

## Announcement to ASX

ASX: PGY

31 July 2024

### Major expansion of Cliff Head Carbon Storage Project area

Pilot Energy Limited (ASX: PGY) ('Pilot' or the 'Company') is pleased to announce it has been awarded a large Greenhouse Gas Assessment Licence G-12-AP located in the Offshore Perth Basin. G-12-AP is immediately adjacent to Pilot's recently announced Declared Greenhouse Gas Storage Formation ('Declaration') issued over the WA-31-L licence area and overlaps Pilot's WA 481-P gas exploration licence.

The Declared area within WA 31-L and G-12-AP combined provide Pilot a commanding and contiguous greenhouse gas acreage position on a 100% basis (subject to completing the WA-31-L acquisition) across the highly prospective Offshore Perth Basin. G-12-AP substantially expands Pilot's greenhouse gas acreage **from 72km<sup>2</sup> (WA 31-L) to a combined 7472km<sup>2</sup>**.

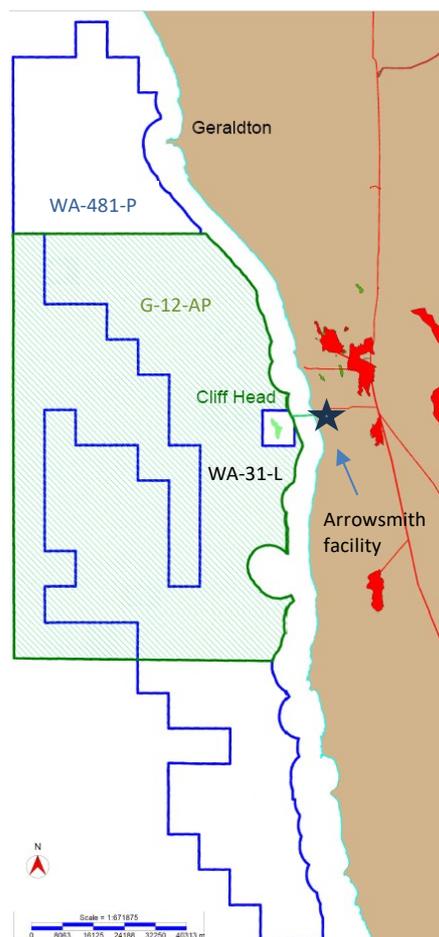


Figure 1 Pilot Energy 100%<sup>1</sup> owner Offshore Perth Basin tenements

<sup>1</sup> Subject to completing the WA 31-L acquisition

Pilot’s offshore gas and carbon exploration tenements and associated work programs are complementary and provide Pilot flexibility as it explores and appraises the regions material gas and greenhouse storage targets. Under the complimentary licences, Pilot can undertake exploration activities targeting both gas and carbon storage opportunities. By way of example, the planned 3D seismic survey over the Leander gas prospect (450bcf prospective resource – refer to ASX Announcement 9 March 2023) and potential follow-on gas appraisal well, can also appraise the greenhouse gas storage resources.

Pilot has played a leading role in developing Australia’s offshore carbon storage industry, having been granted Australia’s first Declaration over the Cliff Head project licence area (refer to ASX Announcement 14 June 2024). The technical data set and subsurface models which supported the granting of this approval, provide Pilot with the blueprint to explore and appraise the wider offshore Perth Basin region. Pilot’s initial assessment of the carbon storage potential has highlighted significant carbon storage expansion potential across a majority of the G-12-AP licence with Permian and Triassic potential greenhouse gas storage target areas already identified (see Figure 2 below).

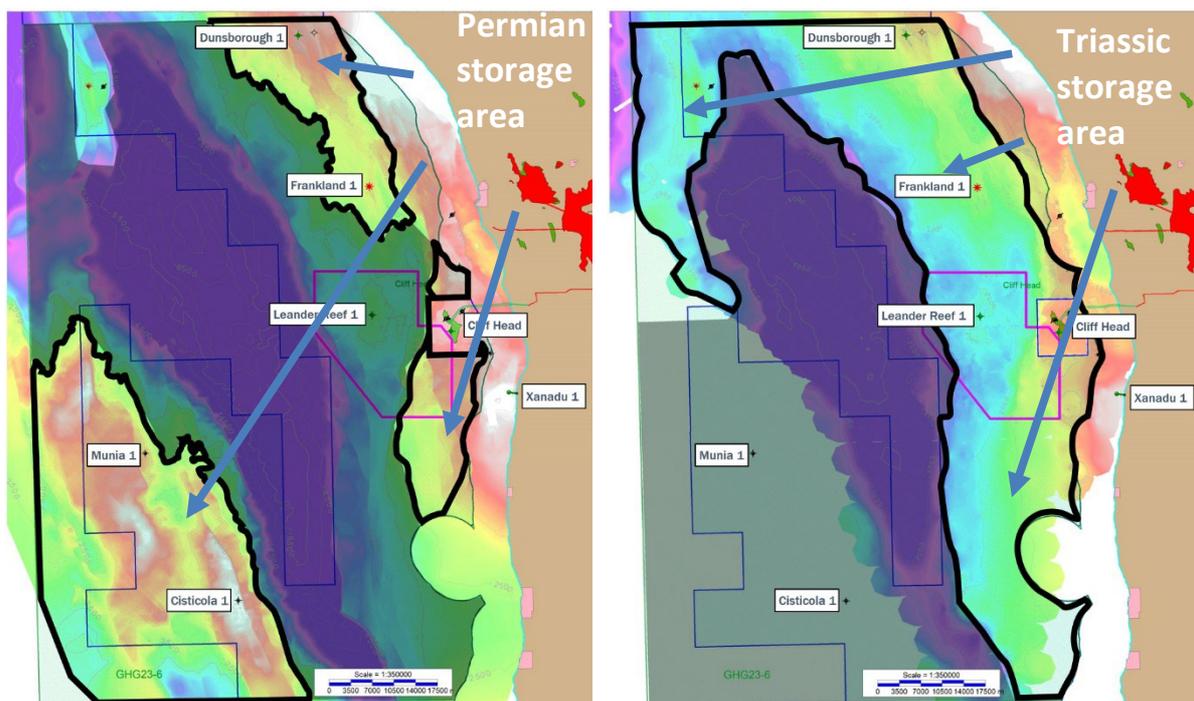


Figure 2 Permian and Triassic target carbon storage area (excludes region shaded purple)

Subject to the successful exploration and appraisal of new carbon storage formations, the expanded licence area has the potential to provide a series of permanent carbon storage locations with a similar scale to the over 100 million tonne carbon storage resources identified in the WA 31-L licence area<sup>2</sup>. Pilot is focussed on progressing this expanded offshore Perth

<sup>2</sup> Refer to 1 June 2024 ASX Announcement - Major increase to Cliff Head Carbon Storage Resource

Basin position into a world class carbon storage operation, providing Western Australian and international emitters a permanent and safe solution to materially reduce industrial emissions.

In 2009, the Commonwealth Government's Carbon Storage Taskforce<sup>3</sup> identified the offshore North Perth Basin encompassing Pilot's Cliff Herad Carbon Storage Project and the newly awarded G-12-AP assessment license as highly suitable for carbon injection and permanent storage. The Taskforce ranked the offshore North Perth Basin as one of the top locations in Australia after reviewing 26 major geological basins across the country.

With the potential for material scale of carbon storage operations within G-12-AP (subject to exploration success) and the Mid West regions adjacent potential for large scale renewable energy developments, Pilot can capitalise on the work to be undertaken under the recently awarded \$6.5 million Commonwealth grant<sup>4</sup> to potentially deploy large scale Direct Air Capture ('DAC'). Under the grant, Pilot will progress the assessment of deploying large scale DAC, to draw down atmospheric emissions to accelerate climate repair. Refer to Attachment 3 for an induction to the Mid West DAC opportunity using Capture6's technology.

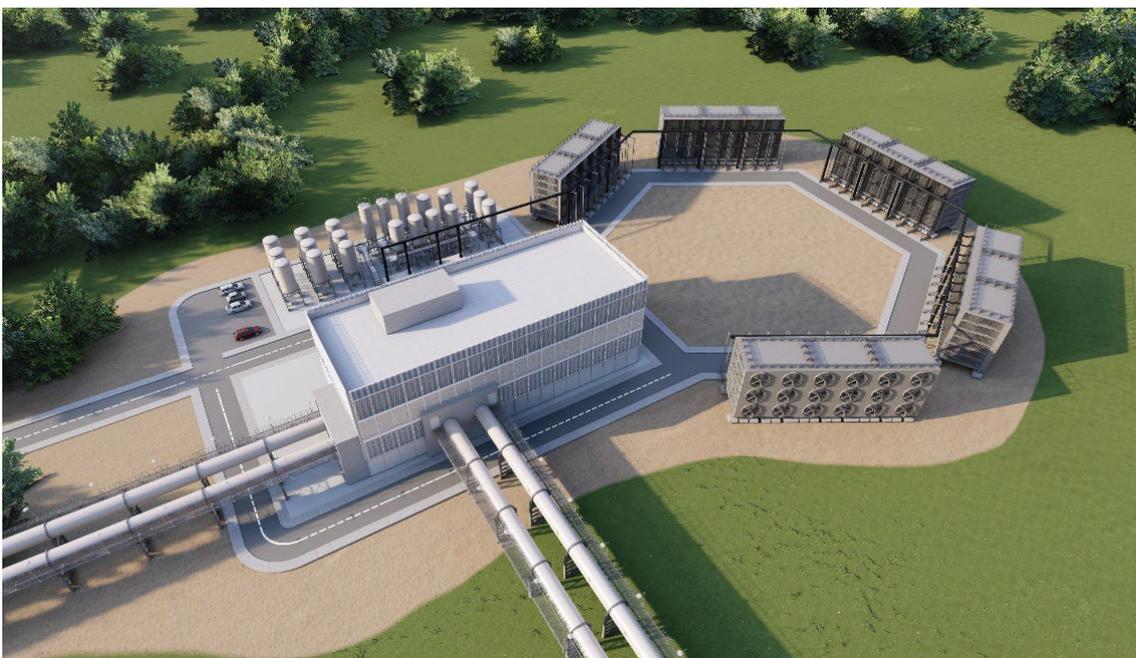


Figure 3 Graphical representation of a Capture6 DAC installation

Pilot plans to initially focus on the areas in GP-12-AP immediately adjacent to the Cliff Head Carbon Storage Project to facilitate potential incremental expansion leveraging the future projects injection operations and infrastructure to deliver large scale competitive carbon solutions.

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<sup>3</sup> Carbon Storage Taskforce 2009, National Carbon Mapping and Infrastructure Plan – Australia: Full Report, Department of Resources, Energy and Tourism, Canberra

<sup>4</sup> Refer 23 July 2024 ASX Announcement - \$6.5m C/wealth Grant awarded for PGY Mid West CO2 Capture

The G-12-AP licence terms are set out in Attachment 1 and summarised below:

- 6-year initial term;
- Guaranteed work program for years 1- 3 involving largely geological and geophysical studies; and
- Conditional work program for years 4 – 6 involving seismic interpretation, well analysis, static & dynamic plume modelling, carbon storage capacity estimation and drilling of an injection test well by year 6.

The overlap of G-12-AP with WA-481-P is expected to assist with Pilot's ongoing farmout discussions which to date have focussed on the gas prospectivity of the WA-481-P permit. As such Pilot will immediately commence marketing the farm out opportunity on a combined basis to Australian and International parties.

Pilot's chairman Brad Lingo said, "The award of the G-12-AP greenhouse gas assessment license is both a great outcome for Pilot but also for building a project centred on the Cliff Head Carbon Storage Project that can be a material contributor to decarbonising Western Australian industrial emissions for hard-to-abate industries such as alumina refining, ammonia and fertilizer production and cement."

Mr. Lingo added "Developing a major carbon storage project in the Mid West also provides an essential element for the potential development of green iron and steel processing in the Mid West to unlock the value of the significant high-grade magnetite iron resources of the Mid West through hydrogen—fed direct reduction iron processing supported by full carbon capture."

This announcement has been authorised for release to ASX by the Chairman, Brad Lingo on behalf of the Board of Directors.

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### **Enquiries**

Cate Friedlander, Company Secretary, email: [cfriedlander@pilotenergy.com.au](mailto:cfriedlander@pilotenergy.com.au)

**About Pilot:** Pilot is a junior oil and gas exploration and production company that is pursuing the diversification and transition to the development of carbon management projects, production of hydrogen and clean ammonia for export to emerging APAC Clean Energy markets. Pilot intends to leverage its existing oil and gas operations and infrastructure to cornerstone these developments. Pilot is proposing to develop Australia's first offshore CO2 Storage Project through the conversion of the Cliff Head Oil field and associated infrastructure from oil production to CO2 Storage as part of the Mid West Clean Energy Project.

Pilot holds a 21.25% interest in the Cliff Head Oil field and Cliff Head Infrastructure (increases to 100% on completion of the acquisition of Triangle Energy (Global) Pty Limited's interest), and a 100% working interest in exploration permit WA-481-P, located offshore Western Australia.

**Attachment 1 G-12-AP Greenhouse Gas Assessment Licence**

COMMONWEALTH OF AUSTRALIA

Section 300

*Offshore Petroleum and Greenhouse Gas Storage Act 2006*

**GRANT OF GREENHOUSE GAS ASSESSMENT PERMIT G-12-AP  
(RELEASE AREA GHG23-6)**

I, **GRAEME ALBERT WATERS**, General Manager, National Offshore Petroleum Titles Administrator, Delegate of the responsible Commonwealth Minister, hereby grant to

**Pilot Energy (CH CCUS) Pty Ltd**  
(ACN 649 591 971)

a greenhouse gas assessment permit in respect of the block(s) described hereunder, being blocks within the Commonwealth offshore jurisdiction subject to the conditions set out hereunder, to have effect for a period of six (6) years, from and including the date hereof.

**INTERPRETATION**

In this document, “the Act” means the *Offshore Petroleum and Greenhouse Gas Storage Act 2006*, and includes any Act with which that Act is incorporated, and words used in this document have the same respective meanings as in the Act.

The permittee shall at all times comply with:

- (a) the provisions of the Act; and
- (b) all directions given to the permittee under the Act and all regulations for the time being in force under the Act.

DATE OF REGISTRATION

31.7.2024

9:50 AM



OFFSHORE PETROLEUM AND  
GREENHOUSE GAS STORAGE ACT 2006

## DESCRIPTION OF BLOCKS

The reference hereunder is to the name of the map sheet of the 1:1,000,000 series prepared and published for the purposes of the Act and to the numbers of graticular sections shown thereon.

### Map Sheet SH50 (PERTH)

| Block No. |
|-----------|-----------|-----------|-----------|-----------|
| 867       | 868       | 869       | 870       | 871       |
| 872       | 873       | 874       | 939       | 940       |
| 941       | 942       | 943       | 944       | 945       |
| 946       | 1011      | 1012      | 1013      | 1014      |
| 1015      | 1016      | 1017      | 1018      | 1019      |
| 1083      | 1084      | 1085      | 1086      | 1087      |
| 1088      | 1089      | 1090      | 1091      | 1155      |
| 1156      | 1157      | 1158      | 1159      | 1160      |
| 1161      | 1162      | 1163      | 1227      | 1228      |
| 1229      | 1230      | 1231      | 1232      | 1233      |
| 1234      | 1236      | 1299      | 1300      | 1301      |
| 1302      | 1303      | 1304      | 1305      | 1306      |
| 1307      | 1308      | 1371      | 1372      | 1373      |
| 1374      | 1375      | 1376      | 1377      | 1378      |
| 1379      | 1443      | 1444      | 1445      | 1446      |
| 1447      | 1448      | 1449      | 1450      | 1451      |
| 1515      | 1516      | 1517      | 1518      | 1519      |
| 1520      | 1521      | 1522      | 1523      | 1587      |
| 1588      | 1589      | 1590      | 1591      | 1592      |
| 1593      | 1594      | 1595      | 1596      | 1659      |
| 1660      | 1661      | 1662      | 1663      | 1664      |
| 1665      | 1666      | 1667      |           |           |

Assessed to contain 108 blocks

### Map at **Attachment A**

*Where a title area abuts the coastal waters and offshore area maritime boundary, the title area is fixed for the term of the current title only. The title area, and specifically the size and shape of blocks within the title area, are subject to change at each renewal or change in title status in line with the Australian Maritime Boundary (AMB) dataset made for the purpose of the Seas and Submerged Lands (Territorial Sea Baseline) Proclamation 2016.*

### CONDITIONS

1. Subject to condition 3, on commencement of the permit, the minimum work requirements specified in column four of the following table, for the first three (3) year period becomes guaranteed. The permittee must commence and complete all the work specified in column four of the following table for the first three (3) year period.
2. Subject to condition 3, on commencement of the fourth permit year, the minimum work requirements specified in column four of the following table, become guaranteed on a year-by-year basis. Once a permit year has commenced the permittee must commence and

complete all the work specified in column four of the following table for that year during the year.

3. During any year of the permit term, the permittee may carry out all or part of the work specified in column four of the following table for a subsequent year or years. The Titles Administrator may, at its discretion and by written instrument, approve the minimum work requirements to be credited for work against a subsequent year or years.
4. The permittee must carry out the work specified in column four of the following table to a standard acceptable to the Titles Administrator.

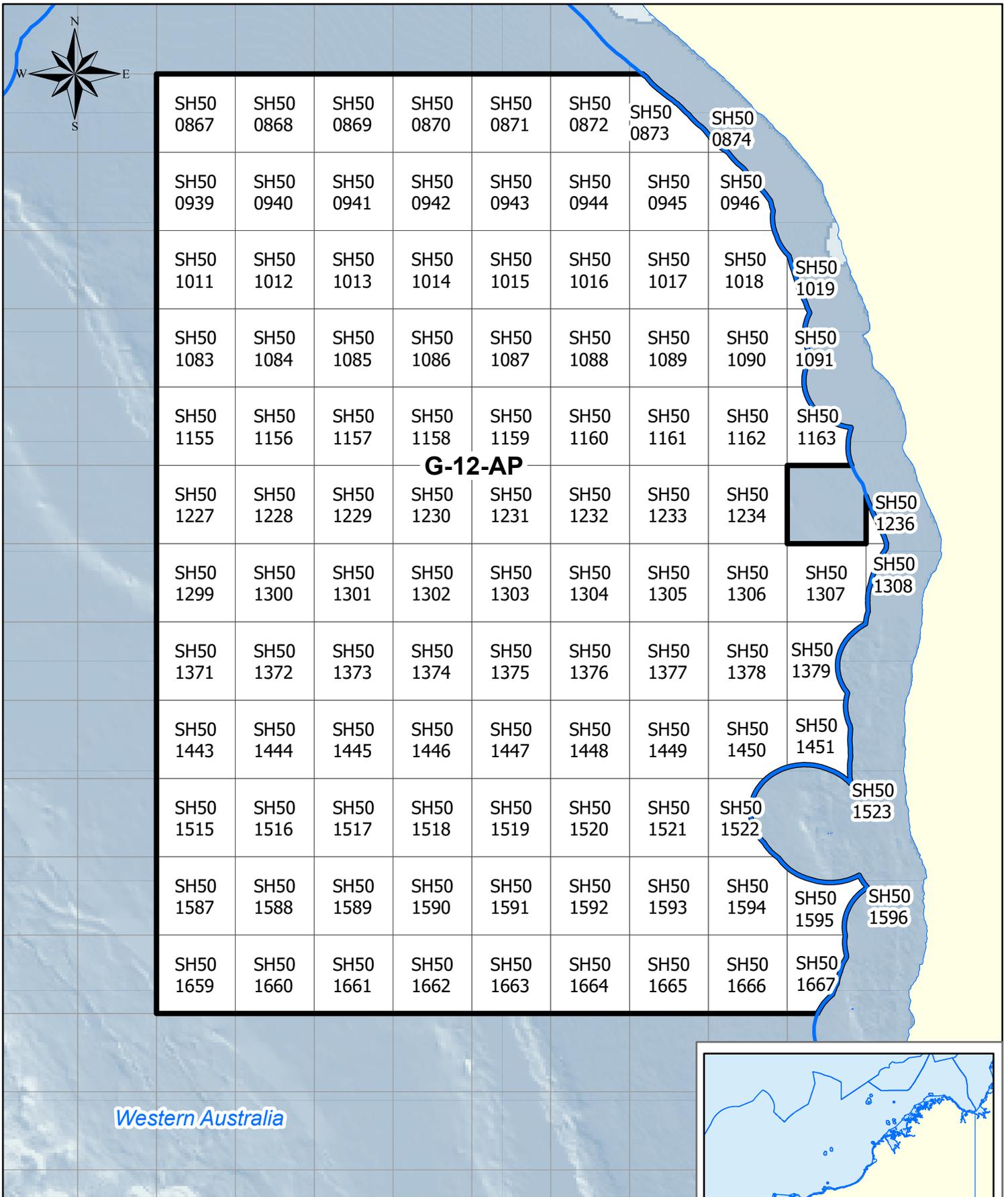
Permit Year	Permit Year Starts	Permit Year Ends	Minimum Work Requirements	Estimated Expenditure Constant dollars (indicative only) \$AU
1-3	31/07/2024	30/07/2027	<p>Geological and geophysical studies including:</p> <ul style="list-style-type: none"> <li>• seismic-based identification and mapping of potential storage formations, analysis and modelling of the storage formation</li> <li>• comprehensive assessment of containment potential including top and intra-formational seals, faults and fault seals and a geomechanical assessment.</li> <li>• comprehensive assessment of impacts and risks</li> <li>• build a regional static model - static and dynamic plume modelling, capacity estimation and development of an injection strategy</li> </ul>	1,000,000
4	31/07/2027	30/07/2028	<p>Geological and geophysical studies including:</p> <ul style="list-style-type: none"> <li>• 400km<sup>2</sup> 3D seismic interpretation, depth conversion, revision of stratigraphic models</li> <li>• well result evaluation including injectivity test analysis, petrophysical analysis, dynamic reservoir simulation</li> <li>• revised static and dynamic plume modelling, capacity estimation and injection strategy</li> </ul>	1,000,000
5	31/07/2028	30/07/2029	<p>Geological and geophysical studies including:</p> <ul style="list-style-type: none"> <li>• further sub-surface geological and geophysical and reservoir characterization, MMV planning and risk assessment</li> <li>• revised opportunity seriatim and forward plan</li> <li>• well planning</li> </ul>	1,000,000
6	31/07/2029	30/07/2030	Drill one (1) injection test well	20,000,000

Dated this 31<sup>st</sup> day of July 2024.

Made under the *Offshore Petroleum and Greenhouse Gas Storage Act 2006*  
of the Commonwealth of Australia.



**GRAEME ALBERT WATERS**  
GENERAL MANAGER  
NATIONAL OFFSHORE PETROLEUM TITLES ADMINISTRATOR  
DELEGATE OF THE RESPONSIBLE COMMONWEALTH MINISTER



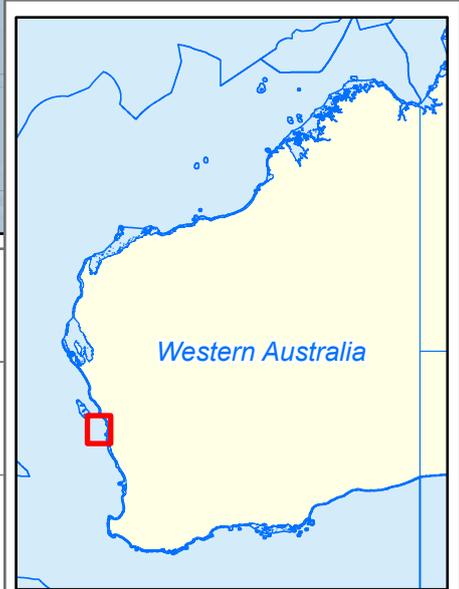
### Attachment 1 Greenhouse Gas Assessment Permit G-12-AP

- GHG Permit Area
- Offshore Area Boundary
- Mapsheet Boundary
- Graticular Blocks

0 10 20 30  
Kilometres  
1:600,000 at A4

The displayed boundary is defined by the following datasets  
 - AMB2014 (Coastal Water Boundary),  
 - APB2019 (Australian Petroleum Blocks, 5' x 5').  
 Data source: Geoscience Australia

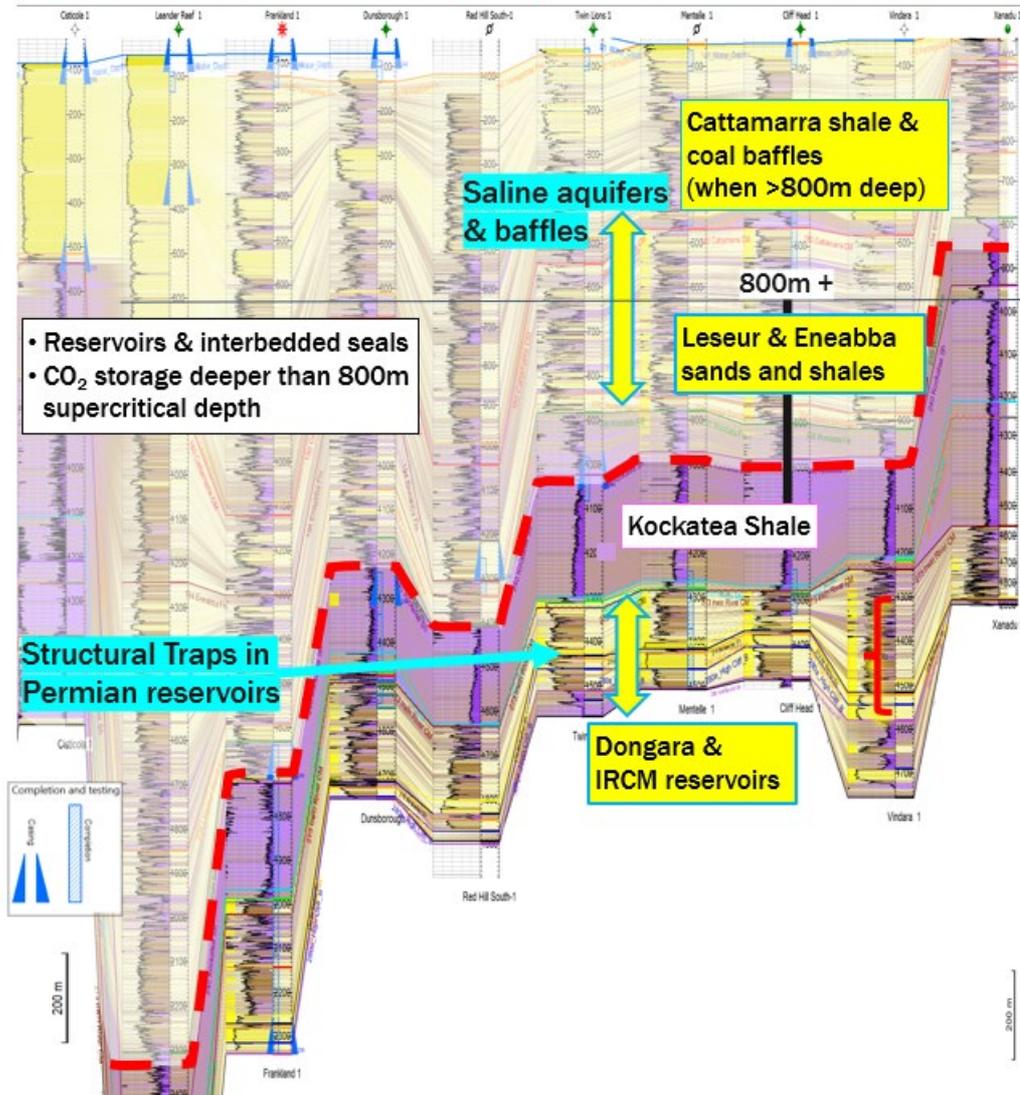
**Australian Government**  
**National Offshore Petroleum  
 Titles Administrator**



## Attachment 2 G-12-AP Offshore Perth Basin – Target formations and regional seals

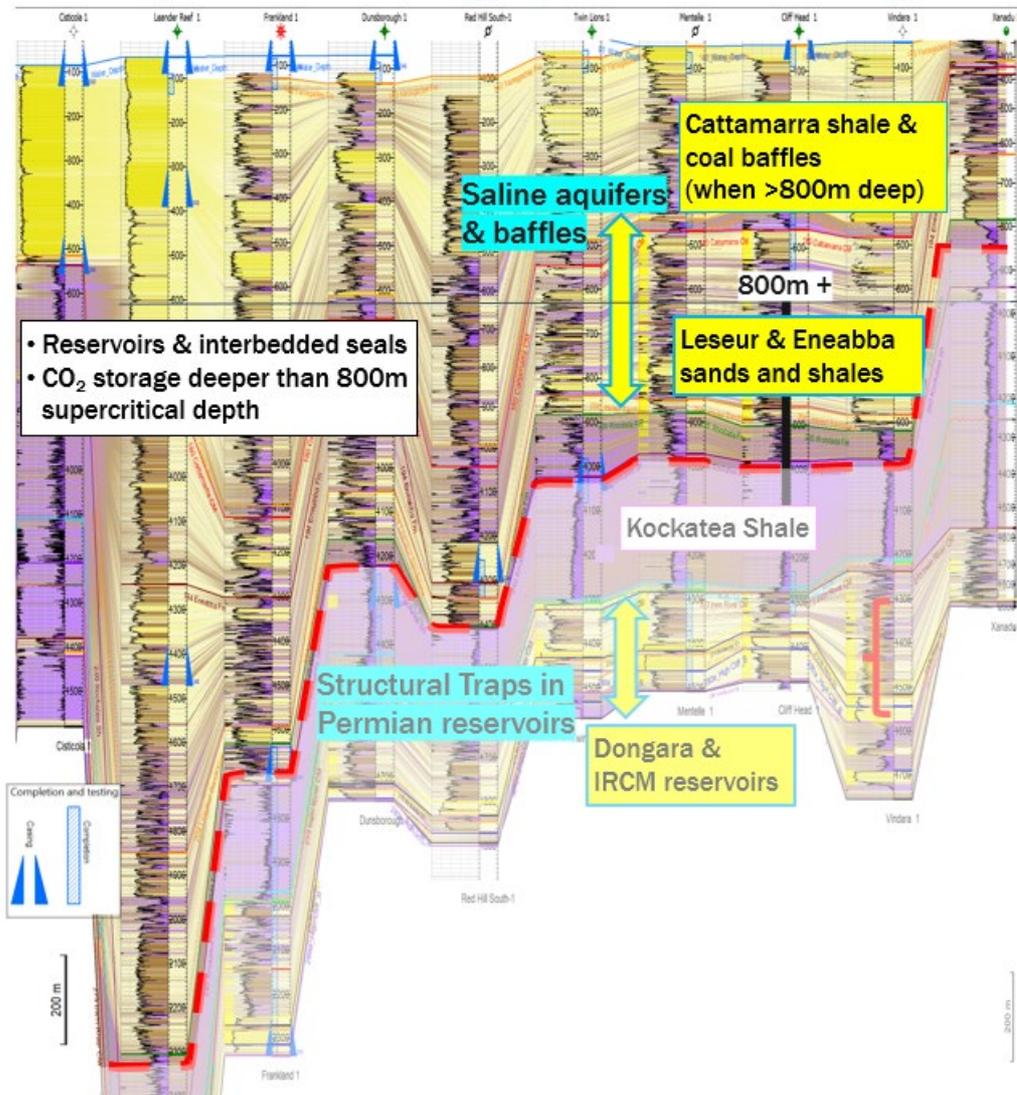
### Permian Storage Target

## Two systems to target, reservoir-seal pairs



## Triassic Storage Target

### Two systems to target, reservoir-seal pairs



**Attachment 3 Introduction to Direct Air Capture**

## Pilot Energy MWCEP Direct Air Capture Overview

As debate over clean energy and cutting greenhouse gas emissions heats up, there's a technology that can remove the key culprit carbon dioxide from the atmosphere that's gaining support but is not yet well understood.

Direct air capture (DAC) acts like a carbon "sponge" and is backed by some of the world's biggest and best known companies, as well as environmental groups.

At its Mid West Clean Energy Project in WA Pilot Energy plans to use Capture6's industry-leading DAC technology, to progress its Carbon Storage and clean energy production plans.

### Pilot Energy's Clean Energy opportunity

By transforming existing oil and gas assets and established infrastructure, Pilot Energy will deliver safe and effective Carbon Storage.

The first stage involves Pilot Energy's Mid West Clean Energy Project (MWCEP) capturing and storing carbon emissions from sources such as.

- Carbon generated by the projects Ammonia production (99% of it).
- Local external industrial sources (for example Cockburn Cement's Dongara Lime Plant or the regions gas production facilities)
- DAC facilities powered by Mid West renewables adjacent to the MWCEP

As well as simply being beneficial for the environment, carbon abatement through permanent carbon storage is essential to meet Safeguard Mechanism reforms introduced by the Australian Government. These were legislated in 2023 to reduce greenhouse gas emissions at Australian industrial facilities in support of 2050 net zero targets. Failure to comply with the laws can result in financial penalties of \$250 per tonne of CO<sub>2</sub>-equivalent.

Across Pilots market leading 7,472km<sup>2</sup> Greenhouse gas tenement portfolio, the company aims to provide permanent injection of up to 5 million tonnes of carbon annually with material expansion available through exploring and appraising the recently awarded G-12-AP.

Within the WA 31-L licence area carbon will be stored within the depleted Cliff Head Oil Field, with depleted oil and gas reservoirs internationally recognised as a safe and effective locations to store the greenhouse gas. Aquifer storage is expected to be the dominate storage formation across G-12-AP.

### Capturing atomic number 6

One of the specialist partners in the Mid West carbon capture technology project is DAC technology provider Capture6 (6 being the atomic number for carbon).

Capture6 will help accelerate the drawdown of emissions from the atmosphere through DAC facilities tied directly into the MWCEP infrastructure. Drawdown of atmospheric carbon

(historical emissions) is fundamental to accelerating climate repair and must work in parallel to activities to abate or reduce future emissions.

While it's not yet widely discussed in Australia, some of the other organisations supporting DAC include the US Department of Energy, Microsoft, Amazon, Coca-Cola, Lego and Porsche.

### **How does DAC work?**

DAC is an engineering process that does what trees and plants do in nature – removing carbon directly from the atmosphere.

Capture6 has developed a proprietary DAC technology that uses a liquid sorbent to soak up carbon from ambient air (atmospheric air in its natural state).

The cutting-edge technique involves splitting salt through electrochemical processes and can operate at ambient temperatures, avoiding the need for energy-intensive heat often used in DAC.

Another benefit of Capture6's tech is that it produces fresh water – a highly valuable commodity in the Mid West region of WA.

The US-based company recently received an award from the US Department of Energy to help make its DAC process even more efficient and less energy-intensive.

Capture6 was also named the winner of the World Water Challenge 2023 in South Korea, an international contest for water solutions. On 16 January 2024, Capture6 signed a MOU with K-water and BKT to develop a pilot facility in South Korea.

### **Project Wallaby set to take off**

Capture6's strategic involvement within the MWCEP will begin with the establishment of a pilot demonstration facility called Project Wallaby. This initial phase will serve as a testing ground for a full-scale facility where Capture6 can:

- Generate additional freshwater for the MWCEP and surrounding communities.
- Co-produce green hydrogen.
- Permanently sequester carbon from the atmosphere and the MWCEP's point source emissions.
- Manage water generated by Pilot's carbon storage operations.