Environmental Defenders Office

Submission Regarding the Draft Petroleum Legislation Amendment Bill (No. 2) 2022

23 February 2023

About EDO

EDO is a community legal centre specialising in public interest environmental law. We help people who want to protect the environment through law. Our reputation is built on:

Successful environmental outcomes using the law. With over 30 years' experience in environmental law, EDO has a proven track record in achieving positive environmental outcomes for the community.

Broad environmental expertise. EDO is the acknowledged expert when it comes to the law and how it applies to the environment. We help the community to solve environmental issues by providing legal and scientific advice, community legal education and proposals for better laws.

Independent and accessible services. As a non-government and not-for-profit legal centre, our services are provided without fear or favour. Anyone can contact us to get free initial legal advice about an environmental problem, with many of our services targeted at rural and regional communities.

Environmental Defenders Office is a legal centre dedicated to protecting the environment.

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Acknowledgment of Country

Environmental Defenders Office recognises the Traditional Owners and Custodians of the land, seas and rivers of Australia. We pay our respects to Aboriginal and Torres Strait Islander Elders past, present and emerging, and aspire to learn from traditional knowledges and customs so that, together, we can protect our environment and cultural heritage through law.

Submitted to:

Hon. Bill Johnston
Minister for Mines and Petroleum

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Background

On 6 December 2022, the Draft Petroleum Legislation Amendment Bill (No. 2) 2022 was released for consultation (**PLA Bill**). The PLA Bill proposes a number of "urgent"[1] amendments to the *Petroleum and Geothermal Energy Resources Act 1967* (WA) (**PGER Act**), *Petroleum Pipelines Act 1969* (WA) (**PP Act**) and *Petroleum (Submerged Lands) Act 1982* (WA) (**PSL Act**) (collectively "**Petroleum Acts**") relating to environmental protection, royalty calculation, underground storage and extraction and transportation of naturally-occurring hydrogen.

The Environmental Defenders Office (**EDO**) welcomes the opportunity to provide comments on the PLA Bill. We commend the amendment of the Petroleum Acts to provide greater environmental protection, and to attempt to ensure that the cost of environmental harm caused by fossil fuel production is borne by those who profit from the harmful activities. However, the PLA Bill falls short of its goal of ensuring the cost of localised environmental harm is properly internalised, and also contains other shortcomings. Accordingly, we offer the following comments and recommendations for amendment.

EDO's submission on the Amendment Bill is couched in the context of its Roadmap for Climate Reform (**Roadmap**). We advocate for law reform that is science-aligned, prudent and ambitious enough to meet the scale of the climate crisis.

Summary of recommendations

Recommendation 1: The PLA Bill must proceed from a science-based position, being that petroleum activities must be phased out, and no new petroleum fields will be approved.

Recommendation 2: The proposed "polluter pays" principle must make explicit that a titleholder is also liable for care and maintenance of the title area, decommissioning of operations, and rehabilitation of the title area.

Recommendation 3: The PLA Bill should amend the Petroleum Acts to reflect the scheme established under the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (Cth) (**OPGGS Act**), being that:

(a) a titleholder must, at all times while the title is in force, maintain financial assurance sufficient to give the titleholder the capacity to meet costs, expenses and liabilities arising in connection with, or as a result of:
    i. the carrying out of petroleum operations, pipeline operations or offshore resource operations; or
    ii. the doing of any other thing for the purposes of the petroleum operations, pipeline operations or offshore resource operations; or
    iii. complying (or failing to comply) with a requirement under the Petroleum Acts, or a legislative instrument under any of the Petroleum Acts, in relation to the petroleum operations, pipeline operations or offshore resource operations.

[1] Government of Western Australia, 'Petroleum Bill strengthens regulation and security for green energy' (Media Statement, 6 December 2022) <https://www.mediastatements.wa.gov.au/Pages/McGowan/2022/12/Petroleum-Bill-amendments-strengthen-regulation-and-security-for-green-energy.aspx>

(b) The following forms of financial assurance are acceptable to meet the requirement to maintain financial assurances:
    i. Insurance;
    ii. A bond;
    iii. The deposit of an amount as security with a financial institution;
    iv. An indemnity or other surety;
    v. A mortgage.
(c) Demonstration of compliance with the financial assurance requirements is a precondition to approval of an environment plan.

Recommendation 4: The PLA Bill should give the Ministers the power to direct a person to take action to clean up escaped petroleum, remove property from a title area, decommission operations and rehabilitate a petroleum operation area. Reflecting the scheme established under the OPGGS Act, persons who may be directed should include not only the existing interest-holder, but also any related body corporate, any former interest-holder, a related body corporate of a former interest-holder, any person capable of significantly benefiting financially, or who has significantly benefited financially, from the operations authorised, and any person who is or has been, at any time, in a position to influence the way in which a person complies, or has complied, with their obligations to care for and maintain an area, decommission and remediate a site, and maintain adequate financial assurances.

Recommendation 5: The PLA Bill should be amended to remove provisions enabling the exploration and production of naturally occurring hydrogen through petroleum titles.

Recommendation 6: Any future decision about whether to prescribe hydrogen as a substance that may be blended and conveyed through a petroleum pipeline must be made with consideration of the different properties of hydrogen; adequate testing, trialing and monitoring of the pipeline network, and set limits based on science with an adequate margin for safety.

Recommendation 7a: The PLA Bill should prohibit, rather than authorise, injection of petroleum into a natural underground reservoir.

Recommendation 7b: Alternatively, the penalty set out in proposed s 67 for unlawful injection should be increased by at least a factor of 10, to reflect the potentially catastrophic consequences of the prohibited activity.

Recommendation 8: The PLA Bill should increase all penalty provisions throughout the Petroleum Acts to appropriately reflect the seriousness of the offence being punished, which must be at least in line with inflation since each penalty provision was introduced.

Recommendation 9: The PLA Bill should introduce a penalty unit system to replace the outdated existing specific financial penalty provisions throughout the Petroleum Acts.

Recommendation 10: The Petroleum Acts should be reviewed for the opportunity to amend decision-making processes to require public notice of applications for titles, permits, authorisations and licences, and to provide opportunities for public comment on those applications.

Recommendation 11: The PLA Bill should be amended to ensure that power to make regulations for grant of an authorisation to inject petroleum include publication of applications for an authorisation and the opportunity for public comment.

Recommendation 12a: The PLA Bill should amend the Petroleum Acts to allow third party enforcement, modelled on section 9.45 of the *Environmental Planning and Assessment Act 1979* (NSW):

> (1) Any person may bring proceedings in the Court for an order to remedy or restrain a breach of this Act, whether or not any right of that person has been or may be infringed by or as a consequence of that breach
>
> (2) Proceedings under this section may be brought by a person on his or her own behalf or on behalf of himself and on behalf of other persons (with their consent), or a body corporate or unincorporated (with the consent of its committee or other controlling or governing body), having like or common interests in those proceedings.
>
> (3) Any person on whose behalf proceedings are brought is entitled to contribute to or provide for the payment of legal costs and expenses incurred by the person bringing the proceedings.

Recommendation 12b: Alternatively, the PLA Bill should provide expanded standing for enforcement of the Petroleum Acts, modelled on sections 475 and 487 of the *Environment Protection & Biodiversity Conservation Act 1999* (Cth) (**EPBC Act**):

> (1) A person has standing to bring a proceeding to Court for an order to remedy or restrain a breach of this Act if:
>
> > (a) the person is an Australian citizen or ordinarily resident in Western Australia; and
> >
> > (b) at any time in the two years immediately before the breach, the person engaged in a series of activities in Western Australia for protection or conservation of, or research into, the environment.

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I. The starting point for any statutory amendments must be that Western Australia must phase out petroleum production to ensure a safe climate

At the outset, we remind the government of Western Australia that it is a component of the Earth System.[2] It is an institution of the anthroposphere with the ability to affect future outcomes. The decisions the government makes today will affect the level of risk that the environment and people of WA face in the future. The time has come for the Department of Mines, Industry Regulation and Safety (**DMIRS**) and the Minister for Petroleum and Energy (**Minister**) to stop recommending and approving petroleum activities that will add to the climate crisis. The Minister and DMIRS must accept that the decisions they make under the Petroleum Acts have real and direct consequences for the global climate and in turn the people of WA.

It is a moral imperative that decision-makers at all levels of government apply the law in ways that will ensure the safety and survival of the people and ecosystems affected by those decisions. Indeed, this is the very obligation imposed on the Western Australian Environmental Protection Authority (**EPA**) by s 4A of the *Environmental Protection Act 1986* (WA) (**EP Act**). Any amendments to the Petroleum Acts must be made with acknowledgement that the continued approval of new petroleum activities is no less than a matter of life and death for the ecosystems and people of WA.[3]

As courts in Australia have already concluded, in considering the potential impacts of climate change upon future generations in Australia:

> *It is difficult to characterise in a single phrase the devastation that the plausible evidence presented in this proceeding [about the impacts of climate change] forecasts for the Children. As Australian adults know their country, Australia will be lost and the World as we know it gone as well. The physical environment will be harsher, far more extreme and devastatingly brutal when angry. As for the human experience – quality of life, opportunities to partake in nature's treasures, the capacity to grow and prosper – all will be greatly diminished. Lives will be cut short. Trauma will be far more common and good health harder to hold and maintain. None of this will be the fault of nature itself. It will largely be inflicted by the inaction of this generation of adults, in what might fairly be described as the greatest inter-generational injustice ever inflicted by one generation of humans upon the next.*[4]

In *Sharma v Minister for the Environment* [2021] FCA 560 (***Sharma***), the Court relevantly made the following findings (which were not disturbed on appeal in *Minister for the Environment v Sharma* [2022] FCFCA 35):

a. if the global average surface temperature increases beyond 2°C, there is a risk, moving from very small (at about 2°C) to very substantial (at about 3°C), that Earth's natural systems will propel global surface temperatures into an irreversible 4°C trajectory, resulting in global average surface temperature reaching about 4°C above the pre-

[2] Will Steffen et al, 'The emergence and evolution of Earth System Science' (2020) *Nature Reviews: Earth and Environment* 1:54-63.

[3] See, for example: Lucas R. Vargas Zeppetello, Adrian E Raftery and David S. Battisti, 'Probabilistic projections of increased heat stress driven by climate change' (2022) *Commun Earth Environ* 3, 183 (2022).

[4] *Sharma v Minister for Environment* [2021] FCA 560 [293], finding not overturned on appeal.

industrial level by about 2100.[5] That is, given the gravity of our current circumstances and the potentially catastrophic outcomes, the scale at which emissions reductions (or increases) are material is much lower.

b. The risk of harm from climatic hazards brought about by increased global average surface temperatures is on a continuum in which both the degree of risk and magnitude of the potential harm will increase exponentially if the Earth moves beyond a global average surface temperature of 2°C, towards 3°C and then to 4°C above the pre-industrial level.[6]

c. Exceeding the carbon budget for 2°C or even 1.5°C will lead to severe, irreversible and potentially cascading climate change harm.[7]

In *Bushfire Survivors for Climate Action v Environment Protection Authority* [2021] NSWLEC 92, in which the Court ordered the NSW Environment Protection Authority to develop environmental quality objectives, guidelines and policies to ensure environment protection from climate change, the court referred approvingly to evidence that:

a. The State's emissions trajectory was incompatible with holding global warming to 1.5°C;[8]

b. The State was outside its population share of the 1.5°C carbon budget;[9] and

c. The State was a major contributor to the production gap, being the discrepancy between planned fossil fuel production and global production levels consistent with limiting warming to 1.5°C.[10]

Yet, in direct contrast to those findings, and at a time when:

a. the United Nations Secretary-General has warned that "[i]nvesting in new fossil fuel infrastructure is moral and economic madness,"[11]
b. the EPA itself acknowledges the scientific consensus that allowing the world to heat by more than 1.5°C degrees will cause 'catastrophic consequences,'[12]
c. WA ecosystems 'are already at critical thresholds and further warming will result in damage and loss that is irreversible,'[13]
d. Best-practice measures to avoid and reduce greenhouse gas emissions can include facility closure;[14] and

[5] Ibid [74].
[6] Ibid [75].
[7] Ibid [88].
[8] *Bushfire Survivors for Climate Action v Environment Protection Authority* [2021] NSWLEC 92 [87].
[9] Ibid [88].
[10] Ibid [89].
[11] UN Secretary-General Antonio Guterres, 'Secretary-General Warns of Climate Emergency, Calling Intergovernmental Panel's Report 'a File of Shame', While Saying Leaders 'Are Lying', Fuelling Flames' (Media Release SG/SM/21228, 4 April 2022) <https://press.un.org/en/2022/sgsm21228.doc.htm>.
[12] Western Australian Environmental Protection Authority, *Environmental Factor Guideline: Greenhouse Gas Emissions* (Draft Revised Guideline, 27 July 2022) 2.
[13] Ibid 3.
[14] Ibid 8.

e. the scientifically credible pathway to limiting warming to EPA's goal of 1.5°C requires that no new gas and oil fields be approved for development after 2021;[15]

the PLA Bill nonetheless is countenanced not only upon continued production of existing petroleum projects, but future approval and implementation of new petroleum projects.

The urgency of the climate crisis now dictates that governments move beyond a "polluter pays" philosophy that completely ignores the magnitude of harm caused by continued production of fossil fuels. The only approach to petroleum pollution that is consistent with science is to move rapidly to phase out petroleum activities (other than decommissioning and rehabilitation) in Western Australia. To pretend, or allow otherwise, is contrary to scientific consensus, and the moral obligation owed by this generation to future generations.

RECOMMENDATION: The PLA Bill must proceed from a science-based position, being that petroleum activities are to be phased out, and no new petroleum fields will be developed.

II. Adoption of "polluter pays" principle is to be commended, but further provisions are necessary to ensure obligations are meaningful

A. Financial assurances are an essential aspect of the "polluter pays" principle

We commend DMIRS' intention that the companies that stand to profit from fossil fuel extraction should be liable for harm caused by "escape of petroleum", rather than the taxpayers of the state. We support the amendment of the Petroleum Acts to make clear that the registered titleholder carries a legal obligation to control, eliminate, clean up, and monitor the impact of any escape of petroleum; and that where efforts are inadequate, the Minister may recover from the titleholder the cost of the State fulfilling the obligations.

However, the amendments DMIRS proposes are inadequate for ensuring that the obligation is meaningful. Although the Information Sheet for the PLA Bill states that the "polluter pays" principle "has been adapted from the *Offshore Petroleum Greenhouse Gas Storage Act 2006* (Cth)", the PLA Bill fails to mirror the federal provisions that ensure that titleholders have sufficient funds to carry out their clean-up obligations, or that the costs can be recovered.

Section 571 of the OPGGS Act requires a titleholder to maintain financial assurances sufficient to give the titleholder the capacity to meet costs, expenses and liabilities in connection with its activities, including the costs of complying with, or failing to comply with, any requirements of the OPGGS Act. Regulations made pursuant to the OPGGS Act provide that an environment plan may not be approved unless the National Offshore Petroleum Safety and Environmental Management Authority (**NOPSEMA**) is reasonably satisfied that the titleholder is compliant with its obligations under section 571, in a form that is acceptable to NOPSEMA.[16] The PLA Bill does not include any

[15] International Energy Agency, *Net Zero by 2050: A Roadmap for the Global Energy Sector – Summary for Policymakers* (May 2021) 11 <https://iea.blob.core.windows.net/assets/7ebafc81-74ed-412b-9c60-5cc32c8396e4/NetZeroby2050-ARoadmapfortheGlobalEnergySector-SummaryforPolicyMakers_CORR.pdf>.
[16] *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (Cth) reg 5G.

equivalent requirement that would ensure that an interest-holder actually has the financial capacity to either carry out clean-up obligations, or reimburse the State for such costs incurred.

Experience with taxpayers bearing the cost of decommissioning and remediating petroleum extraction projects (described further below) demonstrates the importance of ensuring that liabilities can be met, if the commendable "polluter pays" provisions are to fulfil their purpose.

B. Financial assurances should also be required for care and maintenance, decommissioning and rehabilitation

We commend the expansion of the definition of "petroleum operation", "pipeline operation" and "offshore resource operation" to include decommissioning and rehabilitation activities,[17] to

> ensure care and maintenance, decommissioning and rehabilitation are explicitly captured as recognised operations, meaning titleholders are obligated to properly plan for, report on, and undertake care and maintenance, decommissioning and rehabilitation as would be required for any other recognised petroleum operation.[18]

However, given the experiences of other jurisdictions, and in order to be consistent with DMIRS' "principal" position that resource industry activities must be decommissioned and rehabilitated without unacceptable liability to the State,[19] it is important that there be clarity that interest-holders are also financially responsible for decommissioning and rehabilitation, and, as with liability for escape of petroleum, interest-holders have financial capacity to carry out their obligations.

Unlike mining tenements, which are subject to annual tenement levies to contribute to the Mining Rehabilitation Fund,[20] petroleum activities are not subject to any requirement to ensure interest-holders[21] or the State have sufficient financial resources to fulfil decommissioning and rehabilitation obligations. Currently, petroleum levies in Western Australia only fund the administration of safety regulations.[22] Absent fulfilment of decommissioning obligations through processes such as plugging, petroleum wells continue to leak volumes of methane (in addition to brine and petroleum products) which will adversely impact Western Australia's ability to meet its net zero goals.

Experience in Australia and other jurisdictions of petroleum producers avoiding decommissioning and rehabilitation liabilities through bankruptcy demonstrates the absolute necessity of requiring financial assurances not only for "escape of petroleum" events but also for site decommissioning and remediation. The burden to taxpayers of decommissioning and rehabilitation can be extensive.

In 2015 Woodside Energy Ltd, after announcing its intention to cease production from the Northern Endeavour and decommission the Laminaria-Corralina oil fields, instead entered into a sale agreement by which both the facility and fields were ultimately transferred to a sole-director

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[17] PLA Bill, proposed s 5.
[18] DMIRS, *Petroleum Legislation Amendment Bill (No. 2) 2022 (WA): Summary* (December 2022) 2.
[19] DMIRS, *Draft Decommissioning Discussion Paper for WA onshore and State waters petroleum, geothermal and pipeline property, equipment and infrastructure* (Draft Discussion Paper, 19 September 2022) 3.
[20] See *Mining Rehabilitation Fund Act 2012* (WA) and *Mining Rehabilitation Fund Regulations 2013* (WA).
[21] These submissions use the term "interest-holder" to collectively refer to titleholders, as well as permit and licence holders.
[22] See, *Petroleum and Geothermal Energy Safety Levies Act 2011* (WA).

company incorporated a month before the sale agreement was entered.[23] After this new entity went into liquidation, after three years of concerns about its safety and environmental performance,[24] the federal government was faced with more than $300 million in decommissioning and remediation of the Northern Endeavour Floating Production Storage and Offtake facility, and the Laminaria-Corralina oil fields,[25] and consequently introduced levies on offshore oil and gas production to recover the costs.[26] The subsequent federal government inquiry into the collapse recommended regulators ensure titleholders provide financial surety for their decommissioning liabilities in a form available to the government in case of a titleholder going into liquidation.[27]

In the United States, where abandonment of wells is an increasing problem, Congress allocated more than USD$4.7 billion of taxpayer money in 2021 to go toward plugging of abandoned petroleum wells.[28]

In New Zealand, decommissioning of the Tui oil field off Taranaki has cost taxpayers more than $300 million following operator Tamarind Taranaki going into liquidation before undertaking decommissioning.[29] The Tamarind Taranaki scandal resulted in amendment of the *Crown Minerals Act 1991* (NZ) to not only impose a statutory obligation on petroleum permit and licence holders to decommission wells and infrastructure, but to require permit and licence holders to maintain adequate financial security to carry out their obligations.[30]

In light of lessons from Australian federal and New Zealand jurisdictions, EDO recommends that the State should expand the scope of the "polluter pays" provisions to include not only "escape of petroleum", but also decommissioning and rehabilitation of petroleum operations, pipeline operations and offshore resource operations, and to require sufficient financial assurances to ensure those obligations will be met.

C. PLA Bill should introduce trailing liability provisions to ensure decommissioning and rehabilitation occurs without expense to the taxpayer

The independent investigation into NOPSEMA's experience with the Northern Endeavour clean-up recommended consideration of trailing liability, whereby a titleholder remains liable for decommissioning and removal of its infrastructure even where its interests in a title are transferred

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[23] Steve Walker, 'Review of the Circumstances that Led to the Administration of the Northern Oil and Gas Australia (NOGA) Group of Companies' (June 2020) 4-5 <https://www.industry.gov.au/sites/default/files/2020-08/review-of-circumstances-that-led-to-the-administration-of-noga-executive-summary-and-recommendations.pdf>.

[24] Ibid.

[25] Peter Milne, 'Bill to decommission failed Timor Sea oil vessel tops $600 million', *Sydney Morning Herald* (online, 4 April 2022) <https://www.smh.com.au/business/the-economy/bill-to-decommission-failed-timor-sea-oil-vessel-tops-600m-20220403-p5aaf2.html>.

[26] *Offshore Petroleum (Laminaria and Corallina Decommissioning Cost Recovery Levy) Act 2022* (Cth).

[27] Walker (n 23) 9.

[28] Alex Wolf, 'Bankruptcies Fueling Environmental Crisis at Abandoned Oil Wells', *Bloomberg Law* (online, 2 September 2021) <https://news.bloomberglaw.com/bankruptcy-law/bankruptcies-fueling-environmental-crisis-at-abandoned-oil-wells>.

[29] 'U.S. sets up office to oversee abandoned oil well cleanup', *Reuters* (online, 11 January 2023), <https://www.reuters.com/world/us/us-sets-up-office-oversee-abandoned-oil-well-cleanup-2023-01-10/>.

[30] New Zealand Minister of Business, Innovation and Employment, *Tui Project: decommissioning the Tui oil field* (Web site, February 2022) <https://www.mbie.govt.nz/building-and-energy/energy-and-natural-resources/tui-project/>.

to another party.[31] Following that recommendation, amendments to the OPGGS Act granted NOPSEMA the power to issue remedial directions—written notices directing a person to, among other things, remove property brought into a title area for the purpose of operations, to plug or close off wells, to provide for conservation and protection of natural resources in the area, and to make good any damage to seabed or topsoil.[32] Notices may be directed not only to an existing permit holder, but also to:

(a) related body corporate of the registered holder of the permit, lease or licence; or
(b) any former registered holder of the permit, lease or licence; or
(c) a person who was a related body corporate of any former registered holder of the permit, lease or licence at the time the permit, lease or licence was in force;
(d) any other person the Commonwealth Minister determines, having regard to:
    a. whether a person is capable of significantly benefiting financially, or has significantly benefited financially, from the operations authorised by the permit, lease or licence;
    b. whether a person is, or has been at any time, in a position to influence the way in which, or the extent to which, a person is complying, or has complied, with the person's obligations under this Act; and
    c. whether the person acts or acted jointly with the registered holder, or a former holder, of the permit, lease or licence in relation to the operations authorised by the permit, lease or licence.

The experience of the Northern Endeavour scandal demonstrates the importance of trailing liability to ensure that persons in positions of control and influence make decisions with an eye to the financial obligations associated with petroleum spill cleanup, decommissioning and rehabilitation.

Again, in the absence of statutory mechanisms to ensure that prior or related interest-holders and the persons who control or influence them, can be held liable where an interest-holder is incapable of fulfilling its decommissioning and cleanup obligations, the proposed "polluter pays" principle is unlikely to fulfil its intended purpose.

RECOMMENDATION: The proposed "polluter pays" principle must make explicit that a titleholder is also liable for care and maintenance of the title area, decommissioning of operations, and rehabilitation of the title area.

RECOMMENDATION: The PLA Bill should amend the Petroleum Acts to reflect the scheme established under the OPGGS Act being that:

(a) a titleholder must, at all times while the title is in force, maintain financial assurance sufficient to give the titleholder the capacity to meet costs, expenses and liabilities arising in connection with, or as a result of:
    i. the carrying out of petroleum operations, pipeline operations or offshore resource operations; or
    ii. the doing of any other thing for the purposes of the petroleum operations, pipeline operations or offshore resource operations; or

[31] Walker (n 23) 9.
[32] OPGGS Act s 586(2).

iii. complying (or failing to comply) with a requirement under the Petroleum Acts, or a legislative instrument under any of the Petroleum Acts, in relation to the petroleum operations, pipeline operations or offshore resource operations.

(b) The following forms of financial assurance are acceptable to meet the requirement to maintain financial assurances:
   i. Insurance;
   ii. A bond;
   iii. The deposit of an amount as security with a financial institution;
   iv. An indemnity or other surety;
   v. A mortgage.

(c) Demonstration of compliance with the financial assurance requirements is a precondition to approval of an environment plan.

RECOMMENDATION: The PLA Bill should give the Ministers the power to direct a person to take action to clean up escaped petroleum, remove property from a title area, decommission operations and rehabilitate a petroleum operation area. Reflecting the scheme established under the OPGGS Act, persons who may be directed should include not only the existing interest-holder, but also any related body corporate, any former interest-holder, a related body corporate of a former interest-holder, any person capable of significantly benefiting financially or who has significantly benefited financially, from the operations authorised, and any person who is or has been at any time, in a position to influence the way in which a person complies, or has complied, with their obligations to care for and maintain an area, decommission and remediate a site, and maintain adequate financial assurances.

III. Extraction of naturally occurring hydrogen is a false solution to the climate crisis

A. Hydrogen extraction is not a mechanism for transitioning away from fossil fuels

The supporting information and bill summary do not make clear the motivation for enabling exploration and production of naturally occurring hydrogen. Enabling extraction of naturally occurring hydrogen is not consistent with the government's intention to review "existing legislation, regulations, and standards affecting the hydrogen industry in Western Australia to reduce barriers for the renewable hydrogen industry".[33] The assumption appears to be that hydrogen gas (H_2, dihydrogen) is an energy resource that does not exact climate penalties, no matter its source. However, this is an inaccurate perception; alternatives are often better for the climate.[34]

Production of naturally occurring hydrogen in particular will almost inevitably result in production of fossil fuels in greater proportions than any hydrogen extracted. Hydrogen in the naturally occurring form extracted from geological formations underground is widespread across continental Australia, Tasmania and the adjoining continental shelf.[35] Origins of naturally occurring hydrogen are many—biogenic and abiogenic—but it is usually a minor fraction with natural gas. Most naturally

[33] DMIRS (n 18) 3.

[34] See, for example: Editorial, 'Overhyping hydrogen as a fuel risks endangering net-zero goals' (2022) *Nature* 611: 426; Falco Ueckerdt et al, 'Potential and risks of hydrogen-based e-fuels in climate change mitigation' (2021) 11(5) *Nature Climate Change* 384.

[35] Christopher Boreham et al, 'Hydrogen in Australian natural gas: occurrences, sources and resources' (2021) 61(1) *The APPEA Journal* 163.

occurring hydrogen in Australia occurs in gas at <10%, only exceptional finds have >10%.[36] The result is that any effort to produce naturally occurring hydrogen will likely produce significantly more fossil fuels than hydrogen, and inevitably produce some fossil fuels.

Because the extraction of naturally occurring hydrogen cannot avoid the extraction of fossil gas, its extraction cannot avoid significant greenhouse gas emissions. Enabling natural hydrogen extraction therefore entrenches and encourages production of fossil fuel, contrary to the science-informed conclusion that it is necessary to rapidly phase out fossil fuel production and consumption. The proposed amendments to allow petroleum titleholders to explore for and produce hydrogen is not a mechanism for transitioning away from fossil fuels, and for that reason should be abandoned.

B. Any future decision to permit blending of hydrogen with petroleum for transportation must take into account the particular properties and risks of hydrogen

The blending of increasingly greater concentrations of hydrogen with natural gas has been recommended as part of the transition away from fossil fuels, [37] but there are significant constraints and pitfalls associated with hydrogen blending. Extant expert advice in Australia appears to settle on a blend of up to 10% hydrogen by volume in natural gas as being acceptable without any impact on pipeline infrastructure, gas safety or end uses[38]. In a detailed investigation of hydrogen impacts on downstream installations and appliances, it was revealed that in a few instances negative effects were evident at hydrogen concentrations <10%.[39] For higher hydrogen concentrations, risks compound with potential damage to pipelines, compressors and other infrastructure[40]; unacceptable gas performance for commercial and industrial users; and the need for residential users to replace gas appliances.

The very small size of the H_2 molecule and its low viscosity make it very difficult to contain.[44] Pipelines, flanges, valves and other fittings that function adequately for natural gas and other gases are prone to suffer leaks throughout with hydrogen. Another insidious and unique characteristic of hydrogen is that it can diffuse into metals to cause corrosion. With the high-strength steel used in the oil and gas industry for pipelines and storage vessels, it manifests as 'hydrogen embrittlement' causing loss of strength and ductility and leading to brittle fracture.[41] It is hydrogen atoms, rather than molecular hydrogen H_2, that diffuse into the metal lattice; the H atoms can be produced

[36] Ibid.
[37] COAG Energy Council Hydrogen Working Group, *Australia's national hydrogen strategy* (2019) Commonwealth of Australia, Canberra.
[38] See, for example: Commonwealth of Australia, *Hydrogen for Australia's Future: A Briefing Paper for the COAG Energy Council* (Briefing Paper, 2018) 48; GPA Engineering, *Hydrogen in the Gas Distribution Networks* (Report, 2018) i <http://www.coagenergycouncil.gov.au/publications/reports-support-national-hydrogen-strategy>; Australia Gas Infrastructure Group, *Dampier to Bunbury Natural Gas Pipeline* (Public Knowledge Sharing Report, 2022) <https://www.wa.gov.au/system/files/2022-01/Dampier%20to%20Bunbury%20Natural%20Gas%20Pipeline%20Public%20Knowledge%20Sharing%20Report.pdf>.
[39] GPA Engineering, *Hydrogen Impacts on Downstream Installations and Appliances* (Report prepared for SA Government, COAG Energy Council Technical Review, GPA Document No: 19567-REP-001) <https://www.dcceew.gov.au/sites/default/files/documents/hydrogen-impacts-on-downstream-installations-appliances-report-2019.docx>.
[40] See, for example: R Judd and D Pinchbeck, 'Hydrogen admixture to the natural gas grid' (2015) 4 *Compendium of Hydrogen Energy* 165; Irfan Ahmad Gondal, 'Hydrogen integration in power-to-gas networks' (2019) 44(3) *International Journal of Hydrogen Energy* 1803.
[41] Sankara Papavinasam, *Corrosion control in the oil and gas industry* (Elsevier, 2014) 287–289.

naturally in high-pressure H_2, or chemically by reaction of H_2 with impurities at the steel surface or in the gas stream.[42]

Hydrogen, like methane and propane, is colourless, odourless and tasteless, and although non-toxic is an asphyxiant. However, it differs in being the lightest and most flammable of gases, often burning with an invisible flame at high temperature, and forming explosive mixtures with air.[43] Its mixture with air has a wide flammability range (4–75% volume per volume), far exceeding that of other gas fuels, and it readily ignites (~13 times lower ignition energy than liquefied petroleum gas).[44]

These properties impose special safety precautions differing from those of gas (including liquefied natural gas and liquefied petroleum gas) at all stages—production, processing, transport, storage and use. Before any decision is made to permit hydrogen blending for conveyance, pipelines, compressors and other infrastructure must be tested, trialled and monitored to establish that they are suitable for transporting hydrogen. If blending is allowed at all, limits on proportions of hydrogen to be blended must be informed by science, with an adequate margin for safety.

RECOMMENDATION: The PLA Bill should be amended to remove provisions enabling the exploration and production of naturally occurring hydrogen through petroleum titles.

RECOMMENDATION: Any future decision about whether to prescribe hydrogen as a substance that may be blended and conveyed through a petroleum pipeline must be made with consideration of the different properties of hydrogen; adequate testing, trialing and monitoring of the pipeline network, and set limits based on science with an adequate margin for safety.

IV. Penalty provisions must reflect the serious consequences of offences and should be modernised

A. Penalty for unlawful underground injection is inadequate

Section 67 of the PLA Bill proposes to amend s 67 of the PGER Act to permit the making of regulations for underground storage of petroleum, replacing the existing system of permitting the Minister to enter into an agreement for the underground storage of petroleum. While we commend a move toward regulatory oversight of petroleum activities in place of individual agreements with the Minister, the failure to amend the penalty for underground storage of petroleum in violation of the Act is a grave oversight.

Underground storage of petroleum is a dangerous practice, and has been subject to catastrophic failures. For instance, in 2015-2016, the failure of the Aliso Canyon Underground Gas Storage Facility in southern California resulted in the largest natural gas blowout in the United States.[45] Over the

[42] K.O. Findley, M.K. O'Brien and H. Nako, 'Critical Assessment 17: Mechanisms of hydrogen induced cracking in pipeline steels' (2015) 31(14) *Materials Science and Technology* 1673.
[43] Miriam Ricci et al, 'Hydrogen: too dangerous to base our future upon?' (2006) 151 *Institution of Chemical Engineers Symposium Series* 42.
[44] DMIRS, *Dangerous Goods Safety Guide: Storage, handling and production of hydrogen* (Safety Guide, October 2022) <https://www.dmp.wa.gov.au/Documents/Dangerous-Goods/DGS_HydrogenGuide.pdf>.

[45] County of Los Angeles, *Aliso Canyon Disaster Health Research Study* (Web Site, undated) <http://publichealth.lacounty.gov/eh/healthresearch/background.htm>.

111 days that it took for operators to successfully seal the blown-out well, an estimated 109,000 metric tons of methane flowed uncontrolled, requiring the relocation of nearly 10,000 families and temporary school closures.[46] Ongoing studies are assessing the health impacts from the underground storage failure to the nearby community.[47]

In Spain, the Castor Underground Gas Storage Project had to be discontinued after it triggered three *M4* earthquakes, which were felt by residents in coastal towns despite the storage facility being 20km offshore.[48]

In light of the severe consequences of underground storage failures, the existing $10,000 maximum penalty is inadequate. The provision was last updated in 2010. Given the approximate 24% inflation over the period 2010-2021,[49] the penalty has significantly decreased in value in real terms. Despite extensively amending s 67, the PLA Bill does not propose to amend this existing penalty. It therefore risks becoming a "pay to pollute" provision, where the financial consequence of statutory violation is considered by operators as a reasonable commercial trade-off. This undermines the purposed environmental protective purpose of the PLA Bill.

B. Penalty unit approach would allow penalties to be easily updated

An alternative and preferable mechanism for avoiding a decrease in the real value of penalty provisions would be to amend the Petroleum Acts to introduce a penalty unit system. Penalty unit systems are used in other offence regimes in Western Australia,[50] and are widely used in Australia for environmentally protective purposes in the context of regulating petroleum production.[51] A penalty unit scheme allows for all penalties to be swiftly and easily updated, ensuring the legislation to which the scheme applies remains effective and current while minimising the work required.

RECOMMENDATION: The PLA Bill should prohibit, rather than authorise, injection of petroleum into a natural underground reservoir.

RECOMMENDATION: Alternatively, the penalty set out in proposed s 67 for unlawful injection should be increased by at least a factor of 10, to reflect the potentially catastrophic consequences of the prohibited activity.

[46] Courtney Perkes, 'Aliso Canyon gas blowout: UCLA to study health impacts of one of worst environmental disasters in Southern California' *UCLA David Geffen School of Medicine* (Web Site, 9 November 2022) <https://medschool.ucla.edu/news/aliso-canyon-gas-blowout-ucla-study-health-impacts-one-worst-environmental-disasters-southern>.

[47] Ibid.

[48] Víctor Vilarrasa et al, 'Unraveling the Causes of the Seismicity Induced by Underground Gas Storage at Castor, Spain' *Geophysical Research Letters* (15 March 2021) <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2020GL092038>.

[49] Reserve Bank of Australia, *Inflation Calculator* (Web Site, undated) <https://www.rba.gov.au/calculator/annualDecimal.html>.

[50] See, for example: *Road Traffic (Authorisation to Drive) Act* 2008 (WA); *Road Traffic Act* 1974 (WA); *Road Traffic (Vehicles) Act* 2012 (WA); *Road Traffic Code* 2000 (WA).

[51] See, for example: OPGGS Act, which refers to penalty units set under the *Crimes Act 1914* (Cth); *Petroleum Act 1984* (NT); *Petroleum Act 1923* (Qld); *Petroleum (Onshore) Act 1991* (NSW).

RECOMMENDATION: The PLA Bill should increase all penalty provisions throughout the Petroleum Acts to appropriately reflect the seriousness of the offence being punished, which must be at least in line with inflation since each penalty provision was introduced.

RECOMMENDATION: The PLA Bill should introduce a penalty unit system to replace the outdated existing specific financial penalty provisions throughout the Petroleum Acts.

V. PLA Bill should enable public participation

A. Public participation in decision-making processes supports transparency, accountability, and trust in decisions

Public participation is important to ensure transparency of government decision-making, aid accountability and support public trust in the institutions of government. Though not as extensive as the rights to participate in decision-making that are enshrined in environmental protection legislation, such as the EP Act, the Petroleum Acts do make provision for public participation in the environment plan process (which require consultation with relevant interested persons). In considering reforms to the Petroleum Acts to modernise the manner in which the right or licence to undertake activities is granted, opportunities for public notice of applications and participation in the decision-making process should be included.

B. Regulations for underground storage of petroleum should include public notice and comment opportunities

While maintaining that the preferable approach to regulation of underground storage of petroleum is to prohibit the practice, we commend the move away from agreements with the Minister to a modern system of authorisations. Because of the benefits of public participation in decision-making processes, we recommend that, if underground storage is to be allowed, the PLA Bill direct that the regulations providing for grant of an authorisation must include publication of applications for authorisation and the opportunity for the public to comment on those applications.

RECOMMENDATION: The Petroleum Acts should be reviewed for the opportunity to amend decision-making processes to require public notice of applications for titles, permits, authorisations and licences, and to provide opportunities for public comment on those applications.

RECOMMENDATION: The PLA Bill should be amended to ensure that power to make regulations for grant of an authorisation to inject petroleum include publication of applications for an authorisation and the opportunity for public comment.

VI. Third party enforcement rights would assist with DMIRS' regulatory burden and ensure accountability

The current system of enforcement under Petroleum Acts precludes third parties from initiating proceedings for breach of the provisions of Acts, despite many offences concerning injury to the environment and natural resources of WA, which are public assets. This option should be available

where community groups and members of the public are prepared to undertake enforcement proceedings in the public interest where proponents have breached the Petroleum Acts or associated regulations, and authorities responsible for compliance and enforcement, such as DMIRS, fail or refuse to act.

The EPBC Act and environmental protection legislation in New South Wales, Victoria and South Australia contain provisions that provide for third party enforcement with either open standing or expanded standing for particular proceedings. In EDO's view, there are many benefits associated with the inclusion of a third party enforcement provision in the Petroleum Acts that provides an avenue for private parties to commence court proceedings for breaches. These include:

a. Sharing the regulatory burden: removing the burden on the Minister and DMIRS to bring enforcement action;
b. Public participation and access to justice: providing a pathway for the public to access justice and ensure statutory and regulatory compliance;
c. Accountability: ensuring that regulators and decision-makers discharge their functions according to legislative requirements, as well as holding them accountable. In addition, providing an important safeguard in the event that a regulator or decision-making authority fails to act.
d. Transparency: ensuring actions and decisions of regulators, decision-making authorities and proponents are transparent.

EDO recommends that provisions providing for third party enforcement should be included in the PLA Bill. In particular, provisions should be included that enable eligible third parties to trigger investigations by regulators into compliance with conditions on titles, licences, permits, authorisations and approved environment plans; and investigations into the commission of offences under the Petroleum Acts; and to commence enforcement action for violations and inaction on the part of the Minister or DMIRS.

Such a provision would also provide the public with the opportunity to pursue court proceedings for a breach of the Petroleum Acts, such as for pollution or environmental harm offences.

We note that existing procedural safeguards, including for striking out claims, as well as the inherent expenses and costs of litigation, are sufficient to avoid any misplaced concerns that such an amendment would "open the floodgates" to third party enforcement efforts. The experience with third party enforcement under the EPBC Act and similar state legislation has proven such concerns unfounded.

RECOMMENDATION: The PLA Bill should amend the Petroleum Acts to allow third party enforcement, modelled on section 9.45 of the *Environmental Planning and Assessment Act 1979* (NSW):

> (1) Any person may bring proceedings in the Court for an order to remedy or restrain a breach of this Act, whether or not any right of that person has been or may be infringed by or as a consequence of that breach
>
> (2) Proceedings under this section may be brought by a person on his or her own behalf or on behalf of himself and on behalf of other persons (with their consent), or a body corporate or unincorporated (with the consent of its committee or other controlling or governing body), having like or common interests in those proceedings.

(3) Any person on whose behalf proceedings are brought is entitled to contribute to or provide for the payment of legal costs and expenses incurred by the person bringing the proceedings.

RECOMMENDATION: Alternatively, the PLA Bill should provide expanded standing for enforcement of the Petroleum Acts, modelled on sections 475 and 487 of the EPBC Act:

(1) A person has standing to bring a proceeding to Court for an order to remedy or restrain a breach of this Act if:

(a) the person is an Australian citizen or ordinarily resident in Western Australia; and

(b) at any time in the two years immediately before the breach, the person engaged in a series of activities in Western Australia for protection or conservation of, or research into, the environment.