

# Gas Networks 2050

Customer Forum 3 – Tuesday 27 June 2023

# Navigating the Zoom Room

The image shows a Zoom meeting interface with a presentation slide in the background that reads "bd infrastructure". The interface includes a top bar with a "View" button, a bottom toolbar with icons for Mute, Stop Video, Invite, Participants (4), Share Screen, Chat, Record, Reactions, and a red "Leave Meeting" button. A "Select a Camera" menu is open, showing options: FaceTime HD Camera (selected), Blur My Background, Choose Virtual Background..., Choose Video Filter..., and Video Settings....

**Keep your camera on.**  
In video settings click the option to see 49 participants in gallery view

**Chose 'Gallery' view**

**Keep yourself on mute - unless you want to speak!!**

**Feel free to use the chat!**

**Use the emojis to tell us what you think!**

**If you leave the meeting you can rejoin anytime using the original link.**

**Select a Camera**

- ✓ FaceTime HD Camera
- Blur My Background
- Choose Virtual Background...
- Choose Video Filter...
- Video Settings...

**View**

- Speaker
- ✓ Gallery
- Immersive
- Hide Self View
- Hide Non-video Participants
- Follow Host's Video Order
- Fullscreen

**Mute** **Stop Video** **Invite** **Participants 4** **Share Screen** **Chat** **Record** **Reactions** **Leave Meeting**



# 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

Frank Tudor

Managing Director

Jemena





# Our session this evening

## Topics we will cover:

**Section 1: Welcome back & Introductions**

*15 min*

**Section 2: Panel presentations and burning questions**

*95 min*

*Break*

*5 min*

**Section 3: Speed dialogue**

*80 min*

**Section 4: Initial themes**

*30 min*

**Section 5: Check-in**

*10 min*

**Section 6: Conclude**

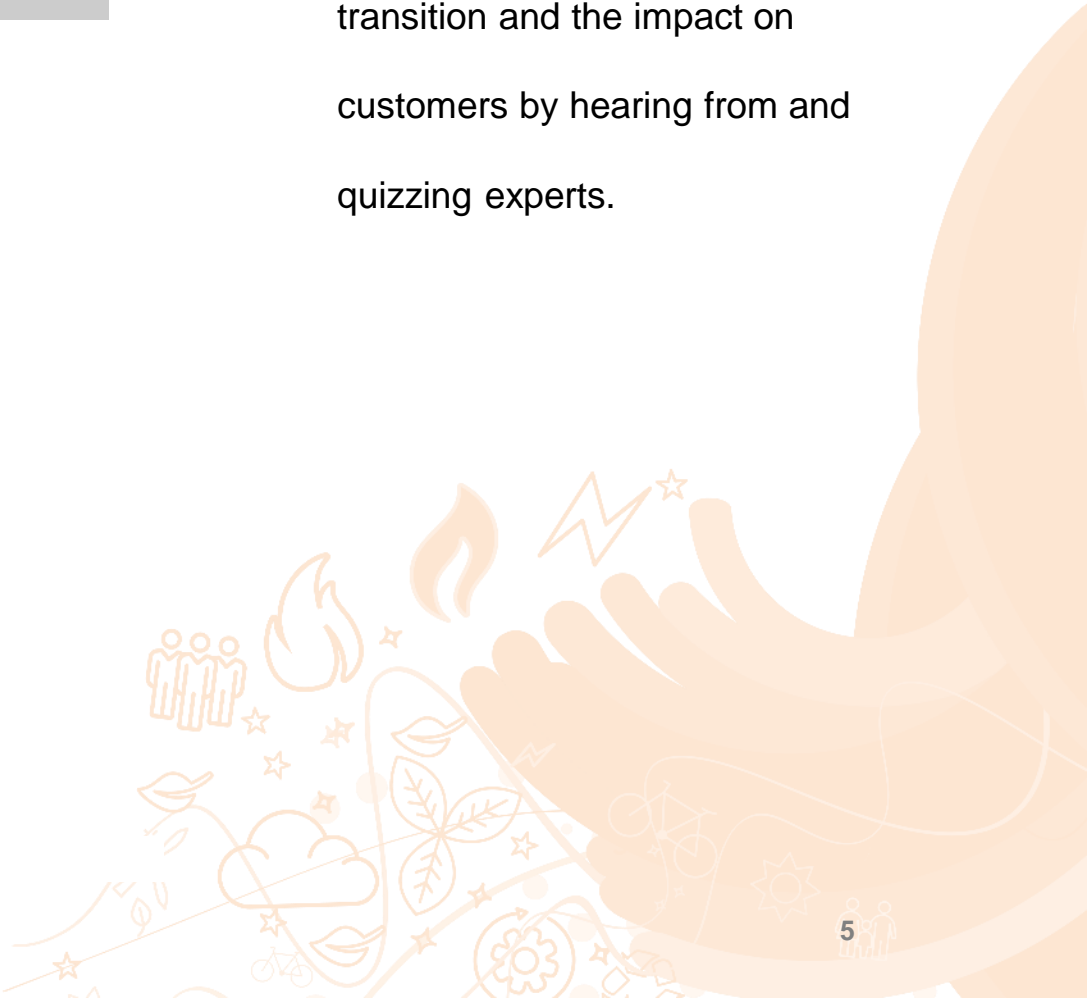
*5 min total*

## Duration ( 4 hours )



## In order to...

To find out more about the energy transition and the impact on customers by hearing from and quizzing experts.



# Our speakers tonight

1



**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

2



**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

3



**Peta Ashworth OAM** • 1st

Director, Curtin Institute for Energy Transition  
St James, WA

👤 4K followers

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

4



**David Strang** • 2nd

Interested in renewables and slowing climate change  
Hawthorn East, VIC

Provides services - Financial Consulting, Management Consulting, Business Consulting, Project Management

5



**Shahana McKenzie** • 2nd

CEO at Bioenergy Australia Ltd.  
Canberra

👤 5K followers

6



**Michael Davis** • 2nd

Managing Director, Optimal Renewable Gas  
Sydney, NSW

📁 Experience: Optimal Renewable Gas, Jemena, and 7 more

7



**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

8



**David Norman** • 2nd

Chief Executive Officer at Future Fuels CRC  
Melbourne, VIC

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

# 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?



# Panel presentation

**Sophia Vincent**

**Director of the Energy Consumer Branch**

**Treasury NSW**



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# NSW Government Energy Transition

Office of Energy and Climate Change

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Sophia Vincent  
Acting Executive Director, Energy

27 June 2023

The Office of Energy and Climate Change is part of the **Treasury Cluster**.



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# Acknowledgement of Country

The NSW Treasury acknowledges that Aboriginal and Torres Strait Islander peoples are the First Peoples and Traditional Custodians of Australia, and the oldest continuing culture in human history.

We pay respect to Elders past and present and commit to respecting the lands we walk on, and the communities we walk with.

We celebrate the deep and enduring

connection of Aboriginal and Torres Strait Islander peoples to Country and acknowledge their continuing custodianship of the land, seas and sky.

We acknowledge the ongoing stewardship of Aboriginal and Torres Strait Islander peoples, and the important contribution they make to our communities and economies.

We reflect on the continuing impact of government policies and practices , and recognise our responsibility to work together with and for Aboriginal and Torres Strait Islander peoples, families and communities, towards improved economic, social and cultural outcomes.

Artwork: 'Regeneration' by Josie Rose



# Introduction

The Office of Energy and Climate Change (OECC) within the Treasury Cluster focuses on some of the most significant issues facing NSW - energy reliability, affordability, climate change, and emissions reduction.

This presentation will provide an overview of NSW Government policy and action relating to:

- Energy Affordability
- Energy Transition
- Reliability.





# Energy Affordability

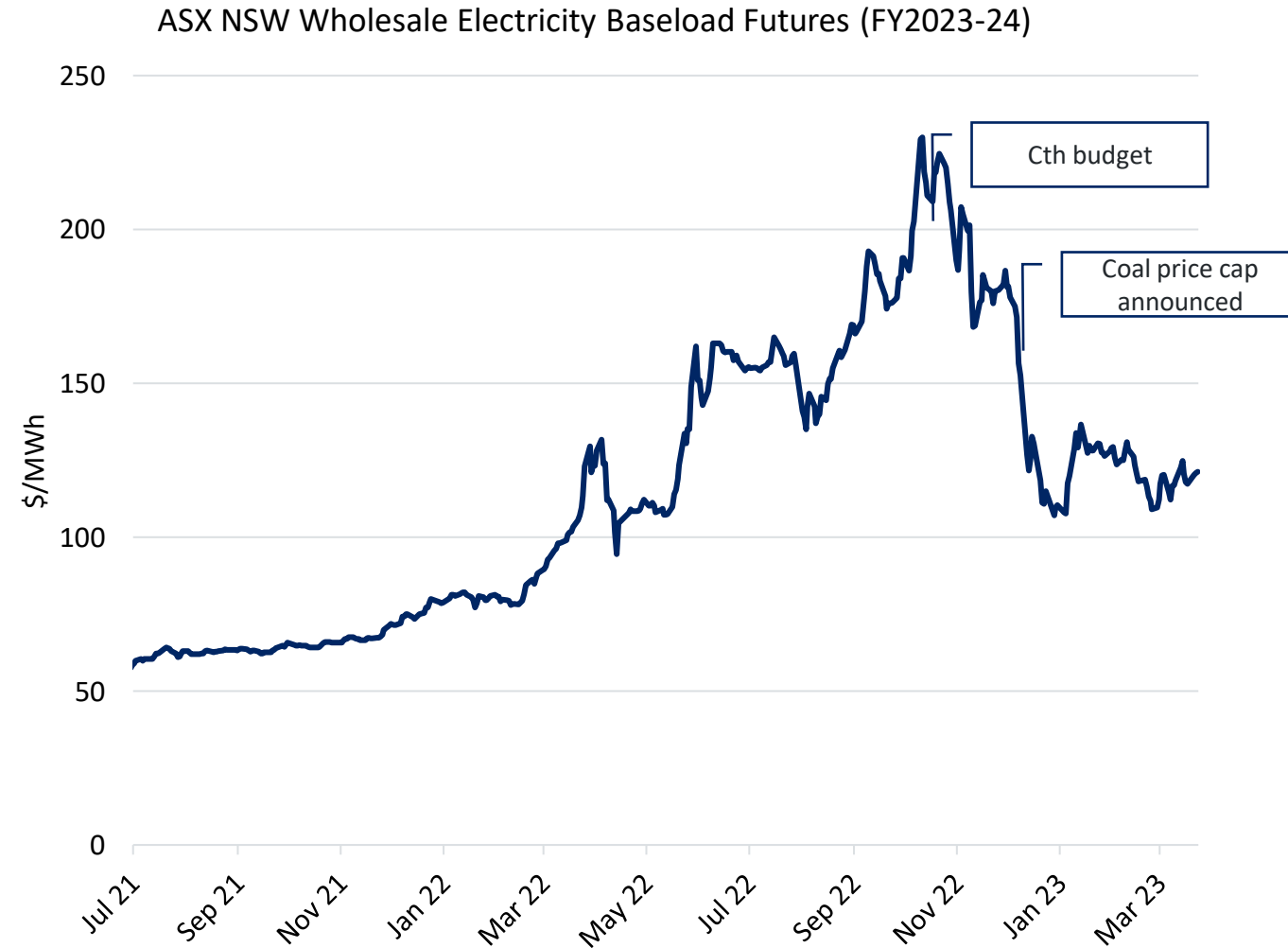
The Office of Energy and Climate Change is part of the **Treasury Cluster**.

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# Price caps on coal and gas

- A National Energy Price Relief Plan was released in December 2022, including:
- NSW Government temporary coal price cap (\$125 per tonne) to 30 June 2024.
- Commonwealth Government temporary gas price cap (\$12/GJ) to 30 June 2025.
- Expected annual increase in electricity bills (23-24) lowered by \$319.





# Existing support for customers

- The NSW Government currently provides \$325.5 million in NSW energy rebate support.
- One third of NSW residents are currently receiving an energy rebate.
- NSW Gas Rebate provides \$110/year.
- Rebate swap for solar or energy upgrades provides savings up to \$600/year.





# Additional support for energy customers

- NSW Government \$485 million National Energy Bill Relief Fund.
- 1.6 million eligible households in NSW.
- \$500 for low-income households, pensioners, self-funded retirees, families and carers.
- \$650 payment for small businesses.
- Increase in payment amounts for the Energy Accounts Payment Assistance scheme.



# IPART Market Monitor for Retail Gas

- IPART's most recent annual market monitoring report for gas investigated market offer price changes over the 2021-22 year in the Jemena network.
- IPART found median prices increased moderately (6%) for residential customers, and decreased slightly (2%) for small business customers in the 2021-22 financial year.
- Gas retail price pressures were passed through more significantly in the 2022-23 financial year (by 15.3% on average from June to August 2022)





# Energy Transition

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# Commitment to Net Zero

- The NSW Government has made a commitment to legislating NSW carbon emissions reduction targets and establishing a Net Zero Commission.
- Emissions target: net zero carbon emissions by 2050 and 50% reduction by 2030.
- Net Zero Commission: develop the plan to net zero by 2050 and monitor and review the plan and trajectory.



# Energy Security Corporation

- The establishment of the Energy Security Corporation was a NSW Government election commitment.
- Investment vehicle with \$1 billion seed funding.
- The intention of the ESC is to accelerate investment in renewable energy assets including transmission network and storage.
- Partner with industry on projects pumped hydro and community batteries.
- 12GW renewable energy and 12GW storage by 2030.





# Replacing inefficient appliances

- Energy Savings Scheme provides financial incentives to install more energy efficient technologies.
- Incentives include hot water systems, high efficiency air conditioners and alternative fuels.
- 2021 savings: 210,770 MWh of gas use.





# Promoting Hydrogen

- The \$3 billion NSW Hydrogen Strategy supports the development of a green hydrogen industry in NSW.
- Key actions include green hydrogen hubs, a new Renewable Fuel Scheme, and developing a hydrogen refuelling network across freight corridors.



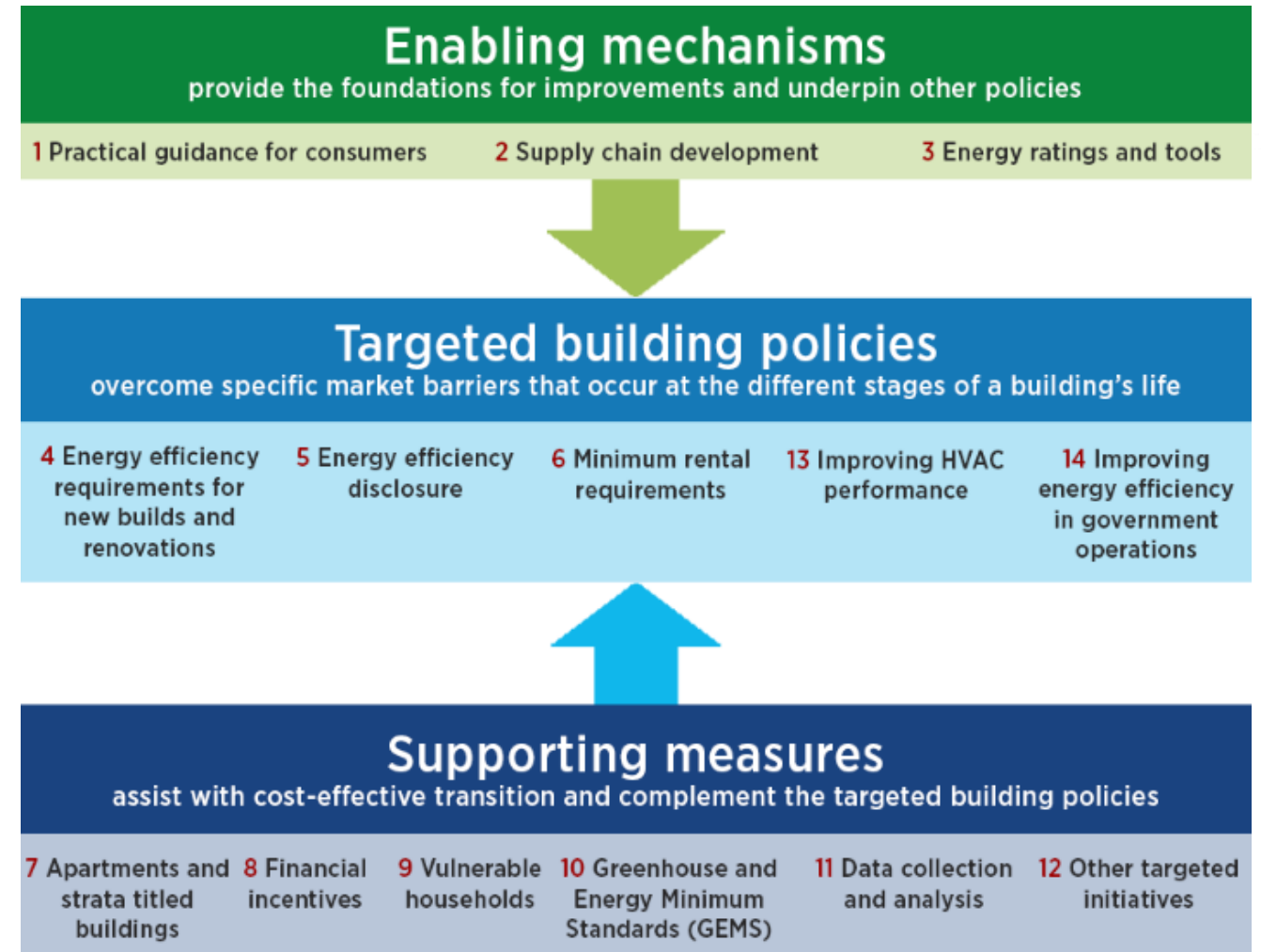
# Adopting renewable fuels

- GreenPower is a national certification scheme for renewable energy administered by NSW Government.
- GreenPower renewable gas certification pilot will certify biomethane, biogas, and renewable hydrogen.
- Aims to decarbonise sectors that are hard to transition to renewable electricity.
- Available to commercial and industrial gas customers.



# Improving the energy efficiency of buildings

- NSW Government's Sustainable Buildings SEPP: certain developments will submit a Net Zero Statement.
- Commonwealth Government's Trajectory for Low Energy Buildings priority:
  - National Framework for Disclosure of Residential Energy Efficiency Information at the point of sale and lease.
  - National Framework for Minimum Energy Efficiency Standards for Rented Homes.

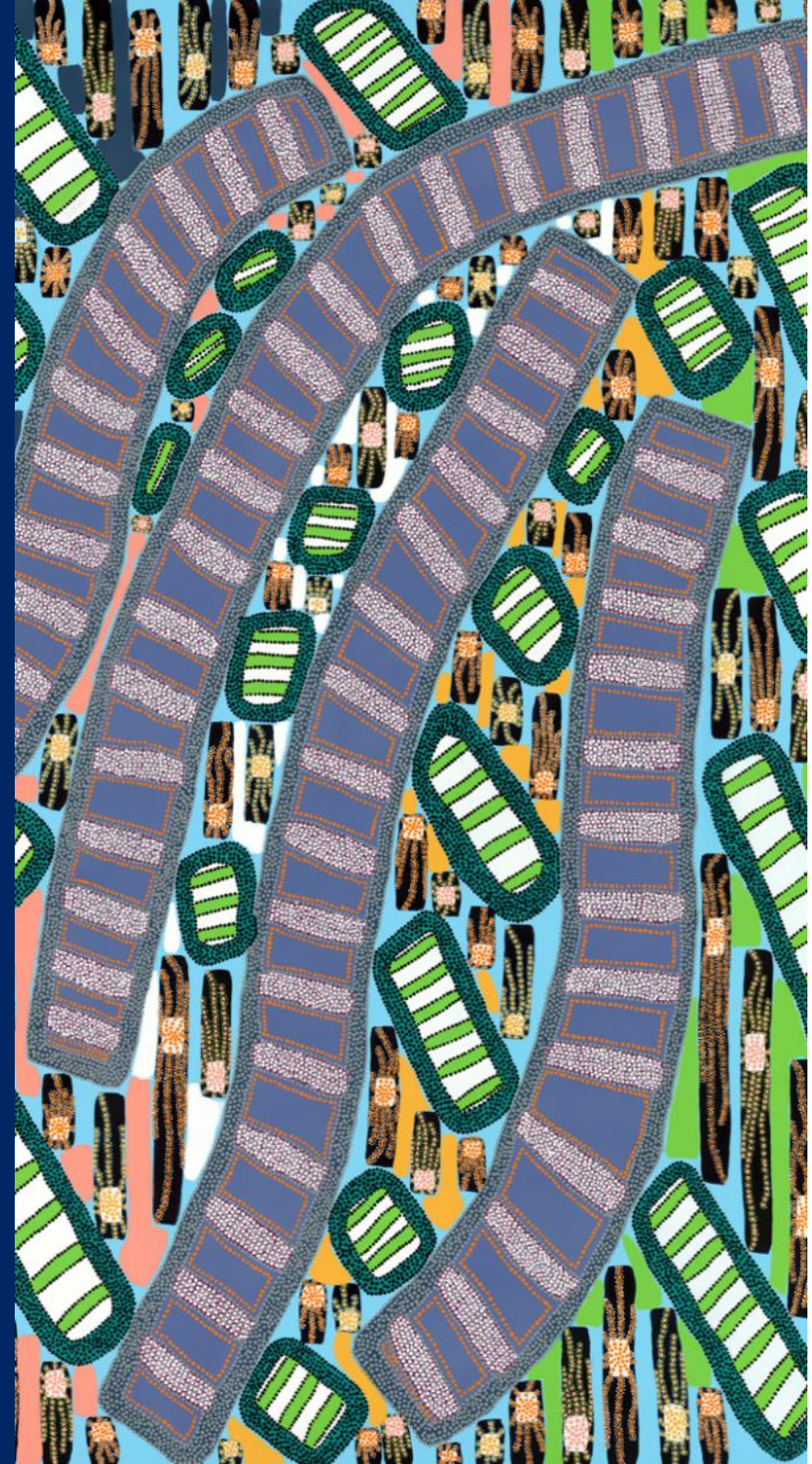




# Energy Reliability

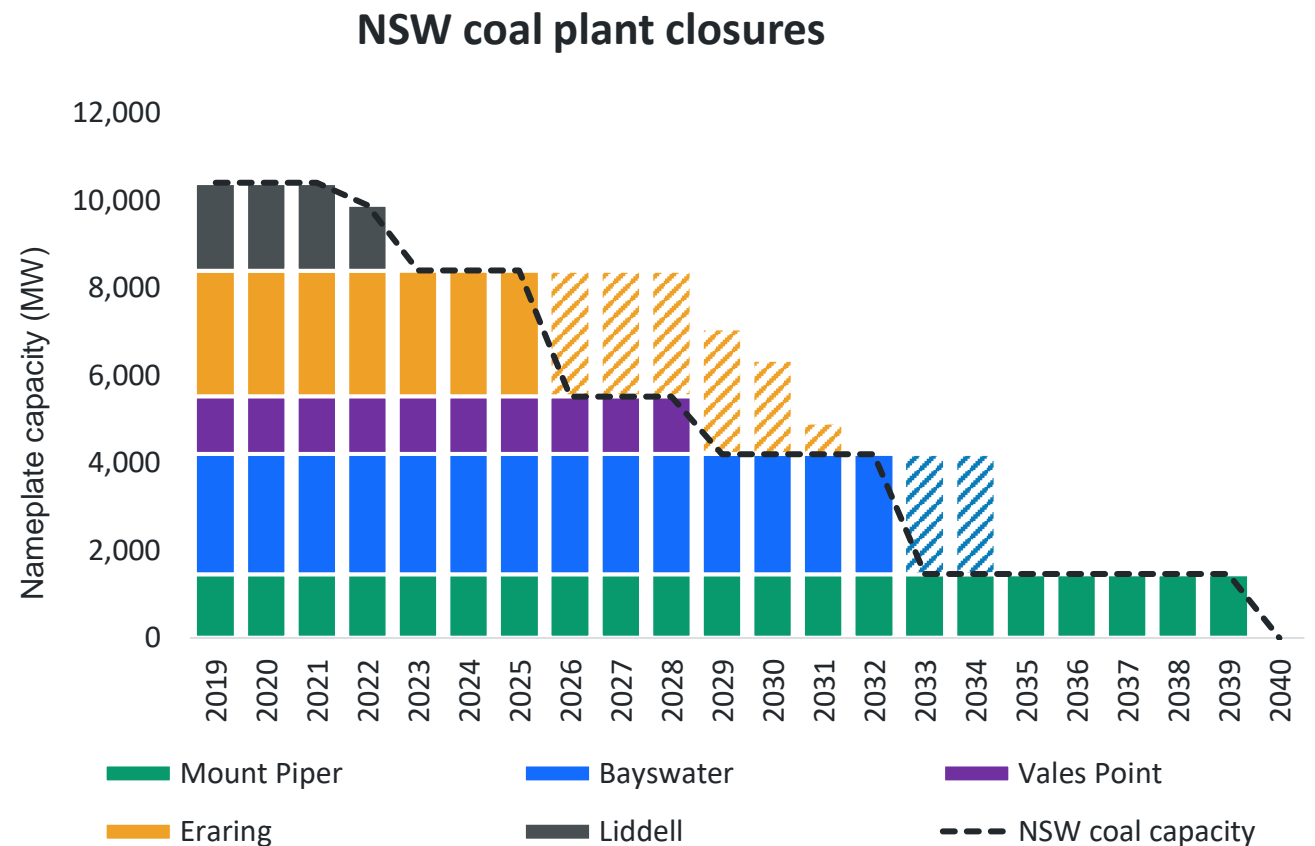
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# Ensuring reliable supply

- Electricity Supply and Reliability Check Up – to consider the current policy and program approach to delivering a timely and cost-effective electricity sector transition.
- The NSW Government has committed to continuing to implement the NSW Electricity Infrastructure Roadmap.



Source: AEMO

# Expected benefits of the Roadmap



**90 million tonnes** of reduced carbon emissions by 2030



**\$32 billion** in regional energy infrastructure investment expected to 2030



**12 gigawatts (GW)** in new generation and **2GW** of long duration storage by 2030

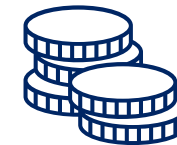
## Benefits for regional NSW



**6,300 construction jobs** and **2,800 ongoing jobs** expected in 2030, mostly in regional NSW



Up to **\$265 million** in **community enhancement funds** to host communities by 2042



**1.5 billion** in **lease payments** estimated by 2042 to landholders hosting new infrastructure



Improved **competitiveness** of **regional energy intensive industries**



# Questions?

# Panel presentation

# Gavin Dufty

## Executive Manager, Policy and Research

# St Vincent de Paul



# Panel presentation

**Professor Peta Ashworth (OAM)**  
**Director, Curtin Institute for Energy Transition**  
**Curtin University**



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# Principles to guide a low carbon transition

5 x Online Citizens Panels: 3 x 2021 & 2 x 2022

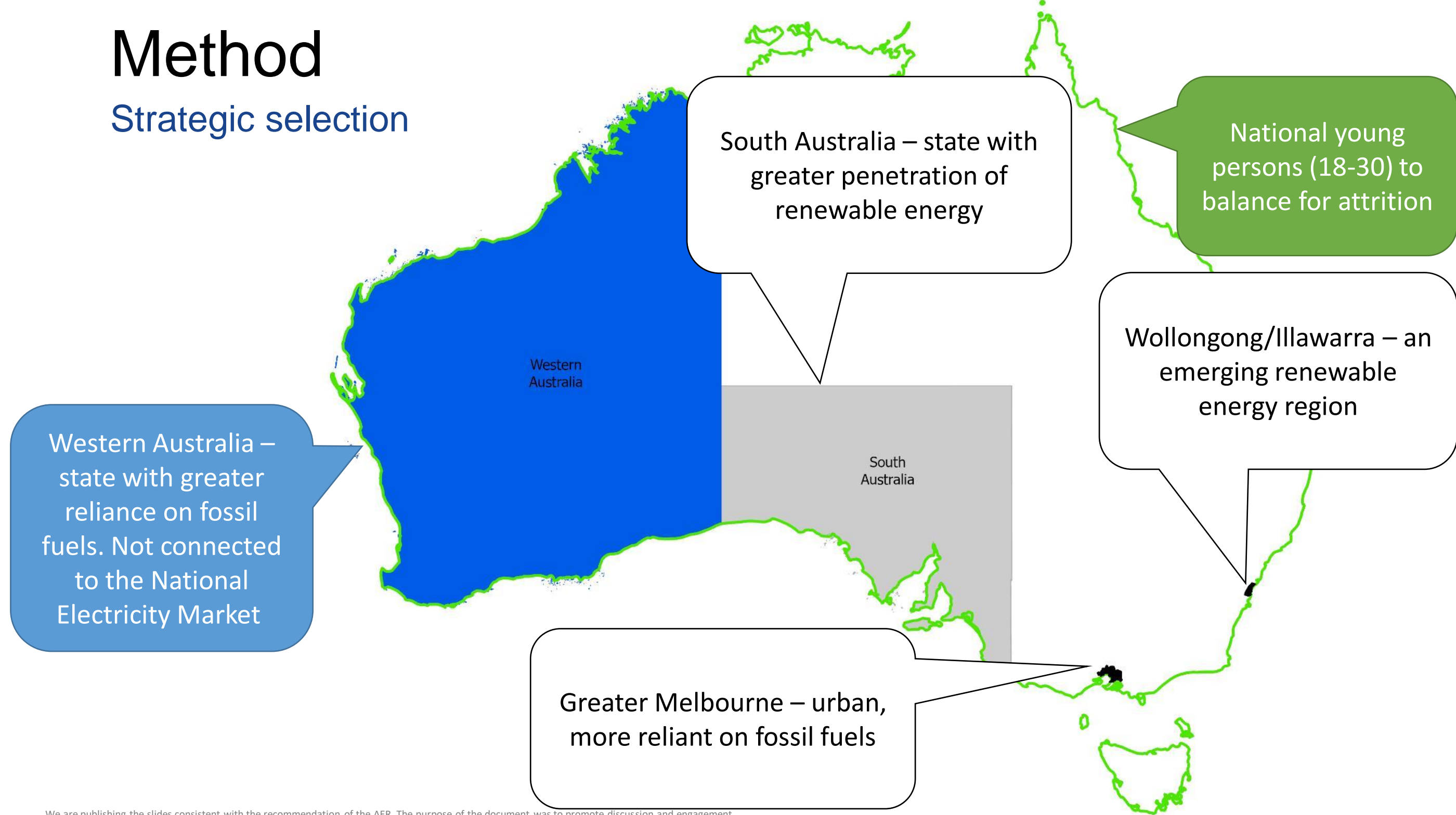
The main aims of the research were to:



















- i) document what Australians see as the challenges, opportunities and priority actions that will help Australia transition to a low-carbon energy future;
- ii) identify challenges, opportunities, and trade-offs in relation to the implementation of future fuels in the future energy mix; and
- iii) evaluate the citizens' panel process based on participants' experience.



# Method

## Strategic selection



Learning topics		Questions/ tasks for deliberations	 Outcomes
Week 1	Climate change and energy today	<div>  What do you value most about our current energy system           </div> <div>  What are the aspects/ things about the current energy system that you would like to change?           </div> <div>  What are the principles that would guide the path to a low carbon energy future for Australia?           </div>	<div>  Aspects of the energy system participants' value most           </div> <div>  Aspects of the current energy systems that participants would like to change           </div>
Week 2	Hydrogen, biogas and opportunities, challenges and considerations for future fuels	<div>  What are the principles that would guide the path to a low carbon energy future for Australia? (continued)           </div> <div>  What do you believe are the opportunities and challenges for FFs in our daily lives and the economy more broadly?           </div> <div>  What are the considerations we need to make now to be able to incorporate FFs in the future low-carbon energy mix of Australia?           </div>	<div>  Opportunities for FF           </div> <div>  Challenges for FF           </div> <div>  Considerations for FF           </div>
Week 3	Potential decarbonisation pathways, trade-off and challenges for energy transitions, energy vulnerability	<div>  What are the principles that would guide the path to a low carbon energy future for Australia? (finalising)           </div> <div>  FF pathway exploration and evaluation           </div> <div>  All-electric pathway exploration and evaluation           </div>	<div>  A set of principles to guide the path to a low-carbon energy future           </div> <div>  FF pathways evaluation against principles. Identify opportunities and challenges of FF pathway           </div> <div>  All-electric pathways evaluation against principles. Identify opportunities and challenges of all-electric pathway           </div>



Principles	Represents my views well	Partially represents my views	Does not represent my views
(Energy) companies need to be transparent with their supply chains and dealings.	91%	9%	0%
The Government should seek to transition our society by providing multicultural, reliable and transparent information/education to improve understanding that will lead to positive change.	88%	12%	0%
Build sustainable energy supply chains by recycling and considering product life-cycle with lowest possible environmental contamination.	88%	12%	0%
Future fuel sources should have safety as the highest priority.	84%	16%	0%
Future fuels and energy usage should be prioritised along with environmental concerns. The creation of sustainable renewable resources should be underpinned by legislation.	84%	16%	0%
Green energy should be economically viable for producers and consumers of any economic status and residential location.	84%	11%	3%
Equitable and sustainable community-based decisions surrounding energy consumption, production and employment for current and future generations.	84%	12%	3%
Governments, in consultation with the corporate sector should create policies that support private infrastructures to ensure ongoing reliability while not compromising on quality.	66%	28%	6%
Transition to net-zero carbon emission and future energy usage in general requires early investment in ground-breaking scientific research and innovation - including more directional research into non-renewable and low-carbon energy. That research should be future focused, drive sustainable power, ensure new technology is safe for all Australians and the environment and inform industries and Government decision processes.	65%	35%	0%
Successfully achieve net-zero by 2050 without needing to radically change infrastructure, with clear rules and guidelines to build sustainable future living.	63%	33%	0%
The Government should seek out community views on how Australia should transition to reduce its carbon footprint.	59%	38%	3%

# Enabling the decarbonisation of Australia's energy networks



@futurefuelscrc



futurefuelscrc



futurefuelscrc.com

Future Fuels CRC is supported through the Australian Government's Cooperative Research Centres Program. We gratefully acknowledge the cash and in-kind support from all our research, government and industry participants.



Australian Government  
Department of Industry,  
Science and Resources

**AusIndustry**  
Cooperative Research  
Centres Program

# Panel presentation

# David Strang

# Lighter Footprints







# Presentation to Jemena Customer Forum workshop

Presented by: David Strang,  
Convenor – Lighter Footprints, Energy Transition Group

Some of the information presented here come from a recent paper Wood, T., Reeve, A., and Suckling, E. (2023). Getting off gas: why, how, and who should pay? Grattan Institute.

# The priority – from the point of view of an environmental group



## Speedy emissions reduction is a priority

- Gas is a major cause of emissions
  - Emissions from burning gas
  - Emissions from gas leakage (= 84 times CO2 over 20 years)
  - Gas exploration is environmentally unfriendly (particularly seismic blasting and fracking).
- Currently about 22 per cent of Australia's emissions come from producing and burning gas;
- The Intergovernmental Panel on Climate Change and the International Energy Agency have recommended that all new fossil fuel exploration and development should stop. Without new developments Australia will run out of gas for Australian use unless demand is reduced\*.

\*Electrification must proceed at pace

# The issues

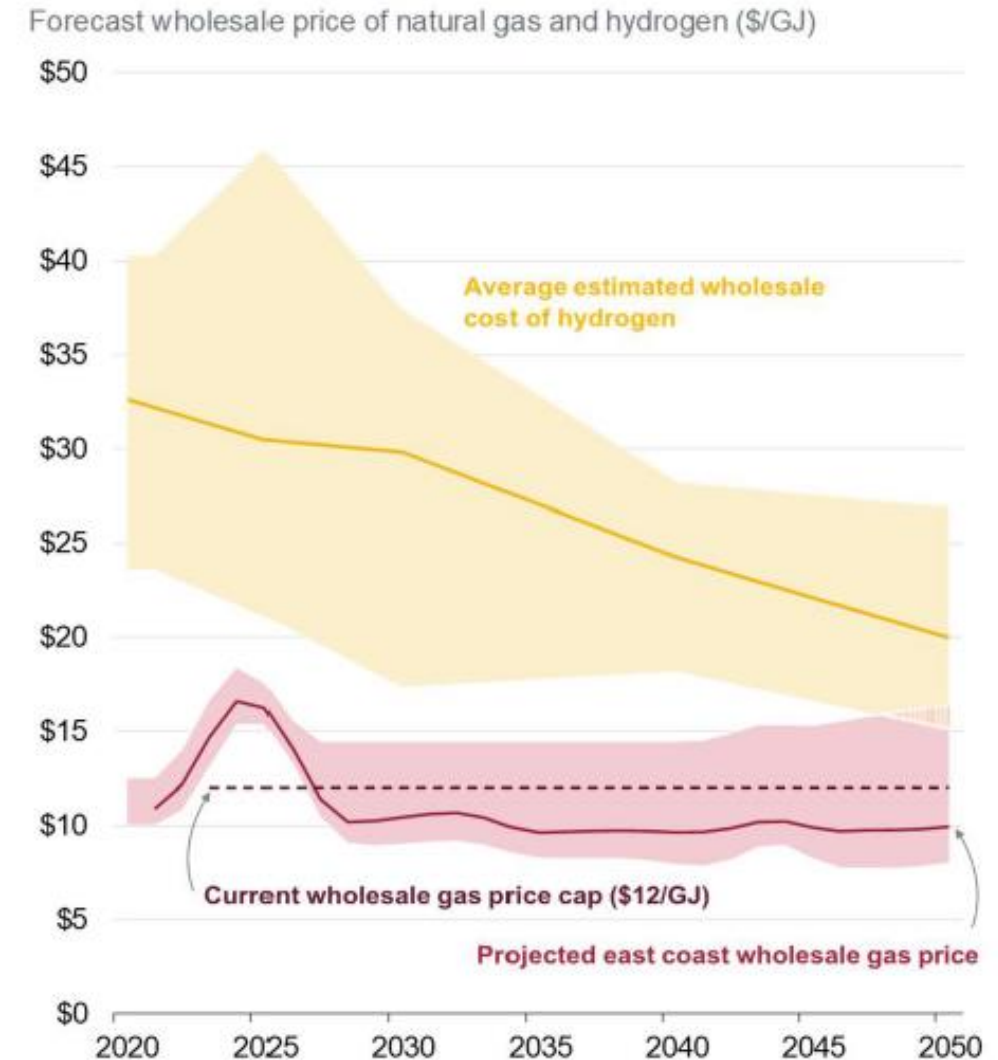


- The gas industry has not presented a credible plan for their fair share of emissions reduction to meet the Federal legislated requirement of 43% reductions versus 2005 emissions levels by 2030.
  - We do not believe that hydrogen is a viable alternative.
  - We do not believe that biomethane is a viable alternative and the use of biomethane will not address health issues;
- Developing new gas fields to avoid forecast gas shortfalls would be expensive and environmentally damaging.
- Federal and state governments must act to meet their emissions targets.



# Why not hydrogen?

- The forecast cost of green hydrogen would make hydrogen in the network uneconomic;
- There are significant safety issues that have not been adequately addressed:
  - Leakage
  - Safety
- All appliances on the network would have to be updated or replaced;
- Green hydrogen is currently a scarce commodity



# Why not biomethane?



- Biomethane is released when natural materials decompose. It breaks down to carbon dioxide in the atmosphere. Capturing the biomethane and burning it releases carbon dioxide to the atmosphere. As this results in no net increase in atmospheric carbon dioxide, which is why biomethane is considered 'green'.
- Biomethane is expensive and it is unlikely that it can be produced in sufficient quantities to keep the gas networks going.
- Biomethane may have a role in those hard-to-transition industries (e.g. aviation, industry feed-stocks) although newer technologies may prove cheaper.

# The way forward – our view



- Distribution of gas to residential and small commercial customers needs to stop.
- Electricity can provide cheaper and healthier energy to the home and the electricity industry is fast tracking emissions reduction measures.
- Solutions for generation and industry need to be developed.
  - Electricity can provide a solution meeting some industrial requirements;
  - Green hydrogen and biomethane may play a role for generation and hard-to-transition industries\*;
  - There may be small amounts of gas required for generation in the medium term.
    - Gas volumes for generation are falling despite an increase in renewables. We are getting smarter.

\*research and development should not be funded by customers through the regulatory mechanism



# The likely way forward

## Residential and small businesses



- State governments will run to different timetables\*.
- The major focus of transition is likely to be on residential and small businesses while solutions for large industrial customers are developed.
- Initial steps are likely to be:
  - Banning new connections to the gas networks;
  - Committing to transitioning away from gas by a specified date.
- A later step is likely to be setting and end date for the sale of gas appliances.

\* Note that the ACT has already committed to transitioning away from fossil fuel gas to renewable electricity by 2045

# The likely way forward

## Industry and generation



- State governments are already working with industry on transitioning away from gas;
- Industrial equipment often lasts longer than home appliances so timetables for getting off gas may differ;
- Hydrogen and biomethane may have a long-term role in some industries;

# How to achieve a just transition

## Plan and take action



- Announce an end date for gas for residential and business customers;
- Stop new connections (adding fuel to the fire)
- Ban gas advertising
- Simplifying gas disconnections
- Provide assistance to those transitioning (some governments are already doing this)
- Provide additional assistance to those who cannot afford to transition
- Develop schemes to ensure that rental properties transition
- Provide solutions for plumbers and workers in the distribution businesses
- Develop new economic and safety regulatory frameworks suitable for the changing world (fairness for the business owners and safety regulations reflecting the shrinking network).



# Burning questions?



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# Panel presentation

**Shahana Mckenzie**

**CEO, Bioenergy Australia**

**Founder, Renewable Gas Alliance**





An aerial photograph of a wastewater treatment plant. The image shows a grid of large, circular, green-tinted tanks arranged in rows. Each tank has a central vertical structure. The tanks are surrounded by a network of pipes and walkways. The overall scene is industrial and organized.

20% of Australia's gas  
network by 2030

The Biomethane  
opportunity being  
overlooked

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Shahana McKenzie

CEO, Bioenergy Australia  
Founder, Renewable Gas Alliance



# Uniting Industry to accelerate Biomethane deployment



**Renewable  
Gas  
Alliance**



**BRICKWORKS**



**LMS  
ENERGY**



**PEPSICO**

**ARUP**



# The challenge

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- Reducing methane emissions
- Ambitious decarbonisation agenda
- Rising energy costs and energy security
- Limited decarbonisation options for hard to abate sectors



A background image showing two women in a workshop. The woman on the left is wearing a red headscarf and a light blue long-sleeved shirt, and is smiling. The woman on the right is wearing a dark blue long-sleeved shirt and a patterned skirt, and is also smiling. They appear to be working on a wooden table with various tools and materials.

*Humans generate over 105 billion tonnes of organic waste globally every year, releasing methane and other greenhouse gas emissions as they decompose. By recycling all 105 billion tonnes, biogas can reduce global GHG emissions by 10% and deliver 50% of the Global Methane Pledge by 2030. However, today only 2% of organic waste is treated and recycled*

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## Treatment options

Reducing waste is the best route for reducing emissions. However, some wastes are hard to eliminate and therefore must be treated. There are **three main technologies** capable of reducing methane emissions from organic wastes: incineration, compost and anaerobic digestion (AD). However, not all are sustainable...

### UNSUSTAINABLE Linear economy →



#### Incineration

Also known as Energy from Waste (EfW).

Classed as an **unsustainable** technology by the EU, incineration contributes to GHG emissions.

*“Don’t invest in solid waste incineration” recommends C40 Cities <https://bit.ly/2OwlC81>, “it is expensive, inefficient, and requires strict environmental regulation.”*



### SUSTAINABLE Circular economy

Increasing value unlocked from wastes →



#### Compost

Organic wastes break down aerobically (i.e., with oxygen), thus preventing the production

of methane. Compost recycles nutrients found in organic wastes, through the production of a valuable biofertiliser. **However, it does not extract energy...**



#### Anaerobic digestion (AD)

Organic wastes are broken down

anaerobically (i.e., without oxygen), recycling organic matter into renewable energy, nutrients and bio-CO<sub>2</sub>.

Recycling all organic wastes through AD would generate enough biomethane to replace one third of global natural gas consumption. AD can be carbon negative, reversing emissions.

It is crucial wastes are treated using the **most sustainable technology** to extract all available energy and resource.

## Recycling organic wastes

All organic wastes can be sustainably treated via **anaerobic digestion (AD)**. AD is ready-to-use technology recycles organic feedstocks into valuable bio-products, including the following, as well as biomaterials and biochemicals:

### Biogas

AD captures biogas and harnesses it as a source of renewable energy. In its original form it can be used to produce electricity or upgraded into biomethane and bio-CO<sub>2</sub>

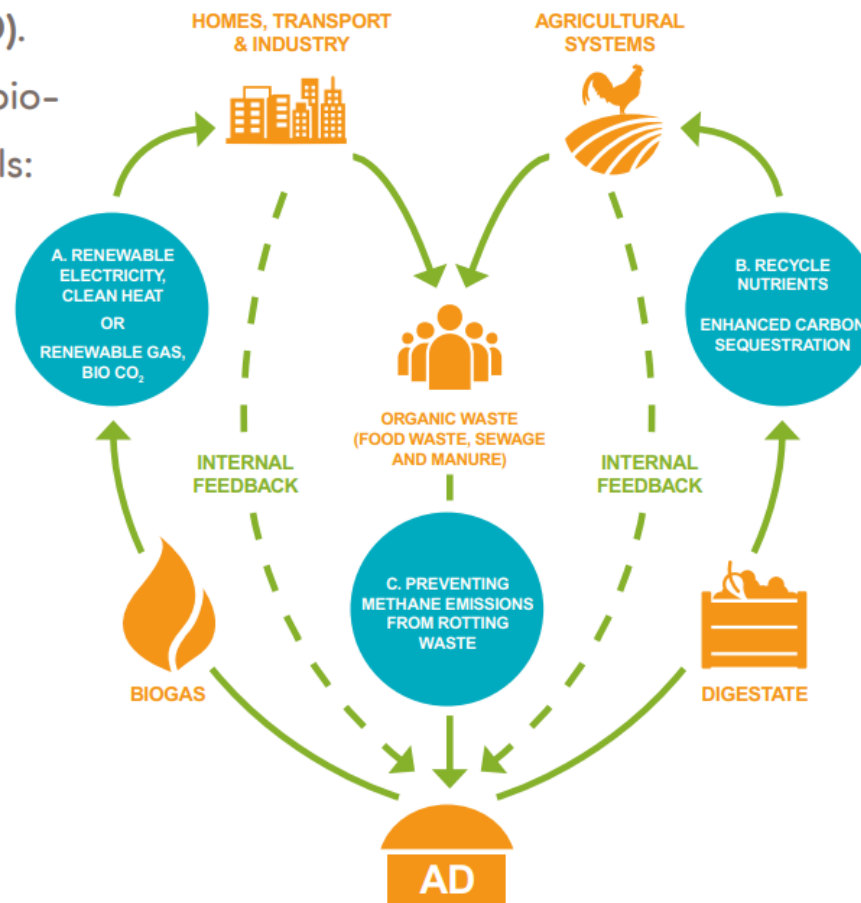
### Biomethane

**Also known as Renewable Natural Gas (RNG)**

This gas is a direct substitute for fossil natural gas. By purifying it and using it in gas grids, boilers, and vehicles it can significantly reduce emissions in hard to decarbonise sectors.

### Bio-CO<sub>2</sub>

This source of carbon dioxide originates from the atmosphere. Consequently, its use as an industrial gas is carbon neutral, and its long-term storage is carbon negative – actively reversing emissions.



### Biofertiliser

**Also known as digestate**

AD recovers the nutrients found within organic wastes, recycling them into an organic fertiliser. This carbon-rich product can help restore soil health and improve its ability to sequester carbon in soils, all while displacing the need for fossil-based artificial fertilisers.



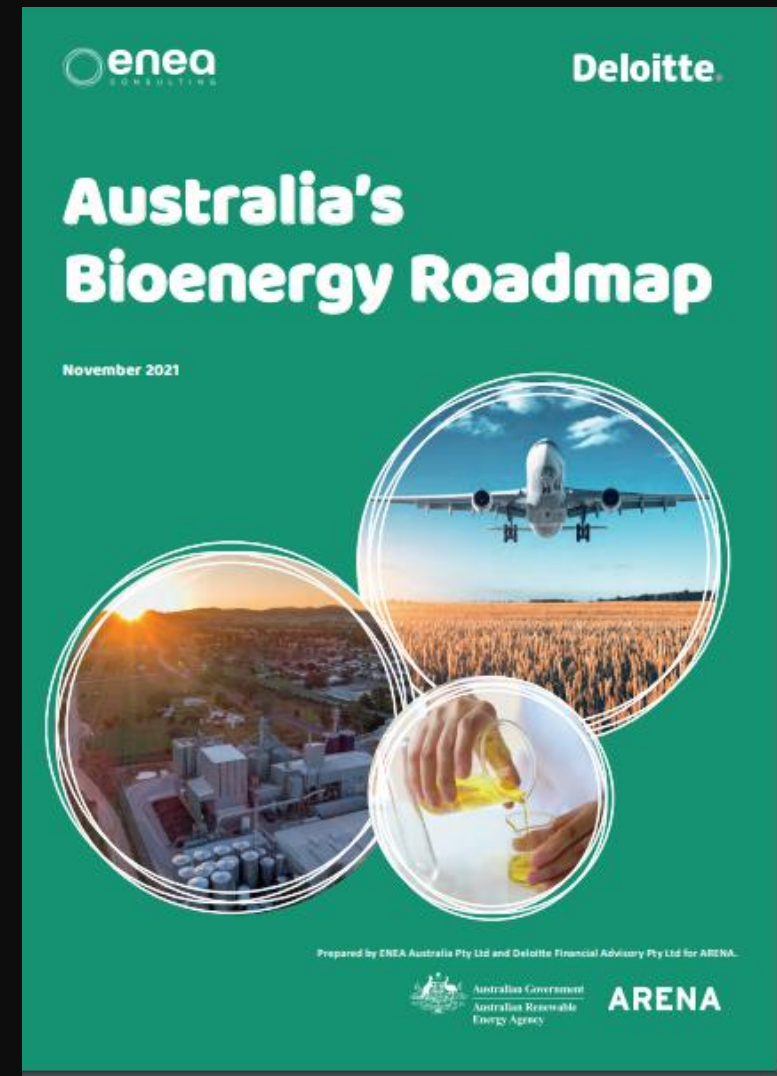
An aerial photograph of a large, circular pond with a teal-colored surface, surrounded by green fields and some industrial structures. The pond is the central focus of the image.

# What does this mean for Australia?

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23%  
by 2030



## BREAKDOWN OF AUSTRALIA'S THEORETICAL RESOURCE POTENTIAL (PJ PER ANNUM)



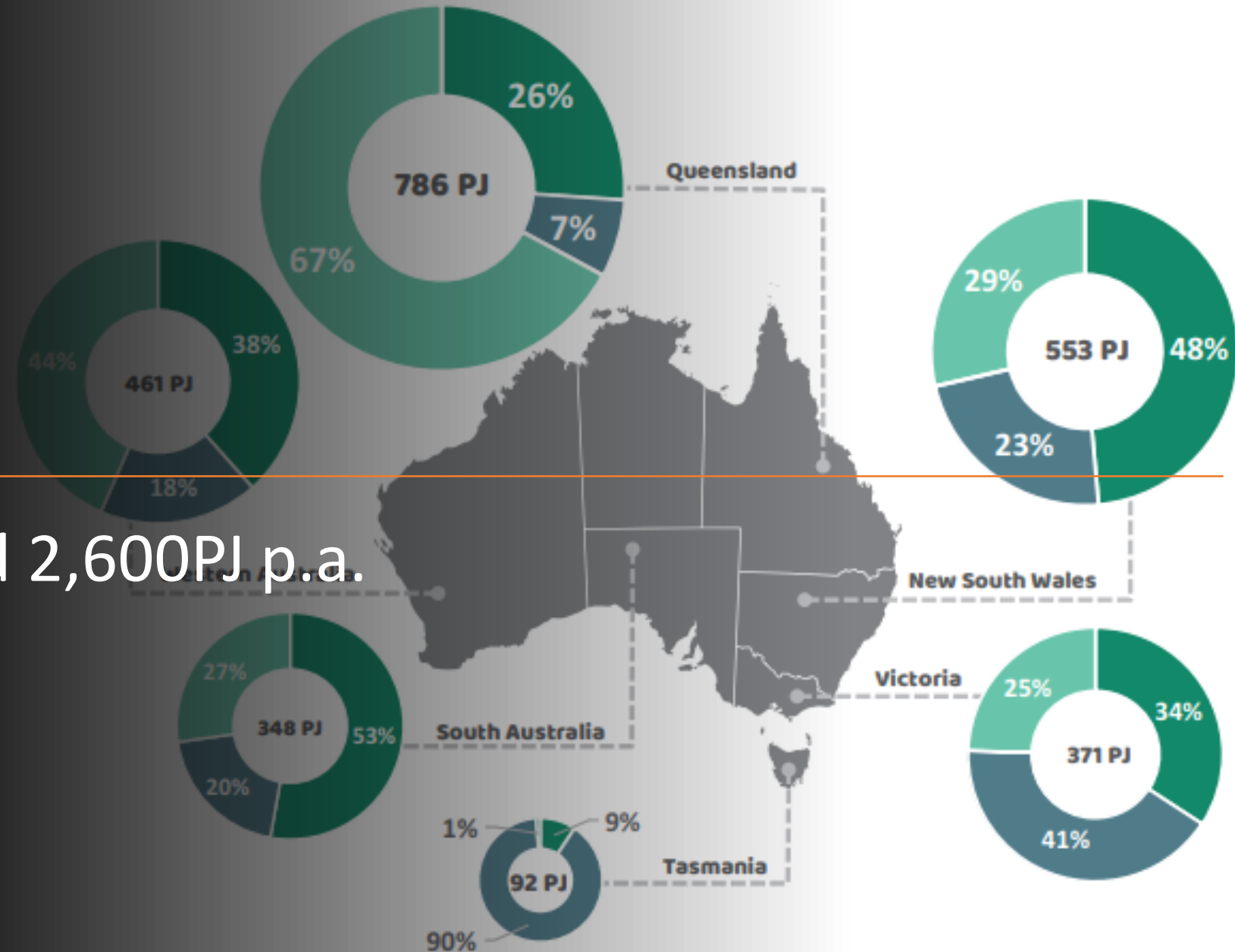
Forestry



Agriculture



Organic wastes & residues



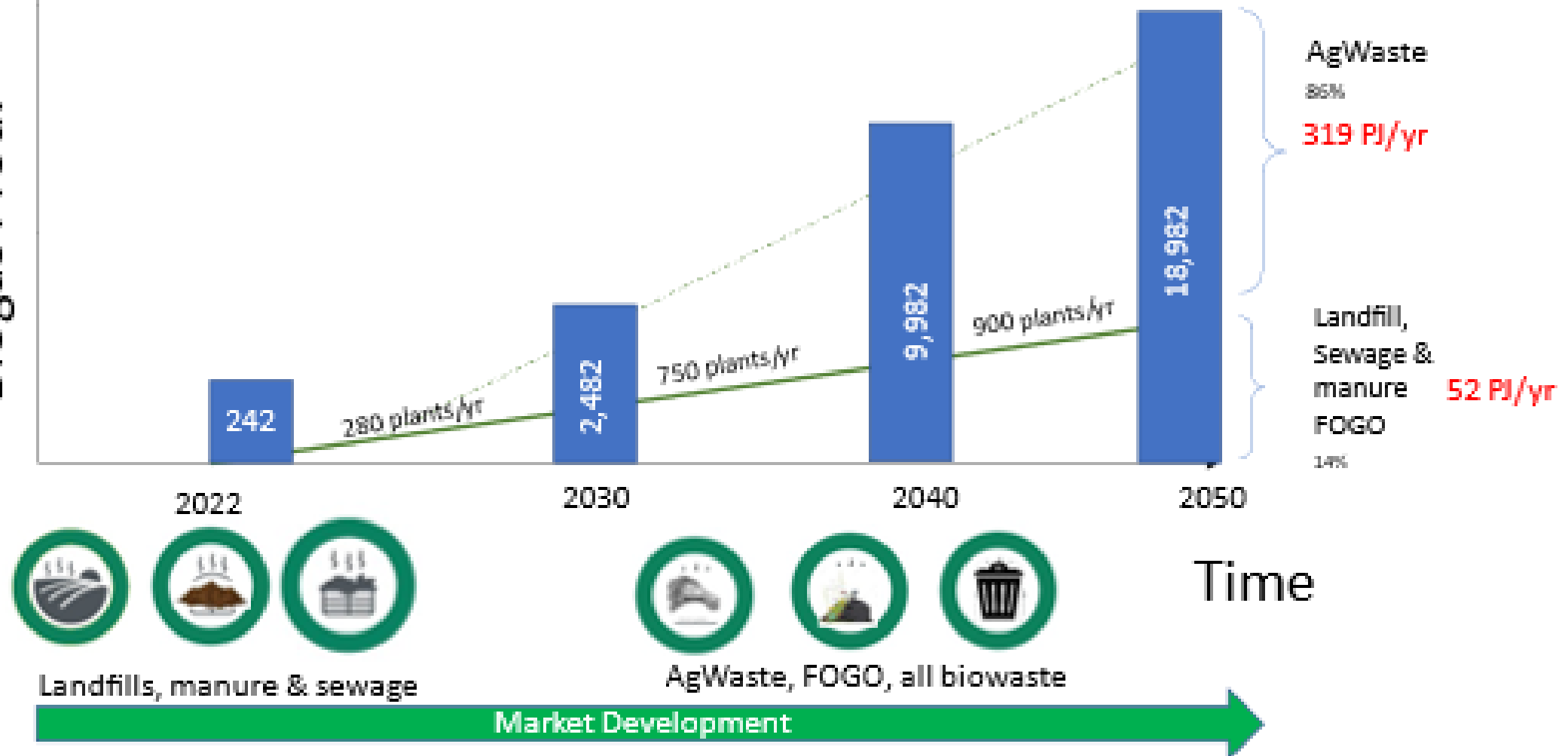
Australia has an estimated 2,600PJ p.a.  
of bioenergy resources

1,332 GWh/yr of  
Australia's electricity  
(0.5% of total)

## Biogas Potential

33% of Australia's electricity

Biogas Prod.





# Biomethane is the affordable alternative available NOW

- Compatible – its Natural gas
- Price - \$15 - 18 Gj
- Available – 40 PJ by 2030
- First project injecting in Sydney



# Policy is critical

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## Complete

- Changes to Gas law
- Biomethane ERF Method
- Biomethane recognised in NGERS
- Green Power pilot Certification





# Policy is critical

## Underway

- Biomethane Certification – ECMC Decarb working group
- Review of the ISP taking place – opportunity for inclusion
- GO scheme – priorities calling for later this year
- VIC incentivisation program
- NSW incentivisation program
- Digestate application
- Powering the regions fund - \$400M Industrial Transformation
- National Reconstruction Fund
- Project to look at revisions to the Gas Standard



# THE RENEWABLE GAS — CHALLENGE —

# Thank you!



# Panel presentation

**Mike Davis**

**Managing Director**

**Optimal Renewable Gas**





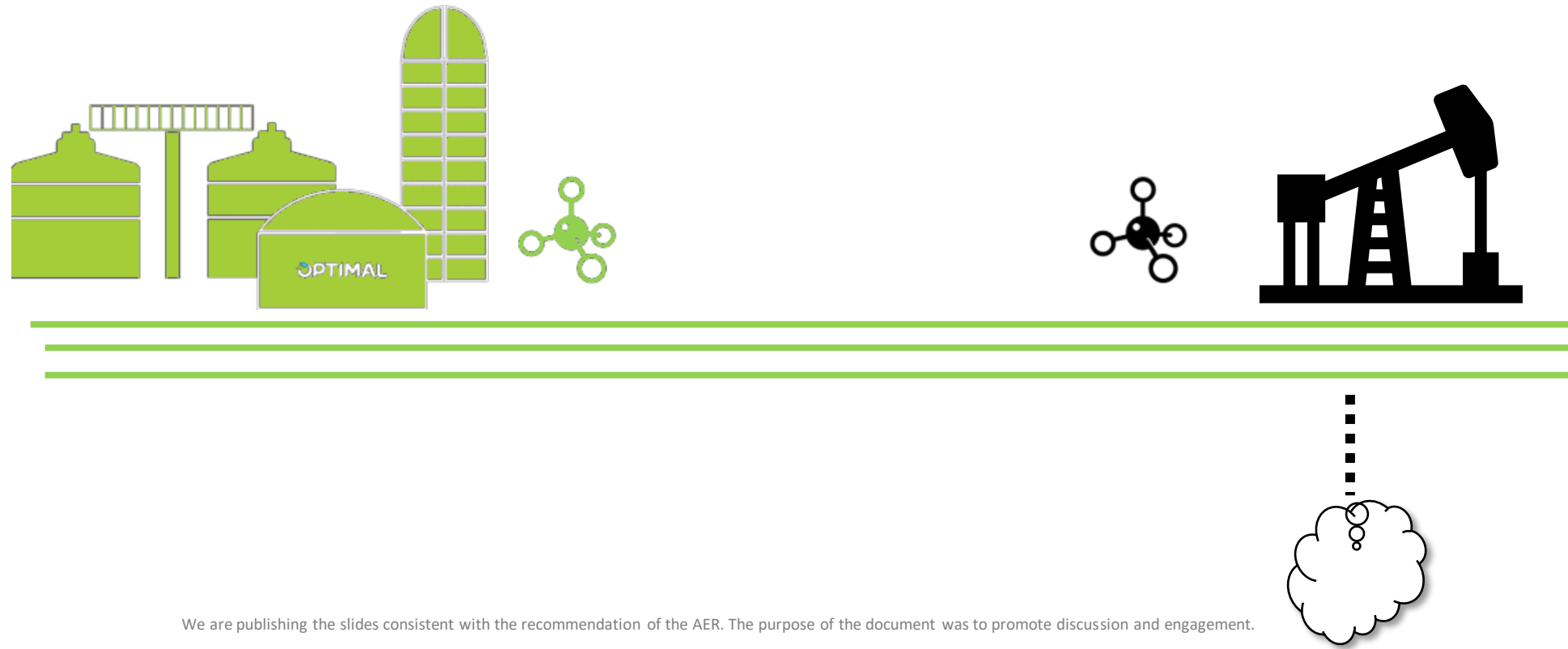


# The Role of Biomethane to Accelerating the Energy Transition

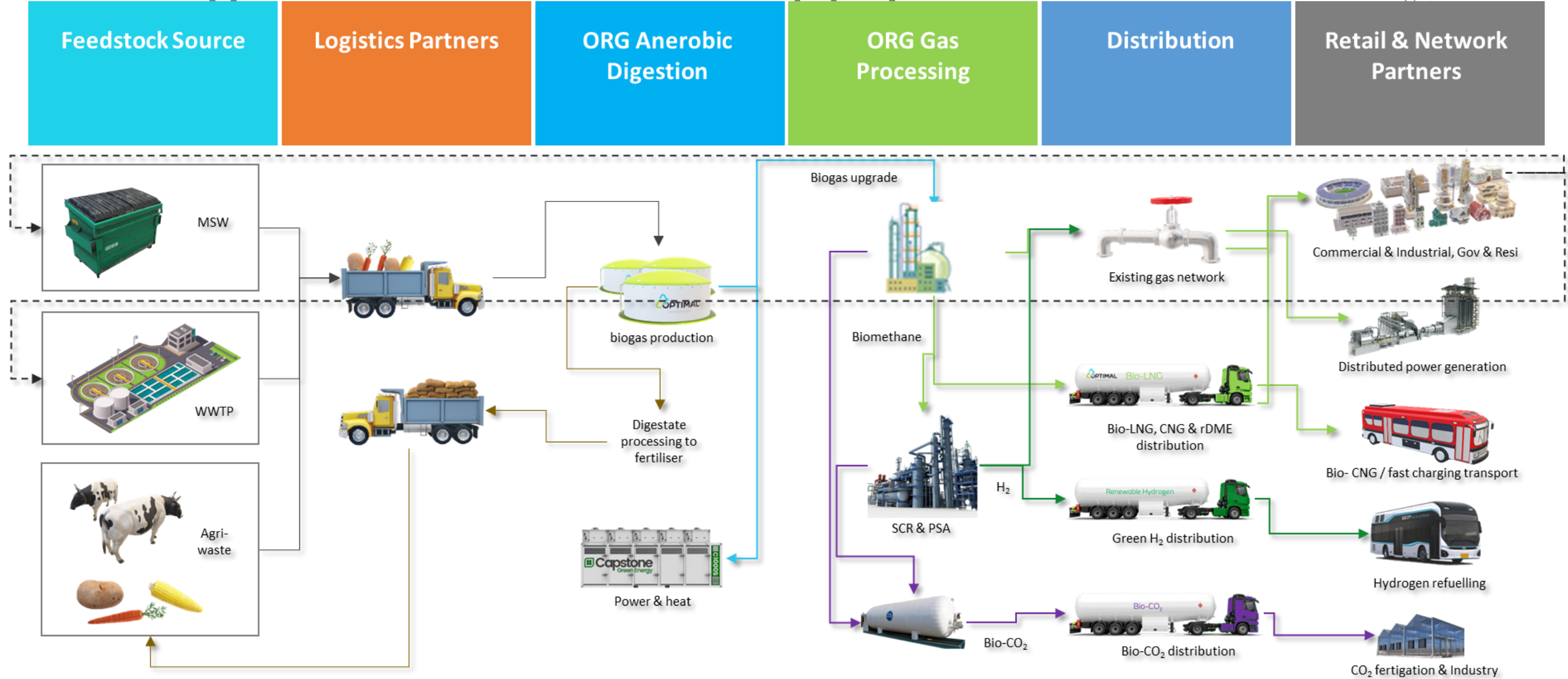
Mike Davis, Managing Director  
Optimal Renewable Gas  
June 2023

# What is Bio-methane

- **Bio-methane (CH<sub>4</sub>)** is molecule chemically identical to methane (CH<sub>4</sub>) found in natural gas therefore can use existing natural gas infrastructure
- **Biomethane** is produced by 'upgrading' biogas after it has been captured following the anaerobic digestion process. The process of upgrading biogas into biomethane involves taking advantage of the different properties of the various gases found within biogas to separate them into individual components, one of which is methane.
- Anaerobic Digestion is a well know technology used for over 20 years all around the world



# Enabling the Biomethane Supply Chain





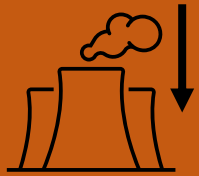
# Unlocking and Commercialising the Benefits



Reliable and responsive  
renewable energy



Dispatchable energy using existing gas infrastructure  
– supporting grid and intermittent renewables  
industrial heat, responsive generation and heavy  
vehicle transport solution



Emission Reduction



Displaces fossil fuels such as natural gas and diesel  
Capture and destroy fugitive emissions from organic  
waste



Circular Economy



Recovers energy and nutrients from organic waste  
Opportunities to utilise or store biogenic CO<sub>2</sub>  
Reduces landfill and environmental harm



Economic



Regional investment and jobs (potential ~\$10bn/yr)  
Improved regional energy security (20% of Aust  
domestic gas demand by 2030)  
Biomethane <long-term price target of green H<sub>2</sub>

# Accelerating Development



## Government



Recognition of contracted renewable gas (NGERS, Climate Active, CER)  
Renewable Energy Target to include renewable gases (or RGT)  
Consistent policy for project approval and management of digestate  
Harmonised waste policy (levies, externalities, source separation)



## Industry



Long term voluntary demand to support investment  
“Plug-in” to circular economy (waste, energy, digestate, CO2)  
Support certification and recognition of renewable gas



**For more info contact :**

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Optimal Renewable Gas

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# Panel presentation

**Andrew Richard**

**Chief Executive Officer**

**Energy Users Association of Australia**





# ENERGY USERS AND THE TRANSITION TO NET ZERO



Andrew Richards

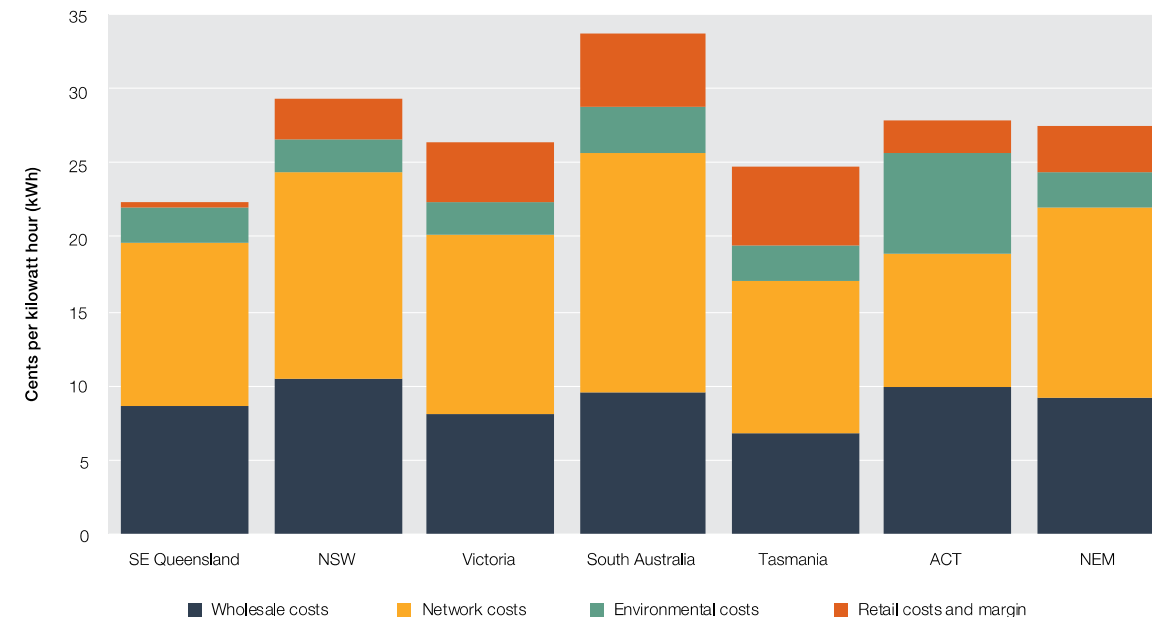
June 2023





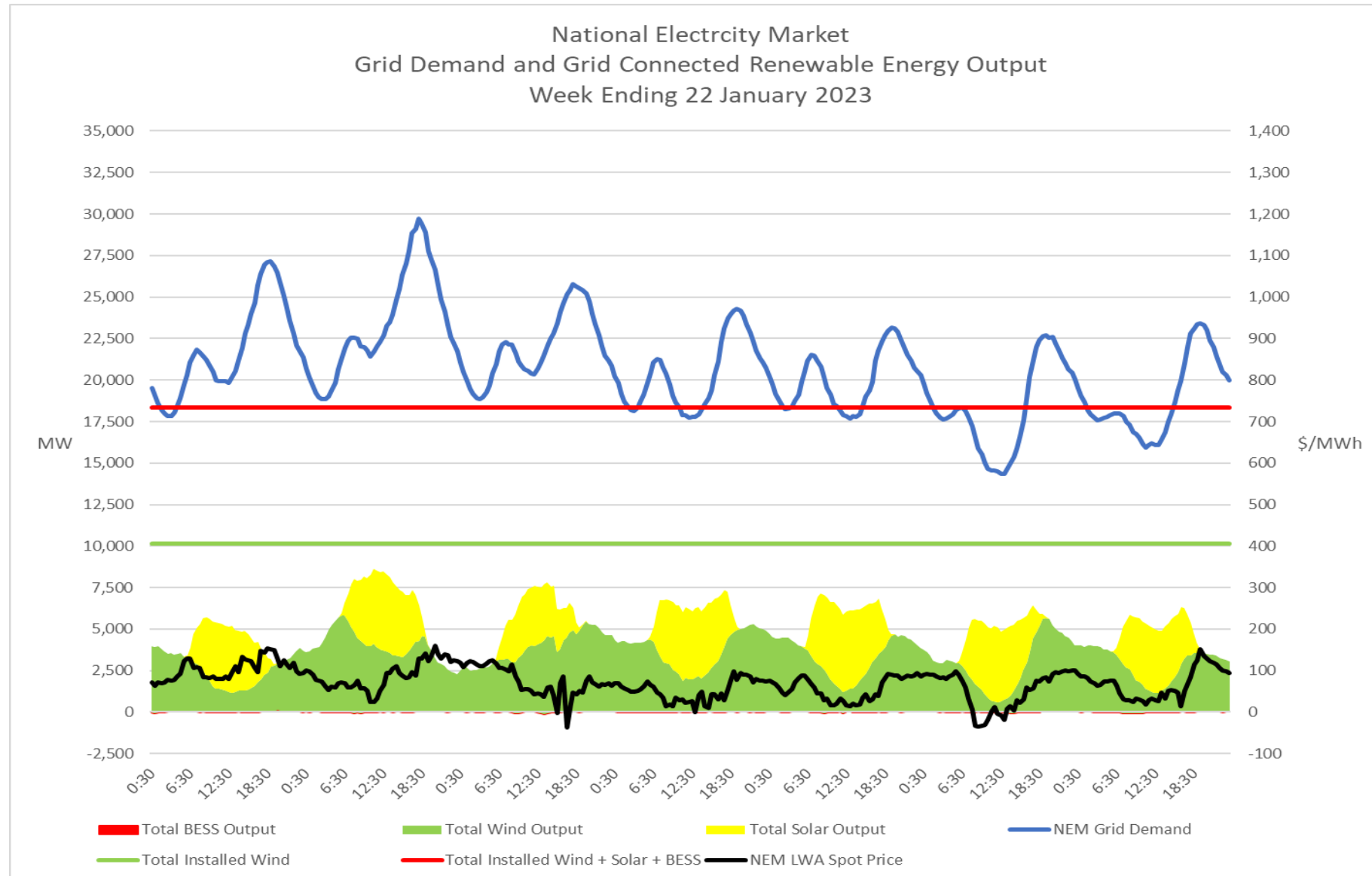
- National Gas Objective (NGO)
  - *“to promote efficient investment in, and efficient operation and use of natural gas services for the long term interests of consumers of gas with respect to: price, quality, safety and reliability and security of supply of gas.”*
- Pursue net zero at least cost, not at any cost.
- Recognise that electricity and gas markets are closely linked.
- Collaboration across the energy supply chain.
- Need to watch the entire bill stack, not just bits of it (like wholesale prices).

Figure 6.2 Composition of a residential bill – electricity





# FILLING THE GAPS – LOTS MORE VRE & BATTERIES, PUMPED HYDRO AND GAS



# MOUNTING THREATS TO SOCIAL LICENSE. CAN CONFLICT BE AVOIDED?

- *“Social license – At its simplest, refers to the acceptance granted to a company or organisation by the community.”\**
- We see two forms of social license emerging as we head to a net zero energy system:
  - Community Social License
  - Customer Social License
- We can already see that the energy industry is struggling with community social license, especially where it comes to transmission infrastructure.
- We are also getting a taste of what the collapse of customer social license may look like with the current spike in energy bills.
- Our ability to transition to net zero at least cost in the timeframe desired by governments is also under threat from a range of external factors amplified by the actions of the US Government (Inflation Reduction Act) and EU (in response to the Russian- Ukraine war).
- Losing social license of either (or both) threatens a timely, least cost move to net zero.
- Will we crash through, crash or navigate a different route?

[\\*https://ethics.org.au/ethics-explainer-social-license-to-operate/](https://ethics.org.au/ethics-explainer-social-license-to-operate/)

# THE GAS INDUSTRY FAILED TO MANAGE SOCIAL LICENSE & EVERYONE LOSES



**9 NEWS**

Victoria gives green light to conventional onshore gas exploration but bans fracking

Fracking ban enshrined in constitution

Users on edge as plunging production sparks warnings of Victorian gas supply crunch



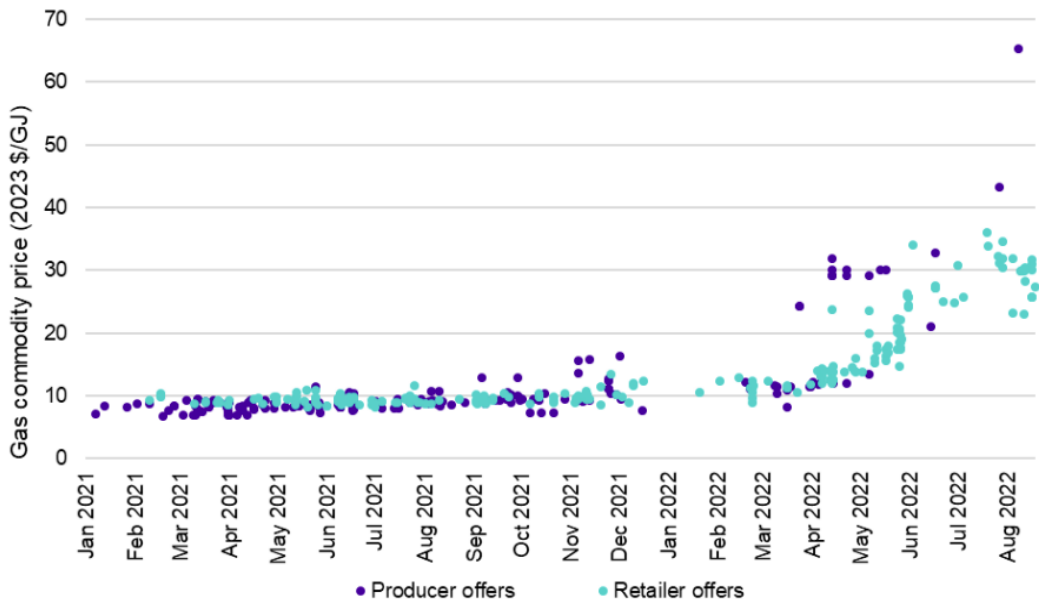
# GAS POLICY IS FULL OF CONTRADICTIONS

- Federal Government caught in the middle
  - Don't have control over on-shore resources
  - Know they need gas for the transition, but must overcome objections (Greens)
- Victoria are looking to get off gas
  - Constitutionally enshrined ban on non-conventional gas
  - Gas Substitution Road Map and Hydrogen strategy
  - Traditional gas fields depleting but little investment appetite
- NSW are hedging their bets
  - Significant planning hurdles for new gas development
  - Hydrogen Road Map
- Queensland are open for business
  - Prospective gas reservation
  - Home of east coast LNG export hub
- NT are open for business
  - Opening up more acreage

- Recent government gas market reforms are hard but necessary; the gas industry aren't "victims" of government over-reach and only have themselves to blame.
- ACCC has identified serious issues with the gas market over many years; we welcome government actions on behalf of domestic gas users.
- Large gas users don't want to hurt the gas industry. EUAA members want to see an outcome that works for both demand and supply side participants.
- We need more supply but it must be priced at a fair and reasonable level:
  - Government underwriting of new supply from new participants.
  - Prospective reservation on both on-shore and off-shore resources.
  - Ongoing oversight/governance role for both ACCC and AEMO.
  - Gas pipeline reform must continue (i.e. we support recent AER pipeline information disclosure guidelines).
- Gas will still have a significant role to play in a net zero energy system and will be needed in many high temperature industrial processes for many decades.
- Conversations regarding "green gas" are starting to be had. The jury is still very much out but everyone is keeping an open mind and all options on the table.

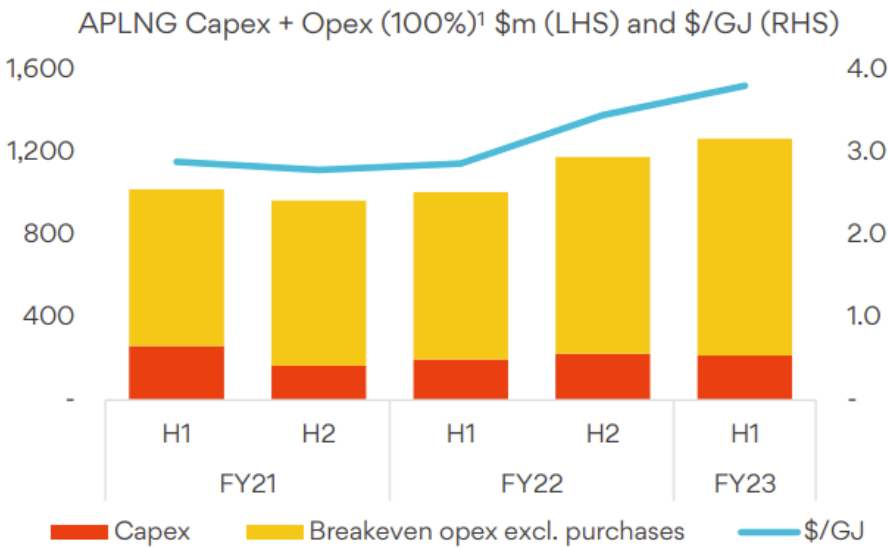
# GAS PRICES, WHAT IS FAIR AND REASONABLE?

**Chart 2.4: Gas commodity prices (2023\$/GJ) offered in the east coast gas market for 2023 supply**



It got a whole lot worse for customers in Q4 with prices consistently above \$30-35/GJ

## Cyclical costs impacting cost base



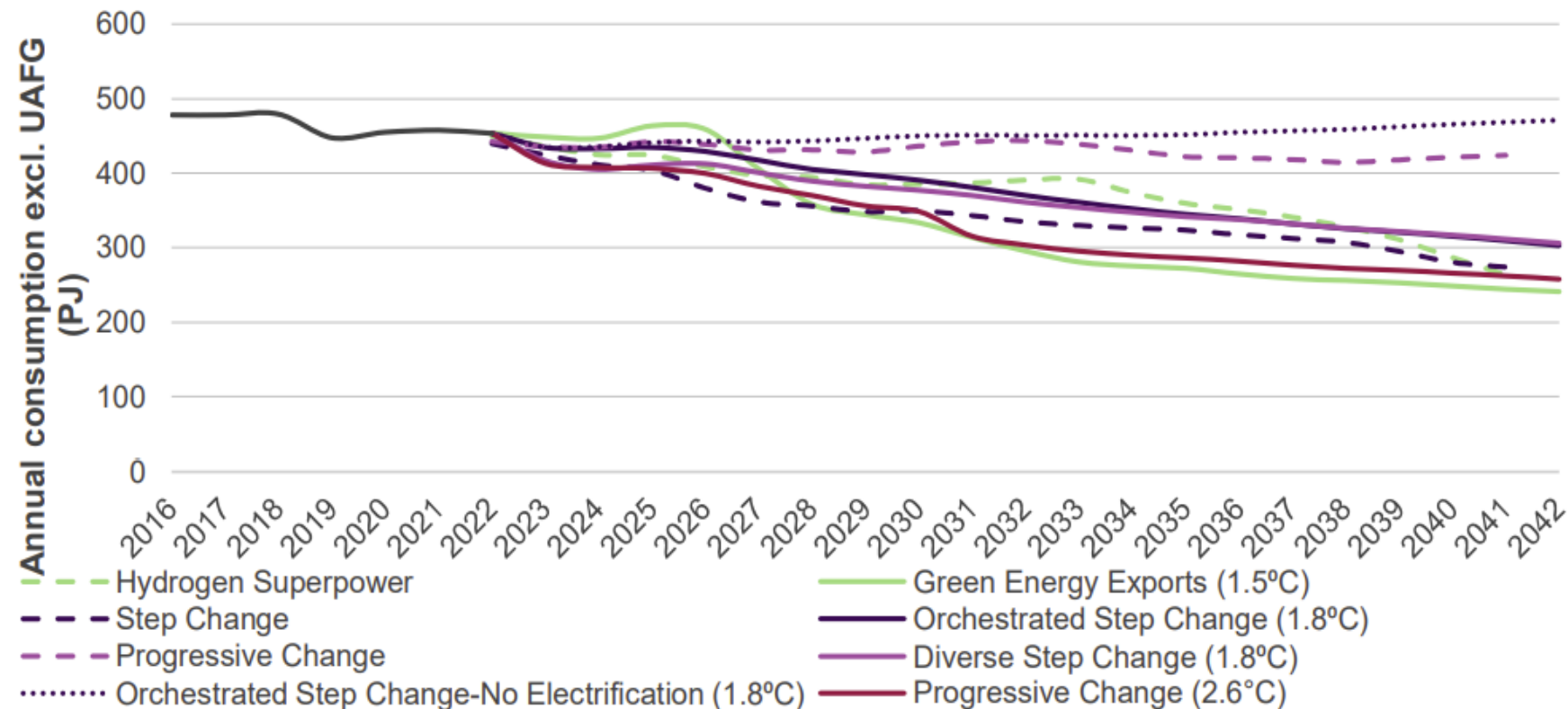
- Higher operating costs driven by:
  - Increased workover activity as workovers are prioritised over new drilling
  - Higher power costs

Origin's costs went up to a bit under \$4/GJ



- Southern gas reserves are starting to decline: this would normally drive more gas field development and expanded north-south pipeline capacity.
- AEMO are anticipating consumption to start falling as we “electrify everything”.

**Figure 1** Forecast domestic natural gas consumption, excluding gas generation, all scenarios and compared to 2022 GSOO forecasts (PJ), 2016-42



- Future of gas (methane) highly uncertain.
- Many consumers will continue to use gas because they either don't have a viable alternative (feedstock, high temperature heat) or they can't afford alternatives (i.e. electrification)
- Networks looking for either:
  - Replacement product such as bio-methane or hydrogen.
  - Accelerated depreciation to reduce tail risk.
- Large and small gas users who don't have alternatives face being stuck with the bill when everyone else leaves the party.
- AER beginning to lean-in to Accelerated Depreciation (AD), but are wary of running too hard too early.
- Need to consider tools beyond AD to help manage this risk.
- Governments may have to lean in more:
  - Help fund customer transition
  - Energy efficiency
  - Large customers looking to self supply
  - Assist with what is likely to be a significant residual capital base (stranded asset) in 2050

# CONSUMERS ARE NOT A MAGIC PUDDING





# Panel presentation

**David Norman**  
**Chief Executive Officer**  
**Future Fuels CRC**



# Burning questions?



We are publishing the slides consistent with the recommendation of the AER. The purpose of the document was to promote discussion and engagement.

Break!



# Speed dialogue

*Listening is one way to understand. Questioning is another. Take this opportunity to quiz the speakers.*

- 8 x breakout groups of about 6 or 7
- Ten minutes per round
- Speakers move around each time.

# Initial themes

*Now reflect as a group on what you've heard and develop three insights to share with the wider Forum.*

- Each person shares:
  - What did I learn?
  - What was I surprised about?
  - What do I want to know more about?
- Group agrees three key insights.

Nominate spokesperson per group to report back.

# Check in and reflection

*Jemena team to leave the call for a this section. Observers stay.*

*Ask some questions about the engagement to date. Is it authentic? Do you feel heard? do you feel listened to?*



# Thank you!

**Any feedback:**

[GasNetworks2050@jemena.com.au](mailto:GasNetworks2050@jemena.com.au)

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

[yournetwork.jemena.com.au/login](https://yournetwork.jemena.com.au/login)

