

Announcement to ASX

ASX: PGY

24 December 2024

Further expansion of the Cliff Head Carbon Storage Resource

58% increase to 72 million tonne capacity

Pilot Energy Limited (ASX: PGY) (**Pilot** or the **Company**) is pleased to provide the following update regarding the Cliff Head carbon storage resource located in the WA -31-L licence area (**CH Carbon Storage Project**).

Recent technical assessments completed by the Company’s subsurface consultant, CO2Tech, as part of preparing for the next phase of regulatory approvals, has confirmed an additional 27 million tonnes of storage capacity in the CH Carbon Storage Project.

The 2C contingent resource for WA 31-L licence area has increased from 9.7 million tonnes¹ (2022) to 45.6 million tonnes² (ASX:PGY announcement July 2024) to 72.2 million tonnes (100% basis) with the assessment completed in accordance with Society of Petroleum Engineers Storage Resource Management System (refer to Annexe 1 CO2Tech Resource statement).

Table 1

WA 31-L Carbon Storage Resources³ (31 August 2024, 100% basis)					
SPE SRMS Classification	Structure	Reservoir	Storage Resource (Mt of CO ₂ Equivalent)		
			1C P90	2C P50	3C P10
Contingent Resource (Development Pending)	Cliff Head & Mentelle	IRCM & HCS	34.2	72.2	110.2

CO2Tech, the consulting arm of Australia’s internationally recognised CO2CRC, is Pilot’s subsurface consultant and has completed the updated Carbon Storage Resource assessment, which represents a 58% increase on the July 2024 2C Contingent Storage Resource for the WA 31-L licence area (100% basis). This Carbon Storage Resource Assessment was the result of technical analysis undertaken by the Company and CO2Tech to support the next phase of regulatory approvals for the Cliff Head Carbon Storage project.

This contingent storage resource update is based on updated static and dynamic models, originally developed in 2022 to support a Declaration of GHG Storage Formation application to the National Offshore Petroleum Titles

¹ Refer to 30 November 2022 ASX:PGY “CHJV Update – Storage Resource Upgrade & NOPTA Submission”

² Refer to 1 July 2024 ASX:PGY “Major increase to Cliff Head Carbon Storage Resource”

³ Following completion of the acquisition of the remaining Cliff Head interests from Triangle Energy (Global) Limited, Pilot will hold a 100% interest in the Cliff Head oil project and proposed Cliff Head Carbon Storage project. Prior to completion, Pilot holds a 21.25% interest in the projects and the Storage Resources.

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Administrator (NOPTA). The workflow incorporated a refinement of geological models, incorporating enhanced insights and understanding of the storage formation gained over time. Additionally, these models will support an application to amend the 2024 Declaration of Storage Formation by demonstrating the viability of the storage formation under an expanded development concept. The updated Contingent Resource assessment accounts for the following:

- Updates were made to improve the characterisation of reservoir heterogeneity. The porosity-permeability transform for all facies was revised by applying a well-by-well core-to-log bulk shift of the core data, ensuring accurate alignment empirical depth measurements associated with input data. This adjustment resulted in updated permeability log curves, which were subsequently used in permeability modelling
- Cement facies reinterpretation: Cement facies were reinterpreted as a separate facies across the storage reservoirs. This update allowed the shale barriers, as correlated by the wells, to be accurately represented in the model, creating vertical flow barriers that were absent in the previous model
- Updated vertical proportion curves for the Irwin River Coal Measures (IRCM) were refined to allow for more accurate modelling of shale barriers that create vertical flow restrictions absent in previous models.
- High Cliff Sandstone (HCS) formation was reinterpreted as comprising three parasequences (instead of two). This updated interpretation influenced facies modelling and associated porosity and permeability assumptions
- Updated CO₂ properties in the PVT model:
- Integration of the entire Cliff Head production history from initial production through to cessation in August 2024 enabling full project life cycle calibration of the dynamic model leading to more accurate estimates of CO₂ storage capacity with improved confidence intervals.

The proposed development plan associated with the Contingent Resources is based on a potential injection rate of 2.5 – 2.8 million tonnes per annum for the Cliff Head/Mentelle resource and includes refinements to account for the revisions to the static and dynamic model as discussed above.

Brad Lingo Pilot's Chairman said, *"The further expansion of the Cliff Head Carbon Storage Resource to 72 million tonne capacity is a very positive outcome for Pilot and our goal to build a project that can materially contribute to decarbonising Western Australian industries such as alumina refining, ammonia and fertilizer production and cement."*

Mr. Lingo added: *"A major carbon storage project in the Mid West is also a key component in unlocking the enormous potential for low carbon iron and steel processing in the region given its significant high-grade magnetite iron resources."*

Mr. Lingo continued: *"I'd like to thank Pilot's internal technical team and CO2Tech for their expertise and efforts in providing this updated assessment as we advance our Mid West Clean Energy Project."*

The upgraded storage resource and injection capacity will be incorporated into the Mid West Clean Energy Project (MWCEP) FEED study. The 2024 Declaration of Storage Formation will also now need to be amended prior to proceeding with an Injection Licence Application to include the upgraded resource.

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

Enquiries

Cate Friedlander, Company Secretary, email: 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 across all exploration tenements across the Offshore Perth Basin, Western Australia (Greenhouse gas assessment permit G-12-AP and petroleum exploration licence WA-481-P).

This announcement has been prepared in accordance with ASX Listing rules Chapter 5, in particular sections 5.34.

Competent Person Statement:

This announcement contains information on Carbon Storage resources which is based on and fairly represents information and supporting documentation reviewed by Dr Xingjin Wang, a Petroleum Engineer with over 30 years' experience and a Masters' in Petroleum Engineering from the University of New South Wales and a PhD in applied Geology from the University of New South Wales. Dr Wang is an active member of the SPE and PESA and is qualified in accordance with ASX listing rule 5.41. He is a former Director of Pilot Energy Ltd and has consented to the inclusion of this information in the form and context to which it appears.

Further Dr Maxwell Watson is noted as the nominated Competent Person in the CO₂Tech Resource Statement (refer to Annexure 1). Dr. Maxwell Watson has 22 years' experience in carbon capture and storage (CCS), petroleum and hydrogen, working in academic, industry and R&D management sectors, gaining insights from a variety of countries and business types. He holds a PhD in Petroleum Geoscience from the University of Adelaide, investigating the long-term technical viability of safe CO₂ storage. Max commenced his career as a geotechnical engineer at BHP Cannington, Queensland, Australia. After transitioning to the petroleum geoscience sector, he worked in various research positions at the University of Adelaide, examining geochemical and risk management processes for CO₂ storage. In 2007 Max joined BP in the UK where he gained extensive experience in the CCS business unit and technology program, supporting BP as it developed international commercial scale CCS projects. Max worked extensively on risk-based project development processes and applied this to the In Salah Gas Project JV, and other emerging CCS projects.

Max joined CO₂CRC in March 2012 as a Project Development Manager and progressed through various roles including Storage Program Manager in June 2015, and Business Strategy Manager in 2018, and is currently the Senior Manager of Technology Development. Max is accountable for planning, executing & implementing strategy, and major projects across CO₂CRC, with a particular focus towards applied CO₂ storage technology demonstration. Max's work has enabled CO₂CRC to translate innovative, user driven technologies from bench to field scale. In addition, Max leads the implementation of the Otway International Test Centre, and associated field-based projects. He is Australia's Delegate for the Carbon Sequestration Leadership Forum, a Ministerial-level international climate change initiative. Similarly, Max has consented to the inclusion of this information in the form and context to which it appears.

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20th December 2024

RE: WA-31L Contingent Storage Assessment (as at 31 August 2024)

This Storage Resource assessment is compliant with the Society of Petroleum Engineer’s Carbon Dioxide Storage Management System (SPE-SRMS), an internationally recognised framework providing cross-border consistency between assessments. Concurrently, the Contingent Storage Resource Assessment meets the suitability determinants to support a Declaration of Identified GHG Storage Formation submission according to the *Offshore Petroleum and Greenhouse Gas Storage Act (OPGSA) 2006*. WA-31L is governed by this Act given its location within Australian Commonwealth waters.

Pilot Energy holds a 21.25% non-operated interest in the Cliff Head Joint Venture (**CHJV**). The balance of the interests in the CHJV are held by the Triangle Energy (Global) Limited group (**Triangle Group**). As announced on 27 July 2023, Pilot Energy will acquire Triangle Group’s remaining 78.75% interest in the CHJV.

The reported Contingent Storage Resources in production permit WA-31L have been assessed by CO2Tech based on data available as at 31 August 2024. WA-31L was granted on 26 October 2005 for the development of oil from the Cliff Head field. The field ceased oil production on 4 August 2024 and will now transition to carbon storage.

According to SPE-SRMS, there are two broad project maturity-based CO₂ storage classifications: undiscovered and discovered storage resources. Prospective Storage Resources are undiscovered, while Contingent Storage Resources are discovered until a project has financial commitment to commence injection. After this level of project maturity, the storable quantities estimate is termed Storage Capacity.

Figure 1 visualises this classification framework and shows how the maturity of a project determines its Storage Resource class and subclass.

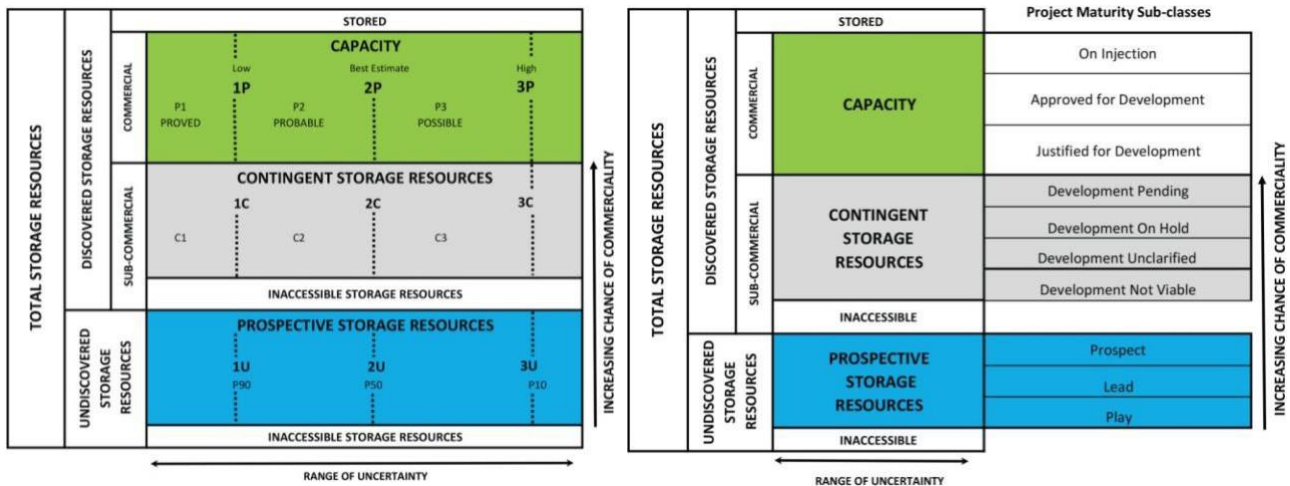


Figure 1 – Storage Resource Classification Framework (SPE-SRMS 2017)

The Storage Resources in WA-31L fall into the Contingent (discovered) and Prospective (undiscovered) Resource classifications. These resources have been identified across two hydrodynamically connected storage reservoirs: the oil-prone Irwin River Coal Measures (IRCM), and the predominantly water-saturated High Cliff Sandstones (HCS) which underly. The Kockatea Shale overlies these reservoir units. The presence of the Cliff Head Oil field has demonstrated prior vertical sealing capacity for hydrocarbons over geologic time. Given this history, it is reasonable to expect that stored CO₂ will not migrate past the sealing unit, which averages a thickness of 280m across the permit area.

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Within WA-31L, three structural closures have been identified: Cliff Head, Mentelle, and Illawong. The Cliff Head and Mentelle structures are classified as Contingent Storage Resources, having been discovered and characterised during previous oil exploration and development. In contrast, the Illawong structure, located to the east of Cliff Head and Mentelle, is classified as a Prospective Storage Resource. While this assessment focuses exclusively on the Cliff Head and Mentelle Contingent Resources, the Illawong Prospective Resource – previously evaluated by CO2Tech as of 31 March 2024 – is included here for completeness.

The storage resources for Cliff Head and Mentelle were evaluated using a probabilistic workflow. This approach accounted for static and dynamic uncertainty parameters that significantly influence CO₂ plume migration. The evaluation aligns with the guidelines of the governing Act, ensuring that all migration pathways with a probability of occurrence greater than 10% were thoroughly considered.

The findings of the Contingent Storage Resource Assessment for Cliff Head and Mentelle are summarised in Table 1. These probabilistic estimates are not additive.

Table 1: Contingent Storage Resource Assessment (Cliff Head and Mentelle, as at 31 August 2024)

Classification	Structure	Reservoir	Storage Resource (Mt of CO ₂ Equivalent) Gross 100% (equivalent to eventual Net Share)		
			1C P90	2C P50	3C P10
Contingent Resource (Development Pending)	Cliff Head	IRCM	7.2	14.4	21.6
	Cliff Head	HCS	8.7	16.3	23.9
	Mentelle	IRCM	5.6	10.8	16.1
	Mentelle	HCS	19.4	37.9	56.3
	Cliff Head & Mentelle	IRCM & HCS	34.2	72.2	110.2

The Prospective Storage Resource Assessment for Illawong is summarised in Table 1. These deterministic estimates are additive.

Table 2: Prospective Storage Resource Assessment (Illawong, as at 31 March 2024)

Classification	Structure	Reservoir	Storage Resource (Mt of CO ₂ Equivalent) Gross 100% (equivalent to eventual Net Share)		
			1U	2U Best Estimate	3U
Prospective Resource (Lead)	Illawong	IRCM		32.9	
	Illawong	HCS		17.5	
	Illawong	IRCM & HCS		50.4	

Statement of Independence

This Storage Resource Assessment was conducted independently by **CO2Tech Pty Ltd** on behalf of **Pilot Energy Ltd** in accordance with the Australian Securities and Investments Commission Regulatory Guideline 112.

Statement of Competence

CO2CRC Limited (and its commercial subsidiary, CO2Tech) is a world leading CCUS R&D company. CO2CRC is also the operator of the Otway International Test Centre (OITC) in Victoria, Australia – a unique site where CO2 storage and capture technologies are being trialled and demonstrated at commercially relevant scale.

In addition to operating the OITC, CO2CRC, through its fully owned commercial subsidiary, CO2Tech, offers multidisciplinary technical and techno-economic consultation, advisory and project management services across the CCUS value chain including regional to field scale screening, field development planning, project conceptualisation, technical and commercial feasibility studies, design preparation, project management, and competent person reporting to SPE-SRMS standards.

For nearly 20 years, CO2CRC has demonstrated CCUS expertise through the development of feasibility and FEED; execution of project plans in facility construction & drilling operations; undertaking capture, transport, injection, and monitoring operations; and closing out operational projects safely.

Nominated Competent Person:

Dr. Maxwell Watson has 22 years' experience in carbon capture and storage (CCS), petroleum and hydrogen, working in academic, industry and R&D management sectors, gaining insights from a variety of countries and business types. He holds a PhD in Petroleum Geoscience from the University of Adelaide, investigating the long-term technical viability of safe CO₂ storage. Max commenced his career as a geotechnical engineer at BHP Cannington, Queensland, Australia. After transitioning to the petroleum geoscience sector, he worked in various research positions at the University of Adelaide, examining geochemical and risk management processes for CO₂ storage. In 2007 Max joined BP in the UK where he gained extensive experience in the CCS business unit and technology program, supporting BP as it developed international commercial scale CCS projects. Max worked extensively on risk-based project development processes and applied this to the In Salah Gas Project JV, and other emerging CCS projects.

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Dr. Maxwell Watson