



Policy, Government
and Public Affairs

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STANDING COMMITTEE ON PRIMARY INDUSTRY AND RESOURCES
021 Parliament House
CANBERRA ACT 2600

**CHEVRON SUBMISSION
INQUIRY INTO EXPOSURE DRAFT LEGISLATION FOR GREENHOUSE GAS
STORAGE**

Chevron Australia (Chevron) welcomes the opportunity to provide its perspectives to the Standing Committee on Primary Industry and Resources inquiry into the exposure draft legislation for greenhouse gas storage.

Chevron is the largest holder of natural gas resources in Australia with our primary interests comprising a one sixth interest in the North West Shelf project and 50% equity and operator of the Greater Gorgon Area natural gas resource. The Greater Gorgon gas resource comprises approximately 25% of all the natural gas discovered to date within Australia. Chevron and its joint venture partners ExxonMobil and Shell, are working toward commercialising this gas resource by establishing a major liquefied natural gas (LNG) processing centre on Barrow Island, approximately 60 km off the north west coast of Australia. Ongoing efforts to reduce greenhouse gas emissions from the proposed Gorgon Project have resulted in a reduction in greenhouse gas emissions intensity from 0.89 to 0.35 tonnes of CO₂e per tonne of LNG produced. A component of this improvement in emissions intensity has been the proposal to store carbon dioxide contained in the reservoir gas deep below Barrow Island. This reservoir carbon dioxide would otherwise be vented to the atmosphere.

The Gorgon Project will build upon the success of similar projects currently being undertaken in Norway (Sleipner and Snohvit) and Algeria (In Salah) in significantly reducing emissions by the underground injection of carbon dioxide extracted from the natural gas. Importantly the rate and total volume of carbon dioxide to be disposed of by the Gorgon Project is much large than that currently being undertaken. The Gorgon Joint Ventures commitment to publicly disclose monitoring data from the Project has the potential to position Australia as a world leader in the application of this important new technology.

The Gorgon Joint Venturers have already achieved a number of significant project milestones in relation to the proposal to inject carbon dioxide below Barrow Island. These include:

- Having the world's first carbon dioxide disposal legislation (*Barrow Island Act 2003, WA*) which provides a legislative mechanism for the authorisation and regulation of

the disposal of carbon dioxide by underground injection. Note the disposal operations are to be undertaken within Western Australian jurisdiction.

- Receiving environmental approval under both Western Australian and Commonwealth legislation following a detailed environmental impact assessment process including public review and comment. Chevron believes this environmental impact assessment, including public review and comment, is a world's first.
- Having to address the significant challenge of working within the constraints of an overlapping petroleum title rights holder.
- Consideration of the process of site closure and management of longer term liabilities that might accrue to the proposed disposal of carbon dioxide.

Chevron believes our Australian experience in progressing the Gorgon Project enables Chevron to comment on the exposure draft with the benefit of significant and perhaps unique insight into the practical issues associated with regulating storage projects in Australia.

Chevron commends the work that has gone into developing the exposure draft legislation and believes that the approach of establishing rights equivalent to those applied to the upstream petroleum industry will prove effective in regulating the carbon dioxide storage industry.

In this submission Chevron briefly addresses each of the five issues referred to the Committee. The submission deals primarily with the proposed mechanism for managing the interaction of co-existing rights and the degree of Ministerial discretion this introduces. Chevron is of the view that the model proposed creates uncertainty for both the oil and gas industry and the emerging carbon dioxide storage industry going forward. An alternative model is proposed that Chevron feels would simplify the legislative arrangements and provide greater regulatory certainty for at least some rights holders.

In addition we discuss a number of technical issues such as:

- ◆ the duration of the proposed assessment permit
- ◆ the proposed model for the management of long term liabilities
- ◆ the ability to differentiate between exploration for petroleum and the assessment of a greenhouse gas storage formation; and
- ◆ the definition of significant risk.

Chevron also commends to the Inquiry the submission by the Australian Petroleum Production and Exploration Association to the Inquiry. APPEA represents the interests of the upstream petroleum industry in Australia and has undertaken a detailed review of the Exposure Draft Legislation.

Establishes legal certainty for access and property rights for the injection and long-term storage of greenhouse gases in offshore commonwealth waters

The proposal to establish a series of title rights equivalent to those applied to the upstream petroleum industry provides an effective mechanism for providing property rights for carbon dioxide storage proponents and for the regulation of activities related to the storage of greenhouse gases. This property rights model has provided certainty for the oil and gas industry and is an appropriate model for the establishment of a greenhouse gas storage industry.

Chevron is concerned that the title rights, both for the oil and gas industry and the greenhouse gas storage industry, granted post the proposed amendments will have less legal certainty than that currently enjoyed by the oil and gas industry. This arises as a consequence of the significant powers provided to the Minister to determine outcomes in the public interest where activities in the oil and gas industry (but potentially in other sectors) come into conflict.

This erodes the certainty currently enjoyed by oil and gas explorers that having discovered a commercial resource they will be able to develop it. Neither the oil and gas explorers (with rights granted post-amendment) nor the greenhouse gas storage assessors (explorers) will enjoy this current level of certainty.

Later in this submission Chevron presents an alternative model for consideration by the Committee which we feel will provide greater legal certainty for initial title rights holders and remove the need for the Minister to arbitrate in the public interest in many cases.

Duration of Greenhouse Gas Storage Assessment Permits

The exposure draft allows for Assessment Permits to be granted for a period of six years without a right of renewal. We acknowledge the desire in government to prevent holding of assessment permits but suggest that six years would be an absolute minimum period to assess an error provided results were as anticipated. Our experience with appraising the Gorgon Carbon Dioxide Injection Project location has been that it takes a considerable time and effort to fully assess the potential of an area. Chevron would be surprised if the full area under an Assessment Permit could be evaluated during a single six-year period.

For example it is possible to envisage that extensive seismic could be obtained and processed and a single round of drilling undertaken and results interpreted within six years. However, if this round of drilling proved unexpected results that suggested other parts of the Assessment Permit were more prospective, it is arguable that not enough time would be available to assess those other parts of the permit.

Chevron proposes that a single right of renewal be incorporated in the proposed Bill but be subject to a rigorous test based upon the results achieved to date and the resulting ongoing work program to fully assess the potential within the permit. Areas that have been assessed during the initial term should be required to be surrendered.

Provides a regulatory regime which will enable management of greenhouse gas injection and storage activities in a manner which responds to community and industry concerns

Chevron supports the general approach proposed in relation to regulation and management of injection and storage activities. In particular the proposed process around site closure provides a workable framework for managing an important aspect of greenhouse storage projects.

The issue of management of long term liabilities is integral to any discussion around greenhouse gas storage with many calling for a transfer of long term liabilities to government. The critical question is around individuals expectation of what is meant by the use of the term "long term". The proposed amendments consider long term to be when project proponents are no longer in existence such that they cannot be held accountable for any long term liabilities. Many in industry however, are likely to define long term as following the point of site closure.

Competition between Texas and Illinois, in the United State's for the location of the FutureGen Project resulted in both States passing laws indemnifying the FutureGen proponents from long term liabilities. Also, in the European Union a Proposed Directive on Carbon Capture and Storage, signals the Commission for the European Communities intent a transfer of long term liability from the project operator to the Member State should take place "if and when all available evidence indicates that the stored carbon dioxide will be completely contained for the indefinite future". While we note that the FutureGen Project is currently being reconfigured, the laws passed in Texas and Illinois and the proposed European Union Directive create an expectation amongst carbon storage proponents that governments will take on responsibility for longer term liabilities that might arise from carbon storage projects once agreed site closure criteria have been met.

Chevron has considered the question of long term liabilities as they might apply to the proposed Gorgon Project and has concluded that the approach adopted in the amendments balances community concerns but may act as a disincentive to proponents to undertake storage projects. While noting that government does not normally take on responsibility for activities by industry, the pressing need for the early adoption of this technology to address the risks posed by climate change provides a case that government assumption of long term liability may be warranted.

Importantly the most effective way to reduce long term liabilities is to focus on appropriate site selection and diligent operational management. In addition to the Gorgon Project, Chevron has gained significant experience working on risk assessment methodologies and developing a site certification framework through the IEA Weyburn-Midale CO₂ Project and the CO₂ Capture Project. These processes are critical for determining the appropriate level of front-end-assessment as to whether a proposed site is ultimately suitable for the injection and long term storage of carbon dioxide. The practical effect of this high level of front-end-assessment is to reduce uncertainty so that there is greater confidence about the long term containment of carbon dioxide in the storage formation. Chevron supports legislative provisions that obligate the regulator to ensure the appropriate site assessment has been undertaken and the site is operated with appropriate diligence.

The need for detailed front-end-assessment of potential storage sites provides further weight to the argument for the ability to renew a Storage Assessment Permit.

Differentiation between petroleum exploration and greenhouse gas storage assessment

It is an offence under the proposed legislation to explore for a greenhouse gas storage formation or an injection site unless that exploration is authorized. Chevron is concerned that the methods used to explore for petroleum (predominantly seismic and drilling) will the same methods that will be used to explore for greenhouse gas storage

formations or an injection site. The legislation needs to be clear that a petroleum explorer cannot be deemed to have committed an offence simply because that explorer was undertaking petroleum exploration activities that could reveal a greenhouse gas storage formation or injection site.

Definition of Significant Risk

The proposed use of the term "Significant Risk" runs counter to the more widely used use of the term "Risk".

In generally use of the term "Risk" implies the product of likelihood and consequence. That is, a situation where there is a high consequence but a low probability of occurrence would be considered a low or medium risk. We note that Section 15F of the amendments states that "the risk is taken to be a *significant risk* even if the probability is low". The use of the term risk in this way has the potential to cause confusion between the use of the term in this legislation and in other legislation and more general usage.

The use of the phrase "Significant Risk of an action producing a Significant Adverse Impact" appears to be illogical in light of Significant Risk being defined as including low probability outcomes. For example applying the definitions in the legislation suggests the intent is "if there is the possibility of a large adverse impact on other operations producing and significant adverse impact".

Chevron propose that the use of the term "Significant Risk" be replaced with the term "reasonable likelihood" with reasonable possibly further being defined as "may occur within the life of the proposed project".

Provides a predictable and transparent system to manage the interaction between greenhouse gas injection and storage operators with pre-existing and co-existing rights, including, but not limited to, those of petroleum and fishing operators, should these come into conflict.

The oil and gas industry is critically important to Australia's energy security. Ensuring the oil and gas industry continues to grow must remain a key policy objective of government. The establishment of greenhouse gas storage rights will introduce competition for subsurface rights that has the potential to negatively impact upon the oil and gas industry. Chevron is pleased to see that the management of the interaction between these rights holders is included in the Committee's terms of reference.

Australia ranks low in prospectivity for oil and gas compared to many other parts of the world and the costs for developing and producing oil and gas in Australia are amongst the highest. Despite this, Australia enjoys a vibrant upstream oil and gas sector and has managed to remain a net exporter of oil and gas. To a large degree this is as a result of the stable and effective regulatory regime which underpins this important industry.

Chevron welcomes the approach taken in the exposure draft regarding the protection of rights currently enjoyed by the petroleum industry for titles (and successor titles) granted prior to the proposed amendments. Chevron however, is concerned that the approach proposed in relation to post amendment rights introduces a level of uncertainty for both the petroleum industry and the emergent carbon storage industry. This

approach may act as a disincentive for future investment in oil and gas exploration and may restrain the development of the greenhouse storage industry.

The approach adopted in the legislation appears to place both greenhouse storage rights holders and petroleum (post amendment) rights holders on an equal footing irrespective of the timing of the granting of the respective rights. By design this necessarily requires the Minister to arbitrate issues where these equal rights come into conflict.

Chevron proposes the Committee consider an alternative model for post amendment rights based on the principle that the holder of the first title right (be it either for petroleum or greenhouse storage) to be granted in a particular area would have primacy. Any rights granted subsequently over the same area would have to acknowledge the preexisting rights and work within those in much the same way that is proposed for pre amendment petroleum rights. Under this model the holder of the initial rights in an area has a high degree of certainty about its ability to exploit a discovered resource. The holder of any subsequent right knows that they have to respect the rights enjoyed by the initial rights holder. Under this model potential for conflict and the need for the Minister to arbitrate in the public interest is lessened.

This alternative model would remove the need to differentiate between pre and post amendment petroleum rights. Following the passage of the amendments, an initial rights holder in an area, for either petroleum or greenhouse storage, would be treated in much the same manner as is proposed for pre amendment petroleum rights holders.

Chevron is of the view that this alternative model would provide a greater level of regulatory certainty for both the petroleum and greenhouse storage industries going forward.

Promotes certainty for investment in injection and storage activities

Subject to the concerns expressed in this submission, Chevron believes that the legislative package provides a workable basis for the establishment of a greenhouse gas storage industry.

Exploration, retention and production title rights for petroleum have underpinned investment in Australia's upstream petroleum industry and it should be expected that similar title rights will provide investment certainty for the emergent greenhouse storage industry.

As discussed above, Chevron's primary concern with the legislative package is the degree to which the Minister has discretion over many activities. Whenever legislation relies upon Ministerial determination this will erode certainty for industry. Adopting an alternative approach to managing conflict between co-existing rights holders would further increase certainty for the petroleum and greenhouse storage industries.

It is possible that promoters of greenhouse gas storage will desire a more complete transfer of liabilities to government at the point of site closure. While based on existing regulatory principles, the approach proposed for the management of long term liabilities may be considered by some proponents as a disincentive to investment in greenhouse gas storage. One practical way governments can facilitate the early uptake of this technology would be to offer to indemnify proponents from liabilities following site closure.

Establishes a legislative framework that provides a model that could be adopted on a national basis.

Chevron supports the adoption of a nationally consistent approach to the regulation of greenhouse gas storage. It is in the longer term interests of the emergent greenhouse gas storage industry to have a consistent set of legislative arrangements across all Australian Governments as opposed to different approaches in different jurisdictions. Subject to Chevron's concerns identified in this submission, Chevron would support the States and Territories developing legislation that mirrors the approach being adopted by the Commonwealth.

Chevron notes that this legislative package is potentially one of the most advanced attempts by any jurisdiction to legislate title rights for the establishment of a greenhouse storage industry. As such it provides a model for other international jurisdictions where subsurface rights are regulated in much the same manner as Australia.

In Closing

Chevron commends the work that has gone into developing the exposure draft legislation and believes that the approach of establishing rights equivalent to those applied to the upstream petroleum industry will prove effective in regulating the carbon dioxide storage industry.

While generally supportive of the legislative package there are a number of areas where Chevron felt amendments should be made to provide greater certainty to the upstream petroleum and greenhouse gas storage industries and that might aid in developing greenhouse gas storage as an important tool in combating the risks posed by climate change.

We would like to thank the Standing Committee on Primary Industry and Resources for the opportunity to make this submission and would be happy to meet with the Committee to discuss the contents of the submission and the actions that Chevron is taking to reduce greenhouse emissions from our operations. In particular we would like to offer to provide to the Committee a presentation on the Gorgon Carbon Dioxide Injection Project so that the Committee can gain an appreciation of the nature of this project and some of the challenges faced by the Gorgon Joint Venturers in undertaking this Project.



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