

Gas Networks 2050

Access Arrangement

Customer Forum 2

Tuesday 13 June 2023



Please note that we are publishing the slides consistent with the recommendation of the AER and the purpose of the document was to promote discussion and engagement.

Acknowledgement of Country

We acknowledge the Traditional Owners of the lands upon which we operate and recognise their continuing connection to land, waters, and culture.

We pay our respects to their Elders past, present, and emerging.

Pictured: artwork by Aboriginal artist Chern'ee Sutton from Mount Isa for our Group's Reflect Reconciliation Action Plan



Official Welcome

Shaun Reardon

Executive General Manager,
Networks, Jemena



Please note that we are publishing the slides consistent with the recommendation of the AER and the purpose of the document was to promote discussion and engagement.

Our session this evening

Topics we will cover:

Section 1: Welcome back & Introductions

Section 2: Establishing ways of working

Section 3: Getting to grip with the basics

Break	5 min total
-------	-------------

Section 4: Exploring the remit

Section 5: Introducing the responses

Section 6: Selecting external speakers

Section 6: Final reflections, farewell, wrap up and close

Duration (3 hours)

10 min total

45 min total

30 min total

5 min total

45 min total

20 min total

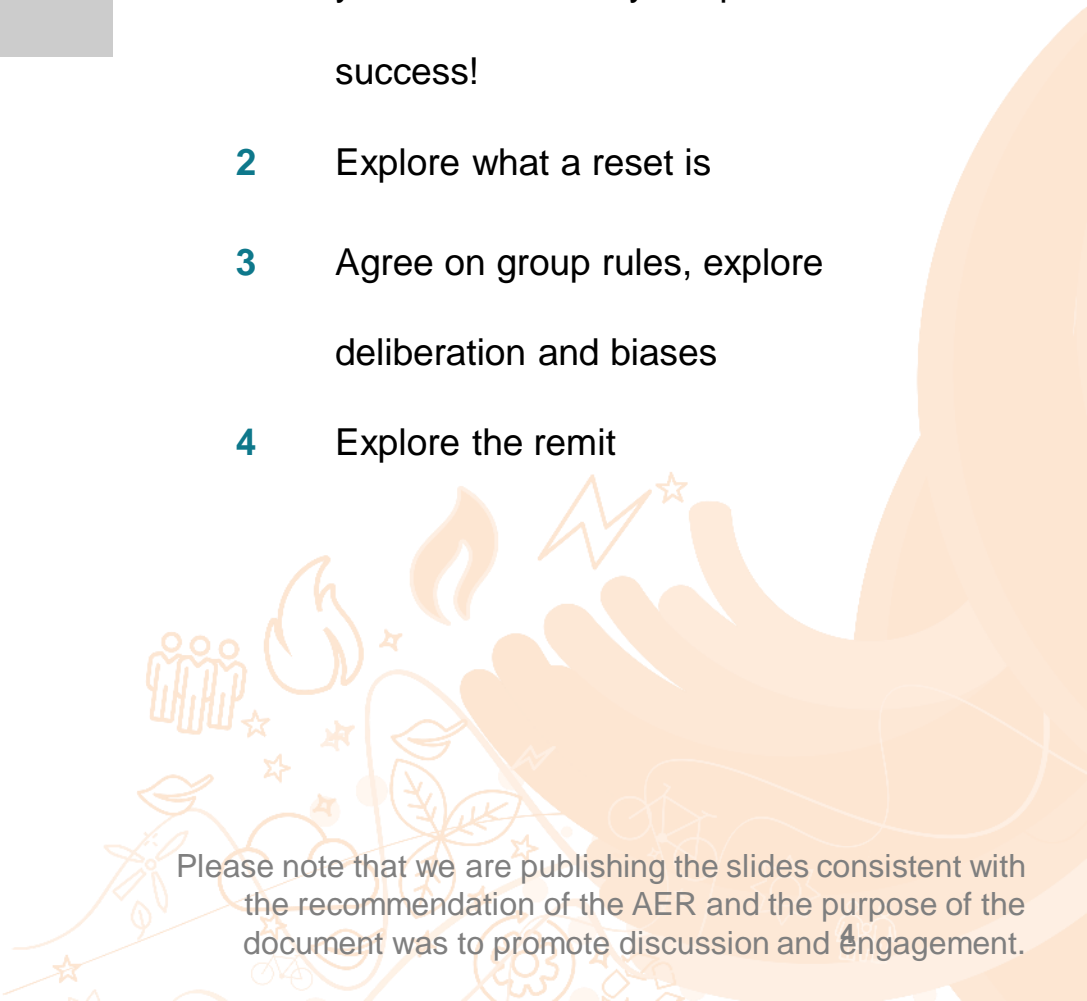
20 min total

5 min total



In order to...

- 1 Equip you with the understanding and knowledge to help you in your task and set you up for success!
- 2 Explore what a reset is
- 3 Agree on group rules, explore deliberation and biases
- 4 Explore the remit



Please note that we are publishing the slides consistent with the recommendation of the AER and the purpose of the document was to promote discussion and engagement.

Who's here?

Who else are we talking to?

Customer Forums – Where & when?



7 Forums +1
preparatory
workshop

48 hours of
deliberation

In-person (4) and
online (4)

Who?



54
customers

13 From the 2020-
25 AA
41 Are new

18 have a
language other
than English



Male 24
Female 29
Nonbinary 1

Gas users: 49
Non gas users: 5

House: 20
Duplex/Semi: 10
High rise: 1
Medium rise: 11
Low rise: 6
Other: 4
Unknown: 2



Age groups
18-24: 7
25-34: 11
35-44: 12
45-54: 10
55-64: 8
65-74: 6

Greater Sydney: 36
Hunter/Central Coast: 4
Illawarra: 5
Regional: 9

Home owner: 34
Rental: 20



Young People and Culturally and Linguistically Diverse

4 online and in-
person forums with
young people

3 online and in-
person forums with
CALD educators

5 diverse young
people from
across Sydney

4 CALD educators

Background
information from
surveys

Tamil
Arabic / Assyrian
Nepali
Vietnamese

Age group: 18-24

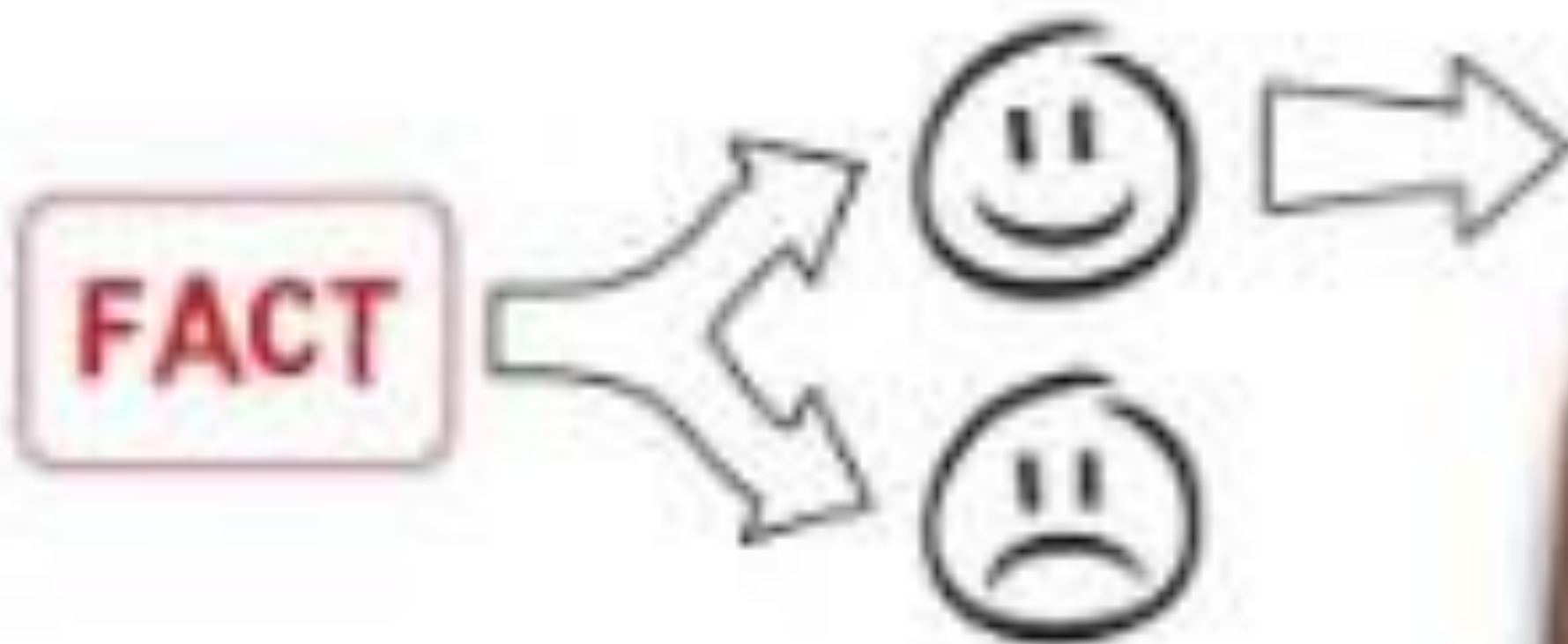
Educators are
from NSW Ethnic
Communities
Council

Establishing ways of working

This section:

- What is deliberation?
- Exploring biases
- Developing group rules

4. CONFIRMATION BIAS



Critical Thinking

'SLOW' THINKING, OR CRITICAL THINKING



Getting to grip with the basics

Andre Kersting, Manager Gas Regulation, Jemena

Lay Na Lim, Senior Regulatory Advisor, Jemena

Merryn Spencer, Engagement Lead

Emma Wilson, Gas Network Pricing Lead, Jemena



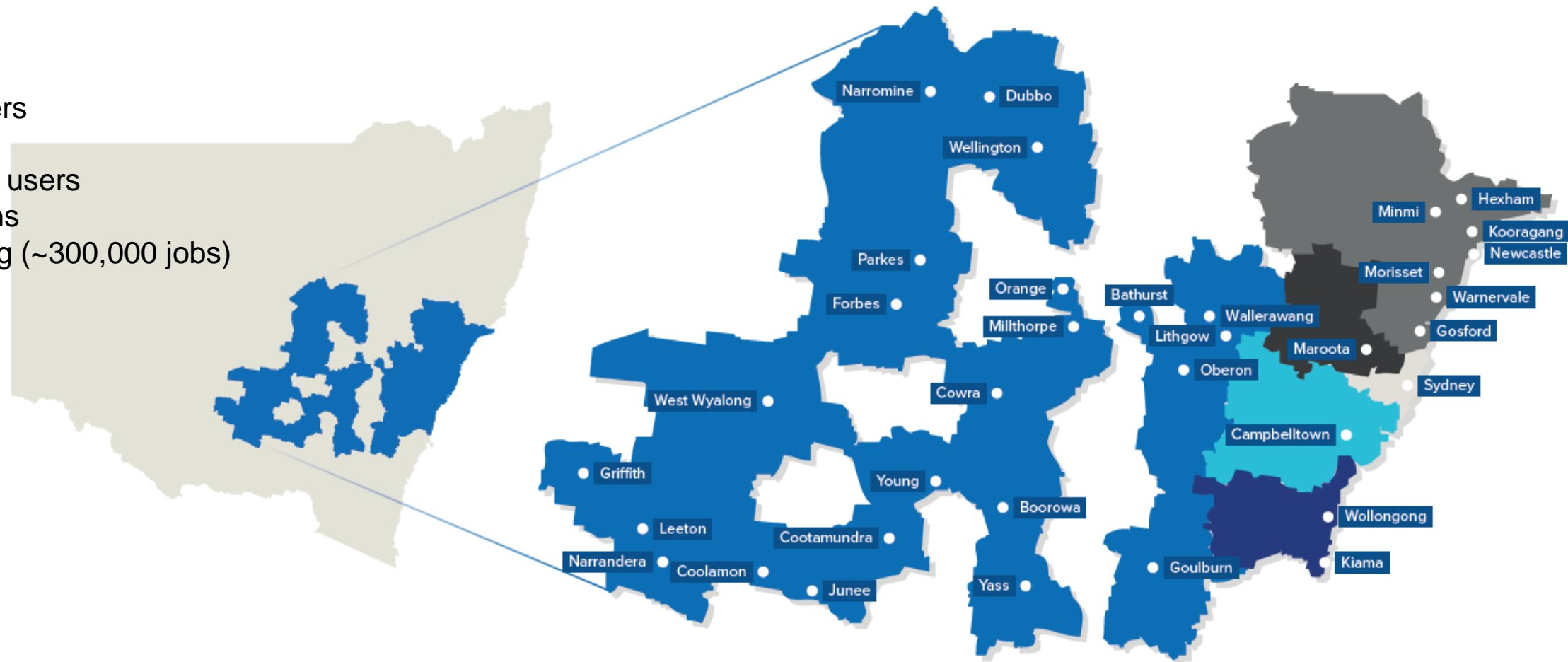


Nothing against it, I have very creative ideas, but, unfortunately,

Reminder: Map of Jemena Gas Networks



- 1.5 million residential homes
- 35,000 businesses
 - Restaurants
 - Bakeries
 - Breweries
 - Coffee roasters
 - Hospitals
- 400 large industrial users
 - Power stations
 - Manufacturing (~300,000 jobs)
 - Hotels
 - Laundries
- 26,000 km of pipes



Please note that we are publishing the slides consistent with the recommendation of the AER and the purpose of the document was to promote discussion and engagement.

COUNTRY

HUNTER

ILLAWARRA

SYDNEY NORTH

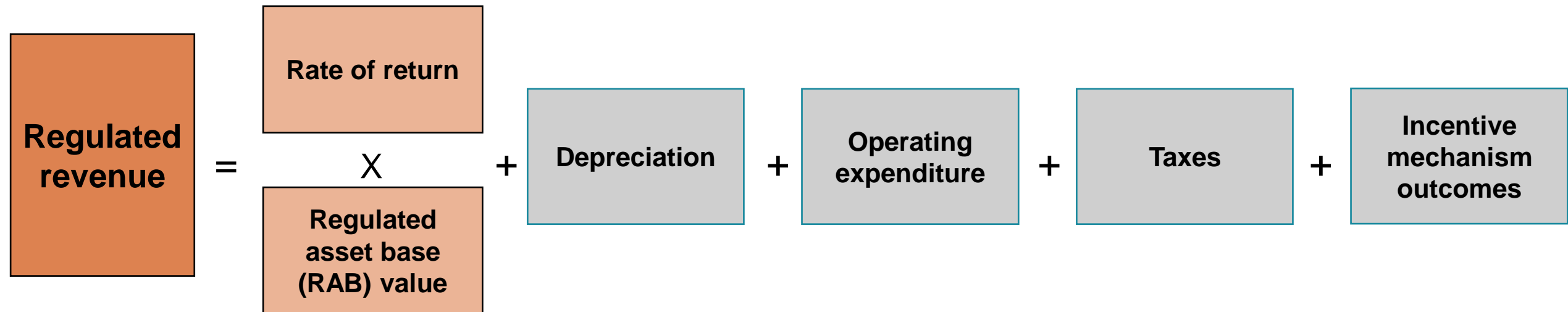
SYDNEY SOUTH



Let's see, Australia, you

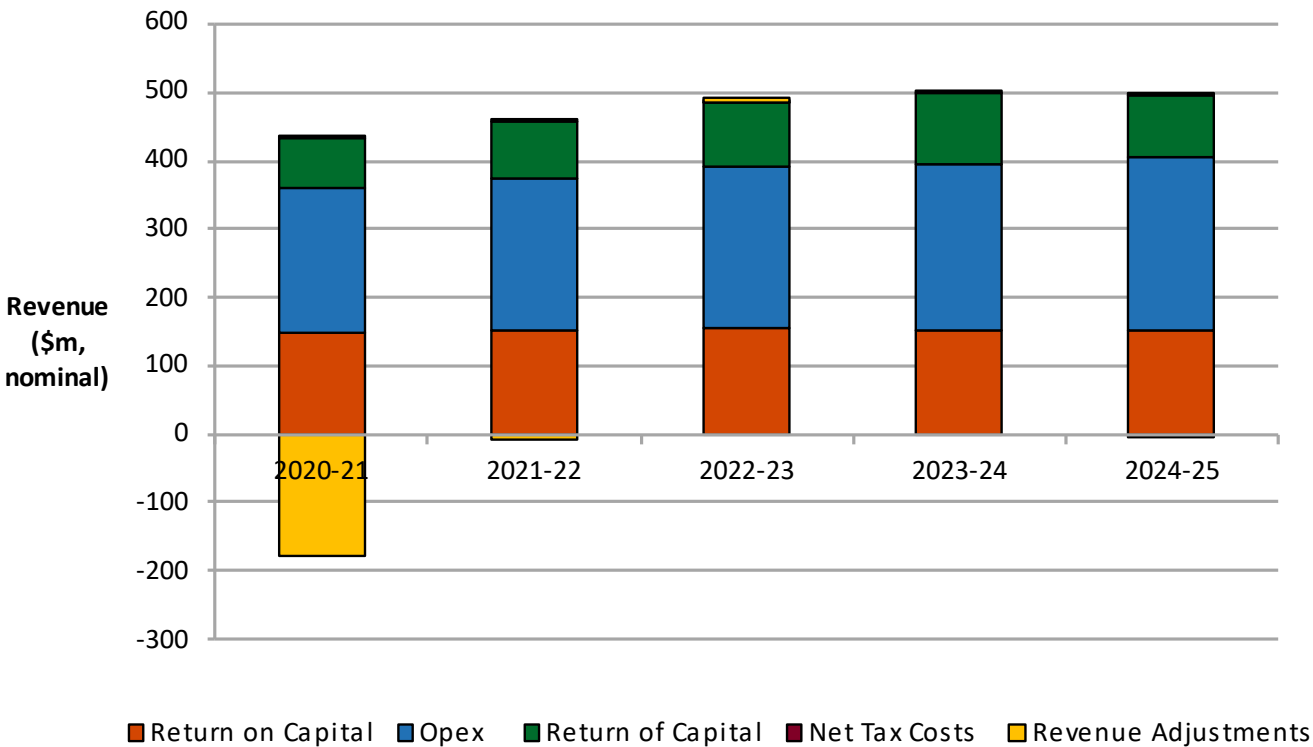


Our revenue



As a general rule:

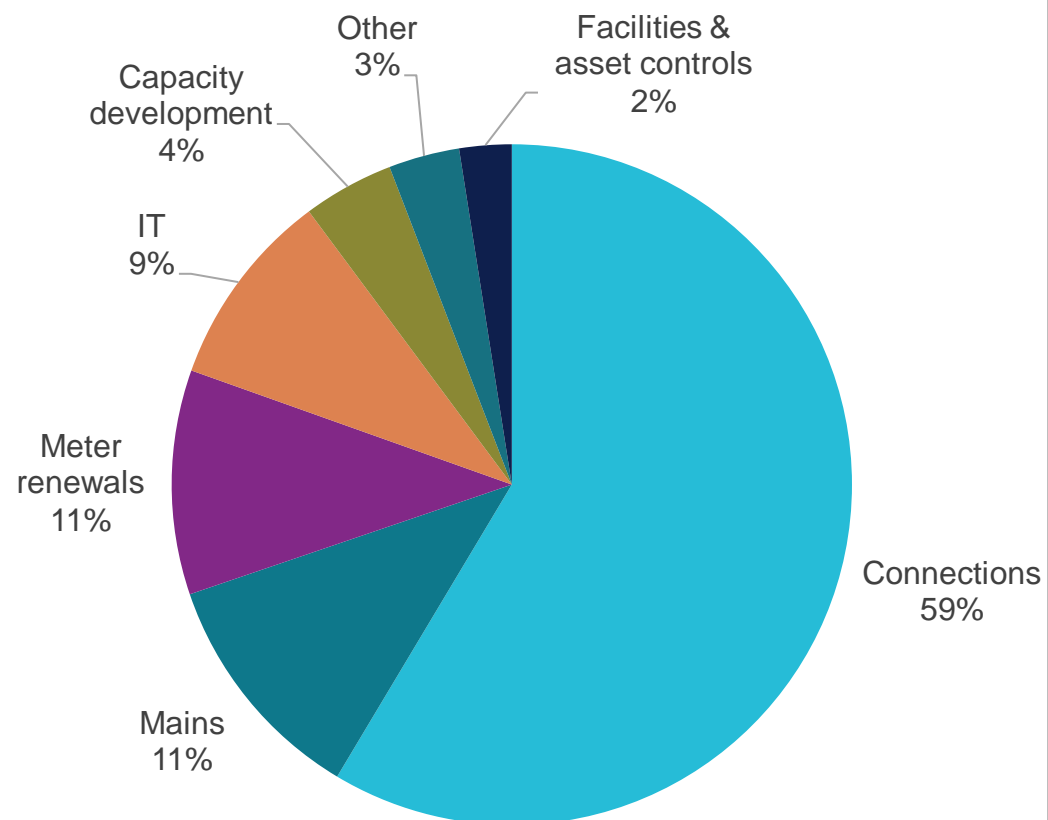
- if we spend less than the estimated costs in the building blocks then we keep the benefit until our next price review
- if we spend more than the estimated costs in the building blocks then we bear the cost.



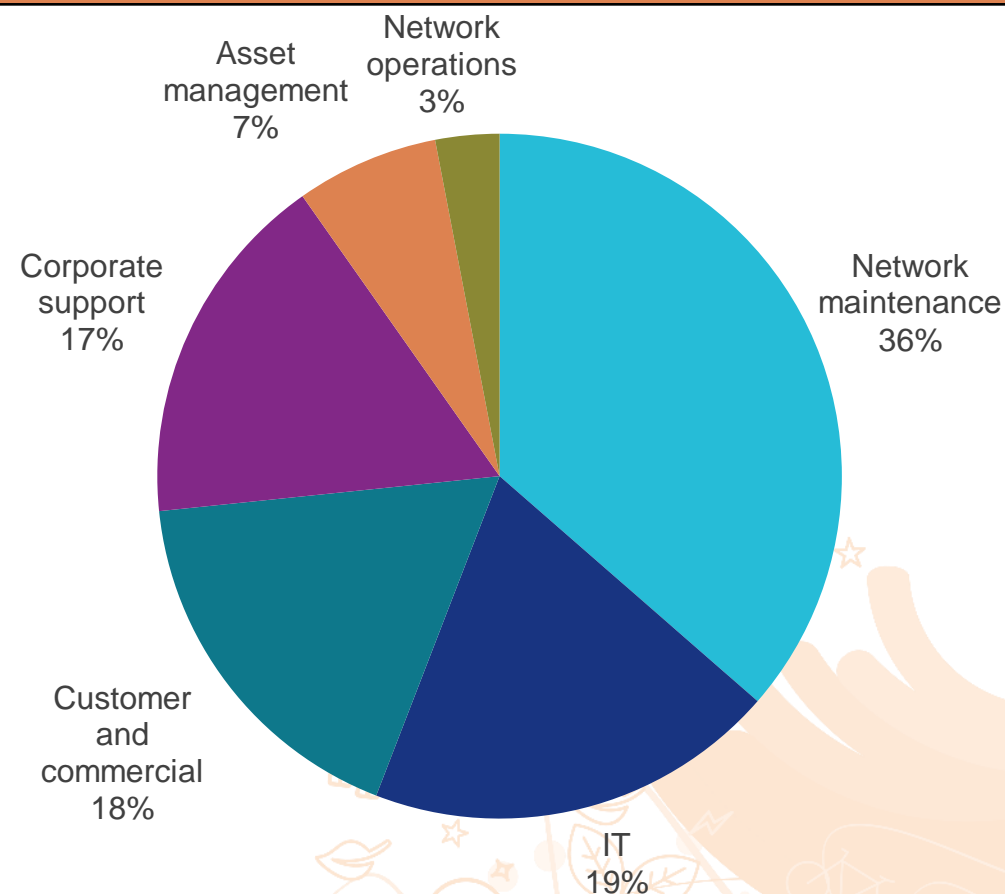
Please note that we are publishing the slides consistent with the recommendation of the AER and the purpose of the document was to promote discussion and engagement.

Jemena Gas Networks expenditure, CY22

Capital expenditure



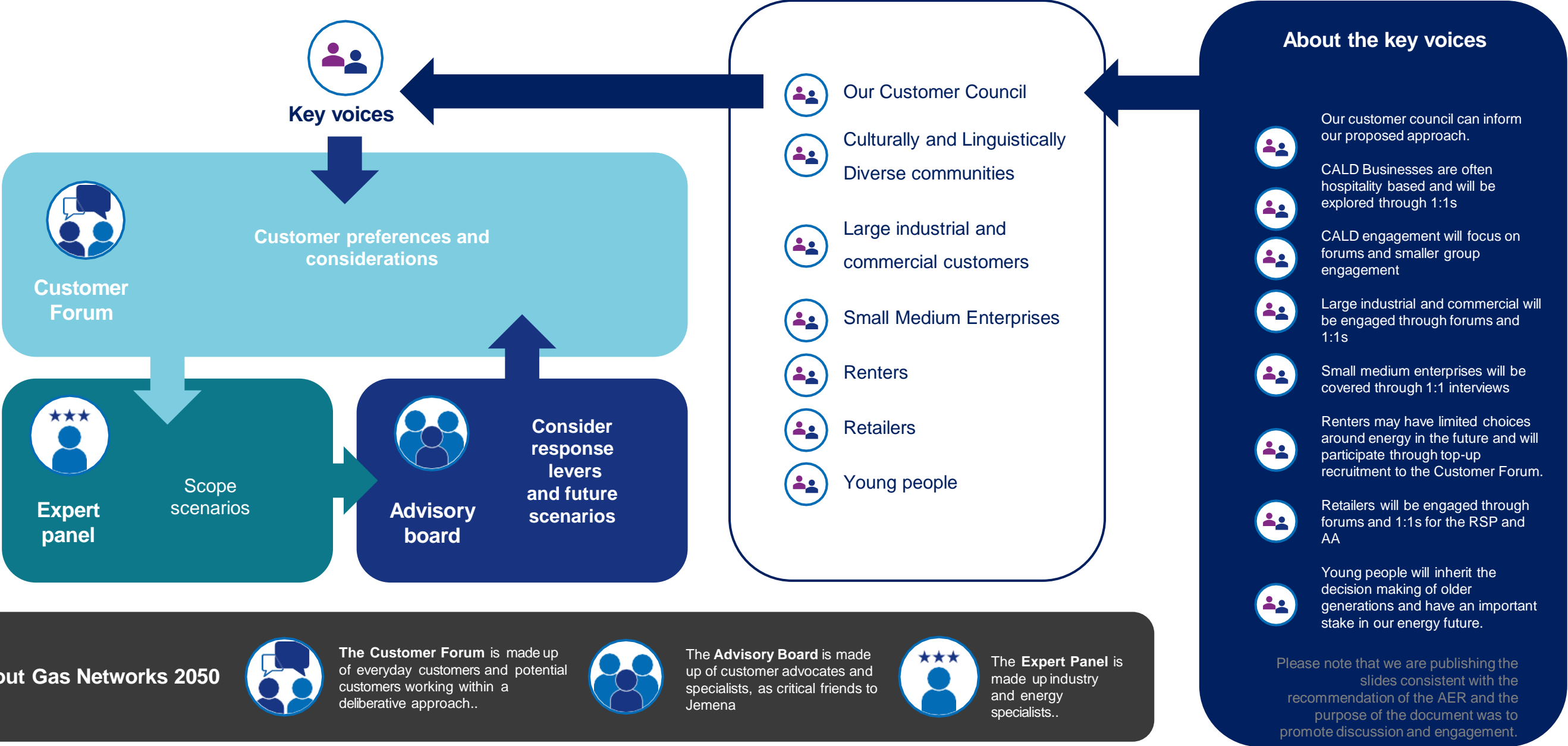
Operating expenditure



Please note that we are publishing the slides consistent with the recommendation of the AER and the purpose of the document was to promote discussion and engagement.

Broader Engagement for Access Arrangement (AA) 2025-2030

Engagement for Jemena’s access arrangement will be authentic, and rich to really listen to the diverse needs of our customers.



**Your
questions
answered
from our
last session**



Please note that we are publishing the slides consistent with the recommendation of the AER and the purpose of the document was to promote discussion and engagement.

Production

Gas supplied to consumers in NSW is sourced from domestic gas wells, primarily interstate.



Transmission Pipelines

High pressure pipelines transport gas over long distances, including from interstate.



Distribution Pipelines

Jemena then transports the gas to 1.5 million homes and businesses in NSW.



Retailer

Retailers organise these services and manage your account.



Your Bill

Your gas bill is made up of fixed supply charges and usage charges to recover these costs.



37%

3%

31%

29%

\$801

* Based on a customer with gas heating, cooking and hot water appliances using 15,000MJ per year. Calculated using assumed wholesale price of \$17GJ.

Please note that we are publishing the slides consistent with the recommendation of the AER and the purpose of the document was to promote discussion and engagement.

The name of the person responsible for paying the bill

The address of the property that is using gas

Average usage. Good to “sanity check” and query your retailer if things look odd e.g. If you have and use a heater, then you should expect usage to be higher in winter months.

Always check – is there a reason why I’m using more (or less) than last year? In this case – the household are a family of four, use is seasonal, use gas for cooking and hot water, and recently had a meter read error.



Proudly Australian since 1837.

Important numbers.

Enquiries: [agl.com.au](https://www.agl.com.au) Or 131 245
Faults and emergencies: 131 908 (Jemena Gas)

Call Jemena if you detect a gas leak or a gas emergency

Your account details.

Name: [Redacted]
Account number: [Redacted]
Supply address: [Redacted]

Account number – this is the retailer’s identifier for the bill payer

How much energy are you using?

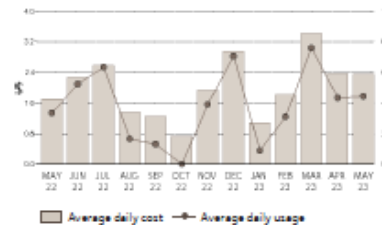
Bill period: 20 Apr 2023 to 19 May 2023 (30 days)

Compare with other homes in New South Wales.



Average usage data supplied by Australian Energy Regulator based on homes without gas heating during autumn. Visit energymadeeasy.gov.au for more information.

Average daily cost and usage.



Snapshot.

Average daily cost: **\$2.36**
Average daily usage: **44.46MJ**
Same time last year: **37.40MJ**

Your bill overview.

Balance brought forward **\$0.04**
+
New charges **\$70.68**
=
Total due \$70.72

Due date 9 Jun 2023

To avoid a late payment fee of \$12.00, please pay by the due date.

Thank you.

How much to pay in total and by when (in this case – this household has a direct debit set up with the retailer)

Do you have Life Support equipment at home?

It's important that your details are up to date, so we can help you prepare for any planned energy interruptions.

Visit [agl.com.au/lifesupport](https://www.agl.com.au/lifesupport) or call us on **131 245**.

Useful information.

We're here to help

Questions, feedback or just need a bit of help?
Message us in the **AGL app** or visit [agl.com.au/help-support](https://www.agl.com.au/help-support)

Please note that we are publishing the slides consistent with the recommendation of the AER and the purpose of the document was to promote discussion and engagement.

If Jemena can't access your meter, we may have to estimate your usage - the methodology is set in market procedures. If we read your meter – it is called an “actual”

Prices changes are most likely to occur once per year on 1 July.

The meters don't read in megajoules (MJ), which are the energy units customers are billed. We need to convert the reading into MJ. For this cooktop / hot water meter, usage is calculated as End read – Start read (248.89) x Heating value (10) x conversion factor (0.356784) = 888MJ. Heating value and conversion factor are calculated by Jemena to match the physical properties of the gas.

Payment assistance phone number to access concessions or the Energy Accounts Payment Assistance (EAPA) scheme, interpreter assistance, National Relay Service for hearing or speech impairment and concession information.

Important information.

Payment assistance. There are a number of options available to eligible customers, including NSW Government's Social Program for Energy concessions and rebates, Energy Accounts Payment Assistance (EAPA), AGL payment plans and the Centrepay scheme. To find out more, visit agl.com.au/Concessions.

Need an interpreter? Call 1300 307 245. 需要传译员吗? 请电上述号码。 هل تحتاج لمترجم؟ اتصل على الرقم أعلاه. Cần có thông dịch? Gọi số trên đây.

Hearing impaired (TTY). Call 133 677 and quote 1300 664 358.

If you don't wish to receive marketing information about AGL products and services, visit agl.com.au/DoNotContact.

Estimated Bill? You can provide your own meter reading and request an adjusted bill with a new due date. For more information on how to read your meter and lodge your reading, visit agl.com.au/smr or call 131 245.

If someone at your premises relies on medical equipment, you may be eligible for Life Support protection. Call us on 131 245 if you haven't already registered, or go to agl.com.au/lifesupport for more info.

Moving? Visit agl.com.au/Move to arrange a gas connection at your new premises.

Energy efficiency. For information about energy efficiency, visit www.ess.nsw.gov.au.

Your gas supply details.

Supply address: [Redacted]
Supply period: [Redacted]
DPI: [Redacted]
Energy Plan: 20 Apr 23 to 8 May 23 (19 days) Flexible Saver
9 May 23 to 19 May 23 (11 days) Value Saver

Meter no. DR004395

Read date	Read type	Start read	End read	Heating value	Conversion factor	Usage MJ
11 May	Customer	1,185.8	1,188.01	38.52000	1.009900	47
19 May	Estimate	1,188	1,188.75	38.52000	1.009900	29.15

Meter no. ML018697

Read date	Read type	Start read	End read	Units	Mult.	Conversion factor	Usage MJ
11 May	Customer	60,171.2	60,420.09	248.89	10	0.356784	888
19 May	Estimate	60,420	60,523.62	103.62	10	0.356784	369.7

Your next meter read is due between 21 Jun 23 and 27 Jun 23. Please ensure easy access to your meter on these days.

How we've worked out your bill.

Previous balance and payments.

	Total
Previous balance	\$706.85
12 May 23 payment	\$73.66cr
Credit adjustment (Inc GST)*	\$633.15cr
Balance brought forward	\$0.04

New charges and credits.

Usage and supply charges	Units	Price	Amount
General usage	394MJ	\$0.03941	\$15.53
General usage next	387MJ	\$0.03063	\$11.85
General usage next	26.49MJ	\$0.0292	\$0.77
Supply charge	19 days	\$0.658	\$12.50
Energy Plan & Price Change - 9 May 23 to 19 May 23 (11 days)			
General usage	228MJ	\$0.03768	\$8.59
General usage next	224MJ	\$0.02919	\$6.54
General usage next	74.35MJ	\$0.02827	\$2.10
Supply charge	11 days	\$0.57903	\$6.37
Total charges			\$64.25

Sum of usage here (2,875MJ) and below are equal – the top one calculates the usage, the bottom one applies relevant prices to convert usage into \$ charges

Also will tell you whether any charges this bill are carried over from you last bill and any credits (note there's a \$633.15 credit to this household because of the meter issue)

Usage prices are decreasing - on this plan, the more you use, the less you pay per MJ

Customer pays for usage and pay a daily fixed fee (supply charge) regardless of how much is used.

Total charges prior to applying GST. Total charges must have GST applied.

Total due \$70.72

Due date 9 Jun 2023

Reference number 7060 8858 1894 0681 7808

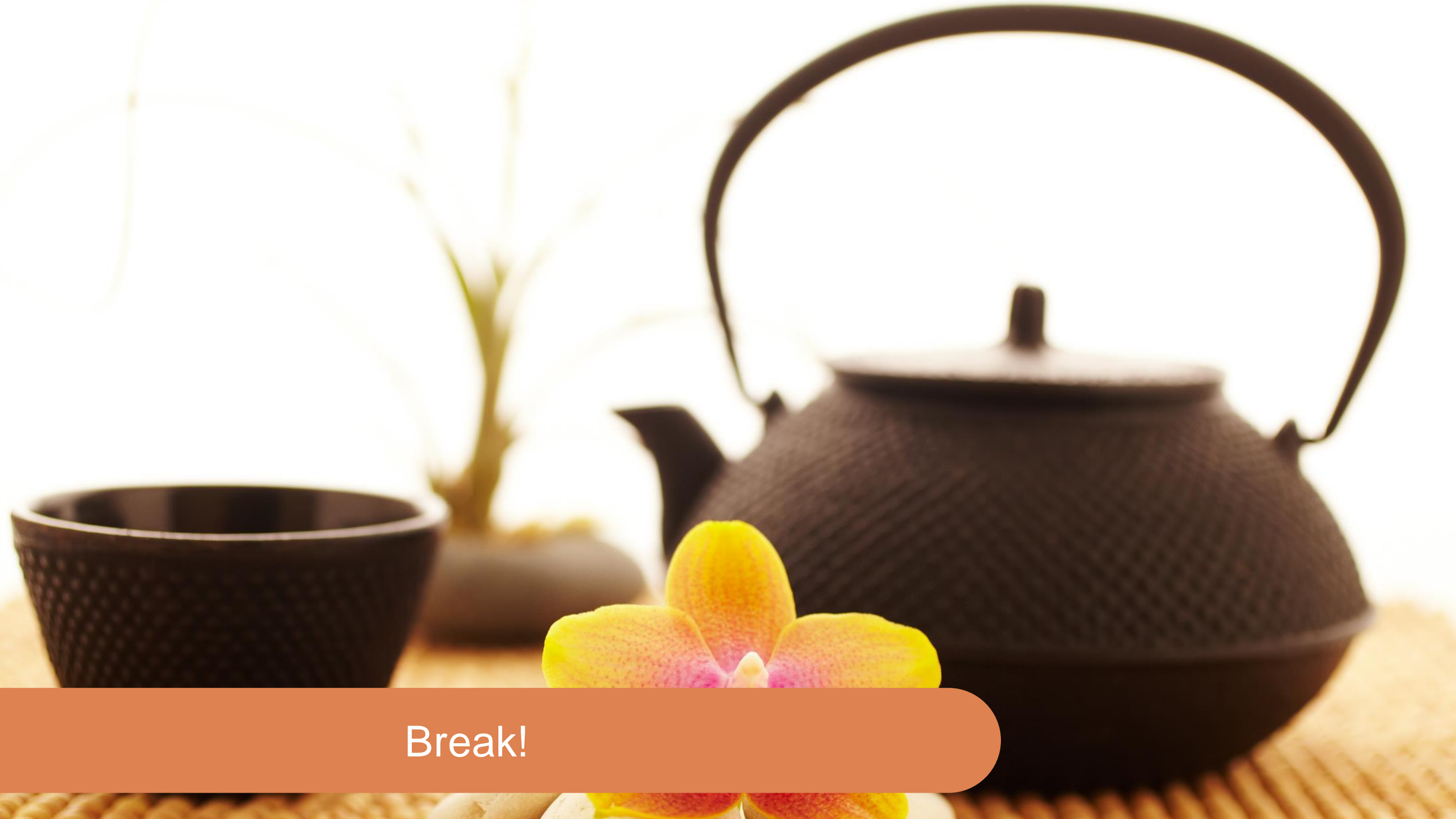
Post Billpay

Barcode

Payment options: iB Pay, PayID, Credit Card, Debit Card, Direct Debit, etc.

Options of how to pay

Please note that we are publishing the slides consistent with the recommendation of the AER and the purpose of the document was to promote discussion and engagement.



Break!

Exploring and unpacking the remit

Shaun Reardon
Executive General Manager
Networks, Jemena



Ana Dijanosic, General
Manager Regulation



Please note that we are publishing the slides consistent with the recommendation of the AER and the purpose of the document was to promote discussion and engagement.

Introduction to the remit

Australia is transitioning to net zero carbon emissions by 2050. We see a role for Jemena Gas Networks in the transition and beyond 2050. However, there is more and more uncertainty in the energy sector, and cost of living pressures and energy prices are rising.

We want to adapt and take action now so we can create our future, but we need the support of customers to do this.

Can we do this in a way that is fair for customers over the next five years, and beyond, whilst managing uncertainty and remaining affordable in the future?

Please note that we are publishing the slides consistent with the recommendation of the AER and the purpose of the document was to promote discussion and engagement.

Exploring Part 1 of the remit

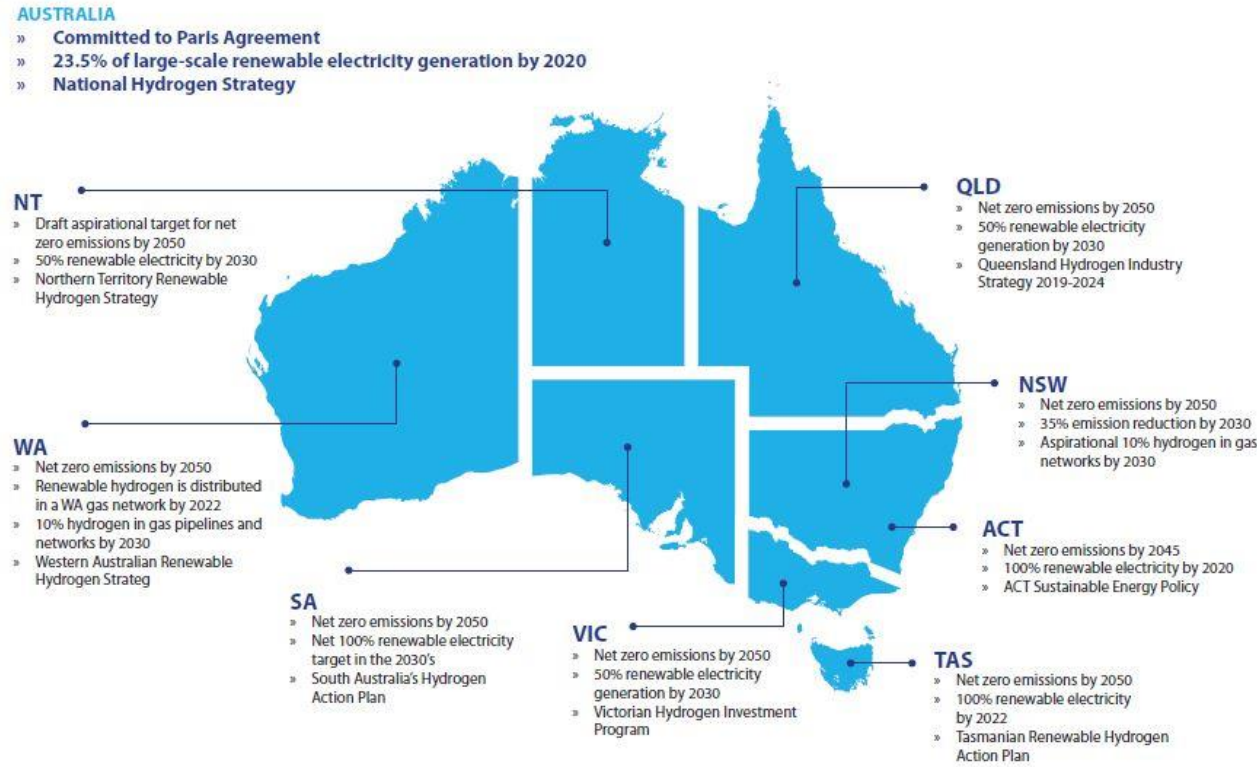
Australia is transitioning to net zero carbon emissions by 2050. We see a role for Jemena Gas Networks in the transition and beyond 2050.

However, there is more and more uncertainty in the energy sector, and cost of living pressures and energy prices are rising.



Government and industry are responding

Government commitments to net zero



Source: Energy Networks Australia analysis (2020)

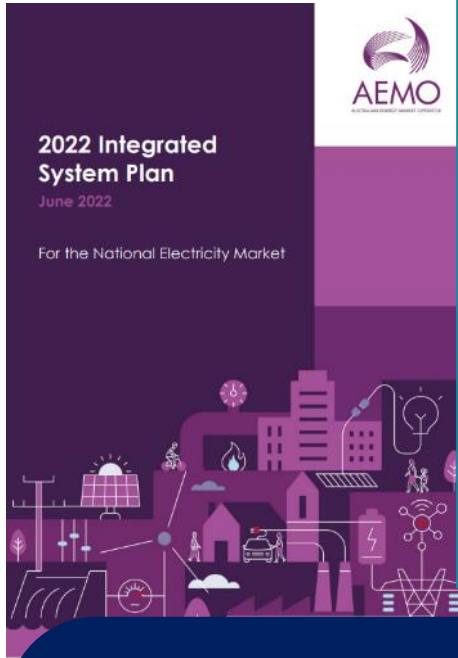
Two-thirds of the ASX 200 have emission reduction targets



"This Bill records the Government's ambition to take the country forward on climate action – and it reflects our determination to bring people with us. It will help open the way for new jobs, new industries, new technologies and a new era of prosperity for Australian manufacturing."

Please note that we are publishing the slides consistent with the recommendation of the AER and the purpose of the document was to promote discussion and engagement.

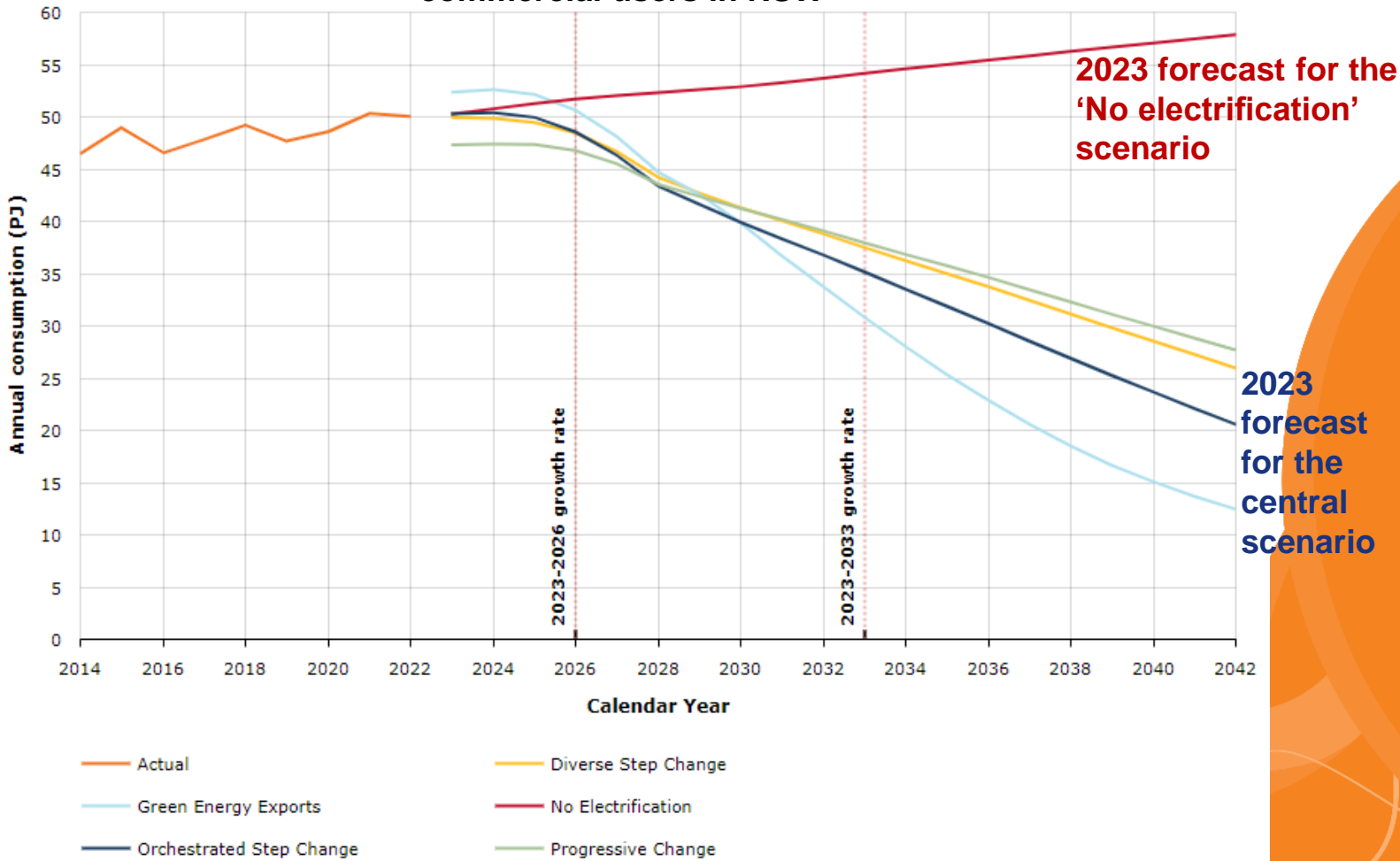
Why are things uncertain? *Moving to electrification*



Significant investment in the National Electricity Market is required to shift the generation mix from coal and gas to renewable sources. It is anticipated that renewable electricity will displace natural gas.

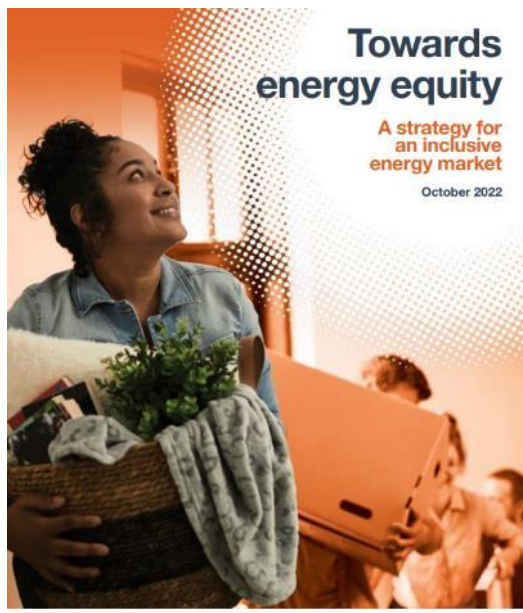
“To indicate the magnitude of transmission and generation investment we need to get to net zero, the AEMO’s latest draft Integrated System Plan identified that an additional 122GW of utility-scale variable renewable energy is forecast to be installed in the NEM by 2050. Yes, we are talking about an eight-fold increase in large-scale wind, solar and hydro generation.”

AEMO’s actual and forecast annual gas consumption (PJ) for residential and commercial users in NSW



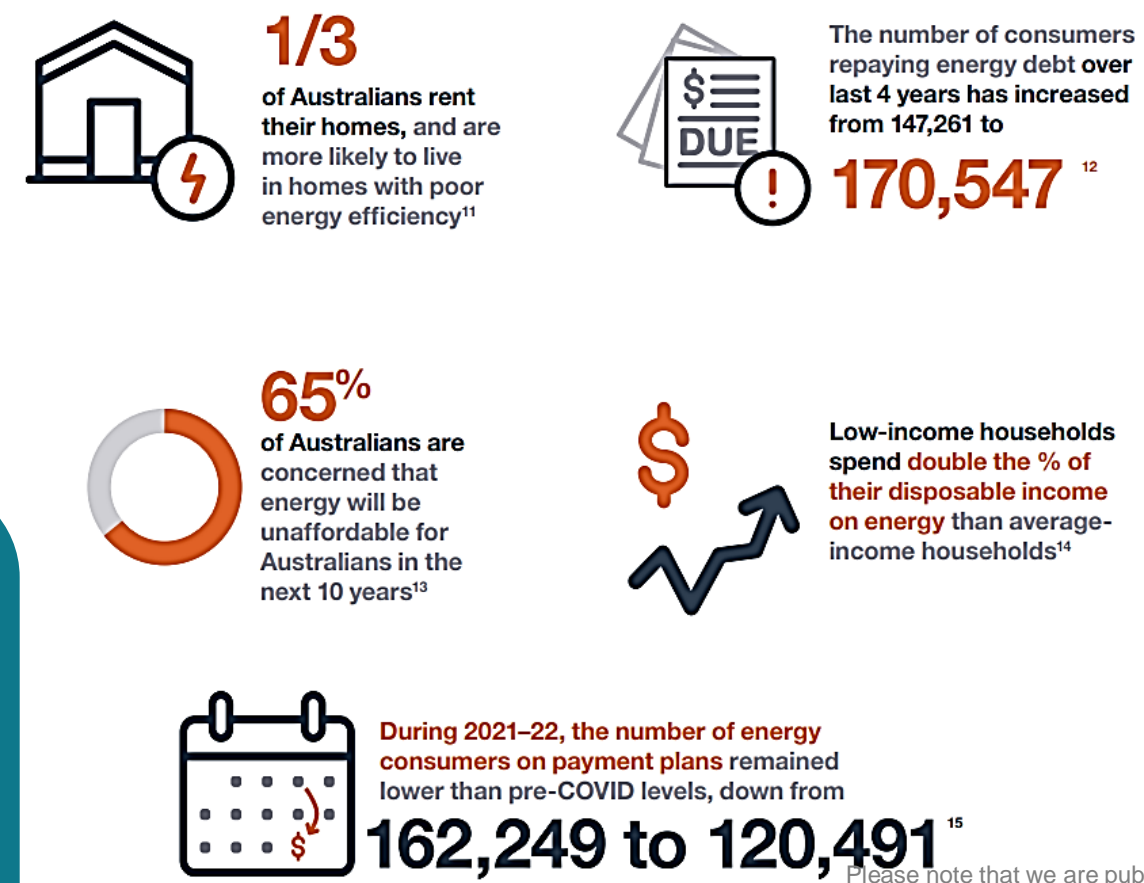
Why are things uncertain? *Managing the transition*

As the energy sector decarbonises, market developments will have an impact on consumers in the short and long term. The transition has to be managed so that vulnerable customers are not left behind.



“The low carbon energy transition is bringing about new and innovative technology and services. While some consumers are choosing to use batteries, electric vehicles and energy efficient appliances in their homes, many consumers experiencing vulnerability face a range of barriers in accessing such technology”

Figure 1: Data and characteristics that may exacerbate experiences of vulnerability

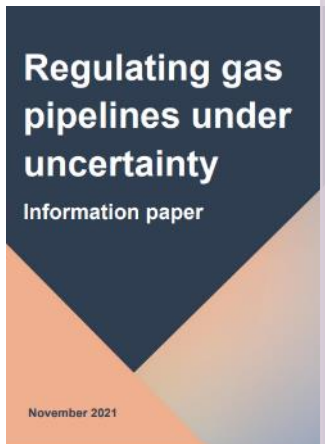


Please note that we are publishing the slides consistent with the recommendation of the AER and the purpose of the document was to promote discussion and engagement.



Why are things uncertain?

Role of renewable gases



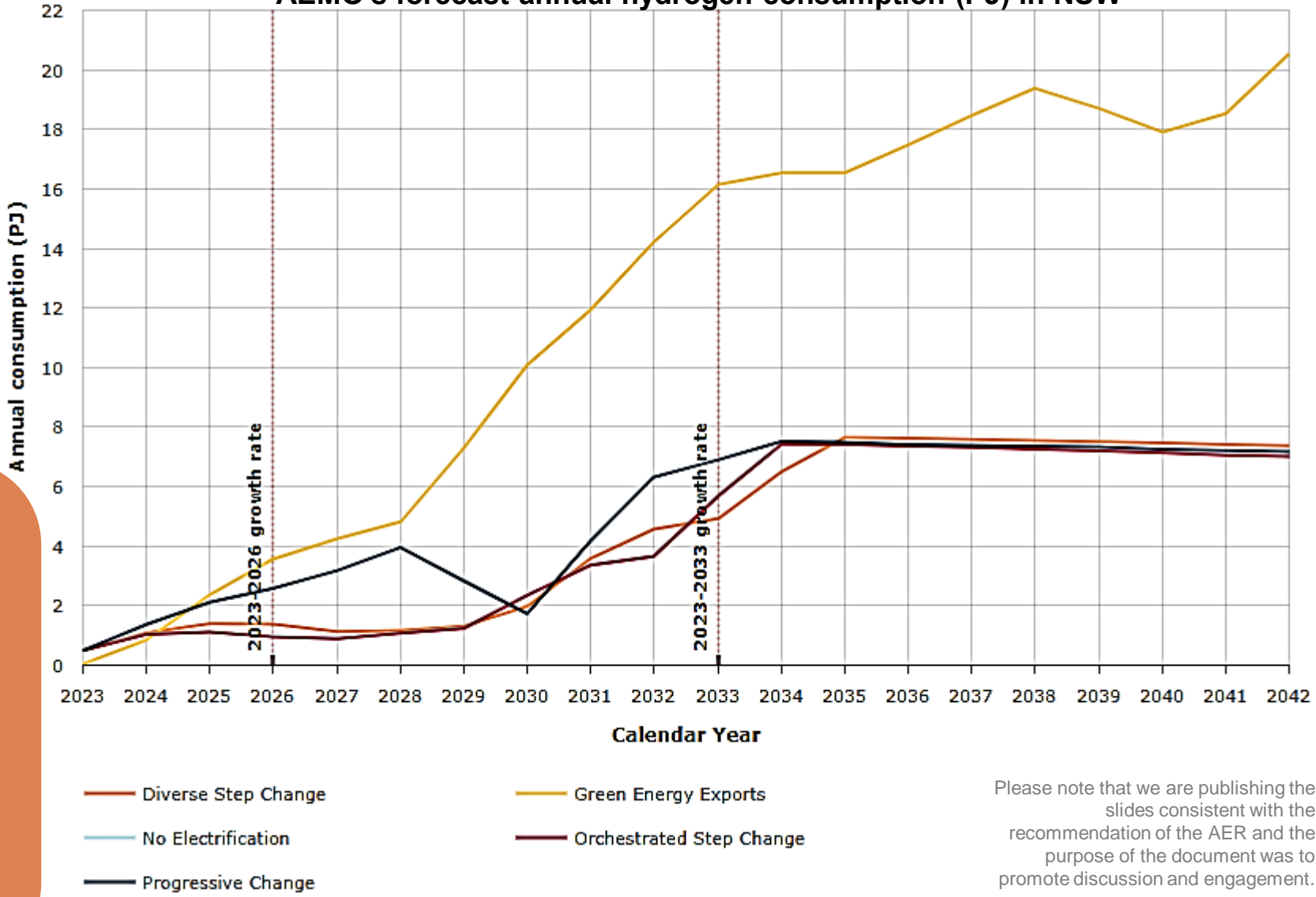
Renewable gases can support the transition to net zero. They are carbon neutral alternatives to natural gas, and give customers an alternative to natural gas during the transition to net zero. How and when should JGN start preparing for this?



As Australia transforms to meet a net zero emissions future, gas will continue to complement zero emissions and renewable forms of energy, and to provide a reliable and dispatchable form of electricity generation, and may provide potential pathways to incorporate hydrogen and other 'green' gases within Australia's energy landscape.

AEMO, Gas Statement of Opportunities, March 2023

AEMO's forecast annual hydrogen consumption (PJ) in NSW



Please note that we are publishing the slides consistent with the recommendation of the AER and the purpose of the document was to promote discussion and engagement.

Sources: [AEMO Annual Gas Consumption Forecasts, Orchestrated Step change scenario](#), [AER regulating gas pipelines under uncertainty, Nov 2021](#). Note that the chart only considers hydrogen consumption due to fuel-switching from natural gas.

Exploring Part 2 of the remit

We want to adapt and take action now so we can create our future, but we need the support of customers to do this.

Can we do this in a way that is fair for customers over the next five years, and beyond, whilst managing uncertainty and remaining affordable in the future?



Jemena

Please note that we are publishing the slides consistent with the recommendation of the AER and the purpose of the document was to promote discussion and engagement.

What is scenario planning and why do we do it?

Scenarios are **consistent**, **plausible** and **challenging** narrative descriptions of situations in the future, based on a selection of key future factors and their interdependencies.



Plausible Scenarios are...

- Credible
- Challenging
- Coherent
- Relevant
- Uncertainties
- Stories describing paths to different futures



Plausible Scenarios are not...

- Predictions
- Projections
- Preferences
- Presumptions
- The obvious
- Strategic positions made on presumptions

Please note that we are publishing the slides consistent with the recommendation of the AER and the purpose of the document was to promote discussion and engagement.

Comparing key characteristics of Expert Panel scenarios



Scenario 1: Electric Hare

Government	Social	Technology
Strong electrification policies	Community committed to decarbonisation	Slow technology development for H2 & biomethane
Economics	Customers	Decarbonisation
High energy prices leads to intervention	Rapid adoption of electrification	Rapid decarbonisation

Biomethane focus limited to hard to abate / gas-dependent users and Hydrogen is a niche product.



Scenario 3: Electric Tortoise

Government	Social	Technology
Policies reactive to price shocks	Community focus on affordability	Slow technology development for H2 & biomethane
Economics	Customers	Decarbonisation
High energy prices leads to intervention	Slow to convert	Slow decarbonisation

War-time effort, with ambitious policies for net zero and rapid decarbonisation, supported by customers



Scenario 2: Big Hydrogen

Government	Social	Technology
Strong renewable fuel policies	Community committed to decarbonisation	Rapid technology development for H2 & biomethane
Economics	Customers	Decarbonisation
High costs initially, but rapidly fall	Some pay premium for renewable gas amenity	Rapid decarbonisation

Biomethane is a stepping stone to the Hydrogen mass market.



Scenario 4: Market Hydrogen

Government	Social	Technology
Policies based on incentives & price signals	Community focus on affordability	Rapid technology development for H2 & biomethane
Economics	Customers	Decarbonisation
Commercially competitive H2 market	Some pay premium for renewable gas amenity	Slow decarbonisation

Renewable gas penetration

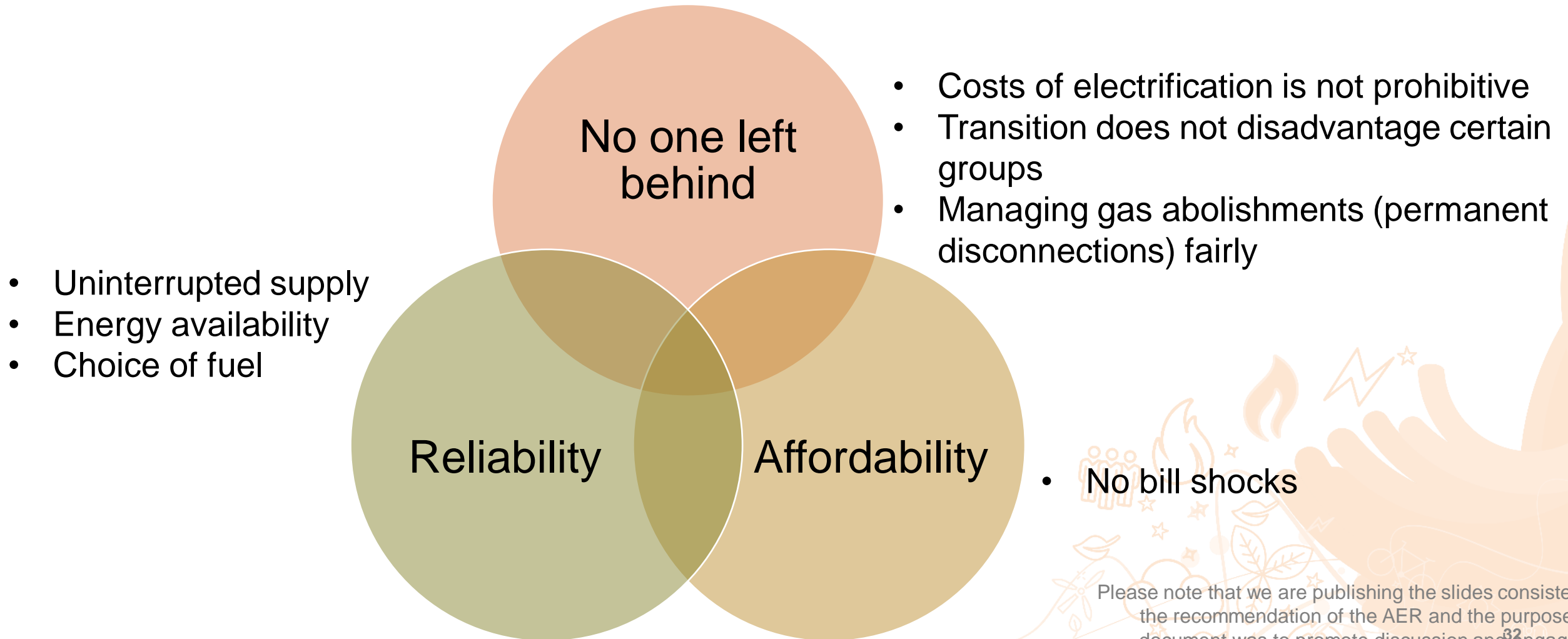
Market led vs Government led

Policy is outcomes-based and low intervention, with a focus on economic affordability. Decarbonisation is driven by the market.

Please note that we are publishing the slides consistent with the recommendation of the AER and the purpose of the document was to promote discussion and engagement.

What is fair?

1. What does fairness mean to you in the context of the energy transition?
2. How can we ensure that the energy transition is fair?



Please note that we are publishing the slides consistent with the recommendation of the AER and the purpose of the document was to promote discussion and engagement.

What trade offs do we need to consider?



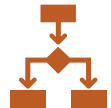
Reliability: gas should come on whenever I want it to.



Affordability: ensure gas remains affordable in the longer term for customers.



Fairness: ensuring that future customers do not carry the cost burden of current customers who have higher gas demand or leave the network earlier than others.



Choice: retaining choice for individuals, and diversity in the energy supply.



Planning for our future: reducing the risk of assets that may be no longer used, or planning for a potential renewable gas future.



Environment: Customers expect us and other parts of the industry and government to innovate and plan for a net-zero future.

Please note that we are publishing the slides consistent with the recommendation of the AER and the purpose of the document was to promote discussion and engagement.

Critical thinking questions

Clarity: Can you elaborate. Can you give me an example?

Accuracy: Is it really true? Can we verify that?

Breadth: Are there any points of view that are missing?

Depth: How does this address the complexity of the issue?

Relevance: How is this related to the issue?

Logic: Do those two things contradict one another? How can you infer this from that?

How can we take action to manage uncertainty in the future?

Slowing
network
growth

Asset
replacement
New connection
charges

Moving
towards
renewable
gas

Hydrogen
capability
Biomethane
connections

Managing
JGN's
financial risk

Asset lives
Recovering
capital
investments


Supporting
customers
through the
transition

Vulnerable
customers
Digital metering
Abolishments


Please note that we are publishing the slides consistent with the recommendation of the AER and the purpose of the document was to promote discussion and engagement.

Here's a list of suggested speakers and themes for our next session...


The path to electrification:

- 

Sophia Vincent • 2nd
Director of the Energy Consumer Branch - working towards a mo...
Sydney, NSW

📖 Experience: NSW Treasury, NSW Department of Planning, Industry and Environment, and 5 more
- 


Anna Freeman • 2nd
Policy Director, Clean Energy Council (Australia)
Greater Melbourne Area

📖 Experience: Clean Energy Council, NSW Renewable Energy Sector Board, and 10 more
- 


Brian Spak • 1st
Director, Energy System Transition at Energy Consumers Australia
Newcastle East, NSW

📖 Experience: Energy Consumers Australia, Third Derivative, and 8 more


The role of biomethane

- 


Jonathan Jutsen • 2nd
CEO
Greater Sydney Area

📖 Experience: RACE for 2030, Children's Discovery Museum, and 8 more
- 

Mark Jonker • 3rd+
Director at Helmont Energy
Greater Brisbane Area

📖 Experience: Helmont Energy, Borchert Jonker Consulting, and 2 more
- 

Michael Davis • 2nd
Managing Director, Optimal Renewable Gas
Sydney, NSW

📖 Experience: Optimal Renewable Gas, Jemena, and 7 more
- 

Shahana McKenzie • 2nd
CEO at Bioenergy Australia Ltd.
Canberra

👥 5K followers

Please note that we are publishing the slides consistent with the recommendation of the AER and the purpose of the document was to promote discussion and engagement.

Here's a list of suggested speakers for next session (ctd)

About hydrogen



Andrew Richards^{• 1st}

Chief Executive Officer at Energy Users Association of Australia
Greater Melbourne Area

📄 Experience: Energy Users Association of Australia, Pacific Hydro, and 1 more



Matthew Warren^{• 1st}

Principal at Boardroom Energy
Melbourne, VIC

📄 Experience: Boardroom Energy, ENPEC PTY LTD, and 6 more



Patrick Hartley^{• 3rd+}

Leader, CSIRO Hydrogen Industry Mission at CSIRO
Greater Melbourne Area

📄 Experience: CSIRO, RMIT University, and 2 more

On fairness and the energy transition (eg economic impacts, policy implications, international examples)



Ben Wilson^{• 2nd}

Chief Strategy & External Affairs Officer at National Grid
United Kingdom

👤 3K followers



Zubin Meher-Homji^{• 2nd}

Founder and Director - Dynamic Analysis
Greater Sydney Area

📄 Experience: Dynamic Analysis Pty Ltd, Networks NSW, and 2 more



David Norman^{• 2nd}

Chief Executive Officer at Future Fuels CRC
Melbourne, VIC

📄 Experience: Future Fuels CRC, Energised Solutions Pty. Ltd., and 2 more



Douglas McCloskey^{• 1st}

Program Director - Energy and Water Consumer Advocacy Progra...
Sydney, NSW

📄 Experience: Public Interest Advocacy Centre Ltd, NSW Environmental Trust, and 3 more



Gavin Dufty^{• 1st}

Vinnies / GM Policy and Research / non Executive Director
Melbourne, VIC

📄 Experience: St Vincent de Paul Society Victoria, Victorian Council of Social Service, and 1 more



Peta Ashworth OAM^{• 1st}

Director, Curtin Institute for Energy Transition
St James, WA

👤 4K followers

💬 Talks about #research, #policychange, #climatechange, #energytransition, and #stakeholderengagement



Tennant Reed^{• 2nd}

Director - Climate Change and Energy at the Australian Industry ...
Greater Melbourne Area

📄 Experience: Australian Industry Group (AI Group), Department of Energy, Environment and Climate Action, and 2 more

Please note that we are publishing the slides consistent with the recommendation of the AER and the purpose of the document was to promote discussion and engagement.

Thank you!

Any feedback:

GasNetworks2050@jemena.com.au

**Login to your private online community to
discuss what you heard tonight:**

yournetwork.jemena.com.au/login