

Submission on the *Gas Transitions Plan Issues Paper*

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Chapter 2: Transitioning our gas sector

How can New Zealand transition to a smaller gas market over time?

A rapid and managed decline of fossil gas production is needed to achieve three connected goals:

- Contributing to the urgent global phase out of all fossil fuels, consistent with limiting maximum global warming to the Paris Agreement goal of 1.5 degrees;
- Supporting a rapid and just transition to 100% renewable energy in Aotearoa;
- Avoid worsening the extent of stranded assets, not only for fossil gas producers and distributors, but also for residential, commercial and industrial customers.

1

A managed decline will require active intervention by government. Intervention should be guided by the goal of ending fossil gas production as fast as possible, while supporting a full and rapid transition to 100% renewable electricity.

Communities in Aotearoa, and the communities that Oxfam works with in the Pacific and around the world, are already experiencing the impact of the climate crisis. For these communities, and for our international reputation, it is essential that New Zealand contributes our fair share of the global phase out of fossil fuels needed to keep temperature increases below 1.5 degrees, with no or minimum overshoot.

It is important for government to send strong signals to industry and the public that fossil gas is being phased out, with a clear timeline and milestones. Industry has consistently overestimated the ongoing role of fossil gas in the energy system, and cannot be expected to self-regulate in a way consistent with a managed decline.

2

What is needed to ensure fossil gas availability over the transition period?

This is the wrong way to state the problem. Government should be doing everything possible to **minimise** and reduce fossil gas production over the transition period. If this means that the fossil gas market will no longer be commercially viable, as the consultation paper suggests, then there will be a role for government in actively managing the decline. Rather than intervening to prop up a failing market, government could enter into contracts or take ownership of assets needed to ensure a managed decline of gas production at the minimum levels of production needed to rapidly and urgently transition electricity assets to 100% renewable generation and storage.

The Gas Transition Plan as drafted relies on a circular logic that takes for granted the co-dependence of the gas market with large industrial customers. This relationship has supported the expansion of the fossil gas industry, but it will not support the managed decline that is needed. This co-dependent relationship must be dismantled to facilitate the necessary transition; the plan as drafted is a plan not to transition.

What factors do you see driving decisions to invest or wind down fossil gas production?

Investments in developing new gas fields are, by definition, long lead time projects that require stable conditions based on bipartisan political support and social license. These conditions no longer exist, for good reason. The International Energy Agency has clearly stated that there is no room for new 'long lead-time' oil or gas projects, and no room for exploration or development of new fields, anywhere in the world, within its (NZE) scenario for keeping global warming below 1.5 degrees and reaching net zero emissions by 2050.

3 The finding that there is no room for new gas fields anywhere in the world is backed up by the IPCC, UNEP, and independent studies. Furthermore, 60% of the fossil fuels in developed fields and mines need to remain unextracted to keep to 1.5 degrees. All fossil fuels must be phased out. Even if coal production ended immediately, the oil and gas in currently active fields would produce emissions exceeding the remaining budget for 1.5 degrees.

<https://priceofoil.org/2023/08/16/skys-limit-data-update-shut-down-60-of-existing-fossil-fuel-extraction-to-keep-1-5c-in-reach/>

In this context of global climate crisis it would be irresponsible, and create serious reputational risk, for the New Zealand government to promote expansion of the gas industry into new fields.

Does the Government have a role in enabling continued investment in the gas sector to meet energy security needs? If yes, what do you see this role being?

4 No – the Government should play the opposite role, discouraging investment in gas and creating a clear plan to urgently replace gas with renewable options, including community energy.

Does the Government have a role in supporting vulnerable residential consumers as network fossil gas use declines? If yes, what do you see this role being?

5 Government should expand support for residential customers to proactively convert from fossil gas to fully electric appliances, including heat pumps, and send clear signals to residential customers to discourage new connections. Government should reconsider its decision not to set an end date for new commercial and residential gas connections.

Fossil gas and electricity

What role do you see for gas in the electricity generation market going forward?

The goal needs to be clearly stated as immediately minimising, and urgently eliminating, the role of fossil gas in New Zealand's electricity generation.

6 International evidence has debunked the outdated claims that fossil gas is needed or desirable as a "bridging fuel" for energy transition. A 2019 report from Oil Change International found that new investments in fossil gas production and electricity generation are more expensive than renewable alternatives and are unnecessary for a modern electricity grid. Gas-powered "peaker" plants are no longer needed to maintain electricity supply during peak demand, as this can now be done with a combination of battery storage and active demand management systems. Furthermore, new investments in fossil gas production for electricity generation

would blow the carbon budget remaining for a transition that could limit global temperature increases to 1.5 degrees.

OCI. 2019. Burning the Gas 'Bridge Fuel' Myth: Why Gas Is Not Clean, Cheap, or Necessary. <https://priceofoil.org/2019/05/30/gas-is-not-a-bridge-fuel/>.

What would need to be in place to allow gas to play this role in the electricity market?

7

The fossil gas industry will not phase themselves out. A managed decline of the industry will require an active role for government to ensure a rapid and orderly transition.

Do you think gas can play a role in providing security of supply and/or price stability in the electricity market? Why / Why not?

No. Use of fossil gas needs to decline within the lifetime of New Zealand's currently producing fields, as part of a global phase-out of fossil fuels consistent with 1.5 degrees.

8

The current model for New Zealand's gas market relies on continued expansion to provide secure supply. The gas transition plan seems to assume that this expansion into new fields will continue to be possible. But the IPCC has warned that 50% of known gas reserves must stay in the ground, let alone exploring for new fields (IPCC 2023. AR6 Synthesis Report, p23. https://report.ipcc.ch/ar6syr/pdf/IPCC_AR6_SYR_LongerReport.pdf). Similarly, the International Energy Agency has warned that there is no room for new long lead-time projects or development of new oil and gas fields within a pathway consistent with 1.5 degrees. (IEA. 2023. NZE Scenario <https://www.iea.org/reports/global-energy-and-climate-model/net-zero-emissions-by-2050-scenario-nze>)

Do you see alternative technology options offering credible options to replace gas in electricity generation over time? Why / Why not?

Yes. The technology already exists. Renewable electricity generation paired with battery or other forms of energy storage are already being built around the world at a cheaper cost than gas peaker plants.

New Zealand's first grid-connected battery energy storage system has already been commissioned. <https://www.energy-storage.news/new-zealands-first-grid-scale-battery-storage-project-in-commissioning-phase/>

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Other alternatives being considered by the NZ Battery Project, including flexible geothermal capacity, could also contribute to grid management options, in addition to increasing capacity for active demand management.

In addition to considering solutions at the level of the national electricity grid, government should support initiatives at the household and community level to increase resilience and self-sufficiency of electricity supply, while reducing and smoothing demand on the grid. Alongside community renewable energy projects, this could include support for local electricity storage systems, such as flow batteries and other mid-level solutions.

10

If you believe additional investment in fossil gas infrastructure is needed, how do you think this should be funded?

Serious consideration should be given to options to bring remaining fossil gas production and distribution assets into public ownership in order to manage a rapid and orderly decline in

production. Current owners of these assets should not necessarily expect to be financially compensated in such a scenario, since the government would be taking on significant liability for decommissioning assets in return for the public benefit of managing a rapid and orderly decline.

Chapter 3: Key issues and opportunities

Renewable gases and emissions reduction technologies

On a scale of one to five, how important do you think biogas is for reducing emissions from fossil gas? Why did you give it this rating?

11

Zero. Biogas has no role in electrification, which is the primary challenge to achieve a full phase out of fossil gas production without major disruption. Biogas may have niche applications in future, but this is not the barrier to ending fossil gas.

Industry proposals to mix biogas into the fossil gas supply is a dangerous distraction that would delay the transition and create further stranded assets.

Do you see biogas being used as a substitute for fossil gas? If so, how?

12

No. Not on a significant scale or in a way that is relevant to managing the transition.

On a scale of one to five, how important do you think hydrogen is for reducing emissions from fossil gas use? Why do you think this?

13

Zero. Hydrogen has no role in electrification, which is the primary challenge to achieve a full phase out of fossil gas production without major disruption. Hydrogen may have niche applications in future, but this is not the barrier to phasing out fossil gas.

Industry proposals to mix hydrogen into the fossil gas supply are a dangerous distraction that would delay the transition and create further stranded assets.

Do you see hydrogen being used as a substitute for fossil gas? If so, how and when?

14

No. Not on a significant scale or in a way that is relevant to managing the transition.

What else can be done to accelerate the replacement of fossil gas with low-emissions alternative gases?

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Except in very limited niche applications, the replacement for fossil gas will be electrification, not alternative gases.

On a scale of one to five how important is a renewable gas trading to supporting the uptake of renewable gases? Why have you given it this rating?

16

Zero. We disagree with the assumption that uptake of renewable gases needs to be a significant part of the transition away from fossil gas.

What role do you see for the government in supporting such a scheme?

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None.

Carbon Capture, Utilisation and Storage

On a scale of one to five how important do you think CCUS is for reducing emissions from fossil gas use? Why did you give it this rating?

18

Zero.

There is no evidence that Carbon Capture, Utilisation and Storage (CCUS) is effective, safe or cost-efficient on the scale required to eliminate emissions from fossil fuel production and use.

What are the most significant barriers to the use of CCUS in New Zealand?

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Any investments in CCUS projects will not only fail to sufficiently reduce the emissions from fossil fuels, they will add to the sunk cost of fossil fuel infrastructure that will become stranded assets as the industry declines. Investment in CCUS projects, whether drawn from public or private funds, would divert resources that could have been used to fund a transition to renewable energy.

Do you see any risks in the use of CCUS?

Only a small number of CCUS projects have been built on a large scale, and most have failed. Despite relying extensively on CCUS, the IEA's latest update to the net zero roadmap admits that '[t]he history of CCUS has largely been one of underperformance.' (IEA. 2023. Net Zero Roadmap, p15)

A 2022 report from the International Institute for Energy Economic and Financial Analyses (IIEEFA) reviewed a sample of thirteen projects, representing more than half of global CCUS capacity. The report showed that most CCUS projects, at least eight of the thirteen reviewed, had substantially failed to meet promised targets. (Robertson and Mousavian. 2022. The carbon capture crux: Lessons learned. International Institute for Energy Economic and Financial Analyses. <https://ieefa.org/resources/carbon-capture-crux-lessons-learned>)

20

The largest CCUS project at the world, at Chevron's Gorgon gas development in Western Australia, is one of those that has failed to perform as promised. Despite the CCUS project receiving more than \$60m in federal subsidies, it has captured only around half of the 4m tonnes of annual emissions it was required to contain as a condition of the gas development being approved. (Morton. 2023. Emissions from WA gas project with world's largest industrial carbon capture system rise by more than 50%. <https://www.theguardian.com/environment/2023/apr/21/emissions-wa-gas-project-chevron-carbon-capture-system-pilbara-coast>)

Even when CCUS projects work as intended, they only capture the emissions from extraction of oil and gas and do nothing to prevent the much larger emissions that result from burning the fossil fuels. In addition, the carbon dioxide that is captured is often used to extract more fossil fuels from declining fields. As IIEEFA points out, 'enhancing oil production is not a climate solution.' (Robertson and Mousavian. 2022)

On the scale of CCUS projects proposed by the oil and gas industry, failure could be catastrophic for communities and eco-systems near storage facilities, as well as for the climate. As the Intergovernmental Panel on Climate Change warned in a special report on CCUS in 2005:

“CO2 storage is not necessarily permanent. Physical leakage from storage reservoirs is possible via (1) gradual and long-term release or (2) sudden release of CO2 caused by disruption of the reservoir.”

(IPCC. 2018. IPCC Special Report on Carbon Dioxide Capture and Storage. https://www.ipcc.ch/site/assets/uploads/2018/03/srccs_wholereport-1.pdf, p373)

A sudden release of large volumes of carbon dioxide from a CCUS reservoir would produce a cloud of heavy gas that would flow like water over the surrounding area, suffocating any people and animals caught in its path.

CCUS is not a safe or sustainable alternative to reducing the production and use of fossil fuels.

In what ways do you think CCUS can be used to reduce emissions from the use of fossil gas?

- 21 There is no credible, safe or cost-effective role for CCUS in reducing emissions from fossil gas. The high risk of CCUS projects failing to meet targets for emissions reduction would put New Zealand’s emissions reduction plans and budgets at risk, as well as creating fiscal risk for the Crown in needing to make up the shortfall with other mitigation options to meet NDC commitments.

Options to increase capacity and flexibility of gas supply

What role do you see for gas storage as we transition to a low-emissions economy?

- 22 No more than presently available. Expanding gas storage would add to the problem of stranded assets or delay transition.

On a scale of one to five, how important do you think increasing gas storage capacity is for supporting the transition? Why did you give it this rating?

- 23 One. Existing gas storage will have a role in smoothing supply during a managed decline of production.

What should the role for government be in the gas storage market?

- 24 Only as much as needed to manage a rapid and orderly transition away from fossil gas.

Our position is that LNG importation is not a viable option for New Zealand. Do you agree or disagree with this position? If so, why?

- 25 Yes. LNG imports would be hugely expensive and require investment in infrastructure that would instantly become stranded assets.

What risks do you anticipate if New Zealand gas markets were tethered to the international price of gas?

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Increased costs and emissions for no benefit.

General comments