

31 January 2023

Sea Dumping Section
Environment Approvals Division
Department of Climate Change, Energy, the Environment and Water (DCCEEW)

RE: HAVE YOUR SAY - CARBON CAPTURE AND SEQUESTRATION SEA DUMPING GUIDANCE AND PERMIT APPLICATION FORM

The Australian Petroleum Production and Exploration Association (APPEA) welcomes the opportunity to provide feedback on the exposure draft Carbon Capture and Sequestration Guidance and Permit Application Form. Carbon capture, use and storage/sequestration (CCUS), including where carbon dioxide (CO₂) is stored permanently in geological formations deep below the seabed, is a key technology for reducing emissions across the Australian economy and the region.¹

APPEA recommends the Draft Guidance and Permit Application be revised to ensure the *Environment Protection (Sea Dumping) Act 1981* framework (the Sea Dumping Act) does not place undue administrative barriers, delays and/or costs on the development CCUS projects in Australia. Should the Sea Dumping Act unduly delay or otherwise impact the development of CCUS in Australia, it risks impacting Australia's ability to reach net zero across the economy by 2050 and in-turn to protect the sea.

APPEA appreciates that the Offshore Petroleum and Greenhouse Gas Storage Act 2006 (OPGGSA) Environment Plan Regime will apply for CO₂ storage, however CO₂ activities are not dealt with via the offshore project proposal (OPP) process and will thereby require their own *Environment Protection and Biodiversity Conservation Act 1999* (EPBC) approval. This will likely lead to certain offshore projects requiring an EPBC approval, OPP, Sea Dumping Permit and Environment plan, in addition to state environmental approvals.

To ensure the policy intent of the Sea Dumping Act is realised through the efficient, timely and cost-effective processing and approval of applications, APPEA recommends the documents are revised to:

- 1. Clearly define the scope and coverage of the Sea Dumping Act;**
- 2. Remove duplication in the application process with existing legal and regulatory instruments;**
- 3. Align administrative responsibilities with the relevant administrative capacity; and**

¹ Further details on the importance and status of CCUS can be seen in analysis by the Intergovernmental Panel on Climate Change ([2022 6th Assessment Report](#); [2018 Special Report on Global Warming of 1.5°C](#); [2005 Special Report on CCS](#)); the International Energy Agency ([2021 Net Zero by 2050 Report](#); [Carbon Capture, Utilisaton and Storage website](#)), and the Global CCS Institute ([Global Status of CCS 2022](#)), and elsewhere.

4. Facilitate the effective and efficient development and operation of projects under the Act.

Further, APPEA would like to highlight the **importance of the ratification of the 2009 London Protocol amendment that allows for the cross-border transport of CO₂** for the purposes of sub-seabed storage, and understand the Australian Government's position on adopting a provisional application of the 2009 amendment. Delay in Australia's ratification of this amendment creates undue uncertainty to pursuing options for achieving significant emissions reductions in the Australian economy and the region through the deployment of CCUS.

APPEA and its members would welcome the opportunity to engage further on these items prior to the finalisation of the Guidance and Permit Application Form.

Further detail is provided below.

APPEA DETAILED FEEDBACK

For the Sea Dumping Act to fully meet the policy intent of protecting waters surrounding Australia’s coastline from waste and pollution dumped at sea², in line with Australia’s obligations under the London Convention and London Protocol³, it must consider both the local environmental risks as well as broader climate change risks. Local impacts of CCUS operations in Commonwealth waters, including sound greenhouse gas storage formation integrity⁴ and greenhouse gas facility integrity⁵ are fully addressed by the far more contemporary OPGGSA that was designed specifically with CCUS project development and operations at its core. **For the Sea Dumping Act to duplicate the provisions and processes of the OPGGSA only adds administrative hurdles, processing time, and costs to the development of CCUS projects, without providing any additional benefit to the local environment.** Rather, creating undue administrative barriers to the development of large-scale CCUS projects risks slowing climate mitigation efforts and exacerbating climate change risks to our seas.

To ensure the efficient, timely and cost-effective processing and approval of CCUS project applications and to recognise lines of responsibility between NOPSEMA and DCCEEW, APPEA would like to provide the following recommendations:

1. The scope and coverage of the Sea Dumping Act needs to be clearly defined.

Ambiguity for when a sea dumping permit ‘may be required’ is unnecessary and duplicative across the CCUS process chain. To provide consistency and clarity in the application of the Sea Dumping Act, it would be beneficial to align the scope of the Act with that of the London Protocol. Specifically:

- The London Protocol (Article 1 Paragraph 4.3) states that the *“disposal or storage of wastes or other matter directly arising from, or related to the **exploration, exploitation and associated off-shore processing of seabed mineral resources is not covered by the provisions of this Protocol**”*. It also includes the following exemption to the definition of *“dumping”* (Article 1 Paragraph 4.2.1) *“the disposal into the sea of wastes or other matter incidental to, or derived from the normal operations of vessels, aircraft, platforms or other man-made structures at sea and their equipment, other than wastes or other matter transported by or to vessels, aircraft, platforms or other man-made structures at sea, operating for the purpose of disposal of such matter or derived from the treatment of such wastes or other matter on such vessels, aircraft, platforms or other man-made structures”*. It would be beneficial for these clauses and exemptions to be reflected in the Sea Dumping Act to ensure consistency with the Protocol.
- With the scenarios outlined on page three of the guidance document, it is uncertain how the guideline would apply if CO₂ was aggregated from multiple onshore sources

² <https://www.dcceew.gov.au/environment/marine/sea-dumping>

³ Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972 (London Convention) and subsequent 1996 London Protocol

⁴ OPGGSA Act uses the defined term **fundamental suitability determinants** see also sections 21 and 312.

⁵ See Offshore Petroleum and Greenhouse Gas Storage (Resource Management and Administration Regulations 2011 – Object of Part 5 - is the maintenance of the integrity of offshore petroleum and greenhouse gas wells, by ensuring that risks to well integrity are reduced to as low as reasonably practicable.

and exported offshore. What is the department's position on the assessment of the individual CO₂ sources when they enter the same pipeline for injection? Is this contemplated by the permit system? Would the aggregator require a permit in addition to each individual source? Is further guidance required?

- When considering CO₂ storage in the context of the waste hierarchy, the obligation under the London Protocol to reduce the need for such disposal *“should be considered within the context of approaches to reducing greenhouse gas emissions and mitigating climate change.”*⁶ In this context, and unlike more conventional forms of “dumping”, **there is broader climate mitigation value in maximising the amount of CO₂ stored to maximise the climate change mitigation benefits**, rather than to see to reduce such activities.
- At the briefing sessions held in Perth on 14 December 2022, the APPEA secretariat discussed the inherent difficulty of completing certain fields in the Application Form and how sections of the form were informed by content supplied to other agencies like NOPTA and NOPSEMA. We also reaffirmed that permit applications could not be transferred and DCCEEW suggested that multiple permit/s may be required.
 - We also noted at the briefing session that the content requirements against the form were prescriptive, in contrast to the objective based content requirements that would have previously been supplied to NOPTA and NOPSEMA in Commonwealth jurisdiction, under the OPGGSA.
- One way to mitigate the need for multiple permits would be for greenhouse gas **activities undertaken on an exploration/appraisal basis to be exempt from requiring a Sea Dumping permit** (e.g., activities undertaken under a Greenhouse Gas Assessment permit/Greenhouse Gas Holding Lease, and per the rights conferred under sections 290 and 319 of the OPGGSA).
 - Moreover, DCCEEW could **focus on injection only, under a GHG injection licence**; whereby **events triggered under the OPGGSA are instructive**.
 - APPEA has set out these instructive **events / stages under 4. Administrative responsibilities and capacity**.
 - Such an approach would be consistent with how the London **Protocol does not apply to enhanced oil recovery (using CO₂)**, DCCEEW should not seek to regulate point source CO₂ capture or the transport of CO₂.
- APPEA observes that **applying contemporary policy to older legislative statutes**, like the Sea Dumping Act, is **problematic**.
 - While section 8 of the Sea Dumping Act is binding; section 41 is rigid and does not provide for Regulations to be made that are **perceivably inconsistent with the Act**.
 - Given the perceived inconsistency, an explicit amendment to the Sea Dumping Act, for example to **exempt certain activities or disapply the Act to certain**

⁶ 2012 Specific guidelines for the assessment of carbon dioxide for disposal into sub-seabed geological Formations (Paragraph 1.2)

activities undertaken across the CCUS process chain would not only be administratively prudent; but would also be in the public interest towards our emissions reduction goals.

2. Duplication in the application process with existing legal and regulatory instruments.

Existing legislation is already in place to effectively regulate the greenhouse gas storage formation integrity and greenhouse gas facility integrity as well as the broader environmental and safety aspects of the CCUS process chain. In particular, the OPGSSA, the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), the *Work Health and Safety Act 2011*⁷, the Australian Dangerous Goods Code⁸ and the relevant state/territory major hazard facility regulations.⁹ Duplication of these existing regulatory processes will only work to frustrate the intent of the Sea Dumping Act. For example, the LTMP is likely to have a lot in common with a Site Plan (required to be awarded an Injection Licence), as are the requirements around CO₂ stream, disposal site, risk assessment etc.

- APPEA recommends DCCEEW, the Department of Industry, Science and Resources, the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) and the National Offshore Titles Administrator (NOPTA) should **develop an agreed concordance table which sets out how the London Protocol, the Sea Dumping Act framework and the OPGSSA framework interact** (including NOPSEMA's EPBC Act Program). Such a project would **complement future work towards an administrative agreement between key decision makers**.
- **Accurate terminology/nomenclature and references to the OPGSSA are critical to guide interpretation** (and inversely to prevent against misinterpretation / misapplication of the London Protocol).
- APPEA notes that Sections 4, 6 and 7 of the Application Form are duplicative of management plans submitted to NOPTA and NOPSEMA under the OPGSSA framework.

3. Administrative responsibilities and capacity

APPEA considers that there are clear **opportunities to improve (Ministerial / delegate) concurrence across government**. Under this heading we set out APPEA's suggested administrative process improvements for government consideration.

⁷ Section 3(1) provides for a balanced and nationally consistent framework to secure the health and safety of workers and workplaces...

⁸ [Australian Dangerous Goods Code | Department of Infrastructure, Transport, Regional Development, Communications and the Arts](#)

⁹ Where capture and or storage sites use dangerous substances above a certain threshold then the regulations will apply to the whole site / place. See also [Major hazard potential of CCS \(hse.gov.uk\)](#) & [Assessment of the major hazard potential of carbon dioxide \(hse.gov.uk\)](#)

- NOPTA and NOPSEMA respectively are the lead agencies for ensuring greenhouse gas storage formation integrity¹⁰ and greenhouse gas facility integrity¹¹, and both organisations are cost recovered.¹²
- **APPEA disagree** with the Department's view that **additional oversight is necessary**, as described on its website: 'Permits are necessary to ensure that CO₂ streams are loaded, transported and sequestered at appropriate offshore sites and that no significant adverse impacts result to the marine environment or human health.'

While we understand DCCEEW's interest in waste management, site selection, risk assessments and long-term management (sections 4-7 of the Application Form) it is unclear what the significance test or threshold is that would suggest that additional oversight is required, beyond the existing and comprehensive OPGGSA framework which includes objective based regulations. Alternatively, it is unclear why NOPTA and NOPSEMA could not apply conditions on greenhouse gas title to uphold or regulate against the RAMF¹³.

- To strengthen guidance DCCEEW should review the functions of the NOPTA under section 695B and the functions of NOPSEMA, under section 646.
 - Section 695R of the OPGGSA provides that should sea dumping permit applications be required for example for a greenhouse gas injection licence – then **all communications to or by the responsible Minister are to be made through the Titles Administrator**.
 - This provides the Titles Administrator with the opportunity to make reference to for example DCCEEW's RAMF¹⁴ as a condition or endorsement on the licence instrument under the OPGGSA.¹⁵
- APPEA would encourage DCCEEW to explore administrative arrangements for greenhouse gas injection licences with NOPTA / or DISR.
- DCCEEW should engage with the Titles Administrator to seek concurrence in or around the following events / stages, contemplated by the OPGGSA:
 - When a greenhouse gas facility is declared – under section 18.
 - When a declaration of a greenhouse gas storage formation is made per section 312; and
 - When the register identifies a greenhouse gas storage formation under section 315.

¹⁰ OPGGSA Act uses the defined term *fundamental suitability determinants* see also sections 21 and 312.

¹¹ See Offshore Petroleum and Greenhouse Gas Storage (Resource Management and Administration Regulations 2011 – Object of Part 5 - is the maintenance of the integrity of offshore petroleum and greenhouse gas wells, by ensuring that risks to well integrity are reduced to as low as reasonably practicable.

¹² NOPTA charges levies and has corresponding application fees for greenhouse gas title applications; and NOPSEMA have signalled intent to charge greenhouse gas levies commensurate with petroleum levies (source page 6 of NOPSEMA Cost Recovery Implementation Statement 2022-23).

¹³ See RMAF: [CO2SEQUESTRATIONRAMF2006.doc \(live.com\)](#) @ [Offshore carbon capture and sequestration sea dumping - DCCEEW](#)

¹⁴ *ibid*

¹⁵ This approach was previously adopted however when objective-based regulations were not in force under the OPGGSA.

- DCCEEW may wish to also engage with NOPTA per the application stage for a greenhouse gas licence – see sections 361, 368A and 369 which refer to the (NOPTA) approved manner.
 - note the application requirements do not make explicit reference to the Sea Dumping Act or the need for a permit.
 - Also, of note - To APPEA's knowledge NOPTA has not foreshadowed an intent to place a standard condition / endorsement on a greenhouse gas injection licence as regards to Sea Dumping Permits, the London Protocol, the 2012 Guidance or the RAMF.

4. Effective and efficient processes to support project development.

APPEA's priorities are focused on ensuring that the Sea Dumping Act framework:

- removes structural administrative inefficiencies, for example allows transfer, renewal, and amending of permits;
- improves the lodgement and timeliness for permit approvals; and
- removes operational duplication of process with other decision makers who's cost recovered approvals and compliance functions are already robust.

APPEA would strongly suggest that case by case consideration of multiple greenhouse gas activities is inefficient and that Ministerial / delegate review of 'specific considerations' of each permit application is not required until certain events occur, as contemplated under the OPGGSA.

Based on the information session on 14th December 2023, it was provided by officials that a licence would be required from each CO₂ source (from each facility). This is problematic due to:

- CO₂ injection is likely to be aggregated, so you'll need multiple facility licences rather than a single aggregated licence; and
- a licence at facility source may lead to licencing uncertainty on facility and capture technology, rather than the "dumping" which is the primary objective of the Sea Dumping Act. If the licence regarded aggregate CO₂, then you'd be dealing with the cumulated waste injection (and perhaps pipeline storage) but not the capture component?

5. Transboundary transfer of CO₂

Cognisant of the importance of CCUS and international CCUS collaboration to the protection of the seas, the London Protocol has been amended to allow for the import and export of CO₂ for the purposes of disposal. Noting that this issue is largely out of scope for this consultation process, APPEA would recommend that the current guidance review process provides for an opportunity to resolve transboundary transfers of CO₂ to provide clarity and certainty to industry. In Australia, international collaboration on CO₂ storage, including CO₂ import and export with regional partners, facilitates increased emissions reductions in the region as well as presents Australia with the opportunity to maximise the return on Australia's CO₂ storage skills, expertise, and resources. The Sea Dumping Act should not present a barrier to this opportunity as:

- Offshore CCUS activity is undergoing planning by industry in Australia with international interconnections to neighbouring countries for both export and import of CO₂ molecules a part of this planning. This is a consequence of the regional variability of both the locations where CO₂ emissions occur and where the sites for potential safe and permanent storage is possible. These are only rarely collocated, so that exchange should be facilitated both at national and international jurisdictions.
- **APPEA strongly encourages that the Commonwealth resolve barriers for the timely deployment of CCUS in Australian waters through the ratification of the 2009 London Protocol amendments allowing for the cross-border transport of CO₂.**
- Timing is important, regulatory capacity needs to be formed to enable large projects and related investments to be engaged in order to meet Australian 2030 and 2050 emissions reductions targets.

In closing, the primary messages APPEA wish to impart are:

- No single technology will take us to net zero and **Australia needs ‘a portfolio / range of nature-based and engineered sequestration technologies.**
- **CCUS is essential.** There is no IEA or IPCC scenario that does not rely on CCUS to achieve net zero by 2050.
- **International governance**¹⁶ (e.g., Article 6 of the London Protocol and equivalent section 10D of the Sea Dumping Act) **should not delay national measures to prevent environmental degradation**¹⁷, especially for hard to abate sectors¹⁸.
- We aim to ensure that the **Sea Dumping Act framework is contemporary, fit-for-purpose and reflects leading practice.**
- **Administrative processes** under the Sea Dumping Act **should be streamlined across government** by key decision makers (DCCEEW, NOPTA, NOPSEMA and DISR) **to achieve timely concurrence.**
- APPEA members are integrated energy companies, and the skills of our workforce are transferrable to the decarbonisation technologies we will need at scale.
 - **APPEA members aim to** use Australia’s unique geology and comparative advantage to **responsibly store CO₂ from our major trading partners.**¹⁹
 - Such ambition does not run counter to a **simultaneous drive to reduce CO₂ emissions at source.**

¹⁶ See Resolution LP.3(4) on the amendment to Article 6 of the London Protocol at [LP 3 4 \(imo.org\)](#)

¹⁷ Reinforced at section 3A(b) of the EPBC Act.

¹⁸ CCS can be applied across sectors vital to our economy, including cement, steel, fertiliser, power generation, and natural gas processing, and can be used in the production of clean hydrogen. Source [Factsheet CCS-Explained Storage.pdf \(globalccsinstitute.com\)](#)

¹⁹ Note our trading partners are not all parties to the London Protocol - [Map of Parties 2022.pdf \(imo.org\)](#)

6. Specific feedback to the draft application form

Section 5.

- Characterisation and suitability of the injection site should only be performed once and as per the submission, this seems appropriately managed through the Offshore Petroleum and Greenhouse Gas Storage (Greenhouse Gas Injection and Storage) Regulations 2011. DCCEEW and the SDP Application Form should provide an opportunity for applicants to demonstrate what permits they are applying for and applicable to the injection rather than making a separate standalone assessment of the suitability of the site. There is no requirement for the SDP Application specifically to identify this information as long as the information is available to the decision maker.
- Information required in Section 5.1 of the form is information is to be provided to NOPTA in the Declaration of Eligible Storage Formation and Site Plan.
- Noting the above Section 5.2 and 5.3 of the form better sits within Section 6 - to better align to the existing processes.

Section 6.

- As per Section 5 – Applications should have the option to refer to any other regulatory application documents or approval in which this information has been described or captured, rather than repeating it. It is likely this information would wholly be within any EPBC Referral Application. It should only be required should an applicant not be seeking approval under the EPBC Act.
- Section 6.2. It is unclear why protected matters are relevant to the application. The London Protocol requires assessment of impacts to the environment generally. This is not the EPBC Act and this term only is relevant to that Act. If an assessment of impacts to MNES specifically has occurred, there should be an opportunity to refer to this information.

Section 7.

- Further guidance on the expected duration of LTMP and frequency of revision. It should be acceptable to wholly demonstrate that the requirements of the LTMP are met by an Environment Plan issued in accordance with the OPGGS(Environment) Regulations. This EP is likely to wholly duplicate matters relating to prevention and mitigation of risks arising from CO₂ injection and release.
- Section 7.1. Suggest a CO₂ response and remediation plan prepared for NOPSEMA in a similar manner as governed through Hydrocarbon Spill management arrangements administered by NOPSEMA.

Section 9.

- Noting the recent focus on consultation for environmental approvals related matters, much clearer guidance should be provided regarding consultation expectations. Note, the Site Plan requires to describe how consultation will be undertaken for the life of

the CO₂ Injection Activities, another avenue by which there will be duplicated requirements.

7. Additional further guidance required

Should it be confirmed that the Sea Dumping Permit regime will apply to exploitation and associated offshore processing of seabed mineral resources, which it is not clear it does, we would appreciate more detailed guidance on the following elements of the application and permitting process. The absence of such guidance is likely to mean application process are protracted, with inconsistent application of processes and conditions between activities.

Acceptability bounds for injectable substances – {as per Action 5.1 of the 2012 specific guidance (2012 SPECIFIC GUIDELINES FOR THE ASSESSMENT OF CARBON DIOXIDE FOR DISPOSAL INTO SUB-SEABED GEOLOGICAL FORMATIONS Adopted 2 November 2012 (LC 34/15, annex 8))}

- Cost recovery regimes to be applied;
- What conditions are likely to be applied through the SDP Regime, including any environmental monitoring expectations;
- Concern around the reference to “the obligation under the protocol to reduce the need to dispose of CO₂ at sea through CCS” and the demonstration that other options have been considered. Depending on how this is applied, there is the potential to undermine the entire offshore CCS industry with the consequence of continued CO₂ emissions to atmosphere. It would be helpful to receive guidance on the intent behind this section and what the department is looking for (Section 4 – Waste Management of the application form);
- Clarity on how separate CO₂ streams is defined is needed. For example, a CCS hub may have several separate streams incoming to an onshore facility from different customers, which are then processed and comingled prior to being piped offshore for injection. Would each customer’s stream require a separate sea dumping permit? A 12 – 18-month lead time for approval for each customer could be difficult to manage (lack of certainty to finalise contracts, and build facilities to suit), and the vast majority of the application and information would be common with other customers (the only real difference being volumes and any contaminants in the CO₂ stream). This is likely to be a very onerous requirement on both the CCS hub operator and the department to review and approve. Consultation requirements for each additional customer are also likely to be onerous;
- Further definition on what acceptability thresholds will be applied; and
- Timeframes for assessing and granting permits including details of which other agency consultation DCCEEW will undertake and a description of any other approvals will DCCEEW expect before granting the permit. We are seeing significant delays where duplicated approvals process are being granted sequentially rather than concurrently, increasing approval timeframes; and

- Inclusion of a fourth scenario (on the map diagram in the guidance document) where (as is the case for Northern Carnarvon CCS and other permit holders) CO₂ emissions are intended to be aggregated from multiple sources into a single CO₂ transportation and sequestration stream (rather than point-to-point), and expand on “your activity may require more than one permit depending on your proposed actions” to make clearer when multiple permits are required. For instance, if the intent is simply to regulate disposal of CO₂ via CCS at sea, then it could be reasonably anticipated that one permit for a single CO₂ transportation and sequestration stream (even from multiple sources upstream of delivery point) would meet requirements provided key parameters (e.g. duration, quantity, location, fluid properties, impact/risk) are maintained. Clarification is needed where offshore CCS activities that may need a sea dumping permit are represented by the dashed lines only, excluding solid as indicated in the map diagram in the draft guidance.

APPEA is committed to actively participating in DCCEW’s reform agenda and considers that there a number of opportunities to streamline administrative processes under the Sea Dumping Act; while honouring Australia’s commitments under the London Protocol.

Yours sincerely



Jason Medd
Director EHS and Decommissioning
APPEA