VIVA Submission April 2022

Text

Description automatically generated A picture containing whiteboard

Description automatically generated

This is a joint submission from the **Port Phillip Emergency Climate Action Network** (PECAN) and the **Beyond Gas Network.**

***PECAN*** is a network of eleven environment groups active in the Port Phillip municipality. It has the greatest length of foreshore, 11 kms, of the metropolitan municipalities and any environmental impact affecting Port Phillip Bay is significant for the 120,000 Port Phillip residents and the much greater number of visitors and tourists who use the foreshore and beaches for enjoyment and recreation. Port Phillip Bay and Corio Bay together form a single ecosystem, and impacts on Corio Bay could have adverse impacts extending to the northern sector of the Bay.

***The Beyond Gas Network*** is a network of Climate action networks, centred in the east and Southeast of Melbourne but with links across Australia. The Network’s focus is on Federal and State governments’ gas expansion plans at a time when the focus by all governments, industry and community should be on reducing dependence on fossil fuels and upon a rapid acceleration of renewables. The network’s constituents across Australia would number in the many thousands.

We are concerned about the environmental, climate, safety and community impacts of the proposed terminal, and very conscious that we are indeed at a crossroads at the intersection of climate and energy policies, where we can either strongly aim at a decarbonised future or instead continue reliance on natural gas with its increased emissions, greater costs for consumers, and community health and safety concerns.

**Climate Impacts**

In requiring the EES, the Victorian government stated that it should have regard to projected demand and supply in the context of the State’s energy needs and climate policy. Victorian policy is that energy emissions should be 45-50% below 2005 levels by 2030; in November the City of Greater Geelong adopted a target of zero net emissions by 2035.[[1]](#footnote-1) VIVA estimates in its EES that the terminal will increase Geelong’s emissions by 50%. There is widespread concern about Viva’s removal of its Scope 3 emissions from the EES in contradiction of the International Greenhouse Gas Protocol, thereby enabling it to represent its emissions as less than 10% of those of AGL in its EES for the now refused Westernport proposal.

The International Energy Agency , Intergovernmental Panel Climate Change and United Nations Environment Program have all warned against opening any new gas fields, and the import terminal is proposed to use gas from the now approved Scarborough field, one of the dirtiest of Australia’s gas fields, with a CO2 component of about 15%.

Gas has long been marketed as a clean fuel, but over the past four or five years closer attention has been paid to more accurately measuring the level of methane in the atmosphere, given its 20yr warming potential of 84 times that of CO2, and the knowledge that methane emissions have consistently been seriously underestimated and measured. The Global Methane Monitor, established by the IEA, in its report in March this year, estimates that methane emissions from the energy sector are under reported by over 70% with emissions reported to the UNFCCC at 79.2Mt, while the IEA estimates the real figure is 135.2Mt.[[2]](#footnote-2) In its report from May last year the UN Climate and Clean Air Coalition stated that  “Cutting methane is the strongest lever we have to slow climate change over the next 25 years. We need international cooperation to urgently reduce methane emissions as much as possible this decade.”[[3]](#footnote-3) Has VIVA underestimated its own Scopes 1 and 2 emissions by the global average of over 70%?

**Environmental Impacts**

There are major concerns about the environmental impacts on marine life and ecosystems in proximity to the existing refinery in Corio Bay. One of the principle factors in the Victorian government’s rejection of the AGL gas terminal in Westernport concerned the impact of releasing chilled water which had been treated with chlorine back into the Bay, and the uncertainty about the impacts this could have; the chlorine treatment is required to prevent barnacles and other marine forms from fouling pipeline infrastructure. Viva argues that the chilled water would be used in cooling operations at its adjacent refinery, but this would have the effect of heating the water above ambient temperatures and may lead to adverse consequences for marine life and seagrass viability in Corio Bay.

The proximity of the internationally recognized Ramsar wetlands also presents major concerns. The closest point within the wetlands to the refinery is at Limeburners Bay, just 1.3km from the proposed location of the gas terminal. The wetlands cover over 22,000 hectares and provide habitat, refuge and feeding grounds for migratory bird species. The wetlands plant life, comprising mangroves, tidal marshes and seagrasses, trap carbon 30 – 50 times faster than terrestrial forests. As well as offsetting CO2 emissions and mitigating climate change they enhance biodiversity and protect against coastal erosion. But when degraded they become significant producers of methane, nitrous oxides and CO2. We do not believe that any decision which could expose this irreplaceable resource to any level of risk can be justified.

Other possible environmental impacts may result from dredging for LNG carriers and in the process disturbing toxic sediments which are by-products of the refinery’s operations over many years. The possible impacts on marine life cannot be predicted and there may be major effects on both commercial and recreational fishers.

**Safety and Health Impacts**

No national standards or regulations for the transport and management of LNG cargoes have been developed in Australia, and there is no precedent in Victoria for an offshore gas import terminal. Most of our understanding of the safety issues in handling LNG originates in the US, where clear safety protocols are in place in busy gas terminals, and exclusion zones are identified to ensure that other vessels are not endangered in the event of an incident causing fire, gas loss or explosion.

Research commissioned by the US Department of Energy with Sandia National Laboratories[[4]](#footnote-4) found that a significant leak, either accidental or deliberate could lead to deaths, serious injuries and damage to infrastructure within a radius of up to 3.5 kms. Three zones were identified within the 3.5km radius:

Zone 1: within 500mt. Significant chance of fatality for people with instantaneous exposure (due to fire, asphyxiation or freezing).

Zone 2: within 1.6km. Possibility that extended exposure would result in fatality

Zone 3: within 3.5km. Possibility of burns in the event that a vapour cloud extends into this zone and ignites. The significance of these zones is based on the highly flammable nature of LNG. A spill from a tanker pools on the water’s surface and may spread hundreds of metres from the spill site, forming a flammable gaseous cloud. If the cloud ignites the resulting fire is much hotter than an oil or petrol fire and cannot be extinguished, and all the LNG must be burned before the fire goes out.

The proposed location of the terminal raises major public safety issues:

The channel proposed to be used by the LNG tankers passes within 220 mts of the North Shore residential area

Shell Pde, a major arterial road carrying hundreds of heavy vehicles every day, is to become the major northern route accessing the Spirit of Tasmania Terminal from the middle of this year, and is within metres of the proposed above-ground high pressure pipeline

The Bay Trail Cycling Path, a major attraction for both residents and visitors, is located between Shell Pde and the proposed pipeline

Over 30,000 Geelong residents live within a 3.5km radius of the terminal’s proposed location

Viva’s proposed co-location of the terminal to its refinery means that any incident impacting the gas terminal could readily spread to the refinery, magnifying potential for injury deaths and widespread infrastructure and residential damage.

The precautionary principle is not in evidence here. To the existing refinery, this proposal would co-locate two additional Major Hazard Facilities, the terminal and the pipeline. In the event of a deliberate or accidental incident, the proposed location of the terminal could potentially lead to many fatalities and extensive community and commercial damage. In the US all maritime gas facilities are subject to strict Federal Regulatory requirements; the key principle incorporated into these regulations is that LNG facilities must be “remotely” located away from residential and urban locations. Given no such frameworks are in place in Australia, this proposal should be understood for what it is – a convenient arrangement for Viva, but one which would put many Geelong residents under constant threat and uncertainty.[[5]](#footnote-5)

**Is this terminal needed?**

Will there really be a gas shortage in SE Australia from 2023 onwards? The gas industry has been forecasting for years that declining production from Gippsland offshore fields will lead to shortages in Victoria , the State with most reliance on gas especially for winter heating.

It should be understood that there is no East Coast gas shortage. Australia has been vying with Qatar in recent years for the position of the largest gas exporter; most of our gas exports originate in WA, but that State took the prudent step in 1979 of requiring that exporters must reserve up to 15% of production for domestic use, and that policy has been further formalized and clarified in 2006, 2012, and 2020.[[6]](#footnote-6) The East Coast States have never had domestic reservation policies in place and the industry is hostile to any introduction of these policies as hobbling export capacity, and the higher prices available on international markets. Instead the ACCC has negotiated with the industry to ensure that sufficient gas is retained for domestic consumption through periods of anticipated high demand. And since attention was focused on the possibility of shortages in Victoria, a series of measures will ensure that shortages won’t occur:

Last month Exxon Mobil announced a $400m gas expansion program from its Gippsland Basin Kipper and Turrum fields; these projects will deliver an additional 200 petajoules of gas between 2023 and 2027 and bridge and likely shortages in that period.[[7]](#footnote-7) Gas from Bass Strait is currently being piped to Northern Australia for export. [[8]](#footnote-8)

APA is expanding its Moomba – Sydney pipeline enabling gas to be moved from NSW to Victoria

Australian Industrial Energy is constructing NSW’s first gas import terminal at Port Kembla and it will be able to supply gas into the existing east coast gas transmission network from 2024.[[9]](#footnote-9)

Even without a gas reservation policy, these supply measures are sizeable and flexible enough to meet future gas demand in Victoria. In its 2022 Gas Statement of Opportunities released last month AEMO described the supply/demand balance in the following terms: *Longer term, annual domestic consumption is forecast to fall as consumers shift from gas to electricity or zero-emission fuels……. Existing, committed and anticipated supply, including anticipated LNG imports, is forecast to meet declining domestic gas consumption until 2033, in the Step Change scenario stakeholders consider ‘most likely’.[[10]](#footnote-10)*

On the demand side, gas demand is likely to fall in Victoria as residential and commercial electrification is increasingly encouraged and adopted as a key component in meeting Victoria’s 2030 emissions reduction targets. The Victorian Government’s Gas Substitution Roadmap sets out a series of sustainable alternatives and pathways to enable the gas sector’s role in meeting the emissions targets through efficient gas usage, reducing fugitive emissions, electrification, and increased use of hydrogen and biogas.[[11]](#footnote-11)

There is growing recognition that the all-electric home is already available and more developers are only offering this alternative as consumers move to more energy efficiency in their homes.[[12]](#footnote-12) In September the ACT released the next steps in its low-emissions strategy including phasing out gas connections.[[13]](#footnote-13) San Francisco banned gas in new housing last year, and New York banned gas connections in new residential builds in January this year.[[14]](#footnote-14) As part of its gas strategy the Victorian government is offering subsidies to households with incomes below $90,000 to upgrade to electric heating and cooking. The benefits of this change extend to significant cost savings for the fully electrified home.

**Summary**

In our view, the safety and environmental issues alone make an overwhelming case against any approval for the gas terminal, no matter how many conditions may be imposed. It seems inconceivable that a gas import terminal with all its associated risks and dangers could be located in a city with a population approaching 300,000 residents, and with less than 250metres separating those residents from the gas terminal. In addition, the world renowned Ramsar wetlands are just over a kilometer away, and are highly vulnerable to any on- water incident which may occur.

Our further strong objection to this gas terminal is there is no longer a case for its necessity as alternative supply measures are in place and AEMO states that Victorian gas supply is secure until 2033. Any case which could have been present no longer exists. Viva’s proposal is unwanted, undesirable and unnecessary.

Jack Halliday

1. https://www.geelongaustralia.com.au/news/item/8d9b0112b869264.aspx [↑](#footnote-ref-1)
2. <https://www.iea.org/reports/global-methane-tracker-2022/estimating-methane-emissions> [↑](#footnote-ref-2)
3. https://www.theguardian.com/environment/2021/may/06/cut-methane-emissions-rapidly-fight-climate-disasters-un-report-greenhouse-gas-global-heating [↑](#footnote-ref-3)
4. [https://energy.sandia.gov/wp-content/uploads/2021/08/SAND2021- 9802\_Release\_Behavior\_Review\_H2NG\_Blends\_Pipelines\_web.pdf](https://energy.sandia.gov/wp-content/uploads/2021/08/SAND2021-%209802_Release_Behavior_Review_H2NG_Blends_Pipelines_web.pdf) pages 21-40 [↑](#footnote-ref-4)
5. https://geelongrenewablesnotgas.org/wp-content/uploads/2021/10/LNG-Safety\_Residents-at-Risk\_13Oct21\_red\_v2\_noBKUP.pdf [↑](#footnote-ref-5)
6. https://www.wa.gov.au/government/publications/wa-domestic-gas-policy [↑](#footnote-ref-6)
7. https://www.afr.com/companies/energy/esso-plans-400m-gas-production-expansion-20220317-p5a5ke [↑](#footnote-ref-7)
8. https://aemo.com.au/energy-systems/gas/gas-bulletin-board-gbb/data-gbb/interactive-map-gbb [↑](#footnote-ref-8)
9. https://www.afr.com/companies/energy/port-kembla-lng-inks-ship-deal-as-customers-stall-20211130-p59dbm [↑](#footnote-ref-9)
10. https://aemo.com.au/-/media/files/gas/national\_planning\_and\_forecasting/gsoo/2022/2022-gas-statement-of-opportunities.pdf?la=en [↑](#footnote-ref-10)
11. https://engage.vic.gov.au/help-us-build-victorias-gas-substitution-roadmap [↑](#footnote-ref-11)
12. The Big Switch, Saul Griffith, blackincbooks, 2022 [↑](#footnote-ref-12)
13. https://reneweconomy.com.au/act-to-phase-out-gas-as-it-launches-next-stage-to-zero-carbon-strategy-92906/ [↑](#footnote-ref-13)
14. https://www.thecity.nyc/2021/12/15/22838761/new-york-city-banned-gas-in-new-buildings-what-to-know [↑](#footnote-ref-14)