

# LOCK THE GATE ALLIANCE

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6 July 2023

**Submission: *Environment Protection (Sea Dumping) Amendment (Using New Technologies to Fight Climate Change) Bill 2023***

Thank you for the opportunity to make a submission on this amendment.

The Bill amends the *Environment Protection (Sea Dumping) Act 1981* to give effect to amendments to the London Protocol allowing for the export of carbon dioxide for the purpose of sequestration into sub-seabed geological formations and for geoengineering activities in the ocean. Neither of these amendments are in force, but arrangements have been made by the Parties to the Protocol to give them effect, given the appropriate conditions, agreements and procedures are in place, in accordance with the Protocol.

Our comments address the provisions to enable the export of carbon dioxide streams for sequestration into sub-seabed geological formations via a permit granted by the Australian Minister for the Environment under the *Sea Dumping Act*. For such a new, large scale and potentially harmful activity, the Bill as it has been introduced provides far too little oversight, control, monitoring and assessment. Amendment to the Bill is crucial to provide basic checks and balances and prevent environmental harm.

There are a number of major gaps and omissions in this Bill that put the environment at considerable risk. Chiefly, the permitting provisions of the *Sea Dumping Act* currently do not ensure that comprehensive environmental impact assessment is undertaken prior to permits being issued. This may be appropriate for the dumping of relatively small quantities of short-lived pollutants, but should not be extended a major new industry, proposing 10 million tonnes per year of carbon dioxide burial at sea in the waters of a neighbouring country with little to no environmental assessment or clarity about transboundary liability and ongoing monitoring arrangements.

We note that the London Protocol Article 3 paragraph 1 requires that “Contracting Parties shall apply a precautionary approach to environmental protection from dumping of wastes or other matter whereby *appropriate preventative measures are taken when there is reason to believe that wastes or other matter introduced into the marine environment are likely to cause harm even when there is no conclusive evidence to prove a causal relation between inputs and their effects*” (our emphasis).

In other words, the Protocol, like Australia’s own environmental law, invokes the precautionary principle, which holds that absence of information about impacts should not be interpreted as the absence of impacts and where potential impacts are unknown, “appropriate preventative measures” must be put in place. Before passing legislation enabling an entirely new industrial activity in a remote and poorly understood but sensitive environment, these “appropriate preventative measures” need to be included in the Bill and outlined by the Government.

Implementation of the carbon dioxide amendment must still be consistent with the provisions of Annex 2 of the London Protocol, including, inter alia, consideration of waste prevention (ie not creating the carbon dioxide pollution in the first place), assessment of potential effects of the dumping, and monitoring to ensure that the conditions of the dumping permit are met.

To date, no environmental impact assessment been undertaken of proposed sub-seabed storage of carbon dioxide in the Bayu Undan gas operation in the Timor Sea, but the lead proponent, Santos, has already signed four Memoranda of Understanding for the burial of ten million tonnes a year of carbon dioxide there<sup>1</sup>. Timor Leste is not a party to the London Protocol and the arrangements provide that an agreement can be struck with a non-participating country for the export of carbon dioxide for purpose of sequestration into sub-seabed geological formations if measures equivalent to those in the London Protocol Annex 2 are in place. The capacity and readiness on the part of Timor Leste to participate in a transboundary agreement for the import/export, burial and monitoring of carbon dioxide is unclear, as is transboundary liability for emissions accounting, carbon dioxide leaking and equipment failure.

The Bill does not require compliance with the “Risk Assessment and Management Framework for CO<sub>2</sub> Sequestration in Sub-Seabed Geological Structures” which has been developed by the Contracting Parties for the carbon dioxide amendment to the London Protocol as a condition for the granting of a permit. Nor does the Bill require compliance with the “Specific Guidelines on Assessment of CO<sub>2</sub> Streams for Disposal into Sub-Seabed Geological Formations” that have also been developed.

The above guidelines outline assessment and decision considerations required for issuing a permit and compliance with them is a minimum requirement for compliance with the London Protocol. They address CO<sub>2</sub> stream characterisation, site selection and characterisation, environmental impact assessment, risk assessment and management, monitoring, mitigation and remediation plans.

There is no requirement in the Bill for an environmental impact assessment prior to a permit being granted for the import or export of carbon dioxide. Experience in Norway has shown that considerable investigation is required into the specific geology of the seabed area targeted for sequestration. Even with the extensive investigations and studies that have been undertaken in Norway, unexpected movement and accumulation of carbon dioxide below the ground has occurred, according to a recent report from the Institute for Energy Economics and Financial Analysis (IEEFA).

We note that in its recent (April 2023) paper on the role of Carbon Capture, Storage and Sequestration in accelerating Australia’s decarbonisation, the Climate Change Authority (CCA) raises questions not addressed by this legislation in its discussion of import and export of carbon dioxide streams. The CCA found that, “To enable trading of sequestration, countries will need to decide how they would use sequestration domestically, how such abatement would be recognised internationally, how it might be traded and how it would contribute to global emissions reductions.” They also noted the role of the London Protocol, and said that “Australia may need to support partner countries to develop carbon capture technologies and establish regulatory frameworks to enable this trade.” No information is apparent that this is underway but clearly the existing permitting provisions of the *Sea Dumping Act* were not designed for and are not adequate to deal with the complex issues involved and are not capable of ensuring there are no adverse consequences from the large-scale adoption of this new

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<sup>1</sup> Santos statement: <https://www.santos.com/news/mous-executed-for-potential-co2-supply-to-underpin-santos-bayu-undan-ccs-project/>

practice. The CCA concluded that “Consistency across international, national, and subnational regulatory approaches will be needed to enable cooperation, trade, and cross-border movement of CO<sub>2</sub>.”

Further to the above, the relationship between the Bill and other relevant regulatory frameworks is unclear, including the *Offshore Petroleum and Greenhouse Gas Storage Act*, the *Environment Protection and Biodiversity Conservation Act*, state-based environmental assessment regimes and the Safeguard Mechanism.

The greatest potential environmental harm from the importation and sea burial of carbon dioxide is accidental release of the carbon dioxide into the ocean, either in the process of burial or afterwards. Such release would lead to direct environmental impact on marine plants and animals including through ocean acidification and asphyxiation. It would also contribute, should the carbon dioxide make its way to the surface, to further concentrations of carbon dioxide in the atmosphere, fueling global warming and removing any purported benefit of the activity.

According to the IPCC, observed phenomena associated with elevated levels of carbon dioxide in ocean waters include “reduced rates of calcification, reproduction, growth, circulatory oxygen supply and mobility as well as increased mortality over time. In some organisms these effects are seen in response to small additions of CO<sub>2</sub>” (IPCC *Special Report on Carbon dioxide Capture and Storage* 2018)

The claimed environmental benefits of carbon capture and storage hinge upon *permanent* sequestration. The nascence of the technology and the regulatory regimes around it is such that permanence cannot be dependably demonstrated. The only place in the world where this has so far been attempted are the Sleipner and Snøhvit sites in Norway. A recent report from the IEEFA found that “Between Sleipner and Snøhvit, an average of 1.8 million metric tonnes per year of CO<sub>2</sub> are disposed of in this manner, accumulating 22 million tonnes in storage so far.” This is being undertaken following extensive research over many years into the geological conditions of the sites and is a fifth of the volume of carbon dioxide Santos is proposed to sequester at Bayu Undan. IEEFA reviewed instances of unforeseen movement of the carbon dioxide sequestered at one of these sites and unforeseen volume limits at the other, concluding that, “Sleipner and Snøhvit cast doubt on whether the world has the technical prowess, strength of regulatory oversight, and unwavering multi-decade commitment of capital and resources needed to keep carbon dioxide sequestered below the sea – as the Earth needs – permanently.”

We are extremely concerned that this Bill is being brought forward without due assessment, research and checks and balances in place to enable gas development projects in the Northern Territory that are the subject of considerable dispute and opposition by Traditional Owners and the broader community. Research from scientific and energy institutions showing the need for the sequestration of carbon dioxide emissions and residual carbon dioxide from the atmosphere clearly indicates that sequestration is not a substitute for rapid emissions abatement, and that available geological storage is finite.

We urge the parliament to amend this Bill to provide for proper environmental assessment, management and monitoring and make clear its relationship to existing Australian climate change, resource and environmental legislation, with no permits allowed to be issued until full arrangements for these matters are in place.