

# Gas Networks 2050

## Access Arrangement

### Small Business Forum 2 of 2

(with group 1)

1 November 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**

Reintroductions and  
report back



**02**

Exploring response  
areas (as nominated  
by you!)



**03**

Thank you and next  
steps.



This session is being recorded

## Your guides for today



**Andre Kersting**

Gas Networks  
Regulation Manager  
Jemena



**Brent Davis**

Business Development Manager  
Jemena



**Merryn Spencer**

Engagement Lead  
Jemena

# Playback: what you said in the last session



**Affordability and reliability is a key concern:** small businesses at the session expressed their reliability on gas for high heat for example sterilising equipment, for cooking food, and for food manufacturing. One expressed concern about having to shut down if they transitioned to electric appliances because of the cost. Another expressed they had no plans yet to transition off gas. Although everyone present understands the need to transition to net zero, there is anxiety about the transition, and questions about how they, as users heavily reliant on gas will be impacted including the costs for changing appliances are expensive. Several had questions as to how they may be supported during the transition.



**Interest in renewable gas role and government policy role in the speed and process of the transition:** because of their reliance on gas as a fuel and the difficulty shifting off gas, this group is particularly interested in using renewable gas in future. They are also cognisant of the government's role in the transition and that Jemena operates in a regulated environment.



**Response options:** the options that attendees are most interested in hearing about are renewable gas, how Jemena manages its assets, a new approach to connections, permanent disconnections, and digital metering.



**Small businesses expressed appreciation at having an in-depth conversation at an early point in the planning process:** satisfaction was expressed and interest in being asked key questions at this stage in the process about such big-picture topics about the future of the business and how the decisions impact them.

*"It's all frightening as far as we're concerned that we're so dependent on gas for our machinery."*

*"It does concern me that if you stay on gas, then your cost to your business are going to be going up. So that's a worry."*

*"Same with sterilising equipment in theatre, we can't run those on electric options, so it has to be by gas."*

*"This new concept of getting the energy source from the hydrogen, I think that could be a game changer."*

*"it's not just the one way forward, right?"*

*"You're listening now, which is an advance on the past."*

*"Taking our opinion is a good thing."*

*"I actually feel quite privileged to be involved in such an important transition here, and have, you know, inside at such a fairly early stage in this."*

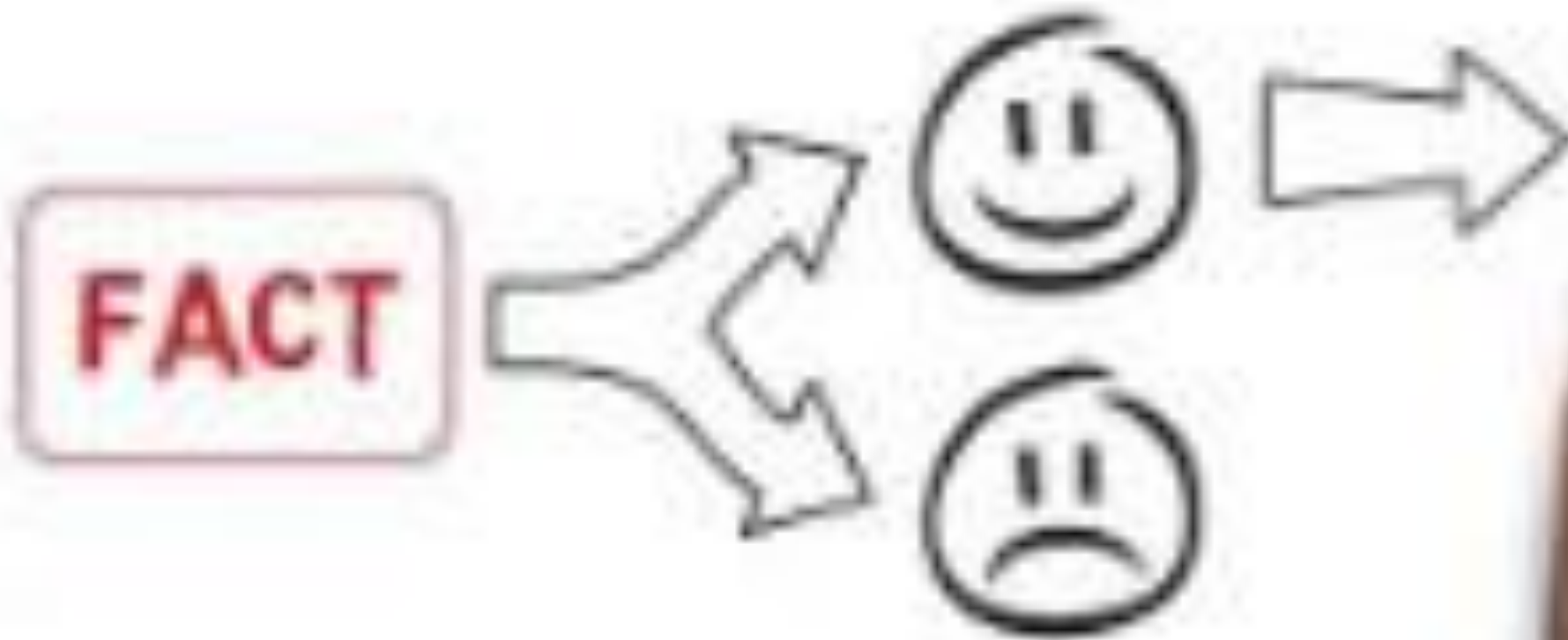
*"Like the transparency from Jemena."*

# The responses we're exploring today

- 1) Moving towards renewable gas
- 2) Accelerating capital recovery
- 3) How Jemena manages its assets
- 7) Permanent disconnections



## 4. CONFIRMATION BIAS



# Keep moving towards renewable gas



# International settings for renewable gas



## United States

### Biomethane:

- 2,300 sites producing biogas across 50 states
- Primary pathway: landfill gas collection

### Hydrogen:

- Comprehensive policy and funding support introduced in IRA 2022 paves way for US to become the global leader in renewable energy production and export
- Total of US\$369bn funding and tax credits earmarked to support energy security and transition



## Latin America

### Biomethane:

- Holds ~20% of global bioenergy potential

### Hydrogen:

- Significant renewable hydrogen potential harnessing world class and low-cost solar, wind and hydro resources



## Middle East & North Africa

### Hydrogen:

- Significant renewable hydrogen ambitions among various member countries, with individual and collective national hydrogen strategies (e.g. Saudi Arabia, Oman, UAE, Egypt, Africa Green Hydrogen Alliance).
- Harness region's substantial renewable energy resources and location as gateway between key EU and Asian markets



## Europe

### Biomethane:

- 20,000 biogas plants in Europe - 10,000 in Germany alone
- >25% biomethane in Denmark's gas networks and >11% in Italy

### Hydrogen:

- Key pillar of EU decarbonization and energy security strategy – target of 65% system demand from renewable hydrogen by 2030.
- Policy frameworks and dedicated funding mechanisms under implementation



## United Kingdom

### Biomethane:

More than 80 biomethane plants connected to the grid

- Green Gas Certification Scheme,

### Hydrogen:

- Low-carbon hydrogen production capacity ambition of 10GW by 2030
- Launched policy consultation and funding rounds (from £240m) to support hydrogen development.



## Asia

### Biomethane:

- Holds ~30% of global bioenergy potential
- Policies support household digesters in rural China

### Hydrogen

- Leading region in the development of renewable hydrogen production and equipment manufacturing capacity (India, China)
- Leading region in the development of global hydrogen supply chain – investing heavily in import infrastructure, transport and storage technologies (Japan, Korea)

# What is happening in Australia



**National Hydrogen Strategy**  
The development of a hydrogen industry, including hydrogen 'hubs' and a certification process.



**Australia's Bioenergy Roadmap**  
Identifies the role that the bioenergy sector can play in Australia's energy transition.



**GreenPower Renewable Gas Certification**  
Enable voluntary purchases to help displace natural gas with low-emission renewable gas such as biomethane, biogas and renewable hydrogen.



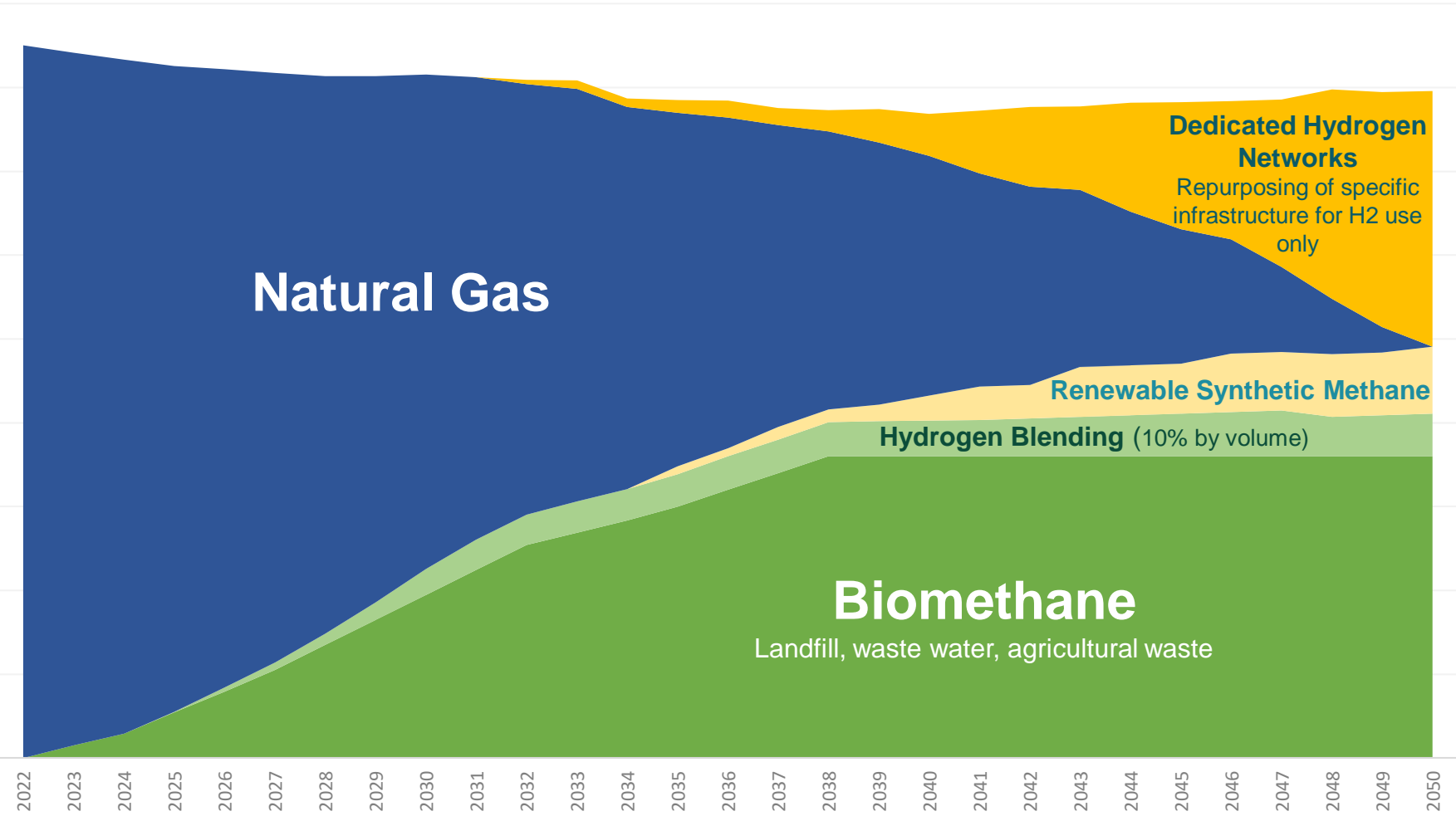
**Renewable Fuel Scheme**  
Support the growth of new supply chains to improve the affordability, reliability and sustainability of green hydrogen in NSW to help industries remain competitive as international markets decarbonise  
**Hydrogen Strategy:**  
NSW Hydrogen Strategy with over \$150M hydrogen funding and stretch target of 10% blending in gas networks by 2030



Biogas in proximity to Jemena's NSW Gas Network

# Potential blends of gas in the network

*Illustrative example of a blend of renewable gas in a gas network*



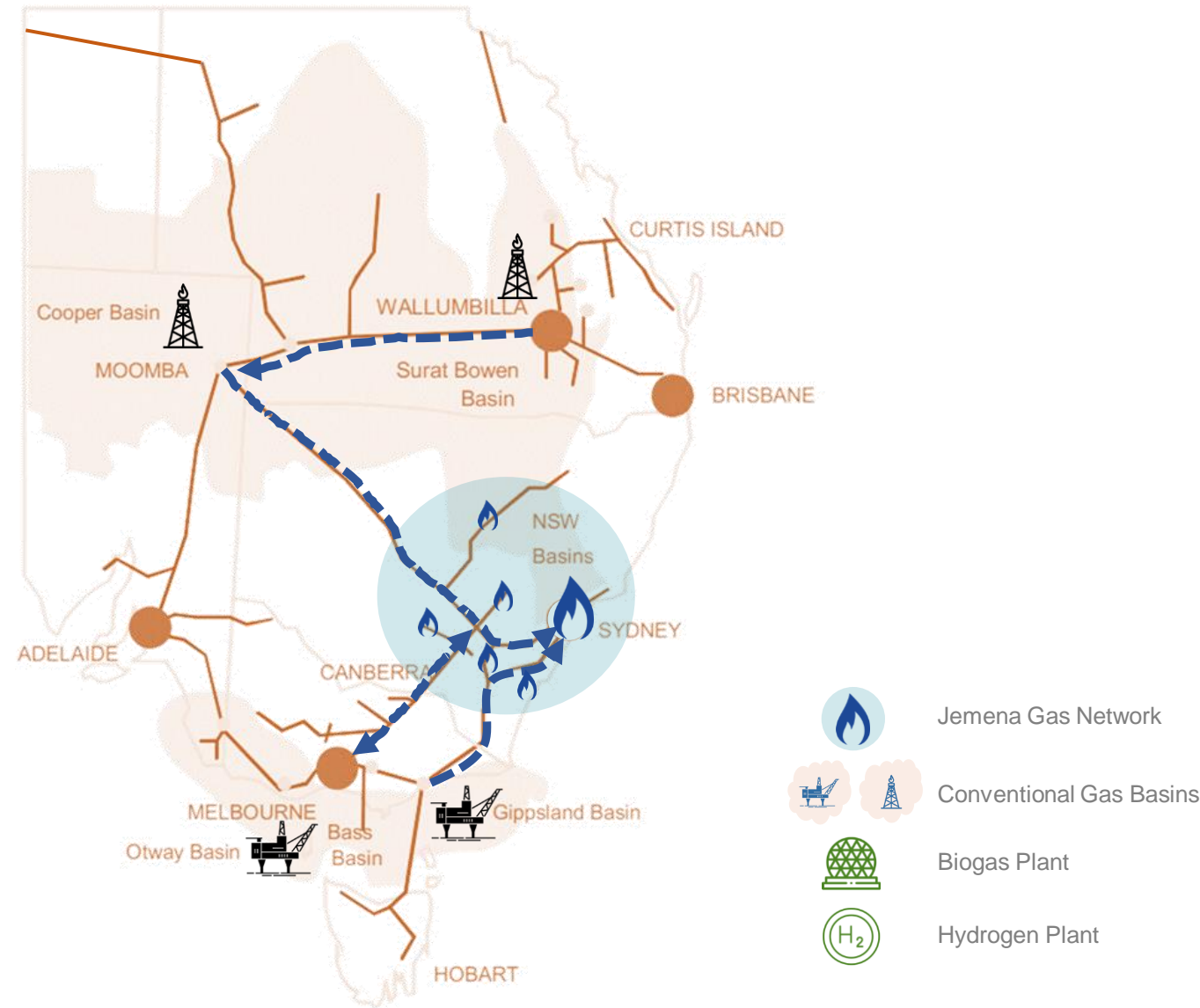
Gas supplied into the network will evolve and the way we utilise the network will change.



# Gas supply now and into the future

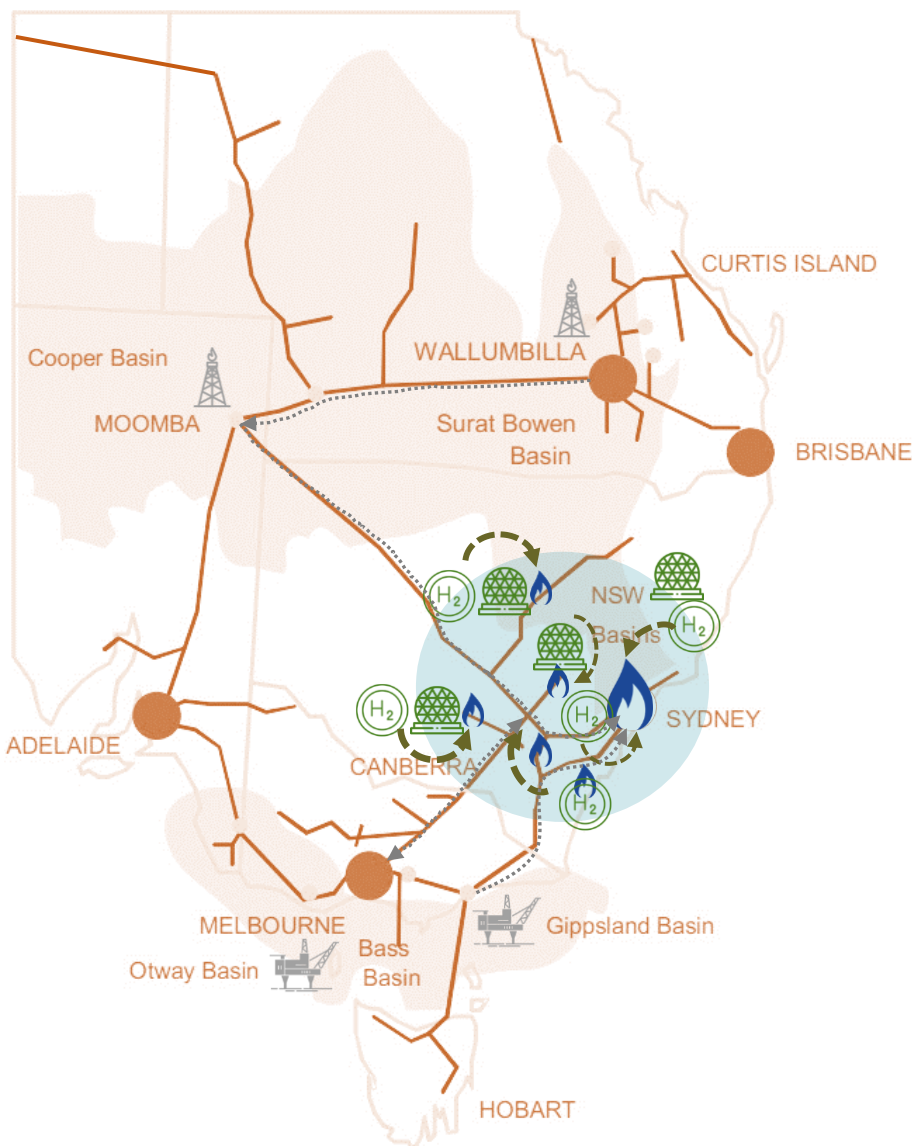
## Current State

Gas has come from a few, very large gas basins which are a long way from where we use our gas, being supplied by large transmission pipelines.

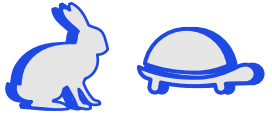


## Future Potential

Gas could be sourced from a decentralised network of local smaller-scale renewable gas production facilities.



# Renewable Gas – regulatory response slider



*electrification future on its own*

**Renewable Gas connections in the future**

*electrification working with renewable gases*



**DO NOT** pursue any renewable gas connections

**SUPPORT** renewable gas connections

**EXPEDITE** renewable gas connections

**Renewable gas blend**

None

~10% renewable gas blend by 2030

~20% renewable gas blend by 2030

**Electrification**

Households may need to electrify earlier

Some households may delay electrification

Some households may delay electrification

**Customer retention**

Customer numbers may decline over time more quickly

More customers are retained on the gas network

More customers are retained on the gas network

**Reliability in regional areas**

No change to gas supply reliability in regional areas

Gas supply reliability in regional areas slightly improved

Gas supply reliability in regional areas slightly improved

Bill impact, 2025-30

Bill impact, 2025-30

\$3 a yr

Bill impact, 2025-30

\$6 a yr

If significant numbers of customers leave the gas network, bills may increase

**Consider: where would you vote?**

# Managing Jemena's financial risk through accelerating capital recovery



# Coffee shop parable: Making coffee under uncertainty

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 revenues  
(\$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 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!

**Demand for your coffee will start declining in the next 7 years. How do you price your coffee after the government announcements?**

## Situation without government announcements

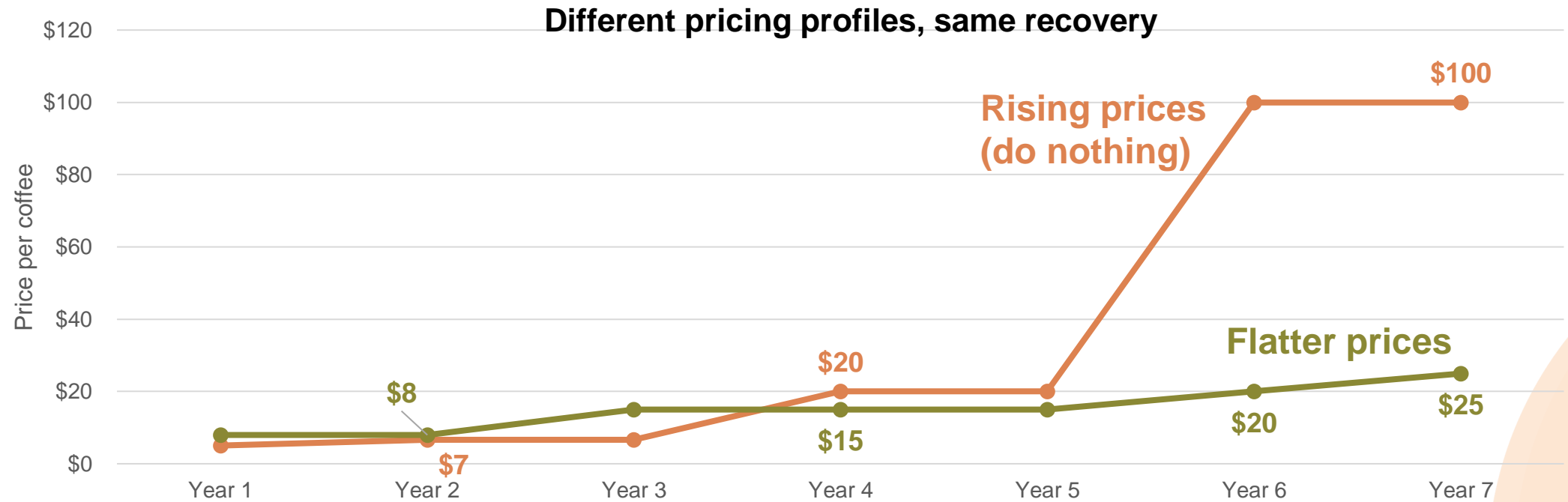
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Price per cup of coffee	\$5	\$5	\$5	\$5	\$5	\$5	\$5
Coffee cups sold (demand)	200	200	200	200	200	200	200
Cost recovered	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000

Total cost recovered in 7 years: **\$7,000**

# Pricing your coffee under uncertainty

## How would you price your coffee in the future?

## What are the considerations?

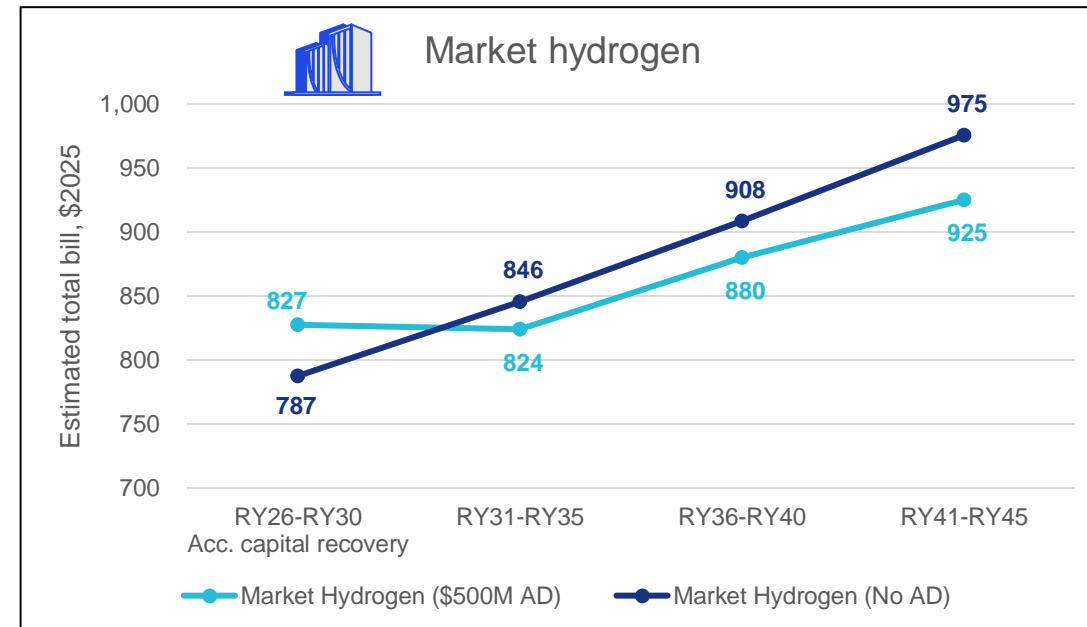
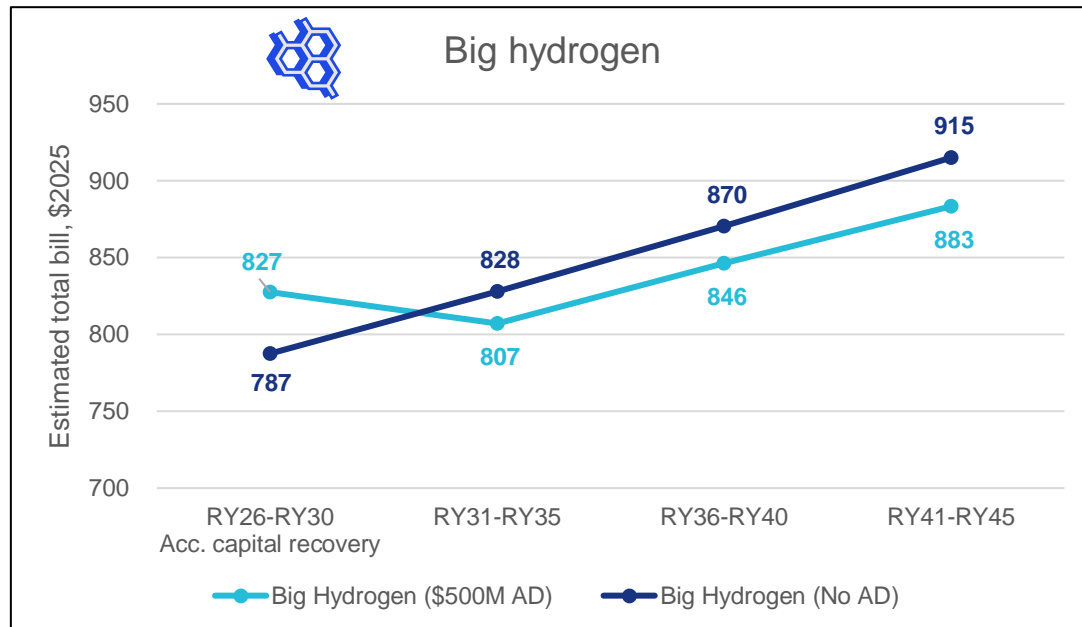
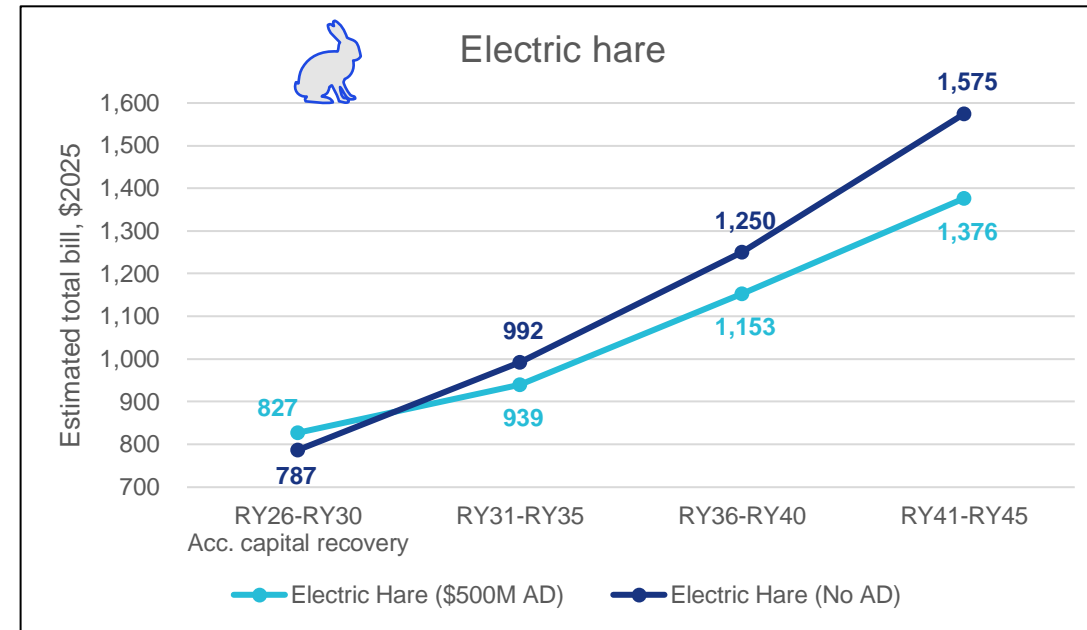
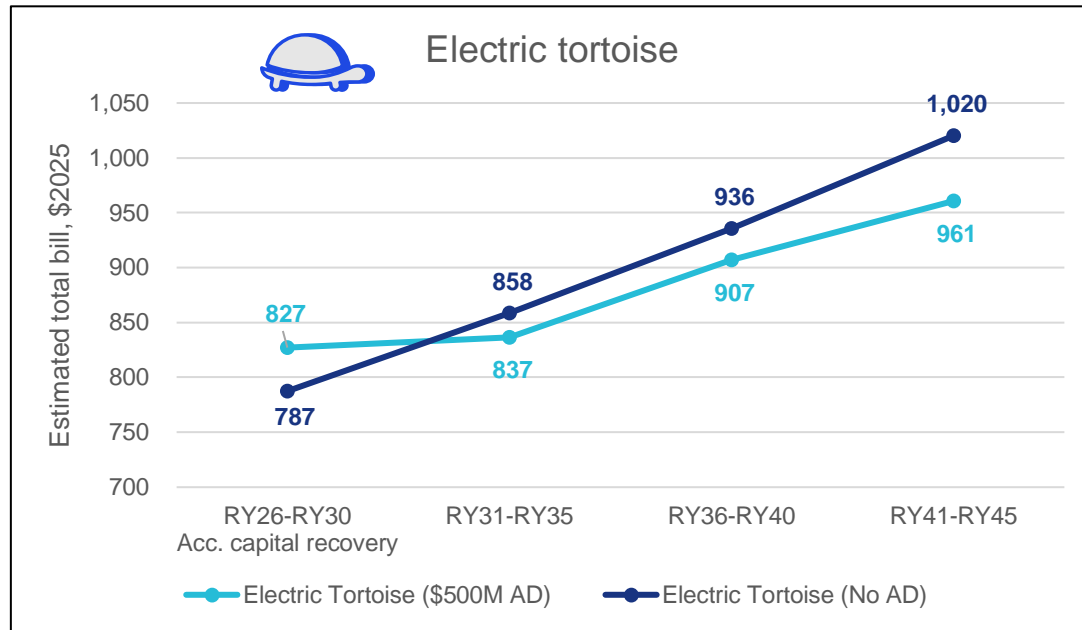


\$7,000

Do nothing to address declining demand							
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Price per coffee	\$5	\$7	\$7	\$20	\$20	\$100	\$100
Coffee cups sold (demand)	200	150	150	50	50	10	10
Cost recovered	\$1k	\$1k	\$1k	\$1k	\$1k	\$1k	\$1k
Total cost recovered in 7 years: \$7,000							

Increase prices by a little right now							
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
Price per coffee	\$8	\$8	\$15	\$15	\$15	\$20	\$25
Coffee cups sold (demand)	200	150	150	50	50	10	10
Cost recovered	\$1.6k	\$1.2k	\$2.3k	\$0.8k	\$0.8k	\$0.2k	\$0.3k
Total cost recovered in 7 years: \$7,000							

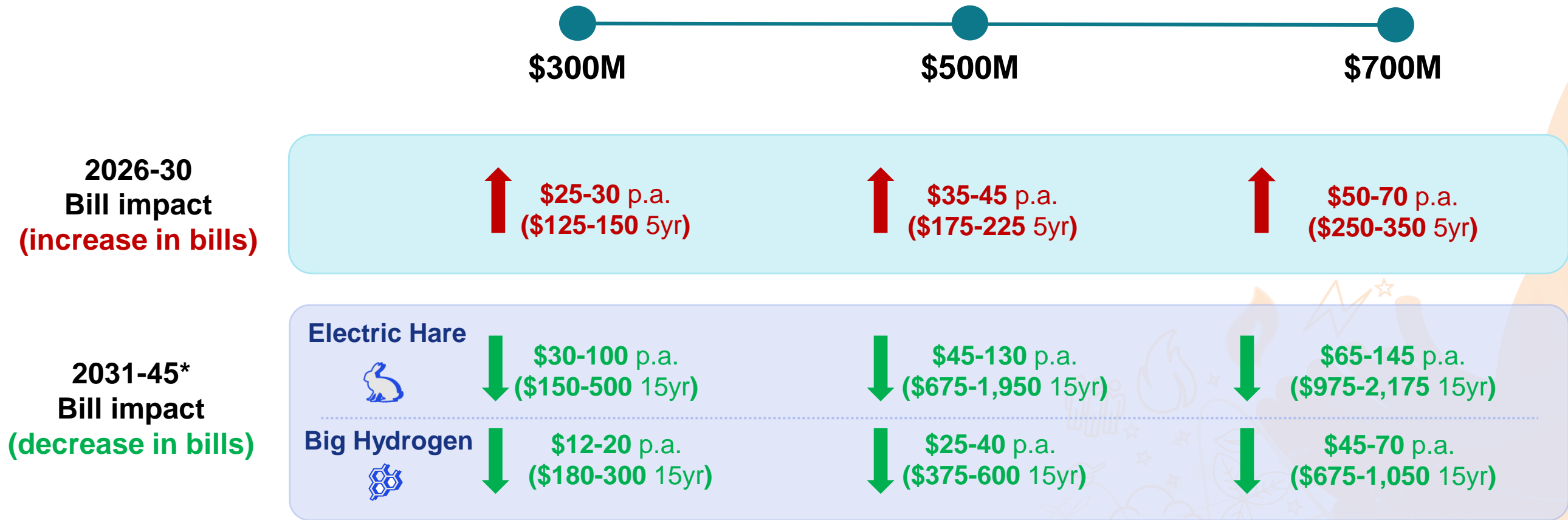
# Estimated bill, with and without accelerating capital recovery



# Accelerating capital recovery – regulatory response slider

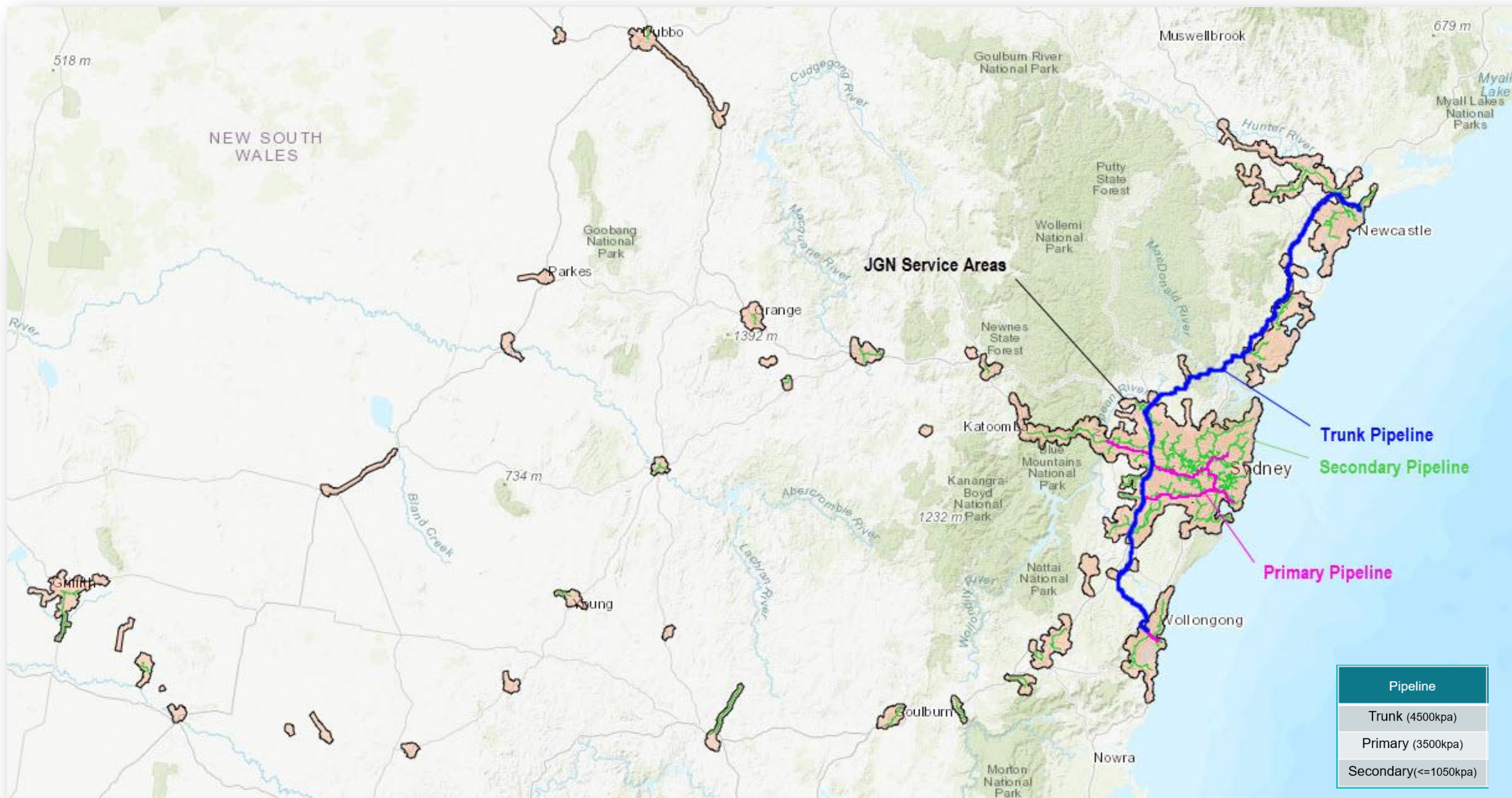
To what extent should we accelerate capital recovery?

Accelerate capital recovery in 2025-30:



Consider: where would you vote?





# Capex v Opex |

## Replacing and Maintaining Network

### CAPEX



Capital Expenditure (Capex) can be likened to purchasing a car. When you decide to buy a car, you make a one-time investment to acquire the vehicle.

### OPEX



Operating Expenditure (Opex) is ongoing costs. These expenses occur regularly and are necessary to keep the car running. i.e. fuel costs, servicing and repairs.

### Trade-Offs



One Off \$ Cost

Ongoing \$ Cost

Emissions

Leaks

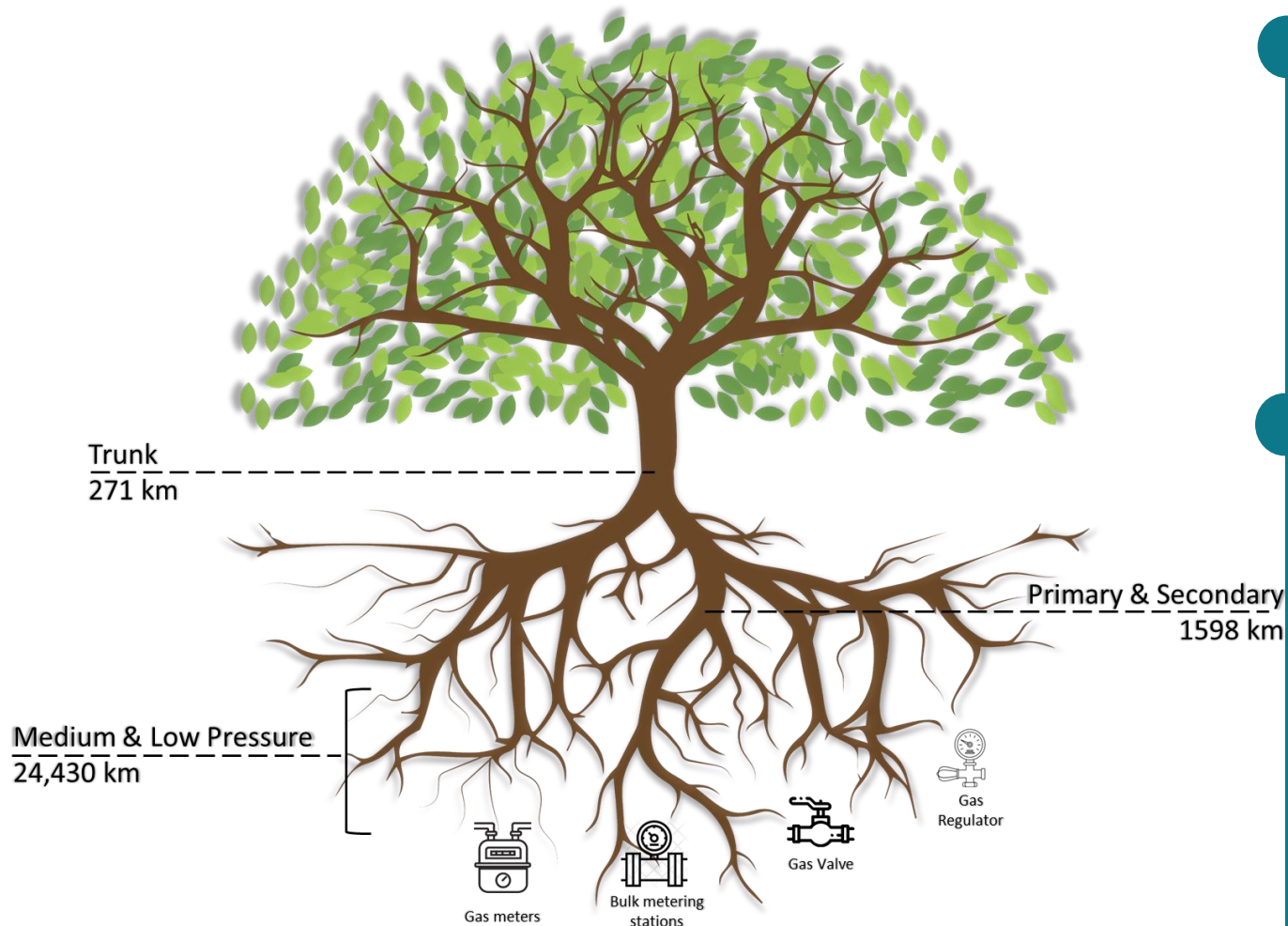
Reliability

Optionality

Risk / Safety

# How we manage our assets – response slider

To what extent should we defer or target our assets program?



**Option A: Continue what we do now**  
*Maintain current asset rehabilitation program*

Current / average bill



**Option B: Defer mains program for five years (*Deferred rehabilitation*)**  
*This Option may result in greater impacts for the **environment** because we can't discover gas leaks quickly.*  
  
*This option may mean **less reliability** because we're '**kicking the can down the road.**'*

**Bill impact 2025-2030**  
\$4 a year  
  
**Bill impact 2030 - 2050**  
\$2 to \$1 a year



**Option C: Selective replacement (*Targeted rehabilitation*)**  
  
*This option is better for the **environment** because we are using technology to discover gas leaks.*  
  
*This option may mean **more reliability** because we are **selectively fixing** what needs fixing.*

**Bill impact 2025-2030**  
\$1 a year  
  
**Bill impact 2030-2050**  
-\$0.5 to -\$2 a year

Consider: where would you vote?



# Permanent disconnections

## What

### Steps involved in a permanent disconnection

- 1 Meter is removed from the premise
- 2 Customer service is cut from the main and capped
- 3 While the service is left on the property it is no longer “live” and has no gas
- 4 After permanently disconnecting, a customer needs a new connection to get gas again

## Why

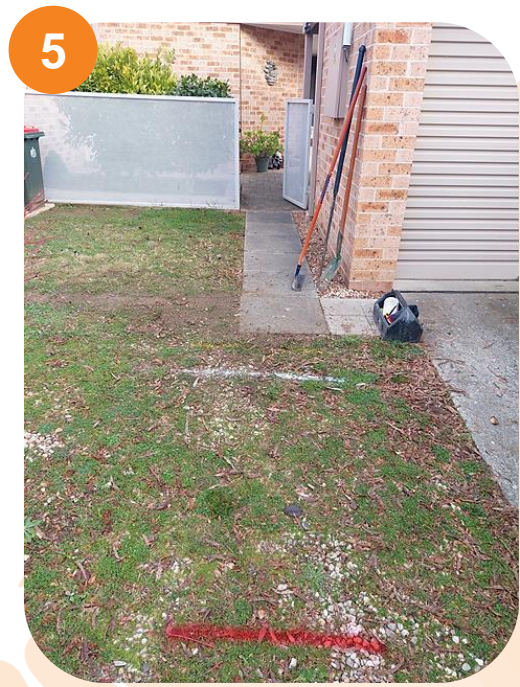
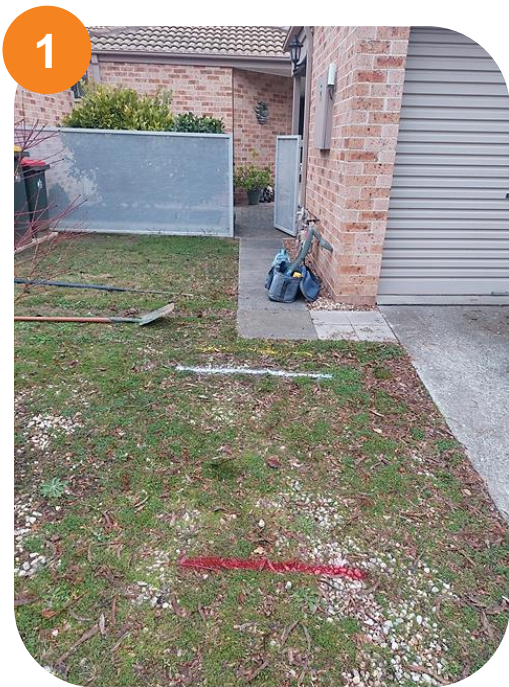
A permanent disconnection may be required for safety reasons, e.g. if someone is doing a knock down/rebuild of their house, or if the site is being developed.

If customers remove all their gas appliances, they may choose to permanently disconnect from the gas network

## How many

In recent years, approximately 4,000 customers permanently disconnect from the gas network.

# A look at permanent disconnections



# Current cost of permanently disconnecting



## Cost

Currently, residential customers are charged around **\$1,400 (including GST)** to permanently disconnect from the gas network.



## Who pays

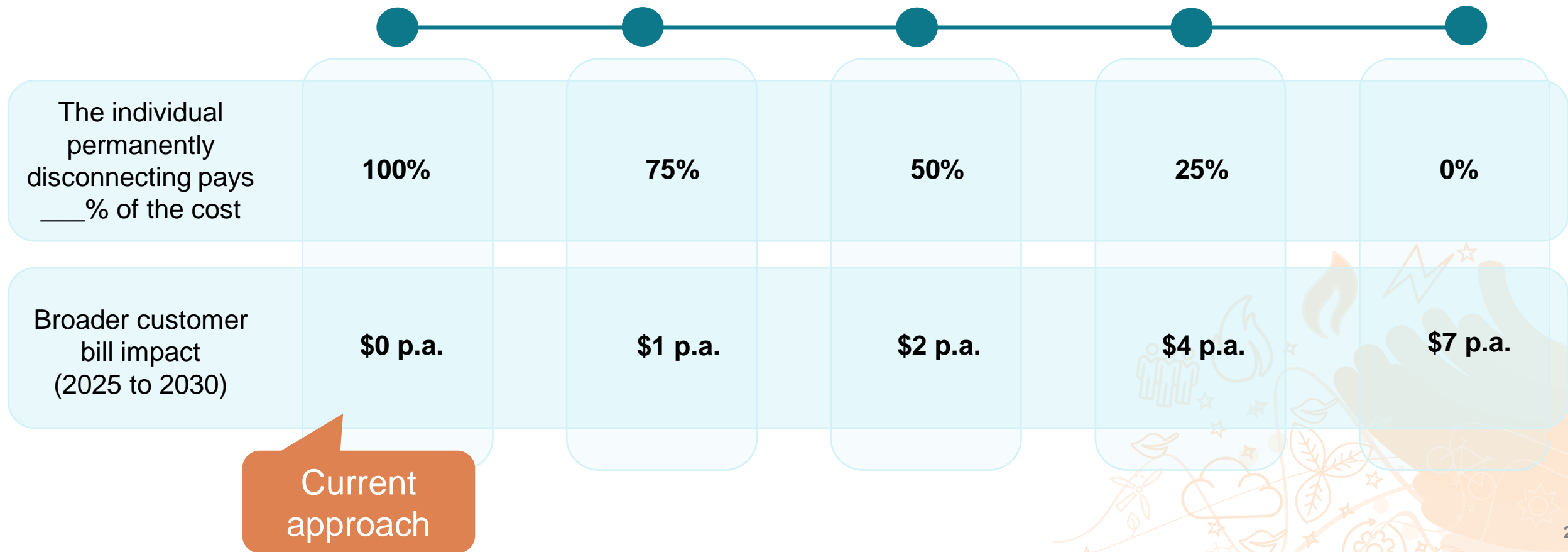
For Jemena, the customer requesting the permanent disconnection pays for it.

In some cases, the cost of permanent disconnection cannot be recovered from the customer.

# Regulatory response slider

## Permanent disconnections

If an individual permanently disconnects from the gas network, what proportion of that disconnection cost should be shared amongst the broader gas network's customer base?



# Let's hear from you! Voting on menti

Scan the QR Code on the left, or go to

[www.menti.com](https://www.menti.com)

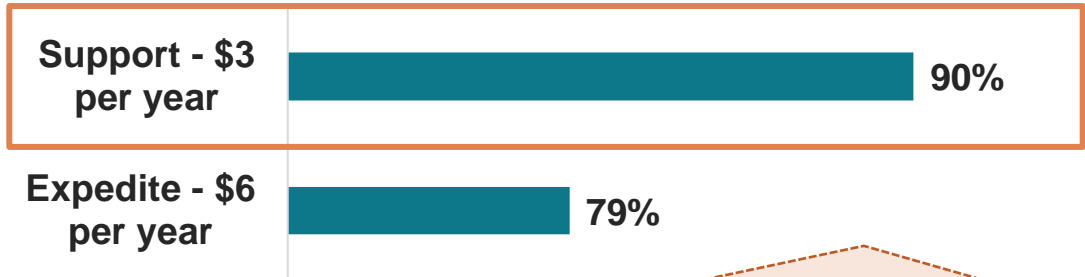
And enter the code

**2491 3946**



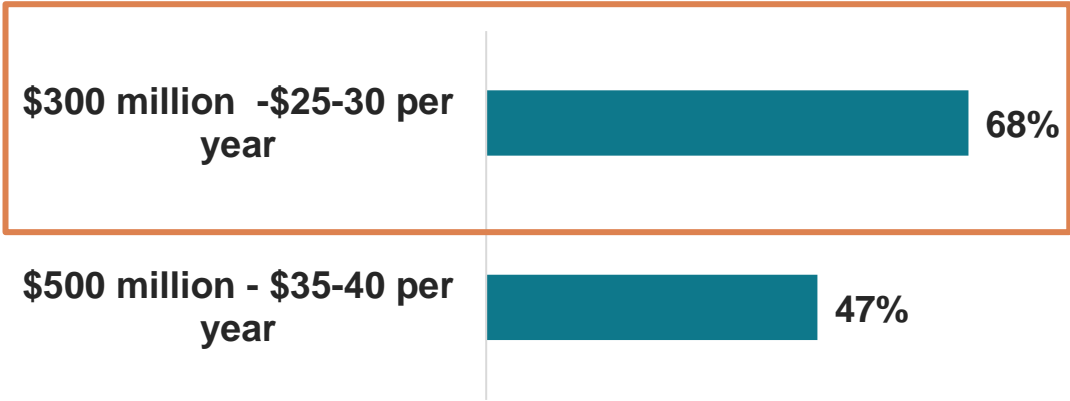
# Where household customers landed

## Moving towards renewable gas:



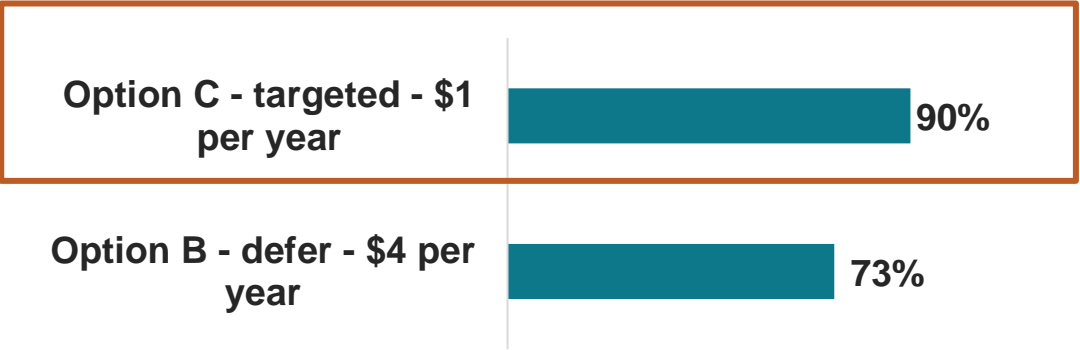
*“To continue to invest and research in pilot studies and trials to properly study the safety of new / renewable gas networks (all aspects – from supplying, distribution, consumers, storage, etc.)”*

## Accelerating capital recovery:



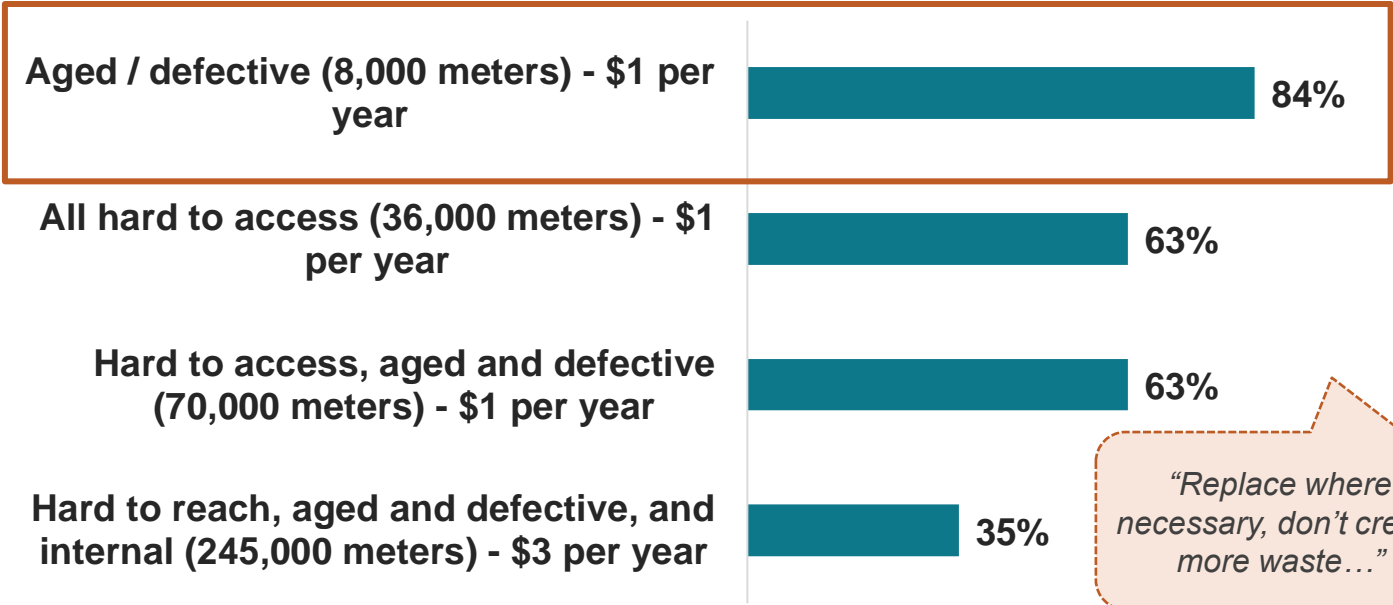
*“There will be a short-term (five-year) financial hit due to accelerated asset recovery in order to reduce the rate of bill increase in the future (...) special care needs to be taken for those needing help with this increase...”*

## How Jemena manages its assets:



*“Benchmark and develop consensus and industry standards for reliability and safety relating to gas networks...”*

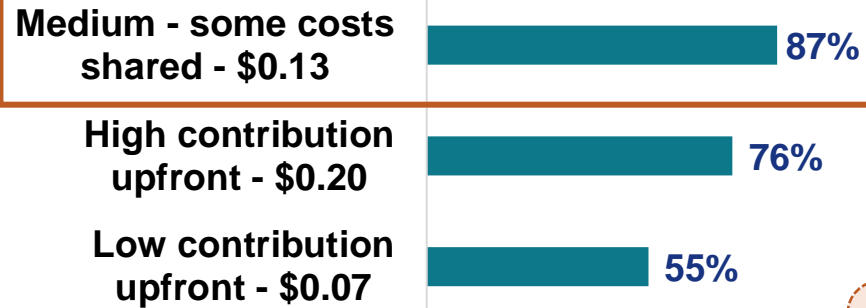
## Digital metering:



*“Replace where necessary, don’t create more waste...”*

# Where household customers landed (continued)

## A new approach to residential connections:



*"Subsidise connection costs for new customers to help increase new connections which in turn can help spread costs over a larger base and make it more affordable..."*

*"Keep it in the middle to encourage new customers to connect and keep existing customers..."*

## Supporting vulnerable customers:



*"We want Jemena to use their profits to help vulnerable customers and invest to make it fair for customers. At the same time support customers who are willing to share the costs in supporting vulnerable customers..."*

## Permanent disconnections:



*"Disconnecting customer should pay, not shared by others as connection cost was already passed to all."*

*"100% disconnection costs borne by the customer. If forced on customers e.g. ACT > then give subsidies."*

*"Customers should be responsible for their own decision."*

*"It is not fair for the overall customer base to shoulder the cost of the luxury home renovation/rebuilding (main reason for permanent disconnection). For some small scale where people have abandon site, pass the cost to retailers who has 30% cost/role in the bill."*

*"There should be a penalty if you disconnect to avoid exacerbating a shrinking customer base."*

*"Choice is customers if renovating or knock down rebuild, they can afford it others shouldn't pay this cost when they re-connect. Subsidise the reconnect fee only."*

*"Disincentivise disconnection. More fair on remaining customers. Customers more likely to choose temp disconnection."*

*support funding more fossil fuels so it would be good if more people left."*

*"Incentivise people leaving until biogas (sorry Jemena)"*

# Final check in

- Did you feel this was a good process? Was it authentic?
- What are your, if any, final thoughts?
- Would you be interested in coming back together with us again?

# Thank you!



Would you be interested in coming back online in March 2024 to hear about the Draft 2025 Plan?

Would you be interested in coming back together later this month to **talk tariffs**?

CRNRSTONE research will be in touch with your stipends via email

