

Submission to the Victorian Gas Substitution Roadmap

The Lock the Gate Alliance is a national grassroots organisation made up of over 120,000 supporters and more than 250 local groups who are concerned about the impacts of unconventional gas and coal mining on communities nationally. These groups are located in all parts of Australia and include farmers, Traditional Custodians, conservationists and urban residents.

We thank the Victorian Government for the opportunity to write in submission to the Victorian Gas Substitution Roadmap (VGSR) providing input to a critical issue for all Victorians with implications for the energy future of Australia. We are impressed by the leadership shown by the Department of Environment Water Land and Planning in seeking to map pathways out of Australia's highest gas demand market. We commend the suite of energy upgrade measures already in place as well as those under consideration.

The gas substitution roadmap needs to build on Victoria's existing policy achievements by setting clear targets and timeframes for the phase out of gas use, and the equitable wind down of gas production.

Gas infrastructure is increasingly understood to be stranded assets – or liabilities. The gas pipeline explosion in the Gulf of Mexico and the explosion in the Caspian Sea are a reminder of the destructive potential of gas exploration, extraction and transportation and the desirability of substitution.

Further, the impacts of gas appliances on human health¹ imposes a duty of care on the Government to adopt every measure possible to expedite the replacement of these appliances with clean electric units. Taking into account the health and by extension health budget implications of gas use, particularly in homes, schools, early learning centres, hospitals and places where people gather would be a valid and appropriate consideration in the VGSR.

A “no regrets” approach to Victoria's energy future means a clear framework of targets and timelines for the phasing out of gas at the earliest possible opportunity.

Our recommendations outlined in this submission are:

- Complete and rapid transition from gas to electricity
- No new household gas connections
- Equitable retirement of gas connections and infrastructure
- Gas supply wind-down
- No importation or use of fracked gas
- Maximising energy efficiency
- Decentralised, integrated renewable electricity backed by batteries
- Strategic workforce transition
- Going for a gas free Victoria using proven technologies

¹ <https://www.climatecouncil.org.au/resources/gas-habit-how-gas-harming-health/>

Complete and rapid transition from gas to electricity

*PATHWAYS: Electrification
Addressing fugitive emissions*

KEY ISSUES: Managing uncertainty in the transition

The International Energy Agency's *Net Zero 2050 Roadmap* establishes that achieving decarbonisation by mid-century and preventing average global warming above 1.5 degrees means no further development of gasfield developments globally beyond those already approved. This means gas infrastructure has a use-by date and measures to accelerate electrification and fuel switching must be put in place. Such measures would be consistent with Victoria's greenhouse gas abatement targets of 28-33% by 2025, 45-50% by 2030 and commitment to reach net zero by 2050.

Biomethane keeps us tied to gas, produces greenhouse gas emissions and as such should have no place in a roadmap that directly identifies climate change mitigation as a driving consideration.

Hydrogen may be an important fuel in the future, but the Victorian strategy must specify that hydrogen will only be sourced from renewable energy not from fossil fuel sources such as gas and coal.

At every possible opportunity, existing and proven technologies such as traditional renewable energy sources like solar and wind backed by battery storage should be prioritised and supported in the scenario analyses of the VGSR with clear timetables, targets and integrated cross-departmental policy outlined for this transition.

No new household gas connections

PATHWAY: Addressing fugitive emissions

*KEY ISSUE: Managing uncertainty in the transition
Transitioning the Victorian economy efficiently and equitably*

Household gas use is the easiest transition point for gas use. A full suite of electric replacement technologies already exist which, combined with 6-star minimum energy and thermal efficiency measures, will more than halve gas usage statewide².

There is no reason to connect a single new dwelling to the gas network. Furthermore, businesses, whether commercial or industrial, that incorporate gas use into their business model must be challenged to seek carbon free alternatives to provide energy or feedstock to supply their needs. The cheapest and most effective way to shift energy use away from gas is to prevent it being used in the first place.

² <https://environmentvictoria.org.au/2020/06/03/victorian-gas-market-demand-side-measures-to-avoid-forecast-supply-shortfall/>

Deep cuts to demand with the aim of ultimately extinguishing gas from the energy mix are urged by the International Energy Agency in its 2021 report *Net Zero by 2050 - Roadmap for the Global Energy Sector*³:

All the technologies needed to achieve the necessary deep cuts in global emissions by 2030 already exist, and the policies that can drive their deployment are already proven...Policies should limit or provide disincentives for the use of certain fuels and technologies, such as unabated coal-fired power stations, gas boilers and conventional internal combustion engine vehicles. Governments must lead the planning and incentivising of the massive infrastructure investment, including in smart transmission and distribution grids.

Creating barriers to demand will negate the requirement for any further gas exploration or extraction, or for transportation or additional storage. This will save Victoria from both the upfront expense of project establishment along with the decommissioning and remediation costs at the inevitable point where gas infrastructure is retired.

We call on the Department to prohibit new gas connections, developments or expansions. Policy to support this prohibition would include supporting local governments to ban new gas connections through their planning schemes and removing any state mandate to install or connect gas to properties.

Equitable retirement of gas connections and infrastructure

PATHWAYS: *Improving energy efficiency*
Electrification
Addressing fugitive emissions

KEY ISSUES: *Maintaining electricity reliability with new sources of demand*
Managing uncertainty in the transition
Transitioning the Victorian economy efficiently and equitably

As is reasonably considered in the VGSR consultation paper, any progress towards switching from gas to cleaner energy sources must be fair and must not penalise lower income households or smaller businesses lacking the financial resources to make that switch. A rapid transition from gas heating and other household or small business appliances must be feasible across the board without economic barriers serving as an obstacle.

As gas infrastructure including transmission pipelines reach their end of life their retirement must be mapped and planned for in tandem with support for low-income households and businesses to switch to replacement clean electric alongside maximal efficiency installations.

³ https://iea.blob.core.windows.net/assets/beceb956-0dcf-4d73-89fe-1310e3046d68/NetZeroBy2050-ARoadmapfortheGlobalEnergySector_CORR.pdf

Gas supply wind-down

PATHWAY: Addressing fugitive emissions

*KEY ISSUES: Managing uncertainty in the transition
Transitioning the Victorian economy efficiently and equitably*

Along with the demand measures necessary for gas substitution, the Victorian Government needs to commit, through the roadmap, to phased, equitable wind down of gas supply in line with climate change commitments.

This means:

- Refusing any further drilling for gas either onshore or offshore, and any further investment in or allowance for future gas developments or expansions;
- Rejecting the expansion of the Iona gas storage unit at Waare near Port Campbell;
- Committing no further funding for pipeline upgrades or construction nor allowing the installation of floating gas terminals in Geelong.

If Victoria is to embrace every possible opportunity to fuel switch away from gas there can be no justification for the replacement of ageing gas infrastructure. We call on the Department to model the retirement of the gas network and all supply and storage infrastructure at the end of its useful life.

No importation or use of fracked gas

PATHWAY: Addressing fugitive emissions

Victoria is the only jurisdiction in the world where both hydraulic stimulation (fracking) and acid stimulation of gas wells is not only banned, it is prohibited in the State Constitution. For consistency, Victoria must also cease accepting fracked gas from other places.

We call on the Department to ensure a commitment to explicitly refusing the risk of importation, transportation or use of fracked gas by any means for any reason in Victoria as a necessary consideration of the Roadmap.

Maximising energy efficiency

*PATHWAYS: Improving energy efficiency
Electrification*

*KEY ISSUES: Maintaining electricity reliability with new sources of demand
Managing uncertainty in the transition
Transitioning the Victorian economy efficiently and equitably*

Victoria is a state of temperature extremes and has for too long relied on artificial heating and cooling over thermal and other efficiency measures. Until we exhaust the potential to maximise energy efficiency we won't know how much – or how little – energy we truly need.

For this reason we applaud the Victorian Government and the Department of Environment Water Land and Planning for their national leadership in developing, implementing and expanding on the Solar Homes and Energy Upgrades Programs.

To this end there is no place for gas in the Residential Sustainability Measures⁴ or the *Plumbing Regulations 2018*⁵ and the work of the VGSR must therefore necessitate a rewrite of the requirements and thresholds for the 6-star standards in Victorian buildings. These should apply to new buildings alongside redevelopments. Scenario modelling should incorporate an assumption that 6-star energy provisions include heat pumps as acceptable solar hot water systems in absentia of gas supply.

Measures identified by Northmore-Gordon can reduce gas demand by 98-113PJ a year. The gas substitution roadmap should expedite, fund and timetable these measures.

The Roadmap should overwhelmingly prioritise maximising and committing to continuing best practice in thermal and energy efficiency measures and units for households, businesses and industry. We consider it of primary importance that these measures are modelled state-wide across all sectors to arrive at a realistic evaluation of the actual energy demand of the state, sector by sector.

Decentralised, integrated renewable electricity backed by batteries

PATHWAYS: *Electrification*
 Emerging technologies

KEY ISSUES: *Maintaining electricity reliability with new sources of demand*
 Managing uncertainty in the transition
 Transitioning the Victorian economy efficiently and equitably

Renewable energy sources like solar photovoltaic, wind turbines and batteries are already working and proving their might in replacing older fossil-based energy. The recent disastrous storms across Victoria provided as stark a demonstration of the fragility of centralised power transmission as they did the benefits of decentralised power networks. As these climate disruption events increase in frequency and scale, integrated small to large scale generation sites will offer greater reliability in baseload energy security than the old, centralised pole and wire network.

During the week of writing this submission, the City of Melbourne announced a scheme to build a battery network in Council buildings to supply on-demand electricity⁶. The development of independent power precincts is an emerging area of energy management.

⁴ https://www.vba.vic.gov.au/data/assets/pdf_file/0003/99390/PN-55-Residential-Sustainability-Measures.pdf

⁵ https://content.legislation.vic.gov.au/sites/default/files/c9944133-841f-370f-9721-4645cbe0eae0_18-149sra003%20authorised.pdf

⁶ <https://www.theage.com.au/national/victoria/melbourne-to-build-inner-city-battery-network-in-green-power-push-20210726-p58cwo.html>

As the landscape of electricity generation changes the demand on and use of the old transmission grid, our energy network must become more dynamic to accommodate connection through a series of localised generation and power storage points. In 2012, AEMO directed CSIRO to model scenarios for a 100% renewably-powered grid in either 2030 or 2050⁷. In July of this year, AEMO's new CEO observed that since that earlier report, 90 cents in every dollar invested in energy has been in wind and solar and that Australia's 1000% increase in renewable installation in the past three years is double that of the rest of the world. He committed to the NEM sustaining 100% renewable energy by 2025⁸.

Given this confidence by the national market operator we request that the Department model agile, decentralised power networks state-wide removing altogether the need for any further gas pipelines and planning for power precincts with the capacity to meet localised energy demand.

Strategic workforce transition

PATHWAY: Emerging technologies

*KEY ISSUE: Supporting Victoria's workforce industry and the institutions that support them
Managing uncertainty in the transition
Transitioning the Victorian economy efficiently and equitably*

To ensure that a full switch from gas to clean energy is equitable and fair, this roadmap can and should either undertake or commit to future analysis of the changes required to transition the workforce and supporting institutions currently servicing the gas network and its associated appliances and infrastructure. The consultation document correctly recognises the importance of this aspect of energy transition. However heavy reliance on hydrogen to provide replacement jobs may prove too unrealistic on which to pin the economic future of a gas dependent workforce.

In their report investigating demand side measures to avoid gas supply shortfall, Northmore Gordon advocated as one of their proposed policy drivers:

Establishing a Sustainability Victoria led training program, coupled with VEU support, to engage and educate relevant trades, developers, and building owners on all-electric homes

Modelling has already been undertaken in the new workforce potential represented by the uptake of renewables and low carbon jobs. The Million Jobs Plan by Beyond Zero Emissions⁹ demonstrates one way of securing employment for workers in clean energy technologies.

We ask that workforce transition towards a zero-gas economy be given a stand-alone priority assessment, that no further investment be made by the State Government in training people for jobs in gas industries in Victoria and that instead primacy be given to re-educating workers in gas associated industries to prepare for an all-electric energy economy.

⁷ <https://publications.csiro.au/rpr/download?pid=csiro:EP126455&dsid=DS2>

⁸ <https://aemo.com.au/en/newsroom/news-updates/the-view-from-the-control-room>

⁹ <https://bze.org.au/wp-content/uploads/2020/11/BZE-The-Million-Jobs-Plan-Full-Report-2020.pdf>

Going for a gas free Victoria using proven technologies

*PATHWAYS: Improving energy efficiency
Electrification
Emerging technologies
Addressing fugitive emissions*

*KEY ISSUES: Maintaining electricity reliability with new sources of demand
Supporting Victoria's workforce industry and the institutions that support them
Managing uncertainty in the transition
Transitioning the Victorian economy efficiently and equitably*

One of the critical issues in managing sweeping structural reforms is ensuring that there is community confidence to support their implementation. This is easiest to achieve when a Government, or any organisation, can demonstrate that the new pathway is proven, of demonstrable community benefit and easy to follow with minimal disruption. For this reason, as well as the urgency to transition from gas immediately, we advocate for proven, shovel-ready renewables to be given primacy in the roadmap assessments while still maintaining an open mind for emerging technologies and a willingness to integrate them into the energy mix as they become ready.

Biomass electricity, particularly if sourced from Victoria's carbon dense forests is unscalable and a misallocation of resources that can have other more beneficial uses such as water and carbon security, and habitat outside of the scope of climate and energy considerations.

Carbon Capture and Storage is a costly, underdeveloped technology that defers effort to stop polluting the atmosphere and creates unknown long-term risks. We urge all consideration of this to be excluded from the Roadmap.

Solar thermal is able to provide Victoria's highest temperature industrial needs and we recommend a stronger emphasis and assessment of this in the Roadmap.

Victoria can and should invest in technologies that are tried and tested and have the agility and capacity to meet the bulk of our energy needs. We suggest that the Roadmap to the fullest extent possible prioritise the roll out of these technologies rather than unproven, unwieldy or polluting technologies such as carbon capture and storage, biomass or biomethane.

Finally, we reiterate the importance that the Roadmap commit to removing gas from all use in Victoria and recognise the extent to which existing efficiency and renewable technologies can be installed and retrofitted state-wide to fully secure Victoria's clean, reliable energy future.

Lock the Gate Alliance commends the Victorian Government for undertaking this important body of work and we look forward to seeing the Victorian Gas Substitution Roadmap on its completion.

For further information regarding this submission please contact info@lockthegate.org.au