

12 August 2021

Infrastructure Victoria  
Level 33, 140 William St  
Melbourne  
VIC 3000

Dear Infrastructure Victoria,

**RE: Towards 2050: Gas infrastructure in a zero emissions economy**

Moreland City Council welcomes the opportunity to provide a submission to Towards 2050: Gas infrastructure in a zero emissions economy.

This feedback has been prepared by council officers on behalf of Moreland City Council ('Moreland') and is based on endorsed Council policy.

Moreland encourages the Victorian Government to scale up proven, reliable and low-cost solutions such as energy efficiency and electrification. This will enable the Victorian State Government to meet its own legislated whole-of-economy, net zero emissions target by 2050; meet its renewable energy targets; and be responsive to climate change. Investing in energy efficiency initiatives and electricity from renewable sources will also avoid locking-in gas consumption (or stranded assets), for example by removing the requirement to connect new developments to gas infrastructure. The phasing out of gas is an opportunity for Victoria to position itself as a leader, attracting businesses, jobs, investment, and innovation to Victoria. The next decade will be critical in meeting net zero by 2050.

Moreland is already acting to decarbonise its council operations and our community by phasing out gas appliances, as well as supporting energy efficiency and renewable energy generation. We have strategies and programs in place that would be assisted by the Victorian Government decarbonising its infrastructure. Council is also willing to participate in any trials or pilots that assist the transition and to share our story through case studies, tours and other communications.

**Current Moreland Council policies**

Moreland's Zero Carbon Moreland 2040 Framework sets out Council's vision for a zero carbon Moreland by 2040. Part of this vision is for homes and businesses to be powered only by renewable electricity, following a supported phase-out of gas. Given that the impacts of climate change are escalating rapidly, Council has resolved to review the Moreland Zero Carbon – 2040 Framework with a view to developing interim and more ambitious targets by 2030.

Council's Zero Carbon Moreland Climate Emergency Action Plan 2020 -2025 has more specific actions to phase out gas from Council and community including:

- Raising the standards of the Moreland Local Planning Policy Environmentally Sustainable Design (ESD) within the Moreland Planning Scheme. Electrification, renewable energy and transitioning development practices towards zero gas development are key elements of this project.
- Partnering with others to advocate for and provide targeted support for low income and vulnerable households to avoid 'energy poverty' and be more comfortable in their homes during extreme weather.
- Ensuring Council builds highly energy efficient facilities, including onsite renewables and 'no new fossil gas'.
  - This includes an investigation into the planned transition off gas at Council's aquatic centres that is currently underway.

Since becoming Certified Carbon Neutral in December 2012, Moreland City Council has continued to significantly reduce Council's carbon emissions. For the reporting period between 2019 and 2020 we aimed for 30% lower emissions than the baseline year of 2011. Exceeding expectations we have achieved a 69% reduction. As part of the Melbourne Renewable Energy Project, Moreland purchases all its electricity for Council operations from the Crowlands Wind Farm in north-west Victoria, ensuring that the electricity is from a renewable resource.

In May 2021, Moreland became the first council in Australia to endorse the Fossil Fuel Non-Proliferation Treaty, reinforcing our commitment to phase out fossil fuels. The Fossil Fuel Non-Proliferation Treaty aims to stop the expansion and production of oil, gas and coal fossil fuels in line with the Paris Agreement.

**Q1. Do you have any further information, evidence, or concerns that you wish to raise in relation to the scenario design and analysis?**

Table 1 on page 17 of the Interim report emission factors should be in kt CO<sub>2</sub>e, rather than Mt CO<sub>2</sub>e. The latter underplays the emission factors and the units are not consistent across different items. Most use PJ, but biogas and green hydrogen use different units. This runs the risk of appearing to favour one approach over another.

On Page 28 the interim report states. 'However, one study estimated that Victoria has a biogas supply potential of 48 PJ, which is approximately one quarter of its current gas consumption'. Does the figure of 48PJ assume plant crops will be grown specifically for generating biogas? Given the pressures from extreme weather events, drought and the extra water and land requirements, growing such crops may not be feasible. This report may have an unduly positive view of the future for biogas, particularly if this is based on a single study. Biogas also runs the same risks of methane leakage as fossil gas.

**Q2. Do you have any further information or evidence that can help identify an optimum scenario for a net zero emissions gas sector in 2050?**

**Growth in all-electric developments**

Victoria's push to transition away from gas aligns with Moreland's successful history of engaging with developers to encourage provision of all-electric buildings. Moreland has developed a strong body of evidence showing that gas-free development is technologically feasible, commercially viable and acceptable to the people who live in them.

Developers have built multiple gas-free housing developments in Moreland, including private townhouses and apartments. An early gas-free building, [REDACTED], was approved in 2014. Council approved ten major all-electric developments in 2020/21. Two large gas-free developments currently in construction are the Nightingale Precinct (200+ units) and [REDACTED]. Eleven gas-free developments are going through the planning process, totalling over 900+ units.

Moreland is seeing a growing trend of all-electric builds with no gas connections across a range of development scenarios and typologies.

**Q3. What policies and/or regulations, if any, are needed to support the development of low carbon pathways such as biogas, green hydrogen, and carbon capture and storage?**

We are concerned that that CSS has not been proven to work at scale in any jurisdiction. Despite a large amount of research and financial investment, the results have been poor thus far. Any infrastructure investment also needs to take into consideration the significant risk of CCS failing to permanently capture carbon dioxide.

As an example, while the Gorgon LNG offshore production facility off Western Australia is designed to capture and store up to 80% of its emissions, Chevron has conceded that it has failed to capture sufficient emissions. The Western Australian Government is currently seeking an explanation after the energy company fell short of its five-year target. Given the poor track record of CCS, the fact that the technology is still in development and the high impact in the event of failure, we consider that further funding of CCS to capture carbon emissions directly from the burning of fossil fuels would be a poor investment. We would support more investigation of the role of soil carbon sequestration and tree planting.

**Q4. What is your view on the best ways to maintain the reliability and affordability of Victoria's gas supply if natural gas use declines?**

Since this transition is inevitable, we recommend that it should take place at pace and in a planned and equitable manner. While gas is being phased out, remaining gas supplies should be prioritised for industries which find it particularly expensive or difficult to transition away from gas. It is important to incentivise people and businesses to switch early and to invest in energy efficiency and electrification.

**Q5. What else can you tell us about the implications of decarbonisation pathways for the electricity generation, transmission and distribution networks?**

Gas consumption currently contributes around 30% of our remaining corporate carbon footprint. Moreland is committed to ensuring all our buildings are electric-only and is taking advantage of scheduled work to transition all our sites off gas. We consider that electric heat pumps are capable of meeting the necessary heat demand at the vast majority of our Council facilities. We have installed electric heat pumps at six sports pavilions, two community centres and our main administrative offices. Construction is almost complete on the Glenroy Community Hub; an all-electric site which will house a library, community centre and maternal and child health centre. As well as having no gas, this may be the first community centre in Australia to be certified to the Passive House standard.

Our current corporate focus is our four heated aquatic centres, which account for 89% of our gas consumption. Several aquatic centres currently in development around Melbourne will be heated primarily or entirely by heat pumps. These include St Albans Leisure Centre, Carnegie Swim Centre and Northcote Aquatic Centre. As part of Moreland's planned refurbishment of Fawkner Aquatic Centre, the feasibility and costs involved in removing gas from the development is being examined. A similar study on the Brunswick Baths; Council's flagship aquatic centre is also being undertaken.

The key barriers to heat pumps for aquatic centres are the cost, extra plant room required, heritage restrictions, and the need to upgrade electrical infrastructure to deal with higher electricity demand. The impact of this last barrier varies, and costs are hard to estimate, but distributors can charge up to \$350,000 to upgrade local sub-stations. As a first mover in switching from gas to all-electric, Council is likely to pay for the upfront costs for distribution upgrades.

Modelling suggests that all-electric aquatic centres are slightly cheaper to run than gas-powered centres. The payback period for transitioning aquatic sites to all-electric is generally longer than 15 years. Moreland has six aquatic centres four of which have outdoor pools. The up-front investment to ensure that a single aquatic centre with an outdoor pool is all-electric is currently estimated at between \$1 and \$4 million.

### Recommendations

- \* Encourage distributors to make the process of upgrading sub-stations more transparent and less costly for first-movers who transition sites from gas to all-electric.
- \* Work with distributors, the Australian Energy Regulator (AER) and the Australian Energy Market Operator (AEMO) to address network constraints and plan for a renewable future. This will enable the export of solar linked with the increased demand due to electrification. This will be one of the key barriers to Victoria achieving its legislated targets under the Renewable Energy (Jobs and Investment) Act 2017 (REJI Act),
- \* With the roll out of the Victorian Solar Homes Program and increased uptake of solar more broadly, export limitations are becoming a disincentive for residents and businesses to install solar. We encourage the Victorian Government to work with Distributed Network Service Providers (DNSPs) and AEMO/AER to address this matter.

### Q6. How can the use of Victoria's existing gas infrastructure be optimised during the transition to net zero emissions, over the short (10 years), medium (20 years) and long-term (30+ years)? How can the Victorian Government assist in this?

We understand that the Victorian Government is also considering blue hydrogen as a substitute for gas to homes. Whilst this may be a way to maximise use of existing assets, blue hydrogen is manufactured from fossil fuels. It relies heavily on untested carbon capture technology and is likely to involve carbon emissions due to methane leakage. Technology and energy efficiency practices exist to transition all buildings to electric, and we would recommend this approach. We believe green hydrogen and biogas should be targeted at industries that cannot transition off gas, such as manufacturing and heavy fleet transport.

We recommend that Victorian government, industries and communities do not invest in new gas infrastructure, in order to avoid stranded assets. The Victorian Government should ensure that gas companies contribute to moving to truly zero-carbon energy supply sources and infrastructure.

**Q7. What principles should apply or what measures will be needed to manage the impacts of gas decarbonisation on households and businesses?**

We support the Victorian Government in ensuring that the transition is equitable with no one left behind. As a diverse community we need to ensure that all programs support all cultural and socio-economic groups.

Moreland supports programs such as the Victorian Energy Upgrades and currently works with the Victorian Government on the Energy Savvy Upgrades program offering subsidised energy efficiency and renewable energy upgrades to households struggling to pay energy bills. Moreland also offers subsidies for low income and culturally and linguistically diverse residents to undertake energy efficiency upgrades and the installation of roof-top solar in order to reduce energy bill stress and improve thermal comfort.

Electrification can meet the technical needs of most sectors and be reliably zero-carbon with renewable energy. We would not assume that gas will be decarbonised at scale instantly instead that gas will be phased out with the installation of electric appliances.

Consideration also needs to be given to environmental remediation of old gas infrastructure and surrounding land to protect the environment and local communities.

**Recommendations:**

- \* Utilise the findings and success of programs such as the Victorian Energy Smart, Healthy Homes and Energy Savvy Programs and support the expansion of well-designed programs to provide financial and concierge support for low income and households at risk of energy stress.
- \* Utilise the findings of the Healthy Homes program to set standards to improve the thermal efficiency of new public and social housing to improve the health and wellbeing of residents as well as reduce their energy bill stress.

**Q8. What policies, programs and/or regulations should the Victorian Government consider or expand to encourage households, commercial buildings and small businesses to reduce their gas use?**

**Achieving Zero Carbon within the Planning Scheme**

In 2018, Moreland resolved to pursue initiatives to develop and incorporate zero carbon standards within the Moreland Planning Scheme. Achieving Zero Carbon within the Planning Scheme aims to support Moreland City Council's Zero Carbon 2040 Framework and Action Plan, and to deliver Council's statutory climate change pledge made under the Climate Change Act 2017 (Vic). Twenty-nine councils and the Council Alliance for a Sustainable Built Environment (CASBE), have now joined the initiative to develop resilient, zero-carbon buildings and urban places via the Elevating Environmentally Sustainable Development (ESD) Targets Planning Policy Amendment Project.

Through the actions of local government and CASBE, the Elevating ESD Targets Planning Policy Amendment Project includes a revised set of standards that mandates renewable energy uptake, as well as, strongly encourages electrification and gas-free development practices. Additionally, through the Project's collaborative forum of partnered Councils, the legal remit has been investigated to impose renewable energy purchasing and gas-free development requirements, exercised via the existing planning framework.

In January 2021 the Victorian Government released the Environmentally Sustainable Development (ESD) Roadmap. Through Moreland's engagement with DELWP and as articulated in the Gas Substitution Roadmap it is understood that zero gas (fuel switching) will not be covered under the ESD Roadmap. This avoids content double-up in two distinct areas of reform and policy. However, this should not obviate the need for gas-free development and fuel switching to be entertained within the State and Local Government planning frameworks. This area is covered in the ESD Roadmap as an area of planning scheme reform. It also serves the position supported by local governments a part of the Elevating ESD Targets Planning Policy Amendment Project to ensure that zero gas development; including homes, can be facilitated via improvements to the planning framework and provisions.

### **Market research on household electrification and communications**

To support our community to transition towards zero carbon, Moreland has undertaken market research to explore people's knowledge about residential gas usage and the environmental, economic and health benefits of replacing gas with electric appliances. The research also explored how to communicate switching from gas to electric appliances.

Key insights:

- As most people use gas and electricity in their home, but for vastly different usages, they often struggle to draw a direct comparison between the cost of the two energy sources. Many do, however, assume that gas is the cheaper option.
- Most participants like the concept of an all-electric, energy-efficient and renewable home but are immediately concerned about the initial cost.
- The upfront costs of installing energy efficient features in a new or renovated home is the main barrier. Another barrier is the difficulty of upgrading older buildings.
- Support for government rebates or subsidies is an effective way of reducing the financial burden and incentivising more people to upgrade the energy efficiency of their home. Rolling out subsidies to low income households and people living in older buildings with outdated appliances should be a priority.
- Low awareness of trusted sources on information about making upgrades to their home and energy efficiency.
- It is important that information reaches people from all cultural and socio-economic backgrounds.

Insights from the research are being used for an education campaign to Moreland residents on the benefits and practical steps to transition to an all-electric home. We would welcome working with the Victorian Government on a state communication strategy

### **Financial support for electrification**

We recommend that the Victorian Government provide incentives and funding for residents and business to switch off gas, remove gas infrastructure and encourage electrification. To achieve the

Victorian State Government's whole-of-economy, net zero emissions target involves the phase out of gas and not just households reducing their gas usage.

### Recommendations

- \* Support and approve the Elevating ESD Targets Planning Policy Amendment Project that includes sought after changes to ensure further uptake of electrification, renewable energy and gas-free development practices.
- \* Ensure that fuel switching and gas-free development requirements and standards are adopted within revised ESD changes to the Victorian Government's Planning framework (Action 80 of Plan Melbourne 2050) cognisant of the enabling scope that is provided within the Victorian Government's Environmentally Sustainable Development (ESD) Roadmap, as well as, commitments detailed within the Victorian Government's Climate Change Strategy, Pledges and Adaptation Action Plans exercised pursuant to the *Climate Change Act 2017 (Vic)*.
- \* Develop information resources and funded education campaigns ensuring it reaches people from all cultural and socio-economic backgrounds.
- \* Provide industry training for plumbers and electricians in the installation of technologies such as heat pumps, draught proofing and insulation to reduce gas demand and improve thermal comfort.
- \* Provide education training for builders, architects, building designers and other building professionals who consumers refer to for advice so information is consistent in this industry across the State.
- \* Provide funding to local councils to remove gas from sites with high consumption such as aquatic centres.
- \* Provide modelling on future gas prices to assist Council's in making informed decisions on capital investments.

**Q9. What policies, regulations or other support, if any, do you think are needed to support industrial users to switch from natural gas to lower emissions energy sources or chemical feedstocks?**

No comment.

### Conclusion

We support the Victorian Government in acting now to transition to an equitable, zero carbon future and we look forward to working with the Victorian Government in the implementation. If you need further information, please me at [REDACTED]

Your sincerely,



Olivia Wright  
Acting Director City Futures