Pilot Energy Limited

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17 December 2024

Committee Secretary
Senate Economics Legislation Committee
Department of the Senate
PO Box 6100
Parliament House
CANBERRA ACT 2600
AUSTRALIA

Via email: economics.sen@aph.gov.au
CC: seniorclerk.committees.sen@aph.gov.au

Dear Committee Secretary,

RE: Pilot Energy Submission to Future Made in Australia (Production Tax Credits and Other Measures) Bill 2024 [Provisions] Inquiry

On 28 November 2024, the Australian Senate referred the provisions of the Future Made in Australia (Production Tax Credits and Other Measures) Bill 2024 to the Senate Economics Legislation Committee for inquiry and report by 30 January 2025.

Pilot Energy Ltd (PGY) [Pilot] kindly requests the Members of the Senate Economics Legislation Committee consider the key concerns in this submission during its inquiry and subsequent report to Parliament.

Pilot is developing one of Australia's most advanced carbon storage and clean ammonia production projects, south of Dongara in Western Australia's Mid West region – a leading jurisdiction nationally for third-party wind and solar generation projects of utility scale.

The Mid West Clean Energy Project (MWCEP) includes a Declared Greenhouse Gas Storage Formation offshore Dongara in Commonwealth waters, which was approved and announced by the Minister for Resources and Northern Australia, the Hon Madeleine King MP in June 2024.

The MWCEP's near-term development pathway is enhanced by its ability to leverage and repurpose existing operational assets comprising the Cliff Head offshore oil production platform, onshore Arrowsmith separation plant and associated infrastructure including subsea pipelines.

Further, the MWCEP enables the redeployment of 30 skilled people currently employed to manage the Cliff Head oil project, while continuing the project's long-standing relationship with the Mid West community.

Pilot has been developing the project since 2020 and has completed detailed feasibility and Pre-FEED studies. The background data and analysis undertaken during this period, highlighted challenges and opportunities for Australian low carbon hydrogen projects.

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Our feasibility analysis supported the development of near-term low carbon blue (natural gas derived) hydrogen with future adaptability as the economics of green (renewable energy derived) hydrogen improve. In March 2022, our feasibility results highlighted a material gap between current grey hydrogen production (without carbon capture) and green hydrogen.

This gap was re-enforced by APA Group and Wesfarmers[1] recent ARENA sponsored study which confirmed green hydrogen pricing of $10-11 per kilogram, compared with grey hydrogen pricing of around $1.5 per kilogram. Green hydrogen needs to leverage infrastructure established for blue hydrogen to assist with closing the gap.

Given the material disparity between the attainable market price and green hydrogen pricing today, subsidies of $8 per kilogram (or greater) may be required to initiate large scale green hydrogen production in Australia. Further, the development timeframes of blue verse green hydrogen result in blue hydrogen projects coming online before 2030, while equivalent green hydrogen production is not likely until 2032 - 2035.

Pilot strongly supports the future supply of green hydrogen. However, in order to enable near-term and genuine emission reduction for our Asian trading partners expressing current demand, Australia's policy environment needs to align with the lowest carbon intensity product, instead of supporting only one production pathway.

The Commonwealth's proposed Future Made in Australia (Production Tax Credits and Other Measures) Bill 2024 presents an opportunity to align Australia with our key trading partners and international markets and accelerate the production of low carbon hydrogen.

However, the blanket exclusion of certain technologies (such as steam reformation required to produce blue hydrogen) in the draft bill moves Australia away from the international community and will have the unintended consequence of further delaying action to reduce domestic and regional emissions.

Recently completed Pre-FEED studies for the MWCEP confirm the project can achieve a carbon intensity at or below the 0.6 kilogram of CO_2 per kilogram of H_2 produced. This level of carbon intensity exceeds the clean standards set in Asia and is very close to the USA standard for green hydrogen subsidies under the highly successful US Inflation Reduction Act.

Policy settings and robust carbon accounting mechanisms, such as the Guarantee of Origin Scheme, should be relied upon to assess and support clean hydrogen projects on their merits, rather than forcing technology solutions on the market regardless of merit.

If a blue project using steam reformation is certified under the Guarantee of Origin scheme, the additional cost of capture and storage can be made economic through support via a production tax credit. Ironically, arbitrary exclusion of such projects may result in a net increase in emissions as blue hydrogen projects elect to capture and store a lower, more economically sustainable percentage of total emissions.

Australia has the opportunity to leverage is large scale natural gas and carbon storage potential,

[1] https://wescef.com.au/2024/11/27/green-hydrogen-knowledge-sharing-report-released/

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alongside vast emerging renewable energy resources to lead the world in the production of low carbon hydrogen from today. However, opting to only support one technology is putting this achievable aspiration at risk and letting other countries take the lead in the global challenge to remove significant emissions from our regional environment.

Pilot believes the Commonwealth's rationale for intervention in renewable hydrogen sector specifically, at the exclusion of production systems using gas reformation combined with carbon capture and storage, unnecessarily disadvantages more advanced projects with the near-term potential to contribute to emissions reduction in Australia and in partner economies like Korea.

We also believe maintaining this exclusion has the potential to hinder investment decisions in large-scale clean energy projects like the MWCEP, able to make hydrogen (and ammonia) available sooner and in turn support the establishment of a future industry in the region.

We would appreciate the opportunity to present a more detailed brief on the Mid West Clean Energy Project and the opportunities Pilot is pursuing for both direct abatement through carbon storage, and ammonia production and export for potential partners in Australia and Korea.

Further background on the MWCEP is attached to this letter.

Yours Sincerely

[redacted]

Brad Lingo

Executive Chairman

Pilot Energy Ltd

E: [redacted]

M: [redacted]

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Mid West Clean Energy Project background

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The MWCEP's near-term development pathway is enhanced by its ability to leverage and repurpose existing operational assets comprising the Cliff Head offshore oil production platform, onshore Arrowsmith separation plant and associated infrastructure including subsea pipelines.

Further, the MWCEP enables the redeployment of 30 skilled people currently employed to manage the Cliff Head oil project, while continuing the project's long-standing relationship with the Mid West community.

The MWCEP credentials are further enhanced by the publicly declared support of a consortium of Korean companies (K-Consortium) to partner in the development of the MWCEP. The K-Consortium consists of Korea Southern Power Co (KOSPO), Korea East West Power (EWP), Approtium (South Korea's largest independent hydrogen supplier) and Samsung C&T.

The MWCEP was approved in October as a clean ammonia supplier by the Korean Energy Economics Institute (KEEI), under the Korean Clean Hydrogen Production Standard (CHPS) certification scheme. Pilot is targeting to supply its K-Consortium partners with approximately 1 million tonnes per annum of clean ammonia from the MWCEP for co-firing in existing coal-fired power plants and industrial consumption to substantially reduce Korea's domestic CO2 emissions.

K-Consortium member KOSPO announced in November 2024 it had secured 2 billion Korean Won (approximately A$2.2 million) funding from Korea Export-Import Bank for its ongoing input into front end engineering and design work for the MWCEP – a further declaration of public support for Pilot's MWCEP from one of Australia's key investment and trading partners.

The MWCEP's ambition of supporting clean energy transition and attracting foreign investment involves starting initially with low carbon (clean) ammonia and transitioning to green ammonia when the technology is commercially and technically feasible at the scale required to supply foreign markets, which is predicted to be prior to 2035.

Initially, the project will produce clean hydrogen using an autothermal reforming (ATR) process, with carbon removal from the syngas using existing technologies such as amine scrubbing. Hydrogen is converted to Ammonia, the preferred hydrogen derivative due to its existing supply chain, using mature ammonia synthesis technology, such as the Haber Bosch process.

The direct capture of carbon emissions at the onshore facility for permanent storage in the Cliff Head formation, combined with the renewable generation powering the facility, enables the ammonia production that achieves a low carbon intensity of less than 0.6kg CO2 per kg H2 from the outset, consistent with the benchmark identified in the proposed Hydrogen Production Tax

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Incentive legislation introduced into Parliament in November.

Onshore utility scale renewable energy coupled with GWh scale battery energy storage projects will be required from the commencement of ammonia production forecast for 2029 and will meet 90% of the onshore ammonia production plant's energy demand.

Subsequent to the initial clean ammonia phase, green ammonia production is planned to commence before 2035, leveraging the onshore production facility and ammonia export infrastructure in Commonwealth waters installed for the initial clean ammonia production phase.

To accelerate decarbonisation of energy systems globally, there is demand for the MWCEP's initial clean ammonia and subsequent green ammonia product in Asian markets including Korea. The K-Consortium for example require clean ammonia to enable near term material reductions in emissions by co-firing the ammonia with coal at Korea's large scale modern coal fired power generators.

The MWCEP is wholly aligned with the 2024 National Hydrogen Strategy, Australia's Climate Change Act 2022 and Future Made in Australia National Interest Framework. The MWCEP is also aligned with Western Australia's Greenhouse Gas Emissions Policy for Major Projects and the State's Carbon Capture Utilisation and Storage: Action Plan.

In addition, the MWCEP hydrogen energy product's low carbon intensity (0.6kg Co2/kg H2) meets benchmarks and classifications for low carbon intensity hydrogen incentive schemes in leading global markets such as the USA, Korea and Japan. These jurisdictions recognise the importance of clean hydrogen in meeting relevant Nationally Determined Contributions (NDCs) under the Paris Agreement.

The MWCEP includes a permanent carbon storage facility created from the conversion of the operating Cliff Head offshore oil field, which will be able to sequester carbon generated by third parties as well as from Pilot's own proposed clean ammonia production project.

To date, Pilot has undertaken a significant investment program to progress feasibility, engineering, design, environmental screening and the material technical assessment to support the successful application for Declaration of Storage Formation at Cliff Head.

Pilot believes repurposing its Cliff Head and Arrowsmith infrastructure is the most advanced path to Western Australia delivering a successful carbon storage project, which in turn can offer a solution for the State's hard or impossible to abate heavy industries.

Carbon storage is proven technology globally – its success is predicated on the management of the interaction between the point at which carbon is captured, treated, transported, injected and stored. Cliff Head is ideally situated in terms of location and existing infrastructure advantages, as well as the proven stability of the offshore formation where oil production and water injection have occurred in balance for the past 18 years.