

## **Submission to the Australian Energy Regulator Re APA Access Arrangement 2023-2037**

I am a grandmother of very young children and a retired science teacher. For four decades I taught the physics of global warming. This was not a matter of activism but simply part of the Year 7 curriculum. Sadly, over the decades very little recognition was afforded to this basic science and now we have more than one degree of average global warming since pre-industrial times.

So I am amazed and outraged that we are again looking at only minimal changes in the systems which have led to this crisis. The current proposal to attempt to extend the use of methane as a fuel by supplementing it with small amounts of other gases is deeply concerning to me.

I believe the gas industry hopes to use this strategy to delay real change. I contend that moves like this to extend rather than end the gas industry are actually in contravention of the spirit of the Paris Accord, as well as unnecessary and, if successful, likely to ultimately cost financially vulnerable people more.

**Gas contributes significantly to global warming. Many sectors are moving away from it.**

There is a lie being promoted by fossil fuel lobbyists that gas makes a useful 'transition' fossil fuel. But that is like arguing that a 'mild' cigarette will help you give up the regular variety. Any fossil fuel will do significant harm. To make it worse, the CSIRO tells us that fugitive methane emissions associated with the level of oil and gas currently produced in Australia already contributes an astonishing six percent of our current greenhouse gas emissions. <sup>1</sup>

Methane's global warming potential over twenty years is 86 times higher than carbon dioxide and it is thought to be responsible for roughly thirty per cent of current global warming. Its concentration in the atmosphere is more than two and a half times higher than its pre-industrial levels.

The CSIRO states, 'Clearly, current upward trends in methane emissions are incompatible with meeting the goals of the Paris climate agreement. But methane's short lifetime in the atmosphere (nine years) means any action taken today would bring results in just nine years. That provides a huge opportunity for rapid climate change mitigation. In Australia, methane emissions from fossil fuels are rising due to expansion of the natural gas industry, while agriculture emissions are falling'.<sup>2</sup> This is a very significant statement and should not be lightly disregarded. It is of course also why the Glasgow COP26 was so keen to have nations sign on to the pledge to reduce methane emissions by 2030 by 30 percent relative to 2020 levels. (105 nations, not including Australia, agreed to

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<sup>1</sup> <https://gisera.csiro.au/factsheet/fugitive-methane-emissions-factsheet/>

<sup>2</sup> <https://blog.csiro.au/emissions-of-methane-are-rising/>

sign the pledge. Canadian Prime Minister Justin Trudeau even announced his country would cut methane emissions from its sizeable oil and gas industry by 75 per cent by 2030, the rate that the International Energy Agency says methane emissions will need to be cut if the world is to reach net zero by mid-century.)<sup>3</sup>

It is significant that the Meat and Livestock Australia has plans to be carbon neutral by 2030.<sup>4</sup> The contrast with gas-as-a-fuel is remarkable. Outside vested interest groups, gas is largely regarded as inessential/replaceable, especially for domestic use. In spite of this and, unlike agriculture, the gas industry is making almost no effort to genuinely reduce emissions.

Other sections of the business community are also recognizing the need to move away from the gas industry. Suncorp, one of Australia's largest insurers, has announced that it will begin phasing out underwriting, financing or directly investing in new oil and gas exploration and extraction from 2025.<sup>5</sup> It recognizes that climate change is having an impact on its profits through the huge payouts following fire, rain and hail damage. Inevitably gas projects will become uninsurable as the result of existential, financial and possibly also legal risks. Pipes are not wells but there is no reason to think that the insurance industry would support the inclusion of hydrogen in gas to prolong the use of this fossil fuel.

### **Blended gas fuels will be more expensive, especially as more affluent, early-mover consumers move to electricity**

Hydrogen is a lighter gas and has about 30 per cent of the energy content of methane by volume. Because of the difference in energy content, to achieve a 50% reduction in CO<sub>2</sub> requires about 75% H<sub>2</sub> by volume. The 10 per cent hydrogen mix being currently discussed will just drop emissions by around three per cent. Hydrogen also has handling and safety issues that methane does not. Hydrogen can cause embrittlement of metals, and deterioration of plastic and rubber seals.<sup>6</sup> All of these features will have consequences, as many agencies and studies attest.

The International Renewable Energy Agency (IRENA) warns that blending hydrogen in mains gas networks is a complicated way of cutting household

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<sup>3</sup> <https://www.newscientist.com/article/2295810-cop26-105-countries-pledge-to-cut-methane-emissions-by-30-per-cent/>

<sup>4</sup> <https://www.mla.com.au/research-and-development/Environment-sustainability/carbon-neutral-2030-rd/cn30/>

<sup>5</sup> <https://www.insurancebusinessmag.com/au/news/environmental/suncorp-on-decision-to-end-support-for-gas-and-oil-sector-232315.aspx>

<sup>6</sup> <https://seekingalpha.com/article/4392471-hydrogen-vs-natural-gas-for-electric-power-generation>

emissions and would likely cost more than \$US500 per tonne of emissions abated.<sup>7</sup>

A new study from German think-tank Agora Energiewende points to an emerging consensus and concludes, “that the role of hydrogen for climate neutrality is crucial but secondary to direct electrification”. It sees green hydrogen being used to decarbonise industry, shipping, aviation and for firming a renewable-based power system. But it says green hydrogen will see very little use in heating for buildings, leading to “a disruptive end” to the business model of gas distribution grids.

And despite lobbying efforts by gas distribution companies aimed at ensuring their longevity by promising a transition from gas to hydrogen, the German report concludes that “there is no credible financing strategy” for hydrogen use by households.

According to the report, in the EU putting even a 20 per cent renewable hydrogen blend by volume into the gas grid would raise the price of wholesale gas by around 33 per cent while reducing emissions by only 7 per cent.<sup>8</sup> These figures do not auger well for keeping gas affordable and frankly fly in the face of emissions reductions.

Here in Australia, Shane Rattenbury, ACT energy and emissions reduction minister points out that any ultimate goal of switching the supply of mains gas to hydrogen would require the replacement of virtually all gas appliances with ‘hydrogen ready’ alternatives. He points out that it would be cheaper and easier to simply transition households onto electric devices.

Rattenbury also warned that gas companies face the prospect of a demand ‘death spiral’ as rising costs of fossil gas push households onto cheaper alternatives.<sup>9</sup> This prospect must be considered and planned for, not simply pushed off by both the industry and its regulators into a future full of stranded assets, especially new ones.

### **So what should we do with the proposal to extend the gas regulatory framework to include hydrogen and renewable gas blends:**

- Priority must always be given to rapid, serious emissions reductions.
- In line with the first point, it should be a given that electrification and energy efficiency should be a priority, rather than how to slightly reduce

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<sup>7</sup> <https://reneweconomy.com.au/costly-and-impractical-irena-warns-against-hydrogen-blending-in-gas-networks/>

<sup>8</sup> <https://reneweconomy.com.au/why-gas-companies-cant-count-on-green-hydrogen-to-save-their-distribution-grids/>

<sup>9</sup> <https://reneweconomy.com.au/costly-and-impractical-irena-warns-against-hydrogen-blending-in-gas-networks/>

the use of methane while actually planning to extend its life.

- In light of this very different priority, national gas regulations should not be changed to allow hydrogen blends. Gas to the home should be phased out.
- However, if blends are to be contemplated, they must provide consumers with transparency. They must have definitions which include the carbon intensity of both their production method and their emissions on being burnt.

## **Conclusion**

Referring to high-emitting governments and corporations United Nations Secretary-General Antonio Guterres says they are not just turning a blind eye, "they are adding fuel to the flames by continuing to invest in climate-choking industries. Scientists warn that we are already perilously close to tipping points that could lead to cascading and irreversible climate effects."

Jim Skea, Co-Chair of IPCC Working Group III, which released the latest report that Guterres refers to tells us: "This assessment shows that limiting warming to around 2C still requires global greenhouse gas emissions to peak before 2025 at the latest, and be reduced by a quarter by 2030." 2C is extraordinarily dangerous but to even achieve that awful benchmark we must dramatically cut methane use in eight years.<sup>10</sup> National gas regulations should not be changed to allow methane gas to be augmented and thus actually have its life extended for decades.

In May 2021 in Australia, Federal Court Justice Mordecai Bromberg wrote that the anticipated climate-related devastation will "largely be inflicted by the inaction of this generation of adults, in what might be described as the greatest injustice ever inflicted by one generation of humans upon the next."

Please choose wisely.

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<sup>10</sup> <https://news.un.org/en/story/2022/04/1115452>