

**ADVENT ENERGY LIMITED**  
**ACN 109 955 400**

**SUPPLEMENTARY OFFER INFORMATION STATEMENT**

**IMPORTANT INFORMATION**

This is a supplementary offer information statement (**Supplementary OIS**) intended to be read with the offer information statement dated 23 December 2022 (**OIS**) issued by Advent Energy Limited (ACN 109 955 400) (**Company**).

This Supplementary OIS is dated 21 March 2023 and was lodged with the Australian Securities and Investments Commission (**ASIC**) on that date. The ASIC and its officers take no responsibility for the contents of this Supplementary OIS.

Other than as set out below, all details in relation to the OIS remain unchanged. Terms and abbreviations defined in the OIS have the same meaning in this Supplementary OIS. If there is a conflict between the OIS and this Supplementary OIS, this Supplementary OIS will prevail.

This Supplementary OIS will be issued with the OIS in hard copy or as an electronic copy and may be accessed on the Company's website at [www.adventenergy.com.au](http://www.adventenergy.com.au).

This is an important document and should be read in its entirety. If you do not understand it, you should consult your professional advisers without delay.

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**1. REASONS FOR THE SUPPLEMENTARY OIS**

The purpose of this Supplementary OIS is to provide investors with updated information in relation to the OIS, specifically:

- (a) providing an updated timetable;
- (b) updating the disclosure in relation to:
  - (i) the PEP11 Permit;
  - (ii) the termination of the Taranaki Basin FOA;
  - (iii) Clean Carbon (which has now been renamed to Clean Hydrogen Technologies); and
  - (iv) the Company's loan agreements with BPH Energy Limited (**BPH**); and
- (c) updating the risk factors.

The Company confirms that as at the date of this Supplementary OIS, it has not received any applications or offers from investors under the OIS.

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**2. AMENDMENTS TO THE OIS**

The following additional information or amendments are made to the OIS.

**2.1 Timetable**

The Board wishes to advise that the Closing Date of the Offer has been extended to 5:00pm (WST) on 25 May 2023.

Accordingly, the Offer Information Summary as set out on page 2 of the OIS is amended as follows:

| Offer Price for a Share                                | \$0.05                                                                                              |
|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------|
| Entitlement                                            | Three (3) Shares for every five (5) Shares held by those Shareholders registered at the Record Date |
| Lodgement Date                                         | 23 December 2022                                                                                    |
| Record Date                                            | 5:00pm (WST) 23 December 2022                                                                       |
| Exposure Period ends <sup>4</sup>                      | 6 January 2023                                                                                      |
| Proposed Closing Date of Offer <sup>1</sup>            | 5:00pm (WST) 25 May 2023                                                                            |
| Shares on issue at date of this OIS                    | 245,904,731                                                                                         |
| Number of Shares to be issued under OIS <sup>2,3</sup> | 147,542,838                                                                                         |
| Total Shares on issue after Offer <sup>2,3</sup>       | 393,447,570                                                                                         |
| Gross proceeds of Offer <sup>2</sup>                   | \$7,377,141                                                                                         |

#### Notes

1. These dates are indicative only and are subject to change.
2. These numbers are approximate and subject to rounding.
3. Assuming all entitlement shares are taken up.
4. Unless extended by ASIC.

## 2.2 Section 3 – Investment Overview

The *Investment Overview* in Section 3 of the OIS is amended by deleting the *Summary* of the following *Items* and replacing it with the following:

| Item                       | Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Further information |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| <b>Who is the Company?</b> | <p>Advent is an unlisted oil and gas exploration and development company based in Perth, Western Australia, with onshore and offshore exploration and near-term development assets around Australia and overseas.</p> <p>Advent's assets include Retention Licence 1 (<b>RL1</b>) (100%) in the onshore Bonaparte Basin in the Northern Territory and the PEP11 Permit (as defined below) (85% of which is owned through its wholly owned subsidiary, Asset Energy Pty Ltd) in the offshore Sydney Basin.</p> <p>The Company and BPH Energy Limited (ACN 095 912 002) (<b>BPH</b>), an ASX listed entity that has a relevant interest in 36.1% of Advent (together, <b>the Purchasers</b>) entered into a binding term sheet with Clean Hydrogen Technologies Corp (<b>Clean Carbon</b>), for an investment into hydrogen technology, pursuant to which the Purchasers have agreed to subscribe for fully paid shares in Clean Carbon (<b>Subscription Shares</b>) representing a total of 10% of the total issued share capital of Clean Carbon after the issue of the Subscription Shares).</p> | Section 5           |

| Item                                                           | Summary                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Further information |
|----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| <b>What are the key risks in the investment in the Company</b> | <p>This OIS contains a number of risk factors as set out in detail in Section 7 and you must read these risks in full. Relevantly, the Company has a “going concern” emphasis of matter in its annual financial report period ended 30 June 2022 (<b>Financial Report</b>).</p> <p>Should the Company not be successful in raising additional funds through the issue of new equity should the need arise there is a material uncertainty that may cast significant doubt as to whether or not the consolidated entity will be able to continue as a going concern and therefore, whether it will realise its assets and discharge its liabilities as and when they fall due and in the normal course of business and at the amounts stated in the Financial Report.</p> <p>Further, the Company has a material uncertainty that may affect the ability of the Company to realise the carrying value of its loans receivable and its exploration expenditure. Advent is continually seeking and reviewing potential sources of both equity and debt funding. Advent is now embarking on a fresh marketing campaign to attract new investors and/or joint venture partners. Management has confidence that a suitable outcome will be achieved however there is no certainty at this stage that this will result in further funding being made available.</p> <p>Advent, through its wholly owned subsidiary Asset Energy Pty Ltd (<b>Asset Energy</b>), has invested over \$25 million in the Exploration Permit for Petroleum No.11 (<b>PEP 11 Permit</b>). Together with JV partner Bounty Oil Limited and Gas NL (ASX:BUY) (<b>Bounty Oil</b>), Advent is committed to explore for and ultimately exploit any petroleum accumulations which may be identified in this title area.</p> <p>Asset Energy's application to vary and suspend the conditions of the PEP 11 Permit and extend the term of the PEP 11 Permit under the <i>Offshore Petroleum and Greenhouse Gas Storage Act 2006</i> (Cth) (<b>Act</b>) has been remitted back to the Ministers that now constitute the Joint Authority in accordance with orders made by the Federal Court of Australia on 14 February 2023. If this application is unsuccessful, the PEP11 Permit is at risk.</p> <p>Further, if Advent is unable to source further funding for the PEP11 Permit and RL1 each of these permits are at risk.</p> <p>Accordingly, the above indicates a material uncertainty that may affect the ability of Advent to realise the carrying value of the exploration assets in the ordinary course of business.</p> | Sections 5.2 and 7  |

## 2.3 Section 4.1 Risk Factors

*Section 4.1 of the OIS is amended by deleting the following paragraph:*

The Company's 100% subsidiary Asset Energy has applied to the Federal Court pursuant to section 5 of the Administrative Decisions (Judicial Review) Act 1977

(Cth) and section 39B of the Judiciary Act 1903 (Cth) to review the decision of the Joint Authority, constituted under section 56 of the Act, to refuse to vary and suspend the conditions of the PEP11 Permit pursuant to section 264(1) and to refuse to extend the term of the PEP 11 Permit, pursuant to section 265. The application was made in December 2019. On 11 August 2022 the Federal Court of Australia made discovery orders in respect of this application. The court has set a date for a hearing in March 2023. If the Federal Court application is unsuccessful, the PEP11 Permit is at risk.

## 2.4 Section 5.2 – PEP 11 Oil and Gas Permit

*Section 5.2 of the OIS is deleted and replaced with the following paragraphs:*

The Company considers that the location of the PEP11 Permit offers a significant offshore exploration area with large scale structuring and potentially multi-Trillion cubic feet gas charged Permo-Triassic reservoirs. Undiscovered gross prospective recoverable gas within the PEP11 Permit has been estimated at approximately 5.665 trillion cubic feet of gas, as announced in a clarification announcement released by BPH on 21 March 2023. BPH released the announcement to clarify a resource estimate and cost estimate which were published in the Australian Financial Review on 8 December 2022 titled, "Gas project nixed by ScoMo 'could pump by 2025'" and an advertisement which was published on Hotcopper on 12 December 2022, titled "BPH Energy (ASX:BPH) plans to solve Australia's east coast gas crisis"(together, the **Articles**) in relation to PEP 11. As noted in BPH's announcement, the cost estimate referred to in the Articles was withdrawn by BPH. The Company confirms that the cost estimate is withdrawn.

In relation to the resource estimate, a recent reassessment of potentially recoverable prospective resource by Mr David Bennett, an independent consultant (refer to Schedule 1 of the Supplementary OIS), within the present permit boundary of the PEP 11 Permit indicates a sum of the P50 estimates of all identified Prospect and Leads of 5.7 TCF as follows:

| Prospect Name     | P90<br>(bcf) | P50<br>(bcf)   | Mean<br>(bcf)   | P10<br>(bcf)    |
|-------------------|--------------|----------------|-----------------|-----------------|
| <b>Fish</b>       | 28.6         | 2,131.2        | 11,508.6        | 35,491.8        |
| <b>Baleen</b>     | 17.2         | 472.2          | 1,452.0         | 4,193.3         |
| <b>Shark</b>      | 44.1         | 752.2          | 3,510.9         | 10,656.0        |
| <b>Trout</b>      | 12.1         | 232.6          | 623.9           | 1,757.3         |
| <b>Squid</b>      | 11.4         | 218.1          | 585.0           | 1,647.7         |
| <b>Blue</b>       | 15.5         | 297.9          | 799.0           | 2,250.6         |
| <b>Blue Whale</b> | 66.2         | 1,271.6        | 3,410.8         | 9,607.6         |
| <b>S Squid</b>    | 66.2         | 289.7          | 777.2           | 2,189.1         |
| <b>Total</b>      | <b>261.3</b> | <b>5,665.6</b> | <b>22,667.4</b> | <b>67,793.4</b> |

As the PEP11 Permit is held pursuant to the Joint Venture, with Asset Energy having an 85% interest and Bounty Oil having a 15% interest, the table below sets out the 85% economic interest of Advent in the PEP 11 Permit:

| Prospect Name     | P90<br>(bcf)   | P50<br>(bcf)   | Mean<br>(bcf)    | P10<br>(bcf)     |
|-------------------|----------------|----------------|------------------|------------------|
| <b>Fish</b>       | 24.31          | 1,811.52       | 9,782.31         | 30,168.03        |
| <b>Baleen</b>     | 14.62          | 401.37         | 1,234.20         | 3,564.31         |
| <b>Shark</b>      | 37.485         | 639.37         | 2,984.27         | 9,057.60         |
| <b>Trout</b>      | 10.285         | 197.71         | 530.315          | 1,493.71         |
| <b>Squid</b>      | 9.969          | 185.385        | 497.25           | 1,400.55         |
| <b>Blue</b>       | 13.175         | 235.215        | 679.15           | 1,913.01         |
| <b>Blue Whale</b> | 56.27          | 1,080.86       | 2,899.18         | 8,166.46         |
| <b>S Squid</b>    | 56.27          | 246.245        | 660.62           | 1,860.74         |
| <b>Total</b>      | <b>222.384</b> | <b>4797.68</b> | <b>19,267.29</b> | <b>57,624.39</b> |

Mapped prospects and leads within the Offshore Sydney Basin are generally located less than 50km from the Sydney-Wollongong-Newcastle greater metropolitan area and gas pipeline network. The offshore Sydney Basin has been lightly explored to date including a multi-vintage 2D seismic data coverage and a single exploration well, New Seaclem-1 (2010). The PEP11 Permit parallels the New South Wales (**NSW**) coastline, taking up an area which extends between 10 to 100 km offshore from the coast of Newcastle within the Sydney Basin region. Based on its location and it being the only NSW offshore petroleum title, the Company is of the view that the PEP11 Permit provides a significant opportunity should commercial natural gas be discovered in commercial quantities.

Advent has demonstrated considerable gas generation and migration within PEP11, with mapped prospects and leads highly prospective for the discovery of gas. It has previously interpreted significant seismically indicated gas features in PEP11. Key indicators of hydrocarbon accumulation features have been interpreted following review of the 2004 seismic data (reprocessed in 2010). The seismic features include apparent Hydrocarbon Related Diagenetic Zones (**HRDZ**), Amplitude Versus Offset (**AVO**) anomalies and potential flat spots.

In addition, a geochemical report reviewed the hydrocarbon analysis performed on sediment samples obtained in the PEP11 Permit during 2010 which has provided support for a potential exploration well. The report supports that the Baleen Prospect, which is situated approximately 30km off the coast, south-east of Newcastle and in the PEP11 Permit area and prospective for natural gas, appears best for hydrocarbon influence relative to background samples. In addition, the report found that the Baleen Prospect appears to hold a higher probability of success than other prospects.

Advent is a strong supporter of NSW plans and commitment to achieve a target for Net Zero by 2050 and sees the Company playing a direct role in NSW achieving that target, through PEP 11 and the use of Carbon Capture Storage. The Company confirms that it does not have a Net Zero Plan in place but has two objectives to support NSW Net Zero target by 2050:

- (a) First, by finding gas closest to Australia's biggest domestic energy market, which can be used to provide reliable backup for increased uptake of renewable energy in NSW.

- (b) Second, through its plans to explore for opportunities in offshore NSW at PEP11 for Carbon Capture Storage (**CCS**) (geo-sequestration of CO<sub>2</sub> emissions).

The offshore Sydney Basin has CCS potential, but it has never been definitely evaluated due to lack of well data. In December 2020, the Company retained Professor Peter Cook as an advisor on geosequestration (the geological storage of carbon dioxide). The Sydney region has been identified to have one of the largest concentrations of stationary CO<sub>2</sub> emission sources in Australia, and represents 15% of total Australian CO<sub>2</sub> emissions, with only modest potential for onshore storage solutions (studies undertaken by Geoscience Australia and Cooperative Research Centre for Greenhouse Gas Technologies). The PEP 11 Project will, for the first time, evaluate the storage potential of an offshore basin that is strategically close to most of NSW's major emissions sources.

The Company will investigate the potential for a large-scale geological storage project for NSW through offshore drilling of a gas exploration well, Seablue-1, at PEP11 to evaluate and investigate the CCS potential. While the Seablue-1 well is being drilled to explore for gas, data will be gathered from the well to enable evaluation to be undertaken to assess and explore the potential for CCS. To ensure the above two objectives will be met, the Seablue-1 well has been designed in consultation with Professor Cook, to accommodate both a cost effective and safe penetration of prospective hydrocarbon zones to 2,150m, yet facilitate deepening to 3,150m, ensuring all prospective injection reservoirs for CO<sub>2</sub> are identified and evaluated.

Following exploration from Seablue-1 well drilling, if gas is not discovered, additional tests may be completed on deeper zones, for CCS potential. Subject to the data on the available storage capacity, it is the Company's intention that the Seablue-1 well will be 'plugged and abandoned' and then carbon capture would take place onshore with liquid CO<sub>2</sub> gas pumped through pipelines to be stored offshore at PEP11.

In normal times offshore hydrocarbon developments typically have a timeline from an initial commercial discovery to production in the order of +/- 5 years. This is dependent on several factors: water depth, hydrocarbon type, proximity to shore and regulatory approvals being the most critical four.

In the case of the Seablue-1 well, with the relatively shallow water depth, its' location adjacent to the Eastern seaboard (27km from the Jemena gas line and Colongra Power Station) and with the hydrocarbon type proven to be gas based on geophysical seismic correlation with onshore formations and seabed sampling of gas seeps, Advent believes, with the government driving major project approval, that this timeline can be significantly reduced to circa 2 years after a commercial discovery has been proven.

With today's population size and rate of energy consumption and based on the geological structures identified at PEP11, provided that the gas prospects across PEP11 are proven to be of commercial value, the Company is of the view that it could have the potential to supply up to 20 years' worth of gas for NSW.<sup>1</sup>

#### Status of PEP11

In June 2022, Asset Energy applied to the Federal Court (Proceeding Number WAD 106/2022) as Operator for and on behalf of the PEP11 Joint Venture Partners pursuant to section 5 of the *Administrative Decisions (Judicial Review) Act 1977 (Cth)* and section 39B of the *Judiciary Act 1903 (Cth)* to review the decision of the Joint Authority, constituted under section 56 of the Act, to refuse to vary and suspend the conditions

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<sup>1</sup> This is not a production forecast or a forecast of future performance of the Company. This statement is an aspirational statement and is not referring to the Company's advanced exploration targets based on existing exploration results.

of the PEP11 Permit, pursuant to section 264(2) of the Act, and to refuse to extend the term of the PEP 11 Permit, pursuant to section 265 of the Act.

As announced by BPH and Bounty Oil on 14 February 2023, the Federal Court Proceedings between Asset Energy and the Respondents (namely, the Commonwealth Minister for Resources et al) were resolved, ending the litigation concerning PEP11 without the need for a trial. The orders made by Justice Jackson (agreeing with the consent orders filed by the parties on 3 February 2023) set aside the decision of the Joint Authority to refuse Asset Energy's application for a variation and suspension of the conditions to which PEP 11 is subject, and a related refusal to grant an extension of the term. Asset Energy's application has been remitted back to the Ministers now comprising the Joint Authority to be re-made according to law. The directors have confidence that a suitable outcome will be achieved, however there is no certainty that the application will be successful when considered by the Joint Authority.

In the meantime, the PEP 11 Permit continues in force and the Joint Venture is in compliance with the contractual terms of PEP 11 with respect to such matters as reporting, payment of rents and the various provisions of the Offshore Petroleum and Greenhouse Gas Storage Act 2006.

## **2.5 Section 5.4 – Taranaki Basin**

*Section 5.4 of the OIS is amended by deleting paragraph 3 and replacing it with the following paragraphs:*

On 14 December 2022, AOLNZ gave notice to OMV NZ under clause 4.3.6 of the FOA to terminate the FOA as more than 6 months had elapsed since the submission of the Application to the Minister. The approval process to get Advent's subsidiary AOLNZ registered on the three PEP Licences had already taken approximately eleven (11) months, with no guarantee of a resolution. Accordingly, AOLNZ ultimately made the decision to exercise its right to terminate the FOA. Condition Precedent 4 was never waived by either AOLNZ or OMV NZ, therefore AOLNZ remained entitled to rely on the failure to satisfy Condition Precedent 4 to terminate the FOA. Further, the Company confirms there was no negative determination by the Minister or the Government of New Zealand.

Prior to terminating the FOA, Advent had observed in a digital publication by the "Offshore Engineer" and on 27 October 2022, that there was another offshore New Zealand project whereby OMV and Jadestone Energy agreed to terminate the sale and purchase agreement for an acquisition by Jadestone Energy due to regulatory uncertainty in New Zealand. The parties were seeking approval from the New Zealand Government and ultimately terminated the agreement after a period of three (3) years lapsed without approval or action.

The above, along with the recently disclosed potential acquisition of the OMV oil and gas business by US financial investor Carlyle Group introduced a level of uncertainty into the planning process and a risk of delay which was unacceptable to AOLNZ.

*Section 5.4 of the OIS is also amended by inserting the following paragraph after the last paragraph:*

For further information regarding the loans from BPH, including the material terms, please refer to Section 6.7.

## **2.6 Section 5.5 – Clean Carbon (now renamed to Clean Hydrogen Technology)**

*Section 5.5 of the OIS is amended by deleting paragraphs 1, 2 and 3 and inserting the following paragraphs:*

The shareholders of the Company's 36.1% shareholder, BPH, approved an investment in a hydrogen technology company, Clean Hydrogen Technologies Corporation (**Clean Carbon**), a Company that is based in the United States and has established a Centre of Excellence (**CoE**) in India, 6 hours north of Mumbai, for the purposes of research and development of its hydrogen technology.

The Company and BPH (together, the **Purchasers**) have been assessing new investment opportunities, where there are ever increasing obligations to provide energy solutions with a responsible management and protection against carbon emissions. In 2019, the IEA reported that the transitioning from hydrocarbons such as coal and oil to hydrogen, produced with no CO<sub>2</sub> emissions, is now presenting real economies and growth globally (report prepared for the G20 held in Japan, titled *The Future of Hydrogen Seizing Today's Opportunities*). Although natural gas also presents continued growth and will play a role for many years to come, it too will need to become a source of energy with no CO<sub>2</sub> emissions.

At a proof-of-concept scale, Clean Carbon has developed and tested its processing capabilities which have successfully produced hydrogen, with no CO<sub>2</sub> emissions, achieving on average a 92% cracking efficiency. Cracking efficiency refers to the percentage of hydrocarbons broken into solid carbon and hydrogen per hour. 90% on average cracking efficiency was achieved several times by Clean Carbon since 2019, with the most recent in 2022.

Clean Carbon have tested the performance of a number of patented catalysts in the period between July 2022 and September 2022 and have determined that several of the catalysts have given methane cracking conversion rate (efficiency) more than 90%, for several hours. To achieve these results, Clean Carbon currently uses methane as its feedstock however, in the future, plans to use natural gas as its feedstock through the pyrolysis method (explained further below).

Clean Carbon's development activities and testing have shown that, by processing (not burning) methane gas and nitrogen using its catalyst and a modified fluidised bed reactor, it can produce hydrogen with no CO<sub>2</sub> emissions. This is referred to as Turquoise Hydrogen, which is hydrogen that is produced using a process called pyrolysis, where the feedstock is natural gas (specifically the hydrocarbons such as acetylene, methane, butane, propane, and others). Pyrolysis is defined as the method of heating solids, liquids, or gases in the absence of oxygen. The pyrolysis process is not new and has been used by the oil industry for many years. What is new, is Clean Carbon's success in the efficiency of its cracking the methane into Turquoise Hydrogen with non-CO<sub>2</sub> emissions and the quality of the carbon black produced, being majority Carbon Nano-Tubes (**CNTs**), which are highly conductive and used in battery manufacturing.

In Clear Carbon's testing, the majority of the carbon formed (over 80%) from cracking hydrocarbons to date are CNTs. This type of carbon was determined using Scanning Electron Microscopy (**SEM**) analysis, which enables the high-resolution imaging of single nanoparticles with sizes well below 1 nm or micron, as is the case for CNT. The Clean Carbon process is more specifically called a thermos-catalytic pyrolysis, which uses 800-900 degrees heat centigrade in the reactor in the absence of oxygen.

The Company confirms that there are no non-CO<sub>2</sub> greenhouse gas emissions that are produced or released as a result of Clean Carbon's production process.

#### Steam Methane Reforming (SMR) vs Clean Carbon pyrolysis process

Over 90% of the world's hydrogen is produced using a process called Steam Methane Reforming (**SMR**). The Clean Carbon process requires similar energy



needs as SMR and at scale, Clean Carbon is of the view that it can be produced at a similar price.

Clean Carbon's Chief Science Officer, Dr Vivek Nair (PhD material science engineering) has examined research undertaken by Nuria Sánchez-Bastardo, Robert Schlögl, and Holger Ruland published in *Industrial & Engineering Chemistry Research* 2021 60 (32), 11855-11881, which shows that the electrical energy required to produce 1kg of hydrogen from SMR is 8.81 kwh, 39.69kwh for electrolysis and 5.24kwh for pyrolysis at the reaction level. As such, the pyrolysis process requires less energy than SMR to achieve cracking and uses the same feedstock, natural gas. This energy analysis is conducted without considering the benefits from the use of a catalyst in the pyrolysis process, such as Clean Carbon's catalyst, which implies that pyrolysis at scale can be cheaper than SMR. Further, as the process creates two products, which are hydrogen and CNTs, the combined income source provides a means to produce hydrogen at a cheaper net cost.

## **2.7 Section 5.10 – Use of funds**

*Section 5.10 is amended by removing paragraph 3, the paragraph directly underneath the table at paragraph 5.10(b), and inserting the following paragraph:*

The Company expects that:

- (a) if all the Shares are subscribed for (being the Maximum Subscription), the funds raised will be sufficient to meet the Company's short-term objectives over the next 18-24 months; or
- (b) if only the Underwritten Amount (being the Minimum Subscription) is subscribed for, the funds raised will be sufficient to meet the Company's short-term objectives over the next 12 months.

## **2.8 Section 6.2 – PEP11**

*Section 6.2 is amended to delete paragraphs 1, 2 and 3 and replace them with the following:*

As stated in Section 5.2 above, Asset Energy's application for a variation and suspension of the conditions to the PEP11 Permit, and an extension of the term of the PEP11 Permit has been remitted back to the Ministers now comprising the Joint Authority for determination in accordance with the Law.

If the application is unsuccessful, the PEP11 Permit is at risk. Subject to the application being successful, Bounty Oil and Asset Energy are moving to drill ready status for PEP11.

## **2.9 Section 6.6(c) – Future Plans Clean Carbon**

*Section 6.6(c) is amended to insert the following after the last paragraph:*

As explained at Section 5.5 above, Clean Carbon has produced hydrogen beyond lab scale tests at the CoE and is now planning to scale up to a commercial production in 2023. There are three (3) stages to Clean Carbon scaling to commercial production:

- (a) **Stage 1 Current Stage:** Clean Carbon is currently working on and testing its engineering and how to scale the catalyst production at the CoE. The

current reactor used by Clean Carbon is 1/3 the internal diameter of the full scale and commercial system reactors expected to be used in Stage 3, explained below.

- (b) **Stage 2 Commercial:** Before moving to Stage 3, Clean Carbon plans to build a new reactor with an internal diameter larger than the reactor being used at Stage 1, and closer to the size of the reactor required for Stage 3. The final size will be determined by the system testing at Stage 1. The hydrogen and carbon nano objects produced from this system will initially be sold locally in India from which, it is expected that Clean Carbon will become commercial. This is planned to take place within the first six (6) months of 2023.
- (c) **Stage 3 Scale and Commercial:** The Stage 3 system is planned to have two (2) reactors working together, illustrating that Clean Carbon can scale several reactors together. Clean Carbon's final customer systems are planned to have a network of several reactors working together. Stage 3 is planned for completion in 2023.

## 2.10 Section 6.7 – BPH Energy Limited Loans

Section 6.7 is inserted into the OIS to include the following:

As stated in Section 5.4, BPH provided loan funding to the Company of \$3,000,000 on commercial terms to cover Earning Costs 1 over 2022, including a loan of A\$800,000 to cover the agreed work programme and budget expenditures for 2022. BPH also loaned a further net A\$1,075,000 to the Company during the financial year ending 30 June 2022 to fund the Company's current workplans and investments.

The Company entered into two separate loan agreements with BPH, the material terms of which are set out below (**Loan Agreements**). The total loan balance from BPH to the Company and its 100% owned subsidiary, AOLNZ was \$4,138,000 (**BPH Loan**) as at 30 June 2022.

The material terms of the Loan Agreements are as follows:

### Loan Agreement 1

| Term                  | Summary                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Date                  | 24 December 2021                                                                                                                                                                                                                                                                                                                                                                   |
| Principal Amount      | A\$2,220,000                                                                                                                                                                                                                                                                                                                                                                       |
| Approved Purpose      | Funding of the OMV NZ FOA                                                                                                                                                                                                                                                                                                                                                          |
| Interest              | 5.1% on and from the Draw Date calculated daily on the outstanding amount of the loan and capitalised on the last day of each interest period until such time as the loan and all outstanding monies owing under the loan agreement are repaid in full.                                                                                                                            |
| Default Interest Rate | If the loan and any outstanding monies owing under the loan agreement, including interest accrued, are not repaid by Advent in accordance with the terms of the loan agreement, on and from the Repayment Date interest will accrue daily and will be calculated on daily balances on the amount outstanding at a rate of 9.6% per annum until the outstanding amounts are repaid. |

| Term                        | Summary                                                                                                                                                                                                                                                                                                    |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Draw Down</b>            | 24 December 2021, or such other date agreed by BPH and Advent under the terms of the loan agreement.                                                                                                                                                                                                       |
| <b>Repayment Date</b>       | 24 months after the Draw Date.                                                                                                                                                                                                                                                                             |
| <b>Unsecured</b>            | The loan is unsecured.                                                                                                                                                                                                                                                                                     |
| <b>Repayment</b>            | Advent shall fully and finally pay the loan together with any other outstanding monies such as accrued interest to BPH on the earlier of the Repayment Date, or five (5) Business Days after the date on which Advent receives notice from BPH, or such other date as Advent and BPH may agree in writing. |
| <b>Early Repayment</b>      | Advent is at liberty to repay the whole or any part of the outstanding amount due under the loan agreement before it is due to be paid without penalty.                                                                                                                                                    |
| <b>Breach</b>               | If Advent commits a breach of any of its obligations under the loan agreement, BPH may by written notice, declare all monies owing pursuant to the agreement are due and payable within 5 Business Days after receipt of the notice.                                                                       |
| <b>Compromise by Lender</b> | BPH may determine from time to time not to enforce its rights under the loan agreement and may from time to time make any arrangement or compromise with Advent as in its sole discretion it thinks fit.                                                                                                   |

## Loan Agreement 2

| Term                         | Summary                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Date</b>                  | 8 September 2022                                                                                                                                                                                                                                                                                                                                                              |
| <b>Principal Amount</b>      | A\$2,750,000                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Approved Purpose</b>      | Funding of the OMV NZ FOA, PEP11 Permit, operating capital and other investments as approved by Advent's directors.                                                                                                                                                                                                                                                           |
| <b>Interest</b>              | 5.1% on and from the Draw Date calculated daily on the outstanding amount of the loan and capitalised on the last day of each interest period.                                                                                                                                                                                                                                |
| <b>Default Interest Rate</b> | If the loan and any outstanding monies owing under the loan agreement, including interest accrued, are not repaid by Advent in accordance with the terms of the agreement, on and from the Repayment Date interest will accrue daily and will be calculated on daily balances on the amount outstanding at a rate of 9.6% per annum until the outstanding amounts are repaid. |
| <b>Draw Down</b>             | Any advance from BPH to Advent from 18 January 2022 to 31 December 2022, or such other date agreed by BPH and Advent under the terms of the loan agreement.                                                                                                                                                                                                                   |
| <b>Repayment Date</b>        | 24 months after the Draw Date.                                                                                                                                                                                                                                                                                                                                                |
| <b>Unsecured</b>             | The loan is unsecured.                                                                                                                                                                                                                                                                                                                                                        |

| Term                        | Summary                                                                                                                                                                                                                                                                                                  |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Repayment</b>            | Advent shall fully and finally pay the loan together with any other outstanding monies such as accrued interest to BPH on the earlier of the Repayment Date or five (5) Business Days after the date on which Advent receives notice from BPH or such other date as Advent and BPH may agree in writing. |
| <b>Early Repayment</b>      | Advent is at liberty to repay the whole or any part of the outstanding amount due under the loan agreement before it is due to be paid without penalty.                                                                                                                                                  |
| <b>Breach</b>               | If Advent commits a breach of any of its obligations under the loan agreement, BPH may by written notice declare all monies owing pursuant to the agreement are due and payable within 5 Business Days after receipt of the notice.                                                                      |
| <b>Compromise by Lender</b> | BPH may determine from time to time not to enforce its rights under the loan agreement and may from time to time make any arrangement or compromise with Advent as in its sole discretion it thinks fit.                                                                                                 |

Upon termination of the FOA, the Company received US\$1,621,000 back from OMV NZ, which was used by the Company to repay part of the BPH Loan. In total, in December 2022, the Company repaid to BPH the following amounts:

- (a) A\$2,257,345 for Earning Costs 1;
- (b) A\$800,000 to fund Year 1 exploration costs; and
- (c) accrued interest of A\$146,152.

The balance of the BPH Loan, as at 31 December 2022, being A\$1,627,952, remains outstanding and owing to BPH by the Company and is repayable 24 months after the draw date in accordance with the terms of the Loan Agreements. The Company confirms that the proceeds of the Offer will not be used by the Company to repay the balance of the BPH Loan and will be used in accordance with the Use of Funds table at Section 5.10 of the OIS.

## **2.11 Section 7.2(b) Ability of Advent to realise the carrying value of the exploration assets in the ordinary course of business**

*Section 7.2(b) of the OIS is amended to delete the paragraphs 2 and 3 and replacing them with the following:*

As stated above, Asset Energy had applied to the Federal Court for a review of the decision by the Joint Authority to refuse to vary and suspend the conditions of the PEP11 Permit, and to refuse to extend the term of the PEP11 Permit. The Federal Court has made orders dismissing the proceedings and remitting the decision back to the Ministers that now comprise the Joint Authority. If the Joint Authority application is unsuccessful, the PEP11 Permit is at risk.

The operation of the PEP11 Permit will continue until the relevant decisions are made by the Joint Authority and the Joint Venture is in compliance with the contractual terms of PEP 11 with respect to such matters as reporting, payment of rents and the various provisions of the Act.

## 2.12 Section 7.2(r) Related Party Contract Risk

*Section 7.2(r) is inserted into the OIS to include the following:*

### (a) Related Party Risk

The Company has a number of contractual relationships with related parties, in particular the Loan Agreements with BPH. If these relationships breakdown and the related party agreements are terminated, there is a risk that the Company may not be able to find satisfactory funding to continue its operations or find a satisfactory replacement. Loan agreements may contain covenants, undertakings and other provisions which, if breached, or if the Company defaults under the agreement, may entitle lenders, including BPH, to accelerate repayment of loans and there is no assurance that the Company would be able to repay such loans in the event of an acceleration. Enforcement of any security granted by the Company or default could also result in the loss of assets.

*Section 7.2(s) is inserted into the OIS to include the following:*

### (b) Climate Change Risk

There are a number of climate-related factors that may affect the operations and proposed activities of the Company. The climate change risks particularly attributable to the Company include:

- (i) the emergence of new or expanded regulations associated with the transitioning to a lower-carbon economy and market changes related to climate change mitigation. The Company may be impacted by changes to local or international compliance regulations related to climate change mitigation efforts, or by specific taxation or penalties for carbon emissions or environmental damage. These examples sit amongst an array of possible restraints on industry that may further impact the Company and its profitability. While the Company will endeavour to manage these risks and limit any consequential impacts, there can be no guarantee that the Company will not be impacted by these occurrences; and
- (ii) climate change may cause certain physical and environmental risks that cannot be predicted by the Company, including events such as increased severity of weather patterns and incidence of extreme weather events and longer-term physical risks such as shifting climate patterns. All these risks associated with climate change may significantly change the industry in which the Company operates.

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## 3. CONSENTS

The Company confirms that as at the date of this Supplementary OIS, each of the parties that have been named as having consented to being named in the OIS have not withdrawn that consent.

Mr David Bennett has given his written consent to being named as an independent consultant to the Company in this Supplementary OIS, in the form and context in which he is named, and to the inclusion of the Summary Review of the PEP11 Resource Estimate in this Supplementary OIS. Mr Bennett has not

withdrawn his consent prior to the lodgement of this Supplementary OIS with the ASIC.

Clean Carbon has given its written consent to being named in this Supplementary OIS, in the form and context in which it is named, and to the inclusion of the statements attributable to Clean Carbon and its hydrogen production process and research. Clean Carbon has not withdrawn its consent prior to the lodgement of this Supplementary OIS with the ASIC.

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#### **4. DIRECTORS' AUTHORISATION**

This Supplementary OIS is issued by the Company and its issue has been authorised by a resolution of the Directors.

In accordance with Section 720 of the Corporations Act, each Director has consented to the lodgement of this Supplementary OIS with the ASIC.



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**David Breeze**  
**Executive Director**  
**For and on behalf of**  
**Advent Energy Limited**

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## **SCHEDULE 1 – REVIEW OF PEP11 RESOURCE ESTIMATES**

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### **Summary Review of PEP 11 Resource Estimates**

Prepared for Advent Energy Limited

Asset Energy Pty Ltd, a wholly owned subsidiary of Advent Energy Ltd; and is the 85% holder of Petroleum Exploration Permit PEP 11, situated in the offshore Sydney Basin.

Advent Energy have requested I review the resource estimates of a number of prospects and leads (P&L) in this permit, based on an original report of November 2010 by T.P. Berge, which was lodged with the ASX by MEC Resources Ltd (ASX:MMR) in December 2010, and later summarised by MEC in their 2018 Annual Report.

A presentation by Don Marlin was lodged with ASX by BPH Energy Ltd (ASX : BPH) in September 2015, and also provides a useful technical background for the input parameters underpinning these resource estimates.

The areal and volumetric estimates for the prospects are based on workstation interpretations of a 2D grid, generally 2.5 km by 5 km, of fair to good quality seismic data. Independent mappings by several different qualified interpreters have not been substantially different, and no changes to the resource estimates in the Berge report have been deemed necessary.

Other resource input parameters (porosity, reservoir thickness etc) have been obtained from wells in the adjacent onshore portion of the basin, and by analogy to the Permo-Triassic Bowen Basin, which hosts similar coal measures reservoirs. The Munmorah-1 well, onshore due west of the Baleen Prospect, intersected a coal measures sequence, with possible gas charge of interbedded sands. Although there is no direct seismic tie from onshore to offshore portions of the Sydney Basin, the assumed stratigraphy appears to be appropriate, on the basis of seismic character correlation; and the selected parameter ranges are sensible.

Table 5 of the Berge report summarises the resource potential of the P&L based on the selected ranges of the inputs, giving P90-P50-P10 estimates which are then combined by the Swanson Mean approach to give most likely resource estimates for each prospect. This is an industry standard approach which the Berge report correctly applies. Swanson Mean is a reasonable approach for moderately skewed probability distributions.

The Baleen Prospect is considered the prime drilling target, with a Swanson Mean Recoverable Resource of 1.45 Tcf of gas and a P50 of ~0.5 Tcf. Coal measures traps often have stacked pay levels, which could enhance the above figures. Retrograde gas-condensate targets such as this can produce significant volumes of condensate in their early production years, which would enhance economic viability; and given the position relative to gas market, any discovery at Baleen in the 0.5 Tcf+ range is likely to be developable.

Chance of viable discovery at Baleen has been estimated as of order 20%. Additionally, sea floor mounds and thermogenic gas samples taken during the 2018 survey, in the vicinity of Baleen, upgrade the chances of hydrocarbon generation and migration from the adjacent mature deep into the clearly defined high which includes the Baleen structure.

A recent reassessment of potentially recoverable prospective resource within the present permit boundary (Battrick 2018) indicates a sum of the P50 estimates of all identified P&L of 5.7 TCF( Refer Table below). However, the Probability of Success on other prospects is significantly dependent on the outcome of drilling at Baleen.

| Prospect Name | P90<br>(bcf) | P50<br>(bcf) | Mean<br>(bcf) | P10<br>(bcf) |
|---------------|--------------|--------------|---------------|--------------|
| Fish          | 28.6         | 2,131.2      | 11,508.6      | 35,491.8     |
| Baleen        | 17.2         | 472.2        | 1,452.0       | 4,193.3      |
| Shark         | 44.1         | 752.2        | 3,510.9       | 10,656.0     |
| Trout         | 12.1         | 232.6        | 623.9         | 1,757.3      |
| Squid         | 11.4         | 218.1        | 585.0         | 1,647.7      |
| Blue          | 15.5         | 297.9        | 799.0         | 2,250.6      |
| Blue Whale    | 66.2         | 1271.6       | 3,410.8       | 9,607.6      |
| S Squid       | 66.2         | 289.7        | 777.2         | 2,189.1      |
| Total         | 261.3        | 5,665.6      | 22,667.4      | 67,793.4     |

**Leads & Prospect List showing the range of potentially recoverable Prospective Resources, using probabilistic volumetric assessment protocols.**

In summary, the uncertainties in input parameter selection have been recognised, and the choice of parameter ranges justified; and the resource estimates for Baleen and the other prospects have been calculated using an industry standard methodology and can be considered fair and reasonable.

**Competent Person Statement**

The information in this report that relates to mineral resources contained within the PEP 11 Project is based on information reviewed by Mr David Bennett, an independent consultant with a PhD in geophysics from Australia National University, and more than 40 years of experience in oil and gas exploration and discovery in Australia, New Zealand, Papua New Guinea and elsewhere.

The information in this report that relates to Prospective Resource information in relation to the PEP11 is based on information compiled by the operator of these assets, Advent Energy Limited. This information was subsequently reviewed by Mr David Bennett, who has consented to the inclusion of such information in this report in the form and context in which it appears. The resources included in this report have been prepared using definitions and guidelines consistent with the 2007 Society of Petroleum Engineers (SPE)/World Petroleum Council (WPC)/ American Association of Petroleum Geologists (AAPG)/ Society of Petroleum Evaluation Engineers (SPEE) Petroleum Resources Management System (PRMS). The resources information included in this report are based on, and fairly represents, information and supporting documentation reviewed by Mr Bennett. Mr Bennett is qualified in accordance with the requirements of ASX Listing Rule 5.41 and consents to the inclusion of the information in this report of the matters based on this information in the form and context in which it appears.

**Cautionary Statement**

Prospective Resources are the term given to the estimated hydrocarbon volumes (petroleum) that may potentially be produced in the event that they are discovered by the drilling of an exploration well. Prospective Resources may potentially be recovered by the application of a future development project and may relate to undiscovered resource accumulations. These estimates have both an associated risk of discovery and an inherent risk of development. Further exploration and appraisal drilling will be required to determine the existence of a commercially recoverable quantity of petroleum (oil and/or gas).

There are numerous uncertainties inherent in estimating reserves and resources, as well as in projecting future development capital expenditure, production costs and cash flows. Geoscientific resource assessment must be recognised as a subjective process of estimating subsurface accumulations that cannot be measured exactly.

The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements, and that all material assumptions and technical parameters have not materially changed. The Company also confirms that the form and context in which the relevant Competent Person's findings are presented have not been materially modified from the original market announcements.