



Australian Government

**Department of Climate Change, Energy,
the Environment and Water**

Senate Standing Committee on Environment and Communications Legislation

Inquiry into the Environment Protection (Sea Dumping) Act Amendment (Using New Technologies to Fight Climate Change) Bill 2023

Submission

10 July 2023

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Purpose of this Submission

The Department of Climate Change, Energy, the Environment and Water (the Department) welcomes the opportunity to provide this submission to the Senate Environment and Communications Legislation Committee.

This submission provides context for the Environment Protection (Sea Dumping) Act (Using New Technologies to Fight Climate Change) Bill 2023. It summarises the key elements and intended operation of the Bill. The Department would be pleased to engage further with the Committee to assist in its consideration of the Bill.

Background and Context

Purpose of the Bill

The Environment Protection (Sea Dumping) Amendment (Using New Technologies to Fight Climate Change) Bill 2023 (the Bill) would amend the *Environment Protection (Sea Dumping) Act 1981* (the Sea Dumping Act).

Australia is a Contracting Party to the 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972 (the London Protocol), which plays an important role in protecting our oceans. The Sea Dumping Act implements Australia's international obligations under the London Protocol, and regulates the loading, dumping and incineration of waste at sea and the placement of artificial reefs within Australian waters. It also prohibits the disposal of material into the ocean that is considered too harmful to be released into the marine environment and regulates permitted ocean waste disposal to minimise potential harmful environmental impacts.

The Bill has been introduced to give effect to Australia's international obligations arising out of two amendments to the London Protocol agreed to in 2009 and 2013. The Bill is representative of the Australian Government's commitment to meeting Australia's international obligations, climate change objectives, and protecting and preserving the marine environment.

Outline of the Bill

The Bill would give effect to Australia's international obligations and implements amendments made to the London Protocol in 2009 and 2013 to:

1. Establish a regulatory system to support the transboundary movement of carbon dioxide (CO₂) streams for the purpose of sequestration into sub-seabed geological formations, also known as carbon capture and sequestration (CCS) (2009 amendment).
2. Allow regulation of the placement of wastes and other matter into the sea for the purpose of legitimate scientific research in marine geoengineering activities (such as ocean fertilisation) and other ocean interventions for climate change mitigation in the future (2013 amendment).

While these amendments were agreed to by Contracting Parties in 2009 and 2013, neither has entered into force. In 2019, the Contracting Parties adopted a resolution allowing provisional application for the 2009 amendment. Amending the Sea Dumping Act to include both the 2009 and 2013 London Protocol Amendments would establish a comprehensive and robust regulatory framework, informed by reputable scientific advice and expertise, to ensure minimal impact on the marine environment. It would also provide legal certainty for businesses and organisations, while protecting the marine environment from the potential environmental risks of these activities that would occur if they were not regulated.

Bill Design and Development

In 2020, the Joint Standing Committee on Treaties (JSCOT) agreed that the 2009 and 2013 amendments to the London Protocol are minor treaty actions and that binding treaty action may be taken.¹

2009 Amendment to the London Protocol

The 2009 amendment ([LP.3\(4\)](#)) was adopted to enable the transboundary movement of CO₂ streams from a Contracting Party to the London Protocol to another country for the purpose of carbon sequestration in sub-seabed geological formations.

There are important benefits in establishing a global framework to regulate the transboundary movement of CO₂ to enable countries to manage their CO₂ emissions. CCS is recognised as having the potential to play a key role in decarbonising energy intensive industries and hard-to-abate sectors such as cement and chemical production. The Intergovernmental Panel on Climate Change (IPCC) and the International Energy Agency (IEA) both recognise the role that CCS can play in emissions scenarios, with the aim of limiting global temperature rise to 1.5°C or under 2°C of pre-industrial levels. The IPCC, IEA, and International Renewable Energy Agency (IRENA) also recognise that a range of CO₂ removal technologies are required to meet global net zero emissions. Offshore CCS is part of a suite of decarbonation strategies and offers a viable storage solution to emissions reduction projects that capture CO₂.

It is important to note that projects from domestic proponents are already considered under existing Australian law - the Sea Dumping Act currently provides for the assessment and permitting of sequestration for domestically produced CO₂ in Australian waters, in accordance with the London Protocol.

To give effect to the 2009 London Protocol amendment, the Sea Dumping Act needs to be amended to provide a robust legislative framework (including application, assessment, approvals processes and monitoring and compliance mechanisms) for companies wanting to export CO₂ from Australia for sequestration into sub-seabed geological formations.

¹ On 10 February 2020, the Joint Standing Committee on Treaties (JSCOT) agreed not to hold formal inquiries in relation to the 2009 and 2013 London Protocol amendments, and that binding treaty action may be taken.

Subject to ratification, a company seeking to export CO₂ for sequestration within Australia's jurisdiction would be required to meet a range of approval and license conditions², and would require permit/authorisation under the Sea Dumping Act and from the Director of National Parks if the activity is to take place in an Australian Marine Park. The regulatory framework for export permits will be guided by the current domestic permit application and assessment process. It is important to note that Australia's environmental permits are in addition to any obligations pertaining to customs and biosecurity requirements.

It should further be noted that a permit could not be issued until appropriate bilateral agreements or arrangements are in place between exporting and receiving countries. These agreements must be consistent with the London Protocol and the ['2012 Specific guidelines for the assessment of Carbon Dioxide for disposal into sub-seabed geological formations'](#), to ensure that appropriate regulatory frameworks and safeguards are in place between countries before any movement of CO₂ can occur for sub-seabed sequestration.

It is expected that as part of discussions between countries, consideration of requests for export or import of CO₂ for sequestration will address matters relating to responsibilities for maintaining the stored CO₂ and for any emissions, impact on Australia's Paris Agreement target compliance and emissions inventory reporting, the capacity of partner countries to accurately monitor emissions impacts and any leakage, and consistency with the global effort to achieve the Paris Agreement temperature goals.

Two-thirds (35) of the 53 Contracting Parties to the London Protocol must ratify the 2009 amendment before it comes into force. To date, ten Contracting Parties have ratified the amendment: Norway and the UK (the first in 2011), followed by the Netherlands, the Islamic Republic of Iran, Finland, Estonia, Sweden, Denmark and most recently, the Republic of Korea and Belgium (as of April 2022).

In 2019, the London Protocol agreed to a 'provisional application' to allow Contracting Parties to use the 2009 amendment before it comes into force. Only six of the above ten Contracting Parties that have ratified the amendment have taken the necessary steps to enable them to commence export of CO₂ for sequestration by completing their domestic arrangements. These are Belgium, Denmark, Netherlands, Norway, Republic of Korea, and Sweden.

Two steps are required to implement the amendment and complete ratification. The first is to amend the Sea Dumping Act and the second is to deposit an instrument of ratification, and a 'declaration of provisional application' with the International Maritime Organization (IMO).

2013 Amendment to the London Protocol

The 2013 amendment ([LP.4\(8\)](#)) allows for the placement of matter into the sea for the purpose of legitimate scientific research into marine geoengineering activities (such as ocean fertilisation). Regulating this type of activity, through a robust application, assessment and approval permitting process, would ensure that only legitimate scientific research activities, which explore options to reduce atmospheric CO₂, can proceed. Marine geoengineering activities are potential tools to counteract human induced climate change and its impacts. They are deliberate large-scale interventions to the marine environment to remove CO₂ from the atmosphere or to reflect solar radiation back to space to reduce warming.

² Including, but not limited to, the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) and the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (Cth) (OPGGGS Act).

The Bill would allow a permit to be assessed and granted for scientific research of marine geoengineering activities. Enabling such research could determine the feasibility of these activities as options to reduce atmospheric CO₂ and understand the associated risks. Amending the Sea Dumping Act also provides for future consideration of other marine geoengineering activities, such as those that prevent ocean warming, to facilitate regulation of potentially harmful impacts of those research activities on the marine environment. Eventually, legitimate research institutions and other organisations would be able to conduct marine geoengineering research with legal certainty while ensuring the marine environment is protected from those activities.

The London Protocol is looking at both preventative and treatment marine geoengineering techniques to mitigate climate change.

The two preventative measures to reflect incoming heat and radiation are:

- Microbubbles – injecting tiny bubbles into the ocean surface, or into sea foam, to increase sunlight reflectivity.
- Marine cloud brightening or seeding – injecting sea salt into cloud updrafts to reflect sunlight back into space.

The two treatment measures which remove CO₂ from the environment through absorption are:

- Ocean alkalization – adding alkaline substance into seawater to enhance the ocean's natural carbon sink.
- Macroalgae cultivation – large scale growth of algae that convert dissolved CO₂ into organic carbon through photosynthesis.

Upon ratification, and when the amendment comes into force, anyone wanting to undertake scientific research into marine geoengineering activities listed under the London Protocol, will require permit/authorisation:

- under an amended Sea Dumping Act
- from the Director of National Parks, if the activity is to take place in an Australian Marine Park, and
- under the *Great Barrier Reef Marine Park Act 1975*, if the activity is proposed within the Great Barrier Reef.

Australia would apply a precautionary approach to evaluating activities seeking to undertake legitimate marine geoengineering research for climate change mitigation.

As with the 2009 London Protocol amendment, a two-thirds majority of the 53 Contracting Parties must have ratified the amendment before it comes into force. To date, only six countries have ratified this amendment: the United Kingdom, Finland, the Netherlands, Norway, Estonia, and Germany. Following amendment of the Sea Dumping Act, an instrument of ratification will need to be deposited with the IMO. This will ensure that Australia is ready to administer applications for this type of scientific research when the 2013 London Protocol amendment comes into force. Until then, research and industry groups cannot apply for a permit to undertake marine geoengineering research activities.

House of Representatives Standing Committee Inquiry

Ratification of the 2009 and 2013 amendments was recently recommended by the House Standing Committee on Climate Change, Energy, Environment and Water (the Committee). On 23 January 2023, the Committee began its inquiry into the 2009 and 2013 amendments to the 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Others Matter, 1972 (London Protocol). The Department provided a detailed [submission](#), to support the inquiry's examination of the context and impact of both amendments to the London Protocol.

The evidence received by the Committee, from government, industry and legal experts, allowed it to consider the following issues:

- the environmental benefits and impacts of exporting and importing carbon dioxide streams for the purpose of sub-seabed sequestration
- the environmental benefits and impacts of marine geoengineering activity, such as ocean fertilisation, for scientific research
- the international market for carbon dioxide streams
- the interaction of the proposed amendments with greenhouse gas inventories and the regulatory and reporting systems.

The Committee tabled its final report '[Inquiry into the 2009 and 2013 amendments to the 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Others Matter, 1972 \(London Protocol\)](#)' on 13 June 2023. The Committee recommended that the Australian Government ratify both the 2009 and 2013 amendments to the London Protocol. Ratification would provide a means for countries to respond to the real urgency of climate change, and place Australia in good stead to achieve its foreign policy objectives.

Conclusion

If passed, the amendments to the Sea Dumping Act would have the following intended outcomes for Australia:

- Enable assessment and granting of permits to export CO₂ streams from CCS processes for sequestration into sub-seabed geological formations, in accordance with the 2009 amendment.
- Allow for assessment and granting of permits for placement of wastes or other matter, for legitimate marine geoengineering research activities - in future, once the 2013 amendment enters into force.
- Support implementation of a robust application, assessment, approval, monitoring and compliance process for the two new permit categories.
- Ensure that industry has a strong level of confidence for undertaking these activities through agreed legal processes that are professionally managed. This would provide legal certainty for business and organisations, while protecting the marine environment from the potential impacts of these activities.

Ratification of the 2009 amendment would also provide for the consideration of proposals to undertake offshore sequestration of imported CO₂ within Australian waters and ensure Australia acts consistently with our international law and treaty obligations under the London Protocol.

There are potential benefits and risks to be realised through the transboundary movement of CO₂ for sub-seabed sequestration and further research into, and information sharing on, marine geoengineering techniques. Once the Bill is passed, and following the final steps for ratification, the Australian Government will be well placed to regulate CCS proposals from other countries wanting to export CO₂ for sub-seabed sequestration in Australia and proposals for Australia to export CO₂. Australia will also have the capability to regulate proposals for legitimate scientific research into marine geoengineering activities.

Amending the Sea Dumping Act will meet Australia's obligations under the London Protocol to support ratification of the 2009 and 2013 amendments. It will also protect and preserve the marine environment from potential impacts through a robust science based regulatory framework.