

# Gas Networks 2050 Customer Forum

Saturday 12 November 2022



# 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



# Welcome



**Shaun Reardon, Executive General Manager, Jemena Networks**







# Who is Jemena?

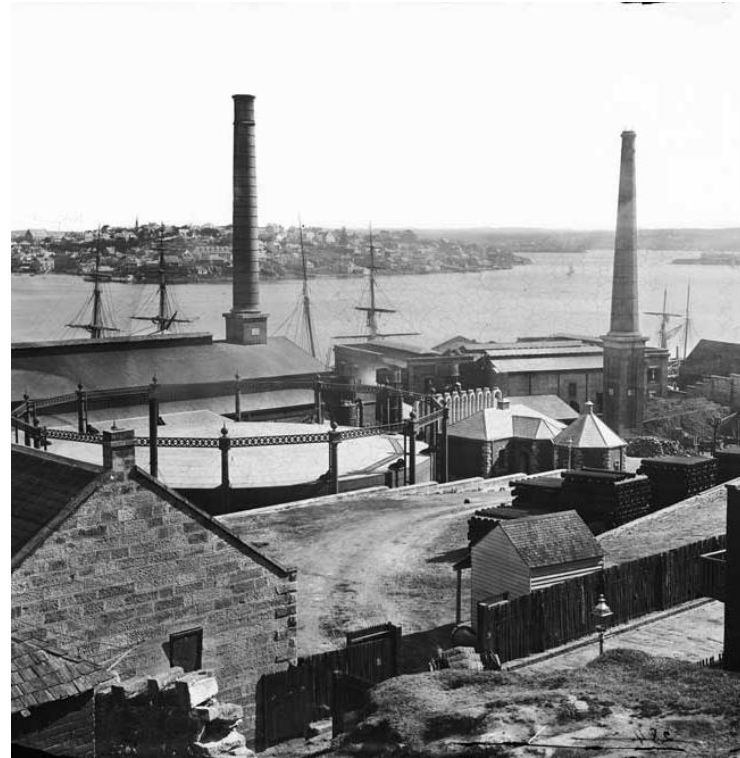


# 185 years of history



## Gas lighting

*George street, 1858/59*



## Town gas

*Millers point gas works, 1841-1921*

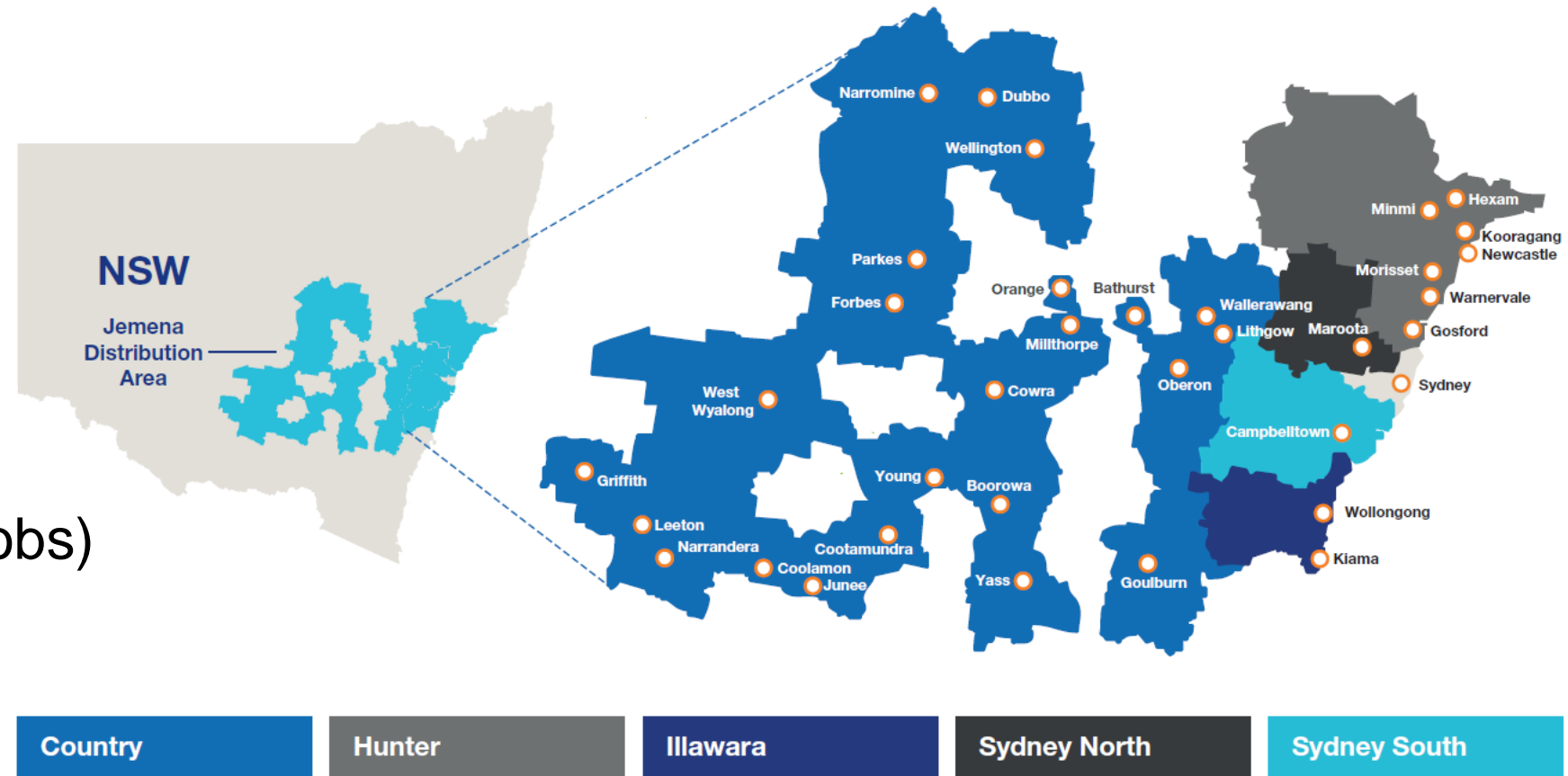


## Natural gas

*Sydney Olympics Flame, 2000*

# Jemena Gas Networks today

- 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







**Jemena**  
bringing energy to life





# Your gas bill

## Production

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



32%

## Transmission Pipelines

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



3%

## Distribution Pipelines

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



33%

## Retailer

Retailers organise these services and manage your account.



32%

## Your Bill

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

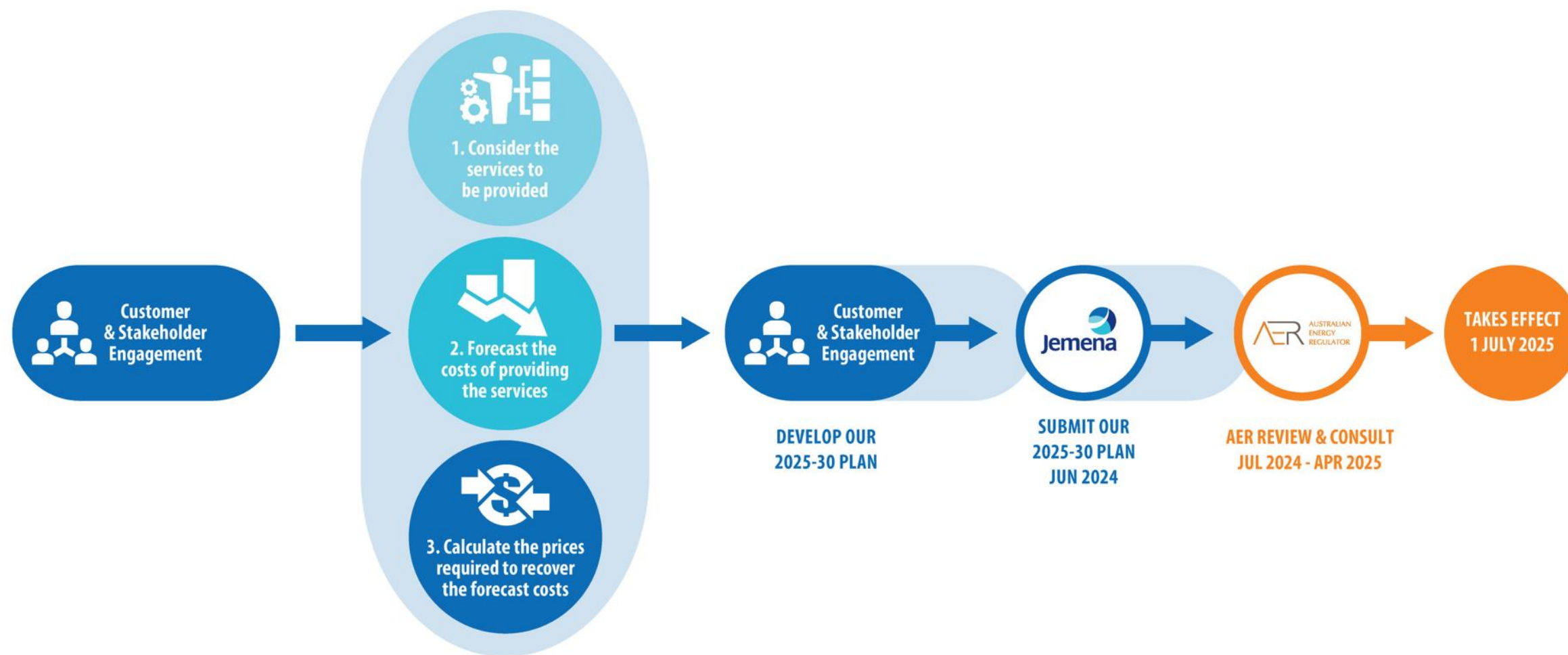


\$770

Typical annual household bill

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

# What is a price review?



# Jemena's perspective: The energy transition

A people led  
transition



A gas network  
transition



Uncertainty the  
transition creates





# A people led transition

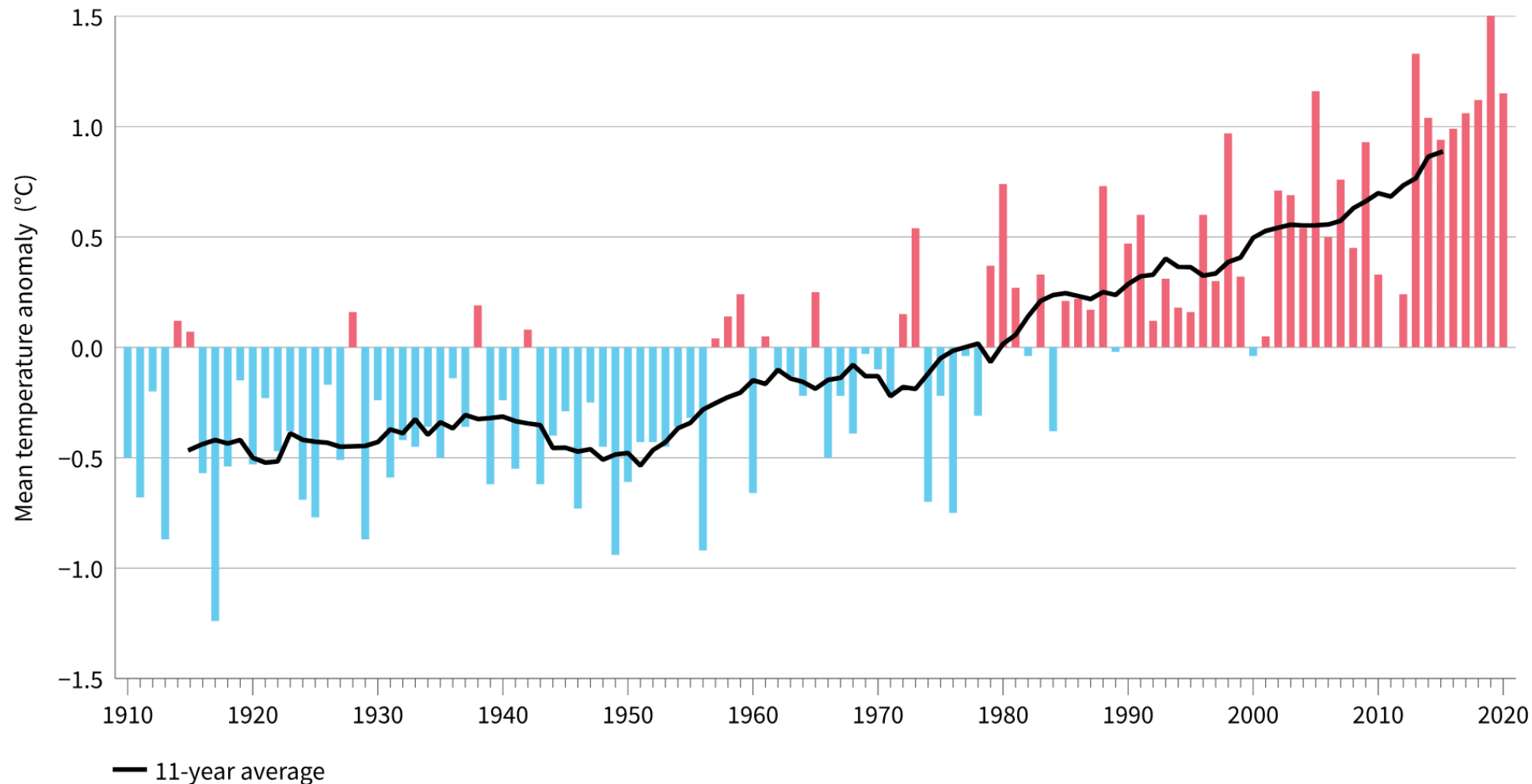
Usman Saadat

General Manager, Customer & Commercial



# It's about climate change

Annual mean temperature anomaly (difference from the 1961–90 average), 1910–2020

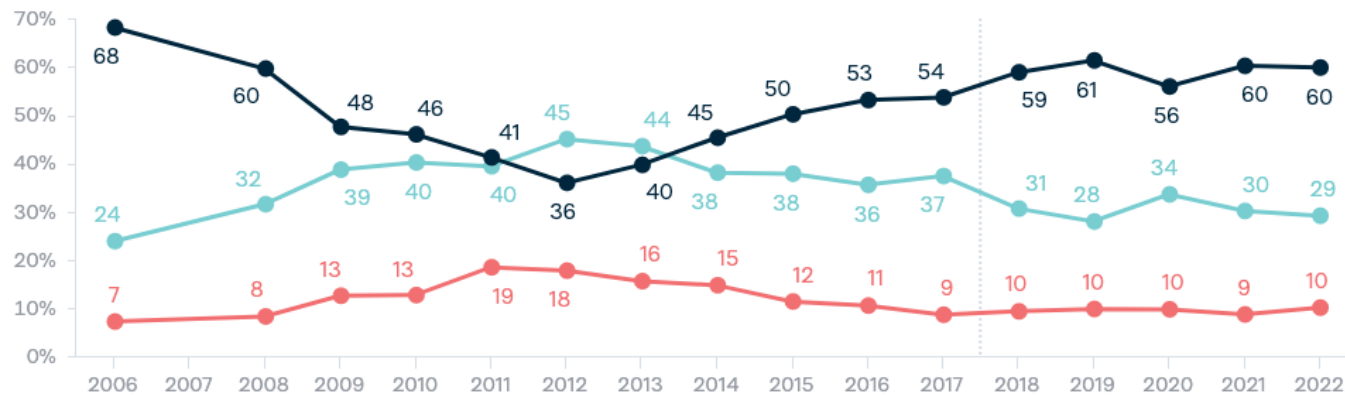


# A people led transition

## ATTITUDES TO GLOBAL WARMING

There is a controversy over what the countries of the world, including Australia, should do about the problem of global warming. Please tell me which statement comes closest to your own point of view?

LOWY INSTITUTE  
POLL 2022



Dotted line indicates change in mode: see [Methodology](#).

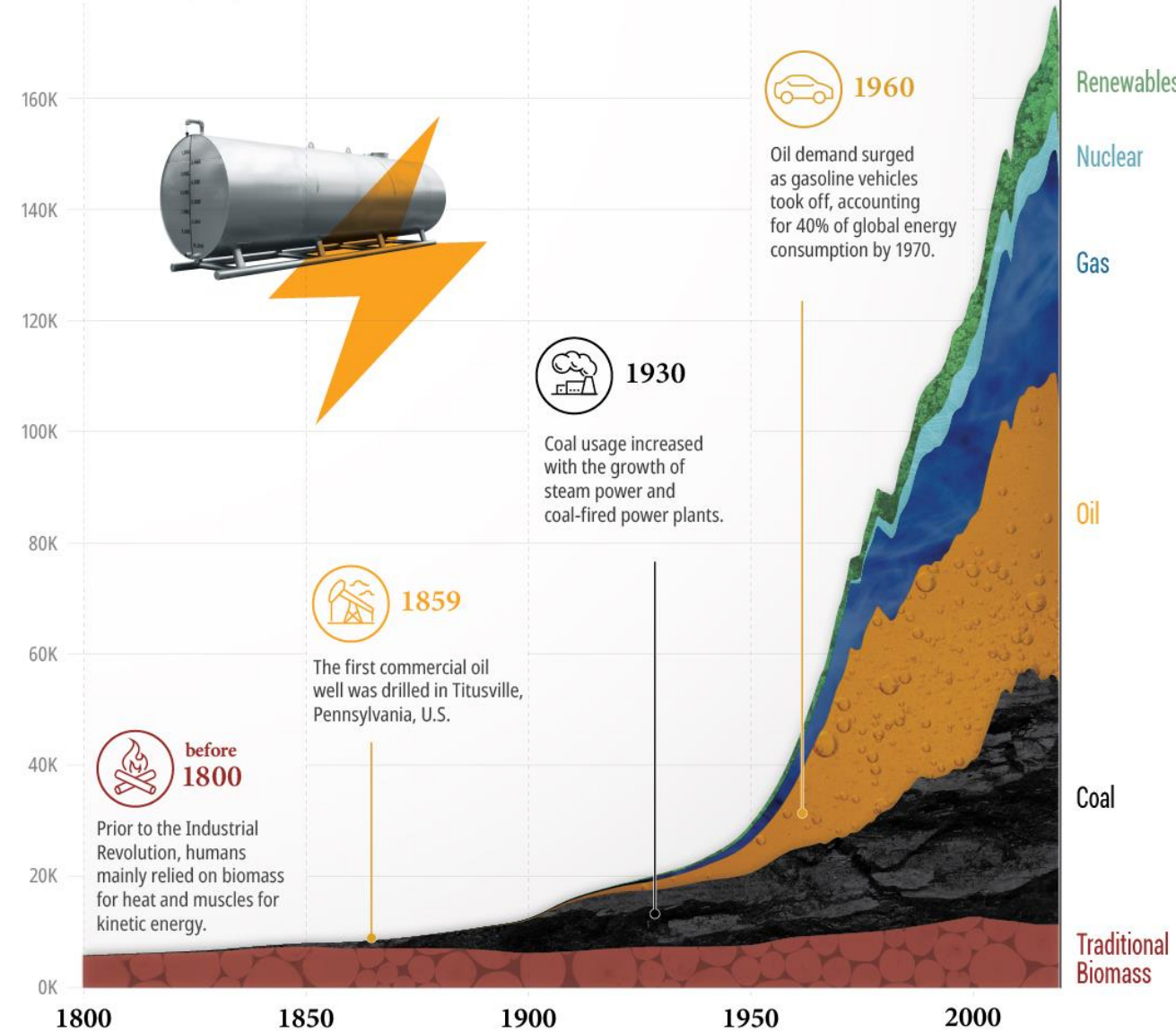
- Until we are sure that global warming is really a problem, we should not take any steps that would have economic costs
- The problem of global warming should be addressed, but its effects will be gradual, so we can deal with the problem gradually by taking steps that are low in cost
- Global warming is a serious and pressing problem. We should begin taking steps now even if this involves significant costs



Fossil fuels accounted for 78% of the global energy mix in 2020.

## Global Primary Energy Consumption by Source 1800-2020

180K Terrawatt-hours (TWh)

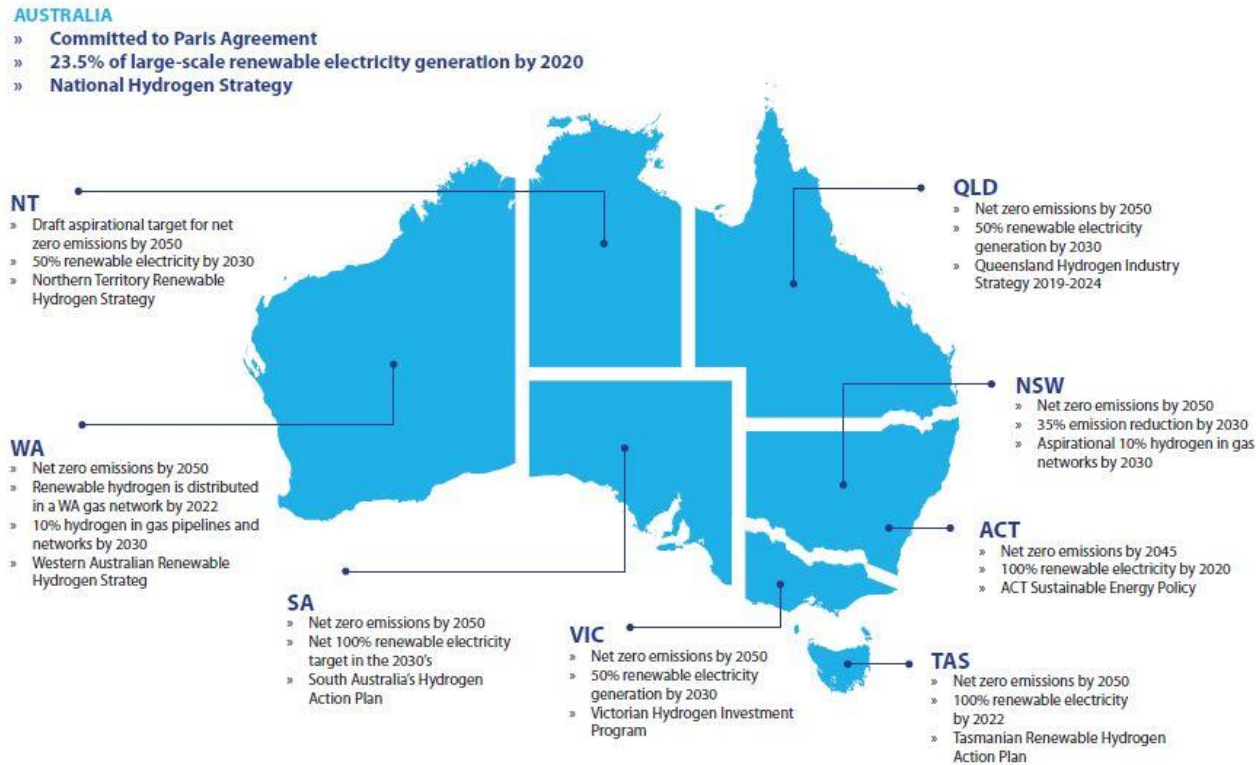


Source: Vaclav Smil (2017), BP Statistical Review of World Energy via Our World in Data



# Government and industry are responding

## Government commitments to net zero



Source: Energy Networks Australia analysis (2020)

*"When Parliament resumes, we will move quickly to enshrine Australia's 2030 and 2050 targets in legislation, providing the certainty industry and investors have been seeking."*

Two-thirds of the ASX 200 have emission reduction targets



# Implications for gas networks

Peter Marcus

General Manager, Asset and Operations



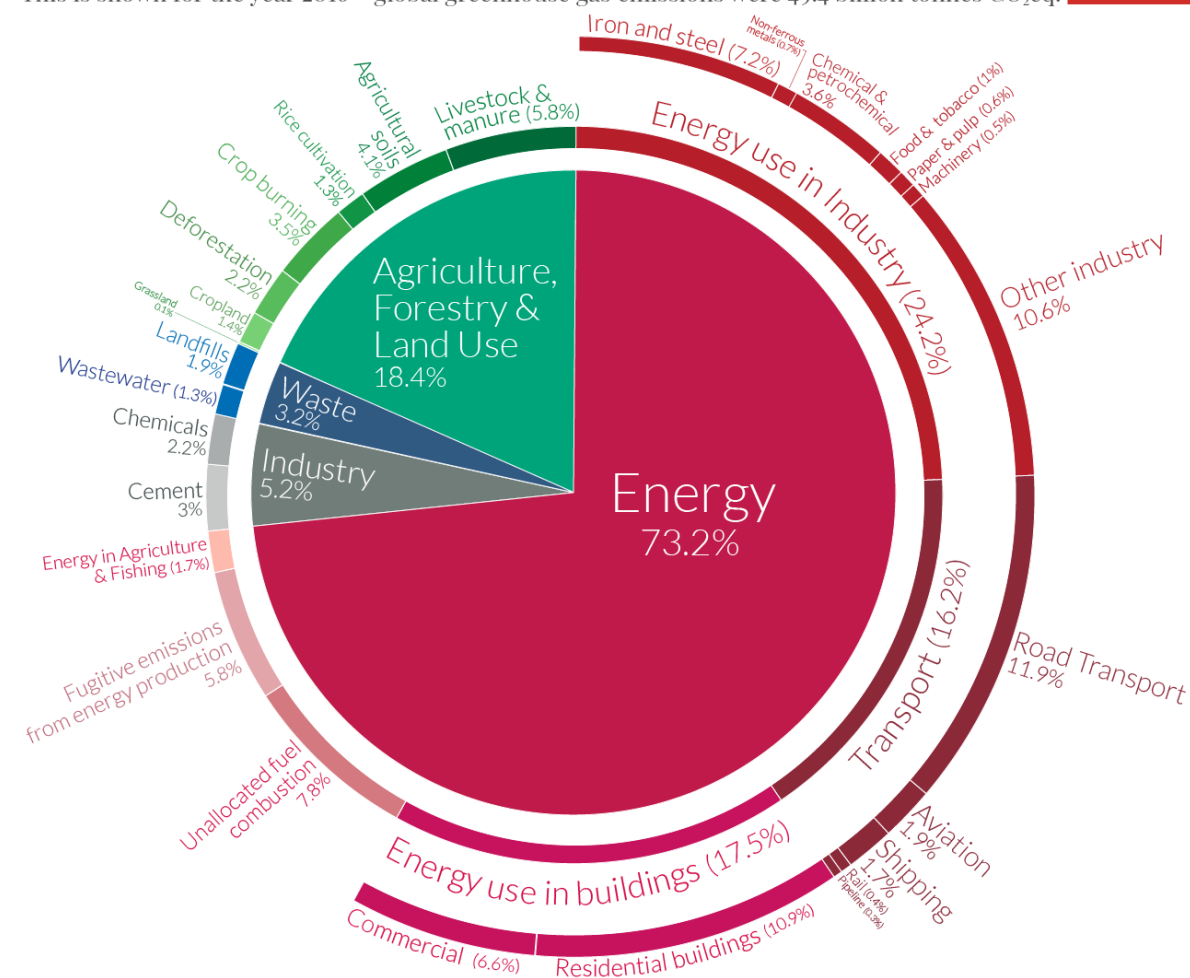
# Energy is carbon intensive

*To achieve net-zero we need to decarbonise energy*

## Global greenhouse gas emissions by sector

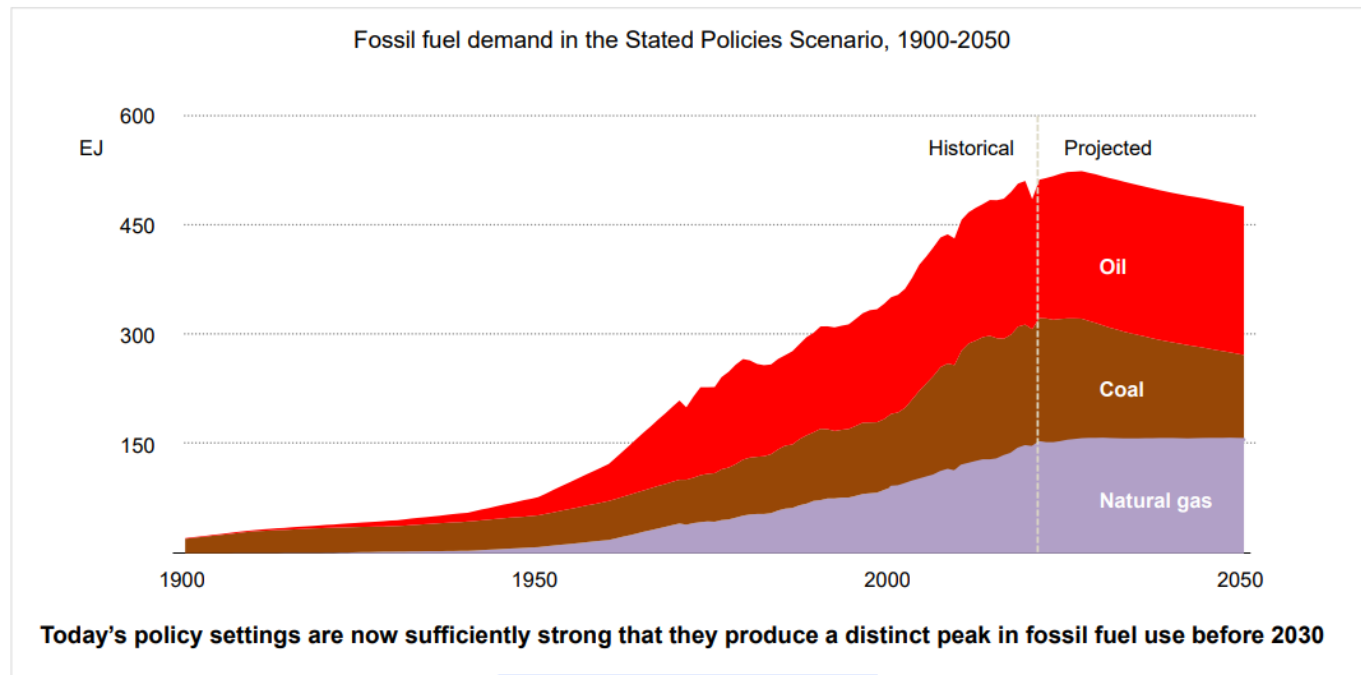
This is shown for the year 2016 – global greenhouse gas emissions were 49.4 billion tonnes CO<sub>2</sub>eq.

Our World  
in Data



## Peak fossil fuel demand is coming this decade

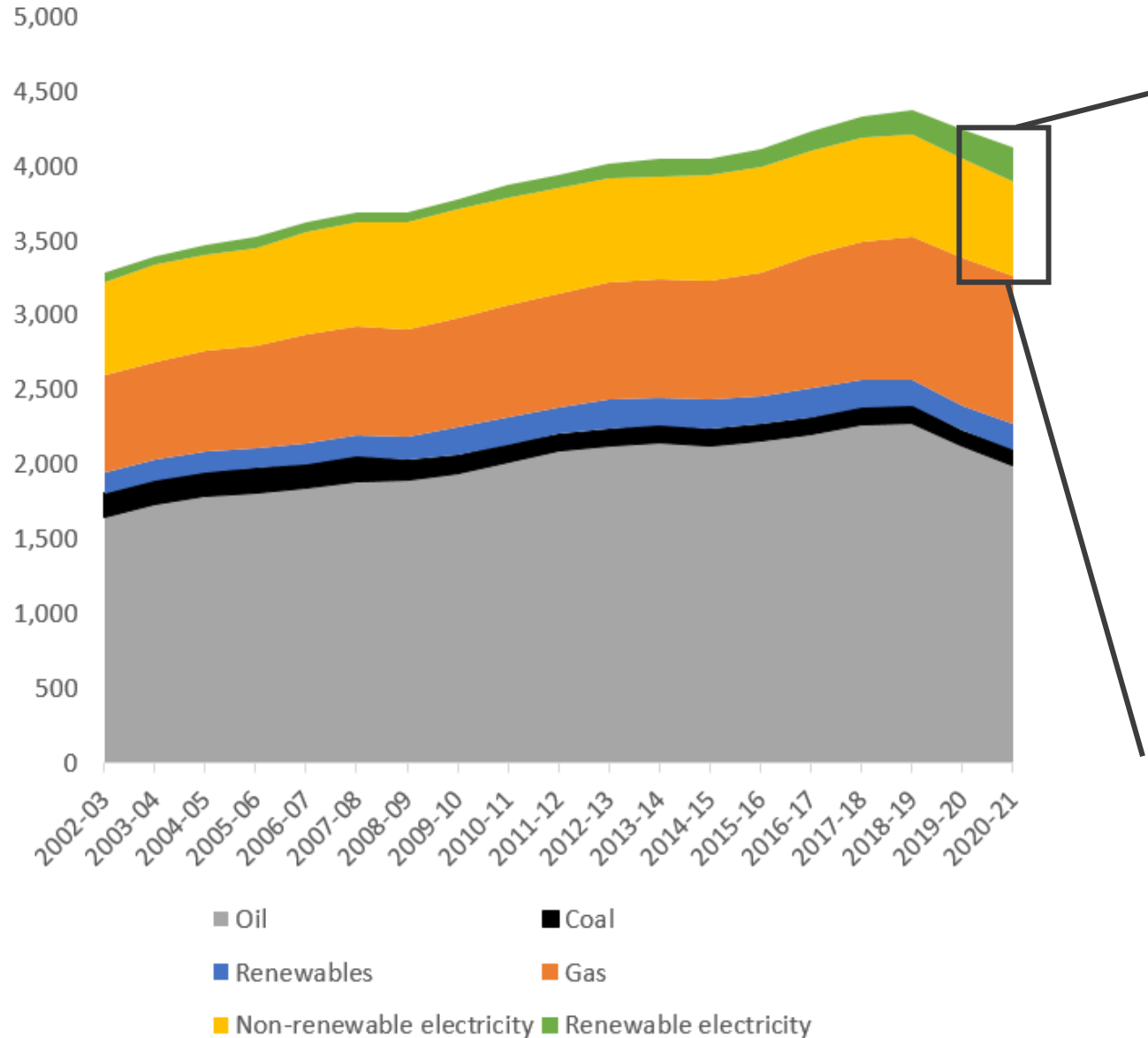
iea



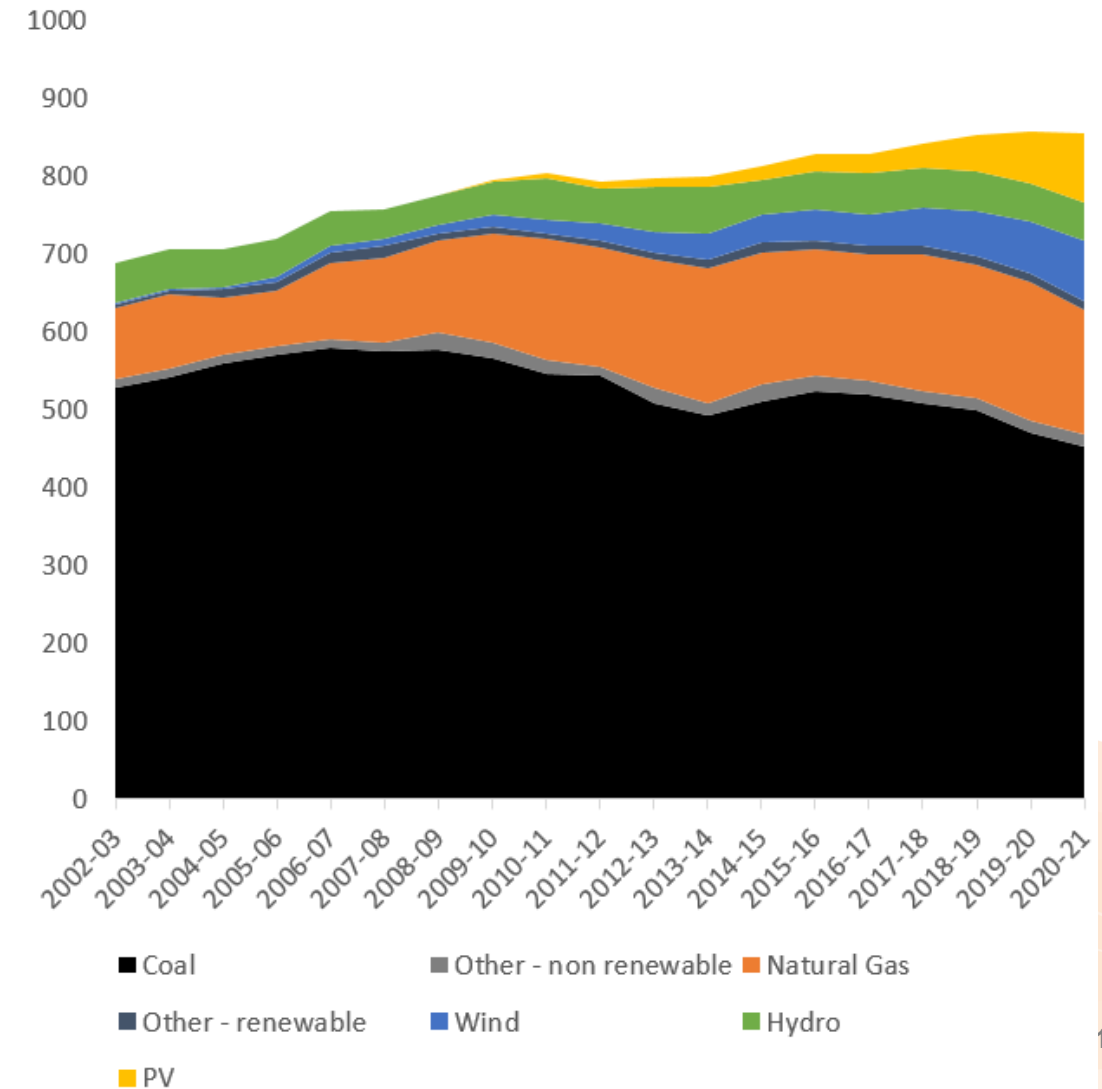


# Decarbonisation of our electricity system (1/2)

Australian energy consumption by fuel (PJ)

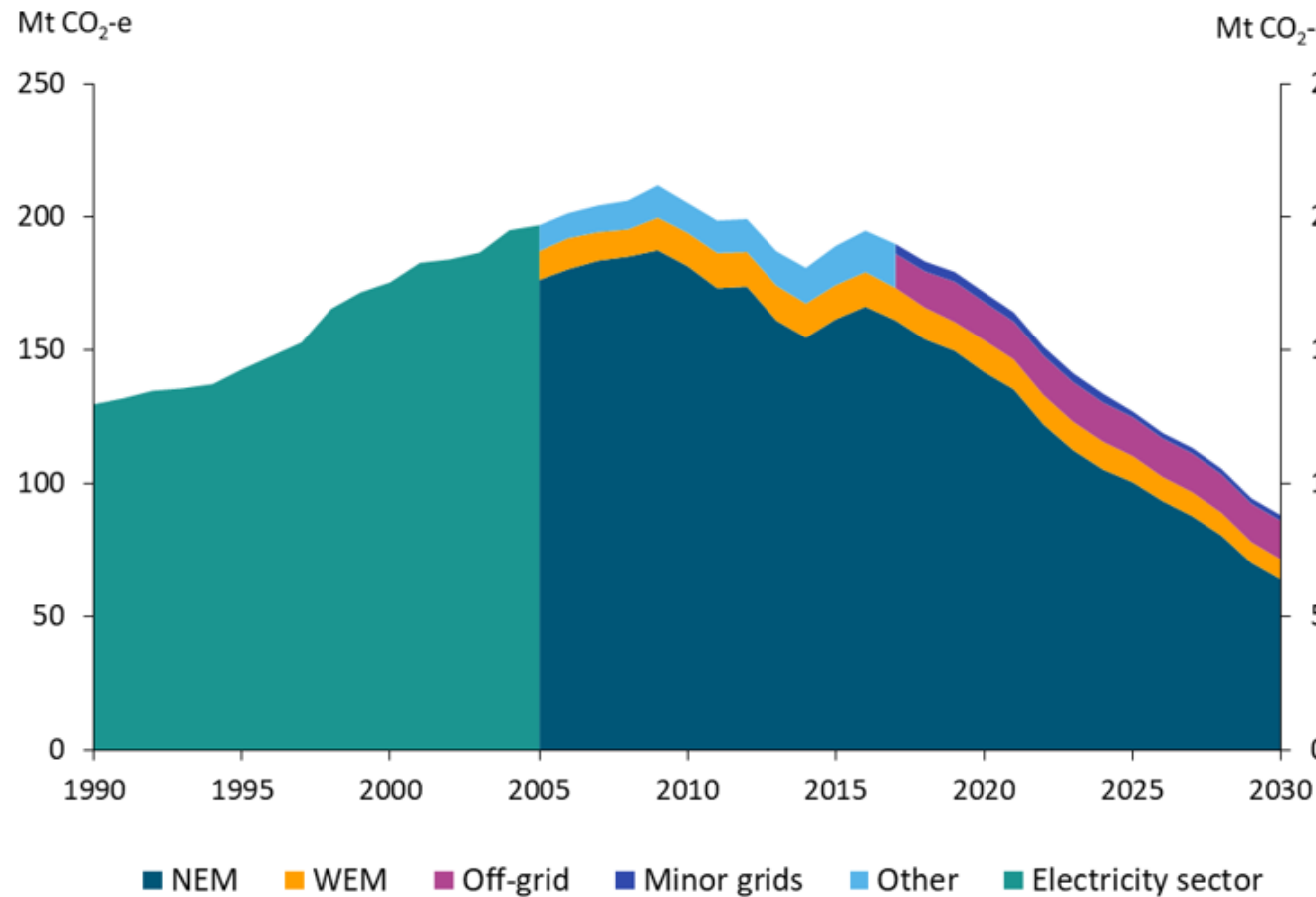


Sources of electricity generation in Australia (PJ)

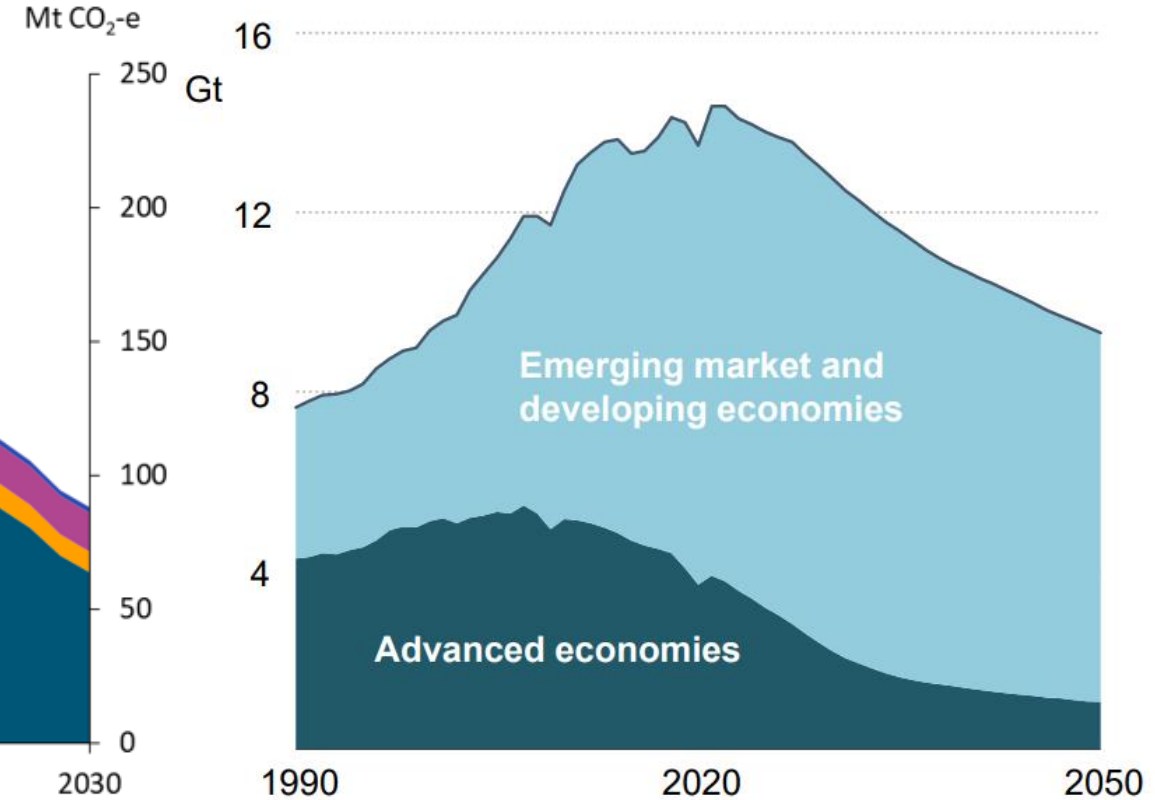


# Decarbonisation of our electricity system (2/2)

Projection of emissions from the Australian Energy sector

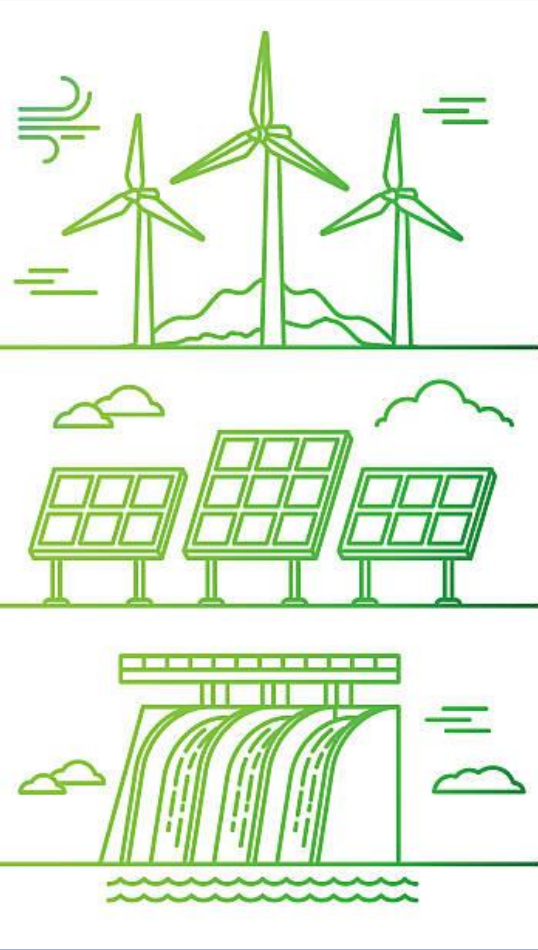


International Energy Agency forecast of electricity carbon emissions



# How can we decarbonise gas?

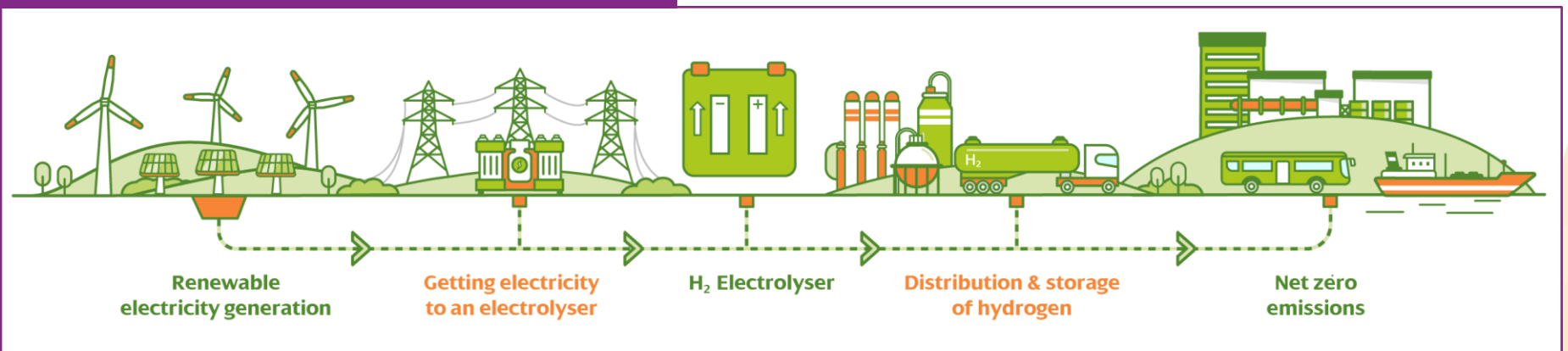
## Option 1. Electrification



## Option 2. Biomethane



## Option 3. Green hydrogen





# Challenges we face



Consumers



Technology

## Implementation Update



Policy / regulation



Investment

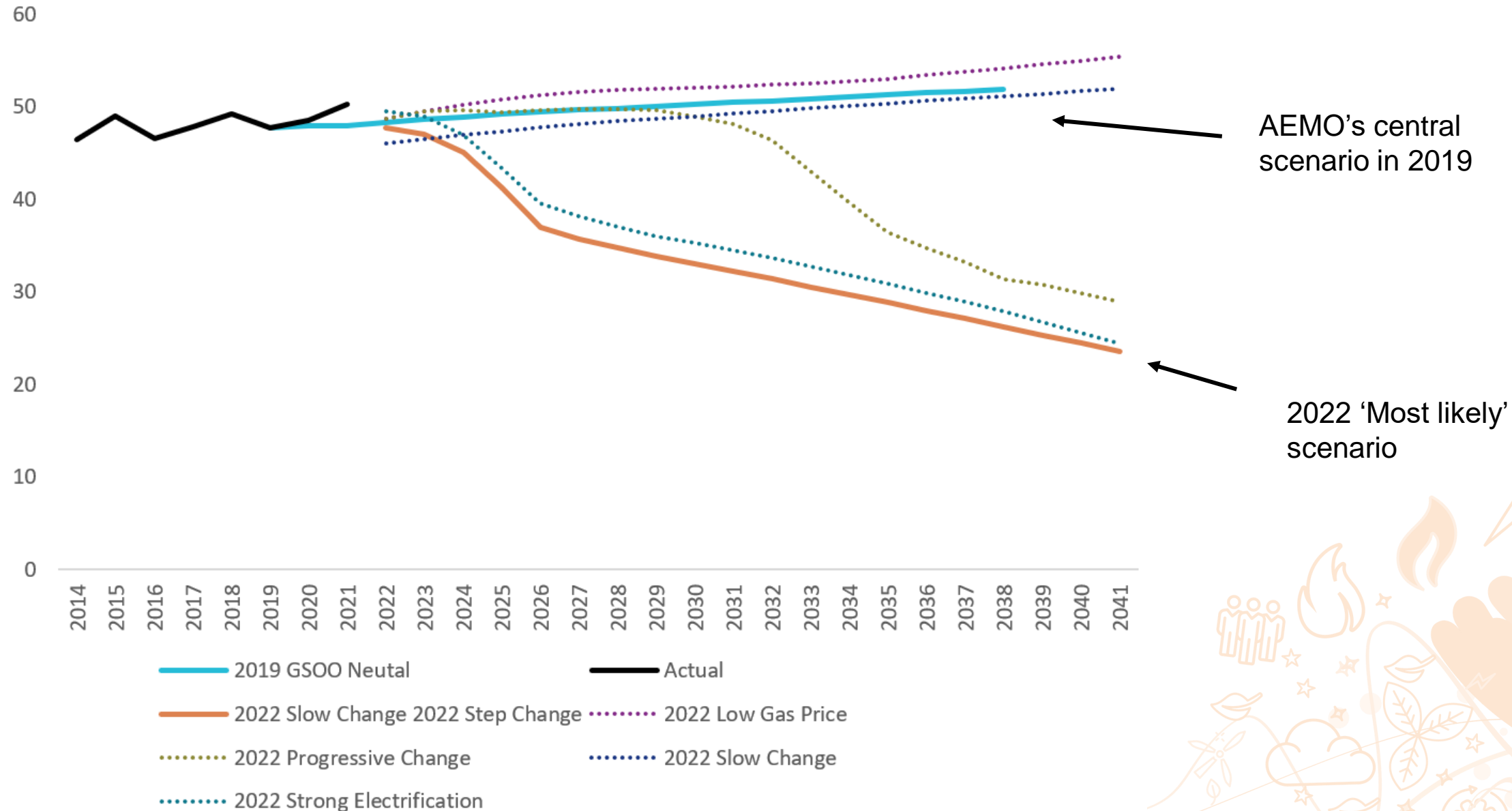
# Uncertainty the transition creates

# Shaun Reardon



# The future is uncertain

Australian Energy Market Operator's (AEMO) forecasts gas consumption for residential and commercial sector in NSW (PJs)





# Many pathways ahead

Electrification: Phase out natural gas



sky news  
.COM.AU

NewsDay

**DANICA DE GIORGIO**  
@DANICADEGIORGIO

# Many pathways ahead

A role for renewable gas





# What could the implications for customers be?





# Customer expectations

Merryn Spencer, Customer Engagement Lead



# 2020-25 Plan engagement outcomes

**Affordability**



**Safety and reliability**



**Fairness**



**Innovation and planning  
for a net zero-carbon  
future**





# A perspective from Australian Gas Infrastructure Group (AGIG)

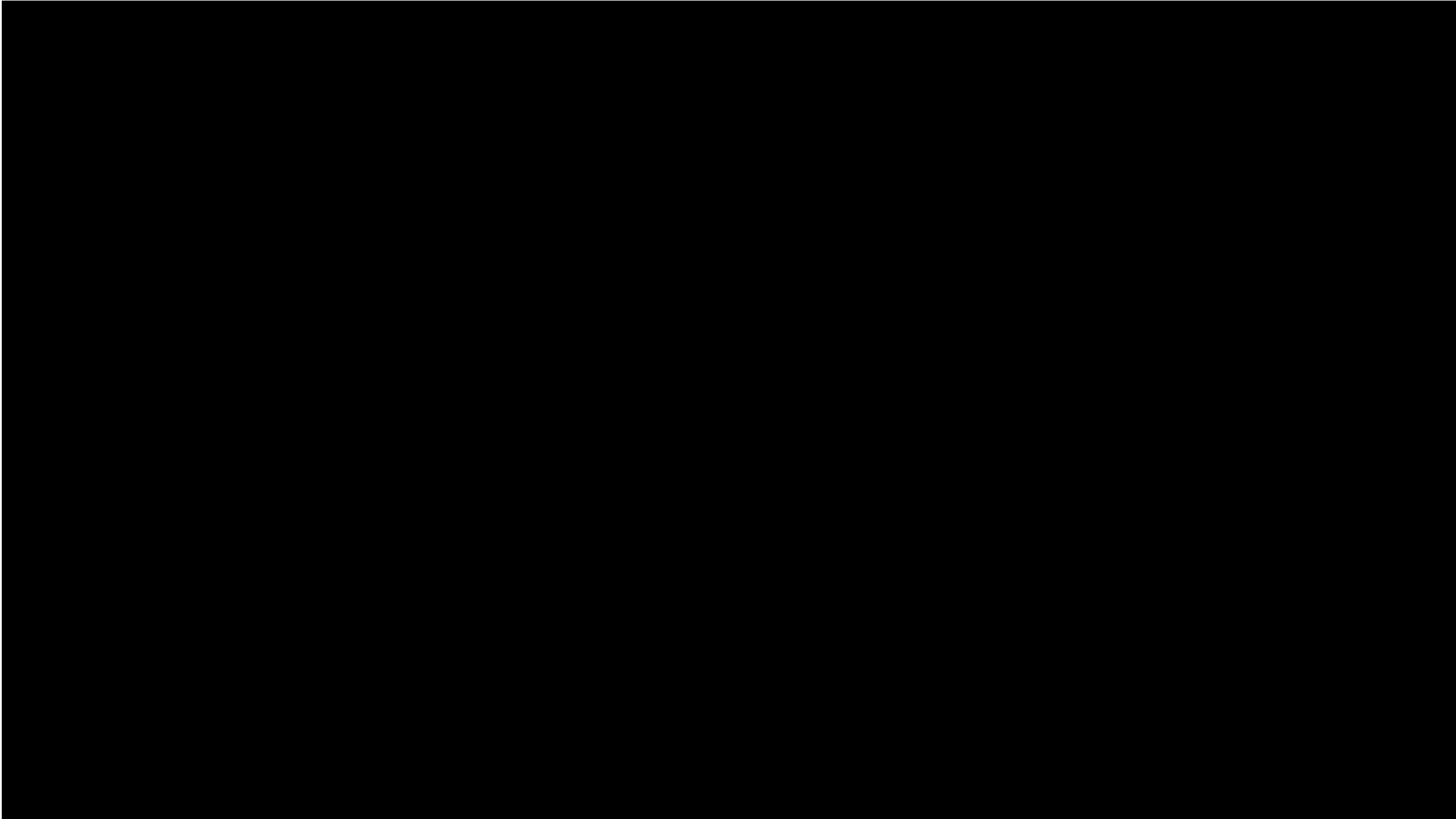


## Other customer insights from Professor Peta Ashworth (OAM), University of Queensland and Future Fuels Cooperative Research Centre





**A perspective from Brian Spak at Energy Consumers Australia**



# Are these customer expectations right?

- **Affordability** – price is the number one priority
- **Safety** – keeping customers and the community safe
- **Reliability** – gas should come on whenever I want it to.
- **Fairness** – in the context of
  - our existing and future customers
  - the service levels that they receive and the different needs of our diverse customers (include those who are most vulnerable) from across the state.
- **Communication** – customers want to be kept in the loop about the transition
- **Innovation and planning for the future (decarbonisation)** – customers expect us, other parts of the industry and government to innovate and plan for a net-zero future – including for a potential renewable gas future.
- **Access** – current and potential customers should be able to continue to use gas if they want to in the long term

*Over the remainder of this engagement program we will explore whether it is possible to meet these expectations given the challenges we face*

