decarbonise our business, we have announced a new short-term target to reduce our Scope 1 emissions by 10 per cent on average between FY2021 and FY2023. This reduction will be done from an FY2017 baseline. Our commitment remains to halve our Scope 1 and Scope 2 emissions by 2032 and we are aiming to achieve net-zero emissions across the business by 2050.

Supporting customers and communities

I am proud of Origin's efforts to support our customers throughout the year, including in times of bushfires, floods and then the COVID-19 pandemic. Our people have gone above and beyond for our customers; helping with energy bills including payment extensions and access to hardship services. We also passed on lower wholesale costs to customers and further improved our digital platforms to make it easier to engage with us.

Over the summer, volunteers through the Origin Energy Foundation provided practical support to bushfire-affected communities cut off from power by assembling over 1,500 portable SolarBuddy lights for distribution. It is this giving back to the community by our people which supports our 'good energy' brand position.

Our gas exploration in the Beetaloo Basin was paused in March in response to the COVID-19 pandemic to help protect Northern Territory communities and people. The project is expected to resume later this year. Origin remains committed to the Beetaloo which, if successful, has the potential to deliver long-term economic and social benefits for the Northern Territory, Australia and the Asia Pacific region.

Our business performance

In Integrated Gas, improved field performance contributed to record production of 708 petajoules for Australia Pacific LNG, up four per cent on FY2019. A continued focus on cost reduction resulted in operating and capital costs falling by eight per cent. Underlying EBITDA for Integrated Gas was $1,741 million in FY2020, eight per cent lower than the prior year, primarily reflecting a change in accounting treatment at Australia Pacific LNG.

Across Energy Markets, performance was largely driven by a reduction in electricity gross profit, due to lower retail margins following the introduction of the Default Market Offer and Victorian Default Offer. The COVID-19 pandemic also impacted demand in the final quarter, particularly for our commercial customers. Within this challenging environment, we focussed on efficiencies, including reducing our retail cost to serve by $40 million. Underlying EBITDA in Energy Markets was $1,459 million, down $115 million on FY2019.

Outlook

Origin provided the following guidance at our annual results on 20 August 2020 on the basis that market conditions and the regulatory environment do not materially change, adversely impacting on operations. Considerable uncertainty exists relating to the potential ongoing impacts of COVID-19 and this guidance is subject to any further material impact on demand and customer affordability.

Energy Markets Underlying EBITDA is expected to be $1,150-$1,300 million. This guidance reflects lower electricity gross profit due to passthrough of reduced wholesale prices to customers, higher network costs absorbed in the regulated tariffs and lower natural gas gross profit, partially offset by a targeted $70 million reduction in cost to serve.

Australia Pacific LNG's FY2021 production is expected to be lower at 650-680 petajoules, reflecting anticipated reduced demand with strong field capability to increase production to respond to changes in demand. Distribution breakeven is expected to be in the range of US$27-US$31 a barrel.

Looking forward

In January, Origin welcomed Kate Jordan to our executive leadership team as General Counsel and Executive General Manager, Company Secretariat, Risk and Governance. Kate brings extensive corporate advisory and commercial experience in what is a fast-moving and competitive industry landscape.

As you will be aware, our chairman Gordon Cairns, will be retiring from the board in October. Gordon has served as a director since 2007 and as chairman for the last seven years. On behalf of the board and the business, I want to thank Gordon for his tireless dedication to Origin and our direction over the last 13 years.

We have achieved a lot in Origin's first two decades, and I am extremely proud of how our people are delivering on our purpose of getting energy right for our customers, communities and planet. As shareholders, I thank you for being part of our story and hope you feel proud too.

I look forward to welcoming many of you to our Annual General Meeting on 20 October, which will be held virtually this year in response to the COVID-19 pandemic.

Thank you for your continued support.



Frank Calabria
Chief Executive Officer

20-year Timeline

2000

Origin Energy listed

- **Origin Energy listed** on the Australian Securities Exchange on 21 February 2000.

February 21 2000

2001

- **Acquired Powercore** retail business with over 580,000 Victorian customers.
- **Acquired 580k customer accounts**

2002

- Invested in the **Fairview and Durham Coal Seam Gas (CSG)** fields in Queensland, the start of our focus on producing natural gas from coal seams.

2003

- **BassGas project** approved for construction, opening up new offshore gas resources for Victoria.
- **Acquired 264k customer accounts**

Opened up new offshore gas resources

2004

- Acquired 51.4% controlling interest in **Contact Energy**, one of New Zealand's leading energy retailers and power generators.
- Commenced development of the **Otway gas project** in the offshore Otway Basin in Victoria.



2005

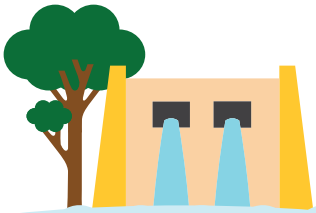
- **Spring Gully CSG** processing facilities in Queensland commenced production.

2012

- **Mortlake Power Station** in Victoria is completed and commenced operations.

2013

- **Acquired Eraring Power Station** and **Shoalhaven Pumped Hydro Storage Scheme** – two key generation assets in New South Wales.



2014

- Acquired a 35% interest in the **Beetaloo Basin shale gas resource** in Northern Territory.
- **Launched littleBIGidea** to encourage young inventors to share their ideas to solve real-world problems.

2015

- Joined the **We Mean Business global climate action coalition** – the first company in Australia and first energy company in the world to commit to seven targets to drive emissions reduction across our business.
- Launched our **Reconciliation Action Plan**, as a demonstration of our commitment to Indigenous Australians.

2016

- Origin's first CEO and Managing Director, Grant King, retires. **Frank Calabria appointed CEO.**
- The $24.7 billion APLNG project **shipped its first cargo of LNG.**



2017

- Booked **Australia's first significant shale gas resource** in the Beetaloo Basin.
- Introduced a new company purpose: **Getting energy right for our customers, community and planet.**
- Launched our **Origin mobile app**, helping electricity and natural gas customers control their energy use and costs.

2006

- **BassGas project operations commenced**, capable of meeting almost 10% of Victoria's gas needs.

2007

- **Acquired Sun Retail**, adding 800,000 new Queensland customers.
- **Acquired 800k customer accounts**

2008

Australia Pacific LNG (APLNG) joint venture

- **Acquired Uranquinty Power Station**, a 640 MW gas-fired peaking station in New South Wales.
- Formed the multibillion-dollar **APLNG incorporated joint venture** in Queensland with ConocoPhillips, to commercialise CSG assets.

2009

- **Acquired WindPower** and its development portfolio, including Stockyard Hill Wind Farm in Victoria.
- Our first wind farm, **Cullerin Range Wind Farm** in New South Wales, commenced operations.

2010

Became Australia's largest energy retailer

- **Acquired 1.6m customer accounts**
- **Kupe gas project in New Zealand** commenced operations.
- **Origin Energy Foundation** established to empower young Australians through education – a focus chosen by employees.
- **Darling Downs Power Station** in Queensland commenced operations.

2011

- APLNG welcomes Sinopec as equity partner and foundation buyer of liquid natural gas (LNG) – at the time the **largest single CSG to LNG supply agreement** ever signed.

2018

- **Launched new Origin Values**, guiding the way our people work.
- Created the **Good Energy brand platform** and campaign – the first major rebrand in our 18-year history.
- **Committed to halve our emissions** (Scope 1 and Scope 2) by 2032, in line with the Paris Agreement.

2019

- **Launched our Stretch Reconciliation Action Plan**, continuing our commitment to advance Australia's reconciliation efforts.

2020

- **Acquired 20% interest** in UK company Octopus Energy, and an Australian licence for the Kraken customer platform.
- APLNG **exported its 500th cargo**.
- **>$27m distributed by Origin Energy Foundation** since inception.



About Origin

Origin at a glance

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, aligned with the Paris Agreement

Powering Australia

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

37.5% interest in Australia Pacific LNG

Exporting to Asia and supplying ~30% of Australian east coast gas demand

Supporting Australian communities

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

Driving future energy innovation

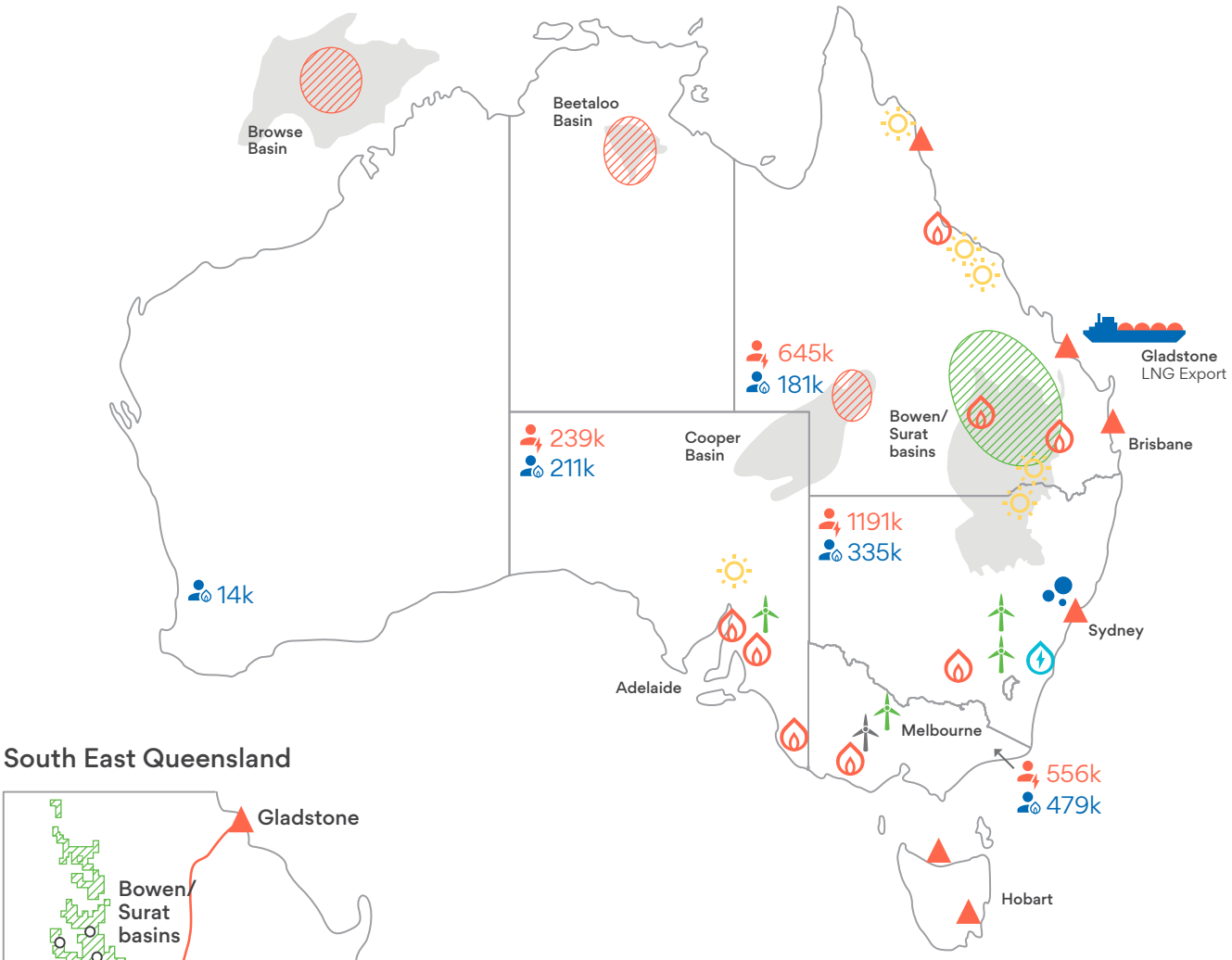
Investing in new technology, start-ups and future fuels

Exploration and development

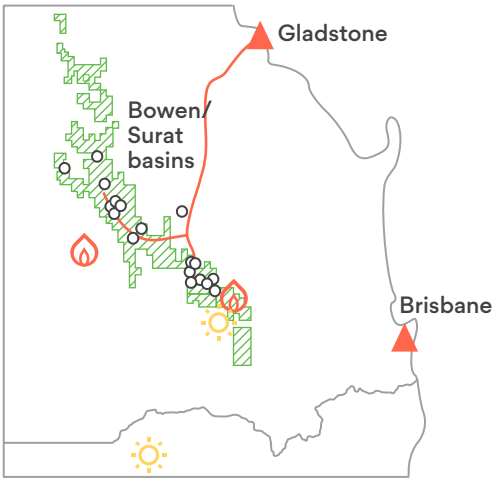
77.5% interest in Beetaloo Basin exploration permits

Bringing **good energy** to everything we say and do.

Where We Operate



South East Queensland



Exploration & production acreage

- Origin upstream acreage
- APLNG upstream acreage
- Production facility
- APLNG pipeline

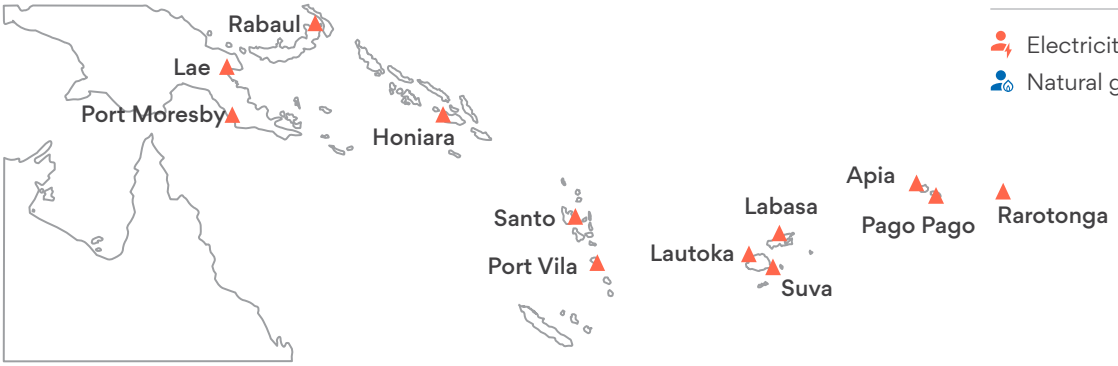
Generation

- Gas
- Pumped hydro
- Solar (contracted)
- Wind (contracted)
- Coal
- Under construction

- LPG seaboard terminal

- Electricity customer accounts
- Natural gas customer accounts

Pacific countries LPG



Board of Directors



Gordon Cairns

Independent Non-executive Chairman

Tenure 13 years, 2 months

Gordon Cairns joined the Board in June 2007 and became Chairman in October 2013. He is Chairman of the Nomination Committee and a member of the Audit, Health, Safety and Environment, Risk and Remuneration and People committees.

Gordon has extensive Australian and international experience as a senior executive, as Chief Executive Officer of Lion Nathan Ltd, and has held senior management positions in marketing, operations and finance with PepsiCo, Cadbury Ltd and Nestlé.

Gordon is Chairman of Woolworths Group Limited (since September 2015), a Non-executive Director of Macquarie Group Limited and Macquarie Bank Limited (since November 2014) and World Education Australia (since November 2007).

Gordon was previously Chairman of the Origin Energy Foundation, David Jones Limited (March 2014–August 2014) and Rebel Group (2010–2012), Director of The Centre for Independent Studies (May 2006–August 2011), Quick Service Restaurant Group (October 2011–May 2017) and Westpac Banking Corporation (July 2004–December 2013). He was also a senior advisor to McKinsey & Company.

Gordon holds a Master of Arts (Honours) from the University of Edinburgh.



John Akehurst

Independent Non-executive Director

Tenure 11 years, 4 months

John Akehurst joined the Board in April 2009. He is Chairman of the Health, Safety and Environment Committee and a member of the Nomination and Risk committees.

John's executive career was in the upstream oil and gas and LNG industries, initially with Royal Dutch Shell and then as Chief Executive Officer of Woodside Petroleum Limited.

John is a Director of Human Nature Adventure Therapy Ltd (since February 2018).

John was previously Chairman of the National Centre for Asbestos Related Diseases (2009–April 2020), the Fortitude Foundation (2007–April 2020), Transform Exploration Pty Ltd (February 2012–December 2017), Alinta Limited (January 2007–September 2007) and Coogee Resources Ltd (2008–2009) and a former Board member of the Reserve Bank of Australia (September 2007–September 2017), Director of CSL Limited (April 2004–October 2016), Oil Search Limited (1998–2003), Securency Ltd (2008–2012), Murdoch Film Studios Pty Ltd and the University of Western Australia Business School.

John holds a Masters in Engineering Science from Oxford University and is a Fellow of the Institution of Mechanical Engineers.



Maxine Brenner

Independent Non-executive Director

Tenure 6 years, 9 months

Maxine Brenner joined the Board in November 2013. She is Chairman of the Risk Committee and a member of the Audit and Nomination committees.

Maxine was previously a Managing Director of Investment Banking at Investec Bank (Australia) Ltd. Prior to Investec, Maxine was a Lecturer in Law at the University of NSW and a lawyer at Freehills, specialising in corporate law.

Maxine is a Non-executive Director and Chairman of the Remuneration Committee of Orica Ltd (since April 2013) and Qantas Airways Ltd (since August 2013). She is also an Independent Director and Chairman of the Audit and Risk Committee for Growthpoint Properties Australia and a member of the University of NSW Council.

Maxine's former directorships include Treasury Corporation of NSW, Bulmer Australia Ltd, Neverfail Springwater Ltd (1999–2003) and Federal Airports Corporation, where she was Deputy Chair. In addition, Maxine has served as a Council Member of the State Library of NSW and as a member of the Takeovers Panel.

Maxine holds a Bachelor of Arts and a Bachelor of Laws.



Frank Calabria

Managing Director and Chief Executive Officer

Tenure 3 years, 10 months

Frank Calabria was appointed Managing Director & Chief Executive Officer in October 2016. Frank is a member of the Health, Safety and Environment Committee and a Director of the Origin Energy Foundation.

Frank first joined Origin as Chief Financial Officer in November 2001 and was appointed Chief Executive Officer, Energy Markets in March 2009. In that latter role, Frank was responsible for the integrated business within Australia including retailing and trading of natural gas, electricity and LPG, power generation and solar and energy services.

Frank is a Director of the Australian Energy Council and the Australian Petroleum Production & Exploration Association. He is a former Chairman of the Australian Energy Council and former Director of the Australian Energy Market Operator.

Frank has a Bachelor of Economics from Macquarie University and a Master of Business Administration (Executive) from the Australian Graduate School of Management. Frank is also a Fellow of the Chartered Accountants Australia and New Zealand and a Fellow of the Financial Services Institute of Australasia.



Teresa Engelhard

Independent Non-executive Director

Tenure 3 years, 3 months

Teresa Engelhard joined the Board in May 2017. She is a member of the Audit and Remuneration and People committees.

Teresa has more than 20 years' experience in the information, communication, technology and energy sectors as a senior executive and venture capitalist.

Teresa is a Non-executive Director of Wisetech Global (since March 2018), StartupAUS (since March 2016), and LaunchVic (since July 2020). Teresa started her career at McKinsey & Company in California where she served energy and retail clients. More recently, she focused on energy sector innovation as a Managing Partner at Jolimont Capital.

Teresa's former directorships include Daintree Networks, Planet Innovation Ltd (April 2016–November 2019) and RedBubble Limited (July 2011–October 2017).

Teresa holds a Bachelor of Science (Hons) degree from the California Institute of Technology (Caltech), an MBA from Stanford University and is a graduate of the Australian Institute of Company Directors.



Greg Lalicker

Independent Non-executive Director

Tenure 1 year, 4 months

Greg Lalicker joined the Board in March 2019.

Greg is the Chief Executive Officer of Hilcorp Energy Company, based in Houston, USA. Hilcorp is the largest privately held independent oil and gas exploration and production company in the United States.

Greg joined Hilcorp's leadership team in 2006 as Executive Vice President where he was responsible for all exploration and production activities. He was appointed President in 2011 and Chief Executive Officer in 2018. Prior to working for Hilcorp, Greg was with BHP Petroleum based in Midland, Houston, London and Melbourne as well as McKinsey & Company where he worked in its Houston, Abu Dhabi and London offices.

Greg graduated as a petroleum engineer from the University of Tulsa. He also has a Master of Business Administration and a law degree.



Bruce Morgan

Independent Non-executive Director

Tenure 7 years, 9 months

Bruce Morgan joined the Board in November 2012. He is Chairman of the Audit Committee and a member of the Health, Safety and Environment, Nomination and Risk committees.

Bruce is Chairman of Transport Asset Holding Entity of New South Wales (since July 2020), Sydney Water Corporation (since October 2013), a Director of Redkite, the University of NSW Foundation and Deputy Chair of the European Australian Business Council.

Bruce served as Chairman of the Board of PricewaterhouseCoopers (PwC) Australia between 2005 and 2012. In 2009, he was elected as a member of the PwC International Board, serving a four-year term. He was previously a Director of Caltex Australia Ltd (2013 to May 2020) and Managing Partner of PwC's Sydney and Brisbane offices. An audit partner of the firm for over 25 years, he was focused on the financial services and energy and mining sectors leading some of the firm's most significant clients in Australia and internationally.

Bruce has a Bachelor of Commerce (Accounting and Finance) from the University of NSW and is an adjunct Professor of the University. Bruce is a Fellow of the Chartered Accountants Australia and New Zealand and of the Australian Institute of Company Directors.



Scott Perkins

Independent Non-executive Director

Tenure 4 years, 11 months

Scott Perkins joined the Board in September 2015. He is a member of the Audit, Health, Safety and Environment, Nomination, Remuneration and People and Risk committees.

Scott has extensive Australian and international experience as a leading corporate adviser. He was formerly Head of Corporate Finance for Deutsche Bank Australia and New Zealand and a member of the Executive Committee with overall responsibility for the Bank's activities in this region. Prior to that he was Chief Executive Officer of Deutsche Bank New Zealand and Deputy CEO of Bankers Trust New Zealand.

Scott is a Non-executive Director of Woolworths Limited (since September 2014) and Brambles Limited (since May 2015). He is Chairman of Sweet Louise (since 2005) and the New Zealand Initiative (since 2012). Scott was previously a Director of the Museum of Contemporary Art in Sydney (2011–2020) and a Non-executive Director of Meridian Energy (1999–2002).

Scott has a longstanding commitment to breast cancer causes, the visual arts and public policy development.

Scott holds a Bachelor of Commerce and a Bachelor of Laws (Hons) from Auckland University.



Steven Sargent

Independent Non-executive Director

Tenure 5 years, 3 months

Steven Sargent joined the Board in May 2015. He is Chairman of the Origin Energy Foundation, Chairman of the Remuneration and People Committee and a member of the Health, Safety and Environment, Nomination and Risk committees.

Steven's executive career included 22 years at General Electric, where he led businesses across the USA, Europe and Asia Pacific. Steven was President and CEO of GE Mining, GE's global mining technology and services business. Prior to this he was President and CEO of GE Australia, NZ & PNG where he had local responsibility for GE's Energy, Oil and Gas, Aviation, Healthcare and Financial Services businesses.

Steven is Chairman of OFX Group Ltd (since November 2016) and Deputy Chairman of Nanosonics Ltd (since July 2016). Over recent years Steven has been a Non-executive Director of Veda Group Ltd (2015–2016).

Steven holds a Bachelor of Business from Charles Sturt University and is a Fellow with the Australian Institute of Company Directors and a Fellow with the Australian Academy of Technological Sciences and Engineering.

Executive Leadership Team



Jon Briskin

Executive General Manager, Retail

Jon Briskin joined Origin in 2010 and was appointed Executive General Manager, Retail in December 2016. Jon leads the teams responsible for energy sales, marketing, product development and service experience for Origin's residential and SME customers. Jon has held various roles at Origin, leading customer operations, service transformation and customer experience, and prior to Origin worked as a management consultant.



Greg Jarvis

Executive General Manager, Energy Supply and Operations

Greg Jarvis joined Origin in 2002 as Electricity Trading Manager and was appointed Executive General Manager, Energy Supply and Operations in December 2016. Greg is responsible for Wholesale, Trading, Business Energy, Solar, Generation, HSE and LPG. Greg has over 20 years' experience in the financial and energy markets.



Kate Jordan

General Counsel and Executive General Manager, Company Secretariat, Risk and Governance

Kate Jordan joined Origin in March 2020 as General Counsel and Executive General Manager, Company Secretariat, Risk and Governance. Kate leads the legal, company secretariat, risk and internal audit teams. Prior to joining Origin, Kate was Deputy Chief Executive Partner at Clayton Utz, responsible for people and development. Kate has over 20 years' legal experience across a range of corporate transactions.



Tony Lucas

Executive General Manager, Future Energy and Business Development

Tony Lucas joined Origin as Risk Analysis Manager in 2002 and was appointed Executive General Manager, Future Energy and Business Development in December 2016. Tony leads the team responsible for future energy, strategy and technology, ensuring that Origin is well positioned to lead the transition into a low-carbon, technology-enabled world. Tony began his career in the banking industry before moving into the energy sector.



Sharon Ridgway

Executive General Manager, People and Culture

Sharon Ridgway joined Origin in 2009 and has been responsible for People and Culture since December 2016. Sharon's team provides strategic support to the business in key areas such as engagement, diversity, talent management and culture change. Prior to joining Origin, Sharon developed a wide range of experience across operational and human resources roles while working at Dixons, a large European electrical retailer.



Mark Schubert

Executive General Manager, Integrated Gas

Mark Schubert joined Origin in April 2015 and was appointed Executive General Manager, Integrated Gas in April 2017. He is responsible for Origin's Integrated Gas business, which manages the Company's portfolio of natural gas, LNG and hydrogen interests. Mark has also held a number of senior positions during an 18-year career with Shell, including having direct accountability for developing the world's first floating LNG facility, Prelude FLNG.



Samantha Stevens

Executive General Manager, Corporate Affairs

Samantha Stevens joined Origin in March 2018 as Executive General Manager, Corporate Affairs. Samantha is responsible for Origin's external affairs, government and public policy, and employee communication functions, and the Origin Energy Foundation. Samantha has more than 20 years' experience in corporate affairs, mainly in the resources, industrials and financial services sectors. Prior to joining Origin, Samantha headed up corporate affairs for the global mining services company Orica.



Lawrie Tremaine

Chief Financial Officer

Lawrie Tremaine joined Origin in June 2017 and as Chief Financial Officer. Lawrie leads the teams responsible for all finance activities, corporate strategy, corporate development, procurement, investor relations and corporate HSE. Lawrie has over 30 years' experience in financial and commercial leadership, predominantly in the resource, oil and gas, and minerals processing industries having previously worked at Woodside Petroleum and Alcoa.


origin
origin

Operating and Financial Review

For the year ended 30 June 2020

This report forms part of the Directors' Report.

1. Our purpose underpins everything we do

Our purpose: Getting energy right for our customers, communities and planet

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. In FY2020, we:

- responded to the COVID-19 pandemic with a commitment to not disconnect or default list residential or small business customers in financial distress until at least 31 October 2020;
- extended regulated retail pricing to our customers beyond regulatory requirements;
- supported customers experiencing financial hardship, with 33,100 successfully completing our Power On hardship program;
- continued to support local businesses with supply from new APLNG acreage dedicated to large manufacturing customers;
- improved our Strategic Net Promoter Score (NPS) by eight points to +2 as at 30 June 2020, increasing further to +5 as at July 2020;
- continued to support customer take-up of renewable energy, as one of Australia's leading installers of rooftop solar and providers of GreenPower and Green Gas; and
- leveraged our global energy accelerator program, Free Electrons, to partner with start-ups, including OhmConnect and Orison to roll out solutions in demand-side management and storage.

Customers

Strategic NPS



33,100

Customers successfully completed our Power On hardship program

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.

The Origin Energy Foundation is celebrating its 10th anniversary in 2020. Through grants, volunteering and workplace giving programs, the Foundation contributed more than $2.9 million to the community in FY2020.

Origin and its employees donated more than $870,000 to support communities affected by bushfires and drought. This included $300,000 given to the Australian Red Cross and state-based rural fire services, and $100,000 to Drought Angels.

We spent $365 million directly with regional suppliers, or 14 per cent of our total spend.

We launched our Stretch Reconciliation Action Plan (RAP) in July 2019 to show our commitment to participating in Australia's reconciliation efforts through targeted activities across learning, procurement and employment. In FY2020, we spent $5.3 million with Indigenous suppliers, exceeding our Stretch RAP target of $5 million.

This year, we announced our new three-year community partnership with Netball Australia, supporting players at all levels across the country – from local clubs to the Australian Diamonds.

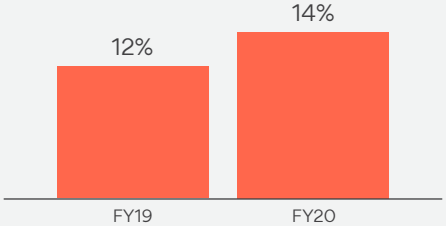
We continue to work closely with the Northern Land Council to engage with and maintain the support of our host Traditional Owners, who are the Native Title holders where we work in the Beetaloo Basin.

Communities

>$2.9M

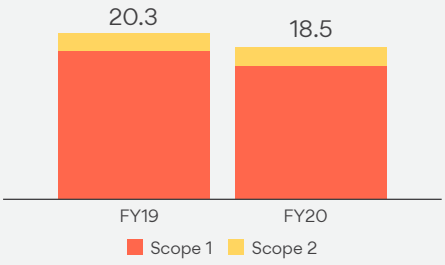
contributed to the community by the Origin Energy Foundation

Regional procurement spend as a % of total spend



Planet

Greenhouse gas emissions (mt CO_2-e)



61 MW

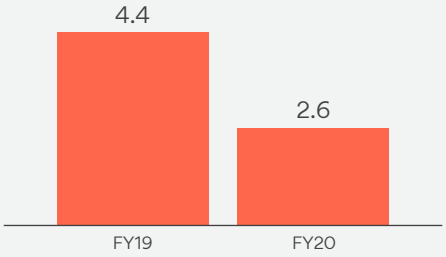
Solar installations, up from 50 MW in FY2019

People

75%

Staff engagement, our highest ever score

Total Recordable Injury Frequency Rate (TRIFR)



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.

In line with our decarbonisation strategy, we are:

- committed to lowering Scope 1 and 2 emissions by 50 per cent and Scope 3 emissions by 25 per cent by 2032, approved by the Science Based Targets initiative;
- targeting more than 25 per cent of owned and contracted generation capacity from renewables and storage by the end of 2020, subject to development and commissioning timelines;
- setting a new target to reduce Scope 1 emissions by 10 per cent on average over FY2021–23 from an FY2017 baseline;
- including a new climate change target linked to executive remuneration; and
- planning to update our existing science-based target to a 1.5°C pathway with an aim to achieve net zero emissions by 2050.

During FY2020, we:

- reduced our operational Scope 1 and Scope 2 emissions by 1.8 million tonnes, or 9 per cent;
- increased solar installations to 61 MW, up from 50 MW in FY2019; and
- published updated scenario analysis evaluating the impact of a 1.5°C carbon reduction pathway on our wholesale and generation portfolio.

Our disclosures under the Task Force on Climate-related Financial Disclosure guidelines are set out in our Sustainability Report.

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.

During FY2020, we:

- increased our engagement score from 61 per cent to 75 per cent, placing Origin in the top quartile across Australia and New Zealand;
- improved our TRIFR score from 4.4 to 2.6; and
- were ranked number nine globally in Equileap's 2019 Gender Equality Global Report & Ranking.

During the year, we also enhanced the learning and development options available to our people by launching our Learning and Development Hub.

We partnered with a new Employee Assistance Provider to give our people access to free, confidential, independent and professional support. We also launched an online Mental Health and Wellbeing Hub, which provides regular webinars, factsheets, videos, mindfulness exercises and support information.

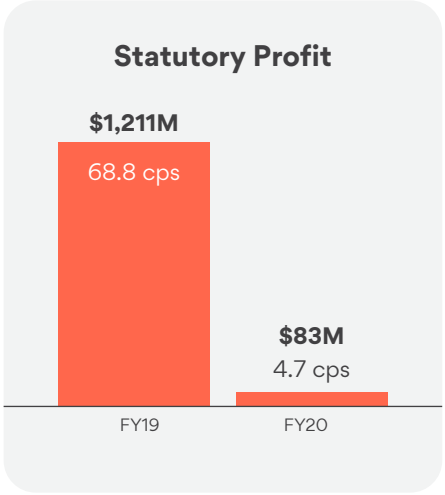
We also recently launched Gender Affirming Support@Origin and a new gender affirming leave policy.

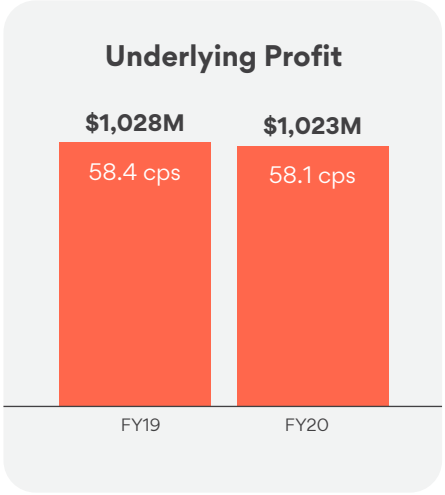
COVID-19 response

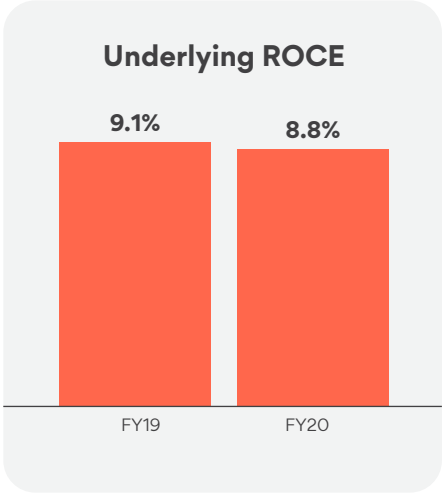
In response to the COVID-19 pandemic, we focused on the health and safety of our people and the communities in which we operate by maintaining a reliable supply of energy and supporting customers in need. We swiftly transitioned most of our people to working from home, with only people in critical roles remaining at sites, under strict health and safety measures. Our supply chains and operations adapted seamlessly without significant disruptions.

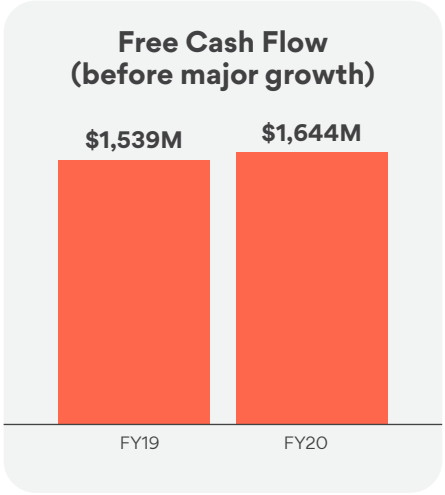
2. Highlights

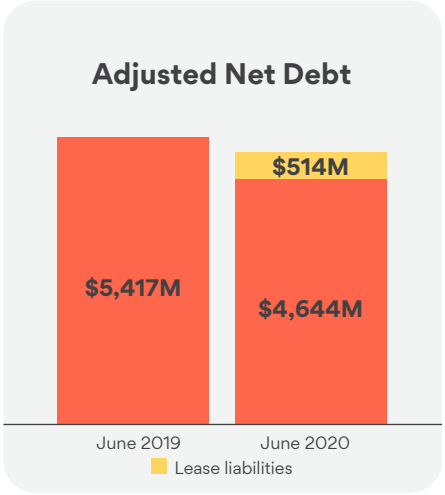
Financial performance

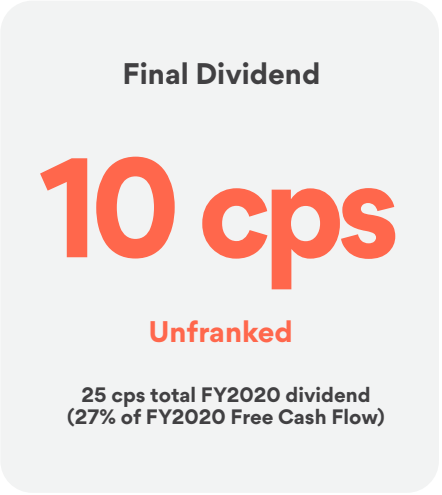












In FY2020, Origin delivered a strong operational and underlying financial result with increased Free Cash Flow underpinning continued debt reduction and disciplined investment in future growth.

Underlying Profit was in line with the prior year at $1,023 million, reflecting a stable result from Australia Pacific LNG (APLNG) but a lower contribution from Energy Markets, offset by lower commodity hedging costs in Integrated Gas, lower interest expense and the prior year non-cash remediation provision not repeating. Statutory Profit reduced, driven by non-cash APLNG impairment and onerous contract provision charges that totalled $1.2 billion, reflecting lower oil and LNG price assumptions.

Strong Free Cash Flow was driven by record cash distributions from APLNG of $1,275 million and proceeds from the sale of Ironbark of $231 million. This was partially offset by higher Energy Markets working capital and higher tax paid.

Adjusted Net Debt was down $773 million excluding the impact of lease liabilities under AASB 16 *Leases*. Adjusted Net Debt/Adjusted Underlying EBITDA reduced from 2.6x at June 2019 to 2.1x, the lower end of our 2.0–3.0x target range.

COVID-19 impacted the business in the final quarter of FY2020, primarily through lower commodity prices and lower electricity and gas demand from small and large business customers, partly offset by a moderate increase in retail demand. APLNG production in the fourth quarter reduced due to lower demand, and activity was paused in the Beetaloo Basin. Due to lagged contract pricing, reduced oil prices in the final quarter are expected to affect APLNG revenue in FY2021.

We continued to adopt a disciplined approach to capital management to maintain resilience and maximise returns. In response to the COVID-19 pandemic and a material reduction in commodity prices, we announced a number of cost reduction initiatives across both businesses. On 1 May 2020, we announced a strategic partnership with Octopus Energy, a fast-growing UK retailer, to radically transform our retail operations.

Energy Markets performance

Underlying EBITDA

$1,459M

Down $115m or 7% vs FY2019

Operating cash flow

$1,307M

Down $400m vs FY2019 due to working capital movements

10.2%

Underlying ROCE

Down 2% vs FY2019

Cost to serve

$570M

Down $40m ($58m after adjusting for AASB 16 *Leases* and COVID-19)

Electricity and gas customer accounts

3,851k

Up 21k vs June 2019

Strategic Net Promoter Score

+2

Up 8 points vs FY2019

Energy Markets Underlying EBITDA reduced in FY2020 as higher gas Gross Profit and savings in cost to serve were more than offset by lower electricity Gross Profit. Lower Electricity Gross Profit was driven by the introduction of retail price regulations and lower volumes due to weather, solar uptake and energy efficiency, and the impact of COVID-19.

Operating cash flow was lower due to higher working capital, reflecting the timing of collateral deposited with the futures exchange associated with forward electricity hedge positions as part of our electricity risk management.

Despite the challenges posed during FY2020 by bushfires, extreme weather events and the COVID-19 pandemic, our power stations continued to supply the market as needed. We successfully returned a Mortlake unit to service ahead of the summer peak demand period and reduced our output in response to lower demand associated with COVID-19.

Construction of the 530 MW Stockyard Hill Wind Farm progressed and is targeted by the developer to come online by the end of 2020, subject to development and commissioning timelines. We continue to explore generation expansion opportunities, including grid-scale storage and fast-start gas. While forward wholesale electricity prices are currently below the price needed for investment, our longer-term view remains that as coal generation progressively exits, new firm and flexible generation capacity will be required to complement increasing renewable generation.

Retail markets remained competitive throughout FY2020; however, we increased the number of energy customer accounts by 21,000, led by gains in residential gas and community energy services (CES). In addition, we grew our Broadband accounts by 12,000 with a continued focus on balancing share and customer lifetime value. Market churn reduced following the introduction of regulated default tariffs and we maintained a churn rate of 5 per cent below the market.

Our retail transformation program is on track and focused on improving customer experience, targeting a market-leading cost position and growing new revenue streams. Our Strategic NPS score increased to +2 as at 30 June 2020, increasing to +5 as at July 2020. We have simplified our product suite and continue to streamline and digitise the customer journey. Customers are increasingly choosing to engage with us through digital channels, with 68 per cent of customers now on e-billing, and service call volumes reduced by a further 8 per cent this year. We are on track to achieve our target of reducing cost to serve by $100 million from FY2018 to FY2021 and growing our Solar, CES and Broadband businesses.

On 1 May 2020, we announced a strategic partnership with disruptive energy retailer and technology company Octopus Energy to adopt its globally distinctive operating model and proprietary Kraken platform, as well as taking a 20 per cent equity stake. This partnership will accelerate our retail strategy by delivering superior customer experience, driving a further step change in cost reduction, and opening up further growth opportunities.

We are making good progress customising the Kraken platform for the Australian market and are on track to migrate our first customer cohort by the end of the calendar year. Our first group of Energy Specialists have been trained on Octopus Energy's UK Kraken platform and are supporting its UK customers.

Integrated Gas performance

Underlying EBITDA

$1,741M

Down $151m or 8% vs FY2019, Underlying EBIT up $46m

Cash distributions from APLNG

$1,275M

Up $301m or 31% vs FY2019,

8.2%

Underlying ROCE

In line with FY2019

Record APLNG production (37.5%)

265PJ

Up 4% vs FY2019

Average realised LNG price

US$9.1/ MMBTU

Down 10% vs FY2019, down 5% in A$ terms at $12.9/GJ

Opex and Capex[1]/GJ

$3.5/GJ

Down 13% vs FY2019

Integrated Gas Underlying EBITDA reduced as lower commodity hedging costs were more than offset by a decrease in share of APLNG Underlying EBITDA. This reflected a higher proportion of LNG sales into a weaker spot market, lower domestic sales volumes and average price, and higher costs associated with a change in accounting treatment for dewatering and workovers, which was more than offset by a reduction in ITDA.

APLNG delivered record production, reflecting improved field performance with higher well availability and facility reliability. Eurombah Reedy Creek Interconnect (ERIC) pipeline came online in July 2019, improving utilisation of processing capacity. Talinga Orana Gas Gathering Station (TOGGS) came online in July 2020, it compresses and transports gas through the Talinga to Condabri Interconnect Pipeline to utilise processing capacity in Condabri.

Total capital and operating expenditure[1] decreased by more than $200 million compared with FY2019. This was due to improved field performance resulting in less gas purchases and lower costs associated with well workovers, as well as reduced exploration, lower non-operated activity and lower infrastructure spend. As upstream operator, Origin delivered average operating costs of $1.0/GJ (excluding pipeline and major turnaround costs) and average standard unfracked vertical Surat well costs of $1.2 million. Total operating and capital expenditure in FY2020 was $3.50/GJ.[1]

The four-yearly maintenance of 15 upstream operated gas processing facility trains was completed in early FY2020. Due to the COVID-19 pandemic, a shutdown of one LNG train planned for May 2020 was deferred to July 2021.

During the period:

- APLNG delivered record production of 265 PJ (Origin share), shipped its 500th LNG cargo and made record cash distributions to Origin of $1,275 million;
- Origin's share of APLNG 2P (proved plus probable) operated reserves increased 168 PJ or 5 per cent before production, reflecting higher estimated recovery from strong field performance, the inclusion of new areas to reserves and the Ironbark acquisition. This enabled a decision to not participate in less economic non-operated fields;
- APLNG executed new contracts for over 100 PJ of gas sales to domestic customers starting in calendar year 2020;
- both long-term buyers declared LNG downward quantity tolerance for calendar year 2020; and
- the first price review under APLNG's contract with Sinopec was completed with no change to the contract price.

In April 2020, Origin increased its interest in the Beetaloo Basin by 7.5 per cent to 77.5 per cent, in exchange for increasing its carry of its minority partner's share of costs by $25 million. Testing a liquids-rich gas play, the Kyalla horizontal well was drilled, cased and cemented during the period, before activity was paused due to COVID-19. Subject to COVID-19-related conditions, fracture stimulation of the Kyalla well is planned to resume in Q3/Q4 calendar year 2020, with extended production testing to follow.

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

3. Strategy and prospects

Our business drivers

As a leading integrated energy company, Origin's earnings drivers are spread across the energy value chain.

Our electricity margin is predominantly driven by outperforming the market cost of energy through our generation portfolio (power stations and supply contracts). Although Origin generates less electricity than it sells, a significant portion of its wholesale costs are relatively fixed, and so margins are leveraged to movements in wholesale market prices as they flow through into retail tariffs.

In natural gas, Origin's wholesale margin is driven by a strong gas supply portfolio with pipeline and storage flexibility enabling us to direct gas to where it is most needed. A large portion of supply is under long-term contracts that are either fixed-price or linked to oil and Japan Korea Marker (JKM) prices, some of which reprice to market over time.

Profitability in energy retailing is driven by attracting and retaining customers by providing a superior customer experience and low-cost service.

Origin is the upstream operator and has a 37.5 per cent interest in APLNG, which is Australia's largest CSG to LNG project. It is a significant supplier to both domestic gas and international LNG markets, with the majority of volume contracted until approximately 2035. Profitability is underpinned by maintaining a low annual capital and operating cost base relative to revenues. In FY2020, approximately 72 per cent of APLNG gas volume was sold as LNG (of which 93 per cent was under long-term oil-linked contracts). The remaining 28 per cent was sold domestically via a mix of long-term and short-term contracts. This contracting strategy minimises our exposure to the short-term LNG market.

Market outlook

In the near term, COVID-19 has impacted the outlook for economic growth at the macro level as well as the specific markets in which we operate domestically and internationally.

International oil and LNG markets are experiencing reduced demand due to COVID-19, coinciding with a period of LNG oversupply. This has resulted in depressed prices for both commodities in the near term.

The domestic electricity and gas markets have also experienced reduced demand due to COVID-19, with electricity demand down 5–10 per cent over the fourth quarter of FY2020 (weather corrected). This coincides with increased supply of renewable energy and lower international gas prices, reducing the near-term outlook for domestic electricity and gas prices.

The impact on employment and economic conditions more generally will have implications for our customers, and will affect energy demand and affordability.

The path to recovery for the economy and the markets in which we operate will depend on the effectiveness of the health and community responses to contain the virus, and the policy response to mitigate the economic impacts.

In the longer term, we continue to expect global trends towards decarbonisation, decentralisation and digitisation will shape energy markets. If anything, we believe the enduring impacts of COVID-19 may accelerate the pace of change.

We expect:

- continued increases in large- and small-scale renewable energy will maintain downward pressure on average electricity prices, but will also increase volatility and the need for more reliable, dispatchable ('firming') capacity such as flexible gas-fired generation and battery storage, which Origin is well placed to supply;
- increased electrification over time, particularly in transportation near term;
- growth in global demand for gas in power generation, industrial heating, building heating and transportation;
- LNG markets to remain oversupplied in the near term, but that new supply will be required from the early 2030s;
- east coast domestic gas prices to be impacted by a number of factors, including Asian LNG and international oil prices, procurement and transportation costs; and
- retail markets to remain competitive, but with improved transparency due to market reference bill requirements.

It is in this context that we continue to evolve our strategy to respond to the short-term impacts of COVID-19 and position our business to capture value in a future shaped by these global trends.

Our strategy

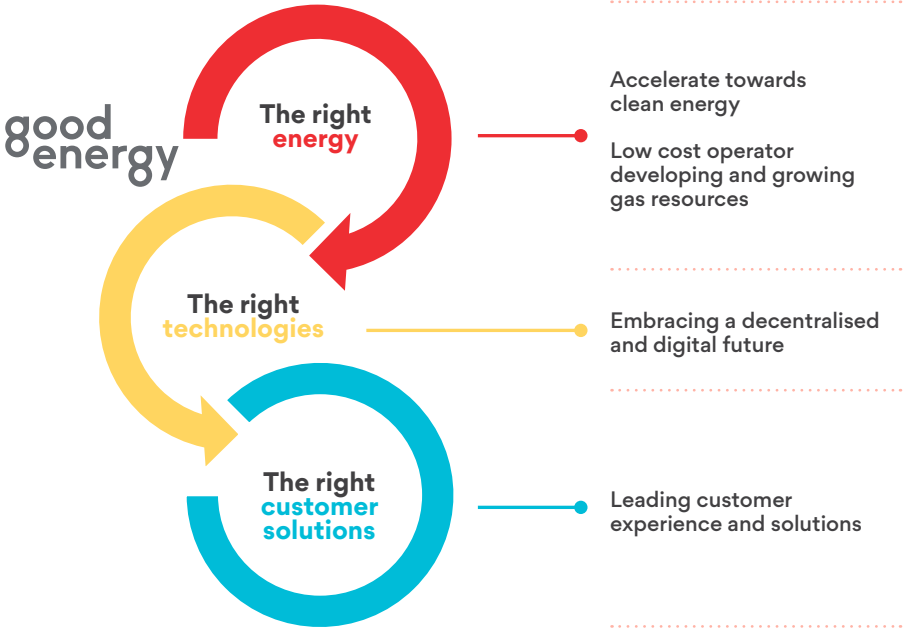
"Connecting customers to the energy and technologies of the future"

Our strategy is centred around our core beliefs:

Decarbonisation: Replacement of coal by renewables, partnered with firming capacity from gas, pumped hydro and storage will support emission reductions.

Decentralisation: Technological advancement and consumer desire for greater control will result in an increase in distributed generation and storage.

Digitisation: More connected homes and businesses will change all aspects of operations and customer experience.



Underpinned by a commitment to capital discipline



Accelerate towards clean energy

The right energy

We believe our generation and fuel supply portfolios provide flexibility to adapt and prosper in a changing energy market. We are targeting renewables and storage to account for more than 25 per cent of our owned and contracted generation capacity by the end of 2020, subject to development and commissioning timelines.

Our renewable target is supported by Origin being the sole off-taker of the 530 MW Stockyard Hill Wind Farm until the end of 2030. Tower components are now on site, and 116 of the 149 turbines have been erected.

We own Australia's largest peaking gas generation fleet, which is well placed to provide firming capacity to support renewables and supply critical peak demand periods during extreme weather events or baseload supply shortages.

Coal currently plays a critical role for baseload supply in Australia, but with an ageing fleet and growing renewables driving down average prices and increasing intra-day volatility, the role of coal is diminishing. As coal is retired and use of renewables increases, the market will require investment in reliability. We are progressing a range of brownfield generation opportunities, including fast-start gas and batteries, which would further improve our flexibility and capacity to support the increase in renewables. Subject to market signals and regulatory certainty, we could quickly implement these at the appropriate time.



Low cost operator developing and growing gas resources

Our Integrated Gas business is anticipating lower short-term demand caused by COVID-19 and lower production accordingly. Strong field performance has enabled reduced development activity and provides the capability to ramp up production in response to demand, if required. APLNG continues to meet the needs of its customers and remains focused on key value drivers such as workover costs, fracture stimulation costs and horizontal wells.

Beyond APLNG, our strategy is to scale the low-cost upstream operating model to new development opportunities. In the Beetaloo Basin, we have a 77.5 per cent interest and operatorship of three exploration permits covering 18,500km^2. We are currently part way through Stage 2 of a farm-in work program targeting two independent potentially liquids-rich shale gas plays.

We are also farming into a 75 per cent interest and operatorship of five permits located in the Cooper–Eromanga Basin in south west Queensland. The staged farm-in work program involves the drilling of up to five exploration wells to be completed by the end of calendar year 2024, targeting both unconventional liquids and gas.

Embracing a decentralised and digital future

The right technologies

The energy markets around the world are rapidly transforming towards low-cost renewables and new digital technologies, and Australia is no exception. Continued penetration of decentralised generation and storage, combined with the rise of internet-enabled devices, is changing the way our customers interact with us and use energy at home and in their businesses. We are developing a leading digital platform and analytics capability to connect millions of distributed assets and data points to provide more personalised and value-add services to our customers, both in front of and behind the meter.

We have developed a proprietary Virtual Power Plant (VPP) platform to connect, and use artificial intelligence to orchestrate distributed assets such as air conditioning units, batteries, hot water systems and electric vehicle (EV) chargers. Through this platform, we have more than 85 MW from 11,000 connected customers. We expect this to increase as we demonstrate the benefits to both customers and to the grid of optimising these distributed assets at critical times of market volatility.

We are also working with other businesses to source technical solutions and capabilities. We are co-founders of the Free Electrons global energy group, which brings together global utilities and leading start-ups looking to deploy new technology. Domestically, we sponsor EnergyLab, Australia's leading platform for launching energy start-ups. Recent products include Spike (a gamified demand response program that rewards customers for reducing their energy use) and a portable battery product for the home.

Origin is also pursuing opportunities in low-carbon technologies such as hydrogen, e-mobility, small-scale LNG and carbon-neutral LNG. In terms of hydrogen, Origin's integrated energy position provides a unique advantage in producing green hydrogen and ammonia using renewables. Hydrogen and ammonia demand is forecast to grow, allowing countries to reduce emissions and diversify fuel supply. In terms of e-mobility, we provide charging solutions and infrastructure, and are partnering with a fleet management operator to provide an end-to-end solution that will enable businesses to make a seamless transition to EVs. We are also undertaking a smart charging trial aimed at optimising the value for EV drivers and the grid.



Leading customer experience and solutions

The right customer solutions

Origin is Australia's largest energy retailer by number of customer accounts, and is well placed to harness opportunities to deliver value to customers in a changing energy landscape. Customers are at the heart of everything we do, and our immediate focus is to transform their experience to make it simple, seamless and increasingly digital.

In the near term, we are focused on delivering a superior customer experience, a market leading cost position and growing our product offerings, including solar, CES and broadband.

Our strategic partnership with Octopus Energy is expected to fast-track our strategy to deliver a superior customer experience at even lower cost, while opening up future growth opportunities.

4. 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 guidance
Energy Markets Underlying EBITDA	A$m	1,459	1,150–1,300
Integrated Gas – APLNG 100%			
Production	PJ	708	650–680
Capex and opex, excluding purchases[a]	A$m	(2,482)	(2,000)–(2,200)
Unit capex + opex, excluding purchases[a]	A$/GJ	3.5	2.9–3.4
Distribution breakeven[b]	US$/boe	29	27–31
Integrated Gas – Other			
Oil/LNG hedging and trading (loss)/gain[c]	A$m	(92)	50
Corporate			
Underlying costs	A$m	(59)	(75)–(85)
Capital expenditure (excluding investments)	A$m	(500)	(420)–(470)

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

(b) FY2020 foreign exchange rate: 0.67 AUD/USD excludes Ironbark acquisition costs; FY2021 foreign exchange rate 0.69 AUD/USD.

(c) FY2021 guidance is based on forward market prices as at 17 August 2020.

Energy Markets

We estimate Energy Markets Underlying EBITDA to be lower than FY2020 at **$1,150-$1,300 million** driven by:

- Electricity Gross Profit reduction of $170-$220 million, reflecting lower wholesale electricity and renewable certificate prices flowing into tariffs, and increased network costs of $40 million that are not recovered in regulated tariffs;
- Gas Gross Profit reduction of $100-$150 million, reflecting the roll-off of certain long-term supply and transport capacity sales contracts ($70 million) and repricing of retail and business tariffs; and
- Cost to serve savings of approximately $70 million, in line with the target of >$100 million savings from FY2018 (subject to any additional material increase in bad and doubtful debts provisioning).

Integrated Gas

We estimate reduced APLNG (100 per cent) production in FY2021 of **650–680 PJ**, reflecting anticipated lower demand with strong field capability to increase production in response to demand.

APLNG is able to further manage sales volumes through flexibility in lifted non-operated production and gas purchases.

We estimate total APLNG capex + opex of **$2.0-$2.2 billion**, reflecting reduced development activity with fewer drilling rigs, reduced workovers and lower infrastructure spend due to TOGGS being online, and lower exploration and appraisal (E&A) spend.

APLNG is targeting FY2021 **distribution breakeven of US$27–31/boe** including US$12/boe in project finance costs.

We estimate a net gain on Origin's oil/LNG hedging and trading positions of $50 million based on current forward prices. Refer to Section 6.2.2 for details. 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 **$75-$85 million**, reflecting higher costs associated with enterprise resource planning (ERP) replacement, FY2020 FX gains and Mortlake self-insurance costs not repeating.

Capital expenditure is estimated to be **$420-$470 million including $65–$80 million E&A spend**, primarily relating to Beetaloo appraisal. This excludes $90-$100 million relating to the Octopus Energy 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.

5. Financial update

5.1 Reconciliation from Statutory to Underlying Profit

	FY20 ($m)	FY19 ($m)	Change ($m)	Change (%)
Statutory Profit/(Loss)	**83**	**1,211**	**(1,128)**	**(93)**
Items Excluded from Underlying Profit (post-tax):				
Increase/(decrease) in fair value and foreign exchange movements	275	139	136	98
Oil and gas	*153*	*59*	*94*	*159*
Electricity	*85*	*(88)*	*173*	*(197)*
Foreign exchange and interest rate derivatives	*(46)*	*(43)*	*(3)*	*7*
Other financial assets/liabilities	*86*	*274*	*(188)*	*(69)*
Foreign exchange on foreign-denominated financing	*(3)*	*(63)*	*60*	*(95)*
Disposals, impairments, onerous contracts and business restructuring	(1,215)	44	(1,259)	(2,861)
Total Items Excluded from Underlying Profit (post-tax)	**(940)**	**183**	**(1,123)**	**(614)**
Underlying Profit	**1,023**	**1,028**	**(5)**	**(0)**

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 6.2.2 for details of Origin's oil hedging carried out in relation to its investment in APLNG.
- 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 exposure to foreign exchange and interest rate risk associated with the debt portfolio. A significant portion of debt is Euro-denominated and cross-currency interest rate swaps hedge that debt to AUD.
- Other financial assets/liabilities reflects investments held by Origin including MRCPS issued by APLNG.[2]
- 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 distributions.

Disposals, impairments, onerous contracts and business restructuring 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:

- a non-cash impairment of $746 million relating to Origin's carrying value of APLNG. The charge is driven by a reduction in oil price assumptions over the near term and a revised long-term Brent crude oil price assumption of US$60/bbl (real 2020) from FY2026, partially offset by cost reductions from improved field and operating performance. There is no tax impact, as any impact is offset by recognising part of a previously unrecognised deferred tax liability;
- a non-cash onerous provision charge of $455 million post-tax relating to a 20-year off-take contract from Cameron LNG. The provision is primarily due to a reduction in JKM LNG sale price assumptions, reflecting medium-term demand and moderately lower long-term prices driven by expected lower US gas liquefaction fees, as well as lower US treasury bond rates; and
- transaction costs of $8 million post-tax primarily relating to OC Energy integration and Origin restructuring costs of $6 million.

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.

5.2 Accounting changes

AASB 16 *Leases* has been adopted from 1 July 2019, which requires leases to be brought on balance sheet, resulting in a $97 million increase in Underlying EBITDA, more than offset by increases in depreciation and amortisation and financing costs with a net reduction to Underlying Profit after tax of $18 million. A lease liability of $514 million and a right-of-use (ROU) asset of $467 million have been recognised at 30 June 2020. Refer to Appendix 1 and the Overview section of the Origin Energy Financial Statements for details.

From 1 July 2019, APLNG dewatering and workover costs have been expensed as incurred within Underlying EBITDA rather than capitalised and amortised. Following a period of embedding steady state operations, these costs are considered ongoing and operational in nature going forward and the change in application of accounting practice reflects this. During commissioning of the project and in the lead up to steady state operations, these amounts were capitalised as they represented costs incurred to bring the assets into their intended state of use. This results in a $107 million reduction in share of APLNG EBITDA, which is more than offset by a $152 million reduction in share of depreciation and amortisation from APLNG. Refer to Appendix 2 and Section 6.2.1 for further information.

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

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

5.3 Underlying Profit

	FY20 ($m)	FY19 ($m)	Change ($m)	Change (%)
Energy Markets	1,459	1,574	(115)	(7)
Integrated Gas – Share of APLNG	1,915	2,123	(208)	(10)
Integrated Gas – Other	(174)	(231)	57	(25)
Corporate	(59)	(234)	175	(75)
Underlying EBITDA	**3,141**	**3,232**	**(91)**	**(3)**
Underlying depreciation and amortisation	(509)	(419)	(90)	21
Underlying share of ITDA	(1,303)	(1,504)	201	(13)
Underlying EBIT	**1,329**	**1,308**	**21**	**2**
Underlying interest income – MRCPS	174	226	(52)	(23)
Underlying interest income – Other	16	8	8	100
Underlying interest expense	(316)	(388)	72	(19)
Underlying Profit before income tax and non-controlling interests	**1,203**	**1,154**	**49**	**4**
Underlying income tax expense	(177)	(123)	(54)	44
Non-controlling interests' share of Underlying Profit	(3)	(3)	–	–
Underlying Profit	**1,023**	**1,028**	**(5)**	**–**

Refer to Sections 6.1 and 6.2 respectively for Energy Markets and Integrated Gas analysis.

Corporate costs reduced by $175 million, reflecting the prior year non-cash remediation provision increase of $170 million not repeating and $17 million FX gains, primarily relating to hedging USD cash flow received from APLNG. This was partly offset by self-insurance costs of $7 million associated with the Mortlake electrical fault and higher costs associated with ERP replacement of $6 million.

Underlying depreciation and amortisation increased by $90 million, largely due to the impact of adopting the new leasing standard.

Underlying share of ITDA decreased $201 million, driven by lower APLNG amortisation, reflecting the change in treatment of dewatering and workover costs, which are now directly expensed as incurred ($152 million), and reduced interest expense on project finance due to a lower average interest rate from refinancing activities at APLNG partly offset by a lower AUD/USD exchange rate. Refer to Section 6.2 for further detail.

Underlying interest income on MRCPS reduced $52 million, driven by a lower balance following buy-backs by APLNG, partly offset by a lower AUD/USD exchange rate.

Underlying interest expense reduced by $72 million, $90 million after excluding the impact from adopting the leasing standard. This reflects a lower net debt balance and a lower average cost of debt due to refinancing activities. Refer to Section 5.6 for further detail.

5.4 Cash flows

Operating cash flow

	FY20 ($m)	FY19 ($m)	Change ($m)	Change (%)
Underlying EBITDA	3,141	3,232	(91)	(3)
Underlying equity accounted share of EBITDA (non-cash)	(1,911)	(2,123)	212	(10)
Other non-cash items in Underlying EBITDA	157	277	(120)	(43)
Underlying EBITDA adjusted for non-cash items	1,387	1,386	1	0
Change in working capital	(222)	84	(306)	(364)
Energy Markets – excluding electricity futures collateral	*74*	*(63)*	*137*	*(217)*
Energy Markets – electricity futures collateral	*(340)*	*125*	*(465)*	*(372)*
Integrated Gas – excluding APLNG	*29*	*17*	*12*	*71*
Corporate	*15*	*5*	*10*	*200*
Other	–	(35)	35	(100)
Tax paid	(215)	(110)	(105)	95
Cash flow from operating activities	**951**	**1,325**	**(374)**	**(28)**

Cash flow from operating activities decreased $374 million, primarily due to higher working capital requirements (–$306 million) and higher tax paid (–$105 million) associated with higher taxable income in FY2019.

Underlying share of EBITDA (non-cash) reflects share of APLNG ($1,915 million) and Octopus Energy (–$4 million). Other non-cash items include bad and doubtful debts (+$124 million) and share-based remuneration (+$30 million).

Working capital increased $222 million, primarily due to collateral deposited with the futures exchange (–$340 million) associated with forward electricity hedge positions that are expected to unwind over time, lower net payables from lower wholesale gas and electricity prices (–$100 million) and higher inventory (–$26 million) driven by coal, partly offset by lower green inventory (+$90 million) and lower Retail and Business Energy net working capital (+$93 million).

Investing cash flow

	FY20 ($m)	FY19 ($m)	Change ($m)	Change (%)
Capital expenditure	(500)	(341)	(159)	47
Cash distribution from APLNG	1,275	974	301	31
Interest received from other parties	18	2	16	800
Investments/acquisitions	(165)	(64)	(101)	158
Disposals	234	18	216	N/A
Cash flow from investing activities	**862**	**589**	**273**	**46**

FY2020 capital expenditure of $500 million comprises:

- generation sustain ($208 million), primarily related to major overhauls at Eraring Power Station ($92 million) and Uranquinty Power Station ($29 million), as well as Mortlake Power Station repairs ($41 million);
- other sustain ($115 million) including LPG ($26 million), Origin ERP system replacement ($23 million), regulatory market reforms ($20 million) and CES ($7 million);
- productivity/growth ($92 million) including Quarantine Power Station upgrade ($14 million), CES ($18 million), Kraken licensing costs ($13 million), LPG ($9 million), digital spend ($8 million), solar ($7 million) and other Energy Markets projects; and
- exploration and appraisal spend ($85 million), primarily related to the appraisal program in the Beetaloo Basin.

Cash distributions from APLNG amounted to $1,275 million, comprising $181 million of MRCPS interest (down from $229 million in FY2019) and $1,094 million of MRCPS buy-backs (up from $745 million in FY2019).

Interest received increased, reflecting a higher cash balance following refinancing in preparation for debt maturities.

Investments include initial payments and transaction costs for the equity interest in Octopus Energy ($128 million) and deferred consideration for OC Energy ($14 million). Disposals include sale of Ironbark to APLNG for $231 million.

Financing cash flow

	FY20 ($m)	FY19 ($m)	Change ($m)	Change (%)
Net proceeds/(repayment) of debt	(1,173)	185	(1,358)	(734)
Operator cash call movements	56	7	49	700
On-market purchase of shares	(75)	(77)	2	(3)
Settlement of foreign currency contracts	(55)	(64)	9	(14)
APLNG loan repayment	(8)	(31)	23	(74)
Interest paid	(310)	(375)	65	(17)
Payment of lease principal	(75)	–	(75)	N/A
Dividends paid	(478)	(165)	(313)	190
Total cash flow from financing activities	**(2,118)**	**(520)**	**(1,598)**	**307**
Effect of exchange rate changes on cash	(1)	2	(3)	(150)

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

Operator cash call movements represent the movement in funds held and other balances relating to Origin's role as upstream operator of APLNG. On-market purchase of shares represents the purchase of shares associated with employee share remuneration schemes and the dividend reinvestment plan. Settlement of foreign currency contracts represents the partial closure of contracts executed in prior periods to monetise the value in certain cross-currency interest rate swap contracts. The value of outstanding contracts as at 30 June 2020 was $156 million.

Interest paid reduced by $65 million, comprising lower interest on debt due to refinancing activities ($81 million), partly offset by a $16 million increase in interest paid on lease liabilities.

Free Cash Flow

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

The Octopus Energy investment is considered a major growth project and $141 million of associated investing cash flow from consideration payments and capital expenditure has been excluded from FY2020 Free Cash Flow.

	Energy Markets		Integrated Gas – Share of APLNG		Integrated Gas – Other		Corporate		Total	
($m)	**FY20**	**FY19**	**FY20**	**FY19**	**FY20**	**FY19**	**FY20**	**FY19**	**FY20**	**FY19**
Underlying EBITDA	1,459	1,574	1,915	2,123	(174)	(231)	(59)	(234)	3,141	3,232
Non-cash items	137	90	(1,915)	(2,123)	11	7	13	180	(1,753)	(1,845)
Change in working capital	(266)	62	–	–	29	17	15	5	(222)	84
Other	(23)	(20)	–	–	24	(1)	(1)	(15)	–	(35)
Tax paid	–	–	–	–	–	–	(215)	(110)	(215)	(110)
Operating cash flow	**1,307**	**1,707**	**–**	**–**	**(109)**	**(208)**	**(247)**	**(174)**	**951**	**1,325**
Capital expenditure	(395)	(304)	–	–	(94)	(28)	(10)	(9)	(500)	(341)
Cash distribution from APLNG	–	–	–	–	1,275	974	–	–	1,275	974
(Acquisitions)/disposals	(165)	(53)	–	–	234	1	(0)	7	69	(46)
Interest received	–	–	–	–	–	–	18	2	18	2
Investing cash flow	**(560)**	**(357)**	**–**	**–**	**1,414**	**946**	**8**	**–**	**862**	**589**
Interest paid	–	–	–	–	–	–	(310)	(375)	(310)	(375)
Free Cash Flow including major growth	**747**	**1,350**	**–**	**–**	**1,305**	**737**	**(549)**	**(548)**	**1,503**	**1,539**
Major growth spend	141	–	–	–	–		–	–	141	–
Free Cash Flow	**888**	**1,350**	**–**	**–**	**1,305**	**737**	**(549)**	**(548)**	**1,644**	**1,539**

5.5 Dividends

The Board has determined to pay an unfranked 10 cps dividend in respect of the second half of FY2020, bringing total FY2020 dividends to 25 cps, which represents 27 per cent of Free Cash Flow. The Board exercised discretion to set the payout ratio below the target 30 per cent to 50 per cent of Free Cash Flow. This reflects current and expected future economic and business conditions, particularly lower commodity prices.

During FY2020, $141 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 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. Refer to Origin Energy Financial Statements note E2 for further details.

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

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

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

The Dividend Reinvestment Plan (DRP) will operate with nil discount and will be satisfied through on-market 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.

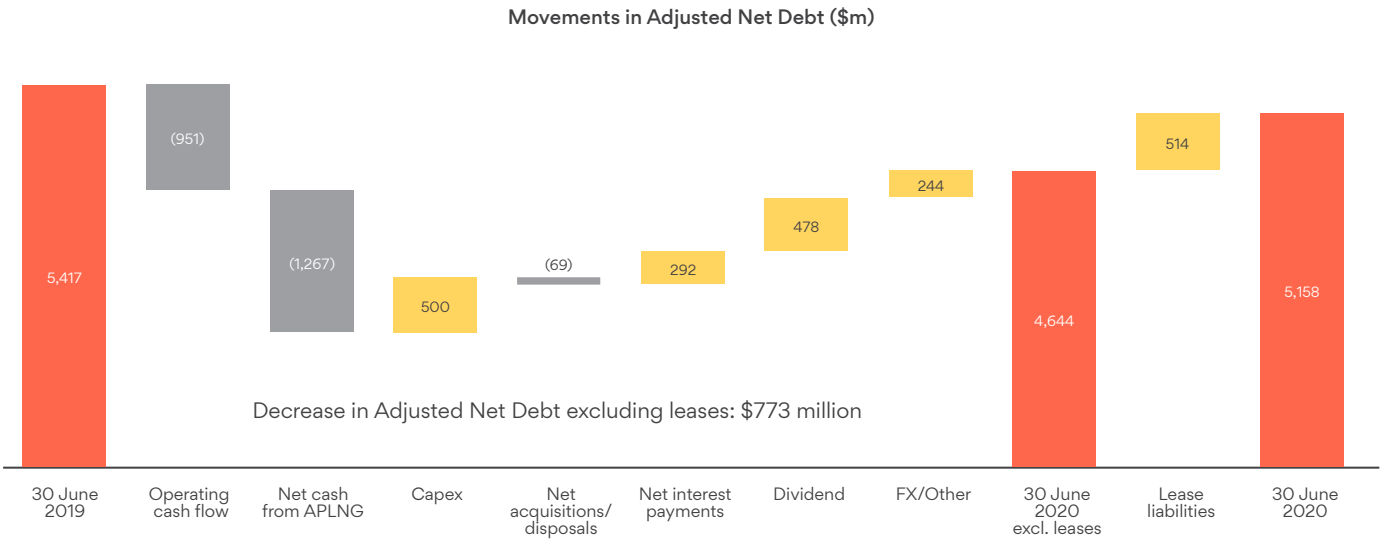
5.6 Capital management

During FY2020, the following capital management initiatives were completed:

- refinanced debt to lower rates and increase tenor:
  - raised €600 million (A$973 million) of 10-year debt at 3.2 per cent fixed interest rate;
  - raised A$300 million of eight-year debt at 2.7 per cent fixed interest rate;
  - repaid €500 million (A$939 million) 3.7 per cent effective interest rate debt;
  - redeemed €1,000 million (A$1,391 million) 7.9 per cent fixed interest rate hybrid obligation;
  - repaid NZ$141 million (A$125 million) 2.1 per cent effective interest rate debt obligation; and
  - renegotiated lower rates on a A$500 million bank guarantee facility.
- cancelled $718 million in undrawn bank loan facilities that were surplus to requirements.

In July 2020, the maturity date of A$1.1 billion of bank debt facilities was extended from FY2023 to a later date in FY2025. Further surplus liquidity of $0.2 billion was cancelled as part of this transaction.

Adjusted Net Debt



Adjusted Net Debt excluding leases decreased $773 million, driven by strong APLNG cash distribution and operating cash flow. This was partially offset by capital expenditure, dividends, interest payments and foreign exchange/other impacts. After recognition of $514 million in lease liabilities under AASB 16 *Leases*, Adjusted Net Debt decreased by $259 million to $5,158 million. The increase in reported debt due to adopting AASB 16 will not have any material impact on the company's credit metrics as lease liabilities were previously included in these metrics.

Foreign exchange/other includes on-market purchase of shares ($75 million), payment of lease liabilities ($75 million), settlement of foreign currency contracts ($55 million) and non-cash translation of unhedged USD debt and fees.

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 30 June 2020, this ratio was 2.1x and gearing was 29 per cent, compared to 2.6x and 29 per cent, respectively, at 30 June 2019.

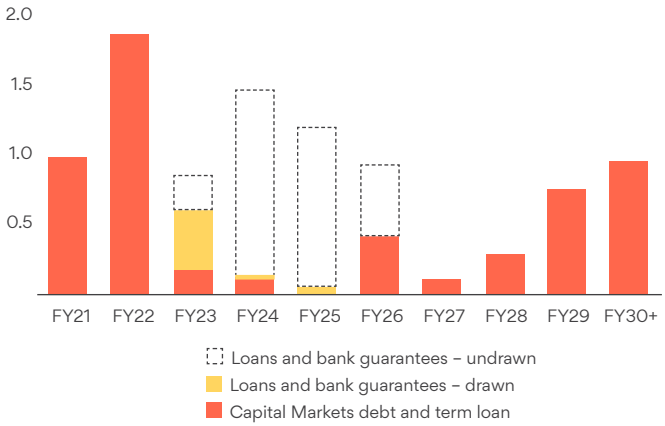
Our long-term credit ratings are BBB (stable) from S&P and Baa2 (stable) from Moody's.

Debt portfolio management

Average term to maturity increased from 3.0 years at 30 June 2019 to 3.9 years at 30 June 2020, including the bank debt facility extension in July 2020. The rolling 12-month average interest rate on drawn debt decreased from 5.9 per cent in FY2019 to 4.8 per cent in FY2020.

As at 30 June 2020, Origin held $1.2 billion of cash and $2.9 billion in committed undrawn debt facilities after adjusting for the debt extension in July 2020. This liquidity position of $4.1 billion is held to meet near-term debt maturities of $1 billion by December 2020 and $1.9 billion maturing in October 2021, and to maintain a sufficient liquidity buffer.

Debt maturity profile post debt extension – 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 5.4 above). The fair value of MRCPS held by Origin at 30 June 2020 was A$2,109 million.

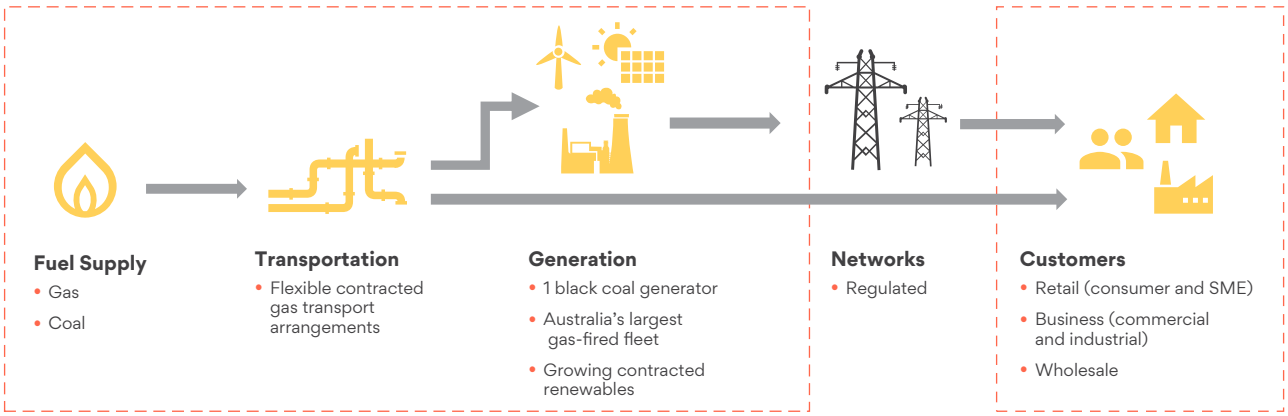
APLNG also funded construction via US$8.5 billion in project finance facilities, signed in 2012. These facilities were partially refinanced in FY2019. The outstanding balance at 30 June 2020 was US$6,386 million (A$9,307 million), net of unamortised debt fees of US$81 million (A$118 million). APLNG's average interest rate associated with its project finance debt portfolio for FY2020 was 3.6 per cent, and FY2021 is estimated to be approximately 3.1 per cent.

As at 30 June 2020, gearing[3] in APLNG was 28 per cent, down from 30 per cent at 30 June 2019.

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

6. Review of segment operations

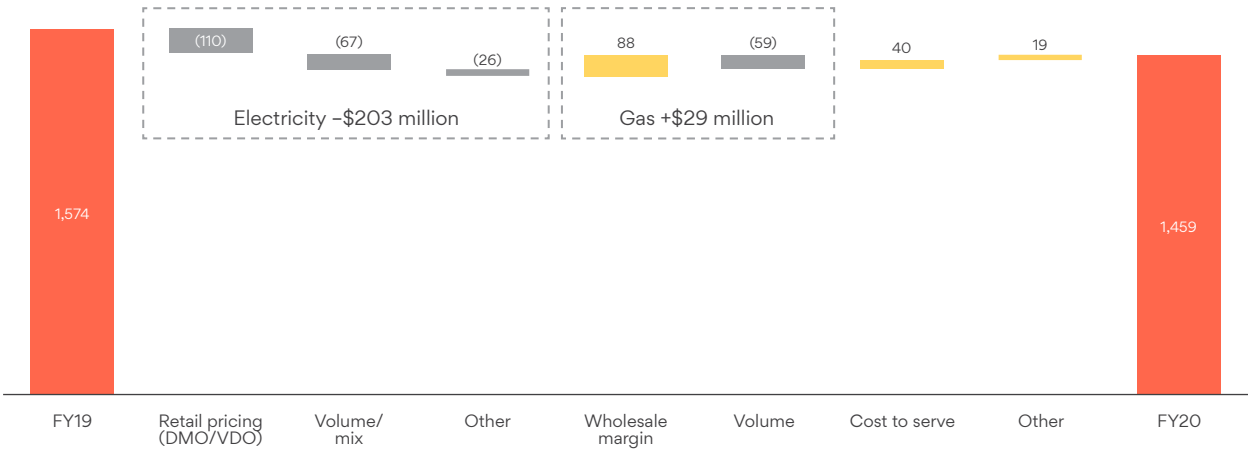
6.1 Energy Markets



Origin's Energy Markets business comprises Australia's largest energy retail business by customer accounts, Australia's largest fleet of gas-fired peaking power stations supported by a substantial contracted fuel position, a growing supply of contracted renewable energy and Australia's largest power station, the black coal–fired Eraring Power Station. Energy Markets reports on an integrated portfolio basis. Electricity and Natural Gas Gross Profit and retail cost to serve are reported separately, as are the EBITDA of the Solar and Energy Services, Future Energy and LPG divisions, and share of earnings from the 20 per cent equity holding in Octopus Energy Holdings Limited.

6.1.1 Financial summary

Underlying EBITDA/EBIT	FY20 ($m)	FY19 ($m)	Change ($m)	Change (%)
Electricity Gross Profit	1,187	1,390	(203)	(15)
Natural Gas Gross Profit	744	715	29	4
Electricity and Natural Gas cost to serve	(570)	(610)	40	(6)
LPG EBITDA	83	68	15	22
Solar and Energy Services EBITDA	33	26	8	30
Future Energy costs	(15)	(15)	–	–
Share of EBITDA from Octopus Energy	(4)	–	(4)	N/A
Underlying EBITDA	**1,459**	**1,574**	**(115)**	**(7)**
Underlying EBIT	**974**	**1,173**	**(199)**	**(17)**



6.1.2 Electricity

Volume summary

Volumes sold (TWh)	FY20 Retail	FY20 Business	FY20 Total	FY19 Retail	FY19 Business	FY19 Total	Change (TWh)	Change (%)
NSW[(a)]	7.8	8.7	16.5	8.4	9.4	17.8	(1.3)	(7.3)
Queensland	4.1	3.6	7.7	4.6	3.5	8.1	(0.4)	(5.0)
Victoria	2.9	3.4	6.2	3.1	4.0	7.1	(0.9)	(12.7)
South Australia	1.3	1.7	3.1	1.3	1.9	3.2	(0.1)	(3.1)
Total volumes sold	**16.1**	**17.4**	**33.5**	**17.4**	**18.8**	**36.2**	**(2.7)**	**(7.5)**

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

Gross Profit summary

	FY20 $m	FY20 $/MWh	FY19 $m	FY19 $/MWh	Change (%)	Change ($/MWh)
Revenue ($m)	**7,509**	**224.0**	**8,264**	**228.4**	**(9)**	**(4.3)**
Retail (consumer and SME)	4,569	283.9	5,056	290.5	(10)	(6.8)
Business	2,941	168.8	3,208	170.7	(8)	(1.9)
Cost of goods sold ($m)	**(6,322)**	**(188.6)**	**(6,874)**	**(189.9)**	**8**	**1.3**
Network costs	(3,142)	(93.8)	(3,287)	(90.8)	4	(2.9)
Energy procurement costs	(3,179)	(94.9)	(3,587)	(99.1)	11	4.3
Gross Profit ($m)	**1,187**	**35.4**	**1,390**	**38.4**	**(15)**	**(3.0)**
Gross margin %	15.8%		16.8%		(6)	

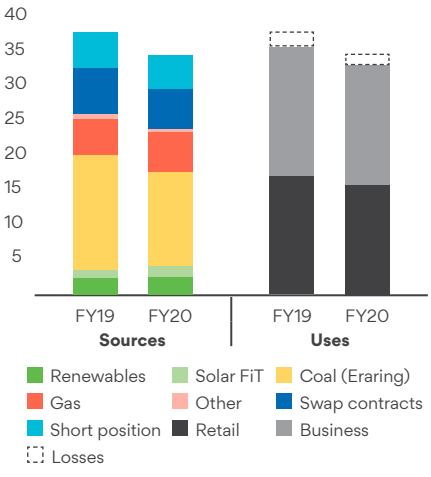
Electricity Gross Profit declined by $203 million[4], driven by:

- $3/MWh decrease in unit margins (–$136 million) comprising:
  - –$110 million from the introduction of the DMO and VDO regulated retail pricing tariffs on 1 July 2019;
  - –$21 million driven by costs associated with unplanned outages at the Eraring and Mortlake plants, net of insurance recoveries;
  - –$64 million reflecting higher solar feed-in tariffs and discounts to concession customers (–$34 million), and lower green scheme prices in Business tariffs (–$30 million); offset by:
  - +$59 million margin improvement, including from lower wholesale procurement and fuel costs, and a $33 million release of a rehabilitation provision, partially offset by lower Business tariffs.
- 2.7 TWh volume decline (–$67 million) relating to lower usage from milder weather, solar uptake and efficiency (–$33 million), COVID-19 impacts (–$26 million) and customer movements relating to large Business and SME tenders (–$8 million).

Owned and contracted generation of 22.5 TWh was lower by 2.1 TWh, driven primarily by Eraring Power Station (–2.9 TWh) due to outages and lower output in response to reduced customer demand from COVID-19, and Mortlake Power Station (–0.3 TWh) reflecting the outage in the first half. This was partially offset by Darling Downs Power Station (+1.1 TWh) with more gas available to generation following the roll-off of short-term wholesale gas trading contracts in FY2019.

Energy procurement costs decreased with lower volumes. Unit procurement costs reduced by $4.30/MWh, driven by lower wholesale procurement costs, contract prices and fuel costs, offset by higher solar feed-in tariff rates.

Sources and uses of electricity (TWh)



4 Includes a $4 million benefit relating to AASB 16 *Leases*.

Wholesale energy costs

	FY20			FY19		
	$m	TWh	$/MWh	$m	TWh	$/MWh
Fuel cost[a]	992	19.6	50.6	1,132	21.8	51.9
Generation operating costs	216	19.6	11.0	230	21.8	10.6
Owned generation[a]	1,208	19.6	61.6	1,363	21.8	62.4
Net pool costs[b]	303	4.9	61.3	449	5.0	90.5
Bundled renewable PPAs[c]	264	2.9	92.1	255	2.7	93.1
Market contracts	362	6.0	60.3	508	7.3	69.6
Solar feed-in tariff	181	1.5	117.9	127	1.2	103.3
Capacity hedge contracts	342			317		
Green Schemes (excl. PPAs)	506			569		
Other	14			–		
Energy procurement costs	**3,179**	**35.0**[d]	**90.9**	**3,587**	**38.0**[d]	**94.4**

(a) Includes volume from internal generation and contracted from Pelican Point.
(b) Net pool costs includes gross pool purchase costs net of pool revenue from generation, gross and net settled PPAs, and other contracts.
(c) Bundled PPAs includes cost of electricity and renewable certificates. Market contracts include swap and energy hedge contracts.
(d) Volume differs from sales volume due to energy losses of 1.3 TWh (FY2019: 1.8 TWh).

Electricity supply

			FY20			FY19			Change		
	Nameplate capacity (MW)	Type[a]	Output (GWh)	Pool revenue ($m)	($/MWh)	Output (GWh)	Pool revenue ($m)	($/MWh)	Output (GWh)	Pool revenue ($m)	($/MWh)
Eraring	2,922										
Units 1–4	2,880	Black Coal	13,634	1,065	79	16,513	1,494	90	(2,879)	(429)	(11)
GT	42	OCGT	–	–	–	–	–	–	–	–	–
Darling Downs	644	CCGT	2,067	130	79	931	92	98	1,137	39	(19)
Osborne[b]	180	CCGT	703	58	93	759	105	138	(56)	(47)	(45)
Uranquinty	664	OCGT	422	75	125	333	53	160	89	22	(35)
Mortlake	566	OCGT	932	91	106	1,204	207	172	(272)	(116)	(66)
Mount Stuart	423	OCGT	4	0	103	9	1	132	(5)	(1)	(29)
Quarantine	230	OCGT	188	29	153	194	45	232	(6)	(16)	(79)
Ladbroke Grove	80	OCGT	155	19	123	157	29	182	(2)	(10)	(59)
Roma	80	OCGT	17	2	109	24	3	130	(7)	(1)	(21)
Shoalhaven	240	Pump/hydro	156	26	135	157	20	130	(1)	6	6
Internal generation	**6,029**		**18,279**	**1,495**	**82**	**20,281**	**2,050**	**101**	**(2,002)**	**(555)**	**(19)**
Pelican Point	240	CCGT	1,317			1,548			(231)		
Renewable PPAs	1,207	Solar/wind	2,871			2,744			127		
Owned and contracted generation	**7,476**		**22,467**			**24,574**			**(2,106)**		

(a) OCGT = open cycle gas turbine; CCGT = combined cycle gas turbine.
(b) Origin has a 50 per cent interest in the 180 MW plant and contracts 100 per cent of the output.

6.1.3 Natural Gas

Volume summary

Volumes sold (PJ)	FY20 Retail	FY20 Business	FY20 Total	FY19 Retail	FY19 Business	FY19 Total	Change (PJ)	Change (%)
NSW[a]	11.0	22.8	33.8	10.1	19.7	29.8	4.0	13
Queensland	3.1	66.9	70.0	3.3	92.3	95.5	(25.6)	(27)
Victoria	25.2	58.3	83.6	22.4	57.5	79.9	3.7	5
South Australia[b]	5.7	10.6	16.2	5.6	11.0	16.7	(0.4)	(2)
External volumes sold	**45.0**	**158.6**	**203.6**	**41.4**	**180.5**	**222.0**	**(18.3)**	**(8)**
Internal sales (generation)			55.6			49.4	6.2	
Total volumes sold			**259.2**			**271.3**	**(12.1)**	**(4)**

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

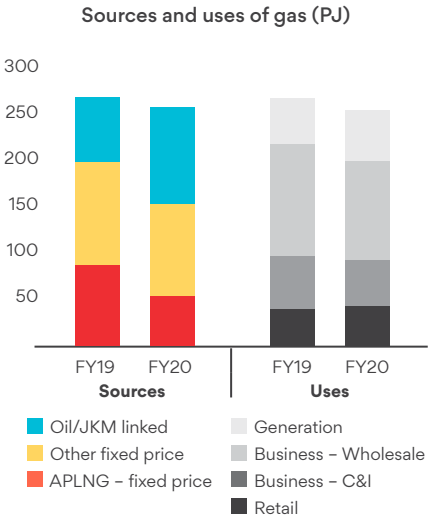
(b) Northern Territory and Western Australia customers are included in South Australia.

Gross Profit summary

	FY20 $m	FY20 $/GJ	FY19 $m	FY19 $/GJ	Change (%)	Change ($/GJ)
Revenue ($m)	**2,835**	**13.9**	**2,926**	**13.2**	**(3)**	**0.7**
Retail (consumer and SME)	1,163	25.8	1,064	25.7	9	0.2
Business	1,673	10.5	1,862	10.3	(10)	0.2
Cost of goods sold ($m)	**(2,090)**	**(10.3)**	**(2,211)**	**(10.0)**	**5**	**(0.3)**
Network costs	(796)	(3.9)	(739)	(3.3)	(8)	(0.6)
Energy procurement costs	(1,294)	(6.4)	(1,472)	(6.6)	12	0.3
Gross Profit ($m)	**744**	**3.7**	**715**	**3.2**	**4**	**0.4**
Gross margin %	26.3%		24.4%		7	

Natural Gas Gross Profit increased $29 million, driven by:

- $0.4/GJ margin improvement (+$88 million) primarily due to lower average procurement costs from oil/JKM linked supply contracts and shorter-term purchases; and
- 18.3 PJ decrease in external sales (–$59 million) due to the roll-off of short-term wholesale trading contracts in Queensland and expiry of C&I contracts and demand impacts from COVID-19 (–$10 million). This was partially offset by higher Retail volumes due to higher customer numbers and cooler weather in Victoria.



6.1.4 Electricity and Natural Gas cost to serve

	FY20	FY19	Change ($)	Change (%)
Cost to maintain ($ per average customer[a])	(121)	(126)	5	(4)
Cost to acquire/retain ($ per average customer[a])	(38)	(43)	5	(11)
Electricity and Natural Gas cost to serve ($ per average customer[a])	**(159)**	**(169)**	**10**	**(6)**
Maintenance costs ($m)	(434)	(455)	21	(5)
Acquisition and retention costs[b] ($m)	(136)	(155)	19	(12)
Electricity and Natural Gas cost to serve ($m)	**(570)**	**(610)**	**40**	**(6)**

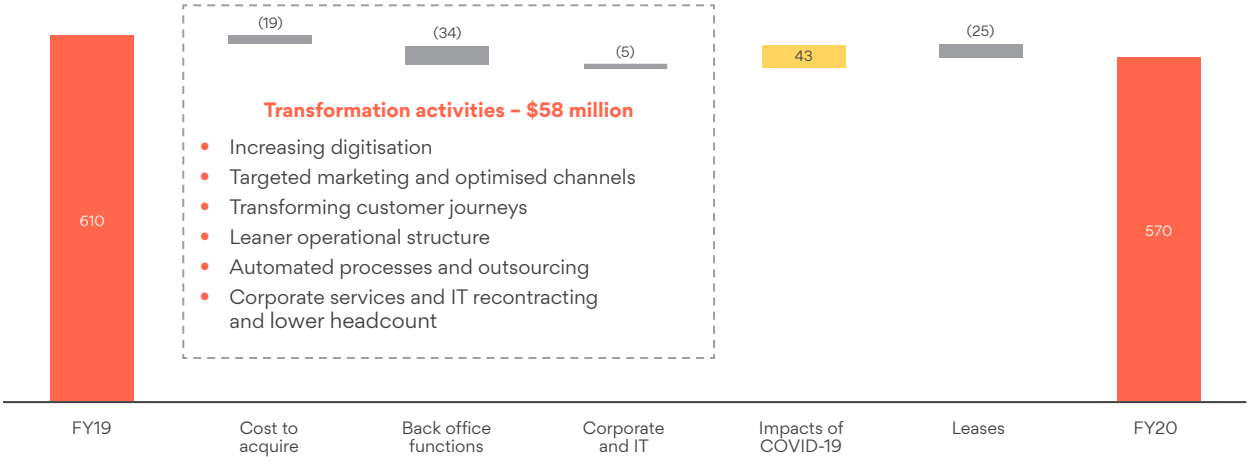
(a) Represents cost to serve per average customer account, excluding CES accounts.

(b) Customer wins (FY2020: 491,000; FY2019: 527,000) and retains (FY2020: 1,396,000; FY2019: 1,796,000).

	FY20 ($m)	FY19 ($m)	Change ($m)	Change (%)
Labour	*(150)*	*(173)*	*23*	*(13)*
Bad and doubtful debts	*(113)*	*(80)*	*(33)*	*41*
Other variable costs	*(125)*	*(158)*	*33*	*(21)*
Retail and Business	(388)	(411)	23	(6)
Wholesale	(51)	(62)	12	(19)
Corporate services and IT	(131)	(136)	5	(4)
Electricity and Natural Gas cost to serve	**(570)**	**(610)**	**40**	**(6)**

In FY2020, we undertook a number of measures to support customers financially impacted by COVID-19, including pausing late payment fees, default listings and disconnections, and providing payment extensions at a cost of $5 million. Notwithstanding these measures and the broader government and business support in place, we recognised an increase in our bad and doubtful debt provision of $38 million[5] related to the risks associated with COVID-19.

Overall, Electricity and Natural Gas cost to serve reduced by $40 million, driven by operating cost savings of $58 million and lower leasing charges of $25 million associated with adopting AASB 16 *Leases*. This was partially offset by $43 million related to the impacts of COVID-19 detailed above. Bad debt expense as a percentage of total Electricity and Natural Gas revenue increased to 1.09 per cent in FY2020, up from 0.71 per cent in FY2019.



We are on track to deliver the target of $100 million cost reduction by FY2021 from a baseline in FY2018. Planning is underway for a further reduction of $100–$150 million in cash savings by FY2024 following successful implementation of the Octopus Energy's Kraken platform and operating model.

5 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.

Customer accounts

As at	30 June 2020			30 June 2019			
Customer accounts ('000)[c]	Electricity	Natural Gas	Total	Electricity	Natural Gas	Total	Change
NSW[a]	1,191	335	1,526	1,193	312	1,505	22
Queensland	645	181	825	660	182	842	(16)
Victoria	556	479	1,035	558	474	1,032	3
South Australia[b]	239	225	464	229	223	451	13
Total	**2,631**	**1,220**	**3,851**	**2,639**	**1,191**	**3,830**	**21**
Average	**2,624**	**1,204**	**3,827**	**2,645**	**1,157**	**3,802**	**25**

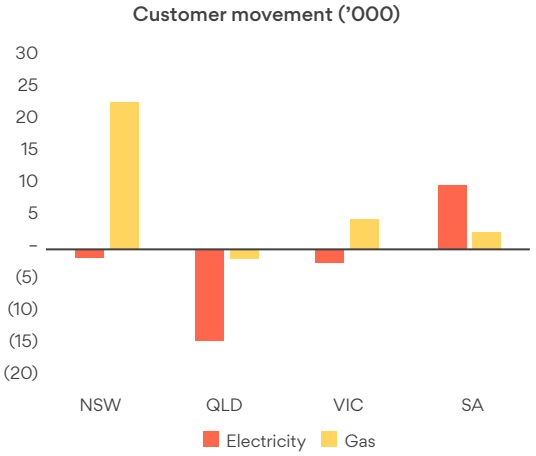
(a) Australian Capital Territory customers are included in New South Wales.
(b) Northern Territory and Western Australia customers are included in South Australia.
(c) Includes 257,000 CES customers (FY2019: 233,000).

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 13.4 per cent during the period, compared to market churn of 18.4 per cent.

Period end customers rose by 21,000 overall. Electricity customers fell by 8,000, reflecting a reduction in SMEs of 20,000, primarily relating to large tenders. This was partially offset by growth in embedded network customers as the CES business continues to grow. Natural Gas customers increased by 29,000, driven primarily by gains in New South Wales.

Broadband customer accounts increased by 12,000 during the year to a total of 20,000 customer accounts at 30 June 2020.



6.1.5 LPG

	FY20	FY19	Change	Change (%)
Volumes (kT)	417	426	(9)	(2)
Revenue ($m)	608	674	(66)	(10)
Cost of goods sold ($m)	(417)	(470)	54	(11)
Gross Profit ($m)	**191**	**204**	**(13)**	**(6)**
Operating costs ($m)	(108)	(136)	28	(20)
Underlying EBITDA ($m)	**83**	**68**	**15**	**22**

Origin is one of Australia's largest LPG and propane suppliers, procuring and distributing LPG to residential and business locations across Australia and the Pacific. As at 30 June 2020, Origin had 363,000 LPG customer accounts, up from 362,000 customer accounts at 30 June 2019.

Gross Profit decreased by $13 million, driven by the impact of COVID-19 on demand, primarily in the Pacific. Both revenue and cost of goods sold decreased due to lower international commodity pricing, which is a key component of pricing to customers. Operating costs decreased $27 million, due to the impact of adopting AASB 16 *Leases* ($30 million). Underlying operating costs were stable.

6.1.6 Solar and Energy Services

	FY20 ($m)	FY19 ($m)	Change ($m)	Change (%)
Revenue	298	216	82	38
CES Gross Profit	75	57	18	32
Solar Gross Profit	31	26	5	19
Other Gross Profit	5	6	(1)	(17)
Gross Profit	**111**	**89**	**22**	**25**
Operating costs	(77)	(64)	(13)	20
Underlying EBITDA	**33**	**26**	**8**	**27**

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

Underlying EBITDA increased by $8 million, primarily driven by growth in CES Gross Profit (+$18 million), in particular the acquisition of OC Energy in February 2019. This was partially offset by increased operating costs (–$14 million), driven primarily by the OC Energy acquisition, and includes a $3 million benefit due to the impact of adopting AASB 16 *Leases*.

6.1.7 Future Energy

	FY20 ($m)	FY19 ($m)	Change ($m)	Change (%)
Operating costs	(15)	(15)	–	N/A
Investments	(15)	(35)	(20)	(56)

Future Energy is focused on new business models to connect distributed assets and data to customers. We have developed a VPP platform that is able to orchestrate millions of distributed assets using artificial intelligence. The VPP has more than 85 MW connected today from more than 11,000 customers and we expect it to grow as the benefits to customers and the grid are realised. We have also developed a leading digital and analytics capability and are actively investing in technology for new customer solutions, both in front of and behind the meter.

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

6.1.8 Octopus Energy

Origin has acquired a 20 per cent interest in Octopus Energy and a licence in Australia to its market-leading customer platform, Kraken. Over the next 24 to 30 months, Origin will transfer its retail electricity and gas customer accounts to the Kraken platform and adopt Octopus Energy's leading operating model with targeted cash savings of $70–80 million in FY2022 increasing to $100–150 million annually from FY2024.

We are making good progress in customising the Kraken platform for the Australian market and are on track to have our first customer cohort migrated by the end of the calendar year. Base functionality for NSW is well progressed and we have moved a small group of 'family and friends' onto the platform for further testing.

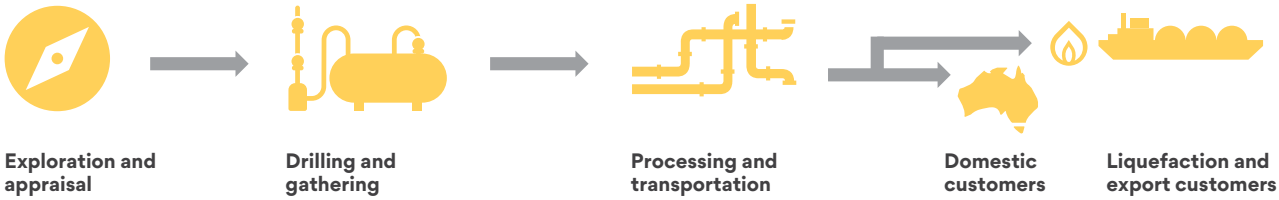
Our first group of Energy Specialists have been trained on the UK Kraken platform and are supporting Octopus Energy's UK customers. These Energy Specialists are gaining valuable experience in using Kraken and will be transitioning to the Australian platform as we start to migrate the first customer cohort.

The $4 million loss as shown in Section 6.1.1 represents our share of EBITDA from Octopus Energy from 1 May to 30 June 2020. The loss in these months represents warmer weather reducing gas demand and increasing net wholesale costs.

6.2 Integrated Gas

	FY20 ($m)	FY19 ($m)	Change ($m)	Change (%)
Share of APLNG (see Section 6.2.1)	1,915	2,123	(208)	(10)
Integrated Gas – Other (see Section 6.2.2)	(174)	(231)	57	(25)
Underlying EBITDA	**1,741**	**1,892**	**(151)**	**(8)**
Underlying depreciation and amortisation	(29)	(18)	(11)	61
Underlying share of ITDA from APLNG	(1,296)	(1,504)	208	(14)
Underlying EBIT	**416**	**370**	**46**	**12**

6.2.1 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.[6] 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 7 for disclosure relating to Tri-Star litigation associated with these CSG interests.

Financial summary – APLNG

Profit and Loss

	FY20		FY19	
($m)	**APLNG 100%**	**Origin share**	**APLNG 100%**	**Origin share**
Commodity revenue and other income[(a)]	7,100	2,662	7,443	2,791
Operating expenses	(1,992)	(747)	(1,781)	(668)
Underlying EBITDA	**5,108**	**1,915**	**5,662**	**2,123**
Depreciation and amortisation	(1,863)	(699)	(2,116)	(794)
MRCPS interest expense	(463)	(174)	(602)	(226)
Project finance interest expense	(372)	(140)	(590)	(221)
Other financing expense	(102)	(37)	(72)	(27)
Interest income	40	15	51	19
Income tax expense	(708)	(266)	(699)	(262)
Underlying ITDA[(b)]	**(3,468)**	**(1,301)**	**(4,027)**	**(1,510)**
Underlying Profit	**1,640**	**614**	**1,635**	**613**

(a) Includes commodity revenue plus other income of $19 million (Origin share) (FY2019: $2 million) primarily related to a release of the restoration provision from the relinquishment of the Gilbert Gully permit during FY2020.

(b) See Origin Financial Statement note B2.1 for details relating to a $5 million difference between APLNG ITDA and Origin's reported share.

6 As per EnergyQuest Energy Quarterly, June 2020.

Origin's share of APLNG Underlying EBITDA decreased by $208 million including a $107 million decrease relating to the change in accounting treatment for dewatering and workover costs (previously capitalised and now directly expensed as incurred). This was partially offset by a $13 million increase related to adopting AASB 16 *Leases*. Excluding the above accounting impacts, Origin's share of APLNG Underlying EBITDA decreased $114 million, driven by:

- commodity and other revenue decreasing by $129 million as result of a higher proportion of LNG sales into a weaker spot market as well as lower domestic sales volumes and lower average price; and
- operating expenses reducing $15 million (after excluding the above accounting impacts of $94 million), primarily driven by lower purchases ($55 million) and other cost reductions ($15 million). This was partially offset by higher royalties and tariffs ($26 million), exploration write-off ($21 million) and higher downstream operating costs ($8 million). See below for further details.

The decrease in Origin's share of depreciation and amortisation reflects the removal of amortisation related to workovers and dewatering of $152 million, partially offset by the impact of a lower AUD/USD exchange rate.

Origin's share of MRCPS interest expense decreased by $52 million due to a lower MRCPS balance following buy-backs by APLNG. This was partially offset by the impact of a lower AUD/USD exchange rate. Project finance interest decreased by $81 million due to a lower average interest rate from refinancing activities, partly offset by the impact of a lower AUD/USD exchange rate. See Section 5.6 for details relating to APLNG funding.

APLNG volume summary

	FY20		FY19	
Volume and price summary	**APLNG 100%**	**Origin share**	**APLNG 100%**	**Origin share**
Production volumes (PJ)				
Operated	542	203	522	196
Non-operated	165	62	157	59
Total production	**708**	**265**	**679**	**255**
Purchases	17	7	32	12
Changes in upstream gas inventory/other	(15)	(6)	1	0
Liquefaction/downstream inventory/other	(42)	(16)	(36)	(13)
Sales volumes (PJ)	**668**	**251**	**676**	**254**
Domestic gas sales volumes	187	70	195	73
LNG spot sales volumes	32	12	17	7
LNG contract sales volumes	449	169	464	174
Commodity revenue ($m)	**7,049**	**2,643**	**7,436**	**2,789**
Natural Gas sales	861	323	983	369
LNG sales	6,188	2,320	6,453	2,420
Realised price				
Natural Gas ($A/GJ)	4.61		5.04	
LNG (A$/GJ)	12.86		13.42	
LNG (US$/mmbtu)	9.12		10.12	

Origin's share of APLNG production increased 10 PJ to 265 PJ in FY2020, with improved performance across operated and non-operated assets driven by stronger field and facility performance and the Eurombah Reedy Creek Interconnect pipeline (ERIC) online from July 2019, improving utilisation of processing capacity. This was partially offset by reduced operated production in the final quarter in response to lower demand due to COVID-19.

Origin's FY2020 share of APLNG commodity revenue decreased 5 per cent to $2,643 million with increased production offset by lower purchases and building up of inventory. The average realised LNG price decreased 4 per cent to A$12.86/GJ, reflecting a higher proportion of spot LNG sales. The average realised domestic gas price decreased 9 per cent to $4.61/GJ, driven by reduced short-term sales prices.

Cash flow – APLNG 100%

A$m	FY20 ($m)	FY19 ($m)	Change ($m)	Change (%)
Underlying EBITDA	5,108	5,662	(554)	(10)
Non-cash items in underlying EBITDA	66	(4)	70	N/A
Change in working capital	64	(34)	98	(288)
Other	4	(88)	92	(105)
Operating cash flow*	**5,242**	**5,536**	**(294)**	**(5)**
Capital expenditure*	(1,038)	(1,277)	239	(19)
Capitalised de-watering costs*	–	(101)	101	(100)
Interest income*	40	50	(10)	(20)
Asset purchases (including Ironbark)/sale proceeds*	(245)	30	(275)	N/A
Loan repaid by/(advanced to) Origin	8	31	(23)	(74)
Loans paid by other shareholders	6	9	(3)	(33)
Investing cash flow	**(1,229)**	**(1,258)**	**29**	**(2)**
Project finance interest and transaction costs*	(382)	(513)	131	(26)
Repayment of project finance*	(731)	(808)	77	(10)
Other financing activities*	(45)	(85)	40	(47)
Repayment of lease liabilities*	(80)	–	(80)	N/A
Interest on lease liabilities*	(19)	–	(19)	N/A
MRCPS interest	(480)	(611)	131	(21)
MRCPS buy-back	(2,918)	(1,987)	(931)	47
Financing cash flow	**(4,655)**	**(4,004)**	**(651)**	**16**
Net increase/(decrease) in cash and cash equivalents	**(642)**	**274**	**(916)**	**(334)**
Effect of exchange rate changes on cash*	104	113	(9)	(8)
Net increase/(decrease) in cash including foreign exchange movement	**(538)**	**387**	**(925)**	**(239)**
Distributable cash flow*	**2,846**	**2,945**	**(99)**	**(3)**

* 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 $2,846 million (Origin's 37.5 per cent share: $1,067 million) at an effective oil price of US$68/bbl (FY2019: US$73/bbl) after servicing project finance interest and principal. Cash distributions to Origin were higher at $1,275 million in FY2020, reflecting partial draw down of cash retained at 30 June 2019. APLNG's cash balance at 30 June 2020 was $1,072 million ($1,610 million at 30 June 2019).

Operating cash costs – APLNG 100%

	FY20 ($m)	FY19 ($m)	Change ($m)	Change (%)
Purchases	(89)	(235)	146	(62)
Royalties and tariffs[a]	(502)	(433)	(69)	16
Operated opex[b]	(561)	(562)	1	(0)
Non-operated opex	(202)	(197)	(5)	3
Downstream opex	(248)	(228)	(20)	9
APLNG Corporate/other	(105)	(126)	21	(17)
Dewatering[b]	(106)	–	(106)	N/A
Workovers	(179)	–	(179)	N/A
Total operating expenses per Profit and Loss	**(1,992)**	**(1,781)**	**(211)**	**12**
Add capitalised de-watering costs	–	(101)	101	(100)
Other cash items	(63)	(61)	2	(3)
Total operating cash costs	**(2,055)**	**(1,943)**	**(112)**	**6**

(a) Reflects actual royalties paid. At break-even prices royalties and tariffs would have amounted to $96 million (FY2019: $139 million).

(b) FY2020 unit operating costs of $1.0/GJ reflects operated opex ($561 million) less pipeline and major turnaround costs ($68 million) plus operated dewatering costs ($76 million) and 542 PJ operated production.

Operating expenses increased $211 million, of which $285 million relates to dewatering and workover costs previously capitalised. The remaining decrease of $74 million was primarily driven by lower purchases ($146 million), partially offset by higher royalties and tariffs ($69 million) as a result of a higher royalty rate and increased production.

APLNG Corporate/other reduced $21 million, reflecting lower costs due to gas inventory movements ($69 million) and a benefit due to adopting AASB 16 *Leases* ($35 million). This was partially offset by the exploration write-offs ($56 million), foreign exchange impacts ($22 million) and corporate costs and other ($5 million).

Capital expenditure – APLNG 100%

	FY20 ($m)	FY19 ($m)	Change ($m)	Change (%)
Operated upstream – Sustain	(483)	(515)	32	(6)
Operated upstream – Infrastructure	(83)	(122)	39	(32)
Exploration and appraisal	(88)	(102)	14	(14)
Operated stay in business (SIB)	(63)	(16)	(47)	294
Downstream	(0)	(39)	39	(100)
Non-operated	(205)	(262)	57	(22)
Workovers	–	(237)	237	(100)
Total capital expenditure	**(922)**	**(1,293)**	**371**	**(29)**
Working capital movement	(164)	16	(180)	(1,125)
Leases classified as financing cash flow	48	–	48	N/A
Total capital expenditure per cash flow	**(1,038)**	**(1,277)**	**239**	**(19)**

Capital expenditure decreased by $371 million, of which $237 million relates to workover costs now expensed. The remaining $134 million is driven by a $71 million decrease in operated development costs with completion of the ERIC pipeline, $14 million reduced exploration, $57 million lower non-operated spend due to a reduced level of development activity, $39 million lower downstream spend driven by a $50 million benefit related to settlement of a project construction claim, partially offset by an increase in SIB of $47 million related to purchase of spares for maintenance.

Operated upstream – Sustain includes expenditure for drilling, completions, fracture stimulation, gathering network, surface connection, land access and development infrastructure, which occurs over multiple years and is directly related to sustaining production over the medium term. In FY2020, 260 operated wells were drilled (versus 251 in FY2019) including 239 Surat vertical wells (versus 243 in FY2019). 74 wells were fracture stimulated (versus 91 in FY2019) and 267 wells were brought online (vs 266 in FY2019).

Working capital increased by $164 million, primarily due to lower capex creditors as a result of lower activity in FY2020.

6.2.2 Integrated Gas – Other

This segment comprises Origin Integrated Gas activities that are separate from APLNG, and includes unconventional exploration interests in the Beetaloo Basin, the south west Queensland Cooper–Eromanga Basin and a potential conventional development resource in the offshore Browse Basin. It also includes overhead costs (net of recoveries) incurred as upstream operator and corporate service provider to APLNG, costs associated with growth initiatives such as hydrogen and small-scale LNG, 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 km^2 in the Beetaloo Basin. An increase of 7.5 per cent from the previous 70 per cent interest occurred on 7 April 2020, as part of changes to the joint venture agreement with partner Falcon Oil and Gas.

Stage 2 appraisal is underway, targeting two independent shale liquids-rich gas plays. Two horizontal appraisal wells are planned to be drilled, fracture stimulated and put on extended production test, with the objective of flowing liquids-rich gas to the surface. Work continued 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 has been drilled to a total measured depth of 3,809 metres, which includes a 1,579-metre lateral section. Results obtained to date demonstrate good reservoir continuity, conductive natural fractures and continuous gas shows.

  In March 2020, operations were paused in response to the COVID-19 pandemic. The Ensign rig has been secured and maintained locally and by mid-May all activities were completed on the Kyalla 117 well site.

  Subject to COVID-19-related conditions, fracture stimulation of Kyalla 117 is expected to resume in Q3/Q4 calendar year 2020, with extended production testing of the well to follow. Results from the production test are expected by the end of the first quarter of calendar year 2021. These results will inform options to either further evaluate this play or commence activities in the Velkerri play.
- **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 entered into agreements with Bridgeport Energy to farm into a 75 per cent equity position and operatorship of five permits located in the Cooper–Eromanga Basin in south west Queensland. Origin was included on title in June 2020 and drilling of the first well (Stage 1A vertical) is due to commence in Q4 calendar year 2020. The staged farm-in work program involves drilling up to five exploration wells, to be completed by the end of 2024 targeting both unconventional liquids and gas. Origin will carry Bridgeport's cost up to $12 million.

Financial summary

	FY20 ($m)	FY19 ($m)	Change ($m)	Change (%)
Origin only commodity hedging and trading	(92)	(199)	107	(54)
Other Origin only costs	(82)	(32)	(50)	156
Underlying EBITDA	**(174)**	**(231)**	**57**	**(25)**
Underlying depreciation and amortisation/ITDA	(24)	(12)	(12)	99
Interest income – MRCPS	174	226	(52)	(23)
Underlying Profit/(Loss)	**(23)**	**(17)**	**6**	**(35)**

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

Other Origin only costs increased $50 million, including a benefit of $11 million from adopting AASB 16 *Leases*. The remaining $61 million increase is primarily driven by costs associated with an agreement to reduce Origin's share of overriding royalty in the Beetaloo Basin ($15 million), a higher proportion of non-recoverable costs, and higher insurance costs.

FY2020 hedging and trading summary

FY2020 hedging and trading positions realised a $92 million loss compared to a $199 million loss in FY2019.

Based on open hedge and trading positions at current forward market prices[7], we estimate a net gain on oil hedging and LNG trading in FY2021 of $50 million.

$m	FY19 actual	FY20 actual	FY21 estimate[(a)]
Hedge premium expense	(34)	(29)	(9)
Gain/(loss) on oil hedging	(81)	8	99
Gain/(loss) on LNG hedging/trading	(84)	(72)	(40)
Total	**(199)**	**(92)**	**50**

(a) Based on forward prices as at 17 August 2020.

Oil hedging

Origin has entered into oil hedging instruments to manage its share of APLNG oil price risk based on the primary principle of protecting the Company's investment grade credit rating 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 22 mmboe. As at 31 July 2020, we estimate that 11.4 mmboe has been priced at approximately US$41/bbl before any hedging, based on the contract lags.

Origin has separately hedged 6.4 mmbbl primarily using swaps, producer collars and put options of which 3.7 mmbbl has been realised as at 31 July 2020 at an average price of approximately US$55/bbl (see table below).

	Realised as at 31 July 2020		Remaining unrealised	
Hedge instruments	**Volume**	**Average price**	**Volume**	**Average price**
Brent AUD swaps	3.1 mmbbl	A$88/bbl	1.3 mmbbl	A$66/bbl
Brent USD swaps	–	–	0.4 mmbbl	US$57/bbl
Brent producer collars	0.4 mmbbl	US$35–90/bbl	0.4 mmbbl	US$35–90/bbl
Brent puts	0.2 mmbbl	US$35/bbl	0.6 mmbbl	US$35/bbl
Total hedged	**3.7 mmbbl**		**2.7 mmbbl**	

LNG hedging and trading

Uncontracted gas volumes produced by APLNG are sold to the domestic and spot LNG markets. To manage price risk associated with LNG spot volumes, Origin entered into forward fixed price hedge contracts with the hedge position fully closed out at a cost of $60 million in FY2020. There are no LNG hedge positions relating to APLNG's uncontracted sales exposure beyond FY2020.

In 2013, Origin established a Henry Hub linked contract to purchase 0.25 mtpa from Cameron LNG for a period of 20 years, with the first cargo delivered to Origin in June 2020. In FY2020, we recognised a non-cash charge of $455 million post-tax relating to an onerous contract provision associated with Cameron LNG. The non-cash charge will be excluded from Underlying Profit in FY2020, with future realised losses or gains accounted for in Underlying Profit. 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. We estimate a net loss of $40 million in FY2021 for the combined LNG trading and derivatives portfolio, based on current forward prices.[7]

7 As at 17 August 2020.

7. Risks related to Origin's future financial prospects

The scope of operations and activities means that Origin is exposed to risks that can have a material impact on our future financial prospects. Material risks, and the Company's approach to managing them, are summarised below.

Risk management framework

Overseen by the Board and the Board Risk Committee, Origin's risk management framework supports the identification, management and reporting of material risks. Risks are identified that have the potential to impact the delivery of business plans and objectives. Risks are assessed using a risk toolkit that considers the level of consequence and likelihood of occurrence using consistent risk assessment criteria.

The risk framework incorporates a 'three lines of defence' model for managing risks and controls in areas such as health and safety, environment (including climate change), finance, reputation and brand, legal and compliance, and social impacts. All employees are responsible for making risk-based decisions and managing risk within approved risk appetite and specific limits.

The Board reviews Origin's material risks each quarter and assesses the effectiveness of the Company's risk management framework annually, in accordance with the ASX Corporate Governance Principles and Recommendations.

Three lines of defence

Line of defence	Responsibility	Primary accountability
First line		
Lines of business	Identifies, assesses, records, prioritises, manages and monitors risks.	Management
Second line		
Oversight functions	Provides the risk management framework, tools and systems to support effective risk management.	Management
Third line		
Internal audit	Provides assurance on the effectiveness of governance, risk management and internal controls.	Board, Board Committees and Management

Our risk framework supports the identification and management of emerging risks and escalating threats. During FY2020, COVID-19 emerged as a key threat to our operational and financial performance, requiring an ongoing response and management across many of our existing material risks to minimise impacts. Our priorities continue to focus on the health and safety of our people, customers and the communities we operate in. We are ensuring continuity of our operations and supporting activities, including our supply chain, to provide our essential services to our customers and maintain our financial resilience in response to changes in global markets.

Material risks

The risks identified in this section have the potential to materially affect Origin's ability to meet its business objectives and impact its future financial prospects. These risks are not exhaustive and are not arranged in order of significance.

Strategic risks

Strategic risks arise from uncertainties that may emerge in the medium to longer term and, while they may not necessarily impact short-term profits, can have an immediate impact on the value of the Company. These strategic risks are managed through continuous monitoring and review of emerging and escalating risks, ongoing planning and resource allocation, and evaluation by management and the Board.

Risk	Consequences	Management
Competition	Origin operates in a highly competitive retail environment, which can result in pressure on margins and customer losses. Competition also impacts Origin's wholesale business, with generators competing for capacity and fuel and the potential for gas markets to be impacted by new domestic gas resources, LNG imports and the volume of gas exports.	• Our strategy to mitigate the impact of this risk on our Retail business is to effectively manage customer lifetime value and build customer loyalty and trust by delivering simple, seamless and personalised customer experiences, and offering innovative and differentiated products and services. Partnering with Octopus Energy, with its proven technology, should drive a differentiated, market-leading customer experience. • We endeavour to mitigate the impact of this risk on our wholesale business by sourcing competitively priced fuel to operate our generation fleet and through efficient operations optimising flexibility in our fuel, transportation and generation portfolio.
Technological developments/ disruption	Distributed generation is empowering consumers to own, generate and store electricity, consuming less energy from the grid. Technology is allowing consumers to understand and manage their power usage through smart appliances, having the potential to disrupt the existing utility relationship with consumers. Technology also allows customers to have increased awareness of the impact of when they consume energy and where that energy may be sourced from. Advances in technology and the abundance of low-cost data acquisition, communication and control has the potential to create new business models and introduce new competitors.	• Origin actively monitors and participates in technological developments through local and global start-up accelerator programs, trialling new energy technology and exploring investments in new products or business models. • In parallel, Origin is growing its distributed generation and home energy services businesses. It is working to mitigate the impact of this risk on its core energy businesses by offering superior service and innovative products and reducing cost to serve.
Changes in demand for energy	Any decrease in energy demand driven by price, consumer behaviour, mandatory energy efficiency schemes, government policy, weather or other factors can reduce Origin's revenues and adversely affect Origin's future financial performance. Conversely, failure to adequately prepare for any increases in future energy demands, including the emergence of new sources of demand, may restrict Origin in optimising our future financial opportunities.	• Origin is partially mitigating the impact of this risk by applying advanced data analytics capability to smart meter data to better predict customer demand and enable Origin to develop data-based customer propositions. • Our strategy of growing our gas reserves, increasing our supply of renewables, and investing in new technology supports Origin's ability to meet future increases in energy demand.
Regulatory policy	Origin has broad exposure to regulatory policy change and other government interventions. Changes in these areas can impact financial outcomes and, in some cases, change the commercial viability of existing or proposed projects or operations. Specific areas subject to review and development include government subsidies for building new generation or transmission capacity, direct government investment in generation, energy market design, climate change policies, domestic gas market interventions, retail price and consumer protection regulation, and royalties and taxation policy.	• Origin contributes to the policy process at federal, state and territory governments by actively participating in public policy debate, proactively engaging with policy makers and participating in public forums, industry associations, think tanks and research. • Origin advocates directly with key members of governments, opposition parties and bureaucrats to achieve sound policy outcomes aligned with our commercial objectives. Origin also makes formal submissions to relevant government policy inquiries. • Origin actively promotes the customer and economic benefits publicly that flow from our activities in deregulated energy markets.

Risk	Consequences	Management
Climate change	Climate change impacts many parts of Origin's business. Key risks and opportunities include: • those related to the transition to a low-carbon economy, such as the ongoing decarbonisation of energy markets, decreased demand for fossil fuels in some markets, reduced lifespan of carbon-intensive assets, changes to energy market dynamics caused by the intermittency of renewables, changing government regulation and climate change policy, and community demand for lower-carbon sources of energy; and • those related to the physical impact of a changing climate, including the impact of changing weather patterns on the demand for energy, and the resilience of our assets to changing and more severe weather conditions. There is also increased risk of climate change-related litigation against Origin and/or regulatory bodies that grant licences or approvals to Origin, which could potentially result in more onerous licence/approval conditions, non-renewal of licences/approvals or other adverse consequences.	• Our strategy for transitioning to a carbon-constrained future is focused on growth in renewables, gas and cleaner, smarter customer solutions. For Energy Markets, Origin has prepared for a range of decarbonisation scenarios, including scenarios consistent with the Paris Agreement's goal of holding the rise in global temperatures to a 50 per cent chance of below 1.5°C. • Origin has committed to significantly growing its supply of renewable generation, including 1,200 MW of committed large-scale solar and wind energy since March 2016. • Origin uses the flexibility in its gas supply and peaking generation capacity to manage the intermittency of renewables. • Origin is using the framework recommended by the Financial Stability Board's Taskforce on Climate-related Financial Disclosures (TCFD) for governance oversight and reporting of our climate change risks. • Origin has committed to science-based targets to halve Scope 1 and 2 greenhouse gas emissions and reducing value chain Scope 3 emissions[8] by 25 per cent by 2032. • Origin is planning to update its existing science-based targets to a 1.5°C pathway with an aim to achieve net zero emissions by 2050. • Origin has committed to a new short-term emissions target to reduce Scope 1 emissions by 10 per cent on average over FY2021–23 from a FY2017 baseline.

Financial risks

Financial risks are the risks that directly impact the financial performance and resilience of Origin.

Risk	Consequences	Management
Commodity	Origin has a long-term exposure to international oil, LNG and gas prices through the sale and purchase of domestic gas, LNG and LPG, and its investment in APLNG. Pricing can be volatile and downward price movements can impact cash flow, financial performance, reserves and asset carrying values. Some of Origin's long-term domestic gas purchase agreements and APLNG's LNG sale agreements contain periodic price reviews. Following each review, pricing may be adjusted upwards or downwards, or it may remain unchanged. Prices and volumes for electricity that Origin sources to on-sell to customers are volatile and are influenced by many factors that are difficult to predict. Long-term fluctuations in coal and gas prices also impact the margins of Origin's generation portfolio.	• Commodity exposure limits are set by the Board to manage the overall financial exposure that Origin is prepared to take. • Origin's commodity risk management process monitors and reports performance against defined limits. • Commodity price risk is managed through a combination of physical positions and derivatives contracts. • For each periodic price review, a negotiation strategy is developed, which takes into account external market advice and uses both external and in-house expertise.
Foreign exchange and interest rates	Origin has exposures through principal debt and interest payments associated with foreign currency and Australian dollar borrowings, the sale and purchase of gas, LNG and LPG, and through its investments in APLNG and the Company's other foreign operations. Interest rate and foreign exchange movements could lead to a decrease in Australian dollar revenues or increased payments in Australian dollar terms.	• Risk limits are set by the Board to manage the overall exposure. • Origin's treasury risk management process monitors and reports performance against defined limits. • Foreign exchange and interest rate risks are managed through a combination of physical positions and derivatives.
Liquidity and access to capital markets	Origin's business, prospects and financial flexibility could be adversely affected by a failure to appropriately manage its liquidity position, or if markets are not available at the time of any financing or refinancing requirement.	• Origin actively manages its liquidity position through cash flow forecasting and maintenance of minimum levels of liquidity as determined under Board-approved limits.
Credit and counterparty	Some counterparties may fail to fulfil their obligations (in whole or part) under major contracts.	• Counterparty risk assessments are regularly undertaken and, where appropriate, credit support is obtained to manage counterparty risk.

8 Incurred within the domestic market; excluding LPG and corporate as their emissions are not material.

Operational risks

Operational risks arise from inadequate or failed internal processes, people or systems, or from external events.

Risk	Consequences	Management
Safe and reliable operations	Origin has exposure to reliability or major accident events that may impact our licence to operate or financial prospects. This includes loss of containment, cyber-attack and security incidents, unsafe operations, and natural hazards, events that may result in harm to our people, environmental damage, additional costs, production loss, third-party impacts, and impact to our reputation. A production outage or constraint, network or IT systems outage, would affect Origin's ability to deliver electricity and gas to its customers. A serious incident or a prolonged outage may also damage Origin's financial prospects and reputation.	• Core operations are subject to a comprehensive framework of controls and operational performance monitoring to manage the design, operational and technical integrity of our assets and associated operational activities. Origin's standards and controls are designed to ensure we meet regulatory and industry standards in all operations. • Origin personnel are appropriately trained and licensed to perform their operational activities. • Origin maintains an extensive insurance program to mitigate consequences by transferring financial risk exposure to third parties, where commercially appropriate.
Environmental and social	An environmental incident or Origin's failure to consider and adequately mitigate environmental, social and socio-economic impacts on communities and the environment has the potential to cause environmental impact, community action, regulatory intervention, legal action, reduced access to resources and markets, impacts to Origin's reputation and increased operating costs. Community concerns regarding environmental and social impacts associated with our activities may also give rise to unrest among community stakeholder groups and activists, which may impact the company's reputation. A third party's actions may also result in delays in Origin carrying out its approved development and operational activities. NGOs, landholders, community members and other affected parties can seek to prevent or delay Origin's activities through court litigation, preventing access to land and extending approval pathway timeframes.	• Origin engages with communities to understand, mitigate and report on environmental and social risks associated with its projects and operations. • At a minimum, the management of environmental and social risks meets regulatory requirements. Where practical, their management extends to the improvement of environmental values and the creation of socio-economic benefits. • A dedicated Board Committee oversees health, safety and environment risk. The Committee receives regular reporting of the highest-rated environmental risks and mitigants, and reviews significant incidents and near misses. • Origin engages with its stakeholders prior to seeking relevant approvals for its development and operational activities, and this engagement continues through the life of the project and during operations.
Cyber security	A cyber security incident could lead to a breach of privacy, loss of and/or corruption of commercially sensitive data, and/or a disruption of critical business processes. This may adversely impact customers and the Company's business activities.	• A dedicated cyber risk team is responsible for implementing a Board-approved cyber strategy and continuously improving controls. • External cyber security specialists are regularly employed to assess our cyber security profile, including penetration testing. • Employees undertake compulsory cyber awareness training, including how to identify phishing emails and keep data safe; and are subject to a regular program of random testing.
APLNG gas reserves, resources and deliverability	There is uncertainty about the productivity, and therefore economic viability, of resources and developed and undeveloped reserves. As a result, there is a risk that actual production may vary from that estimated, and in the longer term, that there will be insufficient reserves to supply the full duration and volumes to meet contractual commitments. As at 30 June 2020, APLNG's total resources are estimated to be greater than its contractual supply commitments on a volume basis. However, under certain scenarios of production and deliverability of gas over time, there is a risk that the rate of gas delivery required to meet APLNG's committed gas supply agreements may not be able to be met for the later years in the life of existing contracts.	• APLNG employs established industry procedures to identify and consider areas for exploration to mature contingent and prospective resources. • APLNG monitors reservoir performance and adjusts development plans accordingly. APLNG continually takes steps to further strengthen the supply base such as lowering costs and identifying new plays. • APLNG is progressing an exploration campaign that, if successful, could increase long-term supply. • APLNG continues to review business development opportunities for long-term gas supply, and has the ability to substitute gas or LNG to meet contractual requirements if required.

Risk	Consequences	Management
Conduct	Unlawful, unethical or inappropriate conduct that falls short of community expectations could result in penalties, reputational/brand damage, loss of customers and adverse financial impacts. Origin's financial prospects and reputation/brand are underpinned by complying with laws and other regulatory obligations (such as privacy, competition and insider trading) and meeting stakeholder commitments.	• Origin's people are trained on the laws and regulations that apply to their activities and operations, and on the processes that underpin compliance with laws and regulations. • Origin's Purpose, Values, Behaviours and Code of Conduct guide conduct and decision making across Origin. • All Origin's people are trained every two years in Origin's Code of Conduct, and we conduct training for insider trading, privacy, and competition and consumer law every year. • Conduct risk and compliance are identified as material risks within Origin's risk management framework and are regularly reported to the Board Risk Committee. Business units are accountable for controls specific to the different parts of Origin's business and are subject to assurance activities, including Internal Audit.
Joint venture	Third-party joint venture operators may have economic or other business interests that are inconsistent with Origin's own and may take actions contrary to the Company's objectives, interests or standards. This may lead to potential financial, reputational and environmental damage in the event of a serious incident.	• Origin applies a number of governance and management standards across its various joint venture interests to provide a consistent approach to managing them. • Origin actively monitors and participates in its joint ventures through participation in their respective boards and governance committees.

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 is required to file its:

- amended reply and answer in the reversion proceeding by 30 November 2020; and
- reply and answer in the markets proceeding by 18 December 2020.

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.

8. 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 5.1 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.

Appendices

Appendix 1: FY2020 impact of leasing standard

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

A lease liability of $514 million and a right-of-use (ROU) asset of $467 million have been recognised in the balance sheet at 30 June 2020. In the profit and loss, the ROU asset is depreciated and interest expense is recognised on the lease liability. Previously, lease payments were expensed within Underlying EBITDA. In the cash flow, lease payments are recognised as financing cash flows, split between principal and interest payments. Previously, lease payments were classified as operating cash flows.

Renewable power purchase agreement treatment

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

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

The table below removes the impact of AASB 16 *Leases* from Origin's FY2020 Profit and Loss for comparative purposes.

	FY20 reported ($m)	Lease adj. ($m)	FY20 excl. lease adj. ($m)	FY19 reported ($m)	Change ($m)	Change (%)
Energy Markets	1,459	(62)[a]	1,397	1,574	(177)	(11)
Integrated Gas – Share of APLNG	1,915	(13)	1,902	2,123	(221)	(10)
Integrated Gas – Other	(174)	(11)	(185)	(231)	46	(20)
Corporate	(59)	(11)	(70)	(234)	164	(70)
Underlying EBITDA	**3,141**	**(97)**	**3,044**	**3,232**	**(188)**	**(6)**
Underlying depreciation and amortisation	(509)	80	(429)	(419)	(10)	2
Underlying share of ITDA	(1,303)	22	(1,281)	(1,504)	223	(15)
Underlying EBIT	**1,329**	**5**	**1,334**	**1,308**	**26**	**2**
Underlying interest income – MRCPS	174	–	174	226	(52)	(23)
Underlying net financing costs – Other	(300)	18	(282)	(380)	98	(26)
Underlying Profit before income tax and non-controlling interests	**1,203**	**22**	**1,225**	**1,154**	**71**	**6**
Underlying income tax expense	(177)	(4)	(181)	(123)	(58)	47
Non-controlling interests' share of Underlying Profit	(3)	–	(3)	(3)	–	–
Underlying Profit	**1,023**	**18**	**1,041**	**1,028**	**13**	**1**
Operating cash flow	951	91	1,042	1,325	(283)	(21)
Investing cash flow	862	–	862	589	273	46
Financing cash flow	(2,118)	(91)	(2,209)	(520)	(1,689)	325

(a) LPG ($30 million), cost to serve ($25 million), Solar and Energy Services ($3 million) and Electricity ($4 million).

Appendix 2: FY2020 dewatering and workover treatment – APLNG 100%

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

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

There has been no change to comparative information. The following table shows FY2019 profit and loss with the treatment change for comparative purposes only.

	FY20 reported ($m)	FY19 reported ($m)	Dewatering workover adjustment ($m)	FY19 adjusted ($m)	Change ($m)	Change (%)
Commodity and other revenue	7,100	7,443	–	7,443	(343)	(5)
Operating expenses[a]	(1,992)	(1,781)	(338)	(2,119)	127	(6)
Underlying EBITDA	**5,108**	**5,662**	**(338)**	**5,324**	**(216)**	**(4)**
Depreciation and amortisation	(1,863)	(2,116)	406	(1,710)	(153)	9
Net financing costs	(897)	(1,213)	–	(1,213)	316	(26)
Income tax expense	(708)	(699)	(21)	(720)	12	(2)
Underlying ITDA from APLNG	**(3,468)**	**(4,027)**	**385**	**(3,642)**	**174**	**(5)**
Underlying Profit	**1,640**	**1,635**	**47**	**1,682**	**(42)**	**(2)**
Operating cash flow	5,242	5,536	(338)	5,198	44	1
Investing cash flow	(1,229)	(1,258)	338	(920)	(309)	34
Financing cash flow	(4,655)	(4,004)	–	(4,004)	(651)	16

(a) Adjustment comprises workover costs of $237 million and dewatering costs of $101 million in FY2019.

Directors' Report

For the year ended 30 June 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 year ended 30 June 2020.

The Operating and Financial Review and Remuneration Report form part of this Directors' Report.

1. Principal activities, review of operations and significant change in state of affairs

During the year, the principal activity of Origin was the operation of energy businesses including exploration and production of natural gas, electricity generation, wholesale and retail sale of electricity and gas, and sale of liquefied natural gas. There have been no significant changes in the nature of those activities during the year and no significant changes in the state of affairs of the Company during the year.

The Operating and Financial Review, which forms part of this Directors' Report, contains a review of operations during the year and the results of those operations, the financial position of Origin, its business strategies, and prospects for future financial years.

2. Events subsequent to balance date

Other than the matters described below, no matters or circumstances have arisen since 30 June 2020, which have significantly affected, or may significantly affect, the Company's operations, the results of those operations or the Company's state of affairs in future financial years.

On 2 July 2020, the Group 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.

On 20 August 2020, the Directors determined a final dividend of 10 cents per share, unfranked, on ordinary shares. The dividend will be paid on 2 October 2020.

3. Dividends

a) Dividends paid during the year by the Company were as follows

	$ million
15 cents per ordinary share, fully franked, for the half year ended 31 December 2019, paid 27 March 2020	264

b) In respect of the current financial year, the Directors have determined a final dividend as follows:

	$ million
10 cents per ordinary share, unfranked, for the year ended 30 June 2020, payable 2 October 2020.	176

The Dividend Reinvestment Plan (DRP) will apply to this final dividend at no discount.

4. Directors and Company Secretary

The Directors of the Company at any time during or since the end of the financial year, their qualifications, experience and special responsibilities are set out on page 8. The qualifications and experience of the Company Secretary is also set out below:

Gordon Cairns
Independent Non-executive Chairman

John Akehurst
Independent Non-executive Director

Maxine Brenner
Independent Non-executive Director

Frank Calabria
Managing Director and Chief Executive Officer

Teresa Engelhard
Independent Non-executive Director

Greg Lalicker
Independent Non-executive Director

Bruce Morgan
Independent Non-executive Director

Scott Perkins
Independent Non-executive Director

Steven Sargent
Independent Non-executive Director

Helen Hardy
Company Secretary

Helen Hardy joined Origin in March 2010. She was previously General Manager, Company Secretariat of a large ASX-listed company, and has advised on governance, financial reporting and corporate law at PwC and Freehills. Helen is a Chartered Accountant, Chartered Secretary and a Graduate Member of the Australian Institute of Company Directors. Helen is a fellow of the Governance Institute of Australia and is the Chair of its NSW Council and a member of its Legislative Review Committee and Communication Committee. She holds a Bachelor of Laws and a Bachelor of Commerce from the University of Melbourne, a Graduate Diploma in Applied Corporate Governance and is admitted to legal practice in New South Wales and Victoria.

5. Directors' meetings

The number of Directors' meetings, including Board committee meetings, and the number of meetings attended by each Director during the financial year, are shown in the table below:

	Board meetings				Committee meetings									
	Scheduled		Additional		Audit		Health, Safety and Environment (HSE)		Nomination		Remuneration & People		Risk	
Directors	**H**	**A**	**H**	**A**	**H**	**A**	**H**	**A**	**H**	**A**	**H**	**A**	**H**	**A**
J Akehurst	10	10	3	3	–	–	5	5	3	3	–	–	5	5
M Brenner	10	10	3	3	4	4	–	–	3	3	–	–	5	5
G Cairns	10	10	3	3	4	4	5	5	3	3	5	5	5	5
F Calabria	10	10	3	3	–	–	5	5	–	–	–	–	–	–
T Engelhard	10	10	3	3	4	4	2	2	–	–	5	5	–	–
G Lalicker	10	10	3	3	–	–	–	–	–	–	–	–	–	–
B Morgan	10	10	3	3	4	4	5	5	3	3	–	–	5	5
S Perkins	10	10	3	3	4	4	2	2	3	3	5	5	5	5
S Sargent	10	10	3	3	–	–	5	5	–	–	5	5	2	2

H Number of scheduled meetings held during the time that the Director held office or was a member of the committee during the year.
A Number of meetings attended.

The Board held 10 scheduled meetings, including a one-day strategic review meeting and three additional meetings to deal with urgent matters. There were also four Board or Committee workshops to consider matters of particular relevance. In addition, the Board conducted visits of Company operations at various sites and met with operational management during the year.

6. Directors' interests in shares, Options and Rights

The relevant interests of each Director as at 30 June 2020 in the shares and Options or Rights over such instruments issued by the companies within the consolidated entity and other related bodies corporate at the date of this report are as follows:

Director	Ordinary shares held directly and indirectly	Options over ordinary shares	Deferred Share Rights (DSR) over ordinary shares	Performance Share Rights (PSR) over ordinary shares	Restricted shares
G Cairns	163,660	–	–	–	–
F Calabria	187,340	632,995[1]	110,779[2]	958,872[2]	249,926[2]
J Akehurst	71,200	–	–	–	–
M Brenner	28,367	–	–	–	–
T Engelhard	34,421	–	–	–	–
G Lalicker	100,000	–	–	–	–
B Morgan	47,143	–	–	–	–
S Sargent	31,429	–	–	–	–
S Perkins	30,000	–	–	–	–

Exercise price for Options and Rights:
1 231,707: $5.67; 401,288: $7.37.
2 Nil.

No Director other than the Managing Director and Chief Executive Officer participates in the Company's Equity Incentive Plan.

Securities granted by Origin

Non-executive Directors do not receive Options or Rights as part of their remuneration. The following securities were granted to the five most highly remunerated officers (other than Directors) of the Company during the year ended 30 June 2020:

	PSRs	Restricted shares
J Briskin	125,762	46,689
G Jarvis	134,146	164,370
M Schubert	134,146	52,275
L Tremaine	167,682	95,090
A Lucas	119,055	53,035

Each of these awards was made in accordance with the Company's Equity Incentive Plan as part of the relevant executive's remuneration. Further details on Options and Rights granted during the financial year, and unissued shares under Options and Rights, are included in Section 7 of the Remuneration Report.

No Options or Rights were granted since the end of the financial year.

Origin shares issued on the exercise of Options and Rights

Options

No Options granted under the Equity Incentive Plan were exercised during or since the year ended 30 June 2020, so no ordinary shares in Origin were issued as a result.

Rights

1,705,133 ordinary shares of Origin were allocated from the Origin Energy Limited Employee Share Trust during the year ended 30 June 2020 on the vesting and exercise of DSRs granted under the Equity Incentive Plan. No amounts were payable on the vesting of those DSRs and, accordingly, no amounts remain unpaid in respect of any of those shares.

Since 30 June 2020, 76,202 ordinary shares were allocated from the Origin Energy Limited Employee Share Trust on the vesting of DSRs granted under the Equity Incentive Plan.

All shares in the Origin Energy Limited Employee Share Trust were purchased on market.

7. Environmental regulation and performance

The Company's operations are subject to environmental regulation under Commonwealth, State, and Territory legislation. For the year ended 30 June 2020, regulators were notified of a total of 31 environmental reportable non-compliances, including voluntary notifications. Of these, two incidents resulted in environmental impacts with a moderate short-term impact to the environment. All other environmental incidents had a minor consequence and were appropriately investigated. In FY2020, the Company received two formal environmental notices from a regulator arising from Origin's activities. One of these notices resulted in a $15,000 fine for an infringement at the Eraring Power Station within the Energy Markets generation business. The other notice related to a $431 fine for a late submission of an annual return. Remedial actions have been taken or are being undertaken in response to the incidents and notices. All incidents are investigated, and lessons learned captured and shared across the Company.

Our Integrated Gas business is currently being investigated by the Queensland Department of Environment and Science for a coal seam gas residue release at our Ramyard and Woleebee sites in early 2020. Clean-up notices were issued in FY2021 but there have been no enforcement actions issued at the time of this Report. Origin is currently working with the regulator on the remediation activities.

8. Indemnities and insurance for Directors and Officers

Under its Constitution, the Company may indemnify current and past Directors and Officers for losses or liabilities incurred by them as a Director or Officer of the Company or its related bodies corporate to the extent allowed under law. The Constitution also permits the Company to purchase and maintain a Directors' and Officers' insurance policy. No indemnity has been granted to an auditor of the Company in their capacity as auditor of the Company.

The Company has entered into agreements with current Directors and certain former Directors whereby it will indemnify those Directors from all losses or liabilities in accordance with the terms of, and subject to the limits set by, the Constitution.

The agreements stipulate that the Company will meet the full amount of any such liability, including costs and expenses to the extent allowed under law. The Company is not aware of any liability having arisen, and no claim has been made against the Company during or since the year ended 30 June 2020 under these agreements.

During the year, the Company has paid insurance premiums in respect of Directors' and Officers' liability, and legal expense insurance contracts for the year ended 30 June 2020.

The insurance contracts insure against certain liability (subject to exclusions) of persons who are or have been Directors or Officers of the Company and its controlled entities. A condition of the contracts is that the nature of the liability indemnified and the premium payable not be disclosed.

9. Auditor independence

There is no former partner or director of EY, the Company's auditors, who is or was at any time during the year ended 30 June 2020 an officer of the Origin Energy Group. The auditor's independence declaration for the financial year (made under section 307C of the *Corporations Act 2001* (Cth)) is attached to and forms part of this Report.

10. Non-audit services

The amounts paid or payable to EY for non-audit services provided during the year was $1,075,000 (shown to the nearest thousand dollars). Amounts paid to EY are included in note G7 to the full financial statements.

Based on written advice received from the Audit Committee Chairman pursuant to a resolution passed by the Audit Committee, the Board has formed the view that the provision of those non-audit services by EY is compatible with, and did not compromise, the general standards of independence for auditors imposed by the *Corporations Act 2001* (Cth). The Board's reasons for concluding that the non-audit services provided by EY did not compromise its independence are:

- all non-audit services provided were subjected to the Company's corporate governance procedures and were either below the pre-approved limits imposed by the Audit Committee or separately approved by the Audit Committee;
- all non-audit services provided did not, and do not, undermine the general principles relating to auditor independence as they did not involve reviewing or auditing the auditor's own work, acting in a management or decision making capacity for the Company, acting as an advocate for the Company or jointly sharing risks and rewards; and
- there were no known conflict of interest situations nor any other circumstance arising out of a relationship between Origin (including its Directors and Officers) and EY which may impact on auditor independence.

11. Proceedings on behalf of the Company

The Company is not aware of any proceedings being brought on behalf of the Company, nor any applications having been made in respect of the Company under section 237 of the *Corporations Act 2001* (Cth).

12. Rounding of amounts

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.

13. Remuneration

The Remuneration Report forms part of this Directors' Report.

Remuneration Report

For the year ended 30 June 2020

The Remuneration Report (Report) for the year ended 30 June 2020 (FY2020) forms part of the Directors' Report. It has been prepared in accordance with the *Corporations Act 2001* (Cth) (the Act) and accounting standards, and audited as required by section 308(3C) of the Act.

Letter from the Chairman of the Remuneration and People Committee

On behalf of the Remuneration and People Committee (RPC) and the Board, I am pleased to present the Remuneration Report for FY2020.

FY2020 remuneration outcomes

Remuneration outcomes for FY2020 reflected a continued improvement in operational performance notwithstanding the challenging external environment due to the COVID-19 pandemic and its associated economic impacts, including a decline in commodity prices.

The Short Term Incentive (STI) scorecard outcomes for the year reflected above-target results and in some metrics approached stretch targets. The Chief Executive Officer's (CEO's) STI outcome was 83.5 per cent of maximum (FY2019: 68.2 per cent) and the aggregate STI outcome for Executive Key Management Personnel (KMP) was 84.1 per cent of maximum (FY2019: 73.7 per cent).

No awards vested under the Long Term Incentive (LTI) Plan during the year. A partial vesting of FY2017 LTI awards is expected in FY2021.

When STI targets were set at the beginning of FY2020, the Company could not have foreseen the challenges that arose from a severe bushfire season and the COVID-19 pandemic. Yet the targets were met or exceeded even as the Executive team managed a rapid and effective response, maintaining energy supplies and supporting impacted customers; safeguarding employees and communities; and working collaboratively with all levels of government to support policy objectives.

During these challenges, our Executive team was not distracted from achieving strong operational performance. Our Engagement Score rose to the top quartile with a record high result of 75. Safety outcomes improved by 40 per cent as measured by the Total Recordable Injury Frequency Rate (TRIFR). Our people's safety is our primary focus and we continue to strive for zero harm. Over the year, we also recorded our highest-ever customer Strategic Net Promoter Score (sNPS) and reputation (RepTrak) measures. All areas of STI performance exceeded expectations and enabled Origin to maintain its dividends for shareholders.

Given the challenging economic and business circumstances, the annual remuneration review – which would have been conducted at the end of FY2020 for employees generally, as well as Executive KMP – was deferred on a Company-wide basis.

FY2020 remuneration framework

There were no changes to the basic architecture of the remuneration framework during the year. We:

- strengthened and formalised processes that ensure alignment with our purpose, strategy, values and behaviours, enhancing the behavioural assessment mechanism to bring additional rigour to the process for modifying STI scorecard outcomes, up or down, based on the individual's approach and behaviour;
- reweighted STI metrics towards those influenced by management, which align with long-term decision making and lead to increased shareholder value (see Section 4.2 for details);
- ensured financial and non-financial risks were systematically considered in the overall assessment of STI outcomes; and
- took into account formal feedback from the Chairs of the Health, Safety and Environment (HSE), Risk, Audit and RPC committees in determining and approving final performance outcomes for Executive KMP.

There were no changes to the structure of Non-executive Director (NED) fees.

FY2020 remuneration levels

As foreshadowed in the 2019 Remuneration Report, increases in Executive KMP Fixed Remuneration (FR) at the beginning of FY2020 averaged 1.9 per cent compared with approximately 2.4 per cent for the broader organisation.

During FY2020, we reviewed benchmarking for our three operational Executive General Managers (EGM Energy Supply & Operations, EGM Integrated Gas and EGM Retail) to reflect changes in the scope and complexity of their roles. Our policy is to have key talent remunerated at the median of comparable roles after three years, subject to performance. The final phase of that process was completed during the year, incorporating the revised benchmarking, and all Executive KMP – except the CEO, see below – are now remunerated in line with this policy. Some of the Executive KMP moved to a 60 per cent STI deferral level during the year.

There were no changes to the policy for NED fees for FY2020.

FY2021 remuneration

As noted, the Company's general annual remuneration review due to be conducted at the end of FY2020 was deferred, and no standard uplifts will occur early in FY2021 for employees generally or for the CEO or Executive KMP.

In the normal course of events, the Board would have considered adjusting the CEO's remuneration for FY2021 in order to close the policy gap referred to above. However, the CEO asked, and the Board has agreed, to defer consideration of his remuneration for another year. The Board considered this request very carefully in the light of the CEO's strong performance and the Board's commitment to remunerating in line with policy and agreed that, in the context of the broader deferral of remuneration reviews and the uncertain external environment, it was appropriate to defer the review until FY2022.

The Board, in consultation with its external advisor, undertook a comprehensive assessment of the remuneration framework during FY2020, with a specific focus on ensuring that the LTI Plan (LTIP) structure is fit for purpose. There is increasing concern the LTIP is not adequately achieving its objectives of attracting executive talent, retaining key leaders, aligning with shareholders' interests and contributing to the generation of executive share ownership. The review concluded that the LTIP is not well suited to the commodity nature or investment profile of the energy industry, and that organisations facing similar business contexts in Australia and the UK have been adopting superior plans. Origin is particularly impacted by rapidly changing market and operating conditions because it has exposures to these issues in upstream and downstream businesses, unlike most organisations domestically or internationally. Furthermore, the review concluded that our current LTIP is failing to adequately achieve any of its objectives in terms of attracting, retaining or generating executive share ownership. During FY2020, the Board implemented special arrangements to secure and retain key talent, which would not have been necessary if the LTIP had been fit for purpose. To date, no Executive who had commenced with the Company in the last decade had received any shares through the LTIP mechanism, posing a fundamental challenge to the objective of building share ownership.

The Board considers that Long Term Share Plan (LTSP) models based around Restricted Shares with longer deferral periods are better suited to our business and has been evaluating the opportunities to move in this direction. I look forward to sharing our conclusions in due course.

Finally, there will be no changes to the structure or level of NED fees for FY2021.

Steven Sargent
Chairman, Remuneration and People Committee

Report structure

The report is divided into the following sections:

1 **Key Management Personnel**

2 **Remuneration link with Company performance and strategy**

3 **Remuneration framework details**

4 **Company performance and remuneration outcomes**

5 **Governance**

6 **Non-executive Director fees**

7 **Statutory tables and disclosures**

1. Key Management Personnel

The report discloses the remuneration arrangements and outcomes for people listed below: individuals who have been determined as Key Management Personnel (KMP) as defined by AASB 124 *Related Party Disclosures*. Members of the RPC are identified in the last column.

		Name	Role	Appointment	RPC
Non-executive	Board	G Cairns	Chairman, independent	23 October 2013	✓
		J Akehurst	Independent	29 April 2009	
		M Brenner	Independent	15 November 2013	
		T Engelhard	Independent	1 May 2017	✓
		G Lalicker	Independent	1 March 2019	
		B Morgan	Independent	16 November 2012	
		S Perkins*	Independent	1 September 2015	✓
		S Sargent*	Independent	29 May 2015	Chair
Executive		F Calabria	Chief Executive Officer	19 October 2016	
		L Tremaine	Chief Financial Officer	10 July 2017	
		J Briskin	Executive General Manager (EGM), Retail	5 December 2016	
		G Jarvis	EGM Energy Supply & Operations	5 December 2016	
		M Schubert	EGM Integrated Gas	1 May 2017	

* Scott Perkins was Chair of the RPC until 31 December 2019; Steven Sargent became RPC Chair from 1 January 2020. Steven is also Chair of the Origin Energy Foundation.

The term 'Other Executive KMP' (abbreviated as 'Other' in tables and charts) refers to Executive KMP excluding the CEO.

'Executive team' is a broader reference to the Executive Leadership Team (ELT).

2. Remuneration link with Company performance and strategy

2.1 Overview of remuneration framework

Our remuneration framework is designed to support the Company's strategy and to reward our people for its successful execution. It is designed around three principles, summarised in the diagram below.

Strategy

Connecting customers to the energy and technologies of the future

Leading customer experience and solutions; accelerating towards clean energy; embracing a decentralised and digital future; striving to be a low-cost operator; developing resources to meet growing gas demand; and maintaining disciplined capital management.

Remuneration principles

Attract and retain the right people	Pay fairly	Drive focus and discretionary effort
The framework secures high-calibre individuals from diverse backgrounds and industries, with the talent to execute the strategy.	The framework is market competitive. Outcomes are a function of Company performance, reflect our behavioural expectations and our values, and align with shareholder expectations.	The framework encourages Executives to think and act like owners and to deliver against long-term strategies and the short-term business priorities that are expected to drive long-term outcomes.

Remuneration framework

Element	Performance measures	Link to principles and strategy
Fixed Remuneration (FR) Comprises cash salary, superannuation and benefits. *Details in Section 3.1*	Determined by the scope of the role and its responsibilities and benchmarked annually against similar roles.	Set at competitive levels to attract and retain the right people and to pay fairly.
Variable Remuneration (VR) The majority of remuneration is variable and delivered in deferred equity to reward performance and to align Executive and shareholder interests. *Details in Sections 3.2 and 3.6*		
Short Term Incentive (STI) Annual incentive opportunity, 40–50 per cent paid in cash, 50–60 per cent paid in shares restricted for two years. *Details in Sections 3.3 and 3.5*	Performance targets set one year in advance across a balanced scorecard (generally 60–65 per cent financial metrics and 35–40 per cent non-financial metrics) with an overriding conduct/behaviour assessment.	Annual targets to drive execution of business plans: financial performance, operating efficiency, customer experience, safety, and measures supporting the attraction and retention of the right people.
Long Term Incentive (LTI) Granted as performance share rights allocated at face value. These vest at three years and are deferred for a total of four years. *Details in Sections 3.4 and 3.5*	Performance targets set three years in advance, using an internal measure (Origin's Return on Capital Employed (ROCE)) and an external measure (Origin's relative total shareholder return).	Designed to encourage long-term focus, and build and retain share ownership.

2.2 Behavioural assessment

Origin believes that observance of our values and behaviours and the quality of the relationships with our customers and the broader community are inextricably linked to the creation of shareholder value.

A formal behavioural assessment forms part of our performance management framework. It is based on the Behaviourally Anchored Rating Scale (BARS) methodology that assesses an individual's performance against specific examples of behaviour required for different roles and levels, rather than against generic descriptors. This adds qualitative and quantitative information into the appraisal process. The behavioural assessment can result in incentive outcomes being adjusted up or down, within the prescribed maximum amount.

2.3 Minimum shareholding requirement for Executive KMP

A key objective of the remuneration framework is to promote employee share ownership and to encourage employees to think and act as owners. Equity is therefore a key element of remuneration, representing at least half of STI awards and the whole of LTI awards. This is supplemented by other share plan arrangements, including salary sacrifice, share purchase and matching plans (see Section 3.7).

Executive KMP are required to build and maintain a minimum shareholding in the Company, defined as the equivalent of two times FR for the CEO, and as FR for Other Executive KMP. From time to time, the Board determines the minimum shareholding requirement (MSR) as a number of shares based on FR and share price.[1] The MSR is currently set at 620,000 shares for the CEO and 130,000 for Other Executive KMP.

Until the MSR is reached, disposals are prohibited except as reasonably required to meet Employee Share Scheme taxation liabilities. Once the MSR is reached, disposals are prohibited where they would take the holding below the MSR level, except in extraordinary circumstances approved by the Board. The governance mechanism is through trading restrictions over and above any other trading restrictions that apply.

Shares (restricted and unrestricted) and Deferred Share Rights (DSR) (without performance conditions) may be counted towards the MSR, but rights that are subject to performance conditions (including Performance Share Rights) may not be counted.

3. Remuneration framework details

3.1 Fixed Remuneration

FR comprises cash salary, employer contributions to superannuation and salary sacrifice benefits. It takes into account the size and complexity of the role, and the skills and experience required for success in the role.

FR is reviewed annually, but increases are not guaranteed. Roles are benchmarked to the median of corresponding roles in the reference market, currently made up of approximately 50 organisations listed on the Australian Securities Exchange (ASX).[2] In the absence of special factors, new or newly promoted incumbents generally commence below this reference point and move to the median over time. FR may be positioned above this reference point where it is appropriate for key talent retention purposes or where it is necessary to attract and secure key skills to fill a business-critical role. Accordingly, the median positioning may vary between approximately the 40th and 60th percentiles (P40 and P60) of the reference market.

3.2 Total Remuneration

Total Remuneration (TR) is the sum of FR and VR. The range of possible VR values is from nil for no award of STI or LTI to a maximum of the total of STI awarded at the maximum level plus the present-day values of the full face value of the LTI award, assuming that 100 per cent of the LTI award will vest.

Deferred equity elements (Deferred STI, and LTI) represent present-day values as it is not possible to predict future share prices, which can reduce or increase the ultimate value.

TR at target (TRT) includes an STI awarded at the target level (see Section 3.3) plus the present-day full face value of the LTI award, assuming that 50 per cent of the LTI will vest, being the 'risked expected value' of Origin's LTI awards (as detailed in Section 3.4).

TR minimum	=	FR	+	No STI awarded	+	No LTI awarded
TRT	=	FR	+	STI awarded at the target level	+	Full face value awarded; assumes that 50 per cent of the LTI will vest
TR maximum (TRM)	=	FR	+	STI awarded at the maximum level	+	Full face value awarded; assumes that 100 per cent of the LTI will vest

TRT is benchmarked to the median of equivalent TRT in the reference market, and the remuneration 'mix' (see Section 3.6) makes it possible for TRM (outcomes at their maximum) to achieve the top quartile in the TRT reference market.

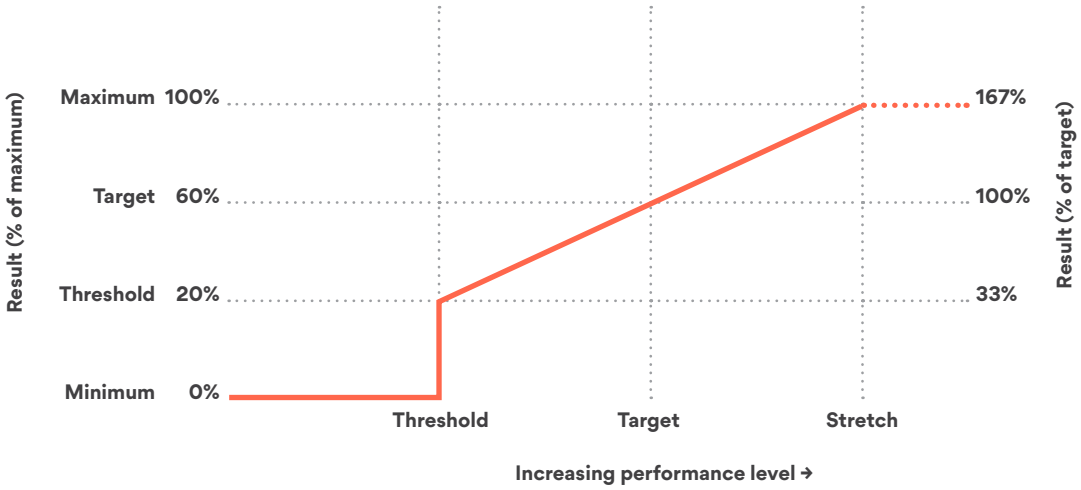
1 Generally considering the weighted average share price over the prior year.

2 By way of a guideline, these 50 organisations are the largest by average market capitalisation over two years, after excluding the six largest, Macquarie Group, and those of foreign domicile, and always including AGL, Oil Search, Santos and Woodside.

3.3 FY2020 Short Term Incentive Plan details

The following is a detailed description of how the STI Plan (STIP) operates.

Parameter	Details
Award basis	The annual performance cycle is 1 July to 30 June. Individual balanced scorecards are agreed, with shared Group objectives and targeted divisional objectives. Objectives are set across financial categories (generally 60 to 65 per cent of the weightings) and non-financial categories (generally 35 to 40 per cent). The CEO's FY2020 scorecard details and outcomes are shown in Section 4.2.
Scorecard operation	Individual objectives on the scorecard are referenced to three performance levels: threshold, target and stretch (with pro-rating between each). **Threshold** performance represents the lower limit of rewardable outcome for an individual objective – one that represents a satisfactory outcome, often achieving year-on-year improvement and contribution towards delivery of annual plans but short of the target level. Threshold performance corresponds to 20 per cent of maximum (33 per cent of target). **Target** represents the expectation for achieving robust annual plans. **Stretch** performance represents the delivery of exceptional outcomes well above expectations (the maximum, corresponding to 167 per cent of target).
Opportunity level	The opportunity level for all Executive KMP was set to a standard for FY2020, with 100 per cent FR at target and a maximum of 167 per cent FR.
Award calculation	STIP award ($) = $ FR (at 30 June) × STIP opportunity (% of FR) × Balanced scorecard outcome (%)
Assessment	Achievement and performance against each Executive's balanced scorecard is assessed annually as part of the Company's broader performance review process. The review includes a behavioural assessment under the BARS methodology (see Section 2.2). Directors consider this assessment together with a broader consideration of how outcomes have been achieved, including regulatory compliance, and financial and non-financial risk management. This may lead to a modification of the formulaic scorecard outcome, downward or upward, with the opportunity maximum operating as a cap.



FY20 STI opportunity (% of FR)

Minimum	Target	Maximum
0	100	167

Discretionary modifier incorporating behavioural assessment

Parameter	Details
Delivery and timing	40 to 50 per cent cash, paid in August to September following the end of the financial year. 50 to 60 per cent awarded in the form of Restricted Shares (RS) subject to a two-year holding lock, allocated as soon as practicable after Board approval, which is generally at the end of August following the end of the financial year. Prior to FY2018, Deferred STI was awarded in the form of DSRs.
RS allocation	Number of RSs = Deferred STI amount divided by the 30-day volume weighted average price (VWAP) to 30 June, rounded to the nearest whole number.
Service conditions	Unless the Board determines otherwise, the whole of the STI award is forfeited if the Executive resigns or is dismissed for cause during the performance year, and any RSs held from prior awards are also forfeited if in their restriction period.
Release	RSs in respect of FY2020 STI awards will be released on the second trading day following the release of full-year financial results for FY2022, subject to the service conditions being met and the service period completed (or else as described under 'Cessation of employment' below).
Dividends	As the STI has been earned and awarded, RSs carry dividend entitlements and voting rights.
Cessation of employment	No STI award is made where the service conditions have not been met in full, except where the Board decides otherwise. Typically such cases are limited to death, disability, redundancy or genuine retirement (good leaver circumstances). In such circumstances an STI award in respect of the current year may be wholly in cash, and restrictions on prior RSs may be lifted.
Sourcing of RSs	The Board's practice is to purchase shares on market but it may issue shares or make the award in alternative forms, including cash or deferred cash.
Governance and MSR	After restrictions on RSs are lifted, trading is subject to the MSR (see Section 2.3) and to the malus and clawback provisions in Section 5.5.

3.4 FY2020 Long Term Incentive Plan details

The following is a detailed description of how the LTIP operates.

Parameter	Details
Award basis	LTIP awards are conditional grants of equity that may vest in the future, subject to the Company meeting or exceeding performance conditions, and subject also to the Executive meeting service and personal conduct and performance requirements. Awards are considered annually.
Opportunity and value range	The LTIP opportunity level reflects the capacity of the role to influence long-term sustainable growth and performance, and is set with reference to market benchmarks (see Section 3.2). It represents the face value of an equity award and is not discounted for hurdles or for dividends forgone. An award may be granted at a face value anywhere between zero and the maximum in the table below (the Award Face Value).

	Face value LTIP opportunity (% of FR)	
Executive KMP	Minimum	Maximum
CEO	0	180
Other	0	120

	The actual value of an LTIP award depends on the level of vesting and the share price at the time of vesting, neither of which can be determined in advance. The **minimum value** is zero assuming that none of the award vests, or none is awarded. The **maximum value** represents the present-day value assuming that 100 per cent of the award vests, ignoring the risks of achieving performance conditions and service requirements. The **target value** represents the risked or expected value, taking into account the likelihood of achieving the performance conditions. For market-based hurdles, such as Total Shareholder Return (TSR), this can be obtained actuarially. For non-market hurdles, it can be obtained from operational forecasts and estimation of the degree of difficulty in achieving the hurdles, or sometimes from historical results. Origin has determined its vesting expectation is approximately 50 per cent for both its relative TSR and ROCE conditions.[3]
Behaviour assessment	The RPC may take the behaviour assessment referred to in Section 3.3 into account when recommending LTIP awards, or when considering the application of the governance provisions to awards made (see Section 5.5).

3 Expected vesting is a function of the probabilities of achieving each of all possible outcomes. It is typically lower than, and should not be confused with, the probability of **any** vest occurring.

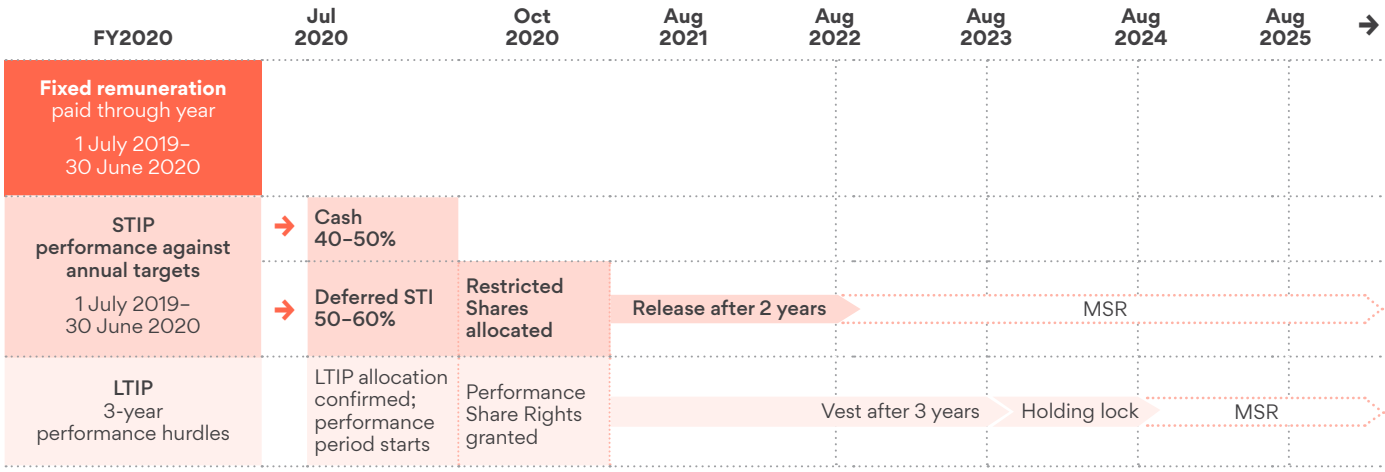
Parameter	Details
Delivery and timing	Performance Share Rights (PSRs): A PSR is a right to a fully paid ordinary share in the Company. PSRs are granted at no cost because they are awarded as remuneration. CEO: The LTIP award is submitted for approval at the Annual General Meeting (AGM) following the end of the financial year, and the equity grant is made as soon as practicable after shareholder approval. Other Executive KMP: LTIP grants are made as soon as practicable after Board approval, which is generally at the end of August following the end of the financial year.
PSR allocation	Number of PSRs = LTIP Award Face Value divided by the 30-day VWAP to 30 June, rounded to the nearest whole number.
Performance period and deferral length	The performance period is three financial years (FY2020–22) which, subject to vesting, is followed by a holding lock of one year. The lock on any vested shares will be lifted in August 2023, on the second trading day after the release of the FY2023 full-year results. The total deferral period from grant is approximately four years.
Service conditions	Unless the Board determines otherwise, unvested PSRs are forfeited if the Executive resigns or is dismissed for cause prior to the end of the relevant vesting period.
Performance conditions	There are two performance conditions, equally weighted.[4] One, Relative Total Shareholder Return (RTSR), is an external hurdle; the other, ROCE, is an internal hurdle.
External performance condition and vesting	RTSR measures the Company's TSR performance relative to a reference group of companies assuming reinvestment of dividends. It has been chosen because it aligns Executive reward with shareholder returns. It does not reward general market uplifts; vesting only occurs when Origin outperforms a market reference group. The reference group is based on a group of 50 ASX-listed companies because this represents the most meaningful group with which Origin competes for shareholder investment and Executive talent.[5] There is an insufficient number of operationally similar competitors to provide a useful 'selected' comparator group. Share prices are determined using three-month VWAPs on the start and end of the performance period. Vesting occurs only if Origin's TSR over the performance period ranks it higher than the 50th percentile (P50) of the reference group. Half of the PSRs vest on satisfying that condition, and all of the PSRs vest if Origin ranks at or above the 75th percentile (P75). Straight-line pro-rata vesting applies between these two points.
Internal performance condition and vesting	ROCE has been chosen because it is a profitability ratio that measures the efficiency of profit generation from capital employed. It predicts superior shareholder returns over the long term and reflects the importance of prudent capital allocation to generate sufficient returns. The ROCE tranche is divided into two equally weighted parts, each its own hurdle – Energy Markets (EM) and Integrated Gas (IG) – recognising the differing capital characteristics, risk profiles and growth profiles of each of these businesses. The average ROCE over three years must equal or exceed the average of three annual targets, which are reflective of delivering the weighted average cost of capital for each business. The starting point for the ROCE calculation is statutory earnings before interest and tax (EBIT) divided by average capital employed for the relevant business. Statutory EBIT is adjusted for fair value and foreign exchange movements in financial instruments, which are highly volatile and outside the control of management. Other adjustments to the ROCE calculation may be made in limited circumstances where the Board considers it appropriate to do so. For example, it may be appropriate to adjust EBIT when it is adversely impacted by short-term factors associated with value-creating initiatives (for example, acquisitions). Vesting is independent for the EM and IG parts. In each case, half of the relevant PSRs will vest if the target is met, and all of the relevant PSRs will vest if the target is exceeded by two percentage points or more. Straight-line pro-rata vesting applies between these two points. Full vesting occurs only when both targets are exceeded by two percentage points or more.
Dividends	PSRs carry no dividend entitlements or voting rights. Vested shares (including RSs) carry dividend entitlements and voting rights.
Cessation of employment	Unvested LTIP awards will lapse on the date of cessation, unless the Board determines otherwise. Typically such cases are limited to death, disability, redundancy or genuine retirement (good leaver circumstances). In such circumstances, LTIP awards may be held on foot subject to their original performance conditions and other terms and conditions being met (except for the waived service condition), or dealt with in an appropriate manner as determined by the Board. The restriction on vested shares may be lifted at the date of cessation in good leaver circumstances.
Sourcing	Upon vesting of a part or all of an LTIP award, the Board's preferred approach is to purchase shares on market, but it may issue shares or make the award in alternative forms, including cash or deferred cash.
Governance and MSR	After restrictions are lifted on RSs arising from LTIP vesting, trading is subject to the MSR (see Section 2.3) and to the malus and clawback provisions in Section 5.5.

4 Where the number of PSRs to be allocated is an uneven number, the number allocated to the ROCE tranche is rounded to the nearest even number, and the balance of PSRs is allocated to the RTSR tranche.

5 The reference group is set at the commencement of the performance period. For FY2020, it comprised AGL, Amcor, AMP, Ampol (Caltex), ANZ, APA Group, Aristocrat Leisure, ASX Limited, Aurizon, BHP, Brambles, Cochlear, Coles, Commonwealth Bank of Australia, Computershare, CSL Limited, Dexus, Fortescue, Goodman Group, GPT Group, IAG, James Hardie, Lendlease, Macquarie, Medibank Private, Mirvac, National Australia Bank, Newcrest, Oil Search, Qantas, QBE, Ramsay Health Care, Rio Tinto, Santos, Scentre Group, Sonic Healthcare, South32, Stockland, Suncorp, Sydney Airport, Tabcorp, Telstra, Transurban, Treasury Wine Estates, Vicinity Centres, Wesfarmers, Westpac Banking Corporation, Woodside and Woolworths. Companies are not replaced (for example, as a consequence of merger, acquisition or delisting) unless the Board determines otherwise.

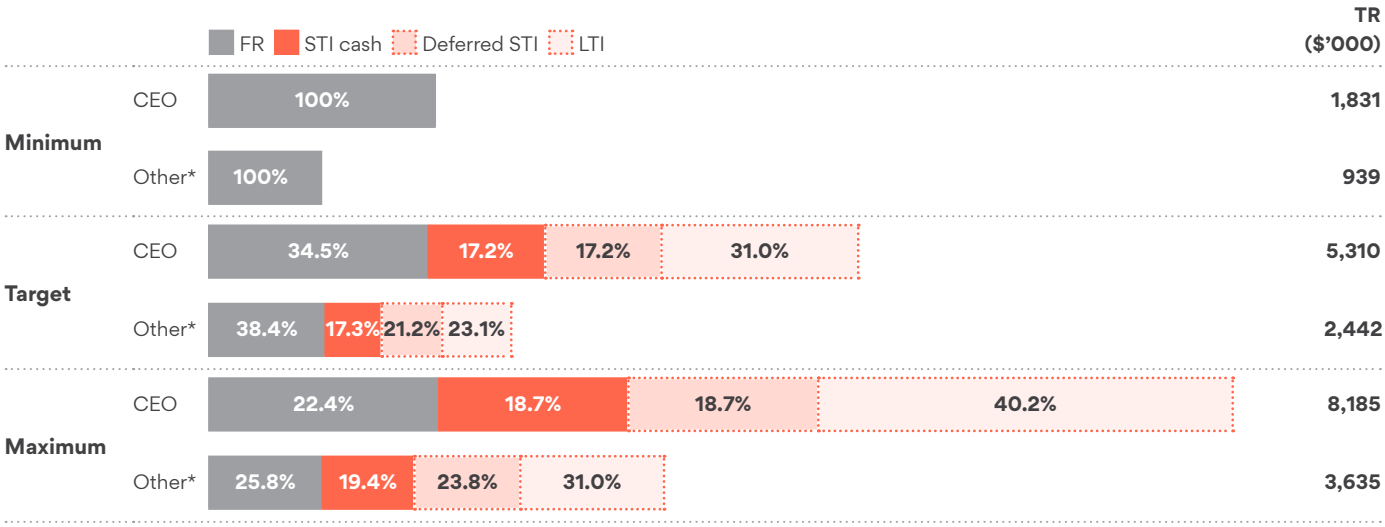
3.5 Remuneration cycle timelines

The following chart summarises the remuneration cycle and timelines.



3.6 Remuneration range and mix

The following chart shows the potential remuneration range and corresponding component mix for FY2020.



*The average of Other Executive KMP.

Deferred equity (Deferred STI plus LTI) makes up a substantial part of TR. At target outcomes, it comprises almost half (CEO: 48.2 per cent; Other Executive KMP: 44.2 per cent) and at maximum outcomes it is more than half (CEO: 58.9 per cent; Other Executive KMP: 54.7 per cent).

3.7 Other equity/share plans

The Company operates a universal Employee Share Plan in which all full-time and part-time employees can choose to be eligible for awards of up to $1,000 worth of Company shares annually, or else participate in a salary sacrifice scheme to purchase up to $4,800 of shares annually.

Under the $1,000 scheme, shares are restricted for three years or until cessation of employment, whichever occurs first. Shares purchased under the sacrifice scheme are restricted for up to two years or until cessation of employment, whichever occurs first.

For every two shares purchased under the salary sacrifice scheme within a 12-month cycle, participants are granted one matching share right at no cost. The matching share rights vest two years after the cycle began, provided that the participant remains employed by the Company at this time. Each matching share right generally entitles the participant to one fully paid ordinary share in the Company, or in certain limited circumstances a cash equivalent payment. The matching share rights do not have any performance hurdles as they have been granted to encourage broad participation in the scheme across the Company, and to encourage employee share ownership. All shares are currently purchased on market.

Directors are not eligible to participate in the above schemes, but may participate in the NED Share Acquisition Plan by sacrificing Board fees. This plan is intended to facilitate share acquisition, enabling new Directors to meet their MSR obligations. All NEDs currently meet their MSR and no shares were acquired under the scheme in FY2020.

Directors regularly assess the risk of the Company losing high-performing key people who manage core activities or have skills that are being actively solicited in the market. Where appropriate, the Board may consider the selected use of deferred payment arrangements to reduce the risk of such critical loss. From time to time, it may be necessary to offer sign-on equity to offset or mirror unvested equity, which a prospective executive must forfeit to take up employment with Origin.

4. Company performance and remuneration outcomes

This section summarises remuneration outcomes for FY2020 and provides commentary on their alignment with Company outcomes.

4.1 Five-year Company performance and remuneration outcomes

The table below summarises key financial and non-financial performance for the Company from FY2016 to FY2020, grouped and compared with short-term and long-term remuneration outcomes.

Five-year key performance metrics FY2016–20[1]

	FY16	FY17	FY18	FY19	FY20
Operational measures					
Underlying earnings per share (EPS) (cents)	23.2	31.3	58.2	58.4	58.1
Underlying EPS (continuing activities)[2] (cents)	18.1	22.8	47.7	58.4	58.1
Net cash from/(used in) operating and investing activities (NCOIA) ($m)	1,215	1,378	2,645	1,914	1,813
Energy Markets Underlying EBITDA ($m)	1,330	1,492	1,811	1,574	1,459
Integrated Gas Underlying EBITDA (total operations) ($m)	386	1,104	1,521	1,892	1,741
Adjusted net debt ($m)[3]	9,131	8,111	6,496	5,417	5,158
sNPS[4]	(16)	(16)	(13)	(6)	2
TRIFR[5]	4.2	3.2	2.2	4.5	2.6
Female representation in senior roles[6] (%)	27	29	32	30	32
Origin Engagement Score[7]	53	58	61	61	75
STI award outcomes					
Percentage of maximum[8] (%)	**26.3**	**63.3**	**88.7**	**73.7**	**84.1**
Return measures					
Closing share price at end of June ($)	5.75	6.86	10.03	7.31	5.84
Weighted average share price during the year[9] ($)	5.67	6.39	8.55	7.64	6.80
Dividends[10] (cents per share)	10.0	0.0	0.0	25.0	25.0
Annual TSR (%)	(42.0)	19.3	46.2	(26.1)	(17.7)
Three-year TSR[11] (CAGR % p.a.)	(18.5)	(14.2)	(2.6)	12.0	(8.0)
Group Statutory EBIT ($m)	(411)	(1,958)	480	1,432	305
Group Statutory EBIT (continuing activities)[2] ($m)	47	(1,746)	473	1,432	305
LTI outcomes					
LTI vesting percentage in the year[12] (%)	**0**	**0**	**0**	**0**	**0**

1 Except as noted in (2) below, FY2018 and prior year financials shown are those as previously reported. They have not been restated for the presentation of certain electricity hedge premiums, which are included in underlying profit from FY2019, or for the reclassification of futures collateral balances to operating cash flows (previously in financing cash flows in prior periods). A restatement for these factors for FY2018 only was provided in the FY2019 Consolidated Financial Statements at note A1 Segments and in the Statement of cash flows, for indicative comparison purposes only.

2 Excludes Contact Energy (FY2016) and Lattice Energy (FY2016–18).

3 Adjusted Net Debt for FY2020 includes first recognition of lease liability ($514 million) under AASB 16 *Leases*.

4 sNPS is measured at the business level and is an industry-recognised measure of customer advocacy.

5 TRIFR is the total number injuries resulting in lost time, restricted work duties or medical treatment per million hours worked.

6 Senior roles refers to those with Korn Ferry Hay grade classifications above a level that currently corresponds to a TRT (see Section 3.2) of approximately $180,000 p.a.

7 Employee engagement is measured as a score through an annual Company-wide survey conducted independently.

8 This is the total dollar value of STI awarded for Executive KMP as a percentage of their total maximum STI. The percentage of STI forfeited is this amount subtracted from 100 per cent.

9 For FY2016, the weighted average share price incorporates a restatement for the bonus element of the rights issue completed in October 2015. The opening share price on 1 July 2015 was $10.47.

10 Dividends represent the interim plus final dividends determined for each financial year. For FY2020, this includes the final dividend determined on 20 August 2020 to be paid on 2 October 2020. The amounts paid within each financial year are 35c, 0c, 0c, 10c and 30c, respectively.

11 TSR calculations use the three-month VWAP share price to 30 June, reflecting the testing methodology for relative TSR ranking.

12 No LTI rights vested during FY2020. Options and rights awarded in October 2015 were all forfeited.

The remuneration outcomes for FY2020 reflect financial performance approaching stretch levels, and are above target for non-financial performance.

The table shows that overall awarded STI outcomes for Executive KMP were 84.1 per cent of maximum for FY2020, and have varied between 26.3 per cent and 88.7 per cent of maximum over the last five years, underlining the variability of STI outcomes with Company performance.

No LTI vested during the year. All Options and all PSRs awarded in October 2015 were forfeited.

The specific performance metrics for the CEO scorecard, together with individual results for FY2020 STI, are provided in the table on page 63.

The Board has adopted governing principles to apply when considering adjustments to financial measures that are used for remuneration purposes. Targets set at the beginning of the year may be subject to events materially outside the course of business and outside the control of the current management, in which case discretion may be required to vary targets or outcomes to reflect the intended purpose and/or actual results and achievements. The governing principles emphasise fairness and symmetry: fairness to shareholders and Executives, and symmetry of treatment between favourable and unfavourable events.

In addition to delivering very good operational and financial outcomes against targets set at the beginning of the year, the executive team responded rapidly and performed extremely well to the series of emergency activities triggered in the second half by the bushfire and COVID-19 emergencies, as identified in the Letter from the Chairman at the beginning of this Report.

4.2 STI awards and scorecard details for FY2020

STI awards are calculated on the basis of a balanced scorecard using the concepts of setting requirements at threshold, target and stretch achievement levels. The CEO's FY2020 scorecard was weighted 65 per cent to financial measures and 35 per cent to non-financial metrics (customer, people and strategic). The details and results are set out below.

CEO FY2020 STI scorecard

Measure, rationale and performance	Weight	Targets and results: Threshold	Target	Stretch	Outcome
Origin EPS (underlying) (cps) Measure of Origin's earnings and profitability	15%	49.5	52.7	58.9	158% tgt
				58.1	
Origin NCOIA ($m) Measure of effective cash flow generation	10%	1,055	1,157	1,342	167% tgt
				1,813	
Energy Markets EBITDA ($m) Measure of operating performance of the Energy Markets business	17.5%	1,401	1,426	1,501	129% tgt
			1,459		
APLNG production rate (PJ) Ability to keep Australia Pacific LNG (APLNG) assets producing at their maximum capacity (*FY2021–22 average annual)	5.6%	680	692	710	158% tgt
				707.6	
APLNG find and develop cost ($/GJ) Measure of competitiveness	5.6%	1.52	1.19	1.10	167% tgt
				1.10	
APLNG production unit cost ($/GJ) Measure of competitiveness	5.6%	2.05	1.93	1.85	150% tgt
				1.87	
Integrated Gas free cash flow ($m) Measure of effective cash flow generation in Integrated Gas (excluding impact of oil price changes or foreign exchange)	5.7%	989	1,070	1,157	112% tgt
			1,086		
Financial measures sub-total	**65%**	33	100	167	147.9% tgt **88.6% max**
				147.9	
Voice of the customer Strategic, interaction and episodic NPS each achieved stretch targets at record levels	10%	33	100	167	167% tgt
				167	
Customer innovation Measures of readiness of new customer solutions, including control systems/Internet of Things, Retail 2020 transformation and Business Energy strategy execution	5%	33	100	167	134% tgt
			134		
Safety and People measures Employee engagement achieved stretch (record) level, group HSE (preventive and safety) targets were exceeded, and the percentage of women in senior roles met target	20%	33	100	167	137% tgt
				137.1	
Non-financial measures sub-total	**35%**	33	100	167	145.1% tgt **86.9% max**
				145.3	
TOTAL	**100%**	33	100	167	147.0% tgt **88.0% max**
				147.0	
Adjusted total[6]					139.5% tgt **83.5% max**

6 On a final review of all results, management made modest downward adjustments to the final outcomes.

Underlying earnings per share exceeded our target due to a stronger than target result at APLNG, driven by record production and favourable commodity prices, and a higher than target result from Energy Markets, driven by strong performance in our gas business. Strong cash generation was driven by a record cash distribution of $1,275 million from APLNG, and proceeds from the sale of Ironbark of $231 million.

APLNG delivered record production, reflecting improved field performance with higher well availability and facility reliability. APLNG production costs were better than target due to improved field performance, resulting in lower gas purchases and lower costs associated with well workovers.

Our sNPS score increased to +2, the highest of any Tier 1 provider. We have simplified our product suite and continue to streamline and digitise the customer journey. Customers are increasingly choosing to engage with us through digital channels: 68 per cent of customers now use e-billing, and service call volumes reduced by a further 8 per cent this year. We are on track to achieve our target of reducing the cost to serve by $100 million from FY2018 to FY2021, and are growing our Solar, Community Energy Services (CES) and Broadband businesses. We expect our acquisition of a 20 per cent stake in the fast-growing UK retailer and technology company Octopus Energy will further streamline and improve the customer journey.

Our personal safety improved, with our TRIFR falling from 4.4 in FY2019 to 2.6 in FY2020. Our Actual Serious Incidents and Potential Serious Incidents measures, which cover all aspects of HSE performance, both improved from last year.

Remuneration awards were approved after consideration of a range of other non-formulaic inputs, including advice from the Risk and Audit committees, providing assurance that management behaviours have been consistent with the Code of Conduct and with the Company's principles, values and risk appetite (see Section 2.2).

The majority of the CEO's scorecard objectives are shared across Other Executive KMP. However, their weightings will differ according to their specific divisional metrics. This will lead to a degree of variability in outcomes across Executive KMP. For FY2020, the overall scorecard outcomes ranged between 82.3 per cent and 86.8 per cent of maximum, as summarised below.

	STI award		
Executive KMP	**% of maximum**	**% forfeited**	**$'000**
F Calabria	83.5	16.5	2,554
L Tremaine	83.7	16.3	1,421
J Briskin	82.3	17.7	1,237
G Jarvis	86.8	13.2	1,333
M Schubert	84.9	15.1	1,304

4.3 Total pay received in FY2020

In line with general market practice, a non-AASB presentation of actual pay received in FY2020 is provided below, as a summary of real or 'take home' pay. AASB statutory remuneration is presented in Table 7-1.

Executive KMP	**FR received**	**STI cash[1]**	**DSRs vested[2]**	**LTI vested[3]**	**Actual pay received**
F Calabria	1,831	1,277	478	0	**3,586**
L Tremaine	1,017	711	688	0	**2,416**
J Briskin	835	495	171	0	**1,501**
G Jarvis	867	666	191	0	**1,724**
M Schubert	867	522	139	0	**1,528**

1 STI cash represents 40 to 50 per cent of the FY2020 STI award, with the balance (50 to 60 per cent) deferred into equity.

2 DSRs vested were from Deferred STI grants awarded in 2016 and 2017. The value represents the number of shares vested multiplied by Origin's closing share price at the time of vesting.

3 LTI vested represents the value of LTI awards from prior years that vested wholly or partially during the year. Options and PSRs awarded in October 2015 were forfeited during the year with nil vesting.

5. Governance

5.1 Role of the Remuneration and People Committee

The RPC supports the Board by overseeing Origin's remuneration policies and practices. It operates under a Charter (published on the Company's website at originenergy.com.au). The RPC met formally five times during the reporting period.

Including its Chairman, the RPC has four members, all of whom are independent NEDs (see Section 1 for details). The RPC's Charter requires a minimum of three NEDs. In addition, there is a standing invitation to all Board members to attend the RPC's meetings. Management may attend RPC meetings by invitation but a member of management will not be present when their own remuneration is under discussion.

The following diagram sets out the role of the RPC and its operational relationships with the Board, management, stakeholders and external advisors.

Board

The Board approves:

- Executive remuneration policy
- remuneration for the CEO and ELT
- STI and LTI targets and hurdles
- NED fees
- CEO and ELT succession and appointments

Remuneration and People Committee

The RPC makes recommendations to the Board on the matters subject to its approval (listed above). The RPC approves remuneration scales, movements and equity allocations for employees other than the CEO and ELT.

In addition, the RPC stewards and advises the Board and management on remuneration and people matters including:

- future leader talent pipelines and development processes
- people strategies and culture development
- corporate governance and risk matters relating to people and remuneration (including conduct, diversity and gender pay equity)
- effectiveness of the remuneration policy and its implementation

Management

Management provides relevant data and information for RPC consideration (practice insights, and legal, tax, accounting and actuarial advice) and makes recommendations to the RPC concerning remuneration and people matters.

Information exchange with other Board committees, notably the Audit and Risk committees, to ensure that all relevant matters are considered before the RPC makes remuneration recommendations and decisions.

Consultation with external stakeholders and shareholders

Regular dialogue with shareholders and proxy advisors.

Independent remuneration advisors

The RPC appoints an external independent advisor to assist it with market and governance issues, benchmarking, best practice observations and general advice.

5.2 Remuneration advisors

The RPC engages external advisors from time to time to conduct benchmarking, advise on regulatory and market developments, and review proposals and reports. Protocols have been established for engaging and dealing with external advisors, including those defined as remuneration consultants for the purposes of the *Corporations Act 2001* (Cth) (the Act). These protocols are to ensure independence and avoid conflicts of interest.

The protocols require that remuneration advisors are directly engaged by the RPC and act on instruction from its Chairman. Reports must be delivered directly to the RPC Chairman. The advisor is prohibited from communicating with Company management except as authorised by the Chairman, and even then limited to the provision or validation of factual and policy data. The advisor must furnish a statement confirming the absence of any undue influence from management.

The RPC generally seeks information rather than specific remuneration recommendations within the definition of the Act, and this was the case during FY2020. Guerdon Associates was appointed its advisor during FY2020; however, Guerdon Associates did not provide any remuneration recommendations as defined under the Act.

In addition, the RPC makes use of general market trend information from a variety of commercial and industry sources and has access to in-house remuneration professionals who provide it with guidance and analysis on request.

The recommendations that the RPC makes to the Board are based on its own independent assessment of the advice and information received from these multiple sources, using its experience and having careful regard to the principles and objectives of the remuneration framework, Company performance, shareholder and community expectations, and good governance.

5.3 Conduct, accountability and risk management

As identified in Section 2.2, a BARS methodology for behaviour and conduct assessment is an integral part of the Company's performance management framework and modification of formulaic incentive calculations.

In addition to the BARS tool, the full Board consults with the Chairman of the Audit Committee and the Chief Risk Officer when it formally reviews ELT performance and conduct each year.

In addition to considerations of personal behaviour and conduct, the RPC is guided by a set of overarching principles to apply in assessing items or events that impact risk (including non-financial risk) or performance (both positive and negative). This ensures a consistent approach to determining whether discretionary adjustments to incentive outcomes are warranted, to achieve fairness to Executives and shareholders. The RPC and the Board have wide discretionary tools to prevent the award (or retention) of inappropriate benefits, including malus and clawback.

Malus

Malus refers to the reduction or cancellation of advised awards, or of unvested/unreleased equity or shares; or to a determination to reduce the level of vesting that would otherwise apply, or to extend the existing period of a holding lock or trading restriction.

The Board has, from time to time, applied malus. For example, it awarded zero STI and LTI allocations for some Executives in FY2015 and FY2016 to ensure that outcomes were aligned with the overall circumstances of the Company, even though some of the relevant performance conditions had been met and preliminary award advice had been given.

Clawback

Clawback is a reference to the recovery of benefits after they have been paid, vested or released. The Board has power to exercise clawback to recover or cancel shares arising from equity awards, and to recover cash proceeds from the sale of such shares, or to recover cash awards. Recovery may be limited by law or regulation. There have been no circumstances to date in which the Board has sought to apply clawback.

Fraud, dishonesty, gross misconduct, negligence, breach of duties and other serious matters will have consequences additional to the sanctions and provisions referred to above.

5.4 Change of control

The Board may determine that all or a specified number of unvested securities will vest or cease to be subject to restrictions where there is a change of control event.

5.5 Capital reorganisation

On a capital reorganisation, the number of unvested share rights and Options held by participants may be adjusted in a manner determined by the Board, to minimise or eliminate any material advantage or disadvantage to the participant. If new awards are granted, they will, unless the Board determines otherwise, be subject to the same terms and conditions as the original awards.

6. Non-executive Director fees

6.1 Remuneration policy and structure for Non-executive Directors

NED remuneration comprises fixed fees with no incentive-based payments. This ensures that NEDs are able to independently and objectively assess both Executive and Company performance.

Board and committee fees take into account market rates for similar positions at relevant Australian organisations (those of comparable size and complexity) and fairly reflect the time commitments and responsibilities involved. The aggregate cap for overall NED remuneration remains at $3,200,000 p.a., as approved by shareholders on 18 October 2017.

The Origin Chairman receives a single fee that includes committee activities, while other NEDs receive a NED Base Fee and separate fees for their roles on specific committees (other than the Nomination Committee, which is considered within the NED Base Fee). All fees include superannuation contributions.

The table below summarises the structure and level of NED fees. No change to the fee structure or quantum is proposed for FY2021.

NED and committee fees ($'000)

Office	FY2020 and FY2021
Board – Chairman (inclusive of committee fees)	677
NED Base Fee (exclusive of committee fees)	196
Audit – Chairman	57
Audit – Member	29
RPC – Chairman	47
RPC – Member	23.5
HSE – Chairman	47
HSE – Member	23.5
Risk – Chairman	47
Risk – Member	23.5
Nomination – Chairman	nil
Nomination – Member	nil
Origin Foundation – Chairman	nil

6.2 Minimum shareholding requirement for Non-executive Directors

To align the interests of the Board and shareholders, NEDs are required to build and then maintain a minimum shareholding in the Company. The MSR reference for the Chairman is 200 per cent of the NED Base Fee, and for all other NEDs it is 100 per cent of the NED Base Fee. The Board sets the MSR from time to time as a number determined by reference to the NED Base Fee and share price[7] (currently set at 28,000 shares, and 56,000 for the Chairman).

NEDs are expected to reach the MSR within three years of their appointment and maintain it thereafter while in office. At the date of this report, all NEDs were above the relevant MSR level. Details of NED shareholdings are included in Table 7-3.

A NED Share Plan (NEDSP) was approved by shareholders at the 2018 AGM. The NEDSP is a salary sacrifice plan that allows NEDs to sacrifice up to 50 per cent of their annual NED Base Fee to acquire share rights. Each share right is a right to receive a fully paid ordinary share in Origin, subject to the terms of the grant. The plan is intended to facilitate the acquisition of shares for new Directors to ensure they meet the obligations imposed under the MSR. As at the date of the report, and noting that all NEDs have met their MSR obligations, no share rights have been purchased and no shares allotted under the NEDSP.

7 Generally considering the weighted average share price over the prior year.

7. Statutory tables and disclosures

Table 7-1: Executive KMP and NED statutory remuneration ($'000)

		Short term				Long term							
		PEB[1]					Share based				Totals		
		FR[1]						Deferred STI[4]					
		Base salary	Super-annuation	Non-monetary benefits[3]	Cash STI[2]	Leave accrual[6]	Matching share rights	RS	DSR	LTI[5]	Total accounting remuneration	At risk (%)	Share based (%)
Executive Director													
F Calabria	2020	1,768	21	41	1,277	(65)	–	1,053	180	812	5,087	65	40
	2019	1,710	21	39	1,025	68	–	601	303	812	4,579	60	37
Other Executive KMP													
J Briskin	2020	806	21	15	495	25	0.6	438	9	171	1,980	56	31
	2019	715	21	16	334	28	–	194	59	143	1,510	48	26
G Jarvis	2020	820	21	34	666	72	1.7	481	10	199	2,305	59	30
	2019	730	22	32	394	72	0.6	218	68	191	1,727	51	28
M Schubert[8]	2020	843	21	178	522	44	–	465	7	193	2,273	52	29
	2019	752	21	12	374	19	–	208	58	179	1,623	51	27
L Tremaine	2020	991	21	26	711	61	1.7	649	209	242	2,912	62	38
	2019	934	21	42	681	41	0.6	407	624	245	2,996	65	43
Executive total	**2020**	**5,228**	**105**	**294**	**3,671**	**137**	**4**	**3,086**	**415**	**1,617**	**14,557**	**60**	**35**
	2019	**4,841**	**106**	**141**	**2,808**	**228**	**1.2**	**1,628**	**1,112**	**1,570**	**12,435**	**57**	**35**
NEDs													
J Akehurst	2020	245	21	0.2	–	–	–	–	–	–	266	–	–
	2019	233	21	0.2	–	–	–	–	–	–	254	–	–
M Brenner	2020	251	21	0.2	–	–	–	–	–	–	272	–	–
	2019	241	21	0.2	–	–	–	–	–	–	262	–	–
G Cairns	2020	666	11	18	–	–	–	–	–	–	695	–	–
	2019	642	21	16	–	–	–	–	–	–	679	–	–
T Engelhard	2020	239	21	16	–	–	–	–	–	–	276	–	–
	2019	220	21	0.2	–	–	–	–	–	–	241	–	–
G Lalicker[7]	2020	175	21	0.2	–	–	–	–	–	–	196	–	–
	2019	54	7	0.1	–	–	–	–	–	–	61	–	–
B Morgan	2020	279	21	0.2	–	–	–	–	–	–	300	–	–
	2019	268	21	0.2	–	–	–	–	–	–	289	–	–
S Perkins	2020	274	21	18	–	–	–	–	–	–	313	–	–
	2019	266	21	0.2	–	–	–	–	–	–	287	–	–
S Sargent	2020	244	21	0.2	–	–	–	–	–	–	265	–	–
	2019	212	21	0.2	–	–	–	–	–	–	233	–	–
NED total	**2020**	**2,373**	**158**	**53**	**–**	**–**	**–**	**–**	**–**	**–**	**2,583**	**–**	**–**
	2019	**2,136**	**154**	**17**	**–**	**–**	**–**	**–**	**–**	**–**	**2,306**	**–**	**–**

1 FR comprises base remuneration and superannuation (post-employment benefit (PEB)).

2 STI cash represents one half of the STI award. STI cash is paid after the end of the financial year to which it relates but is allocated to the earning year. The balance of the STI award is Deferred STI.

3 Non-monetary benefits include insurance premiums and fringe benefits such as car parking and expenses associated with travel.

4 Deferred STI is that portion of the accounting value of equity granted or to be granted (RSs and/or DSRs) under the STI plan for the current and prior periods attributable to the reporting period. In the following reporting periods, the accumulated expense is adjusted for the number of instruments then expected to be released or vested. In good leaver circumstances, a bring-forward of future-period accounting expense may occur where a cessation of employment occurs before the normal vesting date.

5 LTI includes all long-term incentives (those not awarded under the STI Plan) and represents that portion of the accounting value of the awards made, or to be made, for the current and prior periods, which is attributable to the reporting period. See Note G3 for details on share-based remuneration accounting.

6 Movement in leave provision over the reporting period. Negative movement indicates that leave taken during the year exceeded leave accrued during the current year. FY2019 leave movements have been restated to include annual leave accruals for the relevant reporting period.

7 For FY2019, the pro-rata period for G Laliker was 1 March 2019 to 30 June 2019.

8 A review of prior-year fringe benefits tax returns is being undertaken as at the date of preparation of this Report, which may conclude that the accommodation benefits associated with travel between the Melbourne home base at the time and the Brisbane office in prior years were higher than previously reported and possibly comparable with the value shown here for FY2020.

Abbreviations in tables 7-2 through 7-4

DSR – Deferred Share Rights

PSR – Performance Share Rights (with performance conditions)

PSR (TSR) – Performance Share Rights, relative TSR performance condition

PSR (ROCE) – Performance Share Rights, ROCE performance condition

RS – Restricted Shares (including those held in trust under the Deferred STI arrangements)

MR – Matching Share Rights under the Employee Share Purchase and Matching Rights Plan (see Section 3.7)

Table 7-2: Details of equity grants made during the reporting period

Equity rights and restricted shares granted to Executive KMP during the reporting period are listed below. There is nil cost to recipients.

	Type	Number granted	Grant date fair value ($)[1]	Exercise price ($)	Grant date	Vest date[2]	Expiry date[3]
Executive Director							
F Calabria	PSR (TSR)	226,371	4.49	–	16-Oct-19	22-Aug-22	22-Aug-22
	PSR (ROCE)	226,371	7.25	–	16-Oct-19	22-Aug-22	22-Aug-22
	RS	143,242	8.12	–	16-Oct-19	23-Aug-21	–
Other Executive KMP							
J Briskin	PSR (TSR)	62,881	3.82	–	30-Aug-19	22-Aug-22	22-Aug-22
	PSR (ROCE)	62,881	6.77	–	30-Aug-19	22-Aug-22	22-Aug-22
	RS	46,689	7.63	–	30-Aug-19	23-Aug-21	–
	MR	190	0.47	–	27-Sep-19	23-Aug-21	–
G Jarvis	PSR (TSR)	67,073	3.82	–	30-Aug-19	22-Aug-22	22-Aug-22
	PSRs (ROCE)	67,073	6.77	–	30-Aug-19	22-Aug-22	22-Aug-22
	RS	55,000	7.63	–	30-Aug-19	23-Aug-21	–
	RS[4]	109,370	5.53	–	8-May-20	2021–25	2021–25
	MR	346	0.47	–	27-Sep-19	31-Oct-21	–
M Schubert	PSR (TSR)	67,073	3.82	–	30-Aug-19	22-Aug-22	22-Aug-22
	PSR (ROCE)	67,073	6.77	–	30-Aug-19	22-Aug-22	22-Aug-22
	RS	52,275	7.63	–	30-Aug-19	23-Aug-21	–
L Tremaine	PSR (TSR)	83,841	3.82	–	30-Aug-19	22-Aug-22	22-Aug-22
	PSR (ROCE)	83,841	6.77	–	30-Aug-19	22-Aug-22	22-Aug-22
	RS	95,090	7.63	–	30-Aug-19	23-Aug-21	–
	MR	346	0.47	–	27-Sep-19	31-Oct-21	–

1 For MRs, the fair value is per $1 contributed by the Executive.

2 For PSRs, the expiry date is the same as the vesting date. On vesting, PSRs convert to shares with a holding lock of a further one-year period. For RSs, the vest date refers to the date when the trading restriction is lifted.

3 Rights may expire earlier. To the extent that they fail to meet the relevant performance conditions, they will lapse on the vesting date.

4 RSs subject to tenure conditions (see Section 3.7) vesting in five equal (by number) tranches on 30 April in each of the five years from 2021 to 2025.

Table 7-3: Details of, and movements in, equity rights and ordinary shares of the Company

The following table summarises holdings and movements of rights and ordinary shares held (directly, indirectly or beneficially, including by related parties) over the reporting period (or KMP portion of the period), including grants, transactions and forfeits, by value and by number. See Table 7-4 for further details of the terms and conditions of those rights.

	Type	Held at start[1]	Granted[2]/acquired[3]		Vested	Exercised		Forfeited[5]/ disposed[6]	Held at end[1,7]
			Number	Value ($)	Number	Number	Value[4] ($)	Number	
Executive Director									
F Calabria	Options	1,203,145	–	–	0	0	0	570,150	632,995
	PSR	563,869	452,742	2,657,596	0	0	0	57,739	958,872
	DSR	176,002	–	–	65,223	65,223	478,085	0	110,779
	RS	106,684	143,242	1,163,125	0	0	0	0	249,926
	Shares	232,117	65,223	–	–	–	–	110,000	187,340
Other Executive KMP									
J Briskin	Options	86,910	–	–	0	0	0	0	86,910
	PSR	142,214	125,762	665,910	0	0	0	17,090	250,886
	DSR	23,340	–	–	23,340	23,340	171,082	0	0
	RS	33,435	46,689	356,237	0	0	0	0	80,124
	MR	0	190	1,743	0	0	–	0	190
	Shares	40,722	23,852	–	–	–	–	0	64,574
G Jarvis	Options	250,427	–	–	0	0	0	85,500	164,927
	PSR	142,678	134,146	710,303	0	0	0	25,976	250,848
	DSR	25,993	–	–	25,993	25,993	190,529	0	0
	RS	35,375	164,370	1,024,466	0	0	0	0	199,745
	MR	163	346	2,310	0	0	0	0	509
	Shares	36,061	29,623	–	–	–	–	–	65,684
M Schubert	Options	237,410	–	–	0	0	0	83,250	154,160
	PSR	138,626	134,146	710,303	–	–	–	25,292	247,480
	DSR	18,945	–	–	18,945	18,945	138,867	0	0
	RS	33,717	52,275	398,858	0	0	0	0	85,992
	Shares	55,973	19,077	–	–	–	–	23,636	51,414
L Tremaine	Options	81,441	–	–	0	0	0	0	81,441
	PSR	146,864	167,682	887,876	0	0	0	0	314,546
	DSR	170,015	–	–	93,813	93,813	687,649	0	76,202
	RS	72,500	95,090	725,537	0	0	0	0	167,590
	MR	163	346	2,310	0	0	0	0	509
	Shares	166,309	94,505	–	–	–	–	50,000	210,814
NEDs[8]									
J Akehurst	Shares	71,200	0	–	–	–	–	0	71,200
M Brenner	Shares	28,367	0	–	–	–	–	0	28,367
G Cairns	Shares	163,660	0	–	–	–	–	0	163,660
T Engelhard	Shares	34,421	0	–	–	–	–	0	34,421
G Lalicker	Shares	100,000	0	–	–	–	–	0	100,000
B Morgan	Shares	47,143	0	–	–	–	–	0	47,143
S Perkins	Shares	30,000	0	–	–	–	–	0	30,000
S Sargent	Shares	31,429	0	–	–	–	–	0	31,429

1 The number of instruments that held at the start/end of the reporting period.

2 Rights to equity and restricted shares in the Company granted to Executive KMP during the reporting period under the Equity Incentive Plan, as listed in Table 7-2. These were provided at no cost to the recipients.

3 Purchases and transfers in. For Other Executive KMP this includes allotments of fully paid ordinary shares granted or acquired under the Employee Share Plan, and shares received upon the vesting and exercise of DSRs. Executive Directors do not participate in the General Employee Share Plan (GESP) or the MSP.

4 After vesting and after payment of any exercise price (the exercise price for DSRs is nil). The value of rights exercised is calculated as the closing market price of the Company's shares on the ASX on the date of exercise, after deducting any exercise price. The exercise price for PSRs and DSRs is nil. DSRs vesting in the period were granted on 30 August 2016 (vested 26 August 2019), 30 August 2017 (vested 10 July 2019) and 18 October 2017 (vested 26 August 2019).

5 Forfeited Options and PSRs were granted in October 2015.

6 Sales and transfers out.

7 Rights are automatically exercised on vesting. There were no vested Options as at the end of the period. Other than rights and RSs disclosed elsewhere in this Report, no other equity instruments, including shares in the Company, were granted to KMP during the period.

8 NEDs are not issued shares under any incentive or equity plans. Acquisitions include purchases of shares on market, or pursuant to the Company's dividend reinvestment plan or the August 2015 Entitlement Offer.

Table 7-4: Summary of share rights granted
The table below lists all the share rights outstanding at 30 June 2020 that have been granted to current or former employees (including Executive Directors and Executive KMP) under equity-based incentive plans. Equity-based incentives are not granted to NEDs. No terms of equity-settled share-based transactions have been altered or modified subsequent to grant. Share rights that failed to meet their performance hurdles on vesting dates prior to 30 June 2020 have all lapsed.

Granted	Number outstanding	Number outstanding held by KMP	Exercise price	Earliest vest date[1]	Last possible expiry date[2]
Legacy Options					
30 August 2016	1,421,289	373,806	$5.67	23 August 2021	28 August 2026
19 October 2016	450,000	–	$5.21	23 August 2021	28 August 2026
30 August 2017	81,441	81,441	$7.37	23 August 2021	28 August 2026
30 August 2017	905,363	263,898	$7.37	22 August 2022	23 August 2027
18 October 2017	401,288	401,288	$7.37	22 August 2022	23 August 2027
PSRs					
30 August 2016	1,166,540	143,777	–	24 August 2020	24 August 2020
19 October 2016	129,558	–	–	24 August 2020	24 August 2020
30 August 2017	841,583	24,415	–	24 August 2020	24 August 2020
30 August 2017	24,415	83,432	–	23 August 2021	23 August 2021
18 October 2017	126,866	126,866	–	23 August 2021	23 August 2021
10 September 2018	1,355,077	317,419	–	23 August 2021	23 August 2021
17 October 2018	312,245	312,245	–	23 August 2021	23 August 2021
30 August 2019	1,848,417	561,736	–	22 August 2022	22 August 2022
16 October 2019	452,742	452,742	–	22 August 2022	22 August 2022
DSRs					
30 August 2016	19,667	19,667	–	24 August 2020	24 August 2020
30 August 2017	76,202	76,202	–	10 July 2020	10 July 2020
30 August 2017	26,057	–	–	24 August 2020	24 August 2020
18 October 2017	45,556	45,556	–	24 August 2020	24 August 2020
18 October 2017	45,556	45,556	–	23 August 2021	23 August 2021
MRs					
26 September 2018	130,065	312	–	31 October 2020	31 October 2020
27 September 2019	98,476	570	–	31 October 2021	31 October 2021

1 The vest date for PSRs granted since 2018 does not include the trading restriction of approximately one year that applies to the shares allocated on vesting.

2 The expiry date is the same as the vesting date where the terms of the grant apply automatic exercise on vesting. Where there is no automatic exercise on vesting, the expiry date is the last possible expiry. Rights and Options may expire earlier; for example, to the extent that they do not meet their performance conditions, they will lapse on the vesting date.

Table 7-5: Executive service agreements

The main terms of executive service agreements at 30 June 2020 are set out in the table below.

Item	CEO	Other Executive KMP
Basis of contract	Ongoing	Ongoing
Notice period	– 12 months by either party – Shorter notice may apply by agreement – No notice in defined circumstances[1]	– Six months (three months for J Briskin) by either party – Shorter notice may apply by agreement – No notice in defined circumstances[1]
Termination benefits for cause	Statutory entitlements only	Statutory entitlements only
Termination benefits for resignation	Notice as above or payment in lieu of notice that is not worked; current-year STI forfeited; unvested equity lapses; and statutory entitlements.	Notice as above or payment in lieu of notice that is not worked; current-year STI forfeited; unvested equity lapses; and statutory entitlements.
Termination benefits for other than resignation or cause	Notice worked (or payment in lieu of any portion not worked); pro rata STI for the period worked (no deferral applicable); all unvested equity lapses unless held on foot in accordance with Equity Incentive Plan Rules[2]; and statutory entitlements.	Notice worked (or payment in lieu of any portion not worked); pro rata STI for the period worked (no deferral applicable); all unvested equity lapses unless held on foot in accordance with Equity Incentive Plan Rules[2]; and statutory entitlements. For redundancy, payment in accordance with the Company's general redundancy policy of three weeks FR per year of service, with a minimum of 18 weeks and a maximum of 78 weeks.
Remuneration	Remuneration is reviewed annually or as required to maintain alignment with policy and benchmarks.	Remuneration is reviewed annually or as required to maintain alignment with policy and benchmarks.

1 These circumstances include but are not limited to serious or persistent or wilful misconduct, breach of contract, or conduct likely to seriously injure the reputation of the Company.

2 For example, in cases of death, disability, genuine retirement or extraordinary circumstances, as approved by the Board.

Loans to KMP

No loans have been made, guaranteed or secured, directly or indirectly, by the Company or any of its subsidiaries, at any time throughout the year, to any KMP including to a KMP related party.

Signed in accordance with a resolution of Directors.



Gordon Cairns
Chairman

Sydney, 20 August 2020

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

Building a better working world

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

As lead auditor for the audit of the financial report of Origin Energy Limited for the financial year ended 30 June 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 audit; and

b) no contraventions of any applicable code of professional conduct in relation to the audit.

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

Ernst & Young

Andrew Price
Partner
Sydney
20 August 2020

A member firm of Ernst & Young Global Limited
Liability limited by a scheme approved under Professional Standards Legislation



Financial Statements

30 June 2020

Primary statements

Income statement

Statement of comprehensive income

Statement of financial position

Statement of changes in equity

Statement of cash flows

Notes to the financial statements

Overview

A Results for the year

A1 Segments

A2 Revenue

A3 Other income

A4 Expenses

A5 Results of equity accounted investees

A6 Earnings per share

A7 Dividends

B Investment in equity accounted joint ventures and associates

B1 Interests in equity accounted joint ventures and associates

B2 Investment in APLNG

B3 Investment in Octopus Energy Holdings Limited

B4 Transactions between the Group and equity accounted investees

C Operating assets and liabilities

C1 Trade and other receivables

C2 Exploration and evaluation assets

C3 Property, plant and equipment

C4 Intangible assets

C5 Trade and other payables

C6 Provisions

C7 Other financial assets and liabilities

D Capital, funding and risk management

D1 Capital management

D2 Interest-bearing liabilities

D3 Contributed equity

D4 Financial risk management

D5 Fair value of financial assets and liabilities

E Taxation

E1 Income tax expense

E2 Deferred tax

F Group structure

F1 Controlled entities

F2 Business combinations

F3 Joint arrangements and investments in associates

G Other information

G1 Contingent liabilities

G2 Commitments

G3 Share-based payments

G4 Related party disclosures

G5 Key management personnel

G6 Notes to the statement of cash flows

G7 Auditors' remuneration

G8 Master netting or similar agreements

G9 Deed of Cross Guarantee

G10 Parent entity disclosures

G11 Subsequent events

Directors' declaration

Independent auditor's report

Income statement
For the year ended 30 June

	Note	2020 $m	2019 $m
Revenue	A2	13,157	14,727
Other income	A3	54	26
Expenses	A4	(13,514)	(13,953)
Results of equity accounted investees	A5	608	632
Interest income	A3	190	234
Interest expense	A4	(316)	(388)
Profit before income tax		**179**	**1,278**
Income tax expense	E1	(93)	(64)
Profit for the year		**86**	**1,214**
Profit for the year attributable to:			
Members of the parent entity		83	1,211
Non-controlling interests		3	3
Profit for the year		**86**	**1,214**
Earnings per share			
Basic earnings per share	A6	4.7 cents	68.8 cents
Diluted earnings per share	A6	4.7 cents	68.7 cents

The income statement should be read in conjunction with the accompanying notes set out on pages 81 to 130.

Statement of comprehensive income
For the year ended 30 June

	Note	2020 $m	2019 $m
Profit for the year		**86**	**1,214**
Other comprehensive income			
Items that will not be reclassified to profit or loss, net of tax			
Investment valuation changes		3	5
Items that can be reclassified to profit or loss, net of tax			
Translation of foreign operations		125	341
Cash flow hedges:			
Reclassified to income statement	E1	4	(122)
Effective portion of change in fair value	E1	(493)	223
Total other comprehensive income, net of tax		**(361)**	**447**
Total comprehensive income for the year		**(275)**	**1,661**
Total comprehensive income attributable to:			
Members of the parent entity		(279)	1,662
Non-controlling interests		4	(1)
Total comprehensive income for the year		**(275)**	**1,661**

The statement of comprehensive income should be read in conjunction with the accompanying notes set out on pages 81 to 130.

Statement of financial position
as at 30 June

	Note	2020 $m	2019 $m
Current assets			
Cash and cash equivalents		1,240	1,546
Trade and other receivables	C1	1,959	2,324
Inventories		164	137
Derivatives	D4	630	472
Other financial assets	C7	479	318
Income tax receivable		89	–
Assets classified as held for sale		–	254
Other assets		105	112
Total current assets		**4,666**	**5,163**
Non-current assets			
Trade and other receivables	C1	18	7
Derivatives	D4	528	962
Other financial assets	C7	2,225	3,152
Investments accounted for using the equity method	A5	7,360	6,960
Property, plant and equipment (PP&E)	C3	4,331	3,597
Exploration and evaluation assets	C2	190	98
Intangible assets	C4	5,420	5,381
Deferred tax assets	E2	315	380
Other assets		40	43
Total non-current assets		**20,427**	**20,580**
Total assets		**25,093**	**25,743**
Current liabilities			
Trade and other payables	C5	1,934	2,006
Payables to joint ventures		202	204
Interest-bearing liabilities	D2	1,401	948
Derivatives	D4	466	384
Other financial liabilities	C7	237	308
Provision for income tax		–	160
Employee benefits		234	189
Provisions	C6	163	45
Liabilities classified as held for sale		–	23
Total current liabilities		**4,637**	**4,267**
Non-current liabilities			
Trade and other payables	C5	193	2
Interest-bearing liabilities	D2	5,451	6,648
Derivatives	D4	749	1,119
Other financial liabilities		16	–
Employee benefits	C7	33	31
Provisions	C6	1,313	527
Total non-current liabilities		**7,755**	**8,327**
Total liabilities		**12,392**	**12,594**
Net assets		**12,701**	**13,149**
Equity			
Contributed equity	D3	7,145	7,125
Reserves		716	1,089
Retained earnings		4,819	4,915
Total parent entity interest		**12,680**	**13,129**
Non-controlling interests		21	20
Total equity		**12,701**	**13,149**

The statement of financial position should be read in conjunction with the accompanying notes set out on pages 81 to 130.

Statement of changes in equity
For the year ended 30 June

$m	Contributed equity	Share-based payments reserve	Foreign currency translation reserve	Hedge reserve	Fair value reserve	Retained earnings	Non-controlling interests	Total equity
Balance as at 30 June 2019	7,125	234	736	114	5	4,915	20	13,149
Adoption of AASB 16 (refer to Overview)	–	–	–	–	–	349	–	349
Balance as at 1 July 2019	**7,125**	**234**	**736**	**114**	**5**	**5,264**	**20**	**13,498**
Profit for the year	–	–	–	–	–	83	3	86
Translation of foreign operations	–	–	124	–	–	–	1	125
Cash flow hedges	–	–	–	(489)	–	–	–	(489)
Investment valuation changes	–	–	–	–	3	–	–	3
Total other comprehensive income	**–**	**–**	**124**	**(489)**	**3**	**–**	**1**	**(361)**
Total comprehensive income for the year	**–**	**–**	**124**	**(489)**	**3**	**83**	**4**	**(275)**
Dividends provided for or paid	–	–	–	–	–	(528)	(3)	(531)
Movement in contributed equity (refer to note D3)	20	–	–	–	–	–	–	20
Share-based payments	–	(11)	–	–	–	–	–	(11)
Total transactions with owners recorded directly in equity	**20**	**(11)**	**–**	**–**	**–**	**(528)**	**(3)**	**(522)**
Balance as at 30 June 2020	**7,145**	**223**	**860**	**(375)**	**8**	**4,819**	**21**	**12,701**
Balance as at 30 June 2018	7,150	247	391	13	(22)	4,025	24	11,828
Adoption of AASB 9	–	–	–	–	22	(145)	–	(123)
Balance as at 1 July 2018	**7,150**	**247**	**391**	**13**	**–**	**3,880**	**24**	**11,705**
Profit for the year	–	–	–	–	–	1,211	3	1,214
Translation of foreign operations	–	–	345	–	–	–	(4)	341
Cash flow hedges	–	–	–	101	–	–	–	101
Investment valuation changes	–	–	–	–	5	–	–	5
Total other comprehensive income	**–**	**–**	**345**	**101**	**5**	**–**	**(4)**	**447**
Total comprehensive income for the year	**–**	**–**	**345**	**101**	**5**	**1,211**	**(1)**	**1,661**
Dividends provided for or paid	–	–	–	–	–	(176)	(3)	(179)
Movement in contributed equity (refer to note D3)	(25)	–	–	–	–	–	–	(25)
Share-based payments	–	(13)	–	–	–	–	–	(13)
Total transactions with owners recorded directly in equity	**(25)**	**(13)**	**–**	**–**	**–**	**(176)**	**(3)**	**(217)**
Balance as at 30 June 2019	**7,125**	**234**	**736**	**114**	**5**	**4,915**	**20**	**13,149**

The statement of changes in equity should be read in conjunction with the accompanying notes set out on pages 81 to 130.

Statement of cash flows
For the year ended 30 June

	Note	2020 $m	2019 $m
Cash flows from operating activities			
Receipts from customers		14,766	16,552
Payments to suppliers and employees		(13,600)	(15,117)
Cash generated from operations		**1,166**	**1,435**
Income taxes paid, net of refunds received		(215)	(110)
Net cash from operating activities	G6	**951**	**1,325**
Cash flows from investing activities			
Acquisition of PP&E		(290)	(190)
Acquisition of exploration and development assets		(85)	(18)
Acquisition of other assets		(125)	(133)
Acquisition of OC Energy[1]		(14)	(29)
Acquisition of other investments		(151)	(35)
Interest received from other parties		18	2
Net proceeds from sale of non-current assets		234	18
Australia Pacific LNG (APLNG) investing cash flows			
– Receipt of Mandatorily Redeemable Cumulative Preference Shares (MRCPS) interest		181	229
– Proceeds from APLNG buy-back of MRCPS		1,094	745
Net cash from investing activities		**862**	**589**
Cash flows from financing activities			
Proceeds from borrowings		1,273	2,063
Repayment of borrowings		(2,446)	(1,878)
Joint venture operator cash call movements		56	7
Settlement of foreign currency contracts		(55)	(64)
Interest paid[2]		(310)	(375)
Repayment of lease principal		(75)	–
Dividends paid to shareholders of Origin Energy Ltd, net of Dividend Reinvestment Plan (DRP)		(475)	(162)
Dividends paid to non-controlling interests		(3)	(3)
Repayment of Debt Service Reserve Account (DSRA) loan to equity accounted investees		(8)	(31)
Purchase of shares on market (treasury shares)		(75)	(77)
Net cash used in financing activities		**(2,118)**	**(520)**
Net (decrease)/increase in cash and cash equivalents		**(305)**	**1,394**
Cash and cash equivalents at the beginning of the period		**1,546**	**150**
Effect of exchange rate changes on cash		(1)	2
Cash and cash equivalents at the end of the period		**1,240**	**1,546**

(1) The Group acquired OC Energy in the prior year. The cash outflow of $14 million in the current year relates to deferred consideration on the acquisition. The prior year cash outflow of $29 million was net of cash acquired as part of the transaction.

(2) Includes $16 million of interest payments on leases in the current year as a result of the adoption of AASB 16 *Leases*.

The statement of cash flows should be read in conjunction with the accompanying notes set out on pages 81 to 130.

Notes to the financial statements

Overview

Origin Energy Limited (the Company) is a for-profit company domiciled in Australia. The address of the Company's registered office is Level 32, Tower 1, 100 Barangaroo Avenue, Barangaroo NSW 2000. The nature of the operations and principal activities of the Company and its controlled entities (the Group or Origin) are described in the segment information in note A1.

On 20 August 2020, the Directors resolved to authorise the issue of these consolidated general purpose financial statements for the year ended 30 June 2020.

Basis of preparation

The financial statements have been prepared:

- in accordance with the requirements of the *Corporations Act 2001* (Cth), Australian Accounting Standards and other authoritative pronouncements of the Australian Accounting Standards Board (AASB), and International Financial Reporting Standards as issued by the International Accounting Standards Board; and
- on a historical cost basis, except for derivatives and other financial assets and liabilities that are measured at fair value.

The financial statements:

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

Use of judgements and estimates

Preparing the financial statements in conformity with Australian Accounting Standards requires management to make judgements and apply estimates and assumptions that affect the reported amounts of assets, liabilities, income and expenses. The estimates and associated assumptions, which are based on historical experience and various other factors believed to be reasonable under the circumstances, form the basis of judgements about carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates. Throughout the notes to the financial statements, further information is provided about key management judgements and estimates that we consider material to the financial statements.

The Group's operating environment and COVID-19

The Group's operating environment has been impacted by a significant reduction in commodity prices as well as the COVID-19 pandemic. These factors combined have had wider impacts on consumers, businesses and the overall economy. The Group entered the 2020 financial year in a financially resilient position with significantly reduced upstream costs at APLNG, and materially reduced debt. This has enabled the Group to respond to the pandemic with a focus on safely maintaining energy supply and supporting customers who have been financially affected. To date, there has been no material impact on Origin's energy supply operations and fuel availability.

The economic impacts of the changes in the Group's operating environment due to oil price and COVID-19 impacts have implications for various line items in the financial statements, including revenue and receivables, equity accounted investments (APLNG), carrying value of non-current assets, provisions, derivatives and other non-financial assets/liabilities.

Use of judgements and estimates relating to COVID-19

In the process of applying the Group's accounting policies, management has made a number of judgements and applied estimates in relation to changes in the Group's operating environment and the impact of the reduction in commodity prices and COVID-19. The judgements and estimates that are material to the financial report are discussed in the following notes:

- A2 – Revenue
- B2 – Investment in APLNG
- C1 – Trade and other receivables
- C3 – Property, plant and equipment
- C4 – Intangible assets
- C6 – Provisions

Adoption of AASB 16 Leases

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

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

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

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

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

Overview (continued)

Adoption of AASB 16 *Leases* (continued)

Key judgements and estimates applied on adoption of AASB 16 *Leases*

Management judgement has been applied in the application of AASB 16 to the Group's renewable power purchase agreements (PPAs). Where the use of an asset, such as a wind or solar farm, is considered to be pre-determined, the arrangement is a lease if either the customer has the right to direct the operations of the asset in a manner it determines or the customer designed the asset. Management has determined that Origin's decision-making rights under its PPAs give the Group the ability to direct the operations of the power plants and that owners are prevented from using the assets in any other way. Accordingly, the renewable PPAs through which the Group takes substantially all the output have been classified as leases under AASB 16.

If the renewable PPAs had not been deemed leases, net electricity derivative liabilities of $449 million would have been recognised in the statement of financial position at 30 June 2020. Additionally, a $63 million gain 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. Such leases have nil lease liability balances and thus nil ROU asset balances. All payments made under these leases are recognised within operating expenses as incurred.

Transition impact at 1 July 2019

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

As at 1 July 2019	$m Debit/(credit)
PP&E	(75)
ROU assets	445
Derivative assets[1]	(128)
Deferred tax assets	(149)
Other assets	(6)
Lease liabilities	(478)
Derivative liabilities[1]	640
Provisions[2]	100
Retained earnings (net of tax)	(349)

(1) Derivative assets and liabilities derecognised on adoption of AASB 16 as they relate to PPAs classified as leases under the new standard.
(2) Onerous lease provisions are now reflected within the carrying value of ROU assets.

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

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

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

A Results for the year

This section highlights the performance of the Group for the 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 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 are 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:

- 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;
- impairments of assets; and
- significant onerous contracts.

A1 Segments (continued)

Segment result for the year ended 30 June

		Integrated Gas									
		Energy Markets		Share of APLNG		Other[6]		Corporate		Consolidated	
$m	Ref.	2020	2019	2020	2019	2020	2019	2020	2019	2020	2019
External revenue		**12,888**	**14,293**	**–**	**–**	**269**	**434**	**–**	**–**	**13,157**	**14,727**
EBITDA		**1,521**	**1,492**	**1,915**	**2,142**	**(1,185)**	**2**	**(134)**	**(275)**	**2,117**	**3,361**
Depreciation and amortisation		(477)	(401)	–	–	(29)	(18)	(3)	–	(509)	(419)
Share of ITDA of equity accounted investees		(7)	–	(1,301)	(1,516)	5	6	–	–	(1,303)	(1,510)
EBIT		**1,037**	**1,091**	**614**	**626**	**(1,209)**	**(10)**	**(137)**	**(275)**	**305**	**1,432**
Interest income[1]						174	226	16	8	190	234
Interest expense[2]								(316)	(388)	(316)	(388)
Income tax expense[3]								(93)	(64)	(93)	(64)
Non-controlling interests (NCI)								(3)	(3)	(3)	(3)
Statutory profit/(loss) attributable to members of the parent entity		**1,037**	**1,091**	**614**	**626**	**(1,035)**	**216**	**(533)**	**(722)**	**83**	**1,211**
Reconciliation of statutory profit/(loss) to segment result and underlying profit/(loss)											
Fair value and foreign exchange movements	(a)	83	(61)	–	–	384	271	(73)	(11)	394	199
Disposals, impairments, onerous contracts and business restructuring	(b)	(20)	(21)	–	13	(1,396)	(38)	(2)	(29)	(1,418)	(75)
Tax and NCI on items excluded from underlying profit								84	59	84	59
Total significant items		**63**	**(82)**	**–**	**13**	**(1,012)**	**233**	**9**	**19**	**(940)**	**183**
Segment underlying profit/(loss)[4][5]		**974**	**1,173**	**614**	**613**	**(23)**	**(17)**	**(542)**	**(741)**	**1,023**	**1,028**
Underlying EBITDA[4][5]		**1,459**	**1,574**	**1,915**	**2,123**	**(174)**	**(231)**	**(59)**	**(234)**	**3,141**	**3,232**

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

(6) EBITDA in the Integrated Gas – Other segment in the current period includes an impairment expense of $746 million related to the Group's equity accounted investment in APLNG (refer to note B2.2) and an onerous contract expense of $650 million related to the Cameron LNG purchase contract (refer to note C6).

A1 Segments (continued)

$m	2020 Gross	2020 Tax and NCI	2019 Gross	2019 Tax and NCI
(a) Fair value and foreign exchange movements				
Increase/(decrease) in fair value of derivatives	275	(83)	(102)	30
Net gain from financial instruments measured at fair value	123	(37)	391	(117)
Exchange loss on foreign-denominated debt	(4)	1	(90)	27
Fair value and foreign exchange movements	**394**	**(119)**	**199**	**(60)**
(b) Disposals, impairments, onerous contracts and business restructuring				
Capital tax loss recognition – Ironbark	–	–	–	68
Gain on sale of Denison – share of APLNG[1]	–	–	13	–
Gain on sale – Origin LPG (Vietnam) LLC	–	–	5	(1)
Gain on sale – Energia Austral SpA	–	–	5	(1)
Loss on sale – Dandenong Cogent assets	–	–	(2)	–
Disposals	**–**	**–**	**21**	**66**
Integrated Gas impairments and impairment reversals				
Impairment – APLNG equity accounted investment[2]	(746)	–	–	–
Impairment – Ironbark permit areas	–	–	(49)	15
Impairment reversal – Heytesbury permit areas	–	–	13	(4)
Corporate impairments				
Impairment – goodwill and other intangibles on Pleiades investment in Chile	–	–	(3)	–
Impairments	**(746)**	**–**	**(39)**	**11**
Onerous contracts – Cameron	(650)	195	–	–
Onerous contracts	**(650)**	**195**	**–**	**–**
One-off building lease exit costs	–	–	(19)	6
Restructuring costs	(9)	3	(29)	8
Transaction costs	(13)	5	(9)	3
Finalisation of tax position – Lattice Energy divestment	–	–	–	25
Business restructuring	**(22)**	**8**	**(57)**	**42**
Total disposals, impairments, onerous contracts and business restructuring	**(1,418)**	**203**	**(75)**	**119**

(1) The prior period amount is presented post-tax as the Group equity accounts for its share of net profit after tax of APLNG. Refer note B2.1.

(2) Refer to note B2.2.

A1 Segments (continued)

Segment assets and liabilities as at 30 June

	Energy Markets		Integrated Gas: Share of APLNG		Integrated Gas: Other		Corporate		Total continuing operations		Total assets and liabilities held for sale		Consolidated	
$m	**2020**	**2019**	**2020**	**2019**	**2020**	**2019**	**2020**	**2019**	**2020**	**2019**	**2020**	**2019**	**2020**	**2019**
Assets														
Segment assets	12,567	12,378	–	–	687	276	214	133	13,468	12,787	–	254	13,468	13,041
Investments accounted for using the equity method (refer to note A5)	381	–	7,862	7,103	(884)	(143)	1	–	7,360	6,960	–	–	7,360	6,960
Cash, funding-related derivatives and tax assets					2,109	3,045	2,156	2,697	4,265	5,742	–	–	4,265	5,742
Total assets	**12,948**	**12,378**	**7,862**	**7,103**	**1,912**	**3,178**	**2,371**	**2,830**	**25,093**	**25,489**	**–**	**254**	**25,093**	**25,743**
Liabilities														
Segment liabilities	(3,414)	(3,299)	–	–	(1,155)	(369)	(726)	(821)	(5,295)	(4,489)	–	(23)	(5,295)	(4,512)
Financial liabilities, interest-bearing liabilities, funding-related derivatives and tax liabilities							(7,097)	(8,082)	(7,097)	(8,082)	–	–	(7,097)	(8,082)
Total liabilities	**(3,414)**	**(3,299)**	**–**	**–**	**(1,155)**	**(369)**	**(7,823)**	**(8,903)**	**(12,392)**	**(12,571)**	**–**	**(23)**	**(12,392)**	**(12,594)**
Net assets	**9,534**	**9,079**	**7,862**	**7,103**	**757**	**2,809**	**(5,452)**	**(6,073)**	**12,701**	**12,918**	**–**	**231**	**12,701**	**13,149**
Additions of non-current assets[1]	519	382	–	–	95	30	12	7	626	419	–	–	626	419

(1) The Energy Markets segment includes $128 million relating to the investment in Octopus Energy and $13 million relating to the build of the Kraken technology platform following the agreement entered into with Octopus Energy (2019: $58 million relating to the acquisition of OC Energy Pty Ltd).

Geographical information

Detailed below is revenue based on the location of the customer and non-current assets (excluding derivatives, other financial assets and deferred tax assets) based on the location of the assets.

	2020 $m	2019 $m
For the year ended 30 June		
Australia	13,067	14,612
Other	90	115
External revenue	**13,157**	**14,727**
As at 30 June		
Australia	17,317	16,050
Other	42	36
Non-current assets[1]	**17,359**	**16,086**

(1) The prior period excludes amounts that were classified as held for sale at 30 June 2019.

A2 Revenue

$m 2020	Retail	Business and Wholesale	LPG	Solar and Energy Services	Integrated Gas	Total
Sale of electricity	4,569	2,941	–	81	–	7,591
Sale of gas	1,163	1,673	606	99	269	3,810
Pool revenue	–	1,527	–	–	–	1,527
Other revenue	45	64	2	118	–	229
	5,777	**6,205**	**608**	**298**	**269**	**13,157**
$m 2019						
Sale of electricity	5,056	3,208	–	34	–	8,298
Sale of gas	1,064	1,862	674	90	434	4,124
Pool revenue	–	2,117	–	–	–	2,117
Other revenue	44	52	–	92	–	188
	6,164	**7,239**	**674**	**216**	**434**	**14,727**

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).

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

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

Management also uses unbilled consumption volumes to accrue network expenses incurred by the Group for unread customer electricity and gas meters.

The government-imposed lockdown and social distancing restrictions in response to COVID-19 have generally resulted in increased residential household energy consumption as more people stay at home, while businesses have reduced energy consumption in certain industries. Given the unprecedented operating environment, the calculation of unbilled revenue requires significant judgement in estimating the level of energy consumption by customers during the unbilled period to 30 June 2020. The Group uses a backcasting model and volume-matching process to provide a reliable estimate of unbilled revenue as at 30 June 2020. Refer to note C1 for the Group's consideration of the COVID-19 impact on its cash collection of trade receivables and unbilled revenue.

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 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

	2020 $m	2019 $m
Net gain on sale of assets	1	–
Fees and services, and other income[1]	53	26
Other income	**54**	**26**
Interest earned from other parties[2]	16	8
Interest earned on APLNG MRCPS (refer to note B4)	174	226
Interest income	**190**	**234**

(1) The current period amount includes $39 million relating to insurance proceeds received to 30 June 2020 for the Mortlake generator asset failure in July 2019.

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

A4 Expenses

	2020 $m	2019 $m
Expenses		
Cost of sales	10,732	12,254
Employee expenses[1]	662	664
Depreciation and amortisation	509	419
Impairment of non-current assets[2]	764	39
Impairment of trade receivables (net of bad debts recovered)	124	84
(Increase)/decrease in fair value of derivatives	(275)	102
Net gain from financial instruments measured at fair value	(123)	(391)
Net foreign exchange (gain)/loss	(15)	89
Onerous contract expense[3]	650	–
Other[4][5]	486	693
Expenses	**13,514**	**13,953**
Interest on borrowings	296	385
Interest on lease liabilities	18	–
Unwind of discounting on long-term provisions	2	3
Interest expense	**316**	**388**

(1) Includes contributions to defined contribution superannuation funds of $62 million (2019: $61 million).

(2) In the current period, a $746 million impairment was recognised relating to the Group's equity accounted investment in APLNG (refer to note B2.2), as well as a $19 million impairment relating to the Mortlake generator asset write-off following the electrical fault experienced in July 2019. This was offset by a $1 million impairment reversal relating to the Group's investment in PNG Energy Development Limited joint venture. (2019: A $49 million impairment was recognised in relation to the Ironbark permit assets, offset by a $13 million impairment reversal in relation to the Heytesbury permit areas, following classification as held for sale. An additional $3 million impairment of goodwill and other intangibles on the Pleiades investment in Chile was recognised.)

(3) Refer to note C6.

(4) Includes $83 million of cost recoveries (2019: $124 million), which were previously netted against the cost of sales line.

(5) The comparative amount includes operating lease rental expense of $81 million.

A5 Results of equity accounted investees

$m 2020	Share of EBITDA	Share of ITDA	Share of net (loss)/profit
Octopus Energy[1]	(4)	(7)	(11)
Gasbot Pty Limited[2]	–	–	–
Total associates	**(4)**	**(7)**	**(11)**
APLNG[3][4]	1,915	(1,296)	619
PNG Energy Developments Limited	–	–	–
Total joint ventures	**1,915**	**(1,296)**	**619**
Total	**1,911**	**(1,303)**	**608**
2019			
APLNG[3][4]	2,142	(1,510)	632
PNG Energy Developments Limited	–	–	–
Total joint ventures	**2,142**	**(1,510)**	**632**
Total	**2,142**	**(1,510)**	**632**

$m as at	Equity accounted investment carrying amount 2020	 2019
Octopus Energy[1]	380	–
APLNG[3]	6,978	6,960
PNG Energy Developments Limited	1	–
Gasbot Pty Limited[2]	1	–
	7,360	**6,960**

(1) The Group acquired a 20 per cent interest in Octopus Energy effective 1 May 2020. Included in Octopus Energy's share of net profit is $5 million (Origin share) of depreciation, relating to the fair value attributed to assets at the acquisition date. Refer to note B3.

(2) During the period, the Group acquired a 35 per cent interest in Gasbot Pty Limited and has significant influence over the entity.

(3) APLNG's summary financial information is separately disclosed in note B2.

(4) Included in the Group's share of net profit is $5 million (2019: $6 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 B2.1.

A6 Earnings per share

	2020	2019
Weighted average number of shares on issue – basic[1]	1,759,801,186	1,758,935,655
Weighted average number of shares on issue – diluted[2]	1,764,776,000	1,762,450,733
STATUTORY PROFIT		
Earnings per share based on statutory consolidated profit		
Statutory profit – $m	83	1,211
Basic earnings per share	4.7 cents	68.8 cents
Diluted earnings per share	4.7 cents	68.7 cents
UNDERLYING PROFIT		
Earnings per share based on underlying consolidated profit		
Underlying profit – $m[3]	1,023	1,028
Underlying basic earnings per share	58.1 cents	58.4 cents
Underlying diluted earnings per share	58.0 cents	58.3 cents

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

(2) The diluted earnings per share calculation uses the weighted average number of shares on issue during the period excluding treasury shares held and is adjusted to reflect the number of shares which would be issued if outstanding Options, Performance Share Rights (PSRs), Deferred Share Rights (DSRs), Restricted Shares (RSs) and Matching Share Rights (MSRs) were to be exercised (2020: 4,974,814; 2019: 3,515,078).

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

A7 Dividends

The Directors have determined to pay an unfranked final dividend of 10 cents per share, payable on 2 October 2020. Dividends paid during the year ended 30 June are detailed below.

	2020 $m	2019 $m
Final dividend of 15 cents per share, in respect of FY2019, fully franked at 30 per cent, paid 27 September 2019 (2019: Nil final dividend)	264	–
Interim dividend of 15 cents per share, in respect of FY2020, fully franked at 30 per cent, paid 27 March 2020 (2019: 10 cents per share, fully franked at 30 per cent, paid 29 March 2019)	264	176
Total dividends provided for or paid	**528**	**176**
Dividend franking account		
Franking credits available to shareholders of Origin Energy Limited for subsequent financial years are shown below.		
Australian franking credits available at 30 per cent[1]	(57)	205
New Zealand franking credits available at 28 per cent (in NZD)	304	304

(1) Franking credits will arise from tax payments during FY2021 and the franking account will not be in deficit by 30 June 2021.

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 Interests in equity accounted joint ventures and associates

			Ownership interest (per cent)	
Joint ventures and associates	**Reporting date**	**Country of incorporation**	**2020**	**2019**
Octopus Energy[1]	30 April	United Kingdom	20.0	–
APLNG[2]	30 June	Australia	37.5	37.5
KUBU Energy Resources (Pty) Limited	30 June	Botswana	50.0	50.0
PNG Energy Developments Limited	31 December	PNG	50.0	50.0
Gasbot Pty Limited	30 June	Australia	35.0	–

(1) Octopus Energy is a separate legal entity. The Group's 20 per cent investment is equity accounted as a result of the Group's active participation on the Board and the Group's ability to impact decision making, leading to the assessment that significant influence exists.

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

Of the above interests in joint ventures and associates, only APLNG and Octopus Energy have a material impact to the Group at 30 June 2020.

B2 Investment in APLNG

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

B2.1 Summary APLNG income statement

for the year ended 30 June	**2020**		**2019**	
$m	**Total APLNG**	**Origin interest**	**Total APLNG**	**Origin interest**
Operating revenue	7,100		7,491	
Operating expenses	(1,992)		(1,781)	
EBITDA	**5,108**	**1,915**	**5,710**	**2,142**
Depreciation and amortisation expense	(1,863)	(699)	(2,116)	(794)
Interest income	40	15	51	19
Interest expense – MRCPS	(463)	(174)	(602)	(226)
Other interest expense	(474)	(177)	(662)	(248)
Income tax expense	(708)	(266)	(711)	(267)
ITDA	**(3,468)**	**(1,301)**	**(4,040)**	**(1,516)**
Statutory result for the year	**1,640**	**614**	**1,670**	**626**
Other comprehensive income	–	–	–	–
Statutory total comprehensive income[1]	**1,640**	**614**	**1,670**	**626**
Items excluded from segment result				
Gain on sale of assets – Denison	–	–	35	13
Items excluded from segment result (net of tax)	**–**	**–**	**35**	**13**
Underlying profit for the year[2]	**1,640**	**614**	**1,635**	**613**
Underlying EBITDA for the year[2]	**5,108**	**1,915**	**5,662**	**2,123**

(1) Excluded from the above is $5 million (2019: $6 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.

B2.2 Carrying amount of investment in APLNG

Impact of oil prices and COVID-19 on carrying value of investments accounted for using the equity method

The carrying amount of the Group's equity accounted investment in APLNG is reviewed at each reporting date to determine whether there is any indication of impairment. Where an indicator of impairment exists, a formal estimate of the recoverable amount is made. The Group's assessment of the recoverable amount uses a discounted cash flow methodology and considers a range of macroeconomic and project assumptions, including oil and LNG price, AUD/USD exchange rates, discount rates and costs over the asset's life. The principal change since the Group's last assessment at 31 December 2019 is a reduction in oil price assumptions over the near term and a revised long-term Brent crude oil price assumption of US$60/bbl (real FY2020) from FY2026, partially offset by cost reductions from improved field and operating performance. As a result, the Group recognised an impairment charge of $746 million against the carrying value of its investment in APLNG as at 30 June 2020 (2019: $nil).

The recoverable amount of the investment requires significant judgement and is sensitive to changes in key assumptions. A change in assumption could result in a significantly higher or lower impairment charge recognised at 30 June 2020. The assumptions and the sensitivity of the investment to assumption changes are described below.

Oil prices (Brent oil nominal, US$/bbl) used by the Group in its impairment assessment are shown below.

	2021	2022	2023	2024	2025	2026[1]
30 June 2020	40	45	50	55	61	66

(1) Escalated at 2 per cent from 2026.

Forecasts of the foreign exchange rate for foreign currencies, where relevant, are estimated with reference to observable external market data and forward values, including analysis of broker and consensus estimates.

The future estimated AUD/USD rates applied by APLNG are shown below.

	2021	2022	2023	2024	2025	2026
30 June 2020	0.69	0.69	0.69	0.70	0.70	0.70

The post-tax discount rate applied, determined as APLNG's weighted average cost of capital, adjusted for risks where appropriate, is 7.4 per cent (2019: 7.4 per cent).

The APLNG valuation is determined based on an assessment of fair value less costs of disposal (based on level 3 fair value hierarchy). Key assumptions in APLNG's valuation are reserves, future production profiles, foreign exchange, commodity prices, operating costs and any future development costs necessary to produce the reserves.

Estimated unconventional reserve quantities in APLNG are based on interpretations of geological and geophysical models, and assessment of the technical feasibility and commercial viability of producing the reserves. Reserve estimates are prepared that conform to guidelines prepared by the Society of Petroleum Engineers. These assessments require assumptions to be made regarding future development and production cost, commodity prices, exchange rates and fiscal regimes. The estimates of reserves may change from period to period as the economic assumptions used to estimate the reserves can change from period to period, and as additional geological data is generated during the course of operations. Estimated reserve quantities include a Probabilistic Resource Assessment approach.

Estimates of future commodity prices are highly judgemental, particularly with the sudden reduction in pricing during the last quarter of the financial year. The reduced prices are expected to impact FY2021 due to the effect of lagged oil pricing.

The Group's estimate as at 30 June 2020 is based on its best estimate of future market prices with reference to external industry and market analysts' forecasts, current spot prices and forward curves. Future commodity prices for impairment testing are reviewed on a six-monthly basis. Where volumes are contracted, future prices are based on the contracted price.

Impairment sensitivity

The Group's assessment of the recoverable amount of its investment in APLNG is most sensitive to changes in oil price, discount rates and the AUD/USD foreign exchange rate. Key accounting judgements and estimates used in forming the valuation are disclosed in the previous section.

Reasonably possible changes in circumstances will affect assumptions and the estimated fair value of Origin's investment in APLNG. These reasonably possible changes include:

- a decrease in oil prices of USD$1/bbl, which in isolation would lead to a decrease of AU$233 million in the valuation; and
- an increase in the discount rate of 0.3 per cent in isolation or an increase in the AUD/USD FX rate of 2 cents in isolation from the rates assumed in the valuation would lead to a decrease of A$233 million in the valuation.

Changes in any of the aforementioned assumptions, may be accompanied by changes in other assumptions, which may have an offsetting impact.

B2.3 Summary APLNG statement of financial position

100 per cent APLNG as at 30 June $m	2020	2019
Cash and cash equivalents	1,072	1,610
Assets classified as held for sale	5	5
Other assets	775	644
Current assets	**1,852**	**2,259**
Receivables from shareholders	370	375
PP&E[1]	35,703	35,971
Exploration, evaluation and development assets	531	326
Other assets	998	1,641
Non-current assets	**37,602**	**38,313**
Total assets	**39,454**	**40,572**
Bank loans – secured	720	673
Payable to shareholders (MRCPS)	117	91
Other liabilities[2]	689	761
Current liabilities	**1,526**	**1,525**
Bank loans – secured	8,587	9,084
Payable to shareholders (MRCPS)	5,398	8,078
Other liabilities[3]	2,981	2,946
Non-current liabilities	**16,966**	**20,108**
Total liabilities	**18,492**	**21,633**
Net assets	**20,962**	**18,939**
Group's interest of 37.5% of APLNG net assets	7,862	7,103
Group's impairment expense	(746)	–
Group's own costs	25	25
MRCPS elimination[4]	(163)	(168)
Investment in APLNG Pty Ltd[5]	**6,978**	**6,960**

(1) Includes $429 million of ROU assets in the current period as a result of the adoption of AASB 16 *Leases*.

(2) Includes $64 million of lease liabilities in the current period as a result of the adoption of AASB 16 *Leases*.

(3) Includes $193 million of lease liabilities in the current period as a result of the adoption of AASB 16 *Leases*.

(4) During project construction, when the Group received interest on the MRCPS from APLNG, it recorded the interest as income after eliminating a proportion of this interest 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.

(5) Includes a movement of $145 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 0.6862 (2019: 0.7012).

B2.4 Summary APLNG statement of cash flows

100 per cent APLNG for the year ended 30 June $m	2020	2019
Cash flow from operating activities		
Receipts from customers	7,321	7,538
Payments to suppliers and employees	(2,079)	(2,002)
Net cash from operating activities	**5,242**	**5,536**
Cash flows from investing activities		
Loan repaid by Origin	8	31
Loans repaid by other shareholders	6	9
Proceeds from sale of assets	–	30
Acquisition of non-current assets	(245)	–
Acquisition of PP&E	(1,001)	(1,321)
Acquisition of exploration and development assets	(37)	(57)
Other investing activities	40	50
Net cash used in investing activities	**(1,229)**	**(1,258)**
Cash flows from financing activities		
Payments relating to other financing activities	(45)	(85)
Repayment of lease principal	(80)	–
Payment of interest on lease liabilities	(19)	–
Proceeds from borrowings	–	6,346
Repayment of borrowings	(731)	(7,154)
Payments of transaction and interest costs relating to borrowings	(382)	(513)
Payments for buy-back of MRCPS	(2,918)	(1,987)
Payments of interest on MRCPS	(480)	(611)
Net cash used in financing activities	**(4,655)**	**(4,004)**
Net (decrease)/increase in cash and cash equivalents	**(642)**	**274**
Cash and cash equivalents at the beginning of the year	**1,610**	**1,223**
Effect of exchange rate changes on cash	104	113
Cash and cash equivalents at the end of the year	**1,072**	**1,610**

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.

B3 Investment in Octopus Energy Holdings Limited

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 upfront and £150 million is deferred over two financial years. Octopus Energy is an energy retailer and technology company incorporated in the United Kingdom and is not publicly listed. The investment in Octopus Energy enables the Group to adopt Octopus Energy's market-leading operating model and customer platform, Kraken, to fast-track material improvements in customer experience and costs.

The following table summarises the financial information of Octopus Energy, as included in its financial statements, adjusted for fair value adjustments at acquisition and differences in accounting policies. The table also reconciles the summarised financial information to the carrying amount of the Group's interest in Octopus Energy. The information for FY2020 includes the results of Octopus Energy from 1 May to 30 June 2020, following the acquisition of the 20 per cent equity stake.

	2020	
Summary Octopus Energy income statement for the period from 1 May to 30 June $m	**Total Octopus Energy**	**Origin interest**
Statutory and underlying result for the period	**(32)**	**(6)**
Other comprehensive income	–	–
Statutory total comprehensive income[1]	**(32)**	**(6)**

(1) Excluded from the above is $5 million (Origin share) of amortisation relating to the fair value attributed to assets at the acquisition date.

Income statement amounts are converted from GBP to AUD using the average rate prevailing for the relevant period.

Summary Octopus Energy statement of financial position as at 30 June $m	**2020**
Current assets[1]	1,040
Non-current assets	163
Current liabilities[2]	(852)
Non-current liabilities[2]	(197)
Net assets	**154**
Group's interest of 20% of Octopus Energy net assets	31
Goodwill and fair value adjustments[3]	344
Group's own costs	5
Group's carrying amount of the investment in Octopus Energy[4]	**380**

(1) Current assets includes cash and cash equivalents of $113 million.
(2) Includes current financial liabilities and non-current financial liabilities of $237 million and $197 million respectively.
(3) Includes goodwill and other fair value adjustments on initial recognition of the Group's equity accounted investment in Octopus Energy.
(4) Includes a movement of $21 million in foreign exchange that has been recognised in the foreign currency translation reserve.

Reporting date balances are converted from GBP to AUD using an end-of-period exchange rate of 0.5584.

The associate has no contingent liabilities or capital commitments as at 30 June 2020.

B4 Transactions between the Group and equity accounted investees

APLNG

Service transactions

The Group provides services to APLNG including corporate services, upstream operating services related to the development and operation of APLNG's natural gas assets, and marketing services relating to coal seam gas (CSG). The Group incurs costs in providing these services and charges APLNG for them in accordance with the terms of the contracts governing those services.

Commodity transactions

Separately, the Group has entered agreements to purchase gas from APLNG (2020: $339 million; 2019: $475 million) and sell gas to APLNG (2020: $32 million; 2019: $69 million). At 30 June 2020, the Group's outstanding payable balance for purchases from APLNG was $33 million (2019: $45 million) and outstanding receivable balance for sales to APLNG was $1 million (2019: $3 million).

Funding transactions

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$1.4 billion following APLNG share buy-backs of US$0.7 billion. The mandatory redemption date for the MRCPS is 30 June 2026.

The MRCPS are measured at fair value through profit and loss in Origin's financial statements as disclosed in note C7. The carrying value was $2,109 million as at 30 June 2020 (2019: $3,045 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

As part of a broader partnership with Octopus Energy, the Group has entered into an agreement to obtain a licence to utilise Octopus Energy's market-leading customer platform, Kraken, in Australia. The total fixed consideration under the agreement is £25 million ($48 million), of which £5 million ($9 million) was paid on execution of the agreement and £20 million (A$38 million) is deferred over two financial years. The fixed consideration has been recognised as an intangible asset by the Group at 30 June 2020. A further £25 million ($48 million) could also become payable under the agreement but is contingent on the achievement of certain milestones. The contingent consideration will be capitalised when it becomes payable in the future once the relevant performance criteria have been achieved.

The Group has entered into a further agreement to provide a financial guarantee to Octopus Energy's financiers in respect of a working capital facility entered into by Octopus Energy. Under this agreement, Octopus Energy is required to pay a monthly fee to the Group in respect of the guarantee facility. The guarantee has been accounted for as a Financial Guarantee Contract under AASB 9 *Financial Instruments* and has been initially recognised at fair value (refer to note C7). During the year, $1 million has been recognised within other income in respect of the financial guarantee income.

There were no other transactions between the Group and Octopus Energy during the year ended 30 June 2020.

C Operating assets and liabilities

This section provides information on the assets used to generate the Group's trading performance and the liabilities incurred as a result.

C1 Trade and other receivables

The following balances are amounts due from the Group's customers and other parties.

	2020 $m	2019 $m
Current		
Trade receivables net of allowance for impairment	618	735
Unbilled revenue net of allowance for impairment	1,072	1,226
Other receivables	269	363
	1,959	**2,324**
Non-current		
Trade receivables	8	7
Other receivables	10	–
	18	**7**

Trade and other receivables are initially recorded at the amount billed to customers or other counterparties. Unbilled receivables represent estimated gas and electricity supplied to customers since their previous bill was issued. The carrying value of all receivables (including unbilled revenue) reflects the amount anticipated to be collected.

Key judgements and estimates

Recoverability of trade receivables: Judgement is required in determining the level of provisioning for customer debts. Impairment allowances take into account the age of the debt, historic collection trends and expectations about future economic conditions.

Unbilled revenue: Unbilled gas and electricity revenue is not collectable until customers' meters are read and invoices issued. Refer to note A2 for judgement applied in determining the amount of unbilled energy revenue to recognise.

Credit risk and collectability

The Group minimises the concentration of credit risk by undertaking transactions with a large number of customers from across a broad range of industries. Credit approval processes are in place for large customers and all customers are required to pay in accordance with agreed payment terms. Depending on the customer segment, settlement terms are generally 14 to 30 days from the date of the invoice. For some debtors, the Group may also obtain security in the form of deposits, guarantees, deeds of undertaking or letters of credit which can be called upon if the counterparty defaults.

Debtor collectability is assessed on an ongoing basis and any resulting impairment losses are recognised in the income statement. The Group applies the simplified approach to providing for trade receivable and unbilled revenue impairment, which requires the 'expected lifetime credit losses' to be recognised when the receivable is initially recognised. To measure expected lifetime credit losses, trade receivables and unbilled revenue balances have been grouped based on shared credit risk characteristics and ageing profiles. A debtor balance is written off when recovery is no longer assessed to be possible.

With the emergence of COVID-19, the government introduced lockdowns and other restrictions to combat the spread of the virus, which has led to job losses and business shutdowns in certain industries. This has placed increased pressure on businesses' ability to absorb these impacts, and on consumer budgets. Collectively this impacts the Group's debt collection performance and any expected credit losses. In April 2020, the Group announced a disconnection freeze for its residential and small business customers, including a freeze on default listing of customers in financial stress, and the waiving of all late payment fees during the period. At the date of this report, the Group has not experienced a significant impact on its debt collection as a result of COVID-19.

Despite this, there remains future credit risk associated with trade receivable amounts due to:

- the impact of the Australian Government stimulus packages and other relief measures coming to an end, including other organisations such as financial institutions recommencing collection activities;
- the end of the COVID-19 disconnection freeze introduced by the Group, and the length of time for any impacts to be realised in the customer accounts; and
- more broadly, the unprecedented nature of this event, such that historical performance cannot be used in isolation as an indicator of the future. The impacts seen in other countries are not comparable due to different consumer patterns, demographics and responses to COVID-19, including the nature and quantum of government stimulus.

C1 Trade and other receivables (continued)

The Group has performed an assessment of its provision for bad and doubtful debts in accordance with AASB 9 *Financial Instruments* considering:

- current collection performance, including the COVID-19 period when lockdown restrictions and government stimulus measures were in place, and expected credit default frequencies;
- regulatory and economic outlook, including forecast unemployment rates and the timing and quantum of government stimulus packages and other relief measures provided by banks and landlords; and
- risk profile of customers and industry-specific risk assessments based on actual and forecasted volumes as a measure for credit risk.

These considerations require significant judgement. To ensure a more accurate assessment, the Group has increased the segmentation of its SME and large business customers in its modelling of the expected credit loss as at 30 June 2020 by customer type and industry group. Each segment has been reviewed and a credit risk weighting has been applied depending on the extent COVID-19 has impacted the industry group and the level of significantly aged receivables outstanding. Where possible, publicly available information, such as expected default rates, has been applied. For residential customers, a higher allowance for impairment is included for those with significantly aged receivables, including any recent debt associated with those customers.

As at 30 June 2020, the allowance for impairment in respect of trade receivables and unbilled revenue is $162 million (2019: $135 million), with $40 million of this amount reflecting the increased potential impact of COVID-19.

The average age of trade receivables is 20 days (2019: 21 days). Other receivables are neither past due nor impaired, and relate principally to generation and hedge contract receivables. The ageing of trade receivables and unbilled revenue at the reporting date is detailed below.

	2020		2019	
$m	**Gross**	**Impairment allowance**	**Gross**	**Impairment allowance**
Unbilled revenue	1,092	(20)	1,233	(7)
Not yet due	387	(14)	497	(7)
Less than 30 days	102	(6)	102	(7)
31–60 days past due	46	(8)	65	(7)
61–90 days past due	40	(10)	32	(9)
Greater than 91 days	185	(104)	167	(98)
	1,852	**(162)**	**2,096**	**(135)**

The movement in the allowance for impairment in respect of trade receivables and unbilled revenue during the year is shown below.

Balance as at 1 July	135	114
Adoption of AASB 9	–	21
Impairment losses recognised	124	84
Amounts written off	(97)	(84)
Balance as at 30 June	**162**	**135**

C2 Exploration and evaluation assets

	2020 $m	2019 $m
Balance as at 1 July	98	363
Additions	92	33
Exploration expense	–	(2)
Net impairment loss[1]	–	(49)
Transfers to held for sale[2]	–	(247)
Balance as at 30 June[3]	**190**	**98**

(1) Prior period amount related to impairment of the Ironbark permit areas.

(2) The prior period closing balance excludes $247 million in relation to Ironbark permit areas.

(3) The current period closing balance primarily relates to the Group's 77.5 per cent share in the Beetaloo Basin joint venture with Falcon Oil & Gas (Beetaloo asset). The Group acquired an additional 7.5 per cent interest in the joint venture on 7 April 2020, in exchange for increasing its carry of Falcon's share of costs by $25 million over the coming years.

The Group holds a number of exploration permits that are grouped into areas of interest according to geographical and geological attributes. Expenditure incurred in each area of interest is accounted for using the successful efforts method. Under this method all general exploration and evaluation costs are expensed as incurred except the direct costs of acquiring the rights to explore, drilling exploratory wells and evaluating the results of drilling. These direct costs are capitalised as exploration and evaluation assets pending the determination of the success of the well. If a well does not result in a successful discovery, the previously capitalised costs are immediately expensed.

The carrying amounts of exploration and evaluation assets are reviewed at each reporting date to determine whether any of the following indicators of impairment are present:

- the right to explore has expired, or will expire in the near future, and is not expected to be renewed;
- further exploration for and evaluation of resources in the specific area is not budgeted or planned for;
- the Group has decided to discontinue activities in the area; or
- there is sufficient data to indicate the carrying value is unlikely to be recovered in full from successful development or by sale.

Where an indicator of impairment exists, the asset's recoverable amount is estimated. If it is concluded that the carrying value of an exploration and evaluation asset is unlikely to be recovered by future exploitation or sale, an impairment is recognised in the income statement for the difference.

Key judgement

Recoverability of exploration and evaluation assets: Assessment of the recoverability of capitalised exploration and evaluation expenditure requires certain estimates and assumptions to be made as to future events and circumstances, particularly in relation to whether economic quantities of reserves have been discovered. Such estimates and assumptions may change as new information becomes available.

Upon approval of the commercial development of a project, the exploration and evaluation asset is classified as a development asset. Once production commences, development assets are transferred to PP&E.

C3 Property, plant and equipment

$m	Owned			Right of use		
	Plant and equipment	Land and buildings	Capital work in progress	Plant and equipment	Land and buildings	Total
2020						
Cost[1]	5,774	194	278	155	407	6,808
Accumulated depreciation[1]	(2,331)	(51)	–	(47)	(48)	(2,477)
	3,443	**143**	**278**	**108**	**359**	**4,331**
Balance as at 30 June 2019	3,268	141	188	–	–	3,597
Adoption of AASB 16 *Leases*[2]	(44)	–	(31)	127	318	370
Balance as at 1 July 2019	**3,224**	**141**	**157**	**127**	**318**	**3,967**
Additions	267	1	393	20	1	682
Disposals	(1)	–	–	(1)	–	(2)
Modifications to lease terms	–	–	–	8	78	86
Depreciation/amortisation	(295)	(4)	–	(46)	(40)	(385)
Impairment[3]	(19)	–	–	–	–	(19)
Transfers within PP&E	267	5	(272)	–	–	–
Effect of movements in foreign exchange rates	–	–	–	–	2	2
Balance as at 30 June 2020	**3,443**	**143**	**278**	**108**	**359**	**4,331**
2019						
Cost	5,447	204	188	–	–	5,839
Accumulated depreciation	(2,179)	(63)	–	–	–	(2,242)
	3,268	**141**	**188**	–	–	**3,597**
Balance as at 1 July 2018	3,284	149	263	–	–	3,696
Additions	122	–	96	–	–	218
Additions through acquisition of entities	21	–	–	–	–	21
Depreciation/amortisation	(289)	(2)	–	–	–	(291)
Impairment reversal[4]	13	–	–	–	–	13
Transfers within PP&E	148	–	(148)	–	–	–
Transfers to intangibles	(3)	–	(23)	–	–	(26)
Transfers to held for sale	(29)	(6)	–	–	–	(35)
Effect of movements in foreign exchange rates	1	–	–	–	–	1
Balance as at 30 June 2019	**3,268**	**141**	**188**	**–**	**–**	**3,597**

(1) A fixed asset review during the year resulted in a write-off of certain assets which have a remaining book value of nil and determined to not have any future economic benefit to the Group. Consequently, $104 million was written off relating to plant and equipment and $16 million relating to land and buildings.

(2) For further information relating to the adoption of AASB 16 *Leases*, refer to the Overview.

(3) Impairment relating to the Mortlake generator asset write-off following an electrical fault.

(4) Reversal of the Heytesbury impairment of $13 million.

Owned PP&E

PP&E is recorded at cost less accumulated depreciation, depletion, amortisation and impairment charges. Cost includes the estimated future cost of required closure and rehabilitation.

The carrying amounts of assets are reviewed to determine if there is any indication of impairment. If any such indication exists, the asset's recoverable amount is estimated and if required, an impairment is recognised in the income statement.

C3 Property, plant and equipment (continued)

Depreciation is calculated on a straight-line basis so as to write off the cost of each asset over its expected useful life. Leasehold improvements are amortised over the period of the relevant lease or estimated useful life, whichever is shorter. Land and capital work in progress are not depreciated.

The estimated useful lives used in the calculation of depreciation are shown below.

Buildings, including leasehold improvements	10 to 50 years
Plant and equipment	3 to 30 years

At 30 June 2020, the Group reassessed the carrying amounts of its non-current assets for indicators of impairment.

Estimates of recoverable amounts are based on an asset's value-in-use or fair value less costs to sell, whichever is higher. The recoverable amount of these assets is most sensitive to those assumptions highlighted in the key judgements and estimates below.

Leased PP&E

The Group's leased assets include commercial offices, power stations, LPG terminals and shipping vessels, motor vehicles and other items of equipment.

ROU assets are recognised at commencement of a lease. ROU assets are initially valued at the corresponding lease liability amount adjusted for any payments already made, lease incentives received, or initial direct costs incurred when entering into the lease. Where the Group is required to restore the ROU asset at the end of the lease, the cost of restoration is also included in the value of the ROU asset.

ROU assets are depreciated on a straight-line basis over the shorter of the lease term or the useful life of the ROU asset. The carrying amounts of ROU assets are reviewed to determine if there is any indication of impairment. If any such indication exists, the asset's recoverable amount is estimated, and if required, an impairment is recognised in the income statement.

Payments under the Group's leases of renewable power plants are entirely variable as they depend on the amount of energy produced each period. Such leases have nil lease liability balances and thus nil ROU asset balances. All payments made under these leases are disclosed as variable lease expense within note A4.

Refer to note D2 for discussion of the recognition and measurement of associated lease liability balances.

Key judgements and estimates

During the year, management reviewed the recoverable amount of its non-current assets, including assessing the impacts of COVID-19. Significant judgement is required in determining the following key assumptions used to calculate the value-in-use, which has been updated to reflect the increase in uncertainty and the current risk environment:

- oil prices
- domestic gas prices
- foreign exchange rates
- electricity pool prices
- discount rates
- future cash flows
- expected useful life

Noting this uncertainty, the Group considers the assumptions used in the value-in-use models are appropriate for the purposes of estimating the recoverable amount of non-current assets as at 30 June 2020.

Recoverability of carrying values: Assets are grouped together into the smallest group of individual assets that generate largely independent cash inflows (cash generating unit or CGU). A CGU's recoverable amount comprises the present value of the future cash flows that will arise from use of the assets. Assessment of a CGU's recoverable amount requires estimates and assumptions to be made about highly uncertain external factors such as future commodity prices, foreign exchange rates, discount rates, regulatory policies, and the outlook for global or regional market supply-and-demand conditions. Such estimates and assumptions may change as new information becomes available. If it is concluded that the carrying value of a CGU is not likely to be recovered by use or sale, the relevant amount will be written off to the income statement.

Estimation of commodity prices: The Group's estimate of future commodity prices is made with reference to internally derived forecast data, current spot prices, external market analysts' forecasts and forward curves. Where volumes are contracted, future prices reflect the contracted price. Future commodity price assumptions impact the recoverability of carrying values and are reviewed at least twice annually.

Estimation of useful economic lives: A technical assessment of the operating life of an asset requires significant judgement. Useful lives are amended prospectively when a change in the operating life is determined.

Restoration provisions: An asset's carrying value includes the estimated future cost of required closure and rehabilitation activities. Refer to note C6 for a judgement related to restoration provisions.

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

C4 Intangible assets

	2020 $m	2019 $m
Goodwill	4,818	4,818
Software and other intangible assets[1]	1,494	1,407
Accumulated amortisation[1]	(892)	(844)
	5,420	**5,381**

Reconciliations of the carrying amounts of each class of intangible asset are set out below.

$m	Goodwill	Software and other intangibles	Total
Balance as at 1 July 2019	4,818	563	5,381
Additions[2]	–	171	171
Disposals	–	(2)	(2)
Amortisation expense	–	(130)	(130)
Balance as at 30 June 2020	**4,818**	**602**	**5,420**
Balance as at 1 July 2018	4,820	508	5,328
Additions	–	119	119
Additions through acquisition of entities	–	43	43
Transfers from PP&E	–	26	26
Disposals	–	(4)	(4)
Net impairment loss[3]	(2)	(1)	(3)
Amortisation expense	–	(128)	(128)
Balance as at 30 June 2019	**4,818**	**563**	**5,381**

(1) An intangible asset review during the year resulted in a write-off of certain assets which have a remaining book value of nil and determined to not have any future economic benefit to the Group. Consequently, $81 million was written off relating to software and other intangible assets.

(2) Additions during the period include amounts relating to the build of the Kraken technology platform following the agreement entered into with Octopus Energy, along with amounts relating to the implementation of a new Enterprise Resource Planning system for the Group.

(3) Impairment of goodwill and other intangibles on the Pleiades investment in Chile.

Goodwill is stated at cost less any accumulated impairment losses and is not amortised. Software and other intangible assets are stated at cost less any accumulated impairment losses and accumulated amortisation. Amortisation is recognised as an expense on a straight-line basis over the estimated useful lives of the intangible assets.

The average amortisation rate for software and other intangibles (excluding capital work in progress) was 10 per cent (2019: 11 per cent).

Key judgements and estimates

The Group's goodwill balance relates exclusively to the Energy Markets segment. The recoverable amount of the Energy Markets goodwill has been determined using a value-in-use model that includes an appropriate terminal value. The value-in-use calculation is sensitive to a number of key assumptions requiring management judgement, including future commodity prices, regulatory policies, and the outlook for the market supply-and-demand conditions. Any impacts of COVID-19 have also been considered in formulating these assumptions. Management does not believe that any reasonably possible changes in these assumptions would result in an impairment. More information about the key inputs and assumptions in the value-in-use calculation are set out below.

Key inputs/assumptions	Energy Markets
Long-term growth rates	Cash flows are projected for the life of each generation asset or up to 15 years depending on the relevant business unit. The Energy Markets business is considered a long-term business and as such projections of long-term cash flows is appropriate for a more accurate forecast. The growth rate used to extrapolate cash flows beyond the initial period projected averages 2.5 per cent.
Customer numbers	This is based on a review of actual customer numbers and historical data regarding levels of customer churn. The historical analysis is considered against current and expected market trends and competition for customers.
Gross margin and operating costs	This is based on a review of actual gross margins and cost per customer, and consideration of current and expected market movements and impacts.
Discount rate	The pre-tax discount rate is 9.6 per cent (2019: 9.7 per cent).

C5 Trade and other payables

	2020 $m	2019 $m
Current		
Trade payables and accrued expenses	1,827	2,005
Deferred consideration[1]	107	–
Other payables	–	1
	1,934	**2,006**
Non-current		
Deferred consideration[1]	193	–
Other payables	–	2
	193	**2**

(1) Relates to the £150 million deferred cash consideration for the shares acquired in Octopus Energy on 1 May 2020 (refer to note B3) and £20 million deferred cash consideration for the Kraken licence agreement with Octopus Energy (refer to note B4). Both amounts are payable over the next two financial years.

C6 Provisions

$m	Restoration[1]	Onerous contracts	Other[2]	Total
Balance as at 30 June 2019	428	–	144	572
Adoption of AASB 16 (refer to Overview)	–	–	(100)	(100)
Balance as at 1 July 2019	**428**	**–**	**44**	**472**
Provisions recognised	274	650	141	1,065
Provisions released	(39)	–	(1)	(40)
Payments/utilisation	(4)	–	(10)	(14)
Unwinding of discounting	2	–	–	2
Effect of movements in foreign exchange rates	–	(9)	–	(9)
Balance as at 30 June 2020	**661**	**641**	**174**	**1,476**
Current				163
Non-current				1,313
Total provisions				**1,476**

(1) The closing balance includes amounts relating to the restoration of the Eraring Power Station site and other generation gas power station locations. Also included within this balance are rehabilitation provisions for contamination at existing and legacy operating sites.

(2) The closing balance of other provisions primarily relates to costs for compliance with safety standard requirements relating to the Eraring ash dam wall, costs associated with the new Myuna Bay Recreation Centre facility, and a make good provision relating to existing property leases.

Restoration provisions are initially recognised at the best estimate of the costs to be incurred in settling the obligation. Where restoration activities are expected to occur more than 12 months from the reporting period, the provision is discounted using a risk-free rate that reflects current market assessments of the time value of money. The unwinding of the discount is recognised in each period as interest expense.

At each reporting date, the restoration provision is remeasured in line with changes in discount rates, and changes to the timing or amount of costs to be incurred, based on current legal requirements and technology. Any changes in the estimated future costs associated with:

- restoration and dismantling are added to or deducted from the related asset;
- environmental rehabilitation are expensed in the current period.

Key estimate: Restoration, rehabilitation and dismantling costs

The Group estimates the cost of future site restoration activities at the time of installation or construction of an asset, or when an obligation arises. Restoration often does not occur for many years and thus significant judgement is required as to the extent of work, cost and timing of future activities.

C6 Provisions (continued)

Onerous contracts

All contracts in which the unavoidable costs of meeting the obligations exceed the economic benefits are deemed onerous and require a provision to be recognised up front.

As at 30 June 2020, an onerous contract provision of $641 million (US$440 million)[1] pre-tax was recognised in respect of the Cameron LNG purchase contract, as the forecast sales revenue from the onward supply being estimated to be less than the purchase cost. This is primarily driven by a weaker demand outlook in the short and medium term as a result of the economic slowdown caused by COVID-19, and a lower long-term equilibrium price as a result of more competitive US export project economics. The onerous contract provision is sensitive to a number of key assumptions requiring management judgement, including: future commodity prices, inflation and the US Treasury risk-free bond rate. The provision valuation as at 30 June 2020 includes a long-term JKM LNG price of US$7.15/mmbtu (real FY2020) from FY2026, a long-term Henry Hub gas price of US$2.60/mmbtu (real FY2020) from FY2026, and a range of US Treasury risk-free bond rates that average approximately 0.81 per cent over the term of the contract.

A US$1.00/mmbtu increase in the spread between Henry Hub and JKM prices results in a A$213 million (US$146 million) post-tax reduction in the charge. A 1 per cent increase applied to the relevant inflation and discount rate would result in a A$79 million (US$54 million) post-tax reduction in the charge.

The Group will review the provision at each reporting date, and any future increases or decreases in the provision will be recognised within the Group's income statement. The non-cash charge during the year ended 30 June 2020 is recognised within statutory profit but excluded from underlying profit. Future realised losses or gains will be recognised within underlying profit.

(1) The balance sheet onerous contracts provision of US$440 million was converted from USD to AUD using the end-of-period exchange rate of 0.6862. The onerous contract expense of $650 million in note A4 is US$440 million converted from USD to AUD using the average rate of 0.676 prevailing for the relevant period.

C7 Other financial assets and liabilities

	2020		2019	
$m	**Current**	**Non-current**	**Current**	**Non-current**
Other financial assets				
Measured at fair value through profit or loss				
MRCPS issued by APLNG	44	2,065	34	3,011
Settlement Residue Distribution Agreement units	34	26	24	30
Environmental scheme certificates	103	–	244	–
Investment fund units	–	55	–	57
Debt securities	–	17	–	2
Measured at fair value through other comprehensive income				
Equity securities	–	62	–	52
Measured at amortised cost				
Futures collateral	298	–	16	–
	479	**2,225**	**318**	**3,152**
Other financial liabilities				
Measured at fair value through profit or loss				
Environmental scheme surrender obligations	234	–	241	–
Measured at amortised cost				
Futures collateral	3	–	67	–
Financial guarantees[1]	–	16	–	–
	237	**16**	**308**	**–**

(1) Financial guarantee contracts are initially recognised at fair value. Subsequently they are measured at either the amount of any determined loss allowance or at the amount initially recognised less any cumulative income recognised, whichever is larger. The above financial guarantee relates to the working capital facility entered into by Octopus Energy with its financiers, as referred to in note B4, for which the Group has provided a guarantee.

D Capital, funding and risk management

This section focuses on the Group's capital structure and related financing costs. Information is also presented about how the Group manages capital, and the various financial risks to which the Group is exposed through its operating and financing activities.

D1 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.

	2020 $m	2019 $m
Borrowings	6,338	7,590
Lease liabilities	514	6
Total interest-bearing liabilities	6,852	7,596
Less: Cash and cash equivalents excluding APLNG-related cash[1]	(1,164)	(1,512)
Net debt	5,688	6,084
Fair value adjustments on FX hedging transactions	(530)	(667)
Adjusted net debt	5,158	5,417
Total equity	12,701	13,149
Total capital	17,859	18,566
Gearing ratio	29%	29%
Ratio of adjusted net debt to adjusted underlying EBITDA	2.1x	2.6x

(1) This balance excludes $76 million (2019: $34 million) of cash held by Origin, as Upstream Operator, to fund APLNG-related operations.

Significant funding transactions

The Group undertook a number of capital management activities during the year ended 30 June 2020. These activities have strengthened the capital profile by:

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

A summary of these transactions is shown below.

Debt refinancing

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

17 September 2019 – issued a €600 million 10-year note under the Euro Medium Term Note (EMTN) program. These notes were swapped to A$973 million.

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

11 November 2019 – issued a A$300 million eight-year note under the EMTN program.

28 June 2020 – repaid the NZ$141 million 15-year US Private Placement note. The note was swapped to A$125 million.

D1 Capital management (continued)

Bank loan and guarantee facilities

8 November 2019 – renegotiated the existing A$500 million Bank Guarantee Facility and Reimbursement Agreement to new three-year A$375 million and five-year A$125 million facilities. The renegotiation also resulted in lower commitment and usage fees.

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

D2 Interest-bearing liabilities

	2020 $m	2019 $m
Current		
Capital market borrowings – unsecured	1,328	947
Total current borrowings	**1,328**	**947**
Lease liabilities – secured	73	1
Total current interest-bearing liabilities	**1,401**	**948**
Non-current		
Bank loans – unsecured	535	525
Capital market borrowings – unsecured[1]	4,475	6,117
Total non-current borrowings	**5,010**	**6,642**
Lease liabilities – secured	441	6
Total non-current interest-bearing liabilities	**5,451**	**6,648**

(1) The prior period includes €1 billion Capital Securities that were redeemed at their first call date of 16 September 2019.

Interest-bearing liabilities are initially recorded at the amount of proceeds received (fair value) less transaction costs. After that date, the liability is amortised to face value at maturity using an effective interest rate method.

Lease liabilities are initially measured at the present value of future lease payments discounted at the Group's incremental borrowing rate. Where a lease includes termination and/or extension options, the impact of these options on the amount of future payments is included where exercise of such options is considered reasonably certain to occur. Interest expense is charged on outstanding lease liabilities that reduce over time as periodic payments are made.

The lease liability is remeasured when certain events occur, including changes in the lease term or changes in future lease payments such as those resulting from inflation-linked indexation or market rate rent reviews. On remeasurement of lease liabilities, a corresponding adjustment is made to the ROU asset.

Payments under the Group's leases of renewable power plants are entirely variable as they depend on the amount of energy produced each period. Such leases have nil lease liability balances and payments totalling $22 million for energy generation have been recognised within expenses in the financial period. Additionally, $1 million of payments for leases of low-value assets have also been recognised within expenses.

The contractual maturity of lease liabilities are disclosed within the liquidity table in note D4.

The contractual maturities of non-current borrowings are as set out below.

	2020 $m	2019 $m
One to two years	2,069	1,325
Two to five years	356	2,405
Over five years	2,585	2,912
Total non-current borrowings	**5,010**	**6,642**

Some of the Group's borrowings are subject to terms that allow the lender to call on the debt in the event of a breach of covenants. As at 30 June 2020, these terms had not been triggered.

D3 Contributed equity

	2020	2019	2020	2019
	Number of shares		$m	
Ordinary share capital				
Opening balance[1]	1,761,211,071	1,759,156,516	7,163	7,150
Shares issued in accordance with the DRP	–	1,769,296	–	13
Shares issued in accordance with incentive plans	–	285,259	–	–
	1,761,211,071	1,761,211,071	7,163	7,163
Less treasury shares:				
Opening balance[1]	(4,809,617)	–	(38)	–
Shares purchased on market	(12,291,634)	(9,611,526)	(75)	(77)
Utilisation of treasury shares on vesting of employee share schemes and DRP	13,888,321	4,801,909	95	39
	(3,212,930)	(4,809,617)	(18)	(38)
Closing balance	**1,757,998,141**	**1,756,401,454**	**7,145**	**7,125**

(1) The sum of the opening balances of share capital and treasury shares is $7,125 million (2019: $7,150 million) as noted in the 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.

D4 Financial risk management

Overview

The Group's day-to-day operations, new investment opportunities and funding activities introduce financial risks, which are actively managed by the Board Risk Committee. These risks are grouped into the following categories:

- **Credit:** The risk that a counterparty will not fulfil its financial obligations under a contract or other arrangement.
- **Market:** The risk that fluctuations in commodity prices, foreign exchange rates and interest rates will adversely impact the Group's result.
- **Liquidity:** The risk that the Group will not be able to meet its financial obligations as they fall due.

Risk	Sources	Risk management framework	Financial exposure
Credit	Sale of goods and services and hedging activities	The Board approves credit risk management policies that determine the level of exposures it is prepared to accept. It also allocates credit limits to counterparties based on publicly available credit information from recognised providers where available.	Notes C1, C7 and D4 disclose the carrying amounts of financial assets, which represent the Group's maximum exposure to credit risk at the reporting date. The Group utilises International Swaps and Derivative Association (ISDA) agreements to limit exposure to credit risk by netting amounts receivable from and payable to individual counterparties (refer to note G8).
Market	Purchase and sale of commodities and funding risks	The Board approves policies that ensure the Group is not exposed to excess risk from market volatility. These policies include active hedging of price and volume exposures within prescribed Profit at Risk and Value at Risk limits.	See below for further discussion of market risk.
Liquidity	Ongoing business obligations and new investment opportunities	The Group centrally manages its liquidity position through cash flow forecasting and maintenance of minimum levels of liquidity determined by the Board. The debt portfolio is periodically reviewed to ensure there is funding flexibility and an appropriate maturity profile.	Analysis of the Group's liquidity profile as at the reporting date is presented at the end of this section.

D4 Financial risk management (continued)

Market risk

The scope of the Group's operations and activities exposes it to multiple markets risks. The table below summarises these risks by nature of exposure and provides information about the risk mitigation strategies being applied.

Nature	Sources of financial exposure	Risk management strategy
Commodity price	Future commercial transactions and recognised assets and liabilities exposed to changes in electricity, oil, gas, coal or environmental scheme certificate prices	Due to vertical integration, a significant portion of the Group's spot electricity purchases from the National Electricity Market (NEM) are naturally hedged by generation sales into the NEM at spot prices. The Group manages its remaining exposure to commodity price fluctuations beyond Board-approved limits using a mix of commercial contracts (such as fixed-price purchase contracts) and derivative instruments (described below).
Foreign exchange	Foreign-denominated borrowings and investments (e.g. APLNG MRCPS) and future foreign currency-denominated commercial transactions	The Group limits its exposure to changes in foreign exchange rates through forward foreign exchange contracts and cross-currency interest rate swaps. In certain circumstances, borrowings are left in a foreign currency, or swapped from one foreign currency to another, to hedge expected future business cash flows in that currency. Significant foreign-denominated transactions undertaken in the normal course of operations are managed on a case-by-case basis.
Interest rate	Variable-rate borrowings (cash flow risk) and fixed-rate borrowings (fair value risk)	Interest rate exposures are kept within an acceptable range as determined by the Board. Risk limits are managed through a combination of fixed-rate and fixed-to-floating interest rate swaps.

Derivatives to manage market risks

Derivative instruments are contracts whose value is derived from an underlying price index (or other variable) that require little or no initial net investment, and that are settled at a future date.

The Group uses the following types of derivative instruments to mitigate market risk.

Forwards	A contract documenting the underlying reference rate (such as benchmark price or exchange rate) to be paid or received on a notional principal obligation at a future date.
Futures	An exchange-traded contract to buy or sell an asset for an agreed price at a future date. Futures are net-settled in cash without physical delivery of the underlying asset.
Swaps	A contract in which two parties exchange a series of cash flows for another (such as fixed-for-floating interest rate).
Options	A contract in which the buyer has the right, but not the obligation, to buy (a call option) or sell (a put option) an instrument at a fixed price in the future. The seller has the corresponding obligation to fulfil the transaction if the buyer exercises the option.
Structured electricity products	A non-standardised contract, generally with an energy market participant, to acquire long-term capacity. These contracts typically contain features similar to swaps and call options.

Derivatives are carried on the balance sheet at fair value. Movements in the price of the underlying variables, which cause the value of the contract to fluctuate, are reflected in the fair value of the derivative.

The method of recognising changes in fair value depends on whether the derivative is designated in an 'accounting' hedge relationship. Derivatives not designated as accounting hedges are referred to as 'economic' hedges.

Fair value gains and losses attributable to economic hedges are recognised in the income statement and resulted in a $292 million gain for the year ended 30 June 2020 (2019: $107 million loss). Fair value gains and losses attributable to accounting hedges are discussed in the Hedge Accounting section.

D4 Financial risk management (continued)

	Assets		Liabilities	
$m	Current	Non-current	Current	Non-current
2020				
Economic hedges				
Commodity contracts	247	258	(170)	(173)
Foreign exchange and interest rate contracts	2	–	(72)	(124)
	249	**258**	**(242)**	**(297)**
Accounting hedges				
Commodity contracts	98	43	(224)	(402)
Foreign exchange and interest rate contracts	283	227	–	(50)
	381	**270**	**(224)**	**(452)**
	630	**528**	**(466)**	**(749)**
2019				
Economic hedges				
Commodity contracts	69	315	(220)	(848)
Foreign exchange and interest rate contracts	6	–	(107)	(219)
	75	**315**	**(327)**	**(1,067)**
Accounting hedges				
Commodity contracts	160	119	(57)	(52)
Foreign exchange and interest rate contracts	237	528	–	–
	397	**647**	**(57)**	**(52)**
	472	**962**	**(384)**	**(1,119)**

Hedge accounting

The Group currently uses two types of hedge accounting relationships as detailed below.

	Fair value hedge	Cash flow hedge
Objective of hedging arrangement	To hedge our exposure to changes in the fair value of a recognised asset or liability or unrecognised firm commitment, caused by interest rate or foreign currency movements.	To hedge our exposure to variability in the cash flows of a recognised asset or liability, or a highly probable forecast transaction caused by commodity price, interest rate, and foreign currency movements.
Effective hedge portion	The following are recognised in profit or loss at the same time: – all changes in the fair value of the underlying item relating to the hedged risk; and – the change in fair value of derivatives.	The effective portion of changes in the fair value of derivatives designated as cash flow hedges are recognised in the hedge reserve.
Hedge ineffectiveness	Certain determinants of fair value, such as credit charges included in derivatives or mismatches between the timing of the instrument and the underlying item in the hedge relationship, can cause hedge ineffectiveness. Any ineffectiveness is recognised immediately in profit or loss as a change in the fair value of derivatives.	
Hedged item sold or repaid	The unamortised fair value adjustment is recognised immediately in profit or loss.	Amounts accumulated in the hedge reserve are transferred immediately to profit or loss.
Hedging instrument expires, is sold, terminated or no longer qualifies for hedge accounting	The unamortised fair value adjustment is recognised in profit or loss when the hedged item is recognised in profit or loss. This may occur over time if the hedged item is amortised over the period to maturity.	The amount previously deferred in the hedge reserve is only transferred to profit or loss when the hedged item is also recognised in profit or loss.

D4 Financial risk management (continued)

Set out below are the fair values of derivatives designated in hedge accounting relationships at reporting date.

2020 $m	Assets		Liabilities	
	Current	Non-current	Current	Non-current
Fair value hedges	283	175	–	–
Cash flow hedges	98	95	(224)	(452)
Accounting hedges	**381**	**270**	**(224)**	**(452)**

Fair value hedges

Certain cross-currency interest rate swaps (CCIRSs) have been designated as fair value hedges of the Group's euro-denominated debt.

CCIRSs	FX and interest
Nominal hedge volumes	EUR 1,550m
Hedge rates	AUD/EUR 0.69–0.79; BBSW
Timing of cash flows	Up to Oct 2021

Carrying amounts	$m
Hedging instrument[1]	458
Hedged debt[2]	(2,575)

Fair value increase/(decrease)	$m
Hedging instrument	(17)
Hedged debt	14
Hedge ineffectiveness[3]	**(3)**

(1) Hedging instruments are included in the derivatives balance on the statement of financial position.

(2) Hedged items are included in Interest-bearing liabilities on the statement of financial position. Included in this value are $38 million of accumulated fair value hedge adjustments.

(3) Hedge ineffectiveness is recognised within expenses in the income statement as a change in fair value of derivatives.

Cash flow hedges

A number of derivative contracts have been designated as cash flow hedges of the Group's exposure to foreign exchange, interest rate and commodity price fluctuations. Designated derivatives include swaps, options, futures and forwards.

The Group's structured electricity products, though important to the overall risk management strategy, do not qualify for hedge accounting. As such, they are not represented in the summary information below.

2020	FX & interest	Electricity	Crude oil	Propane
Nominal hedge volumes	EUR 750m	12.3 TWh	10,955k barrels	150k mt
Hedge rates	AUD/EUR 0.62–0.81; Fixed 3.2%–6.6%	$32–$175	US$44–US$72	US$265–US$476
Timing of cash flows – up to	Sep 2029	Dec 2023	Jun 2023	Dec 2022

D4 Financial risk management (continued)

Hedge accounting (continued)

Carrying amounts – $m	FX & interest	Electricity	Crude oil	Propane	Total
Hedging instrument[1] – assets	52	34	105	2	193
Hedging instrument[1] – liabilities	(50)	(289)	(326)	(11)	(676)
Hedge reserve[2]	67	255	203	9	534
Fair value increase/(decrease) – $m					
Hedging instrument	(63)	(394)	(246)	(9)	(712)
Hedged item	64	394	240	8	706
Hedge ineffectiveness[3]	**1**	**–**	**(6)**	**(1)**	**(6)**
Reconciliation of hedge reserve – $m					
Effective portion of hedge gains/(losses)	(63)	(394)	(240)	(8)	(705)
Transfer of deferred losses/(gains) to:					
– Cost of sales	–	(30)	15	7	(8)
– Finance costs	2	–	–	–	2
– Foreign exchange	11	–	–	–	11
Tax on above items	15	128	68	–	211
Change in hedge reserve (post-tax)	**(35)**	**(296)**	**(157)**	**(1)**	**(489)**

(1) Hedging instruments are included in the derivatives balance on the statement of financial position.

(2) No hedges have been discontinued or de-designated in the current period.

(3) Hedge ineffectiveness is recognised within expenses in the income statement as a change in fair value of derivatives.

Residual market risk

After hedging, the Group's financial instruments remain exposed to changes in market pricing. The following is a summary of the Group's residual market risk and the sensitivity of financial instrument fair values to reasonably possible changes in market pricing at the reporting date.

Risk	Residual exposure	Relationship to financial instruments value
USD exchange rate	– MRCPS financial asset – USD debt – Euro debt and related USD CCIRSs – FX and commodity derivatives with USD pricing	A 10 per cent increase/decrease in the USD exchange rate would decrease/increase fair value by $19 million (June 2019: $25 million).
Euro exchange rate	– Currency basis on the CCIRSs swapping euro debt to AUD	A 10 per cent increase/decrease in the euro exchange rate would decrease/increase fair value by $17 million (June 2019: $22 million).
Interest rates	– Interest rate swaps – Long-term derivatives and other financial assets/ liabilities for which discounting is significant	A 100 basis point increase/decrease in interest rates would impact fair value by ($43)/$38 million (June 2019: ($14)/$11 million).
Electricity forward price	– Commodity derivatives including structured electricity products	A 10 per cent increase/decrease in electricity forward prices would increase/decrease fair value by $93/($95) million (June 2019: $264 million).
Oil forward price	– Commodity derivatives	A 10 per cent increase/decrease in oil forward prices would decrease/increase fair value by $54/(52) million (June 2019: $3 million).
REC forward price	– REC forwards – Environmental scheme certificates – Environmental scheme surrender obligations	A 10 per cent increase/decrease in renewable energy certificate forward prices would increase/decrease fair value by $1 million (June 2019: $16 million).

D4 Financial risk management (continued)

Liquidity risk

The table below sets out the timing of the Group's payment obligations, as compared to the receipts expected from the Group's financial assets, and available undrawn facilities. Amounts are presented on an undiscounted basis and include cash flows not recorded on the statement of financial position such as interest payments for borrowings.

2020 $m	Less than one year	One to two years	Two to five years	Over five years
Bank loans and capital markets borrowings	(1,522)	(2,183)	(589)	(2,840)
Lease liabilities	(99)	(84)	(166)	(313)
Net other financial assets/liabilities	82	395	1,494	–
	(1,539)	**(1,872)**	**739**	**(3,153)**
Derivative liabilities	(782)	(379)	(200)	(71)
Derivative assets	918	325	143	30
	136	**(54)**	**(57)**	**(41)**
Net liquidity exposure	**(1,403)**	**(1,926)**	**682**	**(3,194)**

The amount of cash and committed undrawn floating rate borrowing facilities expiring beyond one year is $4,059 million.

2019 $m	Less than one year	One to two years	Two to five years	Over five years
Bank loans and capital markets borrowings	(2,692)	(1,526)	(2,724)	(1,508)
Lease liabilities	(1)	(1)	(4)	(4)
Net other financial assets/liabilities	1,321	1,194	1,287	–
	(1,372)	**(333)**	**(1,441)**	**(1,512)**
Derivative liabilities	(582)	(360)	(233)	(471)
Derivative assets	708	518	459	304
	126	**158**	**226**	**(167)**
Net liquidity exposure	**(1,246)**	**(175)**	**(1,215)**	**(1,679)**

The amount of cash and committed undrawn floating rate borrowing facilities expiring beyond one year is $5,301 million.

D5 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 RECs) 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.

D5 Fair value of financial assets and liabilities (continued)

2020	Note	Level 1 $m	Level 2 $m	Level 3 $m	Total $m
Derivative financial assets	D4	20	1,004	134	1,158
Other financial assets at fair value	C7	163	72	2,171	2,406
Financial assets carried at fair value		**183**	**1,076**	**2,305**	**3,564**
Derivative financial liabilities	D4	(202)	(944)	(69)	(1,215)
Other financial liabilities at fair value	C7	(234)	–	–	(234)
Financial liabilities carried at fair value		**(436)**	**(944)**	**(69)**	**(1,449)**

2019	Note	Level 1 $m	Level 2 $m	Level 3 $m	Total $m
Derivative financial assets	D4	131	1,088	215	1,434
Other financial assets at fair value	C7	298	57	3,099	3,454
Financial assets carried at fair value		**429**	**1,145**	**3,314**	**4,888**
Derivative financial liabilities	D4	(30)	(763)	(710)	(1,503)
Other financial liabilities at fair value	C7	(241)	–	–	(241)
Financial liabilities carried at fair value		**(271)**	**(763)**	**(710)**	**(1,744)**

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

	$m
Balance as at 1 July 2019	**2,604**
PPAs derecognised on adoption of AASB 16 *Leases* (refer to Overview)	512
New instruments recognised in the period	5
Instruments transferred out of level 3	(2)
Net cash settlements paid/(received)	(1,214)
Gains/(losses) recognised in other comprehensive income	6
Gains/(losses) recognised in profit or loss:	
– Change in fair value	192
– Cost of sales	(42)
– Interest income	175
Balance as at 30 June 2020	**2,236**

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 CCIRS	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

D5 Fair value of financial assets and liabilities (continued)

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	– 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 $68 million (2019: $299 million).
Oil derivatives	– Forward Japanese Customs-cleared Crude (JCC) price curve	A 10 per cent increase/decrease in the JCC price would decrease/increase fair value by $2 million (2019: $15 million).
MRCPS issued by APLNG	– 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 (2019: $3/($4) million.

(1) Excludes $63 million (June 2019: $52 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 2019	573
Value recognised in the income statement	(55)
Value derecognised in the period[1]	(492)
New instruments	76
Balance as at 30 June 2020	**102**
Location of net deferred gain	
Derivative assets	86
Derivative liabilities	16
Balance as at 30 June 2020	**102**

(1) Net deferred gains derecognised on adoption of AASB 16 as they relate to PPAs classified as leases under the new standard. Refer to the Overview.

Financial instruments measured at amortised cost

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

		Carrying value		Fair value	
	Fair value hierarchy level	2020 $m	2019 $m	2020 $m	2019 $m
Liabilities					
Bank loans – unsecured	2	535	525	557	559
Capital markets borrowings – unsecured	2	4,475	6,117	4,678	6,392
Total[1]		**5,010**	**6,642**	**5,235**	**6,951**

(1) Non-current interest-bearing liabilities in the statement of financial position include $5,010 million (June 2019: $6,642 million) as disclosed above, and lease liabilities of $441 million (June 2019: $6 million).

The fair value of these financial instruments reflects 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.

E Taxation

This section provides details of the Group's income tax expense, current tax provision, deferred tax balances and tax accounting policies.

E1 Income tax expense

	2020 $m	2019 $m
Income tax		
Current tax expense[1]	3	208
Adjustments to current tax expense for previous years[1]	(34)	(49)
Deferred tax expense/(benefit)	124	(95)
Total income tax expense	**93**	**64**
Reconciliation between tax expense and pre-tax net profit		
Profit before income tax	**179**	**1,278**
Income tax using the domestic corporation tax rate of 30 per cent (2019: 30 per cent)		
Prima facie income tax expense on pre-tax accounting profit:		
– at Australian tax rate of 30 per cent	54	383
– adjustment for difference between Australian and overseas tax rates	(1)	(1)
Income tax expense on pre-tax accounting profit at standard rates	**53**	**382**
Increase/(decrease) in income tax expense due to:		
Share of results of equity accounted investees	(182)	(188)
Impairment of investment in APLNG	224	–
Capital loss recognition	–	(68)
Temporary differences no longer expected to be realised	–	(29)
Other	4	(12)
	46	**(297)**
Over provided in prior years	(6)	(21)
Total income tax expense	**93**	**64**
Deferred tax movements recognised directly in other comprehensive income (including foreign currency translation)		
Financial instruments at fair value	(211)	45
Other items	3	–
	(208)	**45**

(1) For comparability purposes, the prior year amounts have been reclassified between these two line items to align with the presentation of the current year.

The Company and its wholly owned Australian resident entities that met the membership requirements formed a tax-consolidated group with effect from 1 July 2003. The head entity within the tax-consolidated group is Origin Energy Limited. Tax funding arrangement amounts are recognised as inter-entity amounts.

Income tax expense is made up of current tax expense and deferred tax expense. Current tax expense represents the expected tax payable on the taxable income for the year, using current tax rates and any adjustment to tax payable in respect of previous years. Deferred tax expense reflects the temporary differences between the accounting carrying amount of an asset or liability in the statement of financial position and its tax base.

Key judgements

Tax balances: Tax balances reflect a current understanding and interpretation of existing tax laws. Uncertainty arises due to the possibility that changes in tax law or other future circumstances can impact the tax balances recognised in the financial statements. Ultimate outcomes may vary.

Deferred taxes: The recognition of deferred tax balances requires judgement as to whether it is probable such balances will be utilised and/or reversed in the foreseeable future.

E1 Income tax expense (continued)

Income tax expense recognised in other comprehensive income

	2020			2019		
$m	**Gross**	**Tax**	**Net**	**Gross**	**Tax**	**Net**
Investment valuation changes	6	(3)	3	5	–	5
Cash flow hedges:						
Reclassified to income statement	5	(1)	4	(172)	50	(122)
Effective portion of change in fair value	(705)	212	(493)	318	(95)	223
Translation of foreign operations	125	–	125	341	–	341
Other comprehensive income for the year	**(569)**	**208**	**(361)**	**492**	**(45)**	**447**

E2 Deferred tax

Deferred tax balances arise when there are temporary differences between accounting carrying amounts and the tax bases of assets and liabilities, other than where:

- the difference arises from the initial recognition of an asset or liability in a transaction that is not a business combination and affects neither the accounting profit nor taxable profit or loss;
- temporary differences relate to investments in subsidiaries, associates and interests in joint arrangements, to the extent the Group is able to control the timing of the reversal of the temporary differences and it is probable that they will not reverse in the foreseeable future; and
- temporary differences arise on initial recognition of goodwill.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply to the year when the asset is realised or the liability is settled, based on tax rates and tax laws that have been enacted or substantively enacted at the balance sheet date.

A deferred tax asset is recognised only to the extent that it is probable that future taxable profits will be available against which the asset can be utilised. Deferred tax assets are reduced if it is no longer probable that the related tax benefit will be realised.

Movement in temporary differences during the year

Asset/(liability) $m	**1 July 2018**	**Adoption of AASB 9**	**Recognised in income**	**Recognised in equity**	**30 June 2019**	**Adoption of AASB 16**	**Recognised in income**	**Recognised in equity**	**30 June 2020**
Employee benefits	61	–	4	–	65	–	14	–	79
Provisions	146	6	56	–	208	(30)	310	–	488
Tax value of carry-forward tax losses recognised	–	–	1	–	1	–	45	–	46
PP&E	(417)	–	11	–	(406)	23	(120)	–	(503)
Exploration and evaluation assets	51	–	69	–	120	–	(174)	–	(54)
Financial instruments at fair value	309	47	(26)	(45)	285	(154)	(175)	211	167
APLNG MRCPS elimination (refer to note B2.1)	52	–	(2)	–	50	–	(1)	–	49
Business-related costs (deductible under s.40-880 ITAA97)	53	–	(10)	–	43	–	(16)	–	27
ROU assets	–	–	–	–	–	(134)	(6)	–	(140)
Lease liabilities	2	–	–	–	2	144	8	–	154
Other items	20	–	(8)	–	12	2	(9)	(3)	2
Net deferred tax assets	**277**	**53**	**95**	**(45)**	**380**	**(149)**	**(124)**	**208**	**315**

E2 Deferred tax (continued)

Unrecognised deferred tax assets and liabilities	2020 $m	2019 $m
Deferred tax assets have not been recognised in respect of the following items:		
Revenue losses – non-Australian	26	32
Capital losses	216	213
Petroleum resource rent tax, net of income tax	118	131
Acquisition transaction costs	57	57
Investment in joint ventures	67	67
Intangible assets	8	8
	492	**508**
Deferred tax liabilities have not been recognised in respect of the following items:		
Investment in APLNG[1]	(1,615)	(1,611)
	(1,615)	**(1,611)**

(1) A deferred tax liability has not been recorded in respect of the investment in APLNG as the Group is able to control the timing of the reversal of the temporary difference through its voting rights and it is not expected that the temporary difference will reverse in the foreseeable future. It is possible that the temporary difference could reverse partly or in full at some point in the future, if and when unfranked dividends or capital returns are expected to be paid, or if the investment is expected to be disposed of.

Uncertain tax positions

In calculating the taxable profit for the year to 30 June 2020, Origin has included a $468 million tax depreciation claim for the remaining tax base of the Browse Basin exploration permits. A tax ruling application has been submitted to the Australian Taxation Office to confirm the appropriateness of the tax treatment. Should the outcome of the ruling be unfavourable and the depreciation claim revert to the annual claim of $46 million over 15 years, the Origin Tax Consolidated Group would have a taxable profit of $272 million instead of a tax loss of $150 million. This is because the deferred tax asset balance would increase while the current income tax receivable balance would decrease by $82 million ($272 million at 30 per cent).

F 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, controlled entities, transactions with non-controlling interests, and changes made to the Group structure during the year.

F1 Controlled entities

The financial statements of the Group include the consolidation of Origin Energy Limited and controlled entities. Controlled entities are the following entities controlled by the parent entity (Origin Energy Limited).

	Incorporated in	2020 Ownership interest per cent	2019 Ownership interest per cent
Origin Energy Limited	NSW		
Origin Energy Finance Limited	Vic	100	100
Huddart Parker Pty Limited <	Vic	100	100
FRL Pty Ltd <	WA	100	100
B.T.S. Pty Ltd <	WA	100	100
Origin Energy Power Limited <	SA	100	100
Origin Energy SWC Limited <	WA	100	100
BESP Pty Ltd	Vic	100	100
Origin Energy Eraring Pty Limited <	NSW	100	100
Origin Energy Eraring Services Pty Limited <	NSW	100	100
Origin Energy Upstream Holdings Pty Ltd	Vic	100	100
Origin Energy B2 Pty Ltd	Vic	100	100
Origin Energy Browse Pty Ltd	Vic	100	100
Origin Energy CSG 2 Pty Limited	Vic	100	100
Origin Energy ATP 788P Pty Limited	Qld	–	100
Origin Energy C5 Pty Limited	Vic	100	100
Origin Energy Upstream Operator Pty Ltd	Vic	100	100
Origin Energy Holdings Pty Limited <	Vic	100	100
Origin Energy Retail Limited <	SA	100	100
Origin Energy (Vic) Pty Limited <	Vic	100	100
Gasmart (Vic) Pty Ltd <	Vic	100	100
Origin Energy (TM) Pty Limited <	Vic	100	100
Cogent Energy Pty Ltd	Vic	100	100
Origin Energy Retail No. 1 Pty Limited	Vic	100	100
Origin Energy Retail No. 2 Pty Limited	Vic	100	100
Horan & Bird Energy Pty Ltd	Qld	100	100
Origin Energy Electricity Limited <	Vic	100	100
Eraring Gentrader Depositor Pty Limited	Vic	100	100
Sun Retail Pty Ltd <	Qld	100	100
OE Power Pty Limited <	Vic	100	100
Origin Energy Uranquinty Power Pty Ltd <	Vic	100	100
OC Energy Pty Ltd <	Vic	100	100
Origin Energy International Holdings Pty Limited	Vic	100	100
Origin Energy Mortlake Terminal Station No. 2 Pty Limited	Vic	100	100
Origin Energy PNG Ltd #	PNG	66.7	66.7
Origin Energy PNG Holdings Limited #	PNG	100	100
Origin Energy Tasmania Pty Limited <	Tas	100	100
The Fiji Gas Co Ltd	Fiji	51	51
Origin Energy Contracting Limited <	Qld	100	100
Origin Energy LPG Limited <	NSW	100	100
Origin (LGC) (Aust) Pty Limited <	NSW	100	100
Origin Energy SA Pty Limited <	SA	100	100
Hylemit Pty Limited	Vic	100	100
Origin Energy LPG Retail (NSW) Pty Limited	NSW	100	100
Origin Energy WA Pty Limited <	WA	100	100
Origin Energy Services Limited <	SA	100	100
OEL US Inc.	USA	100	100
Origin Energy NSW Pty Limited <	NSW	100	100
Origin Energy Asset Management Limited <	SA	100	100

F1 Controlled entities (continued)

	Incorporated in	2020 Ownership interest per cent	2019 Ownership interest per cent
Origin Energy Pipelines Pty Limited <	NT	100	100
Origin Energy Pipelines (SESA) Pty Limited	Vic	100	100
Origin Energy Pipelines (Vic) Holdings Pty Limited <	Vic	100	100
Origin Energy Pipelines (Vic) Pty Limited <	Vic	100	100
Origin Energy Solomons Ltd	Solomon Islands	80	80
Origin Energy Cook Islands Ltd	Cook Islands	100	100
Origin Energy Vanuatu Ltd	Vanuatu	100	100
Origin Energy Samoa Ltd	Western Samoa	100	100
Origin Energy American Samoa Inc	American Samoa	100	100
Origin Energy Insurance Singapore Pte Ltd	Singapore	100	100
Angari Pty Limited <	SA	100	100
Oil Investments Pty Limited <	SA	100	100
Origin Energy Southern Africa Holdings Pty Limited	Qld	100	100
Origin Energy Zoca 91-08 Pty Limited <	SA	100	100
Sagasco NT Pty Ltd <	SA	100	100
Sagasco Amadeus Pty Ltd <	SA	100	100
Origin Energy Amadeus Pty Limited <	Qld	100	100
Amadeus United States Pty Limited <	Qld	100	100
Origin Energy Vietnam Pty Limited	Vic	100	100
Origin Energy Singapore Holdings Pte Limited	Singapore	100	100
Origin Energy (Song Hong) Pte Limited	Singapore	100	100
Origin Future Energy Pty Limited	NSW	100	100
Origin Energy Rewards Pty Ltd	Vic	100	100
Origin Energy Metering Coordinator Pty Ltd	NSW	100	100
Origin Energy Resources NZ (Rimu) Limited	NZ	100	100
Origin Energy VIC Holdings Pty Limited <	Vic	100	100
Origin Energy Capital Ltd <	Vic	100	100
Origin Energy Finance Company Pty Limited <	Vic	100	100
OE JV Co Pty Limited <	Vic	100	100
Origin Energy LNG Holdings Pte Limited	Singapore	100	100
Origin Energy LNG Portfolio Pty Ltd <	Vic	100	100
Origin Energy Australia Holding BV #	Netherlands	100	100
Origin Energy Mt Stuart BV #	Netherlands	100	100
OE Mt Stuart General Partnership #	Netherlands	100	100
Parbond Pty Limited	NSW	100	100
Origin Education Foundation Pty Limited	Vic	100	100
Origin Energy Foundation Ltd	NSW	100	100
Origin Renewable Energy Investments No 1 Pty Ltd	Vic	100	100
Origin Renewable Energy Investments No 2 Pty Ltd	Vic	100	100
Origin Renewable Energy Pty Ltd	Vic	100	100
Origin Energy Geothermal Holdings Pty Ltd	Vic	100	100
Origin Energy Geothermal Pty Ltd	Vic	100	100
Origin Energy Chile Holdings Pty Limited	Vic	100	100
Origin Energy Chile S.A. #	Chile	100	100
Origin Energy Geothermal Chile Limitada #	Chile	100	100
Pleiades S.A	Chile	–	100
Origin Energy Geothermal Singapore Pte Limited	Singapore	–	100
Origin Energy Wind Holdings Pty Ltd	Vic	100	100
Crystal Brook Wind Farm Pty Limited	NSW	100	100
Wind Power Pty Ltd	Vic	100	100
Wind Power Management Pty Ltd	Vic	–	100
Tuki Wind Farm Pty Ltd	Vic	–	100
Dundas Tablelands Wind Farm Pty Limited	Vic	–	100
Origin Energy Hydro Bermuda Limited	Bermuda	100	100
Origin Energy Hydro Chile SpA #	Chile	100	100

< Entered into ASIC Corporations (Wholly-owned Companies) Instrument 2016/785 and related Deed of Cross Guarantee with Origin Energy Limited.

Controlled entity has a financial reporting period ending 31 December.

F1 Controlled entities (continued)

Changes in controlled entities

2020

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

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

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

Pleiades S.A was sold on 25 September 2019.

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

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

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

Origin Energy Mortlake Terminal Station No. 1 Pty Limited changed its name to Origin Energy International Holdings Pty Limited on 21 April 2020.

(1) On 5 August 2019 Origin sold its Ironbark asset to APLNG for $231 million. Net nil profit or loss was realised in the period ending 30 June 2020.

F2 Business combinations

2020

There were no significant business combinations during the period.

2019

Acquisition of OC Energy Pty Ltd

On 1 March 2019, the Group acquired 100 per cent of the formerly privately held OC Energy Pty Ltd under a Share Sale Agreement. Finalisation of the purchase price accounting was completed within the 12-month measurement period, resulting in no significant changes to the provisional fair values presented in the 30 June 2019 Financial Statements. The fair value of the net assets acquired as part of the business combination was $59 million.

Purchase consideration of $33 million was paid on the completion date. Considering the acquired cash balance ($4 million), the net cash impact of the acquisition at the reporting date was $29 million. Further payments of $25 million in total were expected to be made after the acquisition date. On 28 February 2020, the Group made a payment of $14 million and expects to pay the remaining holdback amount of $11 million once certain conditions are met. The total consideration is still estimated to be $59 million and the net cash impact after excluding the acquired cash balance to be $55 million.

F3 Joint arrangements and investments in associates

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 30 June 2020. Refer to Section B.

Interests in unincorporated joint operations

The Group's interests in unincorporated joint operations are brought to account on a line-by-line basis in the income statement and statement of financial position. These interests are held on the following assets whose principal activities are oil and/or gas exploration, development and production; power generation; and geothermal power technology:

- Beetaloo Basin
- Browse Basin
- Innamincka Deeps Geothermal

On 7 April 2020, the Group acquired an additional 7.5 per cent interest in the Beetaloo Basin through a farm-in arrangement with Falcon Oil and Gas Australia Limited. This transaction also involved a renegotiation of the Joint Operating Agreement in place, which effectively gives the Group control over key decisions relating to these permits. The Beetaloo Basin is the only material unincorporated joint operation as at 30 June 2020.

G Other information

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

G1 Contingent liabilities

Discussed below are items where either it is not probable that the Group will have to make future payments or it is not possible to reliably measure the amount of future payments.

Joint arrangements and associates

As a participant in certain joint arrangements, the Group is liable for its share of liabilities incurred by these arrangements. In some circumstances the Group may incur more than its proportionate share of such liabilities, but will have the right to recover the excess liability from the other joint arrangement participants.

The Group continues to provide parent company guarantees in excess of its 37.5 per cent shareholding in APLNG, in respect of certain historical domestic contracts.

In October 2018, Origin and the other APLNG shareholders agreed to indemnify one of APLNG's long-term LNG customers (following that customer's election to defer delivery of 30 cargoes over six years (2019–24)) should APLNG fail to supply make-up cargoes to that customer prior to the expiry of the LNG supply contract. The customer will pay APLNG for the deferred cargoes and APLNG expects to resell the gas to other customers, and deliver the deferred cargoes to the long-term LNG customer between 2025 and the end of the LNG supply contract. The indemnity was provided severally in accordance with each shareholder's proportionate shareholding in APLNG. At the inception of the agreement, any obligation or liability on the part of the shareholders will only be confirmed by the occurrence or non-occurrence of future events, and cannot be measured with sufficient reliability.

The Group has entered into a further agreement to provide a financial guarantee to Octopus Energy's financiers in respect of a working capital facility entered into by Octopus Energy. Under this agreement, the Group is required to make a payment to Octopus Energy's financiers should Octopus Energy not make payments under the working capital facility. In return, Octopus Energy is required to pay a monthly fee to the Group in respect of the guarantee facility. The guarantee has been accounted for as a Financial Guarantee Contract under AASB 9 and has been initially recognised at fair value (refer to note C7) with reference to the guarantee amount in the facility agreement. During the year, $1 million has been recognised within other income in respect of the financial guarantee income.

Legal and regulatory

Certain entities within the Group (and joint venture entities, such as APLNG) are subject to various lawsuits and claims as well as audits and reviews by government, regulatory bodies or other joint venture partners. In most instances it is not possible to reasonably predict the outcome of these matters or their impact on the Group. Where outcomes can be reasonably predicted, provisions are recorded.

A number of sites owned/operated (or previously owned/operated) by the Group have been identified as potentially contaminated. For sites where it is likely that a present obligation exists, and it is probable that an outflow of resource will be required to settle the obligation, such costs have been expensed or provided for.

Warranties and indemnities have also been given and/or received by entities in the Group in relation to environmental liabilities for certain properties divested and/or acquired.

Capital expenditure

As part of the acquisition of Browse Basin exploration permits in 2015, the Group agreed to pay cash consideration of US$75 million contingent upon a project Final Investment Decision (FID), and US$75 million contingent upon first production. The Group will pay further contingent consideration of up to US$50 million upon first production if 2P reserves, at the time of the FID, reach certain thresholds. These obligations have not been provided for at the reporting date as they are dependent upon uncertain future events not wholly within the Group's control.

Bank guarantees

There are no contingent liabilities arising from bank guarantees held by the Group required to be disclosed as at the reporting date, as these have either been provided for in the accounts or an outflow of economic benefits is considered remote.

The Group's share of guarantees for certain contractual commitments of its joint ventures is shown at note G2.

G2 Commitments

Detailed below are the Group's contractual commitments that are not recognised as liabilities as there is no present obligation. On 1 July 2019, the Group adopted AASB 16 *Leases*, with operating leases now recognised on balance sheet. Refer to the Overview section.

	2020 $m	2019 $m
Capital expenditure commitments	109	63
Joint venture commitments[1]	340	459
Operating lease commitments[2]	–	543

(1) Includes $269 million in relation to the Group's share of APLNG's capital and joint venture commitments. (2019: $386 million in relation to the Group's share of APLNG's capital, joint venture and operating lease commitments.)

(2) Refer to the Overview for a reconciliation of the lease liability at the transition date of 1 July 2019 relating to AASB 16.

The Group leases PP&E under operating leases. The future minimum lease payments under non-cancellable operating leases are shown below.

	2020 $m	2019 $m
Less than one year	–	90
Between one and five years	–	223
More than five years	–	230
	–	**543**

G3 Share-based payments

This section sets out details of the Group's share-based remuneration arrangements, including details of the Company's Equity Incentive Plan and Employee Share Plan.

The table below shows share-based remuneration expenses that were recognised during the year.

	2020 $m	2019 $m
Equity Incentive Plan	30	21
Employee Share Plan	4	5
	34	**26**

Equity Incentive Plan

Eligible employees are granted share-based remuneration under the Origin Energy Limited Equity Incentive Plan. Participation in the plan is at the Board's discretion and no individual has a contractual right to participate or to receive any guaranteed benefits. Equity incentives granted prior to 18 October 2018 were offered in the form of Options and/or Share Rights. Since that date equity incentives are granted in the form of Share Rights and/or Restricted Shares (RSs). Share Rights do not carry dividend or voting entitlements and RSs do.

(i) Short Term Incentive

Short Term Incentive (STI) includes the award of RSs, which are unrestricted if the employee remains employed with satisfactory performance for a set period (generally after two years). Once unrestricted, the shares are transferred into the employee's name at no cost. The face value of RSs measured at grant date is recognised as an employee expense over the related service period. RSs are forfeited if the service and performance conditions are not met.[1]

(ii) Long Term Incentive

Long Term Incentive (LTI) includes the award of Performance Share Rights (PSRs), which will only vest if certain company performance conditions and personal performance standards are met. The PSR grants made in FY2020 have a performance period of three years. Half of each LTI award is subject to a market hurdle, namely Origin's Total Shareholder Return (TSR) relative to a Reference Group of ASX-listed companies identified in the relevant Remuneration Report. The remaining half of each LTI award is subject to an internal hurdle, namely Return on Capital Employed (ROCE), as set out in the relevant Remuneration Report.

The number of awards that may vest depends on performance against each hurdle, considered separately. For awards subject to the relative TSR hurdle, vesting only occurs if Origin's TSR over the performance period ranks higher than the 50th percentile of the Reference Group. Half of the PSRs vest if that condition is satisfied. All the PSRs vest if Origin ranks at or above the 75th percentile of the Reference Group. Straight-line pro-rata vesting applies in between these two points.

(1) The Equity Incentive Plan Rules set out exceptional circumstances, such as death, disability, redundancy or genuine retirement, under which RSs vest at cessation unless the Board determines otherwise. Prior to FY2018, the equity component of STI was awarded in the form of Deferred Share Rights (DSRs).

G3 Share-based payments (continued)

For awards granted in FY2017 and FY2018 that are subject to the ROCE hurdle, vesting only occurs if two conditions are satisfied:

- the average of the actual annual ROCE outcomes over the performance period meets or exceeds the average of the annual targets set in advance by the Board (Gate 1); and
- the actual ROCE in either of the last two years of the performance period meets or exceeds Origin's pre-tax weighted average cost of capital (WACC) (Gate 2).

Half of the relevant PSRs will vest if Gate 1 is met and Origin's pre-tax WACC is met under Gate 2. All the PSRs will vest if Gate 1 is met and Origin's pre-tax WACC is exceeded by two percentage points or more under Gate 2. Straight-line pro-rata vesting applies in between.

For awards granted in FY2019 and FY2020 that are subject to the ROCE hurdle, half of the ROCE tranche will be allocated to Energy Markets and the other half will be allocated to Integrated Gas. Each tranche will be tested separately and vest separately. Vesting for each tranche only occurs if the average actual annual ROCE outcomes over the performance period for the relevant business meets or exceeds the average of the annual ROCE targets, which are reflective of delivering WACC for the relevant business. Half of the relevant PSRs will vest if the ROCE target is met. All the relevant PSRs will vest if the ROCE target is exceeded by two percentage points or more. Straight-line pro-rata vesting applies in between.

As there is no exercise price for PSRs, once vested they are exercised automatically. When exercised, a vested award is converted into one fully paid ordinary share that is subject to a post-vesting holding lock for a set period (generally one year) and also carries voting and dividend entitlements.

The fair value of the awards granted is recognised as an employee expense, with a corresponding increase in equity, over the vesting period. In exceptional circumstances(1) unvested PSRs may be held 'on foot' subject to the specified performance hurdles and other plan conditions being met, or dealt with in an appropriate manner determined by the Board. For PSRs subject to the relative TSR condition, fair value is measured at grant date using a Monte Carlo simulation model that takes into account the exercise price, share price at grant date, price volatility, dividend yield, risk-free interest rate for the term of the security, and the likelihood of meeting the TSR market condition. The expected volatility reflects the assumption that the historical volatility over a period similar to the life of the options is indicative of future trends, which may not necessarily be the actual outcome. The amount recognised as an expense is adjusted to reflect the actual number of awards that vest except where due to non-achievement of the TSR market condition. Set out below are the inputs used to determine the fair value of the PSRs granted during the year. For PSRs subject to the ROCE condition, the initial fair value at grant date is the market value of an Origin share less the discounted value of dividends forgone, and the recognised expense is trued up at each reporting period to the expected outcome as assessed at that time.

(1) The Equity Incentive Plan Rules provide that Rights and RSs are forfeited on cessation of employment unless the Board determines otherwise. The offer terms provide guidance for the exercise of that discretion, specifically that the Rights and RSs will not normally be forfeited in cases of 'good leavers' (such as those ceasing employment due to death, disability, redundancy or genuine retirement).

Set out below is a summary of PSRs issued during the financial year.

	PSRs			
Grant date	30 Aug 2019	30 Aug 2019	16 Oct 2019(1)	16 Oct 2019(1)
Grant date share price	$7.63	$7.63	$8.12	$8.12
Exercise price	Nil	Nil	Nil	Nil
Volatility	27%	27%	26%	26%
Dividend yield(2)	4.0%	4.0%	4.0%	4.0%
Risk-free rate(3)	–	0.70%	–	0.70%
Grant date fair value (per award)	$6.77	$3.82	$7.25	$4.49

(1) These PSR tranches relate to specific Key Management Personnel awards required to be approved by shareholder resolution at the time of the Annual General Meeting.

(2) Dividend yield assumptions are based on the average dividend yield rate over the vesting period of three years.

(3) Where the risk-free rate is nil, these PSR tranches are ROCE-tested; therefore, the risk-free rate is not relevant to their valuation.

G3 Share-based payments (continued)

Equity Incentive Plan awards outstanding

Set out below is a summary of awards outstanding at the beginning and end of the financial year.

	Options	Weighted average exercise price	PSRs	DSRs	RSs
Outstanding at 1 July 2019	5,565,803	$6.51	5,126,670	1,920,849	1,867,476
Granted	–	–	2,346,098	–	3,005,423
Exercised/released	–	–	–	1,705,133	256,173
Forfeited	2,306,422	–	1,229,301	2,678	93,153
Outstanding at 30 June 2020	**3,259,381**	**$6.33**	**6,243,467**	**213,038**	**4,523,573**
Exercisable at 30 June 2020	–	–	–	–	–
Outstanding at 1 July 2018	7,475,601	$8.84	4,086,642	4,402,736	–
Granted	–	–	1,793,349	–	2,059,842
Exercised	–	–	–	2,380,513	121,425
Forfeited	1,909,798	$15.65	753,321	101,374	70,941
Outstanding at 30 June 2019	**5,565,803**	**$6.51**	**5,126,670**	**1,920,849**	**1,867,476**
Exercisable at 30 June 2019	–	–	–	–	–

The weighted average share price during 2020 was $6.80 (2019: $7.64). The options outstanding at 30 June 2020 have an exercise price in the range of $5.21 to $7.37 (2019: $5.21 to $7.37) and a weighted average contractual life of 6.6 years (2019: 7.1 years).

For more information on these share plans and performance rights issued to Key Management Personel, refer to the Remuneration Report.

Employee Share Plan

Under the Employee Share Plan (ESP), all eligible employees have a choice of either participating in the $1,000 General Employee Share Plan (GESP) or the Matching Share Plan (MSP).

Under the GESP, all employees of the Company who are based in Australia and have been continuously employed as at 1 March of the performance year, are granted up to $1,000 of fully paid Origin shares conditional on Board approval. The shares are granted for no consideration. Shares awarded under the GESP are purchased on market, registered in the name of the employee, and are restricted for three years, or until cessation of employment, whichever occurs first.

Under the MSP, all eligible employees may elect to purchase shares via a salary sacrifice arrangement, which commences on 1 October of the performance year. The shares under this plan are allotted quarterly and are subject to trading restriction for a set period (generally two years) or until cessation of employment. The Company matches the purchased shares on a one-for-two basis with allocation of additional Matching Share Rights (MRs) which vest at the same time when the restriction is lifted for the purchased shares. Vesting of MRs is conditional on the employee remaining in continuous employment at that time. MRs are forfeited if the service conditions are not met.(1)

(1) The Equity Incentive Plan Rules provide that Rights and Restricted Shares are forfeited on cessation of employment unless the Board determines otherwise. The offer terms provide guidance for the exercise of that discretion, specifically that the Rights and RSs will not normally forfeit in cases of 'good leavers' (such as those ceasing employment due to death, disability, redundancy or genuine retirement).

Details of the shares awarded under the GESP during the year are set out below.

	Grant date	Shares granted	Cost per share(1)	Total cost $'000
2020	3 Sep 2019	528,264	$7.55	3,988
		528,264		**3,988**
2019	5 Sep 2018	561,126	$8.12	4,556
		561,126		**4,556**

(1) The cost per share represents the weighted average market price of the Company's shares on the grant date.

G3 Share-based payments (continued)

Set out below is a summary of MRs outstanding at the beginning and end of the financial year.

	MRs
Outstanding at 1 July 2019	73,999
Granted	170,353
Exercised/released	9,120
Forfeited	6,691
Expired	–
Outstanding at 30 June 2020	**228,541**
Exercisable at 30 June 2020	–

G4 Related party disclosures

The Group's interests in equity accounted entities and details of transactions with these entities are set out in notes B1 and B4.

Certain Directors of Origin Energy Limited are also directors of other companies that supply Origin Energy Limited with goods and services or acquire goods or services from Origin Energy Limited. Those transactions are approved by management within delegated limits of authority, and the Directors do not participate in the decisions to enter into such transactions. If the decision to enter into those transactions should require approval of the Board, the Director concerned will not vote upon that decision nor take part in the consideration of it.

G5 Key management personnel

	2020 $	2019 $
Short-term employee benefits	11,619,739	9,941,352
Post-employment benefits	262,538	255,313
Other long-term benefits	136,474	182,927
Share-based payments	5,124,047	4,311,013
	17,142,798	**14,690,605**

Loans and other transactions with key management personnel

There were no loans with key management personnel during the year.

Transactions entered into during the year with key management personnel are normal employee, customer or supplier relationships and have terms and conditions that are no more favourable than dealings in the same circumstances on an arm's length basis. These transactions include:

- the receipt of dividends from Origin Energy Limited or participation in the DRP;
- participation in the ESP, Equity Incentive Plan and Non-executive Director Share Plan;
- terms and conditions of employment or directorship appointment;
- reimbursement of expenses incurred in the normal course of employment; and
- purchases of goods and services.

G6 Notes to the statement of cash flows

Cash includes cash on hand, at bank and in short-term deposits, net of outstanding bank overdrafts.

The following table reconciles profit to net cash provided by operating activities.

	2020 $m	2019 $m
Profit for the period	**86**	**1,214**
Adjustments for non-cash ITDA		
Depreciation and amortisation	509	419
Net financing costs	126	154
Tax expense	93	64
Non-cash share of ITDA of equity accounted investees	1,303	1,510
Adjustments for other non-cash items		
(Increase)/decrease in fair value of derivatives	(275)	102
Increase in fair value of financial instruments	(123)	(391)
Unrealised foreign exchange loss	–	80
Impairment of assets	764	39
Gain on sale of assets	(1)	–
Impairment losses recognised – trade and other receivables	124	84
Non-cash share of EBITDA of equity accounted investees	(1,911)	(2,142)
Exploration expense	3	2
Executive share-based payment expense	30	21
Changes in assets and liabilities:		
– Receivables	217	207
– Inventories	(26)	58
– Payables	(180)	(175)
– Provisions	663	179
– Other	104	(115)
– Futures collateral	(340)	125
Tax paid	(215)	(110)
Total adjustments	**865**	**111**
Net cash from operating activities	**951**	**1,325**

Reconciliation of movements of liabilities to cash flows arising from financing activities

	Liabilities from financing activities				
$m	**Current borrowings**	**Non-current borrowings**	**Lease liabilities**	**Other financial (assets)/ liabilities**	**Total**
Balance as at 30 June 2019	948	6,648	–	(645)	6,951
Adoption of AASB 16 *Leases*	–	–	478	–	478
Balance as at 1 July 2019	**948**	**6,648**	**478**	**(645)**	**7,429**
Proceeds from borrowings	–	1,273	–	–	1,273
Modifications to the lease terms	–	–	111	–	111
Repayment of borrowings/other liabilities	(946)	(1,608)	(75)	108	(2,521)
Foreign exchange adjustments	–	22	–	(6)	16
Reclassification	1,326	(1,326)	–	–	–
Other non-cash movements	–	1	–	103	104
Balance as at 30 June 2020	**1,328**	**5,010**	**514**	**(440)**	**6,412**

G7 Auditors' remuneration

During the year, the following fees were paid or payable for services provided by the auditor of the parent entity, its related practices and non-related audit firms.

	2020[1] $'000	2019[1] $'000
Amounts received or due and receivable by the auditor of the Parent Company and any other entity in the Group for:		
Auditing the statutory financial report of the Parent Company covering the Group	1,750	1,639
Auditing the statutory financial reports of any controlled entities	173	69
Fees for other assurance and agreed-upon-procedures services under other legislation or contractual arrangements	9	136
Fees for other services		
Tax compliance[2]	767	10
Cyber security	155	–
Advisory services	140	181
Other	4	15
	2,998	**2,050**
Amounts received or due and receivable by affiliates of the auditor of the Parent Company for:		
Auditing the statutory financial reports of any controlled entities	69	204
Fees for other services		
Tax compliance	–	68
Advisory services	–	4
Other	–	7
Total fees to overseas member firms of the Parent Company auditor	**69**	**283**
Total remuneration to Parent Company auditor	**3,067**	**2,333**
Auditing of statutory financial reports of any controlled entities by other auditors	247	96
Total auditors' remuneration	**3,314**	**2,429**

(1) Amounts in 2019 relate to KPMG, which was the statutory auditor of the Origin Group including controlled entities. EY was appointed on 16 October 2019 at the last Annual General Meeting and have been statutory auditor for the 2020 financial year.

(2) This amount relates to the Group's share of tax compliance work billed. An amount of $701k has been recharged to APLNG in respect of its share and is excluded from this amount.

G8 Master netting or similar agreements

The Group enters into derivative transactions under ISDA master netting agreements. In general, under such agreements, the amounts owed by each counterparty on a single day in respect of all transactions outstanding in the same currency are aggregated into a net amount payable by one party to the other.

Financial assets and liabilities are offset, and the net amount reported in the statement of financial position, where the Group has a legally enforceable right to offset recognised amounts and there is an intention to settle on a net basis or realise the asset and settle the liability simultaneously. The Group has also entered into arrangements that do not meet the criteria for offsetting, but still allow for the related amounts to be offset in certain circumstances, such as a loan default or the termination of a contract.

The following table presents the recognised financial instruments that are offset, or subject to master netting arrangements but not offset, as at the reporting date. The net amount column shows the impact on the Group's statement of financial position if all set-off rights were exercised.

	Gross amount $m	Amount offset in the statement of financial position $m	Amount in the statement of financial position $m	Related amount not offset $m	Net amount $m
2020					
Derivative assets	1,543	(385)	1,158	(650)	508
Derivative liabilities	(1,600)	385	(1,215)	650	(565)
2019					
Derivative assets	1,754	(320)	1,434	(398)	1,036
Derivative liabilities	(1,823)	320	(1,503)	398	(1,105)

G9 Deed of Cross Guarantee

The parent entity has entered into a Deed of Cross Guarantee through which the Group guarantees the debts of certain controlled entities in the event that one of those entities is wound up. The controlled entities that are party to the Deed are shown in note F1.

The following consolidated statement of comprehensive income and retained profits, and statement of financial position, cover the Company and its controlled entities that are party to the Deed of Cross Guarantee after eliminating all transactions between parties to the Deed.

For the year ended 30 June	2020 $m	2019 $m
Consolidated statement of comprehensive income and retained profits		
Revenue	13,000	14,510
Other income	47	26
Expenses	(12,314)	(13,606)
Share of results of equity accounted investees	619	632
Impairment	(765)	(360)
Interest income	189	234
Interest expense	(356)	(453)
Profit before income tax	**420**	**983**
Income tax expense	(72)	(119)
Profit for the year	**348**	**864**
Other comprehensive income	–	–
Total comprehensive income for the year	**348**	**864**
Retained earnings at the beginning of the year	**5,433**	**4,890**
Adjustments for entities entering the Deed of Cross Guarantee	2	–
Retained earnings at the beginning of the year	**5,435**	**4,890**
Impact of AASB 9 adoption	–	(145)
Impact of AASB 16 adoption	349	–
Dividends paid	(528)	(176)
Retained earnings at the end of the year	**5,604**	**5,433**

G9 Deed of Cross Guarantee (continued)

As at 30 June	2020 $m	2019 $m
Statement of financial position		
Current assets		
Cash and cash equivalents	1,042	1,455
Trade and other receivables	2,916	2,950
Inventories	152	126
Derivatives	510	454
Income tax receivable	479	318
Other financial assets	89	–
Other assets	104	110
Total current assets	**5,292**	**5,413**
Non-current assets		
Trade and other receivables	2,711	2,135
Derivatives	525	962
Other financial assets[1]	1,842	3,161
Investments accounted for using the equity method	6,979	6,960
PP&E[2]	4,060	3,337
Intangible assets	5,394	5,309
Deferred tax assets	360	227
Other assets	40	43
Total non-current assets	**21,911**	**22,134**
Total assets	**27,203**	**27,547**
Current liabilities		
Trade and other payables	2,273	2,120
Payables to joint ventures	202	204
Interest-bearing liabilities[3]	74	137
Derivatives	448	381
Other financial liabilities	204	275
Provision for income tax	2	160
Employee benefits	153	132
Provisions	153	56
Total current liabilities	**3,509**	**3,465**
Non-current liabilities		
Trade and other payables	7,204	8,227
Interest-bearing liabilities[4]	1,001	605
Derivatives	729	1,115
Employee benefits	21	21
Provisions	1,269	484
Total non-current liabilities	**10,224**	**10,452**
Total liabilities	**13,733**	**13,917**
Net assets	**13,470**	**13,630**
Equity		
Contributed equity	7,145	7,125
Reserves	721	1,072
Retained earnings	5,604	5,433
Total equity	**13,470**	**13,630**

(1) Includes investment in subsidiaries relating to entities outside the Deed of Cross Guarantee.
(2) Includes $454 million of ROU assets in the current period as a result of the adoption of AASB 16 *Leases*. Refer to the Overview.
(3) Includes $68 million of lease liabilities in the current period as a result of the adoption of AASB 16 *Leases*. Refer to the Overview.
(4) Includes $433 million of lease liabilities in the current period as a result of the adoption of AASB 16 *Leases*. Refer to the Overview.

G10 Parent entity disclosures

The following table sets out the results and financial position of the parent entity, Origin Energy Limited.

Origin Energy Limited	2020 $m	2019 $m
Profit for the year	1,167	1,118
Other comprehensive income, net of income tax	108	342
Total comprehensive income for the year	**1,275**	**1,460**
Financial position of the parent entity at year end		
Current assets	1,307	2,668
Non-current assets	19,084	20,560
Total assets	**20,391**	**23,228**
Current liabilities	2,683	4,677
Non-current liabilities	5,171	6,770
Total liabilities	**7,854**	**11,447**
Contributed equity	7,145	7,125
Share-based payments reserve	223	234
Foreign currency translation reserve	863	720
Hedge reserve	(47)	(12)
Retained earnings[1]	4,353	3,714
Total equity	**12,537**	**11,781**

(1) Refer to note A7 for details of dividends provided for or paid of $528 million.

The parent entity has entered into a deed of indemnity for the cross-guarantee of liabilities of a number of controlled entities. Refer to note F1.

G11 Subsequent events

Other than the matters described below, no item, transaction or event of a material nature has arisen since 30 June 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.

Bank debt facility extension

On 2 July 2020, the Group extended A$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.

Dividends

On 20 August 2020, the Directors determined an unfranked final dividend of 10 cents per share on ordinary shares. The dividend will be paid on 2 October 2020.

The financial effect of this dividend has not been brought to account in the financial statements for the year ended 30 June 2020 and will be recognised in subsequent financial statements.

Directors' Declaration

1 In the opinion of the Directors of Origin Energy Limited (the Company):

(a) the consolidated 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 30 June 2020 and of its performance, for the year ended on that date; and

(ii) complying with Australian Accounting Standards (including the Australian Accounting Interpretations) and the Corporations Regulations 2001 (Cth).

(b) the consolidated financial statements also comply with International Financial Reporting Standards as disclosed in the Overview of the consolidated financial statements; and

(c) there are reasonable grounds to believe that the Company will be able to pay its debts as and when they become due and payable.

2 There are reasonable grounds to believe that the Company and the controlled entities identified in note F1 will be able to meet any obligations or liabilities to which they are or may become subject to by virtue of the Deed of Cross Guarantee between the Company and those controlled entities pursuant to ASIC Corporations (Wholly-owned Companies) Instrument 2016/785.

3 The Directors have been given the declarations required by section 295A of the *Corporations Act 2001* (Cth) from the Chief Executive Officer and the Chief Financial Officer for the financial year ended 30 June 2020.

Signed in accordance with a resolution of the Directors:



Gordon Cairns
Chairman Director

Sydney, 20 August 2020

Independent Auditor's Report

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

Building a better working world

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

Report on the Audit of the Financial Report

Opinion

We have audited the financial report of Origin Energy Limited (the Company) and its subsidiaries (collectively the Group), which comprises the consolidated statement of financial position as at 30 June 2020, the consolidated income statement, the consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, notes to the financial statements, including a summary of significant accounting policies, and the directors' declaration.

In our opinion, the accompanying financial report of the Group is 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 30 June 2020 and of its consolidated financial performance for the year ended on that date; and

b) complying with Australian Accounting Standards and the *Corporations Regulations 2001*.

Basis for Opinion

We conducted our audit in accordance with Australian Auditing Standards. Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Report* section of our report. We are independent of the Group in accordance with the auditor independence requirements of the *Corporations Act 2001* and the ethical requirements of the Accounting Professional and Ethical Standards Board's APES 110 *Code of Ethics for Professional Accountants (including Independence Standards)* (the Code) that are relevant to our audit of the financial report in Australia. We have also fulfilled our other ethical responsibilities in accordance with the Code.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial report of the current year. These matters were addressed in the context of our audit of the financial report as a whole, and in forming our opinion thereon, but we do not provide a separate opinion on these matters. For each matter below, our description of how our audit addressed the matter is provided in that context.

We have fulfilled the responsibilities described in the *Auditor's Responsibilities for the Audit of the Financial Report* section of our report, including in relation to these matters. Accordingly, our audit included the performance of procedures designed to respond to our assessment of the risks of material misstatement of the financial report. The results of our audit procedures, including the procedures performed to address the matters below, provide the basis for our audit opinion on the accompanying financial report.

Building a better working world

Carrying Value of the Australian Pacific LNG (APLNG) Equity Accounted Investment

Why significant	How our audit addressed the key audit matter
At 30 June 2020, the Group's equity accounted investment in APLNG has a carrying value of $6,978 million after an impairment charge was recorded during the year. COVID-19 has resulted in market disruption and has contributed to a significant decline in oil price during the period and lower forecast oil linked, LNG prices relative to prior periods. The Group considers this to be an indicator of impairment in accordance with the Australian Accounting Standards. The Group has estimated the recoverable amount of its investment, using fair value less cost of disposal (FVLCD). The estimate of FVLCD involves significant judgment and is based on modelling a range of forecast assumptions and estimates which are inherently difficult to determine with precision. Such forecasts include future oil and gas prices, foreign exchange rates, discount rates, production and development costs, and reserves and resources. Oil price is a significant assumption used in the impairment testing and is inherently subjective. In times of economic uncertainty, such as the recent market disruption caused by COVID-19, the degree of subjectivity in determining forecast pricing is higher than it might otherwise be. Changes in this assumption can lead to significant changes in the recoverable amount. Refer to Note B2.2 for key assumptions adopted. This resulted in a post-tax impairment charge of $746.0 million being recorded in the Statement of Comprehensive Income. Due to the significance of this investment to relative to total assets and the inherent complexity and level of judgment required in forecasting future cash flows, we considered this to be a key audit matter.	In completing our audit procedures, with the assistance of our valuation specialists, we: - Evaluated whether the methodology applied in determining FVLCD complied with the requirements of Australian Accounting Standards. - Assessed the mathematical accuracy of the valuation model, the recoverable amount calculation and the impairment charge recorded. - Assessed the macroeconomic assumptions adopted, including oil price, gas price and foreign exchange, with reference to broker and analyst data and publicly available peer company information. - Evaluated the discount rate adopted with reference to external market data including government bond rates and comparable company data. - Agreed the production profile, operating cost and capital expenditure forecasts in the impairment model to the optimised Upstream Development Plan ("UDP"), prepared by the Group, in its capacity as the operator of APLNG's upstream joint venture. - Considered the key assumptions in the UDP including: o Comparison of forecast operating costs to APLNG's recent operating cost history; o Consideration of timing and amount of forecast capital costs with reference to: ▪ APLNG's gas production profile, its existing inventory producing wells and forecast development of production wells; and ▪ UDPs from previous financial years; o Understood APLNG's process for gas reserve and resource measurement including its internal technical assurance processes and reconciliation to its most recent independent review of reserves and resources as at 30 June 2019; and o Evaluated the competency, independence and objectivity of the internal and external experts used by the Group to measure its gas reserves and resources.



- Compared the timing and amount of rehabilitation and abandonment costs included in the Group's estimate of FVLCD with those used to measure APLNG's rehabilitation provision at 30 June 2020 and forecast development of production wells.
- Considered the relationship between asset carrying values and the Group's market capitalisation.
- Assessed the adequacy of the associated disclosures in the financial report.

Cameron LNG Onerous Contract Provision

Why significant	How our audit addressed the key audit matter
The Group has recognised a $641 million onerous contract provision at 30 June 2020 in relation to its longterm Cameron LNG purchase contract. This is due to the forecast sales revenue from the onward supply of LNG being less than purchase cost under the contract, due to the recent decline in gas prices and economic slowdown caused by COVID-19. As disclosed in Note C6 to the financial statements, the present value assessment performed by the Group involves significant judgement and is highly sensitive to long term future commodity pricing assumptions, inflation rates and government bond rates. We considered this to be a key audit matter given the significance of the provision recognised, together with the high degree of judgment involved in forecasting long term sale revenue and purchase costs over the life of the life of the contract.	In completing our audit procedures, with the assistance of our valuation specialists, we: - Assessed whether the Group's methodology for determining present value met the requirements of Australian Accounting Standards in respect of recognition and measurement of the provision. - Considered the terms of the contract to ensure completeness of unavoidable costs under the agreement, as well as their application in the Group's assessment. - Assessed the gas price assumptions adopted based on broker and analyst forecasts, market research and consideration of an implied long term price, adjusted for liquefaction and shipping costs. - Considered the cost of purchasing and selling the contracted quantity of LNG with reference to budgets provided by the project operator, contractual rates and external market data. - Assessed the discount rate adopted with reference to long term government bonds with tenures consistent with the forecast timing of cash flows. - Assessed the clerical accuracy of present value calculation for modelling integrity. - Assessed the adequacy of the financial report disclosures.

Building a better working world

Unbilled Revenue

Why significant	How our audit addressed the key audit matter

At 30 June 2020, the Group recognised unbilled revenue of $1,852 million.
 	
Unbilled revenue represents the value of energy supplied to customers between the date of the last meter read and the reporting date where no bill has been issued to the customer at the end of the reporting period.
 	
The estimation of unbilled revenue is considered a key audit matter due to the complex estimation process and significant audit effort required to address the estimation uncertainty involved by the Group. Key factors that require consideration impacting the complex estimation process includes:
 	
- Estimation of customer demand which is impacted by weather and an individual customer's circumstances.
- Application of different customer rates across different regulated and unregulated markets.
- Changes in energy consumption patterns compared to the same period in the prior year, particularly as a result of COVID-19.
 	
The Group's disclosures in respect of the unbilled revenue estimation process are included in Note A2 of the financial report.
	Our audit procedures included the following:
	
	- Assessed whether the methodology used to recognise unbilled revenue met the requirements of the Australian Accounting Standards.
	- Assessed the effectiveness of the Group's controls governing energy purchased, energy sold and the customer pricing process.
	- Selected a sample of unbilled revenue transactions based on qualitative and quantitative factors and performed the following procedures:
	  o Compared the historical accuracy of the Group's unbilled revenue estimate to historical subsequent billings.
	  o Analysed outliers and data anomalies which should be considered in calculating the Group's unbilled revenue accrual.
	  o Reconciled volumes acquired from AEMO against volumes sold and volumes purchased.
	  o Compared the prices applied to customer consumption with historical and current data.
	- Evaluated the adequacy of the related disclosures in the financial report including those made with respect to judgements and estimates.

Impairment allowance – Trade Receivables and Unbilled Receivables

Why significant	How our audit addressed the key audit matter
An impairment allowance in respect of the Group's trade receivables and unbilled receivables of $162 million has been recorded at 30 June 2020, with $40 million of this amount relating to an increase in collection uncertainty as a result of the impact of COVID-19.	Our audit procedures included the following: - Assessed whether the process for recognising impairment of trade receivables and unbilled receivables met the requirements of Australian Accounting Standards. o Analysed the ageing of trade receivables and unbilled receivables and the collection and credit history of the Group's customers.

Building a better working world

The estimation of the Group's impairment allowance is considered a key audit matter due to the judgement involved in estimating information available with consideration of past events, current conditions and forecasts of future economic conditions, in particular the impact of COVID-19.

The Group's disclosures in respect of its estimation process are included in Note C1 of the financial report.

- Evaluated the Group's assessment of collectability considering the process to achieve recovery, the likely timing of these processes and events that could delay or impact the collectability.
- Assessed the current and forecast economic environment applicable to the Group's customers to analyse the risk of impairment.
- Performed a sensitivity analysis on the Group's impairment allowance attributed to COVID-19 by recalculating the allowance with reference to forecast market data such as unemployment rates, and expected default frequency rates, specific to the customers size and risk.

- Evaluated the adequacy of the related disclosures in the financial report including those made with respect to judgements and estimates.

Information Other than the Financial Report and Auditor's Report Thereon

The directors are responsible for the other information. The other information comprises the information included in the Company's 2020 Annual Report other than the financial report and our auditor's report thereon.

Our opinion on the financial report does not cover the other information and accordingly we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial report, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the financial report or our knowledge obtained in the audit or otherwise appears to be materially misstated.

If, based on the work we have performed on the other information obtained prior to the date of this auditor's report, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

Responsibilities of the Directors for the Financial Report

The directors of the Company are responsible for the preparation of the 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 financial report that gives a true and fair view and is free from material misstatement, whether due to fraud or error.

In preparing the financial report, the directors are responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting unless the directors either intend to liquidate the Group or to cease operations, or have no realistic alternative but to do so.

Building a better working world

Auditor's Responsibilities for the Audit of the Financial Report

Our objectives are to obtain reasonable assurance about whether the financial report as a whole is free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with the Australian Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of this financial report.

As part of an audit in accordance with the Australian Auditing Standards, we exercise professional judgment and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the directors.

- Conclude on the appropriateness of the directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial report or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the financial report, including the disclosures, and whether the financial report represents the underlying transactions and events in a manner that achieves fair presentation.

- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the financial report. We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

We communicate with the directors regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the directors with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, actions taken to eliminate threats or safeguards applied.

Building a better working world

From the matters communicated to the directors, we determine those matters that were of most significance in the audit of the financial report of the current year and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

Report on the Audit of the Remuneration Report

Opinion on the Remuneration Report

We have audited the Remuneration Report included in the directors' report for the year ended 30 June 2020.

In our opinion, the Remuneration Report of Origin Energy Limited for the year ended 30 June 2020, complies with section 300A of the *Corporations Act 2001*.

Responsibilities

The directors of the Company are responsible for the preparation and presentation of the Remuneration Report in accordance with section 300A of the *Corporations Act 2001*. Our responsibility is to express an opinion on the Remuneration Report, based on our audit conducted in accordance with Australian Auditing Standards.

Ernst & Young

Andrew Price
Partner
Sydney
20 August 2020


origin

Share and Shareholder Information

The information set out below was applicable as at 20 August 2020.

Corporate Governance Statement

The Company's Corporate Governance Statement can be found on its website at https://www.originenergy.com.au/content/dam/origin/about/investors-media/presentations/cgs_4g.pdf

Substantial shareholders

As at 20 August 2020, the Company received notice of one substantial holder:
AustralianSuper Pty Ltd, holding 109,662,324 shares in the Company's issued capital.

Number of equity securities holders and voting rights

As at 20 August 2020, there were:

- 145,123 holders of 1,761,211,071 ordinary shares in the Company;
- 24 holders of 3,259,381 Options, 87 holders of 6,234,794 Performance Share Rights, two holders of 136,836 Deferred Share Rights granted under the Origin Energy Equity Incentive Plan; and
- 612 holders of 225,927 Matching Share Plan Rights granted under the Origin Matching Share Plan.

Voting rights of members

At a meeting of members, each member who is entitled to attend and vote may attend and vote in person or by proxy, attorney or representative. On a show of hands, every person present who is a member, proxy, attorney or representative, shall have one vote; and on a poll, every member who is present in person or by proxy, attorney or representative shall have one vote for each fully paid ordinary share held. No other equity securities hold voting rights.

Please note that the 2020 Annual General Meeting will be held online. This is in line with Australian Government guidelines in relation to COVID-19.

Analysis of holdings

Fully paid ordinary shares

Holdings ranges	Holders	Total units	%
1–1,000	61,422	26,674,625	1.51
1,001–5,000	60,182	146,217,075	8.30
5,001–10,000	14,518	102,660,545	5.83
10,001–100,000	8,768	178,666,677	10.14
100,001–999,999,999	233	1,306,992,149	74.21
Totals	**145,123**	**1,761,211,071**	**100.00**

Options

Holdings ranges	Holders	Total units	%
1–1,000	0	0	0.00
1,001–5,000	0	0	0.00
5,001–10,000	0	0	0.00
10,001–100,000	12	786,499	24.13
100,001–999,999,999	12	2,472,882	75.87
Totals	**24**	**3,259,381**	**100.00**

Deferred share rights

Holdings ranges	Holders	Total units	%
1–1,000	0	0	0.00
1,001–5,000	0	0	0.00
5,001–10,000	0	0	0.00
10,001–100,000	1	26,057	19.04
100,001–999,999,999	1	110,779	80.96
Totals	**2**	**136,836**	**100.00**

Performance share rights

Holdings ranges	Holders	Total units	%
1–1,000	0	0	0.00
1,001–5,000	0	0	0.00
5,001–10,000	3	27,628	0.44
10,001–100,000	68	2,787,623	44.71
100,001–999,999,999	16	3,419,543	54.85
Totals	**87**	**6,234,794**	**100.00**

Matching Share Plan matched rights

Holdings ranges	Holders	Total units	%
1–1,000	612	225,927	100.00
1,001–5,000	0	0	0.00
5,001–10,000	0	0	0.00
10,001–100,000	0	0	0.00
100,001–999,999,999	0	0	0.00
Totals	**612**	**225,927**	**100.00**

Unmarketable parcels

8,481 shareholders held less than a marketable parcel as at 20 August 2020.

Top 20 holdings

Shareholder	Number of shares	% of issued shares
HSBC Custody Nominees (Australia) Limited	470,968,427	26.74%
J P Morgan Nominees Australia Pty Limited	413,943,765	23.50%
Citicorp Nominees Pty Limited	134,129,573	7.62%
National Nominees Limited	72,753,365	4.13%
BNP Paribas Nominees Pty Ltd <Agency Lending DRP A/C>	40,391,742	2.29%
BNP Paribas Noms Pty Ltd <DRP>	28,202,692	1.60%
HSBC Custody Nominees (Australia) Limited <NT-Comnwlth Super Corp A/C>	21,021,195	1.19%
Citicorp Nominees Pty Limited <Colonial First State Inv A/C>	13,168,219	0.75%
Argo Investments Limited	11,351,603	0.65%
Australian Foundation Investment Company Limited	6,000,000	0.34%
HSBC Custody Nominees	5,746,127	0.33%
Sargon Ct Pty Ltd <Origin Energy ESP Allocated>	4,930,426	0.28%
BNP Paribas Nominees Pty Ltd Hub24 Custodial Serv Ltd <DRP A/C>	4,526,347	0.26%
Netwealth Investments Limited <WRAP Services A/C>	4,176,792	0.24%
The Senior Master Of The Supreme Court <Common Fund No 3 A/C>	3,758,868	0.21%
Sargon Ct Pty Ltd <Origin Energy ESP Unalloc>	3,145,733	0.18%
Bond Street Custodians Limited <COCKEJ – F01832 A/C>	2,920,439	0.17%
AMP Life Limited	2,836,999	0.16%
HSBC Custody Nominees (Australia) Limited	2,071,356	0.12%
BNP Paribas Noms (NZ) Ltd <DRP>	1,957,838	0.11%
Total securities of top 20 holdings	1,248,001,506	70.86%
Total of securities	**1,761,211,071**	

Securities exchange listing

Origin shares are traded on the Australian Securities Exchange Limited (ASX). The symbol under which Origin shares are traded is 'ORG'.

Escrowed securities

There are no securities subject to voluntary escrow as at the date of this Report.

On-market buy-back

There is no current on-market buy-back of Origin shares.

On-market purchases for employee equity plans

During the reporting period, 3,868,000 Origin shares were purchased on-market for the purpose of Origin's employee incentive plans. The average price per share purchased was $5.76.

Shareholder enquiries

For information about your shareholding, to notify a change of address, to make changes to your dividend payment instructions or for any other shareholder enquiries, you should contact Origin Energy's share registry, Boardroom Pty Ltd on 1300 664 446. Please note that broker-sponsored holders are required to contact their broker to amend their address.

When contacting the share registry, shareholders should quote their security holder reference number, which can be found on the holding or dividend statements.

Shareholders with internet access can update and obtain information regarding their shareholding online at https://www.originenergy.com.au/about/investors-media.html

Tax File Number

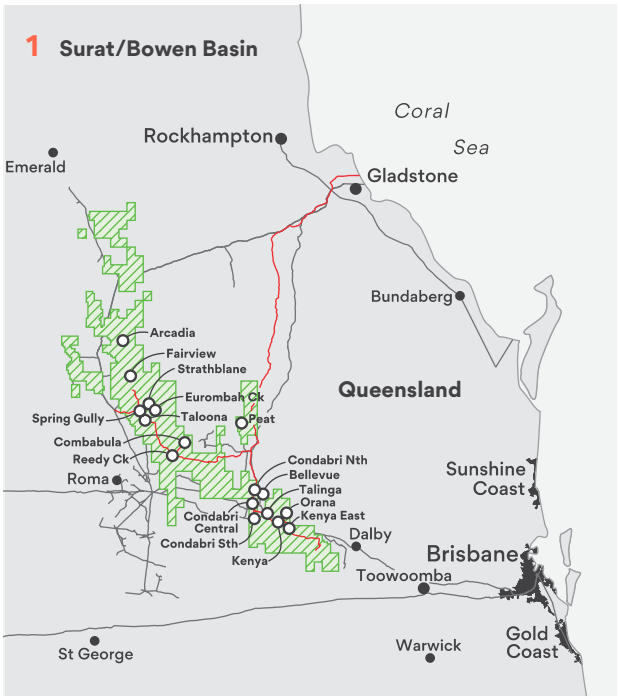
For resident shareholders who have not provided the share registry with their Tax File Number (TFN) or exemption category details, tax at the top marginal tax rate (plus Medicare levy) will be deducted from dividends to the extent they are not fully franked. For those shareholders who have not provided their TFN or exemption category details, forms are available from the share registry. Shareholders are not obliged to provide this information if they do not wish to do so.

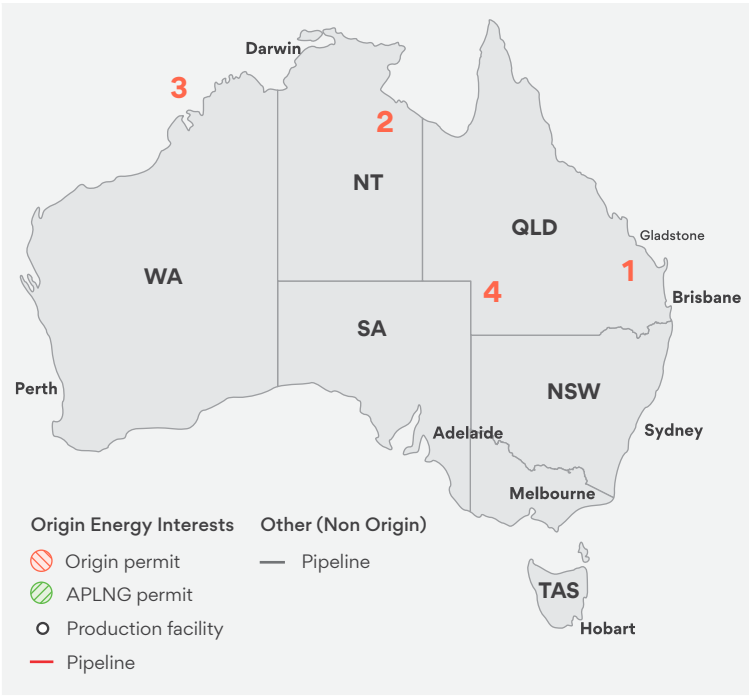
Information on Origin

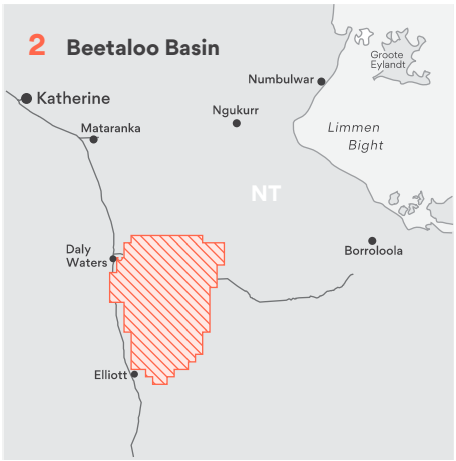
The main source of information for shareholders is the Annual Report. The Annual Report will be provided to shareholders on request and free of charge. Shareholders not wishing to receive the Annual Report should advise the share registry in writing so that their names can be removed from the mailing list. Origin's website (www.originenergy.com.au) is another source of information for shareholders.


ERARING
POWER STATION

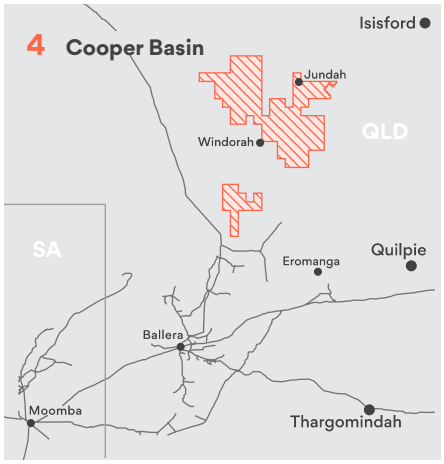
Exploration and Production Permits and Data











1. Origin's interests

Origin held interests in the following permits at 30 June 2020.

Australia

Basin/Project Area	Interest	
Surat Basin/Ironbark (Queensland)		
ATP 788P (Shallows)	37.50%	*1
ATP 788P (Deeps)	9.38%	*1
Denison Trough (Queensland)		
PL's 43, 44, 45, 183 and 218 (Deeps)	18.75%	*1
ATP 1191 Farm-out (Mahalo block), PL's 1082,1083	11.25%	1
PL's 450, 451, 457 and 1012	18.75%	1
ATP 1191 and PL(A) 1062	18.75%	1
LNG (Gladstone)		
PPL's 162 and 163	37.50%	1
PFL 20	37.50%	1
CSG (Queensland) Fairview/Arcadia		
ATP 526P, ATP 2012P, and PL's 90, 91, 92, 99, 100, 232, 233, 234, 235 and 236, PL(A) 1017	8.97%	1
ATP 745P, ATP 2033 and PL's 420, 421 and 440, PL(A) 1059	8.94%	1
Spring Gully		
ATP 592P and PL's 195, 414, 415, 416, 417, 418, 268 and 419(A)	35.44%	*1
PL 204	37.40%	*1
PL 200	35.89%	*1
PPL 143, 180 and 2026	37.50%	*1
Talinga/Orana		
ATP 692P and PL's 209, 215, 226, 272, 216, 225, 445(A)	37.50%	*1
PPL's 171, 181 and 2032	37.50%	*1
PFL 26	37.50%	*1
Kenya/Kenya East/Bellevue/Anya		
PL's 179, 180, 228, 229 and 263	15.23%	1
PL 247	11.02%	1
PL's 257, 273, 274, 275, 278, 279, 442, 466, 474 and 503 (Shallows)	11.72%	1
PL 1025	11.72%	1
PFL 19	11.72%	1
PPL's 107, 176 and 2014	15.23%	1
Peat		
PL 101	37.50%	*1
Other Bowen Basin		
ATP 804P	10.99%	1
PL's 219 and 220	37.50%	*1
ATP 2047	18.75%	1
Condabri		
PL's 265, 266 and 267	37.50%	*1
PL's 177, 185, 186 and 2000	37.50%	*1
Other Surat Basin		
ATP 973P	37.50%	*1
ATP 972P and PL's 469(A), 470 and 471(A)	34.77%	*1
PL 1084	33.75%	*1
PL 1011	37.50%	*1
PL 1018	37.50%	*1
Combabula/Reedy Creek		
ATP 606P and PL's 297, 403, 404, 407, 408, 405, 406(A), 412, 413 and 444(A)	34.77%	*1
PPL 178	37.50%	*1
Angry Jungle		
ATP 631P and PL's 281 and 282	6.79%	1
Browse Basin (Western Australia)		
TR/7, TR/8, WA-90R, WA-91R, WA-92R	40.00%	
Beetaloo Basin (Northern Territory)		
EP 76, EP 98 and EP117	77.50%	*
Cooper-Eromanga Basin (Queensland)		
ATP's 736, 737, 738, 2025, and 2026	75.00%	*
Geothermal (South Australia)		
GRL 3	30.00%	

Notes:

* Operatorship

1 Interest held through 37.5 per cent ownership of Australian Pacific LNG Joint Venture

Annual Reserves Report

For the year ended 30 June 2020

1. Reserves and resources

This *Annual Reserves Report* provides an update on the reserves and resources of Origin Energy Limited (Origin) and its share of Australia Pacific LNG Pty Limited (APLNG), as at 30 June 2020.

1.1 Highlights

APLNG (Origin 37.5 per cent share)

- Strong field performance resulted in an increase in reserves in operated areas. This enabled a decision to not participate in some low-value non-operated fields. During FY2020, APLNG also delivered record production. A detailed breakdown of movements in Origin's share of APLNG 2P (proved plus probable) reserves is as follows:
  - 119 PJ upward revision of operated 2P reserves reflecting strong field performance and maturation of resources to reserves;
  - 48 PJ increase in operated 2P reserves due to the acquisition of Ironbark from Origin;
  - 104 PJ reduction in non-operated 2P reserves due to a decision to not participate in certain non-operated field developments (–149 PJ), balanced against a 45 PJ reserves increase in other non-operated areas; and
  - 265 PJ of production (an increase of 4 per cent on 2019) and underpinned by improved operated and non-operated field performance. This was due to higher well availability and facility reliability as well as commissioning of the Eurombah Reedy Creek Interconnect pipeline, which improved utilisation of processing capacity.
- Excluding net reductions in non-operated developments, APLNG appraisal and development drilling, along with development feasibility assessment, has resulted in 2P reserves replacement of 90 per cent of production in operated fields over the last three years.
- Origin's share of 1P (proved) reserves has continued to grow, with an increase of 10 per cent or 270 PJ before production as a result of development drilling. After taking into account production, 1P reserves increased 5 PJ to 2,769 PJ. 1P reserves represent 61 per cent of total 3P (proved plus probable plus possible) reserves as at 30 June 2020.
- APLNG also continues to mature its strong resource base with further exploration and appraisal activities, as well as technology trials and a continued focus on reducing operating and capital costs.

Origin (excluding share of APLNG)

- A 129 PJ decrease in other 2P reserves reflects the sale of Ironbark assets to APLNG on 5 August 2019. Ironbark reserves and resources are included within APLNG reserves at 30 June 2020, of which Origin owns 37.5 per cent.

1.2 2P reserves (Origin share)

2P reserves decreased by 331 PJ (after production) to a total of 4,268 PJ, compared to 30 June 2019.

Origin 2P reserves by area

2P reserves by area (PJ)	2P 30/06/2019	Acquisition/ divestment	New booking/ discovery	Revisions/ extensions	Production	2P 30/06/2020
Australia Pacific LNG	**4,470**	**48**	**–**	**15**	**(265)**	**4,268**
Surat/Bowen (unconventional)						
– Spring Gully & Denison asset	733	–	–	(70)	(39)	624
– Condabri, Talinga & Orana asset	1,405	48	–	59	(101)	1,411
– Reedy Creek, Combabula & Peat asset	1,475	–	–	131	(63)	1,542
– Non-operated assets	857	–	–	(104)	(62)	691
Other						
Ironbark (unconventional)	129	(129)	–	–	–	–
Total	**4,599**	**(81)**	**–**	**15**	**(265)**	**4,268**

- Summary of 2P reserves movement – key changes include:
  - 265 PJ decrease due to production;
  - net 81 PJ decrease due to the divestment of Ironbark by Origin to APLNG;
  - 119 PJ net positive revision in operated areas, reflecting:
    - improved understanding of field behaviour, which resulted in an increase in estimated recovery from producing fields in Combabula, Condabri, Talinga and Orana, partially offset by a decrease in Spring Gully; and
    - the inclusion of new areas to reserves, including the Peat Flank asset (within Reedy Creek, Combabula and Peat) following successful appraisal activities; and
  - 104 PJ reduction in non-operated areas, primarily due to the decision by APLNG to not participate in certain future field developments (149 PJ), offset by modest increases in reserves from other non-operated areas (45 PJ).
- As at 30 June 2020, developed 2P reserves represented 58 per cent of total 2P reserves.
- As at 30 June 2020, 100 per cent of Origin's share of 2P reserves are unconventional gas.

Origin 2P reserves by development type

2P reserves by development type (PJ)	Developed	Undeveloped	Total 2P 30/06/2019	Developed	Undeveloped	Total 2P 30/06/2020
Australia Pacific LNG	**2,386**	**2,084**	**4,470**	**2,488**	**1,780**	**4,268**
Surat/Bowen (unconventional)						
– Spring Gully & Denison asset	496	238	733	442	182	624
– Condabri, Talinga & Orana asset	935	469	1,405	976	435	1,411
– Reedy Creek, Combabula & Peat asset	577	898	1,475	676	866	1,542
– Non-operated assets	378	479	857	394	297	691
Other						
Ironbark (unconventional)	–	129	129	–	–	–
Total	**2,386**	**2,213**	**4,599**	**2,488**	**1,780**	**4,268**

1.3 1P reserves (Origin share)

1P reserves increased by 270 PJ or 10 per cent (before production) and increased by 5 PJ after production to 2,769 PJ, when compared to 30 June 2019, due to development drilling.

As at 30 June 2020, developed 1P reserves represented 89 per cent of total 1P reserves. The remaining 11 per cent of 1P reserves represents wells that have been spudded but not connected and planned wells that are immediately adjacent to drilled wells. 100 per cent of 1P reserves are unconventional gas.

Origin 1P reserves by area

1P reserves by area (PJ)	1P 30/6/2019	Acquisition/ divestment	New booking/ discovery	Revisions/ extensions	Production	1P 30/6/2020
Australia Pacific LNG	**2,764**	**–**	**–**	**270**	**(265)**	**2,769**
Surat/Bowen (unconventional)						
– Spring Gully & Denison asset	545	–	–	(49)	(39)	456
– Condabri, Talinga & Orana asset	967	–		160	(101)	1,026
– Reedy Creek, Combabula & Peat asset	651	–	–	173	(63)	761
– Non-operated assets	601	–	–	(14)	(62)	526
Other						
Ironbark (unconventional)	–	–	–	–	–	–
Total	**2,764**	**–**	**–**	**270**	**(265)**	**2,769**

Origin 1P reserves by development type

1P reserves by development type (PJ)	Developed	Undeveloped	Total 1P 30/6/2019	Developed	Undeveloped	Total 1P 30/6/2020
Australia Pacific LNG	**2,370**	**394**	**2,764**	**2,478**	**291**	**2,769**
Surat/Bowen (unconventional)						
– Spring Gully & Denison asset	496	49	545	442	14	456
– Condabri, Talinga & Orana asset	935	32	967	975	51	1,026
– Reedy Creek, Combabula & Peat asset	577	74	651	674	87	761
– Non-operated assets	363	239	601	387	139	526
Other						
Ironbark (unconventional)	–	–	–	–	–	–
Total	**2,370**	**394**	**2,764**	**2,478**	**291**	**2,769**

1.4 2C Contingent resources for Origin Energy

Beetaloo Basin

A material contingent resource announcement of 6.6 Tscf (gross) or 2.3 Tscf (net) for the Beetaloo Basin was provided on 15 February 2017 to the ASX: https://www.asx.com.au/asxpdf/20170215/pdf/43g0qhh87j71bb.pdf

Origin increased its interest in the Beetaloo Joint Venture to 70 per cent in May 2017 by acquiring Sasol's 35 per cent share: https://www.asx.com.au/asxpdf/20170505/pdf/43j1ss71xqbxtc.pdf

During FY2020, Origin further increased its interest in the Beetaloo Joint Venture to 77.5 per cent by acquiring 7.5 per cent of the interest owned by Falcon Oil and Gas: https://www.asx.com.au/asxpdf/20200407/pdf/44gs08yfdwfrjp.pdf

Refer to the Operating and Financial Review, released on the same date as this report for details of the current status of our Beetaloo Basin asset.

Appendix A: APLNG reserves and resources

Origin, as APLNG Upstream Operator, has prepared estimates of the reserves and resources held by APLNG for operated assets which are detailed in this report.

Netherland, Sewell & Associates, Inc. (NSAI) has prepared a consolidated report of the reserves and resources held by APLNG for non-operated assets. The reserves and resources estimates for the non-operated properties in their report have been independently estimated by NSAI.

The tables below provide 1P, 2P and 3P reserves and 2C resources for APLNG (100 per cent) and Origin's 37.5 per cent interest in these APLNG (operated and non-operated) reserves and resources.

Reserves and resources held by APLNG (100 per cent share)

Reserves/resources classification	30/6/2019	Acquisition/ divestment	New booking/ discovery	Revisions/ extensions	Production	30/6/2020
1P (proven)	7,372	–	–	719	(708)	7,384
2P (proven plus probable)	11,920	129	–	40	(708)	11,381
3P (proven plus probable plus possible)	12,820	192	–	(234)	(708)	12,071
2C (best estimate contingent resource)	3,107	497	–	375	–	3,980

Reserves and resources held by Origin (37.5 per cent in APLNG)

Reserves/resources classification	30/6/2019	Acquisition/ divestment	New booking/ discovery	Revisions/ extensions	Production	30/6/2020
1P (proven)	2,764	–	–	270	(265)	2,769
2P (proven plus probable)	4,470	48	–	15	(265)	4,268
3P (proven plus probable plus possible)	4,808	72	–	(88)	(265)	4,526
2C (best estimate contingent resource)	1,165	187	–	141	–	1,493

See details above for movements in 1P and 2P reserves.

The 234 PJ decrease in APLNG (100 per cent share) 3P reserves, excluding production, is due to decisions to not participate in some non-operated field developments (–441 PJ), partially offset by improved understanding of estimated recovery in other producing areas.

The 873 PJ increase in APLNG (100 per cent share) 2C resources is primarily due to the acquisition of Ironbark and the decision to not participate in some non-operated field developments. A number of appraisal activities are presently ongoing that if successful would convert some further resources to reserves.

Appendix B: Notes relating to this report

a. Methodology regarding reserves and resources

The Reserves Report has been prepared to be consistent with the Petroleum Resources Management System (PRMS) 2018 published by Society of Petroleum Engineers (SPE). This document may be downloaded from the SPE website: https://www.spe.org/en/industry/reserves/ Additionally, this Reserves Report has been prepared to be consistent with the ASX reporting guidelines. For all assets, Origin reports reserves and resources consistent with SPE guidelines as follows: proved reserves (1P); proved plus probable reserves (2P); proved plus probable plus possible reserves (3P); best estimate contingent resources (2C). Reserves must be discovered, recoverable, commercial and remaining.

The CSG reserves and resources held within APLNG's properties have either been independently prepared by NSAI or prepared by Origin. The reserves and resources estimates contained in this report have been prepared in accordance with the standards, definitions and guidelines contained within the Petroleum Resources Management System (PRMS) and generally accepted petroleum engineering and evaluation principles as set out in the SPE Reserves Auditing Standards.

Origin does not intend to report prospective or undiscovered resources as defined by the SPE in any of its areas of interest on an ongoing basis.

b. Economic test for reserves

The assessment of reserves requires a commercial test to establish that reserves can be economically recovered. Within the commercial test, operating cost and capital cost estimates are combined with fiscal regimes and product pricing to confirm the economic viability of producing the reserves.

Gas reserves are assessed against existing contractual arrangements, and local market conditions, as appropriate. In the case of gas reserves where contracts are not in place a forward price scenario based on monetisation of the reserves through domestic markets has been used, including power generation opportunities, direct sales to LNG and other end users and utilisation of Origin's wholesale and retail channels to market.

For CSG reserves that are intended to supply the APLNG CSG to LNG project, the economic test is based on a weighted average price across domestic, spot and LNG contracts, less short run marginal costs for downstream transport and processing. This price is exposed to changes in the supply/demand balance in the market through oil price–linked LNG contracts.

c. Reversionary rights

The CSG interests that Australia Pacific LNG acquired from Tri-Star in 2002 are subject to reversionary rights. If triggered, these rights will require Australia Pacific LNG to transfer back to Tri-Star a 45 per cent interest in those CSG interests for no additional consideration. Origin has assessed the potential impact of these reversionary rights based on economic tests consistent with the reserves and resources referable to the CSG interests, and based on that assessment does not consider that the existence of these reversionary rights impacts the reserves and resources quoted in this report. Tri-Star has commenced proceedings against Australia Pacific LNG claiming that reversion has occurred. Australia Pacific LNG denies that reversion has occurred and is defending the claim.[1]

d. Information regarding the preparation of this Reserves Report

The CSG reserves and resources held within APLNG's properties have either been independently prepared by NSAI or prepared by Origin. All assessments are based on technical, commercial and operational data provided by Origin on behalf of APLNG.

The statements in this report relating to reserves and resources as of 30 June 2020 for APLNG's interests in non-operated assets are based on information in the NSAI report dated 4 August 2020. The data has been compiled by Mr John Hattner, a full-time employee of NSAI. Mr John Hattner has consented to the statements based on this information, and to the form and context in which these statements appear.

The statements in this report relating to reserves and resources for other assets are based on, and fairly represent, information and supporting documentation prepared by, or under the supervision of, qualified petroleum reserves and resources evaluators who are employees of Origin.

This Reserves Statement as a whole has been approved by Mr Simon Smith FIEAust CPEng NER RPEQ, who is a full-time employee of Origin. Mr Simon Smith is Chief Petroleum Engineer, a qualified Petroleum Reserves and Resources Evaluator, a member of the Society of Petroleum Engineers and has consented to the form and context in which these statements appear.

e. Rounding

Information on reserves quoted in this report are rounded to the nearest whole number. Some totals in tables in this report may not add due to rounding. Items that round to zero are represented by the number 0, while items that are actually zero are represented with a dash: '-'.

1 Refer to section 7 of the Operating and Financial Review released to the ASX on 20 August 2020 for further information.

f. Abbreviations

bbl	barrel
Tscf	trillion standard cubic feet
CSG	coal seam gas
kbbls	kilo barrels = 1,000 barrels
ktonnes	kilo tonnes = 1,000 tonnes
mmboe	million barrels of oil equivalent
PJ	petajoule = 1 x 10^{15} joules
PJe	petajoule equivalent

g. Conversion factors for PJe

CSG	1.038 PJ/Bscf

h. Reference point

Reference points for Origin's petroleum reserves and contingent resources are defined points within Origin's operations where normal exploration and production business ceases, and quantities of the produced product are measured under defined conditions prior to custody transfer. Fuel, flare and vent consumed to the reference points are excluded.

i. Preparing and aggregating petroleum resources

Petroleum reserves and contingent resources are typically prepared by deterministic methods with support from probabilistic methods. Petroleum reserves and contingent resources are aggregated by arithmetic summation by category and as a result, proved reserves may be a conservative estimate due to the portfolio effects of the arithmetic summation. Proved plus probable plus possible may be an optimistic estimate due to the same aforementioned reasons.

j. Methodology and internal controls

The reserves estimates undergo an assurance process to ensure that they are technically reasonable given the available data and have been prepared according to our reserves and resources process, which includes adherence to the PRMS Guidelines. The assurance process includes peer reviews of the technical and commercial assumptions. The annual reserves report is reviewed by management with the appropriate technical expertise, including the Chief Petroleum Engineer and Integrated Gas General Managers.


origin

Five-year Financial History

A reconcilation between statutory and underlying profit measures can be found in note A1 of the Origin Consolidated Financial Statements.

Income statement ($m)	2020[1]	2019[1]	2018[1]	2017[1]	2016[1]
Total external revenue	13,157	14,727	14,883	14,107	12,174
Underlying					
EBITDA[2]	3,141	3,232	3,217	2,530	1,696
Depreciation and amortisation expense	(509)	(419)	(381)	(477)	(624)
Share of interest, tax, depreciation and amortisation of equity accounted investees[3]	(1,303)	(1,504)	(1,194)	(925)	(296)
EBIT	1,329	1,308	1,642	1,128	776
Net financing costs	(126)	(154)	(278)	(296)	(109)
Income tax benefit/(expense)	(177)	(123)	(339)	(279)	(286)
Non-controlling interests	(3)	(3)	(3)	(3)	(16)
Segment result and underlying consolidated profit	1,023	1,028	1,022	550	365
Impact of items excluded from segment result and underlying consolidated profit net of tax	(940)	183	(804)	(2,776)	(993)
Statutory					
Profit attributable to members of the parent entity	83	1,211	218	(2,226)	(628)
Statement of financial position ($m)					
Total assets	25,093	25,743	24,257	25,199	28,905
Net debt/(cash)	5,688	6,084	7,289	8,364	9,470
Shareholders' equity – members/parent entity interest	12,680	13,129	11,804	11,396	14,039
Adjusted net debt/(cash)[4]	5,158	5,417	6,496	8,111	9,131
Shareholders' equity – total	12,701	13,149	11,828	11,418	14,060
Cash flow					
Net cash from operating and investing activities – total operations ($m)	1,813	1,914	2,645	1,378	1,215
Key ratios					
Statutory basic earnings per share (cents)[5]	4.7	68.8	12.4	(126.9)	(39.8)
Underlying basic earnings per share (cents)[5]	58.1	58.4	58.2	31.3	23.2
Total dividend per share (cents)[6]	25	25	–	-	10
Net debt to net debt plus equity (adjusted) (%)[4]	29	29	36	42	39
Underlying EBITDA by segment ($m)					
Energy Markets[2]	1,459	1,574	1,811	1,492	1,330
Integrated Gas	1,741	1,892	1,521	1,104	386
Contact Energy			–	–	61
Corporate	(59)	(234)	(115)	(66)	(81)
General Information					
Number of employees (Excluding Contact Energy)	5,232	5,360	5,565	5,894	5,811
Weighted average number of shares[5]	1,759,801,186	1,758,935,655	1,757,442,268	1,754,489,221	1,578,213,157
Integrated Gas[7]					
2P reserves (PJe)	4,268	4,599	4,799	5,788	6,277
Product sales volumes (PJe)	251	254	255	334	228
• Liquified Natural Gas (Kt)	3,258	3,257	3,213	2,668	659
• Natural gas and ethane (PJ)	70	73	77	163	168
• Crude oil (kbbls)	–	–	–	1,209	1,629
• Condensate/naphtha (kbbls)	–	–	–	1,615	1,403
• LPG (kt)	–	–	–	144	127
Production volumes (PJe)	265	255	254	323	232

	2020[1]	2019[1]	2018[1]	2017[1]	2016[1]
Energy Markets					
Generation (MW) – owned	6,029	6,029	5,981	6,011	6,011
Generation dispatched (TWh)	18	20	21	20	20
Number of customers ('000)	4,232	4,192	4,181	4,210	4,217
• Electricity	2,631	2,639	2,666	2,716	2,741
• Natural gas	1,220	1,191	1,145	1,112	1,089
• LPG	363	362	370	382	387
Electricity (TWh)	34	36	38	40	38
Natural gas (PJ)	204	222	214	188	167
LPG (Kt)	417	426	450	448	458

(1) Includes discontinued operations and assets held for sale unless stated otherwise.

(2) FY2019 includes premiums relating to certain electricity hedges within Underlying Profit. The equivalent amounts in prior years have not been restated in the above table. Had the amounts been adjusted, the impact to underyling EBITDA in each period would have been a reduction in each year is as follows: FY2018 $(160) million; FY2017 $(141) million; and FY2016 $(139) million.

(3) Origin discloses its equity accounted results in two lines: 'share of EBITDA of equity accounted investees,' included in EBITDA; and 'share of interest, tax, depreciation and amortisation of equity accounted investees,' included between EBITDA and EBIT.

(4) Total current and non-current interest-bearing liabilities only, less cash and cash equivalents excluding APLNG related cash, less fair value adjustments on hedged borrowings.

(5) Prior period adjusted for the bonus element (discount to market price) of the September 2015 rights issue.

(6) Dividends represent the interim and final dividends determined for each financial year. This includes the final dividend for FY2020 determined on 20 August 2020 to be paid on 2 October 2020. The amounts paid within each financial year are 30c, 10c, 0c, 0c and 35c respectively.

(7) 2018 excludes Lattice Energy (continuing operations basis shown).

Glossary and Interpretation

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 5.1. 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.
FY20 (current period)	Year ended 30 June 2020.
FY19 (prior period)	Year ended 30 June 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 5.1 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.

Term	Meaning
Underlying EBITDA	Underlying earnings before underlying interest, underlying tax, underlying depreciation and amortisation (EBITDA) as disclosed in note A1 of the Origin Consolidated Financial Statements.
Underlying share of ITDA	Share of interest, tax, depreciation and amortisation of equity accounted investees adjusted for items excluded from Underlying Profit.
Underlying Profit/Loss	Underlying net profit/loss after tax and non-controlling interests as disclosed in note A1 of the Origin Consolidated Financial Statements.
Underlying ROCE (Return on Capital Employed)	Calculated as Adjusted EBIT/Average Capital Employed. 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. 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.

Non-financial terms

Term	Meaning
1P reserves	Proved Reserves are those reserves which analysis of geological and engineering data can be estimated with reasonable certainty to be commercially recoverable. There should be at least a 90 per cent probability that the quantities actually recovered will equal or exceed the estimate.
2P reserves	The sum of Proved plus Probable Reserves. Probable Reserves are those additional reserves which analysis of geological and engineering data indicate are less likely to be recovered than Proved Reserves but more certain than Possible Reserves. There should be at least a 50 per cent possibility that the quantities actually recovered will equal or exceed the best estimate of Proved plus Probable Reserves (2P).
3P reserves	Proved plus Probable plus Possible Reserves. Possible Reserves are those additional Reserves which analysis of geological and engineering data suggest are less likely to be recoverable than Probable Reserves. The total quantities ultimately recovered from the project have at least a 10 per cent probability of exceeding the sum of Proved plus Probable plus Possible (3P), which is equivalent to the high estimate scenario.
2C resources	The best estimate quantity of petroleum estimated to be potentially recoverable from known accumulations by application of development oil and gas projects, but which are not currently considered to be commercially recoverable due to one or more contingencies. The total quantities ultimately recovered from the project have at least a 50 per cent probability to equal or exceed the best estimate for 2C contingent resources.
Boe	Barrel of oil equivalent.
C&I	Commercial and Industrial.
DMO	Default Market Offer.
ERP	Enterprise resource planning.
GJ	Gigajoule = 109 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 = 106 watts.
MWh	Megawatt hour = 103 kilowatt hours.
NEM	National Electricity Market.

Term	Meaning
NPS	Net Promoter Score (NPS) is a measure of customers' propensity to recommend Origin to friends and family.
PJ	Petajoule = 1,015 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.
Scope 1 emissions	Direct emissions from sources that are owned or operated by Origin, in particular electricity generation and gas development.
Scope 2 emissions	Emissions from the electricity that we consume to power our offices and operating sites.
Scope 3 emissions	Indirect emissions, other than Scope 2, relating to Origin's value chain that we do not own or control, including wholesale purchases of electricity from the NEM. LPG and corporate Scope 3 emissions are excluded as their emissions are not material.
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 Unipec Asia Co. Ltd. to act on its behalf under the LNG SPA.
SME	Small Medium Enterprise.
TRIFR	Total Recordable Incident Frequency Rate.
TW	Terawatt = 1,012 watts.
TWh	Terawatt hour = 109 kilowatt hours.
VDO	Victorian Default Offer.
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 Holdings Limited in which Origin holds a 20 per cent 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

EY

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

originenergy.com.au

FSC
www.fsc.org
RECYCLED
Paper made from recycled material
FSC® C008194

Sources: Water and energy savings are based on a comparison between a recycled paper manufactured at Arjowiggins Graphic mills versus an equivalent virgin fibre paper according to the latest European BREF data available (virgin fibre paper manufactured in a non-integrated paper mill). CO_2 emission savings is the difference between the emissions produced at an Arjowiggins Graphic mill for a specific recycled paper compared to the manufacture of an equivalent virgin fibre paper. Carbon footprint data evaluated by Labelia Conseil in accordance with the Bilan Carbone® methodology. Results are obtained according to technical information and subject to modification.