

Submission to the Environmental Effects Statement for the proposed AGL/APA Gas Import Jetty and Pipeline Project at Western Port, Victoria

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Healthy planet, healthy people

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Submission to the EES of the AGL/APA Gas Import Jetty and Pipeline Project
<https://gasimportprojectvictoria.com.au/>

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Doctors for the Environment Australia

Doctors for the Environment Australia (DEA) is an independent, self-funded, non-Government organisation of medical doctors in all Australian States and Territories. Our members work across all specialties in community, hospital and private practices. We work to prevent and address the diseases - local, national and global - caused by damage to our natural environment. We are a public health voice in the sphere of environmental health with a primary focus on the health harms from pollution and climate change.

Doctors for the Environment welcomes the opportunity to make a submission to the Environmental Effects Statement (EES) prepared by AGL and APA for their proposed Gas Import Jetty and Pipeline Project at Western Port, Victoria. DEA would welcome an opportunity to appear before the Inquiry and Advisory Committee at the Public Hearings in October.

Introduction

AGL and APA's proposal is to establish a gas import facility and pipeline to import gas from overseas or interstate to sell to the Victorian market. Victoria already exports a surplus of gas from its own gas reserves.

The EES has failed to demonstrate the project can avoid negative impacts on human health and the environment, and there is widespread opposition from the community, the council and elected representatives. It is unacceptable for such a project to proceed without social licence when there are no demonstrable benefits to the community, and when that project poses unacceptable impacts and associated risks. The overarching concern is the urgent imperative to reduce our reliance on fossil fuels to have any chance of mitigating the worst impacts of climate change.

Doctors for the Environment recommends that the project is rejected for the following reasons:

1. Climate change is a public health emergency which requires immediate and effective action.
2. There are finite health risks associated with the project.
3. There is no social licence for the project.
4. The Interim Report on the review of the current EPBC Act outlines a 'near complete failure of the government to implement the Act to protect Australia's environments', yet it is to this flawed Act that the EES has made its report.
5. If the project is approved, there will be unacceptable risks to the sensitive Western Port environment which includes Ramsar wetlands, endangered species of flora and fauna, and marine mammals.
6. There is inadequate information about the management of climate change risks to the project such as bushfires, severe storms and storm surges.

7. The EES fails to address the implications and management of high-impact large-scale accidents that could have devastating consequences to the area.
8. The EES does not adequately address the entire carbon emissions associated with the project.
9. The EES uses the climate forcing activity of methane over 100-year time frame rather than the more appropriate 20-year time frame, given the already measurable health impacts of rapid global warming.
10. The stated objectives of the project are flawed, as neither projected shortfalls of gas or lower prices may eventuate, and both can be resolved by other means.
11. The project is a 20-year fossil fuel development, which is incompatible with the Victorian RET of 40% renewables by 2025, 50% by 2030 and net zero by 2050.
12. The project is contrary to AGL's own policy of a shift away from fossil fuel energy and a focus on ecologically sustainable development.

Climate change is a public health emergency

A warming climate is already exposing Australians to more frequent and extreme bushfires, heatwaves, droughts, flooding, and severe storms. Last summer's bushfires and record-breaking heatwaves show that our changing climate is already taking a devastating toll on Australian lives and environments. Bushfires of unprecedented duration and severity tragically took lives, destroyed eleven million hectares of land and infrastructure, and killed three billion animals. Bushfire smoke blanketed major urban areas for months, affecting about 80% of the population on whom the health toll is not yet fully known. An early study shows an estimated 445 deaths and over 3000 hospitalisations over the summer due to bushfire smoke.¹ Unabated climate change threatens Australia's water supplies and food-growing capacity and could ultimately challenge our ability to survive in many regions of this continent. On current trends, the accumulated loss of wealth due to reduced agricultural and labour productivity alone is projected to be \$4 trillion by 2100.²

Major health organisations in Australia and around the world have declared that climate change is a health emergency and represents an existential threat to public health.³

It is worth noting that the health impacts of climate change are likely to dwarf those arising from the current devastating COVID-19 outbreak. Action on COVID-19 has been decisive, founded on the best available scientific evidence and focussed on health and not economics. In contrast, the response to climate change has involved indecision, science being side-lined, and health concerns being sacrificed for economic ones.

It is not only health organisations that are calling for immediate and effective action on climate change. Australia's Reserve Bank has endorsed a warning that without more ambitious Australian and international climate change policies, more frequent weather-related disasters and 'transition risk' will lead to a financial crisis and fall in global GDP.⁴ The Australian Energy Council (AEC), of which

¹ Johnston F et al. Unprecedented smoke-related health burden associated with the 2019–20 bushfires in eastern Australia Medical Journal of Australia 12th March 2020.

<https://onlinelibrary.wiley.com/doi/full/10.5694/mja2.50545>

² Steffen W, Mallon K, Kompas T, Dean A, Rice M. Compound costs: how climate change is damaging Australia's economy. 2019. Available at: <https://www.climatecouncil.org.au/wp-content/uploads/2019/05/Costs-of-climate-change-report.pdf>

³ <https://climateemergency-notimeforgames.nationbuilder.com/>

⁴ <https://www.smh.com.au/politics/federal/global-gdp-to-fall-25-per-cent-without-more-climate-action-banks-warn-20200625-p5563t.html>

AGL is a member, has recently called for the Morrison government to set a target of net zero GHG emissions by 2050. The AEC recognises the need to decarbonise the economy and supports stable national policies to do so. This is at odds with AGL's plan to expand gas infrastructure and bring more gas into the Victorian market for the next two decades.⁵

Health should be at the centre of COVID-19 recovery plans

Amid rising concern within the health profession of the health risks posed by climate change, Australia's peak medical groups have issued a joint statement calling on Prime Minister Scott Morrison to place health at the centre of Australia's Covid-19 pandemic economic response. The groups represent around 90,000 individual doctors, or 75% of the nation's medical workforce. The statement calls for a health-centred economic approach to support a transition away from fossil fuels - both coal and gas - to renewables, and investment in projects and technologies that preserve our natural environment.^{6, 7}

A similar appeal was made by financial and industrial bodies including the big four banks and major corporations, to make 'sustainable investments' in areas such as health, clean energy and urban infrastructure.^{8,9} United Nations chief economist, Elliott Harris, has urged Australia and other countries across the world to place more ambitious climate action and investment in clean energy at the centre of their COVID-19 recovery plans. While business leaders in Australia have also been putting pressure on the federal government to prioritise renewable energy projects.¹⁰

In contrast, the National COVID-19 Co-ordination Commission is advocating for a 'gas-led' economic recovery in Australia and is discussing the provision of public infrastructure for gas delivery.¹¹ Continued investment in the expansion of gas infrastructure implies a committed future of GHG emissions, completely at odds with all expert scientific and health advice.

Gas is not a transition fuel

The EES says "The Project would assist in Victoria's transition to a low-carbon economy" (Chapter 2-1) and "Gas is an important enabler of the energy transition" (Chapter 2-3).

Gas is not a transition fuel.¹² Low-carbon sources of energy and storage are now available at competitive prices, and there should be no new gas projects to delay their uptake. Gas is being proclaimed as cleaner than coal because its combustion produces fewer emissions. However, fugitive emissions are leakages of methane, which occur at every stage of the gas industry; mining, de- and re-gasification, transport, storage and use. Fugitive emissions of 2% or higher negate any climate benefit of gas over coal. The EES estimates fugitive emissions from the project as 3% which is Victoria's estimated average. Life-cycle emissions from LNG, including recent estimates of methane leakage from gas fields and other points in the gas supply chains, are from 29% lower to 16% higher

⁵ <https://www.theguardian.com/environment/2020/jun/25/major-energy-companies-call-on-coalition-to-set-target-of-net-zero-emissions-by-2050>

⁶ <https://www.dea.org.au/wp-content/uploads/2020/08/2020-08-06-Healthy-Recovery-Letter--Scott-Morrison-PM.pdf>

⁷ https://www.dea.org.au/wp-content/uploads/2020/06/Gas-fired-recovery_frequently-asked-questions.pdf

⁸ <https://www.theage.com.au/politics/federal/business-chiefs-urge-pm-to-invest-sustainably-for-covid-19-recovery-20200807-p55jm2.html>

⁹ <https://www.theage.com.au/environment/climate-change/two-global-health-emergencies-doctors-group-backs-green-stimulus-20200810-p55kd1.html>

¹⁰ <https://www.sbs.com.au/news/australia-must-place-climate-action-at-centre-of-coronavirus-recovery-chief-un-economist-says>

¹¹ <https://www.afr.com/politics/federal/guarantee-gas-pipeline-projects-to-spur-covid-recovery-morrison-told-20200811-p55kkl>

¹² https://www.dea.org.au/wp-content/uploads/2020/06/Gas-fired-recovery_frequently-asked-questions.pdf

than coal-fired power.¹³ Research reveals fugitive emissions are an important source of steeply rising global methane levels and have been underestimated by 25%-40%.^{14, 15}

The EES does not outline any steps to better quantify fugitive emissions through monitoring of sites. (TRF - 4.4.2.3 Fugitive emissions Also - 7.2.4 Fugitive emissions Risk ID: GG7/8)

Renewables are cheaper than gas.

Gas is already struggling to compete as a fuel source for electricity against renewable energy backed up by batteries and pumped hydro. AGL itself says there is a clear business case for big batteries, which are beginning to compete with gas-fired power stations on commercial terms to firm up supplies of wind and solar.¹⁶ The Australian Energy Market Operator forecasts that the volume of gas burned to make electricity will be 80 per cent lower in 2030 than it was in 2012.¹⁷ CSIRO and AEMO analysis of the levelised cost of electricity of different power technologies shows that renewable energy with storage is already cheaper for new build power generation than gas.^{18 19}

In the US, combinations of reducing demand and wind, solar and storage technologies will produce costs 90% lower than those of proposed gas-fired power stations.²⁰ Similarly, a Carbon Tracker Institute study in South Korea found that off-shore wind, small scale solar PV and onshore wind are already cheaper than the cost of levelized power from new gas-fired power plants.²¹ A Bloomberg analysis also shows that wind and solar are now the cheapest form of energy generation.²²

¹³ Plante L, Browning J, Aitken G, Inman M, Nace T. Gas Bubble: Tracking Global LNG Infrastructure. pp4 Global Energy Monitor Report July 2020. <https://globallinghub.com/articles/gas-bubble-tracking-global-lng-infrastructure>

¹⁴ World Meteorological Association Greenhouse gas concentrations in atmosphere reach yet another high. November 25 2019. <https://public.wmo.int/en/media/press-release/greenhouse-gas-concentrations-atmosphere-reach-yet-another-high>

¹⁵ Hmiel B. et al. Preindustrial Carbon 14 in CH₄ indicates greater anthropogenic fossil CH₄ emissions. Nature: 578, 409-412 (2020) <https://www.nature.com/articles/s41586-020-1991-8>

¹⁶ <https://reneweconomy.com.au/agl-says-batteries-starting-to-compete-with-gas-generators-for-peaking-services-14973/>

¹⁷ <https://www.smh.com.au/business/the-economy/illogical-to-use-taxpayer-funds-for-new-gas-fields-20200811-p55kpi.html>

¹⁸ CSIRO (December 2019) GenCost 2019-20: preliminary results for stakeholder review, https://www.aemo.com.au/-/media/Files/Electricity/NEM/Planning_and_Forecasting/Inputs-Assumptions-Methodologies/2019/CSIRO-GenCost2019-20_DraftforReview.pdf

¹⁹ https://www.tai.org.au/sites/default/files/P955%20Narrabri%20IPC%20submission%20%5BWEB%5D_0.pdf

²⁰ Teplin, C., et al. "The Growing Market for Clean Energy Portfolios." Rocky Mountain Institute (RMI). 2019. <https://rmi.org/insight/clean-energy-portfolios-pipelines-and-plants/>

²¹ Gray, M, et al. "Whack-a-Mole: Will South Korea's coal power transition be undermined by overcompensated gas." Carbon Tracker Initiative and Solutions for Our Climate. 2020. <https://carbontracker.org/reports/whack-a-mole/>

²² <https://www.bloomberg.com/news/articles/2020-04-28/solar-and-wind-cheapest-sources-of-power-in-most-of-the-world>

There are finite health risks associated with the project

AGL's Health, Safety and Environment Policy vision is for "Zero Harm to our people and the Environment".²³ But the EES outlines finite project risks, which do not represent zero harm to either the local Crib Point community or the Western Port environment.

It is noted that in relation to health impacts of the project, the EES documents contain at least 457 pages of technical language, tables and references to statutory requirements and implementations covering the assessment, monitoring and mitigation measures for noise, vibration, dust, and air quality (Chapters 12, 13 and 25, Technical Reports G and H). Since these documents cover the genuine concerns of the community, which have been voiced during community consultation sessions, there is a need for such documents to be in plain English, and the implications of the project on public health made understandable by community members without specialist knowledge.

Despite reading these documents, several important points remain unclear.

- Will there be independent quantitative monitoring of dust, and where will those monitors be?
- What levels of air quality, particularly PM10 and PM2.5 are set as limitations?
- How will air quality be measured? 24-hour averages do not give meaningful assessment of the potential health impacts of poor air quality.

Doctors for the Environment is concerned that most of the responsibility for compliance with health parameters lies with the contractors and with the project proponents. Chapter 25.8 states there will be development and implementation of a compliance and reporting system, but it is not clear who the independent reporting body is for compliance on health issues, what disincentives are in place for breaches, and whether breaches have consequences sufficient to ensure compliance.

Air quality monitoring

Dust will be generated over two summers of construction, especially with work on the pipeline in which more than 100,000 tonnes of potentially dusty material will be moved. (Chapter 12 page 11) Dust is airborne particulate matter and can have serious health implications. Those with pre-existing lung conditions such as asthma or chronic bronchitis may have exacerbations of their disease from exposure to dust. Very small particulate matter (PM2.5) is especially bad for human health as the particles can be absorbed into the bloodstream and contribute to the risk of developing heart and lung diseases. Small particulate pollution has health impacts even at very low concentrations and no level of PM2.5 is safe.

Visual monitoring of dust by contractors during construction is proposed but is completely inappropriate as particulate matter can be invisible. There is no mention of defined parameters or triggers for the use of dust suppression measures. (Chapter 25, page 13 MM-AQ07). Visual monitoring is also a subjective measure, and local wind direction and speeds will have a direct bearing on dust impacts for local residents. There is no description or consideration of the requirement for quantitative monitoring of air quality during the construction phase. Particulate matter monitors need to measure real-time or hourly averages and not 24-hour averages.

In July 2021, the new Victorian EPA Act 2018 will come into effect and will introduce general environmental duty (GED) requiring companies to manage activities and improve compliance in issues that impact human health. Penalties will apply to instances of air pollution if the proponent is already aware of its possibility but has failed to manage or mitigate.²⁴

²³ AGL Health Safety and Environmental Policy <https://www.agl.com.au/-/media/aglmedia/documents/about-agl/who-we-are/our-suppliers/hse-policy-2020.pdf>

²⁴ Victorian Environmental Protection Agency. New laws to better protect the environment. <https://www.epa.vic.gov.au/about-epa/laws/new-laws>

Noise, vibration and lighting

There will be disturbances from noise, vibration and lighting for the two years of construction for the Gas Import Jetty and Pipeline works, and also for the duration of the 20-year operation of the facility. (Chapter 13 and TRH). During construction of the Gas Import Jetty Works, approximately 40 heavy vehicle movements per day are expected to occur to and from the Crib Point laydown area to deliver materials. (EES Chapter 4, page 47).

Victoria does not have statutory noise or vibration limits which apply to construction work. EPA Victoria provides recommendations and guidelines only, which are not enforceable. The Victorian EPA (2008) schedule of construction site noise for “any residential premises are not to exceed background noise by 10 dB or more after project commencement up to 18 months, and 5 dB or more after 18 months, and noise inaudible within any residential premises at night-time.”²⁵

The EES (Chapter 25 MM-NV02) outlines construction noise upper level criteria from 7am to 6pm is 75 dB for local households, 70 dB for community and commercial buildings, 65 dB for parks and recreational areas and 60 dB for educational institutions. Only at levels above these limits will mitigation measures be undertaken. The EES also states there will be unavoidable night work from 10pm to 7am and on weekends for up to 18 months, creating overnight construction noise. There will only be an independent reviewer of noise impacts when night work is required.

Doctors for the Environment considers the triggers for noise mitigation measures to be insufficiently strict, and construction noise is likely to exceed Victorian EPA guidelines. It is difficult to conduct a normal conversation at 75 dB, which is comparable to the noise of domestic vacuum cleaner. Yet noise levels of up to 75 dB within homes will not trigger mitigation thresholds for the duration of project construction of approximately two years.

Although noise and vibration monitoring will be carried out, Chapter 25 MM-NV06 outlines monitoring only at:

- the nearest noise sensitive residential property or properties impacted by out-of-hours works to confirm compliance with the construction noise criteria and to confirm modelling outputs
- the nearest building or assets that are within derived set back distances for structural damage
- where an asset owner’s utility standards are at risk of being exceeded.

There is no confirmation within the EES on whether monitoring will be undertaken at other households within the Crib Point township, the township’s community and commercial buildings, parks and recreational areas and educational institutions. This is an omission as noise is one of the valid community concerns about this project.

The EES inadequately describes onsite noise mitigation measures as “Works notification, Individual briefings, Specific notification, Respite offer”. (Chapter 25, MM-NV04) It is unclear what these management measures mean and what safeguards are in place to ensure such mitigation measures are actually effective in reducing noise. Neither is it clear on how these actions will be effective if unavoidable works are required.

Ongoing noise will be generated by the project’s operation for approximately 300 days/year for the project’s lifespan of 20 years. (Chapter 13.8.1, Table 13-7). Operational noises include noise from up to four tugboats needed to guide the LNG tanker to the jetty (>100 dB each), noise from an LNG carrier (115 dB), noise from the FSRU regasification unit boilers (>100 dB each), and injection and uploading of liquid nitrogen at the receiving facility (>100 dB) (TRH page 114). Importantly, there is sufficient concern from AGL about compliance with current EPA requirements to consider offsite noise

²⁵ Noise Control Guidelines Publication 1254 October 2008. EPA Victoria
<https://www.epa.vic.gov.au/about-epa/publications/1254>

mitigation procedures such as architectural acoustic treatment of bedrooms for nearby residences. Again, it is not clear how mitigation measures will be effective if compliances are exceeded and unavoidable works are required.

Noise and public health

Environmental noise is an important public health issue, featuring among the top environmental risks. It has negative impacts on human health and well-being and is a growing concern among both the general public and policy makers.²⁶ There is sufficient scientific evidence that noise exposure, especially long-term exposure, can induce annoyance, sleep disturbance, decreased school performance, high blood pressure, ischaemic heart disease, and hearing impairment. A high priority study subject is the effects of noise on children,²⁷ and some groups such as shift workers and those working and studying from home are particularly vulnerable.

It is well established that noise can disturb sleep, and if this disturbance is severe and frequent enough it can lead to significant fragmentation and sleep deprivation which seriously affects physical and mental health. Night-time noise >55 dB is considered dangerous for public health. Epidemiological studies support already existing evidence that night-time noise is likely associated with cardiovascular disease and stroke in the elderly, and other impacts.²⁸

Construction and worksite noise can become a constant reminder of a project within a community which largely opposes it and can lead to further stresses that affect an individual's health. A 10-point checklist of physical attributes of places for healthy and sustainable communities includes good air quality and low levels of noise exposure.²⁹

There is no social licence for this project

AGL's website states – "AGL has three simple strategic priorities: growth, transformation and social licence". Despite AGL's clear strategic priority, AGL is proceeding without a social licence to develop this project.³⁰

There is both State and Federal political opposition from Members of Parliament, reflecting widespread community opposition within their electorates. All candidates for the seat of Hastings in the November 2018 Victorian State election pledged their opposition to the project, as did the Member for Flinders, federal Health Minister, Mr Greg Hunt MP.^{31,32,33} The Mornington Peninsula Shire has also unanimously voted to oppose the project, citing "The council opposes the project in the strongest possible terms as the project poses unacceptable impacts and associated risks across a range of areas."³⁴

²⁶ World Health Organisation. Environmental Noise Guidelines. 2018
<https://apps.who.int/iris/bitstream/handle/10665/279952/9789289053563-eng.pdf>

²⁷ Passchier-Vermeer W, Passchier W. Noise exposure and public health. Environmental Health Perspectives. March 2000. <https://ehp.niehs.nih.gov/doi/abs/10.1289/ehp.00108s1123>

²⁸ Hume K. et al. Effects of environmental noise on sleep. Noise and Health. 2012;14 (61), pp297-302
<http://www.noiseandhealth.org/article.asp?issn=1463-1741;year=2012;volume=14;issue=61;spage=297;epage=302;aulast=Hu>

²⁹ Capon A, Blakely E. Checklist for Healthy and Sustainable Communities. NSW Public Health Bulletin 18(4):51-54 <https://www.publish.csiro.au/NB/fulltext/NB07066>

³⁰ AGL website. "Our Strategy" <https://www.agl.com.au/about-agl/who-we-are/our-strategy>

³¹ <https://www.abc.net.au/news/2019-05-02/federal-election-2019-greg-hunt-julia-banks-battle-flinders/11065504>

³² https://www.nealeburgess.com.au/minister_must_delay_agl_ees_process

³³ <https://www.smh.com.au/environment/climate-change/anger-as-state-rejects-calls-to-pause-controversial-gas-project-20200811-p55kn5.html>

³⁴ <https://www.theage.com.au/national/victoria/report-takes-aim-at-plans-for-crib-point-floating-gas-hub-20200817-p55mh9.html>

There has been passionate and sustained community opposition to AGL/APA's proposal. Such opposition can create stressors, which are not insignificant, can affect people's health and impact relationships with family and friends. Uncertainty exacerbates impacts, and can trigger feelings of powerlessness, anger and despair. Social division about projects or large donations given to communities in the guise of 'benefit-sharing' may result in community friction and fragmentation. Many people form a strong attachment to the place where they live, finding it provides a sense of stability, security, and personal identity, and threatened loss of place can trigger feelings of ecological grief to helplessness known as 'solastalgia'.³⁵ Forests, native vegetation, grasslands, and wetlands support human health and healthy ecosystems. Spending time in nature can lower stress and lift mood, lower blood pressure and stress hormones, and benefit the immune system.³⁶

Local communities are now better informed and better equipped with the tools needed to fight unwelcome developments. There is more engagement around protecting health and local environments. In particular, there is widespread community concern about climate change, and the impacts it will have in our lifetimes and those of our children and grandchildren. The majority of Australians want urgent action on climate change and better environmental protection.³⁷

The project is a risk to the Western Port environment and surrounds

Human health is indivisible from the natural world. Doctors for the Environment understands that healthy ecosystems are essential for the fundamentals of good health - access to clean water, clean air, nutritious food and a stable climate, and biodiversity is an essential requirement for healthy ecosystems.

Matters of National Environmental Significance (MNES) at Western Port

The EES states that the Gas Import Jetty Works and Pipeline Works are likely to have significant impact on MNES relevant to Sections 16, 17B, 18, 18A, 20 and 20A of the EPBC Act. The project is situated within an internationally significant Ramsar wetland which is one of the most important habitats for migratory wader birds in south-east Australia and provides habitat for threatened species.

The EES describes the risks to the environment as low or very low but does not indicate how that level of risk rating has been achieved.

The EPBC Act regulates actions that will have or are likely to have a significant impact on any matter of national environmental significance, which includes the ecological character of a Ramsar wetland (EPBC Act1999 s16(1)).

From the Australian Ramsar Management Principles, EPBC Regulations 2000;³⁸

3.04 - An action should not be approved if it would be inconsistent with:

- (a) maintaining the ecological character of the wetland, or*
- (b) providing for the conservation and sustainable use of the wetland.*

The industrialisation of an area directly within a Ramsar wetland, which involves the permanent mooring of an operational FSRU and the unloading of up to 40 LNG tankers/year is clearly inconsistent with maintaining the ecological character of the surrounding wetlands.

³⁵ Cunsolo A, Ellis N. Ecological grief as a mental health response to climate change-related loss. *Nature Climate Change* 8, 275-281 (2018) <https://www.nature.com/articles/s41558-018-0092-2>

³⁶ DEA factsheet. <https://www.dea.org.au/why-we-need-forests-and-native-vegetation-for-our-health-fact-sheet/>

³⁷ Essential Report on Climate change policy proposals. January 2020. <https://essentialvision.com.au/climate-change-policy-proposals>

³⁸ EPBC Regulations 2000; <https://www.legislation.gov.au/Series/F2000B00190>

The Australian Ramsar Management Principles also clearly outlines the requirement for:

- 2.02 (e)...mechanisms to deal with the impacts of actions that individually or cumulatively endanger its ecological character, including risks arising from:
- (i) physical loss, modification or encroachment on the wetland, or
 - (ii) loss of biodiversity, or
 - (iii) pollution and nutrient input, or
 - (iv) changes to water regimes

Despite the requirement under the EPBC Act, the EES fails to outline mechanisms to deal with pollution such as oil spills. In addition, there will clearly be changes to water regimes within the wetlands as the gasification process at the FSRU will require the discharge of up to half a million litres of cold chlorinated seawater into the Western Port Bay. The intake of water also carries the risk of entraining marine organisms into the FRSU mechanism.

The current EPBC Act is under review and an Interim Report was released in July 2020.

The Interim Report of the EBPC Act recognises the abject failure of the Act to fulfil its objective of protecting Australia’s environment and the need for major reform. The report calls for a strong and independent regulator to address a key reason the EPBC Act has been so ineffective – “namely, the near complete failure of the Federal Government to implement it.”^{39 40}

The 2020 Auditor General’s report on the EPBC Act states that: “The Department of Agriculture, Water and the Environment’s administration of referrals, assessments and approvals of controlled actions under the EPBC Act is not effective. Governance arrangements are not sound and fail to establish risk-based approach to its regulation, implement effective oversight arrangements, or establish appropriate performance measures. Regulation is not supported by appropriate systems and processes, including an appropriate quality assurance framework. The department has not implemented arrangements to measure or improve its efficiency.” The Auditor General concludes, the department is “unable to demonstrate that conditions of approval are appropriate. The implementation of conditions is not assessed with rigour. The absence of effective monitoring, reporting and evaluation arrangements limit the department’s ability to measure its contribution to the objectives of the EPBC Act.”⁴¹

Though the EES states that it will be operating within guidelines of the EPBC Act, these guidelines have repeatedly and demonstrably failed.

Australians have lost confidence in the government’s role in protecting the environment. There has been egregious mismanagement of the Murray Darling river system, the Great Barrier Reef, and Australia’s native vegetation, which provide habitats for endangered flora and fauna. Australia has the highest rate of mammalian extinction and the second highest rate of biodiversity loss in the world, and many species now listed as critically endangered are without adequate plans for their protection. Even now in the aftermath of the 2019-20 summer’s devastating bushfires, there is a rush to cut “Green Tape” and push through fossil fuel projects. The Interim Report of the EBPC Act’s call for an independent regulator has already been dismissed by the government.⁴²

³⁹ <https://www.dea.org.au/wp-content/uploads/2020/07/DEA-Response-to-EPBC-Review-Interim-Report-2020.pdf>

⁴⁰ <https://epbcactreview.environment.gov.au/resources/interim-report>

⁴¹ The Auditor-General. Referrals, assessments and approvals of controlled actions under the EPBC Act 1999. 2020 https://parliinfo.aph.gov.au/parliInfo/download/publications/tailedpapers/e3dbd671-93fc-48e4-8e7a-d7f177d55e6f/upload_pdf/Auditor-General_Report_2019-2020_47.pdf;fileType=application/pdf

⁴² <https://www.governmentnews.com.au/review-slams-epbc-calls-for-independent-cop-on-the-beat/>

Management of climate change risks such as bushfires, severe storms and storm surges.

In Chapter 23 of the EES, eleven risks to the project related to climate change are discussed. Throughout the EES, AGL/APA acknowledges more intense and frequent storms, heatwaves, droughts, bushfires, and sea level rises are being driven by increases in GHG emissions. The EES acknowledges that Victoria is particularly vulnerable to the adverse effects of climate change. Paradoxically, AGL/APA are proposing infrastructure that will further contribute to GHG emissions.

Bushfires

In the EES Chapter 16: Safety, hazard and risk, there is no mention of the risk of bushfires. The report recognises the risks of flammable materials, accidents and emergencies, which may occur as a result of construction or operation of the project yet treats these risks as isolated events and fails to acknowledge their cumulative risk in bushfire season. How do AGL and APA not take increased risks of bushfires into account when bushfire modelling programs and data are readily available? ⁴³ It is a significant oversight for this issue not to be formally and explicitly addressed.

The Emergency Response Plan briefly outlined in Chapter 16.7 of the EES states that plans will be developed in the event of an emergency in accordance with the Emergency Management Victoria framework, but these plans are not available.

In Chapter 17, there is brief mention adhering to the Bushfire Management Overlay (BMO) policy developed in conjunction with the Victorian State Government (DELWP). However, this policy lacks detail and therefore relies on developers exploring the risks and considerations outlined. The BMO policy states a way to reduce the vulnerability of affected communities is “through the consideration of bushfire risk in decision making at all stages of the planning process”. ⁴⁴ How does simply referencing this policy at each stage of development in the EES demonstrate meaningful application of these considerations?

Chapter 23; Table 23.2-7,8 of the ESS describes the risks to the project from bushfires, and discusses the risk of damage to assets, operational disruption and worker safety. The risk rating is “low”, and control measures are inadequately described. For example, it states that the Floating Storage and Regasification Unit (FSRU) would depart in case of a bushfire, but there is no definition of the triggers for departure. Would the FSRU depart on every day of high, extreme or catastrophic bushfire danger? Lightning is a frequent and sudden source of ignition, and in severe bushfire conditions, fires can rapidly develop and escalate within minutes. The EES does not consider the risks to the FSRU or tanker moored at the Crib Point Jetty when there is a bushfire. There is also no mention of the risk management of ember attacks on the gas import infrastructure. Embers are a feature of Australian bushfires and can be blown several kilometres ahead of a fire front.

There is no indication of what parameters the EES has used to arrive at risk ratings. Doctors for the Environment considers a ‘low’ risk rating inappropriate for bushfires at this project site. Historically, the project Area had an average of 2.7 severe fire danger days per year, which is predicted to increase with our warming climate (Table 23.2). Parts of the project Area are situated within a Bushfire Management Overlay and there have been serious bushfires in the past. In January 2016, a bushfire impacted Crib Point with so little warning that the first many residents knew about it was a CFA warning to stay at home and shelter. Houses at Crib Point were burnt out in the fire. ⁴⁵

⁴³ Spark: a wildfire simulation toolkit. CSIRO. <https://research.csiro.au/spark/>

⁴⁴ DELWP Victoria. Bushfire planning https://planning-schemes.delwp.vic.gov.au/schemes/vpps/13_02-1S.pdf

⁴⁵ <https://www.theage.com.au/national/victoria/fire-devastation-at-crib-point-20160118-gm8lj8.html>

Heatwaves

While extreme heat is listed as a climate hazard (Ch 23, Table 23.1), and the risk description describes “damage to assets”, there is no detail on what that damage could entail. There is no mention of risk management and safety concerns to the FSRU and Gas Import Jetty Works on days of extreme heat. Does extreme heat impact the safety of LNG stored in the tanker, and what safety procedures need to be implemented, if any?

Storms and storm surges

High winds can damage infrastructure, and the EES predicts more regular and severe storm events in the region as an impact of climate change. (Table 23.2-10). Existing controls for extreme winds and storms include “Mooring system designed to meet greater than 1:50-year storm event”. There is no definition of what this means in terms of wind speeds and no outline of emergency management if mooring systems fail.

The EES (23.1) states that modelling for storm tide and storm surge is complex, so no modelling was undertaken as part of the EES climate change risk assessment. Doctors for the Environment considers this an inadequate approach to risk management as a shipping accident or stranding would have a high or catastrophic impact on the local environment.

Globally, it is being increasingly recognised that FSRUs and their associated infrastructure are susceptible to extreme weather. Gas import/export facilities in Asia and the Mediterranean are closing floating LNG terminals because of severe coastal weather making the operation of FSRUs too hazardous. ^{46, 47, 48}

There is a low but finite risk of high impact large scale accidents

There are a range of accidents and mishaps that could have large scale negative impacts on the environment and communities at Western Port. These include shipping accidents (collisions, rollovers and strandings), large scale methane emitting accidents +/- ignition, explosions, and oil spills. The management of such accidents and emergency response plans are not included in the EES. Neither is there modelling on the impacts of oil spills within the Ramsar wetlands. Potentially devastating in their impact, the implications of such accidents should be fully addressed in the EES.

It is unclear who would pay for the consequences of an accident. In the case of the 2014 Hazelwood coal mine fire, the costs of extinguishing the fire which burnt for 45 days, and the associated public health impacts have been largely paid for by the government, not the owners of the coal mine. ⁴⁹

The EES does not address the entire carbon emissions associated with the project.

Shipping gas as LNG significantly increases its GHG footprint (Chapter 11 and TRF). Cooling gas to the very low temperatures needed to turn it into a liquid (LNG) requires large energy inputs to run

⁴⁶ Plante L, Browning J, Aitken G, Inman M, Nace T. Gas Bubble: Tracking Global LNG Infrastructure. pp14 Global Energy Monitor Report July 2020. <https://globallnghub.com/articles/gas-bubble-tracking-global-lng-infrastructure>

⁴⁷ <https://tankterminals.com/news/no-more-floating-lng-terminals/>

⁴⁸ <https://timesofmalta.com/articles/view/no-gas-power-plant-during-storms.628757>

⁴⁹ The Hazelwood mine fire inquiry. Executive Summary.

<http://report.hazelwoodinquiry.vic.gov.au/executive-summary-2/hazelwood-mine-fire.html>

compressors. In an LNG export terminal, typically 10–20% of the incoming gas is burned to power the liquefaction process.⁵⁰ LNG tankers traveling long distances add more emissions from the fuel they burn. The EES provides the case of 40 cargo ships/annum sailing from Qatar to Western Port, a round trip of 12,824 nautical miles and producing nearly 400,000 tCO₂-e/annum (TRF Table 7-16).

Overall, using gas as LNG adds around 25% more CO₂ emissions, on top of those from burning the gas for energy.⁵¹

The EES does not include downstream emissions associated with the consumption of the natural gas within Victoria. By discounting downstream emissions, the EES is grossly underestimating the impact of the project. The EES states that “The project has no ability to influence the end-use consumption of the gas” (11.4) Similar statements are made by tobacco companies making cigarettes but denying responsibility for the health of consumers who smoke them. Regardless of what counting system is in place, the carbon costs of burning LNG imported into Victoria are specific to the project and must be considered in assessing the impact on carbon emissions. Importantly, the GHG Methodologies for GHG emissions in the gas industry and the “double counting” issue should not be used as a reason to absolve gas companies from the responsibility of further contributing to climate change.

The provision of gas is creating a market that locks in future carbon emissions, rather than reducing gas demand and increasing renewable energy capacity. It is estimated that emissions associated with the commercial and residential end use of natural gas equivalent to the project’s highest possible annual supply are 8 Mt CO₂-e/year. (Chapter 11-4) Since Victoria’s total GHG emissions were 110 Mt CO₂-e/year (2017 figures), the imported gas from this single project could generate over 7% of Victoria’s total emissions. At peak capacity, the LNG import terminal could import 130-160 petajoules of gas annually. This doubles the amount of gas that Victoria consumes, which is approximately 308 petajoules gas annually (2016-17 figures).⁵²

Emissions produced by the construction, operation and maintenance of the project are outlined but not compared to similar infrastructure investment for renewable energy and storage, nor to a “no-project” base case.

In assessing the climate impact of methane escaping as fugitive emissions, the EES uses the carbon forcing potential of methane over a 100-year time frame, which is 25 times that of CO₂. However, over a 20-year time frame it has 86 times the carbon forcing potential of CO₂. Doctors for the Environment considers the 20-year time frame the more appropriate application given the already measurable health impacts of current rapid global warming. According to the IPCC, “Given that we are approaching real and irreversible tipping points in the climate system, analyses should use the shorter and more potent 20-year time frame.”^{53,54}

Neither does the EES address the significance of methane leakage from faults, failures and accidents with either the FSRU, the gas import terminal, the transfer equipment, or the pipeline. Nor does it consider the excess emissions from unexpected or emergency events that require venting of gas from either the pipeline or the FSRU.

The EES does not address the GHG emissions associated with the decommissioning of the facility and rehabilitation of the site. (Chapter 4, page 49)

⁵⁰ Lowell, D. “Assessment of the fuel cycle impact of liquefied natural gas as used in international shipping.” International Council on Clean Transportation. 2013.

https://theicct.org/sites/default/files/publications/ICCTwhitepaper_MarineLNG_130513.pdf

⁵¹ Pavlenko, N., et al. “The climate implications of using LNG as a marine fuel.” International Council on Clean Transportation. Working Paper 2020-02.

https://theicct.org/sites/default/files/publications/Climate_implications_LNG_marinefuel_01282020.pdf

⁵² Australian Energy Update August 2018.

https://www.energy.gov.au/sites/default/files/australian_energy_update_2018.pdf

⁵³ https://www.ipcc.ch/site/assets/uploads/2018/03/ipcc_far_wg_i_chapter_02.pdf

⁵⁴ <https://www.sightline.org/2019/02/12/methane-climate-change-co2-on-steroids/>

The EES does not consider the increased carbon emissions arising from the delay in the uptake of renewables. The provision of gas to new residential, commercial and industrial customers, one of the stated project objectives, will only delay the uptake and use of low carbon energy and will lock in gas demand for 10-20 years. During the stakeholder engagement process, AGL and APA heard a strong preference from the community for investment in renewable energy projects rather than gas.

The stated objectives provide questionable justification for the project

AGL's website claims that AGL is focussed on "...long-term responsibility towards... our community and to the environment in which we all work and live." "We are also committed to taking a conscientious approach to the environment by actively working to reduce greenhouse gas emissions and manage our environmental footprint."⁵⁵ The project is contrary to AGL's own policies as AGL is locking in the use of gas in Victoria's energy mix for the next decades.

The EES outlines six project objectives related to provision of cheaper gas to address potential shortfalls, and the provision gas to new commercial and domestic customers (Summary report, page 4). The justifications for the project are questionable and at odds with reducing GHG emissions.

Increase supply or reduce demand

One of AGL's justifications for the project is Victoria's projected shortfall in gas supply. There is no gas supply shortage in Australia. Victoria currently produces enough gas to meet current and projected needs, but export contracts sees our gas sent interstate and overseas.

Importantly, any gas shortfall can be addressed by governance already established. The justification for the project ignores The Australian Domestic Gas Security Mechanism (ADGSM) which exists to ensure the domestic market does not experience shortfalls due to gas export commitments. This mechanism means that, if necessary, the government can restrict liquefied gas exports if they are deemed to leave the domestic market short of gas. The decision as to whether or not to restrict exports sits with the Commonwealth Minister for Resources and Northern Australia.⁵⁶ It would seem obvious that the ADGSM would be triggered if gas was sent overseas while Australian consumers faced a shortfall. In addition, a National Gas Reservation Scheme may be established by February 2021, and though it applies only to future gas projects, may obviate the need for an LNG terminal that would not be in operation until 2023.⁵⁷

In 2017, AEMO forecasted potential shortfalls in 2018 and 2019 which did not eventuate because modelling forecasts failed to predict rapidly changing markets.⁵⁸ Current AEMO projections of potential shortfalls after 2025 cited in the Department's Assessment similarly do not take into account

⁵⁵ AGL website: Climate statement and commitments 2020. <https://www.agl.com.au/-/media/aglmedia/documents/about-agl/asx-and-media-releases/2020/climate-statement-and-commitments-300620.pdf?la=en&hash=EBDA051D480ABE11F5C5D29B96D7276F>

⁵⁶ Australian Domestic Gas Security Mechanism. Department of Industry Science Energy and Resources, Australian government. <https://www.industry.gov.au/regulations-and-standards/australian-domestic-gas-security-mechanism>

⁵⁷ East Coast gas market. Department of Industry Science Energy and Resources, Australian government <https://www.energy.gov.au/government-priorities/energy-markets/gas-markets>

⁵⁸ Australian Energy Market Operator. 2017 Gas Statement of Opportunities. <https://www.aemo.com.au/energy-systems/gas/gas-forecasting-and-planning/gas-statement-of-opportunities-gsoo/2017-gas-statement-of-opportunities-2017-june-energy-supply-outlook-and-2017-september-update>

overseas markets, government actions to avoid shortfalls such as the ADGSM, reductions in demand and importantly have not included the impact of the global COVID-19 pandemic. ⁵⁹

While AGL is focussed on meeting supply, no consideration is given to reducing demand for gas. Eastern Australian gas demand has fallen 14% since its peak in 2012. One study predicts a 73% reduction in annual domestic gas demand in Victoria with effective policies. Using electricity for heat pumps and domestic appliances is cheaper over the long term and will produce fewer emissions. This is true even when much of our electricity is generated by fossil fuels, and more so when energy is generated through renewables. ⁶⁰

Gas in the home

Victorians are the highest domestic gas users in Australia. There is now good evidence that indoor gas use reduces air quality within homes and can cause or exacerbate illness. This is particularly true in well-sealed new homes, or older homes upgraded for energy efficiency. All gas-burning appliances produce pollutants such as carbon monoxide, nitrogen dioxide, particulate matter, volatile organic compounds and polycyclic aromatic hydrocarbons that can reduce indoor air quality and have adverse health impacts. ⁶¹ Research in the Medical Journal of Australia estimates that 12% of childhood asthma is attributable to gas cook tops. ^{62, 63}

Doctors for the Environment supports the mandatory installation of non-gas heating and cooking appliances in all new homes and the phase-out of indoor gas burning appliances.

More gas does not mean cheaper gas

2019-20 average gas prices in Australia were the cheapest since 2015-16. ⁶⁴ East Coast prices have been predominantly determined by demand for exports and international gas prices, not levels of domestic supply, and multiple economic analyses have concluded that importing more gas into Victoria is not guaranteed to lower prices. ⁶⁵

⁵⁹ Australian Energy Market Operator. 2020 Gas Statement of Opportunities.

<https://www.aemo.com.au/energy-systems/gas/gas-forecasting-and-planning/gas-statement-of-opportunities-gsoo>

⁶⁰ Victorian gas market – demand side measures to avoid forecast supply shortfall. Environment Victoria. March 2020. <https://environmentvictoria.org.au/2020/06/03/victorian-gas-market-demand-side-measures-to-avoidforecast-supply-shortfall/>

⁶¹ DEA factsheet [https://www.dea.org.au/wp-content/uploads/2020/05/Home-gas-appliances-fact-sheet-\(1\).pdf](https://www.dea.org.au/wp-content/uploads/2020/05/Home-gas-appliances-fact-sheet-(1).pdf)

⁶² Cowie C. Damp housing, gas stoves, and the burden of childhood asthma in Australia. The Medical Journal of Australia. April 2018. 208 (7) pp 299-302

https://www.researchgate.net/publication/324544284_Damp_housing_gas_stoves_and_the_burden_of_childhood_asthma_in_Australia

⁶³ <https://turnoffthegas.good.do/turnoffthegas/turnoffthegas/>

⁶⁴ Australian Energy Regulator quarterly report. 14 August 2020. <https://www.aer.gov.au/wholesale-markets/market-performance/wholesale-markets-quarterly-q2-2020>

⁶⁵ Robertson B. The staggering cost of gas in Australia. Institute for Energy Economics and Financial Analysis. July 2019. <https://ieefa.org/the-staggering-cost-of-gas-in-australia/>

The ACCC's interim report into Australia's gas supply arrangements, "delivers a damning assessment of the Australian gas market, detailing how Australian domestic consumers are paying almost double the equivalent price of gas sold on the export market."^{66 67}

Conclusion

DEA opposes the approval of this project in the strongest possible terms. There are significant health and environmental concerns that the EES has failed to properly address, there is no social licence and Australia is in the midst of a climate health emergency, of which last summer's heatwaves and bushfires are stark testimony. LNG is not the way to a low carbon future.

⁶⁶ <https://reneweconomy.com.au/dysfunctional-gas-industry-failing-australian-consumers-with-inflated-prices-10337/>

⁶⁷ Gas Inquiry 2017-2025. Australian Competition and Consumer Commission. July 2020.
<https://www.accc.gov.au/system/files/Gas%20inquiry%20July%202020%20interim%20report.pdf>