

## Transitioning to Clean Energy for the Mid West

Mid West Clean Energy Projects Feasibility Results March 2022

PILOT ENERGY LIMITED ASX:PGY



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#### **Competent Persons Statement**

This announcement contains information on conventional petroleum and 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 Master 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 5.1. 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.

#### Authorisation

This presentation has been authorized by the Chairman and Managing Director on behalf of the Board of Directors of Pilot Energy Limited

#### Mid West WSP Feasibility Study Reporting Conditions

Pilot has agreed the following conditions with the ASX in relation to the Mid West WSP feasibility study:

- 1. The Company must continue to spend funds on its existing and proposed oil and gas projects.
- 2. The Company must disclose in each quarterly activities report until September 2022, the proportion of expenditure incurred in relation to exploration and evaluation on the oil and gas projects and the Mid West Wind and Solar Project.
- 3. The Company must disclose as separate line items in each quarterly activities report until September 2022, expenditure incurred in relation to exploration and evaluation on the oil and gas projects and the Mid West Wind and Solar Project.
- 4. Proceeding beyond the feasibility study stage of the Project (or incurring expenditure in excess of the budgeted feasibility expenditure in relation to the Project) constitutes a change in the nature and scale of the Company's activities in terms of Listing Rule 11.1 and as such the Company will be required to comply with all of the requirements of Chapters 1 and 2 of the Listing Rules before it proceeds beyond the feasibility study or incurs expenditures in excess of the budgeted feasibility expenditure on the Project.



## **Pilot – Leading the Clean Energy Transition**







### **Pilot at a Glance**

#### **ASX Code: PGY**

Capital Structure	
Issued shares	504.4 millio
PGY share price (24.03.22)	~\$0.04
Market Capitalisation	~\$24 millio
Oil & Gas Reserves & Resources (Existing)	
<ul> <li>Proved &amp; Probable Reserves<sup>1</sup></li> </ul>	
• 2C Contingent Resources, <sup>1,2</sup>	~3,800,000 B0
Carbon Capture & Storage Resources (Existing)	
<ul> <li>2C Contingent Resources,<sup>3</sup> (Gross)</li> </ul>	10.8 million tonne
• 2U Prospective Resources <sup>,3</sup> (Gross)	80.4 million tonne
Mid West Clean Energy Project Development Pipeline (under development)	
<ul> <li>Stage 1 CCS – Carbon Management Services (Gross)</li> </ul>	~500,000 tp
<ul> <li>Stage 2 CCS to Blue H<sub>2</sub></li> </ul>	~43,000 tp
<ul> <li>Stage 3 H<sub>2</sub> expansion to Clean Ammonia</li> </ul>	Up to 345,000 tp



![](_page_3_Figure_4.jpeg)

1. Approximately 300,000boe associated with the Cliff Head project remains under review and may be reclassified as reserves subject to the finalisation of new oil offtake arrangements

2. Refer to PGY ASX announcement 23 April 2021 titled "Resources Update" and refer to Independent Technical Specialist Report Pilot Energy Ltd – Australian Exploration Assets January 2021 (28 May 2021 General meeting Notice of Meeting: Independent Expert Report 3. Refer to PGY ASX announcement 28 March 2022 titled "Completion of Renewable Energy and Hydrogen Technology Feasibility Studies" - Annexure A: Mid West CCS Resource Potential

![](_page_3_Picture_8.jpeg)

### **Proven, Experienced Board**

![](_page_4_Picture_1.jpeg)

![](_page_4_Picture_2.jpeg)

**Brad Lingo Executive Chairman** 

- 30+ years international senior executive experience
- Upstream/midstream energy, energy infrastructure, finance
- Proven track record of creating & growing shareholder value

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![](_page_4_Picture_8.jpeg)

**Tony Strasser Managing Director** 

RovalEnergy

Anzon Energy

LIMITE

Extensive oil & gas experience including project and financial management, corporate finance and M&A 25+ years

Proven record in oil & gas with shareholder backing through multiple ventures

Bridgeport

Coopers

&Lybrand

![](_page_4_Picture_12.jpeg)

**Daniel Chen Non Executive Director** 

Denison Gas

Container Tern Services, Inc.

17+ years of international business, project management and leadership experience in large scale transport and logistics

Corporate advisor to private Australian oil & gas companies since 2018

MAERSK

Victoria International Container Terminal

![](_page_4_Picture_16.jpeg)

**Bruce Gordon Non Executive Director** 

**Corporate Finance and Corporate Audit** Specialist in the Natural Resources Sector

25+ years acting for, and advising, ASX and International oil and gas companies.

Extensive public company accounting, financial reporting and corporate governance knowledge

![](_page_4_Picture_21.jpeg)

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### **The Senior Management Team**

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#### **Cate Friedlander**

#### **Company Secretary & General Counsel**

Experienced corporate / commercial lawyer in upstream & midstream energy - ASX and international.

Chartered Governance Professional.

Member of Governance Institute of Australia.

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#### **Nick Watson**

#### **Head of Renewables & Commercial**

20 years energy industry experience Corporate/strategic development and operational experience across hydrogen, energy and oil & gas

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svdnevgas

![](_page_5_Picture_14.jpeg)

#### Mike Lonergan

#### **Head of Upstream**

Michael is a petroleum geophysicist with 35 years of domestic and international oil and gas experience across a wide range of E and P assets. He has held senior technical and project management roles during his career, having worked for Delhi Petroleum, Oil Company of Australia, Origin Energy, Rohol-Aufsuchungs Aktiengesellschaft, Mosaic Oil, AGL, Pangaea Resources and Denison Gas.

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### **Energy Transition Development Strategy**

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Project implementation from 2023 - Subject to feasibility and ASX Compliance

![](_page_6_Figure_3.jpeg)

## **Feasibility Study Results**

Pilot Enerav

Study results point to highly attractive project pipeline and achievable staged development

![](_page_7_Figure_3.jpeg)

• LCOE at H2 Plant = \$42 - 75/MWh (inc. offshore wind in high side)

#### **Feasibility studies clearly** establish:

- Substantial CCS resource at Cliff Head Oil Field with significant revenue potential
- CCS resource enables Pilot to focus on blue hydrogen as most competitive clean energy solution
- 8 Rivers Clean Power & Hydrogen Technology delivers clear H2 cost advantages achieving LCOH of ~\$2/kg
- Mid West renewables resource is extensive and onshore wind and solar deliver extremely competitive LCOE
- CCS and Renewables can be integrated through 8 Rivers technology to deliver globally competitive, low cost, clean power. H2 and ammonia

## Mid West Carbon Capture & Storage Project

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CCS is the key enabler of delivering lowest cost, clean Hydrogen solution

- Focussed on development of a major carbon capture and storage (CCS) project located on the Mid West Coast
- Cliff Head Oil Field in the offshore North Perth Basin and adjacent Pilot 100% owned and operated WA-481-P exploration permit are ideally-suited for implementation of a large-scale CCS project
- Feasibility study results establish significant CO2 storage, 2C Contingent Resource of 10.8 million tonnes (gross) as well as a large Prospective Resource
- Project will include onshore carbon capture/aggregation facilities and offshore CO2 injection facilities providing permanent CO2 storage
- Initial project looking to utilize existing Cliff Head Oil Field onshore/offshore facilities to provide 6.5 million tonnes of permanent CO2 storage at an injection rate of ~500,000 tpa
- Focused on delivering an initial project that can deliver a CCS injection price of less than A\$20/tonne

Contingent Storage Resource (million tonnes)	1C	2C	3C
WA 481P (Pilot share, 100% basis)	2.8	4.4	7.2
WA 31L (100 % basis)	1.0	6.4	15.8
WA 31L (Pilot share, 21.25 % basis)	0.2	1.4	3.4
Prospective Storage Resource (million tonnes)	10	20	3U
WA 481P (Pilot share, 100% basis)	46.2	80.4	144.2

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## **Mid West Renewables Large Resource & Superior Cost**

Mid West feasibility studies show clear cost advantage

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- Renewable resources cover onshore & offshore wind and solar as well as offshore wind
- Onshore wind and solar projects deliver LCOE at competitive advantage compared to CSIRO 2021 GenCost Report results
- Feasibility studies identify key project locations for focus of future developments
- Renewables development focused on first stage of renewable development as integrated power supply for expansion of 8 Rivers Clean Power & Hydrogen Technology Project

#### Mid West Renewable Energy Projects Feasibility Study Results on a LCOE Comparison to CSIRO 2021 GenCost Report

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Mid West Clean Energy Project Total Identified Renewable Energy Technical Resource Potential-By Type (MW)

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10

![](_page_9_Picture_12.jpeg)

### **Integrating CCS, Hydrogen & Clean Power**

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Pilot's three stage development path will integrate CCS, Clean Power generation and Hydrogen production

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#### CCS + 8 Rivers – a unique H2 opportunity:

- Blue Hydrogen only possible with CCS
- 8 Rivers Clean Power & Hydrogen Technology delivers clear H2 cost advantage
- Feasibility study shows LCOH of ~\$2/kg is achievable with 8 Rivers technology
- Onshore wind and solar deliver extremely competitive LCOE
- Renewables with attractive LCOE enable attractive Green Hydrogen production
- Integration of Renewables with 8 Rivers Technology delivers operational and cost synergies across both Blue and Green Hydrogen production
- 8 Rivers Technology + extremely competitive Renewables LCOE delivers a compelling Hydrogen solution

# CCS and Renewables can be integrated through 8 Rivers technology to deliver globally competitive, low cost, clean power, H2 and ammonia

## **Feasibility Studies Point to a Clear Development Path**

Three stage development path starting with CCS providing the foundation

![](_page_11_Figure_2.jpeg)

#### Path Ahead – Mid West Clean Energy Project Development Pipeline

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### Pilot has identified a clear pathway:

- Three stage development pathway
- Clear focus on CCS
- Initial focus on transitioning Cliff Head from oil production to CCS
- Targeting commencement of CCS operation by CY2025
- Delivery of CCS operation • provides foundation for production of Blue H2
- 8 Rivers Clean Hydrogen & Power provides technology to deliver low cost Blue H2 @ LCOH =  $\frac{2.13}{\text{kg}}$
- Targeting Blue H2 production in 2025-2027 time frame
- Focussed on project expansion • through Renewables & Hydrogen Integration
- Study results point to potential to • be a substantial clean ammonia producer

### Mid West Clean Energy Project – Bringing It All Together

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## **Key Next Steps**

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Pilot will be focused on the following activities over the next 12-months for the Stage 1 CCS Project:

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### Corporate

- Analyse & implement feasibility studies
- Focus on funding strategies for implementing Stage 1 Clean Energy Projects
- Partnering arrangements

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### **Project implementation (subject to ASX compliance)**

- Permitting Engaging with regulators to secure the necessary regulatory approvals;
- Site Acquisition Completing project site selection and commencing site acquisition;
- Commercial Offtake Engaging with prospective parties for commercial off-take;
- EPCM Contractor Commence engagement with potential EPC contractors; and
- Pre-FEED Commencing detailed preliminary Front-End Engineering & Design (pre-FEED) and detailed costings for the CCS and Clean Power and Hydrogen

Next 12-months is aimed at securing all necessary regulatory approvals, securing commercial off-take arrangements and completing a full bankable feasibility study and FEED package to enable the Company to take a final investment decision (FID) for the Stage 1 Project.

### **Pilot's Competitive Advantage**

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### **Contact Details**

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Pilot Energy

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