

# New Zealand Green Building Council Submission on the Gas Transition Issues Paper

September 2023

# **New Zealand Green Building Council**

## **Submission on the Gas Transition Issues Paper**

Thank you for the opportunity to make a submission on Gas Transition Plan Issues Paper.

### **About the New Zealand Green Building Council**

The NZGBC is a 700-member organisation comprising construction firms, suppliers, major property owners, banks, and research institutions focused on improving the environmental sustainability of buildings and building methods. We represent the construction industry's expertise on sustainability and, with thorough input from industry experts, design and operate the Green Star and Homestar certification programmes that are the benchmarks for the environmental sustainability of buildings in New Zealand.

We also administer the NABERSNZ energy efficiency regime on behalf of central Government.

### **This is not a Gas Transition Plan, it is a Fossil Gas Protection Plan**

We are very disappointed with the pro-fossil gas outlook of this issues paper.

The problems with this document are summed up in the first heading of the Executive Summary: *Maintaining energy security while demand for gas continues to decline.*

This framing is reflected throughout the issues paper. It assumes that gas demand will continue to decline as an inevitability, and paints this as a problem to be managed through new fossil gas drilling, new investment in fossil gas infrastructure, even new fossil gas-powered electricity generation.

The transition away from fossil gas is not a given. Residential consumption of fossil gas is rising and every year, 5,000 new residential connections to the reticulated fossil gas network are made, locking in more future consumption.

A serious plan for the transition of the country away from fossil gas would recognise that we must end fossil gas use to achieve our emissions reductions targets and do our part to limit climate change. A serious plan would lay out timelines with goals for fossil gas consumption reduction for each sector and lay out policies that can be implemented to achieve those goals.

## **Ambitious policy is needed to reduce residential fossil gas use**

Residential fossil gas use is rising. More and more homes are being built locked into fossil gas use. Policy action is needed now. This should include:

- **No new fossil gas connections**
- **End the sale of fossil gas appliances**
- **Information for residential consumers**
- **Help for households with the capital cost of electrification**

## **Critique of the issues paper**

We are concerned that this issues paper has been overly influenced the fossil gas industry, as evidenced by the fact the only people MBIE officials say they have consulted are “the gas industry co-regulator, Gas Industry Company Limited” and “stakeholders in the industry”. The pro-fossil gas outlook permeates this issues paper from the ground up.

This issues paper should lay out the steps needed to achieve the 80%+ reduction in fossil gas emissions needed to achieve the Climate Change Commission’s demonstration path and, ideally, beat it. Such a plan should have milestones for the reduction of fossil gas use by each sector and lay out tools to achieve those milestones.

This issues paper has none of that. Where getting the country off fossil gas should be seen as a positive goal to strive for, this issues paper portrays transition as a “challenge” that is inevitable and undesirable. This is incorrect on both points. The transition will not happen in a timely manner without government leadership. Moving off fossil gas is an opportunity for the country, not a burden.

Instead, the issues paper contains elements that are focused on prolonging the use of fossil gas and increasing the total amount used over time, and discussion of ongoing large, investment in the reticulated fossil gas network and investment in gas storage. The issues paper even discusses beginning imports of LNG. Rather than focussing on how to make the end of fossil gas as swift and pain-free as possible, this issues paper is proposing the continued use of fossil gas for an indefinite period of time.

## **New drilling would delay transition**

The discussion of new gas exploration and producing from new sites is bizarre:

“Ongoing investment is needed to ensure fields are developed and infrastructure maintained. Uncertainty is an inherent part of field development, so we also need to plan for unexpected disruptions to fossil gas supply – such as the Pohokura outages that occurred in 2018. At some point the higher costs of investing in offshore fields will not be economic and the fossil gas market may need to transition to a reliance on onshore fields. Understanding how sustainable onshore production will be is a crucial question. Based on current reserves it would seem likely that onshore fields can support a smaller fossil gas market if major offshore fields were to wind down.”

Fossil gas is a greenhouse gas and we are in the middle of a climate crisis. We need to stop using it as quickly as possible. The point of this issues paper is to outline actions to make the transition away from gas as smooth and painless as possible.

'Find more gas' is not a solution - it is an exercise in ignoring the fundamental problem. We are flummoxed as to how a proposal to find and burn more fossil gas found its way into a document that's supposed to be about how New Zealand can stop burning fossil gas. We fear it points to gas industry influence over officials.

### **Biogas should not be used to enable fossil gas**

Likewise, the issues paper discusses how to ensure that fossil gas can continue to be supplied via the reticulated network by blending in biogas. The role of biogas here would not be to reduce emissions but to enable the continued supply of fossil gas via the pipelines:

*"We expect pipeline fossil gas demand to eventually decline due to electrification, and increasing carbon prices, regardless of whether it is blended with biomethane. If demand declines, the fixed costs of maintaining the pipeline network will be shared between fewer consumers, creating the risk of gas becoming increasingly expensive for consumers and driving accelerating network disconnection. Biomethane blending could provide a low emissions option for consumers who are willing to pay a premium to continue using pipeline gas and could smooth the rate of change and associated impacts on electricity networks."*

Again, this approach is wrongheaded. If biogas has a role it must be used where fossil gas would otherwise be used, reducing emissions. Using biogas to prop up the distribution of fossil gas increases emissions as compared to a scenario where fossil gas alone cannot supply the volumes and demand has decreased to the point where distribution costs rise, triggering rapid electrification.

The [paper from Rewiring Australia](#) shows that Renewables Natural Gas is not the solution it is set out to be. It states that

*"Renewable natural gas (RNG) is often hailed as a panacea for climate worries: an ostensibly climate-friendly fuel that can be used with the same piped distribution network, same meters, same furnaces, same boilers, with no sacrifices. Technically, RNG is any piped gas derived from organic sources like agricultural wastes, garbage in landfills, wastewater, or manure, instead of conventional fossil natural gas.*

*As the reasoning goes, these sources took their carbon from the atmosphere via photosynthesis, so burning the derived gas re-releases this gathered carbon, and hence the direct combustion is carbon neutral on balance.*

*The real story is much more complicated. In truth, RNG is an **expensive** fuel with **limited** supply that's **not actually clean** and will continue to require significant infrastructure investment. For all but a handful of hard-to-decarbonize uses, electrification is a more cost-effective, cleaner option."*

## **No need for spending on new storage or LNG imports**

The issues paper also discusses building more gas storage and even importing LNG to “address a gas supply shortfall”. The goal is to stop supplying fossil gas at all, yet this issues paper is worried about what to do if we don’t have enough gas.

*“Over time, we may need to invest in more gas storage capacity to respond to increasing variability in demand for fossil gas. Storage will be particularly important if we become reliant on our smaller onshore fields, which have little gas supply flexibility. There are multiple ways we could increase gas storage, including through expansion of the existing Ahuroa Gas Storage Facility, construction of a new storage facility, or storage of gas in alternative mediums (such as methanol). Ensuring that the correct incentives are in place for gas storage is also an important component.*

*Liquefied Natural Gas (LNG) import facilities have previously been discussed as an opportunity for New Zealand to address system flexibility issues. There are risks of partially connecting our domestic fossil gas market to the international price of gas and thus fluctuations caused by external factors like the ongoing war in Ukraine. LNG facilities would also represent a significant additional investment in the gas system. There are multiple options for where and how LNG import facilities could be constructed, all with considerable costs and benefits and these would need to be considered alongside a range of other options to address a gas supply shortfall.”*

It is not logical, or even sane, to create a plan for ending fossil gas use that involves searching for more fossil gas to use and finding ways to eke out more fossil gas use by blending it with biogas, storing it, or importing it.

Every cent that the issues paper proposes to spend on building up the fossil gas system in New Zealand would be better spent on reducing our demand for fossil gas.

## **The issues paper should focus on demand reduction**

The issues paper should focus on how to enable the country to reduce demand for fossil gas as supply from existing fields decreases. Incredibly, the issues paper has nearly nothing to say about how to accelerate the reduction in demand for fossil gas, and frames reduced demand as a problem and a risk to be managed, not a goal. In fact, the issues paper even suggests building new gas peaker power plants, which would increase demand for fossil gas.

As gas supply decreases, gas demand also needs to decrease to reduce the risk of supply disruptions and price shocks. It makes sense to look for ways to reduce fossil gas demand across the whole ambit of consumers.

Problematically, rather than reducing gas demand as claimed in the issues paper (“customers are increasingly moving away from fossil gas to lower emissions technologies”), the residential sector is increasing its demand. New gas connections to the reticulated network are still being made, even as fossil gas production falls.

Over 7,000 additional connections are being made to the reticulated fossil gas network each year, primarily homes.<sup>1</sup> This indicates that around 20% of new homes have gas connections. There is a corresponding increase in gas consumption, with the residential sector's fossil gas consumption rising by 0.08PJ (1.1%) per year on average over the past decade and totalling 6.79PJ in 2022.<sup>2</sup>

Strangely, this issues paper that is meant to be about transitioning away from fossil gas argues that the alternatives are more expensive:

*"Switching involves not just an ongoing operational cost, but also capital investment in appliances, and can involve substantial renovation costs where re-modelling is required."*

This is simply not the case. Operational costs of electric appliances are lower than fossil gas ones. While residential fossil gas is cheaper per GJ than residential electricity, a fossil gas heater only supplies heat by burning, a heat pump is drawing energy from outside the home into it, supplying 3-5 times more energy than is consumed by the heat pump itself. Gas ovens have comparable costs to electric ones once maintenance and their relative inefficiency are accounted for. Gas hot water is only marginal cheaper than electric. And having a gas connection at all means an additional annual connection fee or bottle delivery cost of several hundred dollars compared to an electricity-only home.

Homes that switch to electricity-only will have lower overall running costs. That is only going to become more true as the price of fossil gas rises faster than electricity in over time, both due to decreasing supply and increasing carbon price, with the price differential per GJ already shrinking over the past decade.

The capital cost of replacing fossil gas appliances with electric ones can be substantial and we discuss government assistance with that below, but the first step, surely, is to stop installing new ones both in new and existing homes.

## **Policy steps**

The Gas Transition Plan issues paper fails to provide a plan to transition away from gas, instead concerning itself with the difficulties that such a transition (which the issues paper assumes will just happen by itself) would impose on the fossil gas industry.

The final Plan must provide actual transition plans for all sectors' fossil gas use. The following steps should be included in the residential sector plan.

## **No new fossil gas connections**

The first step in a transition away from fossil gas is to stop adding connections to the fossil gas network. If new homes continue to be connected to the reticulated network in their thousands each year, then the cost of moving homes off fossil gas will only increase, and

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<sup>1</sup> <https://gasischanging.co.nz/assets/uploads/Gas-infrastructure-future-working-group-Findings-report-FINAL-August-2021.pdf>

<sup>2</sup> <https://www.mbie.govt.nz/building-and-energy/energy-and-natural-resources/energy-statistics-and-modelling/energy-statistics/gas-statistics/>



the likelihood of serious supply disruptions as supply cannot keep up with demand will grow. New connections must be stopped.

Countries and cities around the world are banning gas from buildings and homes

- In the [Netherlands](#) gas boilers have been banned in new construction since 2018
- In Victoria, Australia all new residential properties and subdivisions that require a planning permit will only be powered by electricity from 1 January
- A growing number of U.S. cities are taking a stand against gas stoves. 12 cities have passed laws to strongly encourage all-electric construction
- On the East Coast, Brookline, Massachusetts, in November became the first city in the state to ban new gas hookups. Dozens of other cities, from Cambridge and Newton in Massachusetts to Seattle, are considering similar bans.
- In the [UK](#) and [Austria](#) gas boilers will be banned (or heavily disincentivised) in new construction from 2025.
- From 2024 Denver's 2024 Building Code requires net zero energy, all-electric new homes.
- Two recent EU initiatives are aiming to reduce gas boilers uptake. The REPowerEU plans mark 2029 as the last year when a new fossil fuel boiler can be retailed on the EU market, while the latest draft proposal of the Energy Performance of Buildings Directive (EPBD) proposes 2035 as the absolute last year for fossil heating to be used in buildings. Recently where the Energy Efficiency Directive (EED) underlined that a switch from old fossil boilers to newer ones will not be labelled as energy savings.
- New York City has banned gas-powered heaters, stoves and water boilers in all new buildings from December 2023 for buildings under seven stories; for taller buildings, developers negotiated a delay until 2027.

There is no technical reason for new gas connections to continue to be made. Electric options are available for all applications and cost the same or are cheaper, without the emissions that fossil gas brings.

We realise this is a politically contentious step as there are still politicians who would rather try to score points by complaining about 'nanny state' rather than actually face how to fight climate change.

## **End the sale of fossil gas appliances**

The next step is to stop selling fossil gas appliances for fitting in existing homes. The issues paper is so concerned with the cost of retrofitting electric appliances, but the cost of retrofitting gas appliances, which will soon become stranded assets as the supply of fossil gas dwindles, is even worse.

Again, there is no technical reason for fossil gas appliances to continue to be sold. Electric alternatives are mature and cost less or the same as fossil gas, with the emissions that fossil gas entails. Ending the sale of gas appliances will create a sinking lid on residential gas demand, which falls every time a gas appliance is replaced with an electric one.

## **Information for residential consumers**

As an intermediary step, new home buyers should be warned that the supply of fossil gas in New Zealand is decreasing, the price is increasing, and the country is transitioning away from its use, so the continued supply of gas to their home cannot be guaranteed.

Similarly, before sales are ended gas appliances should also be sold with warnings that the price and supply of fossil gas in the future cannot be guaranteed.

These are free steps that the government can take to start to drive down residential fossil gas demand.

- Encourage the uptake of energy efficient healthier new homes through subsidies and support for Homestar
- Develop guides for commercial building providers - such as [The Guide to Electrification of Existing Buildings](#)
- Warn consumers about the health dangers of gas appliances in kitchens - children living in homes with gas cooking have a 42 percent increased risk of having current asthma. The report, [Health Effects from Gas Stove Pollution](#), summarizes two decades of health research, and finds that indoor air can be two to five times more polluted than the air outside, due in part to nitrogen dioxide emissions and other pollutants coming from gas stoves.

The report's key findings include:

- Gas stoves release several hazardous pollutants, notably nitrogen dioxide and carbon monoxide.
- Homes with gas stoves have nitrogen dioxide concentrations 50 - 400% higher than homes with electric stoves. Exposure to nitrogen dioxide, even in the short term and at low levels, can cause respiratory effects.
- Children are at increased risk from illnesses associated with gas stove pollution: living in a home with a gas stove increases their risk of having asthma by 42%.
- Lower-income households may be at higher risk of exposure to gas stove pollution



## **Help households with the capital cost of electrification**

The government has a highly successful programme to help households reduce the need for fossil gas: Warmer Kiwi Homes. This programme provides subsidies for the installation of insulation and heat pumps, with 100,000 installations so far.

This programme should be expanded and its funding guaranteed. Currently, only homes in high deprivation areas that are owner-occupied can access the grants, and funding is only provided for a year or 18 months each Budget.

An expanded programme would include a target of installing insulation and heat pumps in all low and medium income households that currently use gas by the end of the decade. Provide subsidies to help kiwis replace

- gas califont hot water with electric cylinders or heat pumps
- gas fire with heat pump in living rooms
- gas cooktop with electric ceramic hobs

Kia ora and thank you for the opportunity to provide this response.

Te Kaunihera Hanganga Tautaiiao

New Zealand Green Building Council