

## Investor day

30 October 2019



## Agenda



#### 9:00 Business and strategy update Brett Redman, Managing Director & CEO João Segorbe, EGM, Strategy & Corporate Development

- **9:45** Finance update Damien Nicks, Chief Financial Officer
- 10:30 Morning tea

## 11:00 Customer update: driving connection and orchestration

Christine Corbett, Chief Customer Officer Dominique Van Den Berg, GM, Distributed Energy Simon Moorfield, EGM, Future Business & Technology

## 12:00 Portfolio update: optionality in generation, trading and supply

Melinda Buchanan, GM, Gas & Renewables Operations David Moretto, Interim GM, Portfolio Growth Phaedra Deckart, GM, Energy Supply & Origination Simon Sarafian, GM, Trading

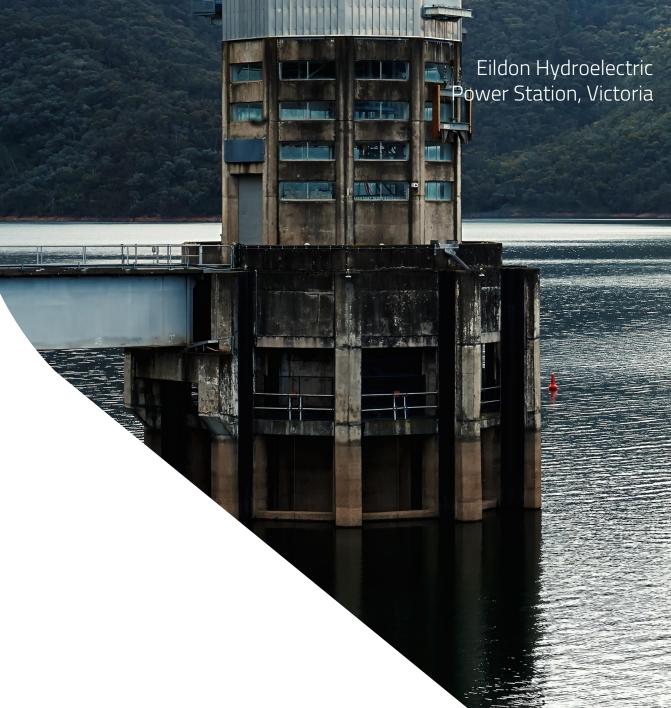
#### **1:00** Closing remarks Brett Redman, Managing Director & CEO

#### 1:15 Lunch



# Business and strategy update

Brett Redman, Managing Director & CEO João Segorbe, EGM, Strategy & Corporate Development



## Australia's leading integrated energy company delivering on our strategy



## Strong financial base

- \$2 billion+ annual cash flow
- Strong recurring dividend stream



### Positioned for transition

- Diverse and flexible portfolio
- \$200 billion investment opportunity

## Clear strategic priorities

- Refreshed purpose and values
- Growth, Transformation, Social Licence



## Four customer-centric growth pathways

- Connection • Trading and Supply
- Orchestration Generation





 Positive improvement on combined employee / contractor TIFR to 3.5 since FY19 results



## People

- Improved employee engagement score of 68%
- Executive Team appointed



### Customers

- 80,000 increase in customers
- NPS ranking improved to (5.5)
- Brand repositioning

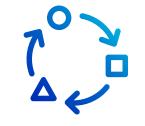
## AGL's strategic priorities remain unchanged





## Growth

Accelerate growth to meet evolving customer needs



## **Transformation**

Reposition, refresh and reinvigorate AGL



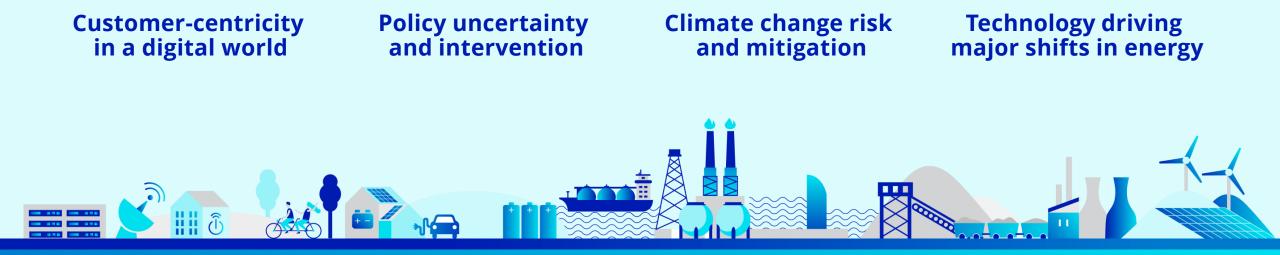
## **Social Licence**

Meet and exceed rising community expectations

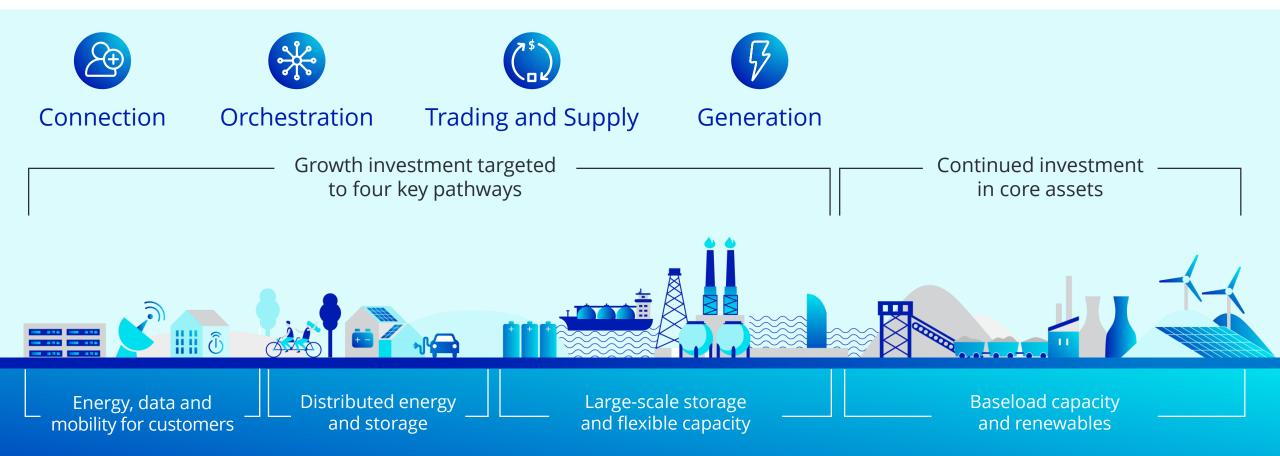


## Market disruption continues to present both risks and opportunities





## We will deliver for our customers through pursuing four growth pathways



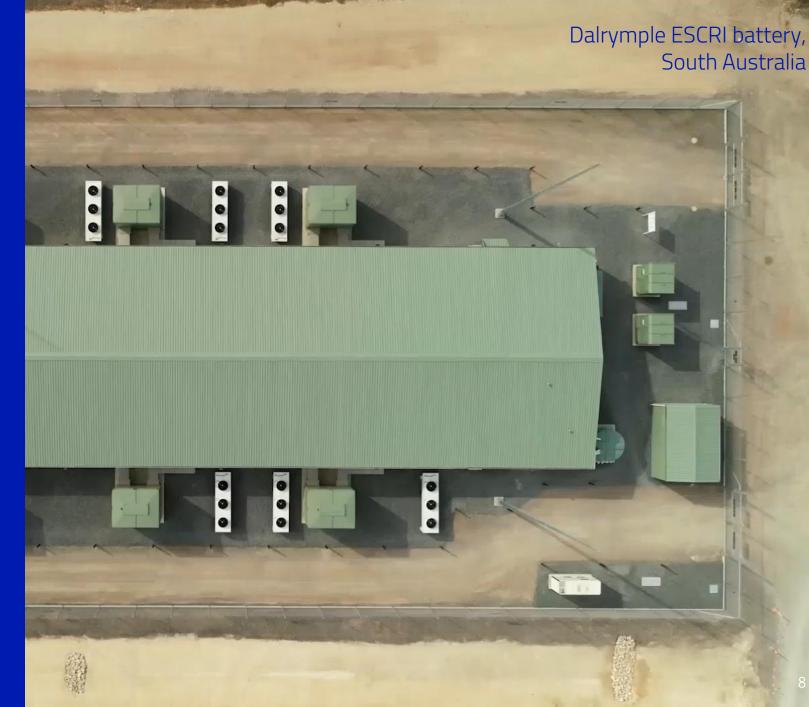
Dawn of the battery age: grid-scale batteries now have a real market role

AGL has signed a deal with Maoneng to buy capacity from four 50 MW batteries

Innovative swap structure enables AGL to call on energy capacity at a fixed price as required

Locations to include Sunraysia Solar Farm, from which AGL already has a 100 MW offtake agreement

Complementing growing residential battery capability and other grid-scale projects under development



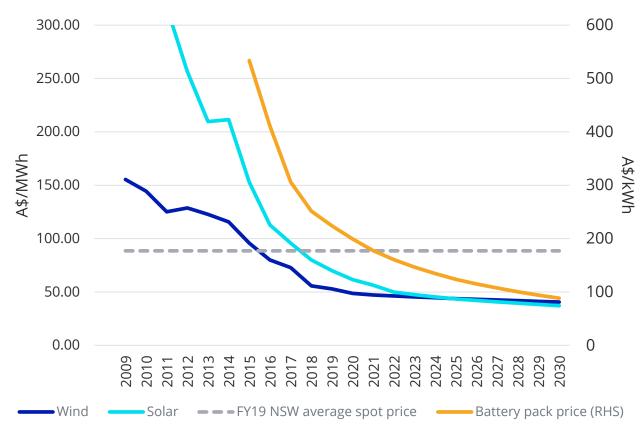
## AGL will be a leader in all forms of storage from home to grid



#### Grid-scale storage investment is set to take off

- It is projected grid-scale batteries will have a cumulative installed capacity of 3 GW in Australia by 2030\*
- AGL is actively working with developers who can offer battery capacity at competitive market prices
- Progressing grid-scale storage development:
  - Kanmantoo pumped hydro
  - Bells Mountain pumped hydro

#### Cost to develop batteries will continue to fall as it did for wind and solar\*



## \$1.9b of new energy supply projects completed or in construction; a further \$2b in the pipeline





CEO scorecard reflects our priority areas, which are unchanged in FY20







Growth

Accelerate growth to meet evolving customer needs



### **Transformation**

Reposition, refresh and reinvigorate AGL



### **Social Licence**

Meet and exceed rising community expectations

### **OPERATIONAL GOALS**



Combined employee/ contractor TIFR reduction



NPS ranking vs. other tier-1 retailers



### People

Improve employee engagement score towards FY16 levels



### **Financial**

Per guidance and LTIP targets



# agl

## In-depth look at AGL's growth pathways

João Segorbe, EGM, Strategy & Corporate Development

## Our growth strategy is designed for AGL to lead during a time of disruption





Own the Connected Customer relationship by providing multiple essential services

Provide simple solutions for essential products and services with the needs of the customer at the centre



### Orchestration

Market leader in orchestration of customerowned energy assets

Meet customer needs and offer value as home energy and transport options converge



Physically backed energy trader

Build a portfolio of assets that, together with customers, enable risk management and trading as a core source of competitive advantage



### Generation

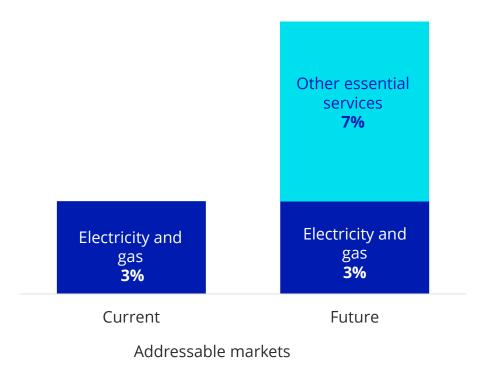
Leading provider of flexible generation capacity and storage across Australia

Provide reliable, dispatchable capacity to complement variable renewable sources and support Australia's energy transition

## Connection: Own the Connected Customer relationship by providing multiple essential services



#### Proportion of average household expenditure



Customers will drive change in the energy sector and across many other areas in society

The way customers buy energy and data packages and other essential services is converging in the digital world

Our research shows that more than 60% of customers believe in the convenience and value offered by energy and data packages

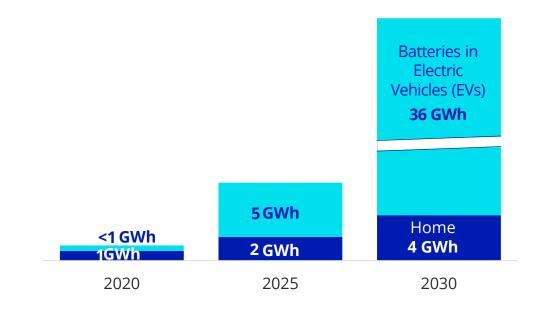
Customers compare their interactions with other digital experiences: 73% say one extraordinary experience raises their expectations on others

### AGL can capture a portion of adjacent opportunities through multi-product offerings

## Orchestration: Be the market leader in orchestration of customer-owned energy assets



#### Battery capacity owned by households and businesses



Generation and storage capacity is coming into the Australian market through households and businesses

Businesses and homes can derive greater value from their assets if they can operate as part of the wider system

AGL's virtual power plant orchestrates these assets to support the stability of the grid - and share benefits with customers

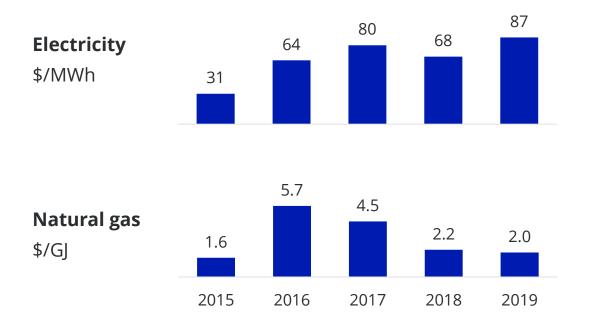
EVs will be the next major customer owned asset. AGL wants to be the provider of choice

### Storage capacity to grow 20x by 2030 driven by EV growth





## Difference between highest and lowest average prices 1000 hours of the year in Victoria



AGL is a major provider of commodity price risk management services for homes and businesses

The importance of these services is growing as commodity prices are increasingly interlinked locally and globally

A strong position in physical markets across multiple commodities and locations creates opportunities to optimise risk management

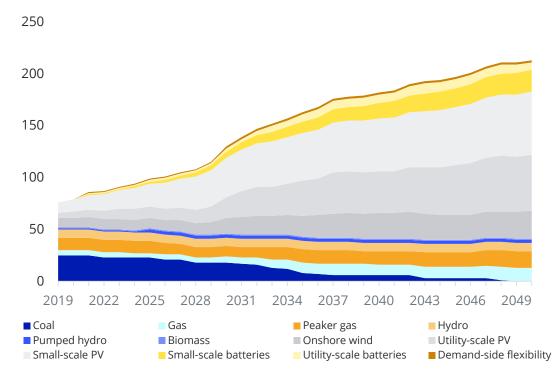
Accessing domestic and international gas in key locations will strengthen our ability to serve customers in New South Wales and Victoria

## AGL will strengthen its position in physical markets to create opportunities to maximise the value in trading in the financial markets

## **Generation:** Be the leading provider of flexible generation capacity and storage across Australia



#### Forecast installed generation capacity in Australia<sup>1</sup>



The energy industry transition presents \$130b grid-scale and \$70b behind-the-meter investment opportunity<sup>2</sup>

Renewables will make up 82% of energy capacity by 2050<sup>3</sup>

Flexibility will be critical with 14 GW of baseload generation expected to retire by 2040<sup>4</sup>

AGL will build a portfolio of flexible capacity by building or contracting across multiple technologies

## AGL will continue to be a supplier of electricity but also be a leader in providing storage and flexible capacity needed for a successful energy transition







## Finance update

Damien Nicks, Chief Financial Officer



Bayswater Power Station, New South <u>Wales</u>

## AGL on track to meet FY20 guidance but market challenges remain



### Underlying Profit after tax expected to be \$780 million to \$860 million Key drivers of year-on-year reduction

- Impact of the Loy Yang Unit 2 unplanned outage: \$80 million to \$100 million
- Higher depreciation expense from recent investment in plant, systems and growth: approximately \$70 million
- Operating and market headwinds including:
  - LREC prices have reduced materially and are expected to fall further during FY20
  - Wholesale prices for electricity forecast to be lower on average than FY19
  - Higher fuel costs as coal costs escalate and legacy gas contracts mature
  - Impact on retail electricity prices via DMO and VDO

#### Share buy-back impacts interest costs but expected to be accretive to earnings per share

### All guidance is subject to normal trading conditions

## Key messages





Operating cost trends in recent years have been linked to strong profit growth, market activity and plant investment



After delivering a small decrease in operating costs in FY19 we are focused on driving sustainable year-on-year reductions

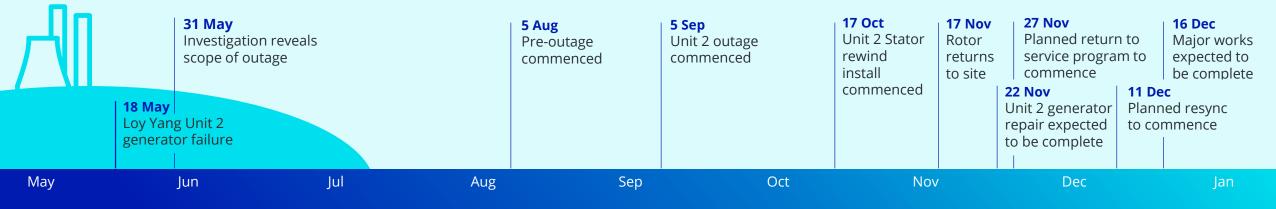


The strength of our cash flow and balance sheet remains a key strength for AGL

## Loy Yang Unit 2 on track to return to service in December as planned

- Loy Yang Unit 2 experienced an electrical short, internal to the generator, forcing it out of service
- General Electric has been contracted to complete a full generator stator rewind and rotor rewind
- Repairs provided opportunity to bring forward capital work

- Unit 2 expected to be operational by mid-December 2019 as initially anticipated
- Insurance proceeds are subject to finalisation with insurers, and any proceeds will likely be received in FY21

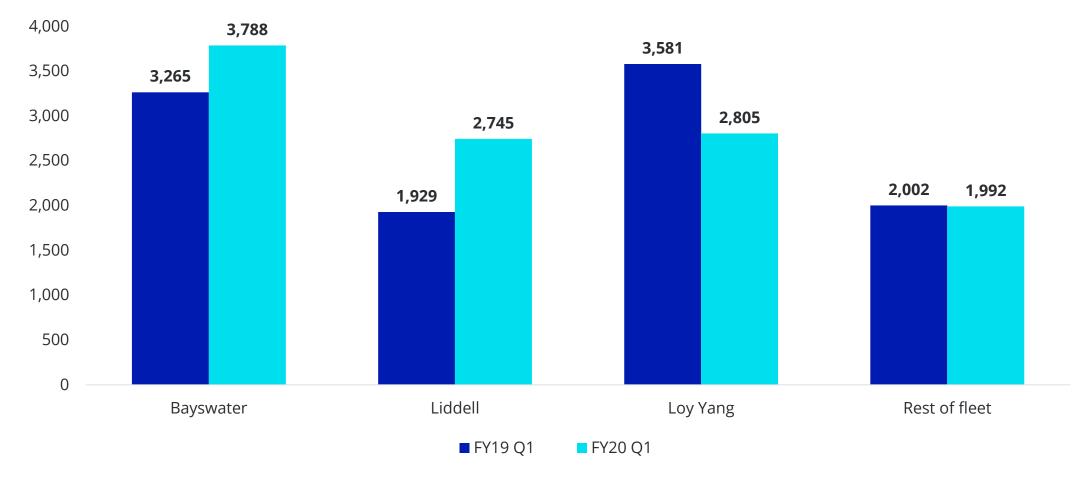


#### Loy Yang Unit 2 Outage Timeline

## Solid operational start to FY20 reflects benefits of recent opex and capex investment



#### Coal generation volumes at node (GWh)



## Fixed cost control has been critical to success as strong revenue growth has driven variable costs



\$ million	FY18	FY19	Comments
Revenue and other income	12,865	13,273	
Cost of sales	(9,070)	(9,440)	Volume-drvien costs have risen with revenue Higher coal and gas costs reflect market trends
Gross margin	3,795	3,833	
Operating costs	(1,559)	(1,548)	Modest reduction following period of rising costs Included significant investment in plant availability
Underlying EBITDA	2,236	2,285	
Depreciation and amortisation	(568)	(625)	Increase reflected record investment in plant and systems
Underlying EBIT	1,668	1,660	
Net finance costs	(224)	(193)	
Income tax expense	(426)	(427)	
Underlying Profit after tax	1,018	1,040	

## Variable costs have been largely market driven; focus on sustainable fixed cost efficiencies



Key cost drivers of the business* (\$m)	FY18	FY19	FY20 and beyond
Network costs	(2,842)	(2,772)	
Other distribution costs	(340)	(373)	Largely volume-driven costs over which we have limited control
Pool purchase costs	(3,582)	(4,060)	
Renewable schemes compliance costs	(593)	(497)	Likely to decrease as LREC prices decrease
Gas portfolio purchases	(959)	(1,045)	Gas supply rates increasing as legacy contracts roll off
Gas haulage and storage	(333)	(287)	Correlates with gas volumes
Generation fuel costs	(937)	(1,063)	Loy Yang mine efficiency to partly offset increasing coal and gas costs
Generation running costs and PPAs	(575)	(660)	Additional PPAs on PARF projects the main driver
Customer Markets opex	(556)	(532)	Market activity stabilising and more savings to come from CXT investment
Natural gas opex	(25)	(30)	Will head towards zero as assets are retired
Other operations opex	(130)	(144)	Driven by Moranbah joint venture costs
Corporate opex	(277)	(264)	Efficiencies to offset rising insurance and regulatory costs

## Impacts (and opportunities) from higher fuel costs will continue to evolve over time



Generation fuel costs (\$ million)

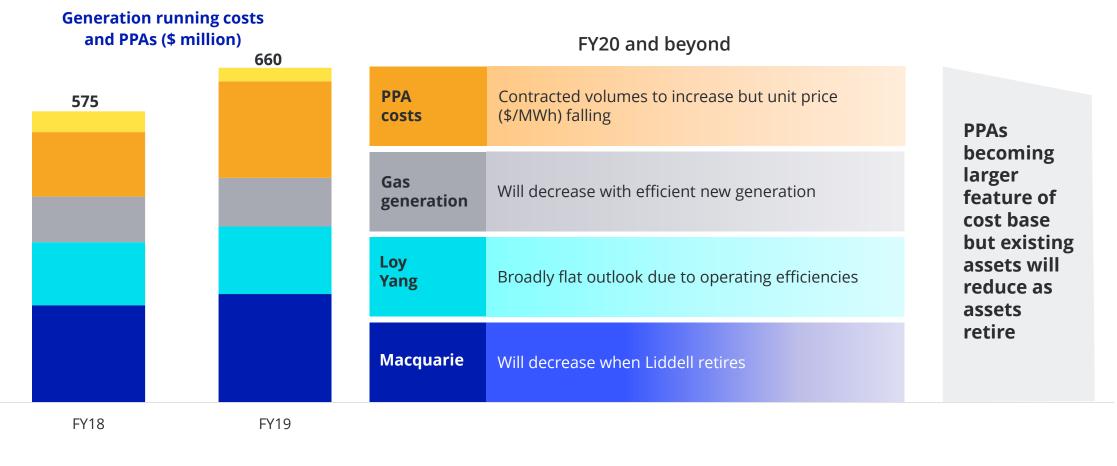


#### FY20 and beyond

■ Black coal ■ Brown coal ■ Gas

## Generation running costs will reduce as ageing assets retire





■ Macquarie ■ Loy Yang ■ Gas generation ■ PPA costs ■ Other

## Moderating market activity and leveraging digital transformation investment will drive lower costs



#### opex (\$ million) FY20 and beyond 556 532 Labour and Variable labour costs reducing with contractor lower call volumes and increased digital adoption services **Focused on** driving sustainable **Bad and** Reducing net bad debts through doubtful year-onleveraging data and analytics debts vear cost reductions Campaigns Marketing and channel costs reducing with market and activity and optimisation of digital channels advertising Other Other expenditure reducing, with the expenditure exception of regulatory and IT costs FY18 FY19

Other expenditure

**Customer Markets** 

Campaigns and advertising

Bad and doubtful debts

Labour and contractor services

## Generation fleet to become less capital intensive as ageing assets retire



**Generation sustaining capex (\$ million)** 

#### 411 ~400 Broadly flat for current portfolio Hydro Macquarie and Torrens spend to Gas Broadly flat as Torrens A is mothballed decrease generation with asset retirements Will decrease in FY22-23 as Liddell Macquarie reaches retirement Loy Yang to continue mid-life Continue mid-life refitting refitting Loy Yang consistent level of spend going forward FY19 FY20 (forecast)

FY21 and beyond

■ Loy Yang ■ Macquarie ■ Gas generation ■ Hydro

## Step-up in FY20 depreciation expense reflects plant and systems investment



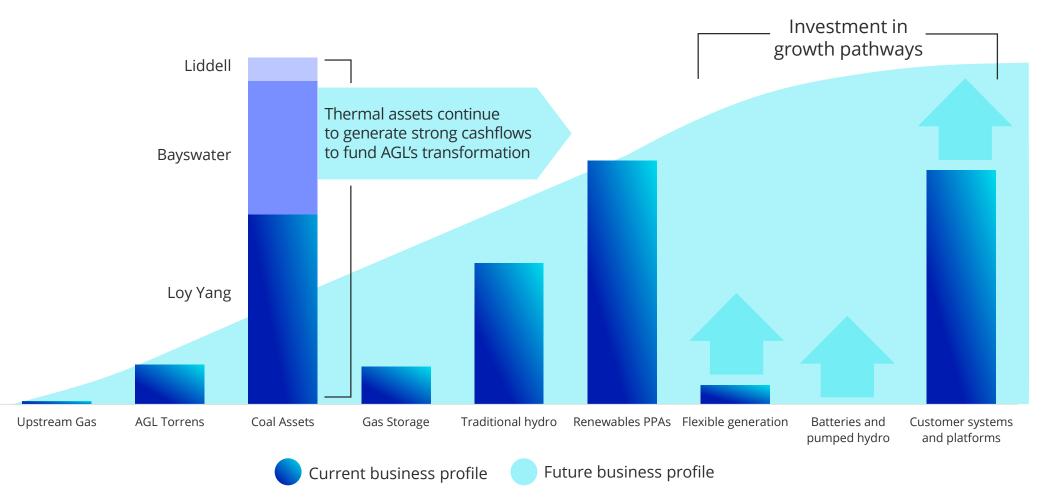
Depreciation and amortisation		FY21 and beyond				
outlook (\$ mill	ion) ~725	Other	Upstream gas assets will head to zero when assets retire			
625		Systems	Increase driven by investment in digital transformation including in CXT and PT3	Short-term outlook for D&A is a small increase into FY21 then flattening out, subject to growth		
		Hydro	Broadly flat			
		Gas generation	Increase driven by commencement of BIPS partly offset by decrease as Torrens A is mothballed			
		Macquarie	Increasing rate in short-term as near end of useful life of Liddell, which will then reduce when retired			
		Loy Yang	Broadly flat			
FY19	FY20 (budget)					

#### FV21 and beyond

■ Loy Yang ■ Macquarie ■ Gas generation ■ Hydro ■ Systems ■ Other

## The strong asset base of today remains a great foundation for the business of the future

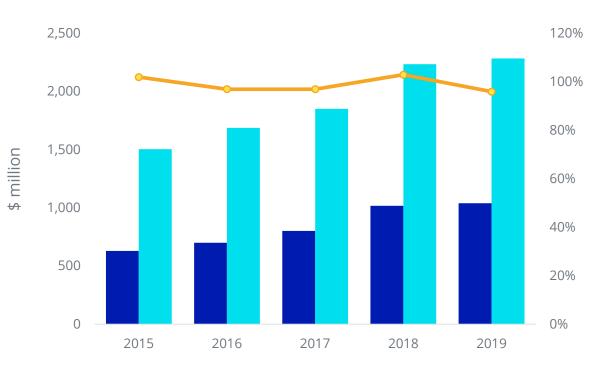




Note: Chart includes both on and off balance sheet assets such as PPAs

## Strong cash flow outlook for FY20 despite lower earnings versus FY19





Underlying EBITDA ——Cash conversion rate (excl. margin calls)

#### **Cash conversion**

#### **Cash flow outlook**

Historical cash conversion ~100% of Underlying EBITDA (excluding margin calls)

Forecast decrease in FY20 Underlying NPAT includes \$70m non-cash impact of D&A

FY20 cash flow expected in line with historic cash conversion rates of Underlying EBITDA

Underlying NPAT

## Disciplined approach to capital allocation



**Capital allocation principles** 

Run **existing business** for **optimal performance** and value

## Maintain strong **balance sheet** and **dividend policy**

Invest in **growth pathways** to deliver **future value** and prosperity

Return excess liquidity to shareholders

### Application

- Continue to invest in core asset performance
- Focus on sustainable cost efficiencies
- Baa2 credit rating
- Dividend payout ratio of 75% of Underlying Profit after tax, franked to 80%
- Continual application of hurdle rate
- On-market share buy-back announced August 2019

## Improving our reporting to provide a deeper understanding of the business





#### Improvements to OFR enabling greater transparency

Integrated Reporting inclusive of value drivers Providing financial granularity through Portfolio Margin Reporting improvements

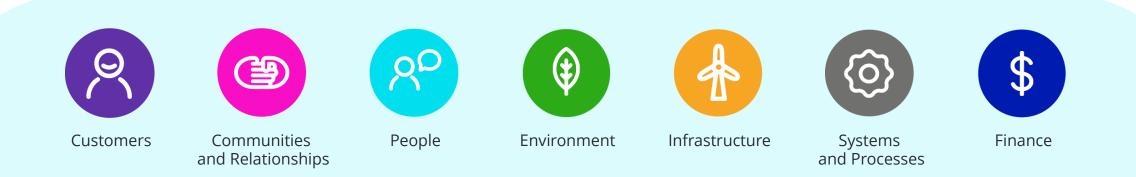


### Increase TCFD disclosure of AGL's assessment of climate-related risks

Including the consideration of how a 1.5-degree future has been addressed in AGL's strategy development process as well as for carbon risk analysis



Including aspects of internal modelling, budgeting and forecasting to allow management to review performance of all value drivers on a regular basis









# Supplementary information



### Reconciliation of Portfolio Margin Reporting to Underlying NPAT



AGL Portfolio Reporting Summary (\$m) Electricity Portfolio	FY18	FY19	Gas Portfolio
Consumer revenue	4,145	4,068	Consumer revenue
Large Business revenue	1,615	1,734	Large business revenue
Wholesale and Eco Markets revenue	1,055	1,104	Wholesale Gas and Eco Markets revenue
Group Operations revenue	97	104	
			Network costs
Network costs	(2,274)	(2,246)	Other distribution costs
Green compliance costs	(593)	(497)	
Other distribution costs	(296)	(324)	Gas purchases
			Haulage, storage, other
Fuel costs	(937)	(1,063)	
			Gas Margin (b)
Generation running costs	(575)	(660)	Other AGL
D&A	(371)	(422)	Other margin
Net portfolio management			Opex:
Pool generation revenue	3,881	4,508	Customer Operations
Pool purchase costs	(3,582)	(4,060)	Natural Gas
Net derivatives	(259)	(257)	Other Operations
			Corporate
Electricity Margin (a)	1,906	1,989	
-			D&A

Gas Portfolio	FY18	FY19
Consumer revenue	1,538	1,530
Large business revenue	339	168
Wholesale Gas and Eco Markets revenue	755	928
Network costs	(568)	(526)
Other distribution costs	(44)	(49)
Gas purchases	(959)	(1,045)
Haulage, storage, other	(333)	(287)
Gas Margin (b)	728	719
Other AGL	FY18	FY19
Other margin	219	125
Opex:		
Customer Operations	(556)	(532)
Natural Gas	(25)	(30)
Other Operations	(130)	(144)
Corporate	(277)	(264)
D&A	(197)	(203)
Interest	(224)	(193)
Тах	(426)	(427)
Other AGL (c)	(1,616)	(1,668)
Underlying NPAT (a+b+c)	1,018	1,040







## Customer update: driving connection and orchestration

Christine Corbett, Chief Customer Officer Dominique Van Den Berg, GM, Distributed Energy Simon Moorfield, EGM, Future Business & Technology





## Customer update: driving connection and orchestration



**Christine Corbett** Chief Customer Officer



**Simon Moorfield** EGM, Future Business & Technology



**Dominique Van Den Berg** GM, Distributed Energy





## Christine Corbett

Chief Customer Officer

### Key messages





AGL is responding to heightening expectations and regulatory changes whilst continuing to deliver for our customers



AGL is focusing on winning the consumer and Commercial and Industrial (C&I) Connected Customer relationship by evolving into a multi-product retailer



AGL's investment in digital transformation makes us best placed to provide the Connected Customer experience

# Customer update: driving connection and orchestration





Own the Connected Customer relationship by providing multiple essential services

Provide simple solutions for essential products and services with the needs of the customer at the centre



#### Orchestration

Market leader in orchestration of customerowned energy assets

Meet customer needs and offer value as home energy and transport options converge

## Trading and Supply

Physically backed energy trader

Build a portfolio of assets that, together with customers, enable risk management and trading as a core source of competitive advantage



#### Generation

Leading provider of flexible storage and generation across Australia

Provide reliable, dispatchable capacity to complement variable renewable sources and support Australia's energy transition

# Customer expectations are changing but delivering on the fundamentals is still important



Residential trends

Increasingly connected

• Elevated service expectations

Trust

- Commercial trends
- Integrated energy solutions and tailored advice
- Declining prices increasing C&I focus
  - Sustainability focus

- ~28 billion devices globally forecast by 2022<sup>1</sup>
- 63% of respondents express that a residential energy and data package is relevant to them<sup>2</sup>
- Falling battery costs are shortening the payback periods for residential solar to 6.5 years supporting uptake and demand for orchestration
- 73% of customers say one extraordinary experience raises their expectations of other companies (no matter which industry)<sup>2</sup>
- Trust is the most important non-price driver for choosing a brand<sup>3</sup>

- Value pools are expanding as customers evolve to more complex and integrated solutions
- Commercial solar and battery systems projected to grow by 1.7 GW from 2017 to 2022<sup>4</sup>, an increase of 190%
- ~900 MWh of clean energy PPAs contracted by C&I customers directly with developers in Australia in 2018<sup>5</sup>
- Forward prices are expected to moderate over the short to medium term and it is expected C&I will underpin more generation

# AGL will continue to respond proactively to an intense regulatory environment



#### Victorian Government final response to Thwaites report Power of Choice **JUL 2017 JUL 2019** 2017 2018 2019 2020 AUG 2017 JUL 2018 JUL 2019 **JAN 2020** ACCC affordability DMO and VDO Ban on Thwaites report released unsolicited calls measures recommendations Effective January 1 2020

#### Policy uncertainty and intervention

- Affordability remains a key focus
- Implications for gas market unclear
- Potential national market convergence (VDO, DMO)
- 5 minute settlements to be introduced
- Demand response trialed and could become more prevalent
- Consumer Data Right (CDR)
  expected to progress
- Treasury Laws Amendment (Prohibiting Energy Market Misconduct) bill ("Big Stick" legislation)

## AGL is utilising this opportunity to deliver for our customers







## Advocate for industry change

Protect most vulnerable customers

- Collaboration with Government to design the reference rate
- Signatory to The Energy Charter

- A Fairer Way, Affordability Package and Safety Net Guarantees
- \$50 million affordability package delivered

Simplify our offering and rewarding loyalty

- Almost 500,000 customers on Essentials
- Shift away from conditional discounts
- Over 1 million customers proactively contacted
- ~290,000 customers received loyalty safety net

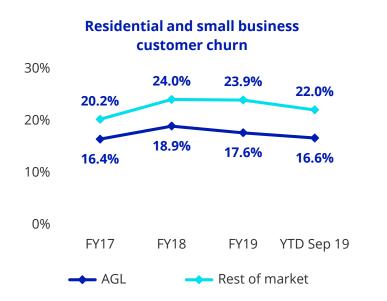


- Foundational capabilities delivered through CXT ~\$300 million investment
- Entry into multiproducts through announcement of proposed Southern Phone Company acquisition

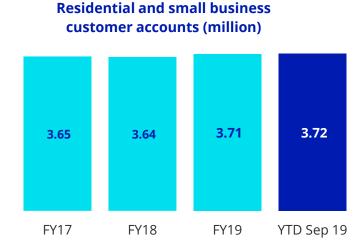
# FY20 metrics are positive to date but headwinds remain



Churn spread to rest of market decreased to 5.4 ppts

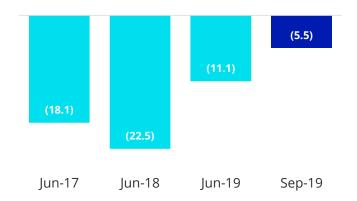


#### Customer accounts have grown by 80,000 from FY18



### Net Promoter Score increased by 5.6 points

Quarterly Net Promoter Score (advocates less detractors)

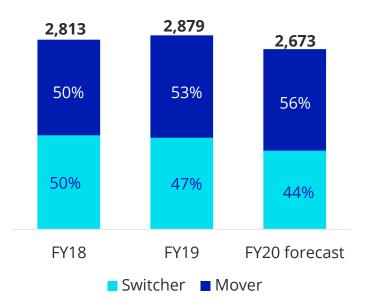


Movers are an increasingly important segment – they value ease and simplicity



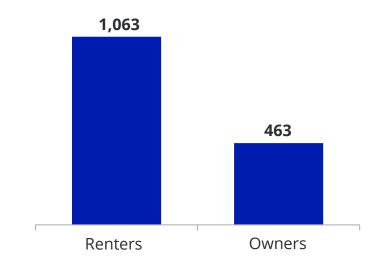
Movers are an increasingly important segment





Renters make up the majority of Movers

FY19 Movers by segment ('000s)<sup>2</sup>



Movers value ease and simplicity<sup>3</sup>

nsure the no

66

- Ensure the power is connected when I want it
- Keep the process simple for me, I don't want to be inconvenienced
- Keep me informed
- Give back to me as a loyal customer
- I don't expect an incentive, but they are welcome

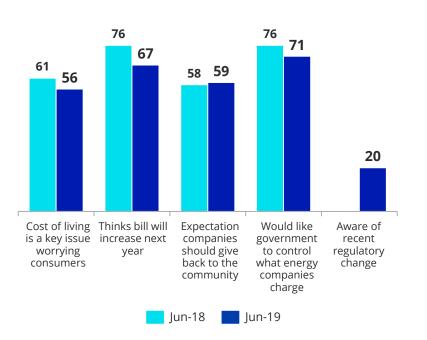
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# Trust needs to be rebuilt, the basics are still important and customers are attracted to multi-products



Energy companies need to rebuild trust with customers

Customer perceptions (%)



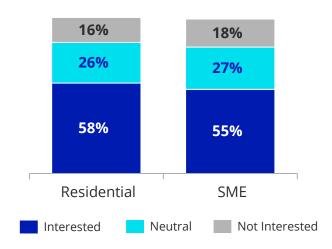
Energy companies need to get the basics right

#### What's important to customers



### Customers find a multi-product proposition appealing

#### Appeal of multi-product offering



We will play where 'BIG' matters, win the Connected Customer, be famous for service and regain trust





#### Growth

Win the Connected Customer relationship in both consumer and C&I

- Deliver multi-product offerings
- Lead in orchestration
- Expand C&I



#### **Transformation**

Become famous for great service

#### **Social Licence**

Regain the trust of our customers and the community

- Deliver our Service Promise
- Leverage CXT
- Achieve a sustainable cost position

- Embed customer advocacy
- Drive customer loyalty
- Enhance brand positioning

Southern Phone Company enables AGL to pursue growth in the convergence of data and energy

- The offer, if accepted, would see the acquisition of all issued capital of Southern Phone Company (SPC), from its current 35 local council shareholders for \$27.5 million
- The purchase of SPC will allow AGL to acquire telco capabilities including:
  - Data network assets
  - Relationships with mobile virtual network operator, NBN Co and backhaul providers
  - Technical support resources
  - Telco specific billing and fulfilment capabilities
- AGL will leverage these capabilities to launch bundled energy and broadband / mobile products that meet the needs of increasingly connected customers
- AGL has committed to maintaining SPC's business operations in Moruya for at least three years

100,000+

SPC customers across Australia, primarily in regional areas

## 200,000

AGL customers in SPC local government areas

### 1 in 5

Australian households in regional areas are AGL customers

# AGL can win the Connected Customer relationship by evolving into a multi-product retailer



### Data is a logical entry point into the Connected Customer relationship

- Data provision in Australia is a \$56 billion market
- Data is a good strategic fit due to synergies with the core AGL offering, competitive position and alignment of capabilities
- A multi-product proposition is attractive to customers with 63% interested in a data and energy solution<sup>1</sup>



### Now is the time to enter the market due to NBN Co commoditisation and activating a switching event

There will be **2.9 million** activations between FY20 and FY22<sup>2</sup>



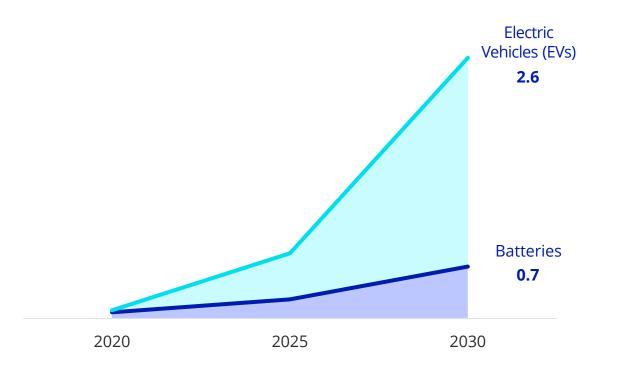


### Dominique Van Den Berg GM, Distributed Energy

### A Virtual Power Plant creates value from latent capacity in Behind The Meter assets with EVs the next wave



Behind The Meter assets (millions)



**VPPs generate value through orchestration:** 

Wholesale trading: Discharge during high-price events

**Ancillary Services (FCAS)**: Short-interval discharge for frequency

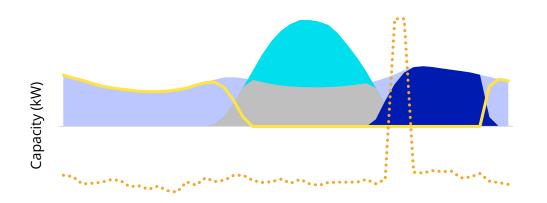
**Network services**: Locating assets in networkconstrained areas, to offset peaks

And new value pools as the energy market transitions

# VPP opens sharing economy – allows AGL to create value from customer assets, share this value with the customer



**Customer load with solar + battery, without orchestration** 

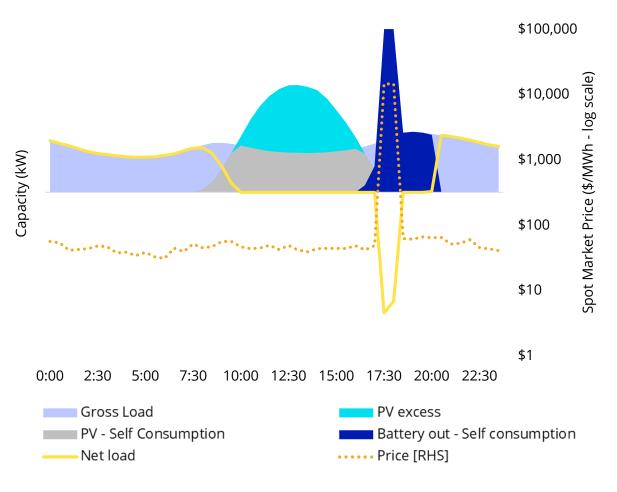


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VPP opens sharing economy - allows AGL to create value from customer assets, share this value with the customer



Solar + Battery: Orchestrated





- Lower energy costs (including bill credits)
  - Potentially 30% further savings on top of solar self consumption benefit
- Helping stabilise the grid in their neighbourhood
- Helping increase energy system holding capacity for renewables



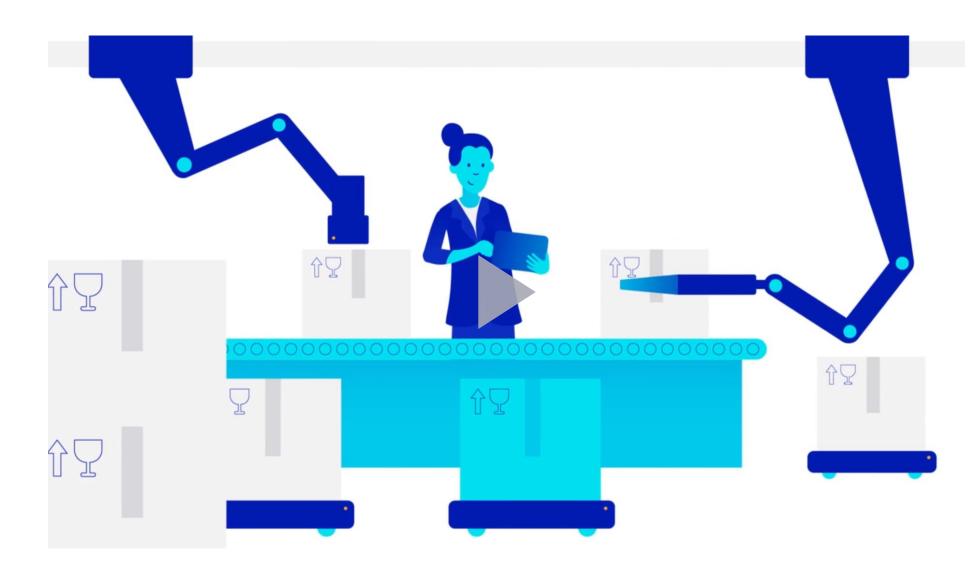


## Simon Moorfield

EGM, Future Business & Technology

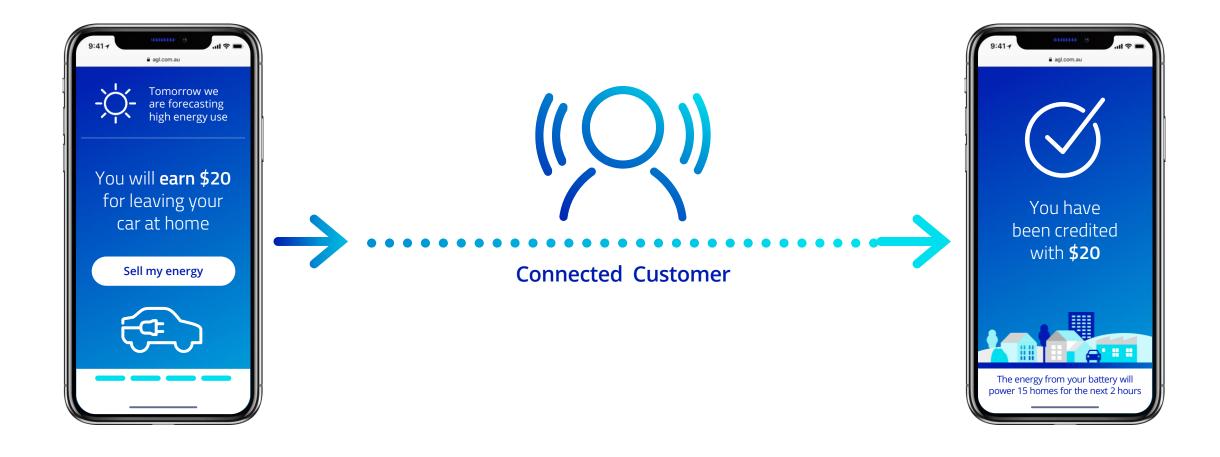


### Connected Customer experiences

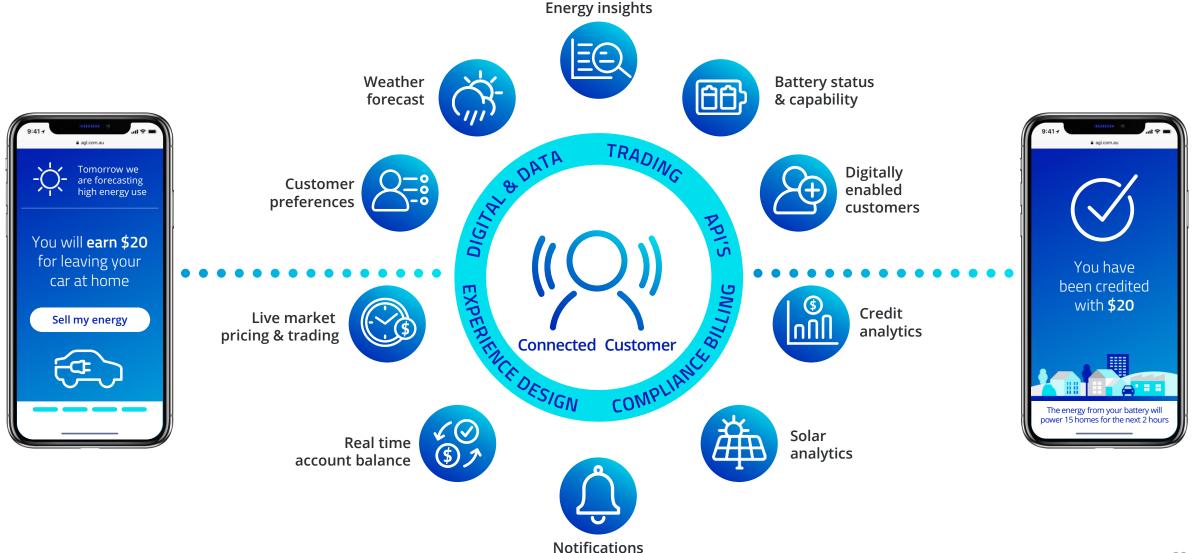


Connected Customer experiences enabled by AGL's digital capabilities developed through CXT



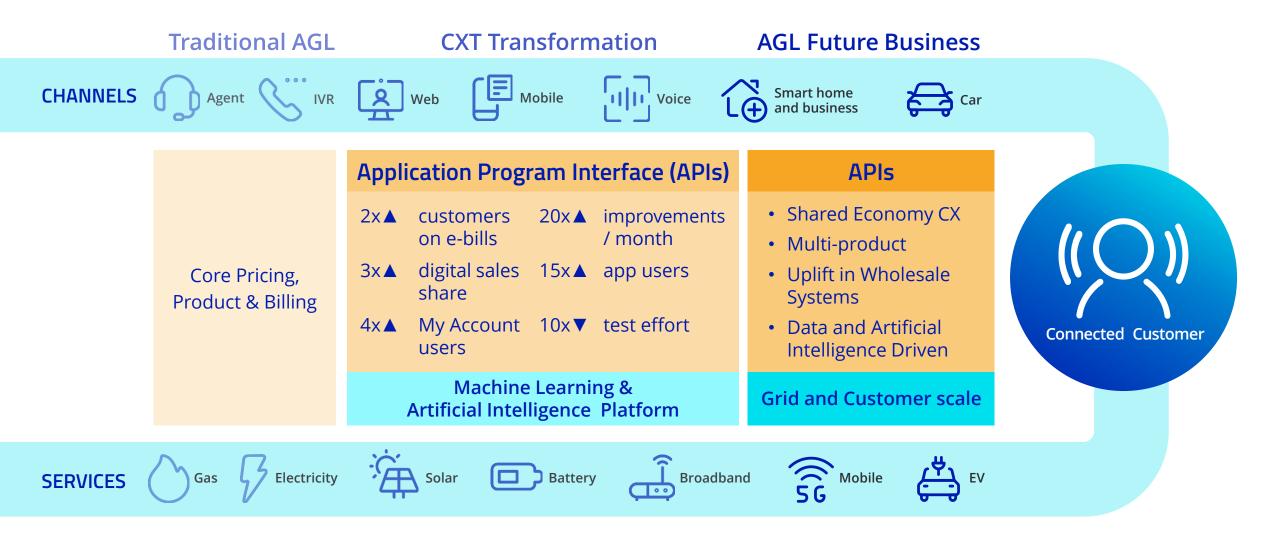


# Connected Customer experiences enabled by AGL's digital capabilities developed through CXT



# Connected Customer experiences enabled by AGL's digital capabilities developed through CXT











Barker Inlet Power Station, South Australia

## Portfolio update: optionality in generation, trading and supply

Melinda Buchanan, GM, Gas & Renewables Operations David Moretto, Interim GM, Portfolio Growth Phaedra Deckart, GM, Energy Supply & Origination Simon Sarafian, GM, Trading



## Portfolio update: optionality in generation, trading and supply



**Melinda Buchanan** GM, Gas & Renewables Operations



**Phaedra Deckart** GM, Energy Supply & Origination



**David Moretto** Interim GM, Portfolio Growth



**Simon Sarafian** GM, Trading





## Melinda Buchanan

GM, Gas & Renewables Operations

### Key messages





AGL's strategy is about building optionality and flexibility throughout our portfolio



Our investments in supply and storage will enhance and underpin our core competitive advantage in trading



The flexible portfolio we are developing will be well placed to respond to and thrive in the energy market of the future

# Portfolio update: optionality in generation, trading and supply





Own the Connected Customer relationship by providing multiple essential services

Provide simple solutions for essential products and services with the needs of the customer at the centre

## Orchestration

Market leader in orchestration of customerowned energy assets

Meet customer needs and offer value as home energy and transport options converge



Physically backed energy trader

Build a portfolio of assets that, together with customers, enable risk management and trading as a core source of competitive advantage



#### Leading provider of flexible storage and generation across Australia

Provide reliable, dispatchable capacity to complement variable renewable sources and support Australia's energy transition





## David Moretto

Interim GM, Portfolio Growth

# AGL's strategy is designed to respond to and benefit from market changes





- From national to international market
- Interchangeability of units of energy
- Constrained fuel supply chains
- Climate change risk and mitigation

Generation trends

- Technology driving major shifts in energy
- Need for different services
- Policy uncertainty and intervention
- Baseload generation retirement

- International markets increasingly setting commodity prices domestically
- By 2030 the east coast domestic gas supply gap is expected to be over 300PJ<sup>1</sup>
- Market appetite for different benchmarks for coal, gas and oil
- AGL uses carbon price analysis to assess strategic, planning and maintenance decisions

- Renewable generation is now the cheapest form of new-build supply
- Increasing role of distributed energy
- Large-scale 2020 Renewable Energy Target (RET) met
- Clear market signals to improve market investment
- 14 GW of baseload generation expected to retire by 2040<sup>2</sup> – 32% of today's NEM dispatchable generating capacity

### AGL's portfolio is successful in today's energy market and we are setting it up for future success



Current portfolio meets requirements through diversity



Geography





Technology



Fuel

source

Channels to value

### Market conditions changing

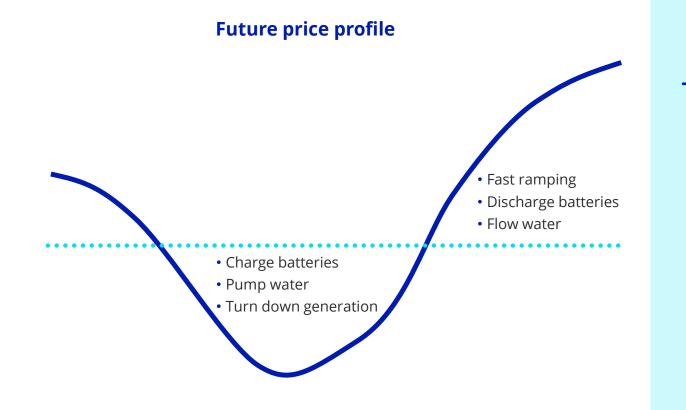
- Increasing requirement for flexibility
- Continuing penetration of renewables
- Expected baseload retirements
- \$130b grid-scale and \$70b behind-the-meter investment required<sup>1</sup>

## Ready to meet challenge

- Investing in flexibility
- Developing new generation and storage options
- Dispatchable plant under construction

# Our pipeline of pumped hydro and battery opportunities will further support our success





Storage – VPP, grid-scalebatteries and pumped hydro

• Historical NEM profile - lowest over night, peaking as the sun sets

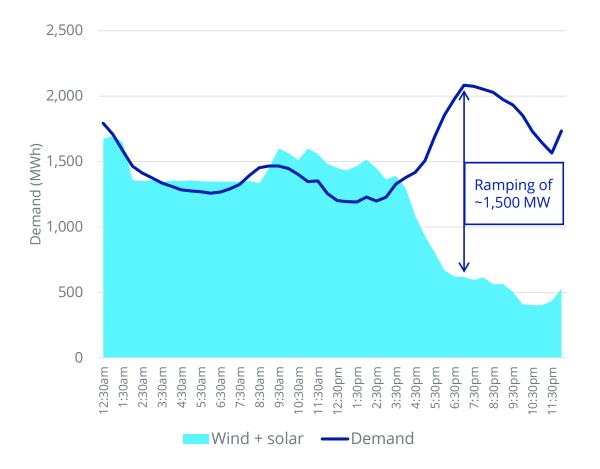
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- Low marginal cost generation introduced with large scale wind and solar penetration
- Solar is shifting lowest prices to middle of day
- NEM will see larger differences between lowest and highest prices

# New firming assets will react flexibly in volatile markets







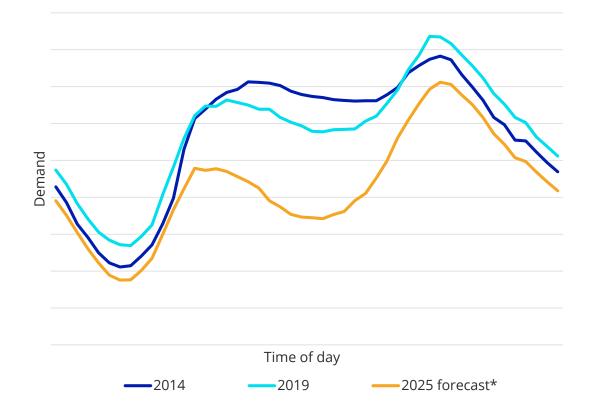
### Barker Inlet Power Station (BIPS)

- Flexible 210 MW dual-fuel gas peaking power station
- Fast-start generator to suit increasingly dynamic market
- Assists in balancing steep movements of wind and solar
- Flexibility frees up gas for other parts of AGL's portfolio
- Construction of additional interconnection represents opportunity
- Extended low-demand periods expected in the market
- Avoids uneconomic running of Torrens Island Power Station (TIPS)

## Responding to market dynamics by making our coal assets more flexible



#### New South Wales median day load profile



### Bayswater upgrade

- Demand profiles of NEM changing with increasing penetration of renewables and rooftop solar
- Bayswater upgrade progressively adds additional 25 MW/unit - totalling 100 MW
- Flexibility of Bayswater to respond to changing price and demand signals
- Reducing minimum generation level of Bayswater ensures best use of fuel and reduces emissions





## Phaedra Deckart

GM, Energy Supply & Origination

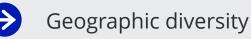
## In a changing energy market, AGL's flexible portfolio will effectively manage risk



Physical asset optionality



Multiple supply



- Competitive pricing
- **Global markets**



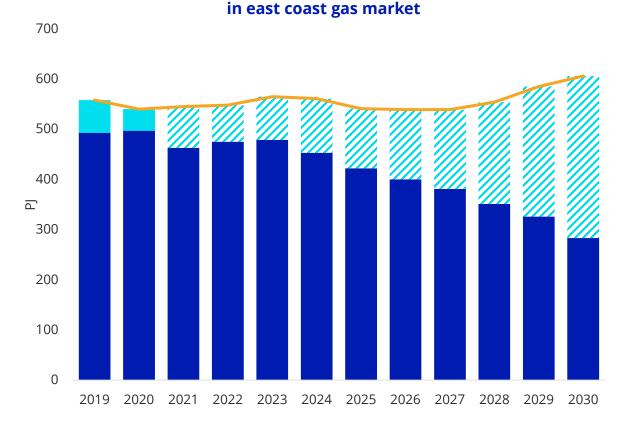
Transport Storage Sourcing Diverse technologies

**Physical and financial** trading across markets **Commodity sourcing** and storage





# AGL is leading the market in responding to gas shortages through LNG import



LNG imports will provide new and flexible supply options

Existing supply CLD LNG diverted ////Market opportunity ----Forecast demand

## -agl

#### Supply

 New supply agreements in place: Cooper, BHP, Exxon

#### Flexibility and storage

 Storage position to deliver flexibility: Iona Gas Storage, Newcastle Gas Storage Facility, Silver Springs Gas Storage

#### **LNG imports**

- Crib Point can address up to 50% of gas market opportunity by 2030
- Will deliver lowest cost solution and creates greater competition

## AGL's coal sourcing advantage at Macquarie presents opportunities for investment





### Newcastle coal index (NEWC) (A\$/tonne)

#### Supply

- Long-term low-cost coal contracts out to 2025
- Multiple short-term suppliers used

#### Flexibility

- Competitive advantage through central Hunter Valley location and delivery infrastructure
- 15% increase in train discharge rate and continual improvement to Stacker and Reclaimer and Antiene rail and conveyor network

#### Storage

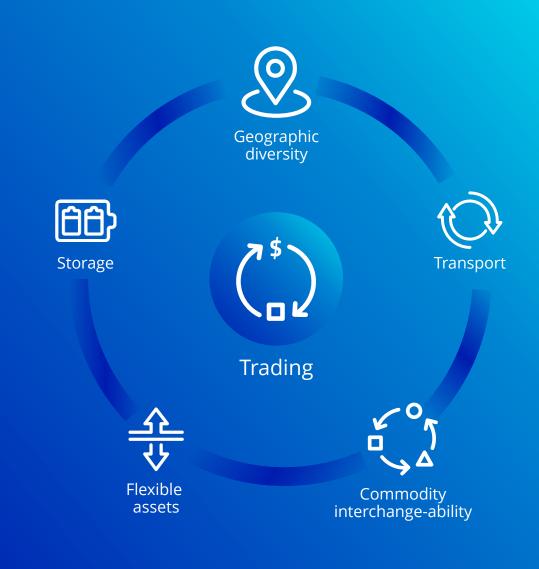
- Improving coal stockpile management and handling
- Deliveries for CY19 are up 10% on CY18
- Highest coal deliveries ever in Q2 2019





### Simon Sarafian GM, Trading

## Trading creates value by accessing the interchangeability of commodities and markets inherent within AGL's future portfolio



Case study: Value creation through trading AGL's portfolio of the future

## Developing the strength of the future portfolio









## Closing remarks

Brett Redman, Managing Director & CEO

## Closing remarks

Our strong heritage, people and values, assets and capabilities, are the **foundation of our success today**  We are **positioned** to deliver against our growth pathways of Connection, Orchestration, Trading and Supply and Generation as a foundation for AGL's future action Our refreshed growth pathways, capital allocation principles, investment discipline and strong cash generation **set us up to succeed** 



## Disclaimer and important information



- The material in this presentation is general information about AGL's activities as at the date of this presentation. It is provided in summary form and does not purport to be complete. It should be read in conjunction with AGL's periodic reporting and other announcements lodged with the Australian Securities Exchange.
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Statutory Profit and Underlying Profit:

- Statutory Profit is prepared in accordance with the Corporations Act 2001 and Australian Accounting Standards, which comply with International Financial Reporting Standards.
- Underlying Profit is Statutory Profit adjusted for significant items and changes in fair value of financial instruments.
- Underlying Profit is presented with reference to the Australian Securities & Investments Commission's Regulatory Guide 230 "Disclosing non-IFRS financial information" issued in December 2011. AGL's policy for reporting Underlying Profit is consistent with this guidance. The Directors have had the consistency of the application of the policy reviewed by the external auditor of AGL Energy Limited.
- Amounts presented as Statutory Profit and Underlying Profit are those amounts attributable to owners of AGL Energy Limited.

**James Hall** 

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Investor Day | 30 October 2019

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