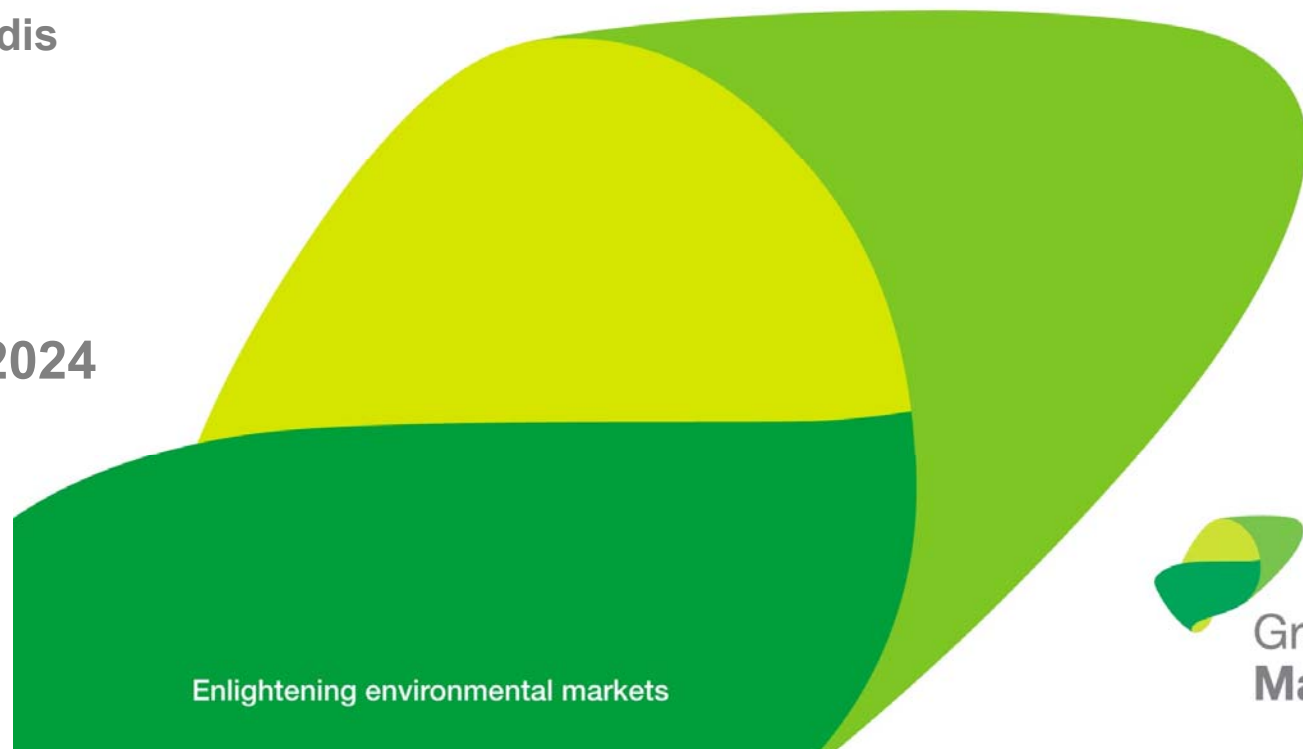

The gas industry's difficulty with reality

Tristan Edis

March 2024



Enlightening environmental markets



Green Energy
Markets

About Green Energy Markets



- **We produce subscription reports which help clients such as power utilities, renewable energy businesses, financiers and governments understand:**
 - The market for large scale renewable energy projects
 - The market for small-scale rooftop solar
 - The market for energy efficiency and carbon abatement certificates
 - The market for electricity
- **We also produce more in-depth customised research on the economic outlook for clean energy and prospects for businesses and products in this area.**
- **This helps our clients to make decisions on:**
 - What projects and businesses to invest in.
 - How they should trade and manage price risk in abatement certificate markets.
 - How to develop policy and regulations to efficiently decarbonise the economy and take advantage of the opportunities for economic development and employment.
- **We've been working on these issues since the inception of these markets back in the late 1990's.**

Gas industry gaslight highlights



gonaturalgas.com.au/why-natural-gas/a-better-energy-alternative

- **Gas is:**
 - Cleaner & more efficient
 - Safer
 - Cheaper
 - Is going to be 100% renewable...sometime

Natural Gas is the smart choice

Whether for your home or business, Natural Gas is the smart choice to help power your lifestyle.

Natural Gas is a more reliable, cost effective and energy efficient option than coal powered electricity or LPG, which makes it a great choice for powering many of your appliances.

Find out more about how Natural Gas appliances can [transform your home or renovation](#).

Natural Gas can help reduce household costs and make your home more energy efficient

Natural Gas is a lower carbon fuel compared to coal powered electricity, and can be used in conjunction with solar to reduce your footprint even further. These are just some of the benefits of Natural Gas

Incorporating Natural Gas in your overall energy mix can offer significant cost savings on your energy bills. As energy costs continue to put strain on many households, Natural Gas is well placed to be a more

Natural Gas is a lower carbon fuel compared to coal powered electricity, and can be used in conjunction

- Gas networks around Australia have a clear transition path to a low carbon renewable future, targeting 100% renewable gas by 2050 - [find out more here](#)

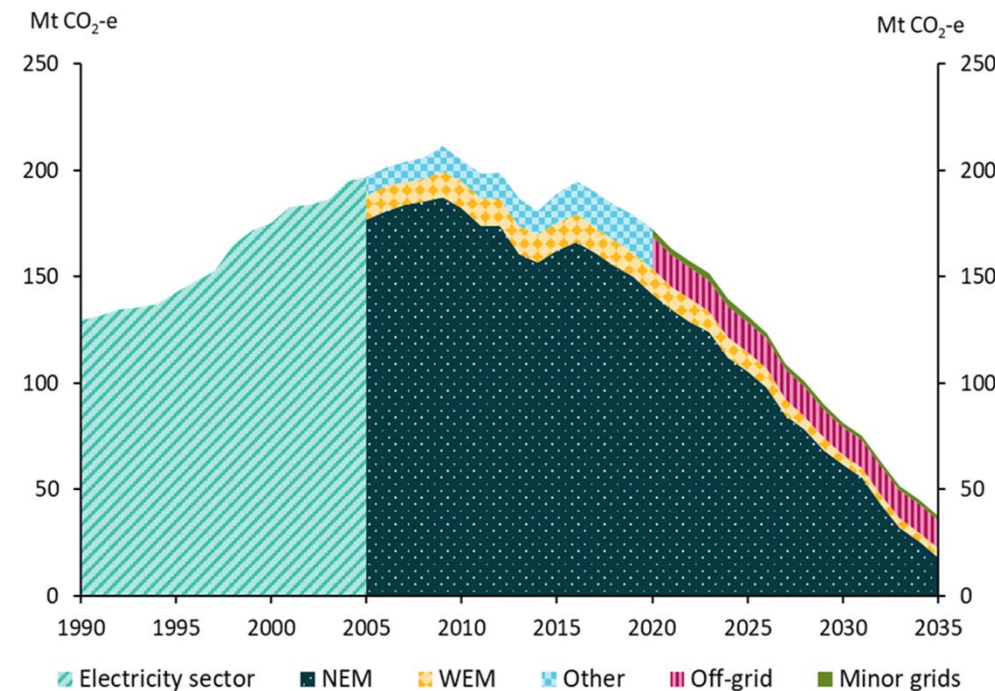
targeting 100% renewable gas by 2050 - [find out more here](#)

Gas is cleaner & more efficient?

		Gas	Electricity
Emissions Intensity in 2022 (CO2/kWh)		0.19	0.85
Annual energy use (kWh)	Heater	7,000	1,000
	Water heater	2,500	800
Annual emissions in 2022		1,805	1,530
Emissions intensity in 2030 (CO2/kWh)		0.19	0.40
Annual emissions in 2030		1,805	716

Note emissions intensity shown above is for Victoria and likely overstates electricity grid emissions intensity on nation-wide basis

Australia's electricity emissions over time

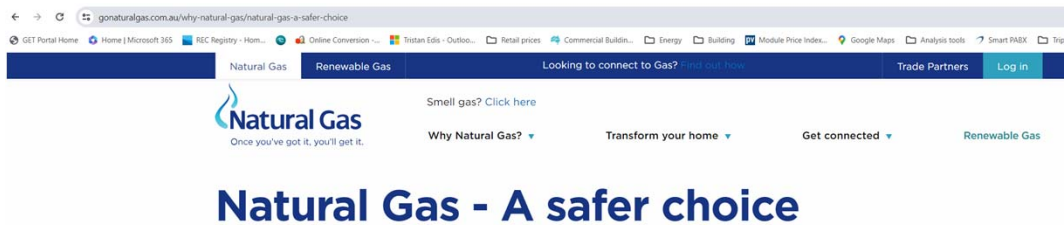


Source: Australian Government Emissions Projections 2023



Gas is cleaner and safer?

- **Natural gas promotional material vs the health department**

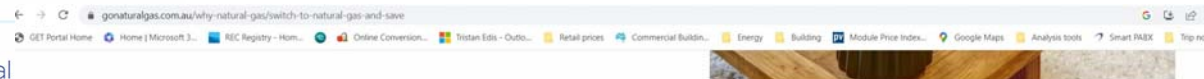


The screenshot shows the Natural Gas website homepage. The navigation bar includes 'Natural Gas', 'Renewable Gas', 'Looking to connect to Gas? Find out how', 'Trade Partners', and 'Log in'. The main content area features the Natural Gas logo with the tagline 'Once you've got it, you'll get it.' and several menu items: 'Smell gas? Click here', 'Why Natural Gas?', 'Transform your home', 'Get connected', and 'Renewable Gas'. The main heading is 'Natural Gas - A safer choice'.

You and your family can rest assured with Natural Gas.

You and your family can rest assured with Natural Gas.

Natural Gas is one of the safest forms of energy to power your home appliances. It's distinct odour makes it easy to detect if there's ever a leak. To help keep your family safe, it's important to be familiar with this smell.



The screenshot shows a webpage titled 'gonaturalgas.com.au/why-natural-gas/switch-to-natural-gas-and-save'. The page features a large image of a white unflued heater in a living room setting.

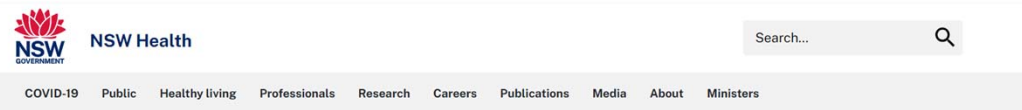
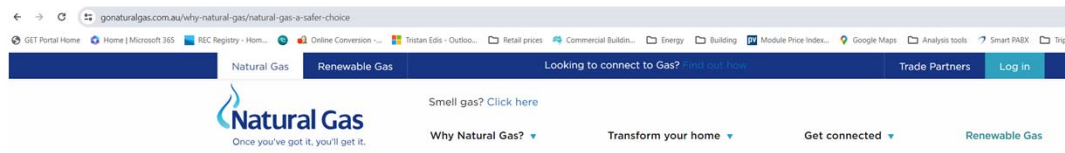


Unflued / Portable

Because of its easy portability, this type of heating system is great for renters. It is also cheaper to buy and there's no need for the installation of a flue. Moving this type of heater around the home is as simple as plugging it into a bayonet point when and where it's needed.

Gas is cleaner and safer?

- **Natural gas promotional material vs the health department**



Home > Environmental health > Fact sheets > Unflued gas heaters

Environmental health

Fact sheets

Contacts

Unflued gas heaters

This fact sheet provides information on how unflued gas heaters can affect your health, and on how to reduce the potential hazard associated with the use of these appliances.

Last updated: 19 July 2022

Introduction

Heating your home can be essential in winter to provide warmth and comfort, especially for people living in colder climates. If you have an unflued gas heater, there is an indoor air pollution hazard associated with its use that can affect your health.

This fact sheet provides information on how unflued gas heaters can affect your health, and on how to reduce the potential hazard associated with the use of these appliances.

What is an unflued gas heater?

Gas heaters produce heat through burning gas fuel. When gas fuel is burnt, air pollutants and water vapour are also produced.

A flued gas heater vents these air pollutants and water vapour outside the home through a chimney or flue, while an unflued gas heater releases them directly into the home. This means that an unflued gas heater has the potential to cause indoor air pollution in your home that may affect your health.

What air pollutants will I be exposed to?

You will be exposed to higher levels of air pollutants inside your home when using an unflued gas heater. The air pollutants produced by an unflued gas heater that can be harmful to your health include **carbon monoxide (CO)** and **nitrogen dioxide (NO₂)**.

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Unflued gas heaters

Heating is important during winter, especially for those in colder climates. But unflued gas heaters release gases that can harm you.

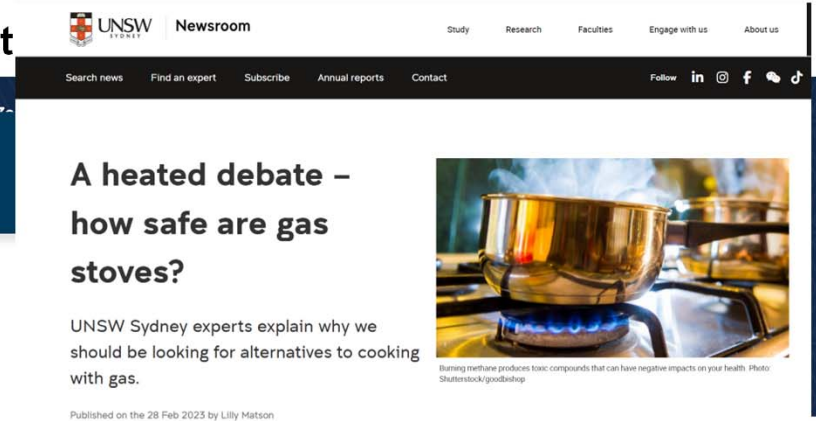
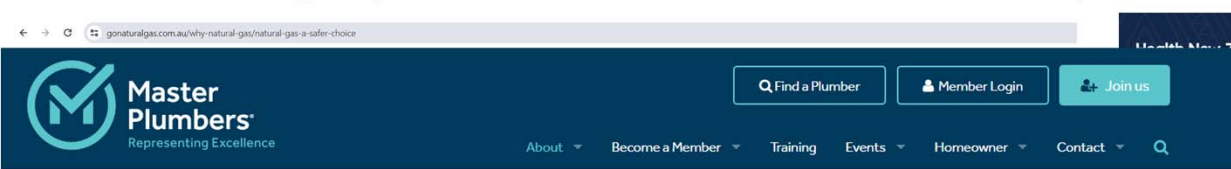


Unflued / Portable

Because of its easy portability, this type of heating system is great for renters. It is also cheaper to buy and there's no need for the installation of a flue. Moving this type of heater around the home is as simple as plugging it into a bayonet point when and where it's needed.

Gas is cleaner and safer?

- Natural gas promotional material vs the health department



About » News » Portable gas heaters should be banned from Kiwi homes

PORTABLE GAS HEATERS SHOULD BE BANNED FROM KIWI HOMES

23 April 2018

heating

Master Plumbers wants portable gas heaters banned from all residential properties in New Zealand, because of the serious risks they pose to your health and safety.

Portable gas heaters lack a flue or chimney to carry combustion products outside. This means poisonous gases can be trapped inside your home.

The heaters have been banned in Canada, some US States and in parts of Australia. Master Plumbers believe New Zealand needs to follow suit and welcomes the Government's move to review the use of these heaters in rental properties, as part of its consultation process on the Healthy Homes Guarantee Act.

"The Ministry of Health warns that portable unflued gas heaters release polluting gases directly into the room that can harm your health," says CEO Greg Wallace. "They are also a source of condensation, making homes damp.

"New Zealand has one of the highest rates of asthma in the world. A 2007 study report found that the health of children with asthma improved significantly when unflued gas heaters were replaced with cleaner heating sources.

"It is not safe to use portable gas heaters in sleeping rooms or small rooms, such as bathrooms or hallways. However, as portable heaters can easily be moved to any room in the house, it's easy for you to put yourself or your family at risk by using them in these areas.

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Unflued / Portable

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Gas is cheaper?



MEDIA RELEASE
June 2023

New report gaslights households about the true challenges of the transition

Australian Pipelines and Gas Association (APGA) strongly disagrees with the recommendations of the Institute's 'Getting Off Gas' report, which is littered with basic errors, erroneous assumptions and empirically incorrect conclusions that could have been avoided by more consultation with industry.

As an example of a simple error that could have been prevented with consultation, the report states that Germany will ban gas boilers from 2024. In fact, the German ruling coalition walked back the decision in late 2022 months because it recognised a full-electrification pathway is far more complex than first thought.

The revised scheme will give homeowners the choice to convert to a heat pump, run on district heating or install a gas heater that can be converted to run on hydrogen into the future.

It is imperative for Australia to reach net zero as rapidly as possible. To do so, there must be clear-eyed and realistic assessments of the complexity of the transition.

Mr
Davies said.

		Gas	Electricity
Price c/kWh		10.8	25 to 35
Annual energy use (kWh)	Heater	7,000	1,000
	Water heater	2,500	800
Operating cost		\$1,026	\$450 - \$630

“The idea that electricity will be cheaper for consumers any time soon is detached from reality,” Mr Davies said.

“The idea that electricity will be cheaper for consumers any time soon is detached from reality,” Mr Davies said.

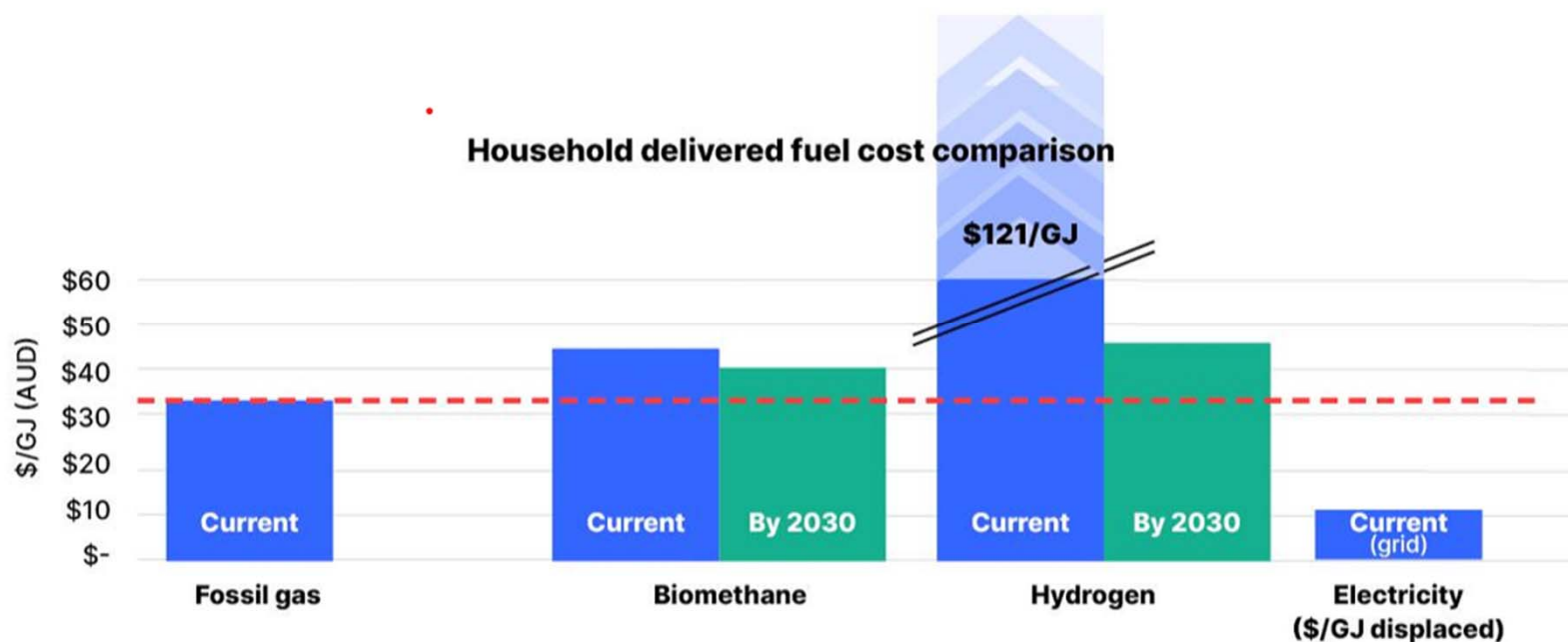
“Just this week, energy retailers announced electricity prices for households and businesses would rise by as much as 50%. This does not yet account for the tens of billions of dollars in additional electricity transmission and network upgrade costs that will be added to consumers’ bills in the decades to come.”

Gas is going to be renewable.....sometime

- **Current biogas supply is 12 PJ. Current gas usage is 1,167 PJ**
- **Current hydrogen and biomethane blending projects are tiny. Still testing 3% hydrogen blends (in energy terms) via handful of small-scale isolated pilots.**
- **Their goal by 2030 if all goes well?**
 - 3% hydrogen across whole network. Versus 82% for electricity
- **There are doubts over whether you can go beyond 6% blend (in energy terms) safely with current gas appliances.**
- **A move to 100% hydrogen requires a mass instantaneous scrapping of existing gas appliances and adoption of hydrogen-compatible appliances...**
- **Which no manufacturer currently offers for sale**
- **Plus major, expensive pipeline upgrades**

Renewable gas is more expensive

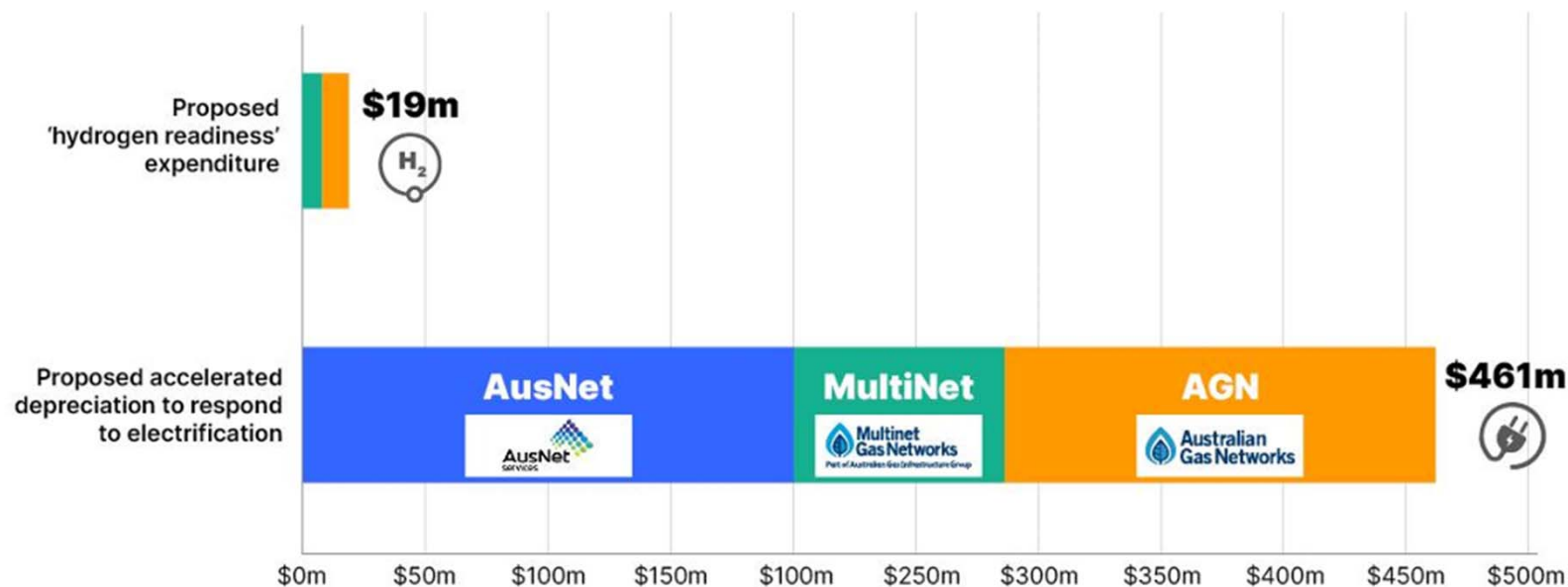
- **Electric heat-pumps are economically superior to conventional gas.**
- **Meanwhile, besides problems with availability and practicality, renewable gases are more expensive than conventional gas.**



Source: Jay Gordon – Renewable gas campaigns leave Victorian gas distribution networks and consumers at risk, Institute for Energy Economics and Financial Analysis

What the gas industry really thinks

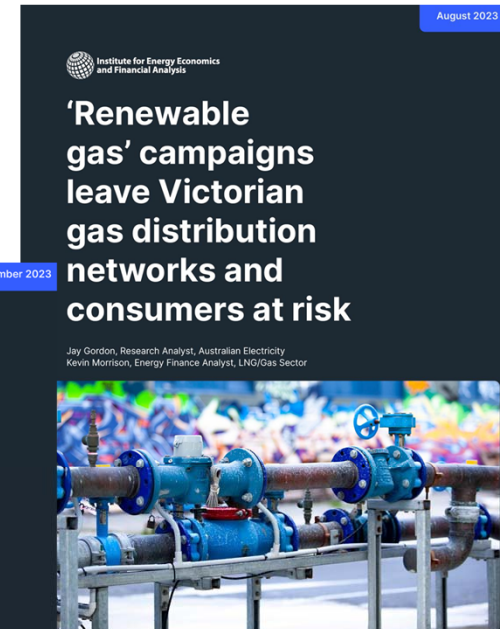
- **Asked the Regulator for \$25m for hydrogen “readiness”**
 - of which over a fifth was allocated to promotional activities.
- **Meanwhile, also asked for \$461m in accelerated depreciation due to pipelines becoming obsolete early due to residential electrification**



Source: Jay Gordon –
Renewable gas
campaigns leave
Victorian gas
distribution networks
and consumers at risk,
Institute for Energy
Economics and
Financial Analysis

The reality

- **Gas is:**
 - Higher polluting than electricity today plus electricity's emissions will decline rapidly
 - Gas is definitely not safer
 - Gas is more expensive once you account for heat-pumps' vastly better energy efficiency
 - Gas is not going renewable. Pipelines will go bust long before they go renewable.



Presented by:
Tristan Edis Bcom (Hons)
Director – Analysis & Advisory

T +61 3 9805 0777
Tristan.edis@greenmarkets.com.au
greenmarkets.com.au

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