

# Gas Networks 2050

## Access Arrangement

### Small Business Forum 1 (group 2)

25 October 2023



# 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!

**01**

Purpose and context,  
introduction to  
Jemena



**02**

Exploring concepts,  
topics and your  
preferences on the  
response areas



**03**

Thank you, feedback  
and next steps.



## Your guides for today



**Andre Kersting**

Gas Networks  
Regulation Manager  
Jemena



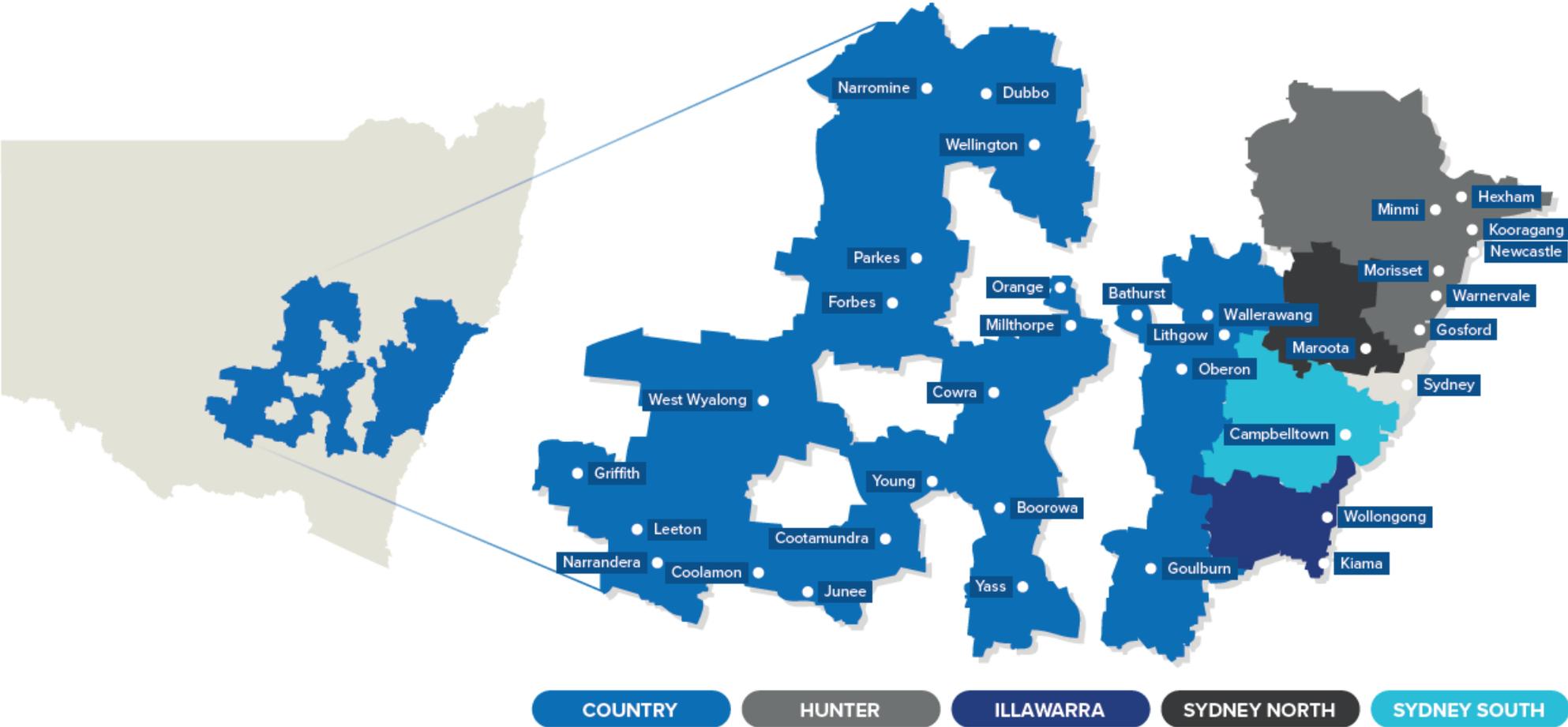
**Merryn Spencer**

Engagement Lead  
Jemena

This session is being recorded

# About Jemena Gas Networks

## Our area of operation



Founded in 1837 to light Sydney using gas.

The largest gas distributor in New South Wales.

More than 25,000 kilometres of pipe distributing natural gas to over 1.5 million customers each year.

Supplies residential, business, and industrial sites in Sydney, Newcastle, the Central Coast and Wollongong.

Network covers over 20 regional centres, including the Central West, Central Tablelands, South Western, Southern Tablelands, Riverina and Southern Highlands regions of New South Wales.



Library, Australia, you

# About the rules we operate under



The Australian Energy Regulator (**regulator**) regulates gas pipelines in all states except Western Australia and Tasmania.

The rules ensure that networks do not favour their own businesses to the disadvantage of competitors, or use money from regulated services to fund their own businesses.



Our shareholders fund the investments required to run, grow and maintain the gas network, with the expectation of a return on that investment.



The **regulator** sets a 'rate of return' (return on investment) for capital investments. This rate of return is a benchmark rate of return, which is applied to all regulated gas and electricity networks.



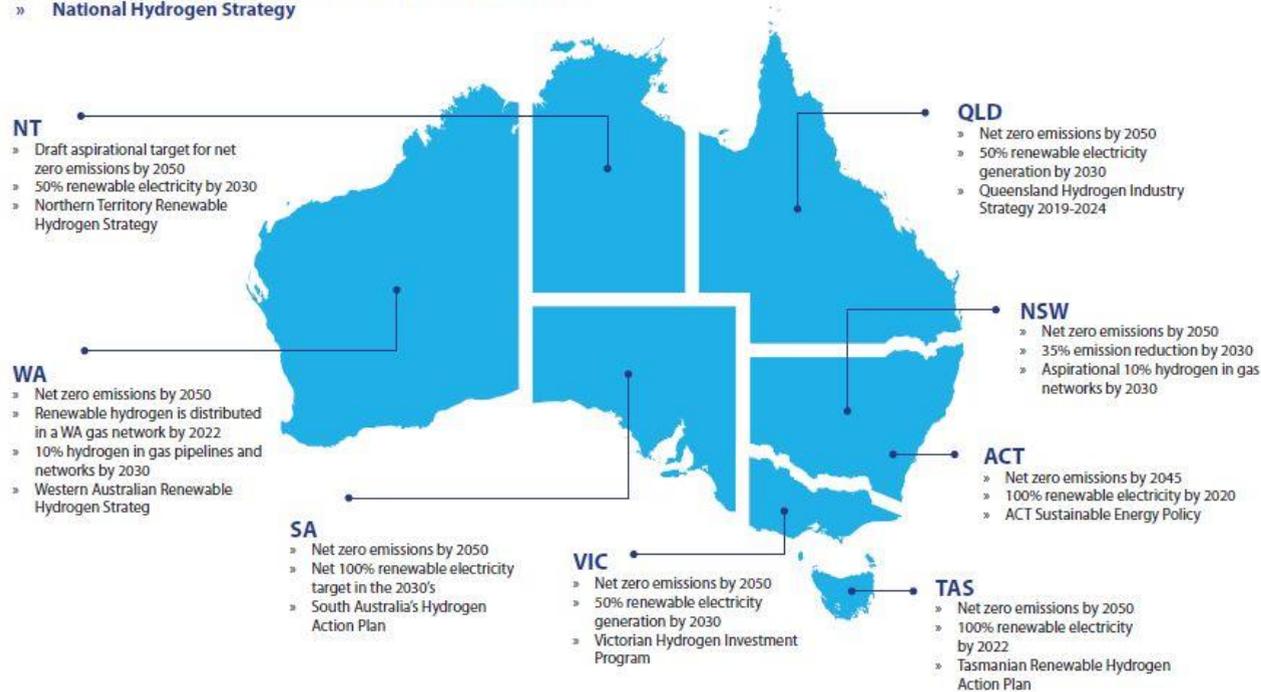
**Every five years**, we provide information on the costs of our investments to the regulator. The regulator reviews our investments to ensure that they are prudent and efficient.

# Net Zero: government and industry are responding

## Government commitments to net zero

### AUSTRALIA

- » Committed to Paris Agreement
- » 23.5% of large-scale renewable electricity generation by 2020
- » National Hydrogen Strategy



Source: Energy Networks Australia analysis (2020)

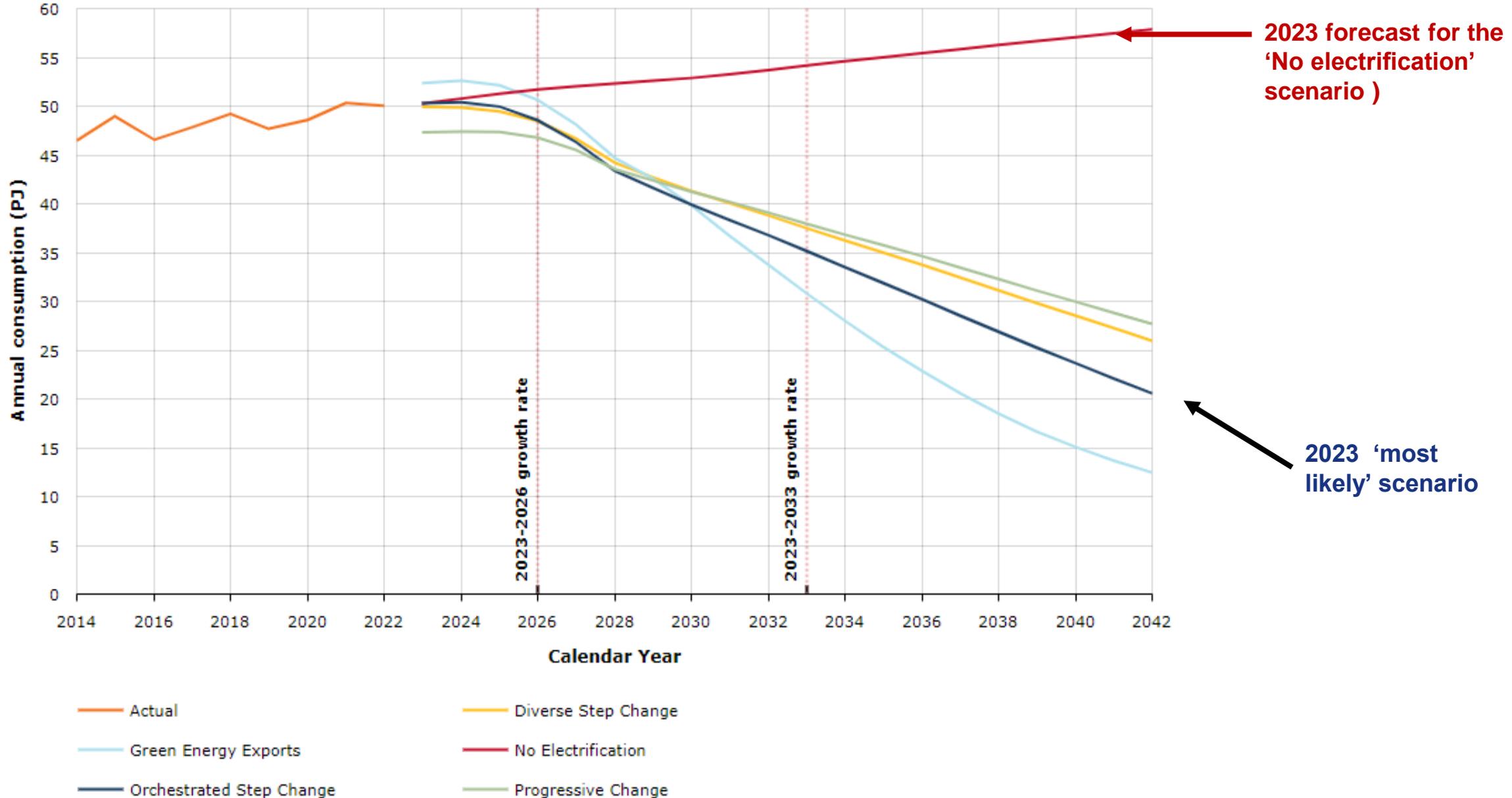
## Two-thirds of the ASX 200 have emission reduction targets



*"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."*

# The future is uncertain

Australian Energy Market Operator's actual and forecast annual gas consumption (PJ) for residential and commercial users in NSW



# Expert Panel scenarios

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



## Scenario 1: Electric Hare

Decarbonisation is supported by strong government policy driving electrification across industry and residential customers, with limited use of green fuels for hard to abate sectors



## Scenario 2: Big Hydrogen

Government policy support underpins a hydrogen export economy with a renewable gas target and certification, subsidies, and tax-offsets, driving down the cost of hydrogen production

*Biomethane focus limited to gas-dependent users and Hydrogen is a niche product.*

**Renewable gas penetration**

*Biomethane is a stepping stone to the Hydrogen mass market.*



## Scenario 3: Electric Tortoise

Residential customers slowly electrify and industrial users transition to biomethane, as hydrogen remains not commercially viable. Transition is market-led and is less centrally coordinated



## Scenario 4: Market Hydrogen

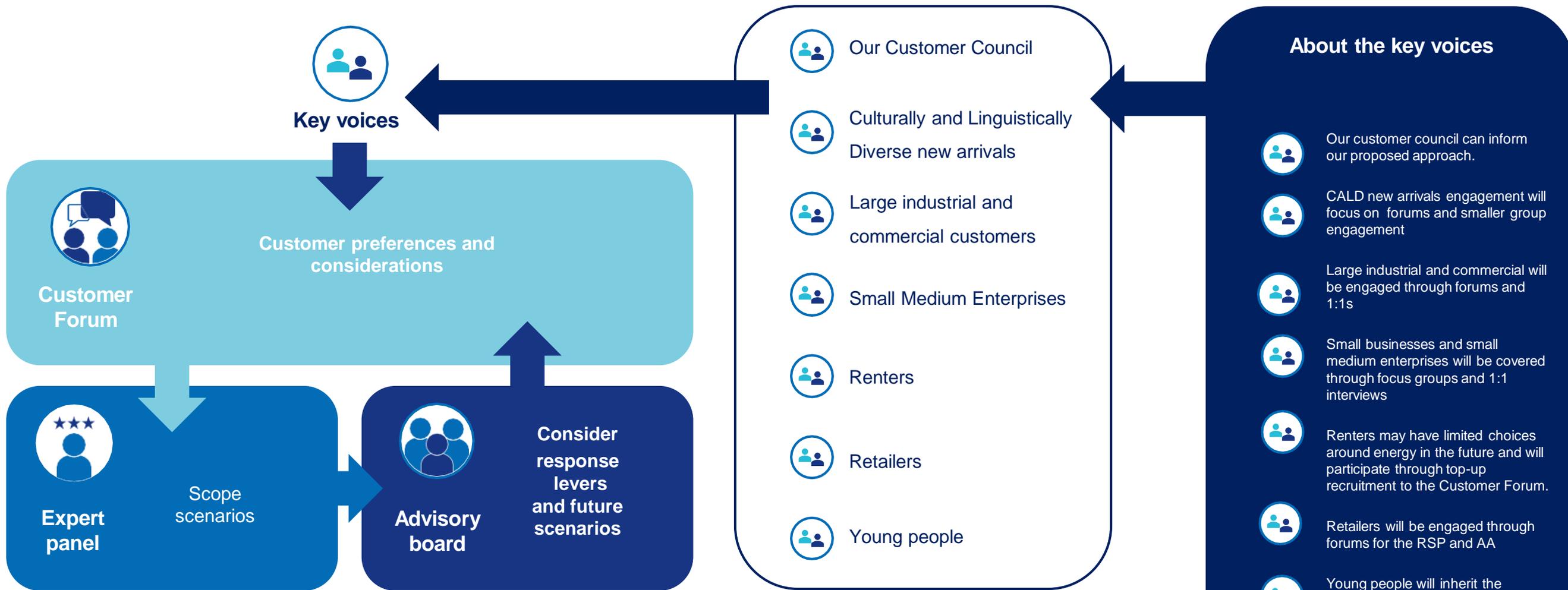
A near-term technological breakthrough driven by the market results in renewable gases becoming competitive with electrification, creating a diverse energy mix.

**Market led vs Government led**

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

# Who we're engaging

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



## About the key voices

- Our customer council can inform our proposed approach.
- CALD new arrivals engagement will focus on forums and smaller group engagement
- Large industrial and commercial will be engaged through forums and 1:1s
- Small businesses and small medium enterprises will be covered through focus groups and 1:1 interviews
- Renters may have limited choices around energy in the future and will participate through top-up recruitment to the Customer Forum.
- Retailers will be engaged through forums for the RSP and AA
- Young people will inherit the decision making of older generations and have an important stake in our energy future.

## About Gas Networks 2050



The **Customer Forum** is made up of everyday customers and potential customers working within a deliberative approach..



The **Advisory Board** is made up of customer advocates and specialists, as critical friends to Jemena



The **Expert Panel** is made up industry and energy specialists..

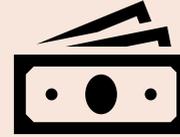
# Your initial thoughts (survey results)

## About you



*What customer values are most important to you?*

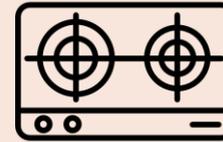
- Reliability
- Safety
- Choice
- Environment
- Planning for the future
  - Fairness
  - Affordability



*You are the joint or main decision maker about utilities and use mains gas*



*Gas for hot water*



*Gas for cooking (cooktop)*



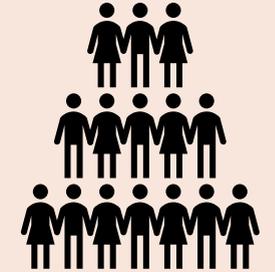
*Gas for a fireplace*



*Gas for a heating system*



*Gas for  
Cooking  
(oven)*



*From across the Greater Sydney area, a diverse mix of employee numbers and sectors including retail, arts and recreation, accommodation and food, information media and telecommunications*

*Q: Are you aware your Council area has introduced a ban on new gas connections?*

*“Yes.”*

*“No.”*

*“It’s better for the environment and sustainable as well.”*

# Our questions for you:

What questions do you have for Jemena?

What do you value about gas?

Are you thinking about leaving the gas network? Why or why not?

How do you see your gas use in future?

# What response options are available to Jemena?

- 1) Moving towards renewable gas
- 2) Accelerating capital recovery
- 3) How Jemena manages its assets
- 4) A new approach to connections
- 5) Supporting vulnerable customers
- 6) Digital metering
- 7) Permanent disconnections



# The parable of the coffee shop

Imagine you are a coffee shop owner.

You have a monopoly of the street you operate in so the prices you charge customers needs to be approved by the regulator.

You invest in a coffee machine every 7 years. You just invested in one this year.

The government then announces that there may be a phasing out of coffee in the future. Some people think coffee is unhealthy which is starting to gain momentum via social media and published expert reports!

There is a risk that customer's may start reducing their demand for coffee causing uncertainty on what the future looks like for the coffee shop.

## Hummingbird coffee shop



How do you invest your money and set prices to address the uncertainty caused by the possible decline on coffee demand?

1. **Increase prices** immediately (before customers stop drinking coffee), to recoup your investment in the coffee machine
2. **Re-vamp your coffee machine and shop** into a tea and coffee café and start introducing customers to teas.
3. **Both?**

# Making coffee under uncertainty

## Recovering the cost of the coffee machine

As the Coffee shop owner, you currently charge \$5 per cup of coffee as approved by the regulator. Would you increase prices now, before customers stop drinking coffee, to recover the cost of your coffee machine?

### Hummingbird coffee shop

Subject to regulatory approval you could:



## Revamping to tea

As the Coffee shop owner. Would you start investing in revamping your coffee shop and equipment to provide tea and coffee? And start introducing customers to teas?

### Sip 'n' Petals tea house

*Do people like tea?*

*What's the competition?*

*Will I recoup my costs?*

Partially revamp

Fully revamp

Don't revamp



## How do you decide?

Would you just do one? Or both? Are there other measures you would take?



# Contextualising the short and long-term

As a gas network, we can take a range of short-term and long-term actions to address risk. There are pros and cons of anything we do to address uncertainty. We need your help deciding what we should do.



## Managing financial risk

### Coffee shop

Recovering the cost of the coffee machine by charging more for a cup of coffee

### Natural gas network

Increase network prices now, before customers leave, so that we can recover our costs (and future customers avoid a price shock)



## Re-vamping our network to carry renewable gas

Redesigning the coffee machine to make coffee and tea

Re-vamp our network so that it can carry renewable gases



## Reducing maintenance

Repair the coffee machine once a year instead of once every 6 months

Maintain ageing pipelines less often

# What is renewable gas?

## Biomethane

Biomethane is a form of renewable methane which is captured from decomposing organic materials such as agricultural waste, landfill and sewerage. It has the same properties as natural gas, and therefore it requires no customer appliance changes.

**Malabar Biomethane Injection Plant**  
Demonstration project where gas is generated by anaerobic digestion of sewage sludge at Malabar, Sydney.



## Green Hydrogen

Green hydrogen is made when renewable electricity is used to split water into hydrogen and oxygen through a process called electrolysis.

**Western Sydney Green Hydrogen Hub**  
Demonstration project and storage trial



## Synthetic Methane

Synthetic methane is a variety of natural gas alternatives that have the same properties as natural gas. Depending on the fuel source, Synthetic Methane can be a low-carbon or even carbon-free substitute for fossil fuels e.g., Methanation

**CSIRO Methanation Trial**  
Supporting a project testing the methanation of green hydrogen



# Coffee shop parable: accelerating capital recovery

Every **7 years**, you invest **\$7,000** in a new coffee machine



La Pavoni Commercial Volumetric  
2 Group Espresso Machine

You sell **200 cups** of coffee per year...  
at **\$5 per cup.**

Each year, you get **\$1,000** in revenue  
(\$5 X 200 cups)

It takes **7 years** to recover your coffee machine.  
(\$1,000 X 7 years)



However, the government has announced that:

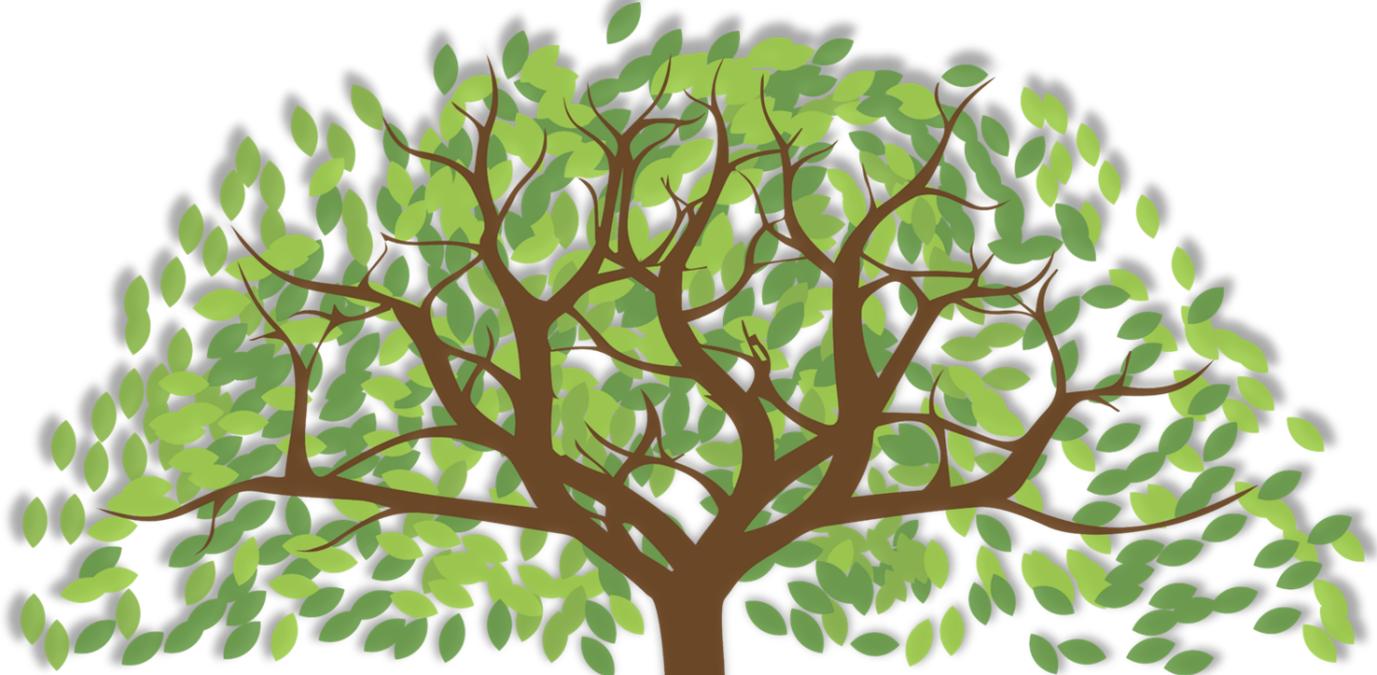
- There may be a phasing out in coffee in the future
- There is a risk that demand for your coffee will start declining in the next 7 years.

**How do you price your coffee after the government announcements?**

With the challenges resulting from the uncertain future role of gas networks how fast should we speed up our recovery of assets?



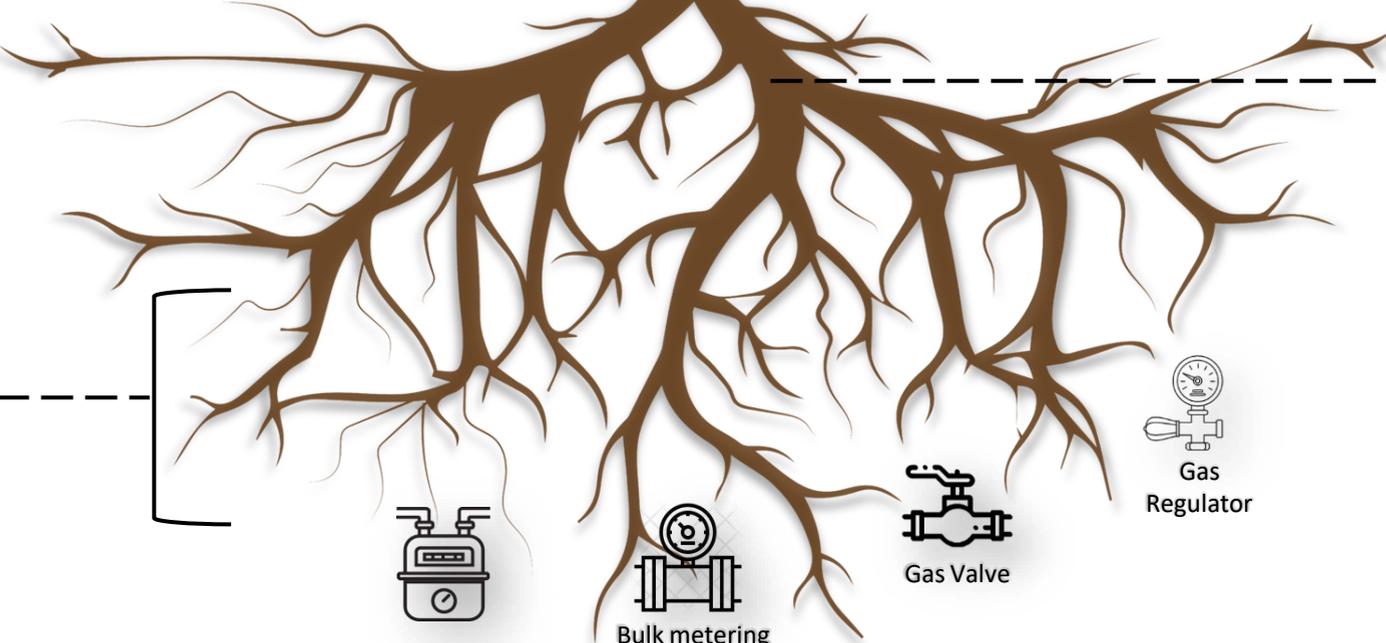
# Your network



Trunk  
271 km

Primary & Secondary  
1598 km

Medium & Low Pressure  
24,430 km



Gas meters



Bulk metering stations



Gas Valve



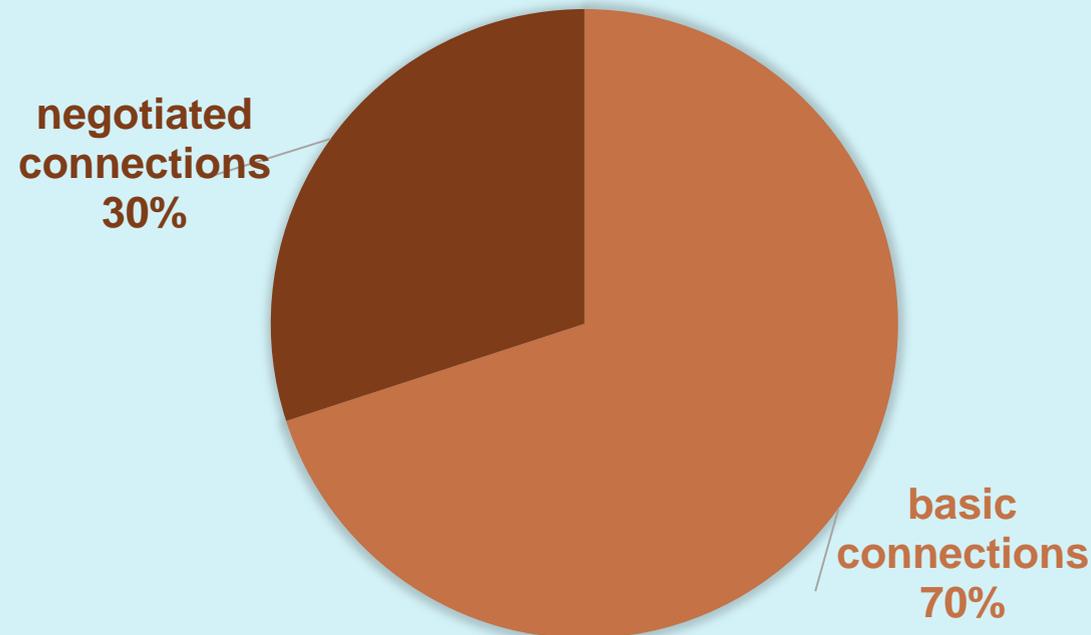
Gas Regulator

# A new approach to connections – connecting to our network

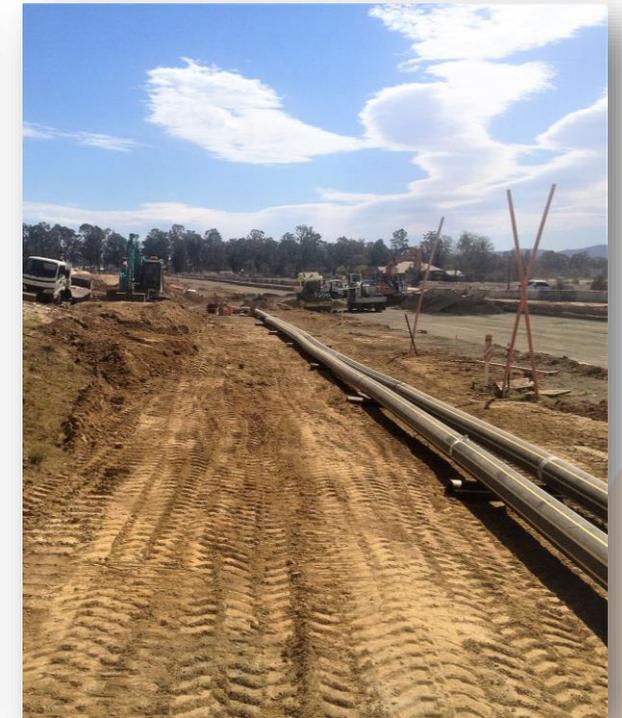
Currently, the costs of 'basic connections' are largely shared by customers across the network.

- **Basic** connections refer to **simple** connections, e.g. connections to new homes
- **Complex** connections are typically **negotiated**, e.g. new connections to high rise buildings and industrial customers

Given the future uncertainty of the gas network, consideration should be given to how we charge for new connections.



Example of a connection to a residence (a basic connection)



Example of a connection to a new estate (a negotiated connection)

Should 'basic connections' continue to be shared amongst the broader customer base?

# Supporting vulnerable customers

**Voices for Power 'Train the Trainer' Project (NSW)**

**Uniting Energy Assist Program**

**Bring your bill days (VIC)**

**Aboriginal Workforce Mentoring Program**

**Community Grants Program**

**Sponsorships and donations**

**Energy Charter #BetterTogether - Knock to Stay Connected (Trial)**

**Energy Charter #BetterTogether - Cost of Living Initiative**

# About digital gas meters

## Challenges

- Safety
- Sudden high bills
- Safe and timely disconnection
- Location and accessibility of meters

## Solution

- Accurate and on-demand reads
- Able to disconnect remotely
- Ease of energy consumption monitoring
- Smaller size

*But they're not a cheap solution!*



## Examples of digital gas meters



# About permanent disconnections



A request for a permanent disconnection from the gas network is received.



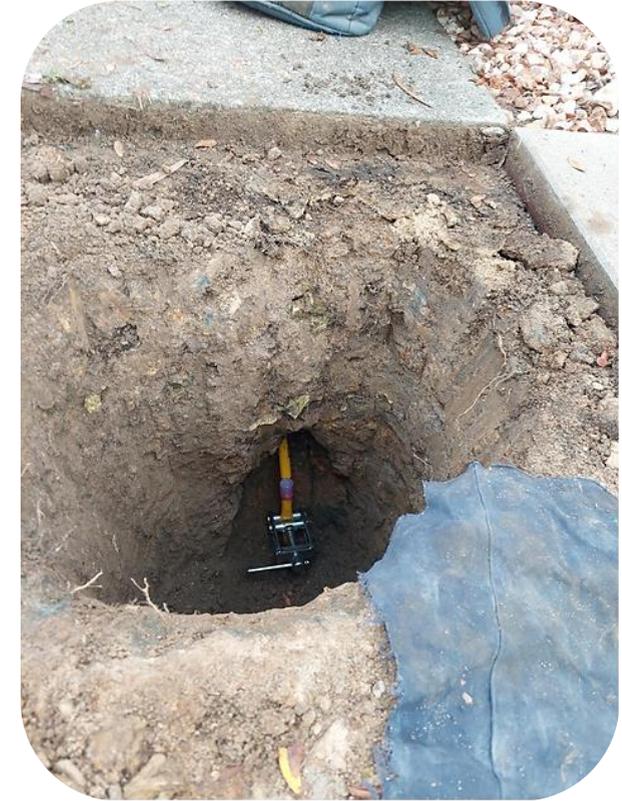
A customer may permanently disconnect if they decide to remove all their gas appliances.



For safety reasons, a customer must be disconnected if they are renovating or developing the site.



The meter is removed, the gas service is cut from the gas mains.



Above: some of the many steps involved – marking off the area, excavating and clamping the pipe.

Should the individual customer continue to pay for the disconnection cost or should it be shared amongst the broader customer base?

# Questions:

- What questions do you have about these areas?
- Thinking about these responses, is there anything you want Jemena to keep in mind?
- Which ones are interested in exploring in more detail in the next session?
- What are the critical issues for you?

# Final words from you

- How are you feeling about what you've discussed today?
- In 30s seconds: what would make you feel that Jemena has listened to small business voices?

# Thank you!

We will see you online for our next session

Wednesday 8 November 6 pm - 7.30pm

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

CRNRSTONE Research will be in touch with  
your stipends!

