



carbonenergy

Carbon Energy Limited | ABN 56 057 552 137

ASX Announcement

30 October 2015

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Carbon Energy Limited

ABN 56 057 552 137

Carbon Energy (Operations) Pty Ltd

ABN 61 105 176 967

Carbon Energy Notice of 2015 Annual General Meeting

Carbon Energy's 2015 Annual General Meeting will be held on Monday, 30 November 2015, 9.30am (Brisbane Time) at:

HopgoodGanim Lawyers
Level 7, Waterfront Place
1 Eagle Street, Brisbane.

The Notice of Meeting, Explanatory Memorandum, Independent Expert's Report and Voting Form is being mailed to shareholders today. A copy of these documents follows this announcement and they can be viewed on the Carbon Energy website at www.carbonenergy.com.au

The Carbon Energy 2015 Annual Report will also be mailed today to shareholders who have elected to receive a printed copy of this document. A copy of this document was lodged with the ASX on 31 July 2015 and is available on the Carbon Energy website at www.carbonenergy.com.au.

ENDS

For and on behalf of the Board

Catherine Costello
Chief Financial Officer & Company Secretary

About Carbon Energy

Carbon Energy (ASX: CNX) is building a gas business, utilising its unique keyseam Underground Coal Gasification (UCG) technology.

The Company is committed to providing industrial gas users with an affordable and secure source of high quality feedstock, as gas prices remain strong, through increased demand across our key markets.

Carbon Energy has completed the only successful, complete lifecycle, commercial scale underground gasification trial having undergone intense, independent environmental scrutiny.

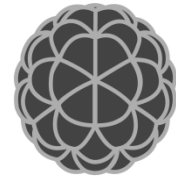
This highly controlled, proven technology enables access to gas resources that were previously considered too deep or uneconomic to reach.

keyseam maximises resource efficiency while minimising surface disturbance and preserving regional groundwater use. Originally developed by Australia's leading research and scientific body, the Commonwealth Scientific and Industrial Research Organisation (CSIRO) it has been operationally proven through six years of field trials.

Alongside its Australian operations, Carbon Energy is working with international partners to unlock new energy resources offshore. The Company can deliver end-to-end services from initial project assessment through to commercial project development, operations, site decommissioning and rehabilitation.

Carbon Energy is headquartered in Brisbane, Australia and is listed on the Australian Securities Exchange (ASX).

keyseam® is a registered Trademark of Carbon Energy Ltd



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Carbon Energy (Operations) Pty Ltd
ABN 61 105 176 967

30 October 2015

Dear Shareholders,

I am pleased to invite you to attend the Annual General Meeting (AGM) of Carbon Energy Ltd (Carbon Energy or the Company) to be held at:

**HopgoodGanim Lawyers
Level 7, Waterfront Place
1 Eagle Street, Brisbane**

Monday 30 November 2015 at 9:30 am (Brisbane time).

The business to be dealt with at the meeting is set out in the attached Notice of Meeting with the Explanatory Memorandum and the Independent Expert's Report providing further detail to the proposed resolutions.

Along with the normal business of the Meeting, the Company is also seeking shareholder approval to form a Joint Venture in China. The Board sees this Joint Venture as critical to establishing Carbon Energy's presence in China, providing the Company with the opportunity to showcase its *keyseam* technology on a commercial scale through a fully funded structure.

As background, in September 2015, Carbon Energy undertook a transformational step in the Company's history with the signing of a Joint Venture Agreement with Beijing JinHong Investment Co., Ltd (JinHong) to develop and promote *keyseam* technology in China. The Joint Venture will undertake a commercial Demonstration Project in China and once proven operationally successful, sub-license the *keyseam* technology in China.

On 27 September 2015, Carbon Energy announced it had entered into binding Agreements with JinHong to form a joint venture in China and initially transfer a non-exclusive right to license *keyseam* technology in China to the Joint Venture. Upon successful commissioning of a commercial Demonstration Project the Company will issue an exclusive right to sub-license to the Joint Venture in consideration for a 30% entitlement to the dividend distributions (Transaction).

The Joint Venture Agreement was signed in conjunction with a \$2 million placement to the Company's largest shareholder, Kam Lung Investment Development Company Ltd (Kam Lung). Kam Lung and JinHong are ultimately controlled by Mr Zhuang.

The Transaction is conditional on the Company obtaining the approval of its shareholders which is the subject of Resolution 6 in the attached Notice of Meeting. The accompanying Explanatory Memorandum provides further details in relation to the Transaction.

The Joint Venture with JinHong introduces to Carbon Energy a well funded strategic partner with extensive China operating experience. Under the Joint Venture, JinHong is committed to providing US\$30 million in capital required to commission a commercial Demonstration Project in China and obtain the relevant Central Government endorsement for the use of the technology

in China. This amount will be equity funded by JinHong and is estimated to be sufficient to complete a commercial Demonstration Project of this nature in China. While Carbon Energy considered alternative funding and project partner proposals there is no assurance that such partners and the capital needed would have been available to Carbon Energy on commercially acceptable terms.

In return for making the contractual capital commitments, JinHong will be entitled to a 70% interest and Carbon Energy will be entitled to a 30% interest in dividends distributed. A Board will be formed upon all the relevant approvals being obtained and the Joint Venture being registered by the Chinese Government. Provided the commercial Demonstration Project is commissioned successfully, the Joint Venture will be entitled to an exclusive right to sub-license *keyseam* technology in China. Until successful commissioning of the commercial Demonstration Project, Carbon Energy can continue to license the *keyseam* technology in China and has the option to license the technology through the Joint Venture and receive 90% of the sub-license fees. The Company will also grant a non-exclusive license to the Joint Venture to use *keyseam* technology in order to develop and operate the commercial Demonstration Project once all the relevant approvals from Carbon Energy Shareholders and the Chinese Government are obtained, which is expected to be by the end of the first quarter of 2016.

To assist shareholders assess the merits or otherwise of the proposed Transaction, the subject of Resolution 6, the Board commissioned PricewaterhouseCoopers Securities Limited (PwC Securities) (Expert) to provide an independent expert's report (IER) as to whether the proposed Transaction is, in the opinion of the Expert, fair and reasonable to the non-associated Shareholders. That report accompanies the Explanatory Memorandum.

In the opinion of the Expert, **the proposed Transaction is fair and reasonable** to the non-associated Shareholders.

The Board believes that the best way to finance the completion of the necessary commercial Demonstration Project together with obtaining endorsement from China's Government is via the formation of the Joint Venture.

The Board is confident that Carbon Energy's Joint Venture with JinHong in China, in combination with its existing relationships and potential project pipeline in China, puts Carbon Energy in a strong position to take advantage of the direction China is taking on cleaner energy production utilising new gasification technology. Further, Carbon Energy has ongoing upside potential from its continuing efforts in Australia and other parts of the world and the commercial Demonstration Project will further establish the Company as a leader in the global market.

The Board recommends Shareholders vote in favour of Carbon Energy undertaking the proposed Transaction on the terms of the Joint Venture Agreement, the License Agreement and the Technical Services Agreement, including the grant to the Joint Venture of a non-exclusive license to use the Company's *keyseam* technology once the Joint Venture is approved and capitalised by JinHong, in order to develop and operate the commercial Demonstration Project, and the grant of an exclusive right to sub-license the Company's *keyseam* technology covering China, upon successful commissioning of a commercial Demonstration Project.

We look forward to welcoming you at Carbon Energy's AGM and moving forward in this new and exciting chapter in Carbon Energy's history.

Yours sincerely



Dr. Chris Rawlings
Chairman



carbon**energy**

NOTICE OF ANNUAL GENERAL MEETING OF SHAREHOLDERS 2015

This Notice of Annual General Meeting, Explanatory Memorandum and Independent Expert's Report should be read in their entirety. If Shareholders are in doubt as to how they should vote, they should seek advice from their professional advisers prior to voting.

The Independent Expert, PricewaterhouseCoopers Securities Ltd. has concluded that the proposed Transaction with Beijing JinHong Investment Co. Ltd. and Beijing JinHong New Energy Co., Ltd., the subject of Resolution 6, is FAIR and REASONABLE to Non-Associated Shareholders. Should you wish to discuss the matters in this Notice of Meeting please do not hesitate to contact the Company Secretary on +61 7 3156 7777.

MONDAY 30 NOVEMBER 2015 AT 9.30AM, BRISBANE TIME

**Hopgood Ganim Lawyers
Level 7, Waterfront Place
1 Eagle Street, Brisbane QLD 4000**

NOTICE OF ANNUAL GENERAL MEETING

THIS NOTICE OF MEETING SHOULD BE READ IN CONJUNCTION WITH THE ATTACHED EXPLANATORY MEMORANDUM AND INDEPENDENT EXPERT'S REPORT.

NOTICE IS HEREBY GIVEN that the Annual General Meeting of members of Carbon Energy Limited ABN 56 057 552 137 'Company' will be held at Hopgood Ganim Lawyers, Level 7, Waterfront Place, 1 Eagle Street, Brisbane on Monday 30 November 2015 at 9.30am, Brisbane time.

Business of the Meeting

Annual Report 2015

To receive and consider the Financial Report together with the Directors' Report (including the Remuneration Report) and Auditor's Report for the financial year ended 30 June 2015.

Resolutions

1) To Re-Elect Dr Helen Garnett as a Director

To consider and if thought fit, to pass the following resolution as an Ordinary Resolution:

"That Dr Helen Garnett, who retires as a Director of the Company and, being eligible, offers herself for re-election, be and is hereby re-elected as a Director of the Company."

2) To Re-Elect Mr Louis Rozman as a Director

To consider and if thought fit, to pass the following resolution as an Ordinary Resolution:

"That Mr Louis Rozman, who retires as a Director of the Company and, being eligible, offers himself for re-election, be and is hereby re-elected as a Director of the Company."

3) To Elect Mr Huihai Zhuang as a Director

To consider and if thought fit, to pass the following resolution as an Ordinary Resolution:

"That Mr Huihai Zhuang appointed by the Board on or about 29 October 2015, in accordance with clause 17.4 of the Constitution retires and, being eligible, offers himself for election, be and is hereby elected as a Director of the Company."

4) Ratification of previous issue of 21,522,258 Shares pursuant to Convertible Note Facility

To consider, and if thought fit, to pass the following as an Ordinary Resolution:

"That, for the purpose of Listing Rule 7.4 and for all other purposes, Shareholders ratify the previous issue and allotment of 4,274,314 Shares to PRCM Nominees Pty Limited and 17,247,944 Shares to Pacific Road Holdings NV pursuant to the Convertible Note Facility Agreement announced to the market on 5 January 2012 as set out in the Explanatory Memorandum, which forms part of this Notice of Meeting."

Notes

The rights attaching to the Shares the subject of Resolution 4 are identical in all respects to the existing ordinary shares on issue in the Company.

Further details of the Shares the subject of Resolution 4 are contained within the Explanatory Memorandum.

Voting Exclusion Statement for above Resolution 4:

In accordance with Listing Rule 14.11, the Company will disregard any votes cast on the above Resolution by Pacific Road Capital Management Pty Ltd, PRCM Nominees Pty Limited, Pacific Road Holdings NV and any associates of those persons.

However the Company need not disregard a vote cast on Resolution 4 if:

- (a) It is cast by a person as proxy for a person who is entitled to vote, in accordance with the directions on the proxy form; or
- (b) it is cast by the person chairing the Meeting as proxy for a person who is entitled to vote, in accordance with a direction on the proxy form to vote as the proxy decides.

The Chair of the Meeting will vote any undirected proxies in favour of Resolution 4.

5) Ratification of previous issue of 123,845,128 Shares to Kam Lung Investment Development Company Ltd

To consider, and if thought fit, to pass the following resolution as an Ordinary Resolution:

"That, for the purpose of Listing Rule 7.4 and for all other purposes, Shareholders ratify the previous issue and allotment of 123,845,128 Shares to Kam Lung Investment Development Company Ltd at a price of \$0.01554 cents per share on the terms set out in the Explanatory Memorandum, which forms part of this Notice of Meeting."

Notes

The rights attaching to the Shares the subject of Resolution 5 are identical in all respects to the existing ordinary shares on issue in the Company.

Further details of the Shares the subject of Resolution 5 are contained within the Explanatory Memorandum.

Voting Exclusion Statement for above Resolution 5:

In accordance with Listing Rule 14.11, the Company will disregard any votes cast on the above Resolution by Kam Lung Investment Development Company Ltd and any associate of them.

NOTICE OF ANNUAL GENERAL MEETING

However the Company need not disregard a vote cast on Resolution 5 if:

- (a) It is cast by a person as proxy for a person who is entitled to vote, in accordance with the directions on the proxy form; or
- (b) it is cast by the person chairing the Meeting as proxy for a person who is entitled to vote, in accordance with a direction on the proxy form to vote as the proxy decides.

The Chair of the Meeting will vote any undirected proxies in favour of Resolution 5.

6) Approval of the terms of, and undertaking the transactions contemplated by, the Joint Venture Agreement, the License Agreement and the Technical Services Agreement

To consider and, if thought fit, pass the following resolution as an Ordinary Resolution with or without amendment:

“That, for the purpose of Listing Rule 10.1 and Chapter 2E of the Corporations Act 2001 (Cth) and for all other purposes, Shareholders approve the terms of the Joint Venture Agreement between Carbon Energy (Operations) Pty Limited and Beijing JinHong Investment Co., Ltd., the License Agreement and the Technical Services Agreement between Carbon Energy (Operations) Pty Limited and Beijing JinHong New Energy Co., Ltd. and that the Company be authorised, with effect from the passing of this Resolution 6 to proceed with:

- (a) *the execution of the License Agreement and the Technical Services Agreement;*
- (b) *the transactions contemplated by the Joint Venture Agreement, the License Agreement and the Technical Services Agreement (Transaction);*
- (c) *without limitation to (a) or (b):*
 - (i) *the grant of a non-exclusive license to the Joint Venture to use the Company’s keyseam technology in order to develop and operate the Demonstration Project once the People’s Republic of China Government approval is obtained and JinHong has capitalised the Joint Venture (in the amount of US\$10million) and the right to sublicense the keyseam technology in China at the discretion of the Company; and*

- (ii) *the grant of an exclusive right to the Joint Venture to license the Company’s keyseam technology in the Peoples Republic of China, upon successful commissioning of a Demonstration Project;*

on the terms and conditions of the Joint Venture Agreement, the License Agreement and the Technical Services Agreement, the details of which are summarised in the Explanatory Memorandum, which forms part of this Notice of Meeting.”

Voting Exclusion Statement for above Resolution 6:

Voting exclusion statement

The Company will disregard any votes cast on this Resolution by:

- (a) Beijing JinHong Investment Co., Ltd.; and
- (b) any associate of Beijing JinHong Investment Co., Ltd.

However, the Company need not disregard a vote if:

- (c) it is cast by a person as proxy for a person who is entitled to vote, in accordance with the directions on the proxy form; or
- (d) it is cast by the person chairing the Meeting as proxy for a person who is entitled to vote, in accordance with the direction on the proxy form to vote as the proxy decides.

Notes:

PricewaterhouseCoopers Securities Ltd has prepared an Independent Expert’s Report (IER) on the Transaction and has concluded that, in its opinion the Transaction is FAIR and REASONABLE to all Non-Associated Shareholders.

The Company has submitted this Notice of Meeting and accompanying Explanatory Memorandum and Independent Expert’s Report to ASIC pursuant to section 218 of the Corporations Act.

Further details regarding the Joint Venture Agreement, the License Agreement, the Technical Services Agreement and the Transaction are set out in the accompanying Explanatory Memorandum and Independent Expert’s Report which the Directors recommend Shareholders read in full before making any decision in relation to Resolution 6.

7) Approval to issue an additional 10% of the issued capital of the Company over a 12 month period pursuant to Listing Rule 7.1A (Special Resolution)

To consider and, if thought fit, pass the following resolution with or without amendment, as a Special Resolution:

“That, pursuant to and in accordance with ASX Listing Rule 7.1A, and for all other purposes, the Shareholders approve the issue of Equity Securities up to 10% of the issued capital of the Company (at the time of issue) calculated in accordance with the formula prescribed in ASX Listing Rule 7.1A.2, and on the

NOTICE OF ANNUAL GENERAL MEETING

terms and conditions as described in the Explanatory Memorandum which forms part of this Notice of Meeting ('Placement Securities')."

Voting Exclusion Statement for above Resolution 7:

In accordance with Listing Rule 14.11, the Company will disregard any votes cast on this Special Resolution by a person and any associates of that person who:

- (a) may participate in the issue of the Placement Securities; or
- (b) might obtain a benefit if this Special Resolution is passed, except a benefit solely in their capacity as a holder of Shares if the resolution is passed.

At this time, there are no potential allottees to whom shares may be issued under this Special Resolution.

However, the Company need not disregard a vote cast on Resolution 7 if:

- (a) it is cast by a person as proxy for a person who is entitled to vote, in accordance with the directions on the proxy form; or
- (b) it is cast by the person chairing the Meeting as proxy for a person who is entitled to vote, in accordance with the direction on the proxy form to vote as the proxy decides.

The Chair of the Meeting will vote any undirected proxies in favour of Resolution 7.

8) To Adopt the Remuneration Report

To consider and, if thought fit, to pass the following resolution as an Advisory Resolution:

"That for the purpose of section 250R(2) of the Corporations Act and for all other purposes, the Remuneration Report for the period ended 30 June 2015 and contained in the Annual Report (as set out on pages 27 to 42 of the Directors' Report) for the Company be adopted."

Advisory Resolution

The vote on this Resolution 8 is advisory only and does not bind the Directors of the Company.

Voting Restriction pursuant to Section 250R(4) of the Corporations Act

A vote on Resolution 8 must not be cast (in any capacity) by or on behalf of the following persons:

- (a) a member of the Key Management Personnel (**KMP**) whose remuneration details are included in the 2015 Remuneration Report; or
- (b) a Closely Related Party of such a KMP (including close family members and companies the KMP controls).

However, a person described above may cast a vote on Resolution 8 as a proxy if the vote is not cast on behalf of a person described above and either:

- (a) the proxy appointment is in writing that specifies the way the proxy is to vote (e.g. for, against, abstain) on the resolution; or
- (b) the vote is cast by the chair of the Meeting and the appointment of the chair as proxy:
 - does not specify the way the proxy is to vote on the resolution; and
 - expressly authorises the chair to exercise the proxy even if the resolution is connected directly or indirectly with the remuneration of a member of the KMP.

The Chair of the Meeting will vote any undirected proxies in favour of Resolution 8.

General Business

To consider any other business as may be lawfully put forward in accordance with the Constitution of the Company.

All members are invited to attend. An Explanatory Memorandum to Shareholders follows and forms a part of this Notice.

By Order of the Board



Catherine Costello
Company Secretary
30 October 2015

EXPLANATORY MEMORANDUM

THIS EXPLANATORY MEMORANDUM SHOULD BE READ IN ITS ENTIRETY. IF SHAREHOLDERS ARE IN DOUBT AS TO HOW THEY SHOULD VOTE, THEY SHOULD SEEK ADVICE FROM THEIR ACCOUNTANT, SOLICITOR OR OTHER PROFESSIONAL ADVISER PRIOR TO VOTING.

The Explanatory Memorandum has been prepared for the information of Shareholders in connection with the business to be conducted at the Annual General Meeting of Shareholders to be held on Monday 30 November 2015 at 9.30am AEST.

This Explanatory Memorandum should be read in conjunction with the accompanying Notice of Meeting and IER.

Terms used in this Explanatory Memorandum are defined in the Interpretation section.

Business of the Meeting

Annual Report

Section 317 of the Corporations Act requires the Directors of the Company to lay before the Annual General Meeting the Financial Report, Director's Report (including the Remuneration Report) and the Auditor's Report for the last financial year that ended before the AGM.

In accordance with section 250S of the Corporations Act, Shareholders will be provided with a reasonable opportunity to ask questions or make statements in relation to those reports but no formal resolution to adopt the reports will be put to Shareholders at the AGM (save for Resolution 8 for the adoption of the Remuneration Report).

Shareholders will be given a reasonable opportunity to ask the auditor questions about the conduct of the audit and the preparation and content of the Auditor's Report. In addition to taking questions at the AGM, written questions to the Chairman about the management of the Company, or the Company's Auditor regarding:

- the preparation and content of the Auditor's Report;
- the conduct of the audit;
- accounting policies adopted by the Company in relation to the preparation of the financial statements; and
- the independence of the Auditor in relation to the conduct of the audit;

may be submitted no later than 5 business days before the AGM, i.e. no later than 23 November 2015, to the registered office of the Company.

A copy of the 2015 Annual Report is available at www.carbonenergy.com.au within the Announcements & Reports section of the website

Resolutions

The following matters should be noted in respect of the various items of business:

Resolution 1 (Ordinary) – To Re-elect Dr Helen Garnett as a Director

Background to Resolution 1

In accordance with Rule 17.2 of the Constitution, one third of the Directors need to retire by rotation each year. Accordingly, Dr Garnett is required to retire at the end of the forthcoming AGM, and being eligible, offers herself for re-election as a Director of the Company.

Dr Garnett was appointed to the Board on 6 September 2010 and re-elected as a Director of the Company at the 2012 Annual General Meeting.

Dr Helen Garnett

Director (Non-Executive)

BSc (Hons), PhD, FTSE, FAICD

Dr Garnett has over 30 years' experience in transforming technical innovation into practical commercial outcomes. She has 15 years' experience as a Chief Executive and over 20 years as a Non-Executive Director having been closely associated with the resource and energy sectors throughout this time. She is a Fellow of the Australian Institute of Company Directors and the Academy of Technical Sciences and Engineering. Dr Garnett is currently Chair of Delta Electricity and a Non-Executive Director of a number of other non-listed entities. During the past three years Dr Garnett has held the following other listed company directorships:

- Energy Resources of Australia Limited (from January 2005 to June 2015) Non-Executive Director; and
- ABM Resources Limited (from October 2014) Non-Executive Director.

Dr Garnett is an Independent Non-executive Director and is Chair of the Audit & Risk Committee and a member of the Nomination Committee.

Recommendation of Directors:

The Directors (apart from Dr Garnett) recommend that the Shareholders vote in favour of the resolution to appoint Dr Garnett as a Director of the Company.

EXPLANATORY **MEMORANDUM**

Resolution 2 (Ordinary) – To Re-Elect Mr Louis Rozman as a Director

Background to Resolution 2

In accordance with Rule 17.2 of the Constitution, one third of the Directors need to retire by rotation each year. Accordingly, Mr Rozman is required to retire at the end of the forthcoming AGM, and being eligible, offers himself for re-election as a Director of the Company.

Mr Rozman was appointed to the Board on 7 April 2010 and re-elected as a Director of the Company at the 2013 Annual General Meeting.

Mr Louis Rozman

Director (Non-Executive)

BEng, MGeos, FAusIMM, CP(Man), AICD

Mr Rozman holds degrees in mining engineering and mineral economics and has over 30 years' experience in mining operations, joint ventures and corporate management in Australasia and Africa. He was previously Chief Operating Officer of major gold producer, AurionGold and Chief Executive Officer of coal seam gas explorer and producer, CH4 Gas Limited. During the past three years Mr Rozman has held the following other listed company directorships:

- Pacific Energy Limited (from May 2009) Non-Executive Director
- Kula Gold Limited (from November 2010) Non-Executive Director
- ABM Resources Limited (from May 2014 to October 2014) Non-Executive Director; and
- TSX listed Mawson West Limited (from February 2011 to April 2014) Non-Executive Director.

Mr Rozman is also a Director of some Pacific Road Capital entities and had held a number of other non-listed directorships.

Mr Rozman is a Non-executive Director and is Chair of the Remuneration Committee and a member of the Nomination Committee.

Recommendation of Directors:

The Directors (apart from Mr Rozman) recommend that the Shareholders vote in favour of the resolution to appoint Mr Rozman as a Director of the Company.

Resolution 3 (Ordinary) – To Elect Mr Huihai Zhuang as a Director

Background to Resolution 3

In accordance with Rule 17.4 of the Constitution, Mr Zhuang only holds office until the next Annual General Meeting following his appointment by the Board. Accordingly, Mr Zhuang is required to retire at the end of the forthcoming

AGM, and being eligible, offers himself for election as a Director of the Company.

Mr Zhuang was appointed to the Board on or about 29 October 2015.

Mr Huihai Zhuang

Director (Non-Executive)

BSc

Mr Zhuang started his entrepreneurial career in China during the 1980's. Starting with a chain of jewellery retail stores, Mr Zhuang's business interests expanded into real estate and mining with great success. He is a respected successful entrepreneur in China's elite business circle, controlling a number of investment groups.

His jewellery retail business has over 100 stores throughout China. His real estate interests are strategically located in Beijing, Shandong, Hunan, Guizhou and Shenzhen in China. His mining and precious resource portfolio includes precious and ferrous metal mines in China.

In 2012, Mr Zhuang started his overseas investments. His group's holding of Carbon Energy is one of his Australian investments.

Over the years, while developing and growing his business in China, Mr Zhuang has established a vast network of commercial and governmental contacts at all levels.

Recommendation of Directors:

The Directors (apart from Mr Zhuang) recommend that the Shareholders vote in favour of the resolution to appoint Mr. Huihai Zhuang as a Director of the Company.

Resolution 4 (Ordinary) - Ratification of previous issue of 21,522,258 Shares pursuant to Convertible Note Facility

Introduction

The Company announced on 5 January 2012 that the Convertible Note Facility Agreement with Pacific Road Capital Management Pty Ltd ('Pacific Road Capital') had been finalised ('Convertible Note Facility'). Under the Convertible Note Facility, Pacific Road Capital was to provide the Company with a facility amount of \$10 million which may be converted into Shares in accordance with the terms of the Convertible Note Facility Agreement. The Company has fully drawn down the Convertible Note Facility, and has the ability to make prepayments on the facility with the consent of Pacific Road Capital. The balance of the facility (not prepaid or converted) is to be repaid on 18 January 2017.

Additionally, the Convertible Note Facility provides for:

- (a) a fee of 5% on the amount of the facility to be satisfied by the issue of Shares at the rights issue price of \$0.12 ('Facility Fee Shares'); and
- (b) interest payable 3 monthly in arrears on a quarterly basis at 5% per annum which is payable by way of the issue of Shares at the 5 day VWAP (as defined in the Convertible Note Facility) for the Shares on the day prior to the day an interest payment is due ('Interest Shares').

EXPLANATORY MEMORANDUM

At the 2011 Annual General Meeting, Shareholder approval was obtained for:

- (a) the entry by the Company into the Convertible Note Facility;
- (b) the issue of a maximum of 66,666,667 Shares in the event of the exercise of conversion rights under the Convertible Note Facility; and
- (c) the granting of 35,000,000 options to various nominated funds managed by Pacific Road Capital.

At the 2012 Annual General Meeting, Shareholders approved the issue of the Facility Fee Shares and ratified the issue of the Interest Shares issued prior to that meeting. At the 2014 Annual General Meeting, Shareholders ratified the issue of Interest Shares issued in the 12 months prior to that meeting. The Company now seeks ratification of the issue of further Interest Shares as follows:

- (a) 2,838,455 Interest Shares on 1 December 2014;
 - (b) 4,272,115 Interest Shares on 2 March 2015;
 - (c) 4,935,944 Interest Shares on 2 June 2015; and
 - (d) 9,475,744 Interest Shares on 28 August 2015,
- (together the '2015 Interest Shares')

Listing Rule 7.4

In accordance with Listing Rule 7.4, Shareholder approval is sought to ratify the issue of the 2015 Interest Shares, being issues of securities made by the Company during the previous 12 months for which shareholder approval has not already been obtained.

Listing Rule 7.1 prohibits a company, except in certain cases, from issuing new equity securities equivalent in number to more than 15% of its capital in any 12 month period without the prior

approval of its shareholders. Equity securities issued with shareholder approval under Listing Rule 7.1 do not count towards the 15% limit.

Listing Rule 7.4 provides that an issue of equity securities made without prior approval under Listing Rule 7.1 can be treated as having been made with that approval if shareholders subsequently approve it.

If Resolution 4 is approved it will have the effect of refreshing the Company's ability, to the extent of the 2015 Interest Shares, to issue further securities during the next 12 months pursuant to Listing Rule 7.1 without the need to obtain further Shareholder approval (subject to the Listing Rules and the Corporations Act). If Resolution 4 is not passed, the 2015 Interest Shares will be counted toward the 15% limit pursuant to Listing Rule 7.1 for a period of 12 months from the date of issue and the Company's ability to issue securities under Listing Rule 7.1 will be reduced to this extent.

Use of Funds

No funds were raised from the issue of the 2015 Interest Shares. The 2015 Interest Shares were issued in lieu of interest payments on the Convertible Note Facility.

Voting Exclusion Statement

A voting exclusion statement is included in the Notice of Meeting.

Board recommendation

The Directors unanimously recommend Shareholders vote in favour of Resolution 4.

For the purposes of Listing Rule 7.5 the Company advises as follows:

Date of Issue:	Number Issued:	Summary of terms:	Names of persons who received securities or basis on which those persons was determined:	Price at which equity securities were issued:
1 December 2014	2,838,455	Shares rank pari passu with all other fully paid ordinary shares on issue in the Company.	PRCM Nominees Pty Ltd (563,716 shares) and Pacific Road Holdings NV (2,274,739 shares)	\$0.0444 per share (deemed issue price)
2 March 2015	4,272,115	Shares rank pari passu with all other fully paid ordinary shares on issue in the Company.	PRCM Nominees Pty Ltd (848,441 shares) and Pacific Road Holdings NV (3,423,674 shares)	\$0.0295 per share (deemed issue price)
2 June 2015	4,935,944	Shares rank pari passu with all other fully paid ordinary shares on issue in the Company.	PRCM Nominees Pty Ltd (980,277 shares) and Pacific Road Holdings NV (3,955,667 shares)	\$0.0247 per share (deemed issue price)
28 August 2015	9,475,744	Shares rank pari passu with all other fully paid ordinary shares on issue in the Company.	PRCM Nominees Pty Ltd (1,881,880 shares) and Pacific Road Holdings NV (7,593,864 shares)	\$0.0133 per share (deemed issue price)

EXPLANATORY MEMORANDUM

Resolution 5 (Ordinary) - Ratification of previous issue of 123,845,128 Shares to Kam Lung Investment Development Company Ltd

Introduction

The Company announced on 28 September 2015 that the Company's largest shareholder, Kam Lung Investment Development Company Ltd (**Kam Lung**) had subscribed for an additional 123,845,128 shares at a price of \$0.016 cents, representing a 14% premium to the closing price as at 25 September 2015 (**Placement**). The total value of the Placement was \$2 million.

Kam Lung has agreed to the Shares issued pursuant to the Placement being subject to voluntary escrow from issue for a period of 12 months. Kam Lung's total holding after allotment is 19.99%. As part of the Kam Lung Subscription Agreement, Kam Lung will have the right to nominate a representative to the Board as long as it holds an interest of at least 17.5% in the Company.

Listing Rule 7.4

In accordance with Listing Rule 7.4, Shareholder approval is sought to ratify the issue of the Placement Shares, being an issue of securities made by the Company during the previous 12 months for which shareholder approval has not already been obtained.

Listing Rule 7.1 prohibits a company, except in certain cases, from issuing new equity securities equivalent in number to more than 15% of its capital in any 12 month period without the prior approval of its shareholders. Equity securities issued with

For the purposes of Listing Rule 7.5 the Company advises as follows:

Date of Issue:	Number Issued:	Summary of terms:	Names of persons who received securities or basis on which those persons was determined:	Price at which equity securities were issued:
07 October 2015	123,845,128 Shares	Shares rank pari passu with all other fully paid ordinary shares on issue in the Company.	Kam Lung Investment Development Company Ltd	\$0.01554 per Share

Resolution 6 (Ordinary)- Approval of the terms of, and undertaking the transactions contemplated by, the Joint Venture Agreement, the License Agreement and the Technical Services Agreement

Background

On 28 September 2015, Carbon Energy announced that it would seek to form a Beijing incorporated contractual Joint Venture (**JV** or **Joint Venture**) (which operates in a manner consistent with an unincorporated joint venture) with Beijing JinHong Investment Co., Ltd (**JinHong**) with the purpose of developing and promoting UCG technology in China including

shareholder approval under Listing Rule 7.1 do not count towards the 15% limit.

Listing Rule 7.4 provides that an issue of equity securities made without prior approval under Listing Rule 7.1 can be treated as having been made with that approval if shareholders subsequently approve it.

If Resolution 5 is approved it will have the effect of refreshing the Company's ability, to issue further securities during the next 12 months pursuant to Listing Rule 7.1 without the need to obtain further Shareholder approval (subject to the Listing Rules and the Corporations Act). If Resolution 5 is not passed, the Placement Shares will be counted toward the 15% limit pursuant to Listing Rule 7.1 for a period of 12 months from the date of issue and the Company's ability to issue securities under Listing Rule 7.1 will be reduced to this extent.

Use of Funds

The funds raised will be used for general working capital, including the pursuit of opportunities for business growth.

Voting Exclusion Statement

A voting exclusion statement is included in the Notice of Meeting.

Board recommendation

The Directors unanimously recommend Shareholders vote in favour of Resolution 5.

developing and operating a commercial Demonstration Project in China. The formation of the JV pursuant to the Joint Venture Agreement is subject to obtaining applicable approvals from Carbon Energy Shareholders and the Chinese Government and within 30 days of formation, JinHong is required to provide the initial US\$10million capitalisation to the Joint Venture.

JinHong is ultimately controlled by Mr Zhuang who also controls Kam Lung Investment Development Company (**Kam Lung**). At the time of entering into the Joint Venture the Company also secured further funding from its cornerstone investor Kam Lung who has increased its shareholding in Carbon Energy to 19.99%.

EXPLANATORY MEMORANDUM

Kam Lung is a Hong Kong based private investment company and is 100% owned by Mr Zhuang. Mr Zhuang's business interests are primarily real estate, new technologies and resources, and extend into China, Hong Kong and Australia. JinHong is also ultimately controlled by Mr Zhuang.

As outlined in the 2015 Annual Report, China is a key market for Carbon Energy and the Company's strategic vision for the region is shared by Kam Lung. Carbon Energy has worked extensively in China over the past 3 years pursuing multiple business development opportunities. Whilst this activity has provided Carbon Energy with good relationships and knowledge of the process and cultural differences in doing business in China, the Company recognises the importance for a company with limited resources such as Carbon Energy to have a local partner that can navigate these business practices and cultural nuances and have established relationships in business and government, which is needed to deploy the *keyseam* technology on a commercial scale in China.

The Chinese Government is embarking on its own climate protection strategy and embracing cleaner coal technologies which provides for a stable Governmental platform from which to grow the Joint Venture.

In 2013, the Company engaged Holder East Capital Ltd (**HEC**) as the Company's business development agent for the Chinese market. A condition of the agency appointment was that HEC secure two commercially-viable underground gasification projects for the Company in China by 31 December 2015. To date, HEC has not secured any projects for the Company in China.

This Explanatory Memorandum provides a summary of the key commercial terms agreed between Carbon Energy and JinHong pursuant to the Joint Venture Agreement, the License Agreement and the Technical Services Agreement. There are a number of conditions which must be satisfied before the Joint Venture will be formed, (details of which are set out in Schedule A), including obtaining the approval of Shareholders to the Transaction and the approval from the Chinese Government. The final date for satisfaction of the Shareholder approval condition is 28 February 2016.

Resolution 6 is included for consideration at the AGM for the purpose of seeking the approval of Shareholders to the Transaction. The Company engaged PricewaterhouseCoopers Securities Ltd (**PwC Securities**) to prepare an Independent Expert's Report on the Transaction to assist Shareholders to decide whether or not to vote in favour of Resolution 6 and the Transaction.

For the purpose of this resolution, a director who is not related to or associated with JinHong is defined as a Disinterested Director. These Directors are listed in the Interpretation section on page 21. The only director who is related to or associated with JinHong is Mr Zhuang. The Disinterested Directors have given detailed consideration to the Transaction. The Disinterested Directors consider that in the absence of a superior proposal the Transaction is in the best interests of the Company and recommend the Transaction to Shareholders.

Further information regarding the purpose of the Transaction is summarised below. Information regarding the recommendation of the Disinterested Directors and the advantages and disadvantages of the Transaction are also set out below.

A summary of the key terms of the Joint Venture Agreement, the License Agreement and Technical Services Agreement is set out in Schedule A.

Overview of the Joint Venture

Purpose

The purpose of the Joint Venture with JinHong is to commercialise Carbon Energy's *keyseam* technology and to establish a new vertically integrated China gas business that will seek to develop its own projects within the region unilaterally or in conjunction with other parties as it sees fit. The Joint Venture is tasked with developing a commercial Demonstration Project in China and obtaining Chinese Government endorsement of the technology to allow the commercialisation of the technology in China.

The Company believes that JinHong has the necessary experience to assist with this, including strong government relations, Chinese operational expertise and proven successes in maximizing the value of organisations. Together with Carbon Energy, the Joint Venture will complete the construction of the commercial Demonstration Project and manage its operations.

Structure

The parties to the JV will be Carbon Energy (Operations) Pty Ltd, a wholly owned subsidiary of Carbon Energy Limited and JinHong who is ultimately controlled by Mr Zhuang.

Carbon Energy (Operations) Pty Ltd and JinHong have executed a Joint Venture Agreement pursuant to which they have agreed to establish a contractual joint venture company in Beijing, China. The proposed Joint Venture is a Sino-Foreign contractual Joint Venture and will be named Beijing JinHong New Energy Co., Ltd.

Obligations of Carbon Energy

Carbon Energy's contribution to the Joint Venture will be the:

- (a) grant of a non-exclusive license to the Joint Venture to use the Company's *keyseam* technology in order to develop and operate the commercial Demonstration Project upon satisfaction of conditions precedent which is expected to be finalised by end of quarter 1 2016; and
- (b) grant of an exclusive right to license the Company's *keyseam* technology in China, upon successful commissioning of a commercial Demonstration Project.

In return, Carbon Energy shall be entitled to 30% of the Joint Ventures dividend distributions and 90%-100% of fees during the non-exclusive license period.

EXPLANATORY MEMORANDUM

The Joint Venture will have a non-exclusive license to use the Company's *keyseam* technology up until successful commissioning of a commercial Demonstration Project. During the non-exclusive period the Joint Venture shall have the right to sub-license the Company's *keyseam* technology in China. The *keyseam* technology license will only become exclusive upon successful commissioning of a commercial Demonstration Project to be established within three (3) years of forming the Joint Venture. The Company can continue to license in China during the non-exclusive period and where it elects to do so through the Joint Venture, the Company is entitled to at least 90% of the sub-license fees received by the Joint Venture.

Carbon Energy will provide necessary technical and design services support, supervision and training for all JV projects on a cost plus basis under an exclusive Technical Services Agreement with the Joint Venture.

JinHong

JinHong's contribution to the Joint Venture will be US\$30 million, representing 100% of the registered capital of the Joint Venture. US\$10 million will be contributed upon registration of the Joint Venture and the remaining US\$20 million will be contributed in accordance with the Demonstration Project's development plan and the Joint Venture operating budget. In return, JinHong shall be entitled to 70% of the Joint Venture dividend distributions upon verification of the initial US\$10 million contribution by an accountant in China registered to verify capital contributions.

In addition to capital, JinHong brings valuable business experience and government and business contacts in China which the Company believes will greatly assist the endorsement of the technology to allow the commercialisation of the technology in China.

Shareholder Approval Under ASX Listing Rules

Listing Rule 10.1

(a) Overview of Listing Rule 10.1

Chapter 10 of the ASX Listing Rules deals with transactions between an entity (or any of its subsidiaries) and persons in a position to influence the entity. Listing Rule 10.1 prohibits the Company from disposing a substantial asset to persons in a position to influence the entity unless shareholder approval is obtained. These persons are specified in Listing Rules 10.1.1 to 10.1.5 (inclusive). Relevantly, Listing Rule 10.1.4 when read together with Listing Rule 10.1.3 prohibits, among other persons, the disposal of a substantial asset to an Associate of a substantial holder.

(b) Substantial Asset – the License of *keyseam* technology in China.

A "substantial asset" is an asset with a value of 5% or more of the equity interests of the entity as at the 30 June 2015. The Company had equity interests of \$132.6 million as at 30 June 2015, 5% of which equals \$6.63 million). As part of the Transaction, Carbon Energy (Operations) Pty Limited will grant

to the Joint Venture a non-exclusive license to use the Company's *keyseam* technology in order to develop and operate the commercial Demonstration Project and an exclusive right to license the Company's *keyseam* technology in China upon successful commissioning of a commercial Demonstration Project and subject to certain conditions precedent being met. The Board confirms that the right to license *keyseam* technology in China is a substantial asset for the purpose of Listing Rule 10.1 (refer to the Independent Expert's Report for further details).

(c) Association between the Joint Venture, Kam Lung and the Company.

Kam Lung is the largest shareholder of the Company holding 19.99% and has held more than 10% of the Shares of the Company for more than 6 months. Mr Zhuang owns 100% of the registered capital of Kam Lung and controls Kam Lung.

Mr Zhuang also ultimately controls JinHong as he is the controller of Beijing Haigang Investment Co, Ltd which owns 100% of JinHong. JinHong will hold 100% of the shares in the Joint Venture (once formed), being the contractual joint venture company to be formed pursuant to the Joint Venture Agreement (which will be named Beijing Jinhong New Energy Co., Ltd).

Accordingly, the Company believes that it is possible that JinHong as well as the Joint Venture (once formed) may be considered Associates of Kam Lung for the purposes of Listing Rule 10.1.4.

Further, as Mr Zhuang is a Director of the Company, he is considered a Related Party of the Company and an entity controlled by him (such as JinHong or the Joint Venture as set out in further detail below) will also be considered a Related Party of the Company for the purposes of Listing Rule 10.1.1.

As such the Company is seeking the approval of Shareholders to the Transaction pursuant to Resolution 6.

Shareholder Approval Under Corporations Act

Chapter 2E

The Corporations Act regulates the giving of a financial benefit to a Related Party of a public company.

Chapter 2E of the Corporations Act prohibits a public company from giving a financial benefit to a Related Party of the public company unless providing the benefit falls within a prescribed exception to the general prohibition or alternatively, if the company first obtains the approval of its shareholders in a general meeting in circumstances where certain requirements specified by Chapter 2E in relation to the convening of that meeting have been met.

Accordingly, the Company seeks the approval of its Shareholders under Chapter 2E of the Corporations Act and provides the information contained in this Explanatory Memorandum and the following specific information.

The Explanatory Memorandum contains all information which is known by the Company or any of its Directors which is

EXPLANATORY MEMORANDUM

reasonably required by Shareholders to decide whether it is in the Company's interests to pass Resolution 6 dealing with financial benefits to related parties.

A "related party" is defined under the Corporations Act to include a director and any entity controlled by a director. The Corporations Act provides that an entity controls a second entity if the first entity has the capacity to determine the outcome of decisions about the second entity's financial and operating policies. Mr Zhuang was appointed as a Director of the Company on or about 29 October 2015, pursuant to the nominee appointment rights contained in the Kam Lung Subscription Agreement. As noted above Mr Zhuang indirectly controls JinHong as he is the de facto controller of Beijing Haigang Investment Co, Ltd which owns 100% of JinHong. JinHong will hold 100% of the shares in the Joint Venture (once formed), being the contractual joint venture company to be formed pursuant to the Joint Venture Agreement (which will be named Beijing JinHong New Energy Co., Ltd).

Accordingly, the Company believes that it is possible that JinHong as well as the Joint Venture (once formed) may be considered Related Parties of the Company for the purposes of the Corporations Act.

A "financial benefit" for the purposes of the Corporations Act is a broad concept including any benefit or advantage, the economic and commercial substance of which is financial, and regardless of whether the recipient gives consideration for the benefit. It includes the public company selling an asset to a Related Party. In determining whether or not a financial benefit is being given, it is necessary to look to the economic and commercial substance and effect of what the public company is doing (rather than just the legal form). Any consideration which is given for the financial benefit is to be disregarded, even if it is full or adequate.

Accordingly, the Company believes that the Transaction may be considered the giving of a financial benefit to Related Parties and as such the Company is seeking the approval of Shareholders to the Transaction pursuant to Resolution 6 for the purposes of Chapter 2E of the Corporations Act.

Details of the interest of each Director in the Transaction and the recommendations of the Disinterested Directors are set out under sections (c) and (d) below in "Information for Chapter 2E."

Information for Chapter 2E

For the purposes of Chapter 2E of the Corporations Act and for all other purposes the following information is provided to Shareholders:

- (a) The related parties to whom Resolution 6 would permit the financial benefit to be given

The proposed financial benefit will be given to JinHong and the Joint Venture, who may be considered Related Parties of the Company.

- (b) The nature of the financial benefit

The nature of the proposed financial benefit to be given is the various matters comprising the Transaction including, without limitation:

- (1) the grant of a non-exclusive license to the Joint Venture to use the Company's *keyseam* technology in order to develop and operate the commercial Demonstration Project and the right to sublicense the *keyseam* technology in China at the discretion of the Company;
 - (2) the grant of an exclusive right to the Joint Venture to license the Company's *keyseam* technology in the Peoples Republic of China, upon successful commissioning of a commercial Demonstration Project; and
 - (3) the provision of necessary technical and design services support, supervision and training for all Joint Venture projects on a cost plus basis under an exclusive Technical Services Agreement with the Joint Venture.
- (c) Related party Director interests in the Transaction

The Disinterested Directors (being all Directors other than Mr Zhuang) will not participate in the Transaction nor do not have a material personal interest in the outcome of Resolution 6, save for any interest they may have solely in their capacity as Shareholders which interest they hold in common with the other Non-Associated Shareholders.

As noted above, Mr Zhuang ultimately controls JinHong and therefore will indirectly control the Joint Venture (once formed) and is a representative of Kam Lung which currently holds 19.99% of the Shares in the Company. Accordingly, Mr Zhuang does not provide a recommendation in respect of the Transaction or Resolution 6.

Details regarding the current direct and indirect Share interests of each of the Directors and their Associates are set out below. The Share interests of the Directors will not change as a result of the Transaction:

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Director	Current Shares Held	Current Interest	Current Options Held	Exercisable \$	Expiring
Dr Chris Rawlings	7,150,000	0.48%	3,950,000	\$0.06	31 July 2016
Mr Morné Engelbrecht	4,546,109	0.31%	1,614,000	\$0.12	31 Dec 2015
			355,093	\$0.06	31 July 2016
			3,573,877	\$0.026	15 Oct 2016
			5,541,564	\$0.0301	25 Aug 2017
			33,333,333 ¹	\$0.06	30 Jun 2019
Dr Helen Garnett	665,652	0.05%	188,551	\$0.06	31 July 2016
Mr Peter Hogan	600,000	0.04%	220,000	\$0.06	31 July 2016
Mr Louis Rozman	133,220,227 ²	9.01%	9,645,845 ³	\$0.061	15 Nov 2015
			75,000	\$0.06	31 July 2016
			7,000,000 ³	\$0.1678	18 Jan 2017
			28,000,000 ³	\$0.1678	25 Feb 2017
Mr Huihai Zhuang	295,663,743 ⁴	19.99%	171,818,615 ⁴	\$0.06	31 July 2016

¹ Vesting subject to the Market Price of the shares as at 30 June 2016 being no less than 10.5 cents (\$0.105) per share.

² 132,845,227 of these shares represent some Pacific Road Capital entities of which Mr Rozman is an employee and Director

³ Held by some Pacific Road Capital entities of which Mr Rozman is an employee and Director.

⁴ Held by Kam Lung Investment Development Company of which Mr Zhuang is a 100% shareholder

d) Recommendation of Disinterested Directors

Each of the Disinterested Directors considers himself or herself justified in making a recommendation in relation to Resolution 6 and each intends to vote any Shares he or she holds in favour of Resolution 6. The Disinterested Directors have approved the proposal to put Resolution 6 to the Meeting and have separately approved the information contained in this Explanatory Memorandum.

The Disinterested Directors note that the Transaction can only proceed with Shareholder approval. The Disinterested Directors consider that in the absence of a superior proposal, approval of the terms of, and the transactions contemplated by, the Joint Venture Agreement, the License Agreement and the Technical Services Agreement and any giving of financial benefits to JinHong or the Joint Venture (once formed) pursuant to those agreements are in the best interests of the Company.

The reasons for the recommendations of the Disinterested Directors are set out below.

In making their recommendations the Disinterested Directors have considered:

- (1) the background to and the purpose of the Transaction as set out in the Explanatory Memorandum;
- (2) the advantages and disadvantages of the Transaction as set out in the Explanatory Memorandum;
- (3) the nature and value of the benefits given to related parties pursuant to the Transaction; and
- (4) the reasoning and conclusions of PwC Securities in the Independent Expert's Report, including the conclusion that the Transaction is fair and reasonable to the Non-Associated Shareholders.

In summary, the Disinterested Directors consider that the rationale for and benefits of the Transaction outweigh any disadvantages of the Transaction, and other reasons why the Disinterested Directors would consider voting against Resolution 6.

EXPLANATORY MEMORANDUM

(e) Taxation Consequences

The transfer of the right to license the Company's keyseam technology in China to the Joint Venture is treated as a disposal of an asset for Australian Taxation purposes. The disposal will be treated as a Capital Gains Tax (CGT) event accordingly any gain or loss on disposal will be treated on the Company's capital account. The Company has sufficient losses carried forward to offset any deemed capital gains.

At 30 June 2015 the Company had \$235 million of Australian tax losses available to offset Australian taxable income generated from the Transaction. The Company will be subject to PRC withholding tax on the license fees, services and dividend distributions generated from the Transaction in China. The Company has negotiated tax gross-up provisions in the License Agreement and Technical Services Agreement in relation to license fees and service fees received to compensate for any tax and duty imposts. Upon receipt of a tax certificate from the relevant Chinese tax authority for the amount deducted or withheld, the Company may be able to claim a credit for Australian tax. To the extent taxes are not claimable as an Australian tax credit and/or have not been compensated for through the tax gross-up provisions, any taxes deducted or withheld will be an out of pocket expense to the Company.

(f) Any other information that is reasonably required by Shareholders to make a decision and that is known to the Company or any of its Directors

Save as set out in this Explanatory Memorandum, the Directors are not aware of any other information that will be reasonably required by Shareholders to make a decision in relation to the benefits contemplated by Resolution 6.

Independent Expert's Report (IER)

Under ASX Listing Rule 10.10.2, the Company is required to engage an independent expert to advise as to whether the proposed Transaction is fair and reasonable to the Non-Associated Shareholders. The IER assesses whether the proposed Transaction as outlined in Resolution 6 is fair and reasonable to the Shareholders who are not associated with Kam Lung and JinHong. The IER also contains an assessment of the advantages and disadvantages of the Transaction, which is designed to assist all Non-Associated Shareholders in reaching their voting decision in relation to Resolution 6 contained in this Notice of Meeting.

The Company appointed PwC Securities to provide the IER (accompanying this Explanatory Memorandum). In the opinion of the Independent Expert, the proposed Transaction is fair and reasonable to the Non-Associated Shareholders.

In forming their opinion in relation to the fairness of the Transaction, the Independent Expert, has assessed the Transaction as fair. Details of the fairness assessment of the Independent Expert are set out on pages 30 to 31 of the IER.

The Independent Expert has also considered the reasonableness of the Transaction in terms of the advantages and disadvantages of the Transaction. The Independent Expert is of the view that the Transaction is reasonable. Details of the

reasonableness assessment of the Independent Expert are set out on pages 31 to 36 of the IER.

Further details regarding the analysis undertaken by the Independent Expert and the Independent Expert's conclusions are set out in the IER. Shareholders are urged to carefully read the IER, to understand the scope of the report, the methodology of the valuation and the assumptions made.

The IER accompanies this Explanatory Memorandum. A copy of the IER is also available for viewing or download at the Company's website: <http://www.carbonenergy.com.au>. If a Shareholder requests a copy of the IER, then the Company will provide a hardcopy of the IER to that Shareholder at no cost.

BOARD RECOMMENDATION

Unanimous Recommendation of Disinterested Directors

The Disinterested Directors have given considerable thought to the terms of the Joint Venture documents, and has taken a range of matters into account. Based on these deliberations, the following decisions have been made in respect of Resolution 6:

- the Disinterested Directors unanimously recommend that Shareholders vote in favour of Resolution 6.
- each Disinterested Directors intend to vote all Shares under their control in favour of Resolution 6.

The Chairman of the Annual General Meeting intends to vote undirected proxies in favour of Resolution 6.

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Summary of Advantages of Resolution 6:

- ✓ i. **First fully funded commercial Demonstration Project** to be established outside of Australia showcasing the technology on a commercial scale and establishing the Company as a leader in the global market.
- ✓ ii. **First commercial mover to market** to capitalise on China's supportive political environment which recognises UCG as a source of cleaner energy production.
- ✓ iii. **Shareholder value protected.** Transaction structured to enable Carbon Energy to move forward on multiple fronts thereby reducing execution risk and maximising returns.
- ✓ iv. **A source of revenue to Carbon Energy.** As the technology providers Carbon Energy will be contracted to provide technical services to the joint venture, providing the Company with a revenue source
- ✓ v. **Support from the Company's cornerstone investor** Kam Lung with an experienced local presence and established business and Government relationships.
- ✓ vi. Carbon Energy has an **equal voice in setting the strategic direction** and management of the Joint Venture irrespective of its % share.
- ✓ vii. The Joint Venture allows Carbon Energy to **showcase the most up to date application of its keyseam technology** to attract further investors.
- ✓ viii. Independent Expert concludes Proposed **Transaction is fair and reasonable** to the Non-Associated Shareholders
- ✓ ix. The Board has considered a number of alternatives and believes the proposed Joint Venture with JinHong is the best outcome for the Carbon Energy shareholders.

i. **First fully funded commercial Demonstration Project to be established outside of Australia showcasing the technology on a commercial scale and establishing the Company as a world leader in the global market.**

The JinHong investment provides sufficient capital to build a complete showcase of keyseam's technical ability on a commercial scale outside of Australia. Historically the

Company's challenge has been securing sufficient upfront funding to undertake such a project but the Joint Venture solves this issue through providing up to US\$30 million to build and operate a commercial Demonstration Project. China has an abundance of deep untapped coal resources available for the Joint Venture to assess and access especially as a result of the current down turn in the resources industry and more specifically in coal.

Once the Joint Venture Agreement becomes effective, JinHong will be contractually committed under the Joint Venture Agreement to provide US\$30 million of funding to be applied towards the commissioning of the commercial Demonstration Project and Joint Venture operating costs. Refer to JinHong Contribution terms in Schedule A for further details on payment arrangements.

Carbon Energy believes that JinHong's US\$30 million capital contribution to the Joint Venture will be sufficient to develop a commercial Demonstration Project and to cover the operational costs of the Joint Venture.

The funding for the Joint Venture will provide Carbon Energy greater capacity to infiltrate the Chinese market as well as providing a strong local partnership with proven China business knowledge on how to successfully maximise company value in China.

While Carbon Energy could seek to access traditional sources of debt and equity capital to complete a commercial Demonstration Project itself in China, without looking to introduce a joint venture partner, there can be no assurance that such capital would be available to Carbon Energy, or that, if it was available, whether it could be secured on commercially acceptable terms. Further, any equity raising which included a non pro-rata component would result in dilution to existing Shareholders over their interest in the assets held by Carbon Energy.

ii. **First commercial mover to market to capitalise on China's supportive political environment which recognises keyseam as a source of cleaner energy production.**

China's central planning agency, the National Development and Reform Commission (NDRC), has started to reveal details of the country's 13th Five-Year-Plan (5YP) which covers 2016 - 2020 and specifically includes UCG as playing a major part in China's cleaner energy future. The 5YP is the NDRC's blueprint for the long term social and economic policies.

While details of China's next 5YP are not yet finalised, drafts of the plan have begun to be circulated and the inclusion of UCG as a pillar for cleaner, more efficient use of coal is significant to

EXPLANATORY MEMORANDUM

Carbon Energy and setting a positive regulatory environment for new projects.

iii. Shareholder value protected. The Transaction has been structured to enable Carbon Energy to move forward on multiple fronts thereby reducing execution risk and maximising returns.

Carbon Energy recognises the value in its *keyseam* technology license and would not provide an exclusive right to license the technology in China to any party until a successful commercial scale Demonstration Project has been successfully developed. This is particularly pertinent when considering the timing of China's 5YP. However the Company also recognises the value that commissioning a commercial Demonstration Project will have in a significant UCG-friendly market and that upfront capital carries high risk, with potentially the opportunity for a significant return for both parties to the Joint Venture. Accordingly the Company considers the successful commissioning of a commercial Demonstration Project as an appropriate time for granting an exclusive license.

The Transaction has been structured such that during the period that the Joint Venture has a non-exclusive license, Carbon Energy has the option to license independently or elect to sub-license through the joint venture. This provides the Company with between 90 – 100% of the profit from projects it brings to the Joint Venture or licenses independently. This encourages both parties to expedite their activities, as the sooner the first Demonstration Project can be completed in China the sooner value can be extracted for all parties.

The Transaction allows Carbon Energy to move forward on multiple fronts with both the Joint Venture and the Company pursuing projects which will spread the risk and provide a greater opportunity for successful and timely commissioning.

iv. A source of revenue to Carbon Energy.

As the technology provider, Carbon Energy will be contracted to provide technical services to the Joint Venture, providing the Company with a source of revenue and cash flow. Once the demonstration project commences the additional revenue is expected to alleviate some of the cash flow constraints faced by Carbon Energy.

v. Support from the Company's cornerstone investor Kam Lung and associate JinHong, with an experienced local presence and established business and Government relationships.

The Joint Venture provides an experienced local presence with an office located in Beijing. The Beijing office will be staffed by experienced locals with strong connections across business and government.

JinHong has extensive experience in government relations, operational and construction management in China. Combined with Carbon Energy's experience as leaders in UCG technology the Joint Venture's local presence and secure funding allows for a more focused effort in the region armed with more effective cultural and relationship building leverage required to establish a successful UCG business in China.

The local presence also allows the Joint Venture to be able to understand the local market better, react quicker, deal with local financial and legal matters more efficiently, as well as stay ahead of opportunities and be there as they emerge. Having a presence in China also signals Carbon Energy's commitment to the region.

vi. Carbon Energy has an equal voice in setting the strategic direction and management of the Joint Venture irrespective of its % share.

The structure of the Joint Venture incorporates unanimous decision making by the Joint Venture board for all significant value creating decisions and similarly enables Carbon Energy to mitigate the risk of activities which may erode value. The Joint Venture Board will set the strategy, oversee and agree the roll-out of *keyseam* across China.

Significantly the legal and contractual arrangements of the Joint Venture incorporate non-dilution rights, critical for maintaining the longer term shareholder value. This is particularly valuable where the Joint Venture sees an opportunity to realise significant value to both parties through the introduction of other investors for example through an Initial Public Offering. During the non-exclusive license period, Carbon Energy is able to license its technology in China outside the Joint Venture or utilise the joint venture structure as appropriate. Further, unanimous approvals are also required for the Joint Venture to undertake any 3rd party licensing of the *keyseam* technology (with the Company as the exclusive service provider). Further details are contained in Schedule A

vii. The Joint Venture allows Carbon Energy to showcase the most up to date application of its *keyseam* technology to attract further investors.

Being able to commence and successfully demonstrate *keyseam* technology outside of its Trial Demonstration Project located in Queensland, Australia provides the Company the opportunity to secure further projects, attract further investors and business development opportunities and realise the maximum potential of shareholder value not just in China but also world-wide.

EXPLANATORY MEMORANDUM

viii. Independent Expert concludes Proposed Transaction is fair and reasonable to the Non-Associated Shareholders

The Independent Expert has analysed the Transaction as a whole and has concluded that the Transaction is fair and reasonable to the Non-Associated Shareholders. The Independent Expert is of the view that the advantages of the Proposed Transaction outweigh the disadvantages of the Proposed Transaction.

Further details regarding the analysis undertaken by the Independent Expert and the Independent Expert's conclusions are set out in the Independent Expert's Report.

ix. The Board has considered a number of alternatives and believes the proposed Joint Venture with JinHong is the best outcome for the Carbon Energy shareholders.

The Board has considered numerous options for capitalising on *keyseam* technology growth and maximising shareholder value and has concluded that the Joint Venture with JinHong is the most appropriate for the Company at this stage.

The Joint Venture will allow the Company to focus on establishing itself and a commercial Demonstration Project in China as well as enable the existing business to pursue further growth activities outside China.

6.3 Disadvantages of the Transaction

- x i. Carbon Energy loses the opportunity to expand into China independently and receive 100% of profit from expansion.
- x ii. Carbon Energy loses the ability to license its *keyseam* technology independently in China once the exclusive license is granted.
- x iii. A coal asset for the Demonstration Project has not been identified.
- x iv. Risks associated with dealing with a Foreign Entity in a Foreign Country.

i. Carbon Energy loses the opportunity to expand into China independently and receive 100% of any profit from expansion.

The Company has, over the past three years, sought to expand into China as a foreign entity and is of the opinion that a Chinese joint venture structure will provide greater reach into the market and ability to secure future licensing projects which should ultimately deliver a greater return to shareholders. The Joint Venture will be fully funded enabling Carbon Energy to continue to source further expansion outside of China from its returns. By negotiating a higher share of license and service fees during the non-exclusive period the Company has the ability to earn 90% - 100% of profit during this period. Accordingly, while the Company will lose the opportunity to expand into China independently and receive 100% of any profit from such expansion, the Company believes the potential benefits from the Joint Venture and the Transaction outweigh such loss of opportunity.

ii. Carbon Energy loses the ability to license its *keyseam* technology independently in China once the exclusive license is granted.

As such, the Company will not be able to independently derive license fees for its technology in China once the exclusive license is granted. However, Carbon Energy has negotiated terms that require unanimous approval from both JV parties to approve the grant of a sub-license of the *keyseam* technology to 3rd parties and also requires the appointment of the Company as the exclusive technical services provider for that third party project. The Company also believes that it is unlikely to be able to fund further business development in China on its own without access to significant funding. Accordingly, while the Company will lose the ability to license its *keyseam* technology independently in China once the exclusive license is granted, the Company believes that the potential benefits from the Joint Venture and the Transaction outweigh the loss of such an ability.

iii. A coal asset for the Demonstration Project has not been identified

JinHong and the Company are yet to identify a suitable coal resource for the Demonstration Project. This is not considered a material disadvantage as there are known suitable coal resources and both parties are motivated to find an appropriate project as quickly as possible.

iv. There are general risks associated with dealing with a Foreign Entity in a Foreign Country.

There are possible political and economic instabilities or issues that may arise when dealing with foreign entities in foreign countries that may adversely impact on timelines and/or operations. Additionally, the success of the Transaction is dependent upon compliance by third parties with their contractual obligations and third parties appropriately dealing with the Company's intellectual property and to the extent that there is any non-performance or inappropriate dealings, this may adversely impact the Company. To mitigate these risks the Company continues to seek expert advice and has sought to negotiate the terms of the Transaction so as to mitigate exposure to risks that may occur when dealing with a foreign entity in a foreign country.

Resolution 7 (Special) - Approval to issue an additional 10% of the issued capital of the Company over a 12 month period pursuant to Listing Rule 7.1A

Introduction

Pursuant to Resolution 7, the Company is seeking shareholder approval to issue an additional 10% of issued capital over a 12 month period pursuant to ASX Listing Rule 7.1A. If passed, this resolution will allow the Company to allot and issue up to the number of new Equity Securities calculated in accordance with ASX Listing Rule 7.1A.2 ('Placement Securities') each at an issue price calculated in accordance with ASX Listing Rule 7.1A.3 ('Issue Price').

This approval is sought pursuant to Listing Rule 7.1A. Under Listing Rule 7.1A small and mid- cap listed entities that meet the eligibility threshold and have obtained the approval of their ordinary shareholders by special resolution at the annual general meeting, are permitted to issue an additional 10% of issued capital over a 12 month period from the date of the annual general meeting ('Additional 10% Placement'). The Additional 10% Placement under Listing Rule 7.1A is in addition to the ability of the Company to issue 15% of its issued capital without shareholder approval over a 12 month period pursuant to Listing Rule 7.1. The Company may issue the Placement Securities to raise funds for the Company and as non-cash consideration (further details

of which are set out below). Funds raised from the issue of Placement Securities, if undertaken, would be applied towards delivering on the Company's strategic priorities, including to secure approval from the Queensland Government to proceed with the next stage of activities on the Blue Gum Gas Project and progress overseas business development opportunities. Additionally funds raised would be used for expenses associated with the issue of Placement Securities and to assist in further international business development as well as being used for general working capital.

Listing Rule 7.1A

General

Eligibility

An entity is eligible to undertake an Additional 10% Placement if at the time of its annual general meeting it has a market capitalisation of \$300 million or less and it is not included in the S&P/ASX300 Index.

For illustrative purposes only, on 16 October 2015 the Company's market capitalisation was \$25 million based on the Closing Trading Price on that date. The calculation of market capitalisation will be based on the Closing Price of the Shares, on the last Trading Day on which trades in the Shares were recorded before the date of the AGM, multiplied by the number of Shares on issue (excluding restricted securities and securities quoted on a deferred settlement basis).

The Company is also not included in the S&P/ASX300 Index as at the time of this AGM, however, it should be noted that the S&P/ASX300 Index is rebalanced twice a year in March and September.

The Company is therefore an Eligible Entity and able to undertake an Additional 10% Placement under Listing Rule 7.1A.

In the event that the Company for any reason ceases to be an Eligible Entity after the Company has already obtained Shareholders' approval pursuant to this Resolution 7, the approval obtained will not lapse and the Company will still be entitled to issue the Placement Securities.

Shareholder Approval

The ability to issue the Placement Securities is conditional upon the Company obtaining Shareholder approval by way of a Special Resolution at the Meeting (which means that it must be passed by at least 75% of the votes cast by members entitled to vote on the resolution).

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10% Placement Period – Listing Rule 7.1A.1

Assuming Resolution 7 is passed, Shareholder approval of the Additional 10% Placement under Listing Rule 7.1A is valid from the date of the AGM and expires on the earlier to occur of:

- the date that is 12 months after the date of the AGM; or
- the date of the approval by Shareholders of a transaction under Listing Rule 11.1.2 (a significant change to the nature or scale of activities) or 11.2 (disposal of main undertaking),
- or such longer period if allowed by ASX.

If approval is given for the issue of the Placement Securities then the approval will expire on 30 November 2016 unless Shareholder approval is granted pursuant to Listing Rules 11.1.2 or 11.2 prior to that date.

Calculation for Additional 10% Placement – Listing Rule 7.1A.2

Listing Rule 7.1A.2 provides that Eligible Entities which have obtained shareholder approval at an annual general meeting may issue or agree to issue, during the 12 month period after the date of the annual general meeting, a number of Equity Securities calculated in accordance with the following formula:

(A x D) – E

A is the number of ordinary securities on issue 12 months before the date of issue or agreement:

- plus the number of fully paid ordinary securities issued in the 12 months under an exception in Listing Rule 7.2;
- plus the number of partly paid ordinary securities that became fully paid in the 12 months;
- plus the number of fully paid ordinary securities issued in the 12 months with approval of holders of ordinary securities under Listing Rules 7.1 or 7.4. [Note: This does not include an issue of fully paid ordinary securities under the entity's 15% placement capacity without Shareholder approval];
- less the number of fully paid ordinary securities cancelled in the 12 months.

D is 10 percent.

E is the number of Equity Securities issued or agreed to be issued under Listing Rule 7.1A.2 in the 12 months before the date of the issue or agreement to issue that are not issued with the approval of shareholders under Listing Rules 7.1 or 7.4.

Listing Rule 7.1A.3

Equity Securities

Any Equity Securities issued under the Additional 10% Placement must be in the same class as an existing quoted class of Equity Securities of the Company.

As at the date of this Notice of Meeting, the Company has two classes of Equity Securities which are quoted on the ASX

being, Shares and Attaching Options. The Company presently has 1,479,063,701 Shares and 443,696,404 Listed Options on issue, as at the 16 October 2015.

Information to be given to ASX – Listing Rule 7.1A.4

If Resolution 7 is passed and the Company issues any Placement Securities under Listing Rule 7.1A, the Company will give to ASX:

- (a) a list of allottees of the Placement Securities and the number of Placement Securities allotted to each (this list will not be released to the market); and
- (b) the following information required by rule 3.10.5A, which will be released to the market on the date of issue:
 - details of the dilution to the existing holders of ordinary securities caused by the issue;
 - where the Equity Securities are issued for cash consideration, a statement of the reasons why the Company issued the Equity Securities as a placement under rule 7.1A and not as (or in addition to) a pro rata issue or other type of issue in which existing Shareholders would have been eligible to participate;
 - details of any underwriting arrangements, including any fees payable to the underwriter; and
 - any other fees or costs incurred in connection with the issue.

Listing Rule 7.1 and 7.1A

The ability of an entity to issue Equity Securities under Listing Rule 7.1A is in addition to the entity's 15% placement capacity under Listing Rule 7.1.

At the date of this Notice, the Company has on issue 1,479,063,701 Shares. Assuming no further securities are issued prior to Meeting, the Company will have the capacity to issue the following Equity Securities on the date of the Meeting:

- (a) 221,859,555 Equity Securities under Listing Rule 7.1 (assuming Resolution 7 is passed); and
- (b) subject to Shareholder approval being obtained under Resolution 7, 147,906,370 Equity Securities under Listing Rule 7.1A (assuming Resolution 7 is passed).

The actual number of Equity Securities that the Company will have the capacity to issue under Listing Rule 7.1A will be calculated at the date of issue of the Equity Securities in accordance with the formula prescribed in Listing Rule 7.1A.2 (as described above).

Specific Information required by Listing Rule 7.3A

Minimum Price of securities issued under Listing Rule 7.1A – Listing Rule 7.3A.1

Pursuant to and in accordance with Listing Rule 7.1A.3, the Placement Securities issued pursuant to approval under Listing

EXPLANATORY MEMORANDUM

Rule 7.1A must have an issue price of not less than 75% of the volume weighted average market price (VWAMP) for the Equity Securities over the 15 Trading Days immediately before:

- (a) the date on which the price at which the Placement Securities are to be issued is agreed; or
- (b) if the Placement Securities are not issued within 5 Trading Days of the date in paragraph (a) above, the date on which the Placement Securities are issued.

The minimum price cannot be determined at this stage, however, the Company will disclose to the ASX the issue price on the date of issue of the Placement Securities.

Risk of economic and voting dilution – Listing Rule 7.3A.2

As provided by Listing Rule 7.3A.2, if Resolution 7 is passed and the Company issues the Placement Securities, there is a risk of economic and voting dilution to the existing Shareholders. The Company currently has on issue 1,479,063,701 Shares and 443,696,404 Options. Assuming Resolution 7 is passed, the Company could issue 369,765,925 Placement Securities on the date of the Meeting (however, it is important to note that the exact number of Equity Securities which may be issued will be calculated in accordance with the

formula contained in Listing Rule 7.1A.2 details of which are set out above). Any issue of Placement Securities will have a dilutive effect on existing Shareholders.

In particular, in relation to the issue of any Placement Securities, there is a risk that:

- (a) the Market Price for the Company's Equity Securities may be significantly lower on the date of the issue of any Placement Securities than it is on the date of the Meeting; and
- (b) the Placement Securities may be issued at a price that is at a discount to the Market Price for the Company's Equity Securities on the issue date,

which may have an effect on the amount of funds raised by the issue or the value of the Placement Securities.

As required by Listing Rule 7.3A.2, Table 1 below shows the potential economic and voting dilution effect, in circumstances where the issued share capital has doubled and the Market Price of the Shares has halved. Table 1 also shows additional scenarios in which the number of issued Shares have increased (by both 50% and 100%) and the Market Price of the Shares has decreased by 50% and increased by 100%.

Table 1

Issued Share Capital	50% decrease in Market Price \$0.0085		Current Market Price \$0.017		100% increase in Market Price \$0.034	
	10 % Voting Dilution	Capital Raised	10 % Voting Dilution	Capital Raised	10 % Voting Dilution	Capital Raised
Present Issued Share Capital = 1,479,063,701 Shares	147,906,370	1,257,204	147,906,370	2,514,408	147,906,370	5,028,817
50% Increase in Share Capital = 2,218,595,552 Shares	221,859,555	1,885,806	221,859,555	3,771,612	221,859,555	7,543,225
100% Increase in Share Capital = 2,958,127,402 Shares	295,812,740	2,514,408	295,812,740	5,028,817	295,812,740	10,057,633

EXPLANATORY MEMORANDUM

Assumptions and explanations

- Resolution 7 is approved.
- The Market Price is \$0.017 based on the closing price of the Shares on ASX on 16 October 2015.
- The above table only shows the dilutionary effect based on the issue of the Placement Securities (assuming only Shares are issued) and not any Shares issued under the 15% under Listing Rule 7.1.
- The table does not show an example of dilution that may be caused to a particular shareholder by reason of placements under the 10% Placement Facility, based on that shareholder's holding at the date of the Meeting.
- The 10% voting dilution reflects the aggregate percentage dilution against the issued share capital at the time of issue.
- The Company issues the maximum number of Placement Securities.
- No Options (including any Options issued following approval of this Resolution) are exercised into Shares before the date of the issue of the equity securities under Listing Rule 7.1A.
- The Issued Share Capital has been calculated in accordance with the formula in Listing Rule 7.1A(2) as at 16 October 2015.
- The issue price of the Placement Securities used in the table is the same as the Market Price and does not take into account the discount to the Market Price (if any).

Final date for issue – Listing Rule 7.3A.3

As required by Listing Rule 7.3A.3, the Company will only issue and allot the Placement Securities during the 12 months after the date of this Meeting which the Company anticipates will end on 30 November 2016. The approval under Resolution 7 for the issue of the Placement Securities will cease to be valid in the event that Shareholders approve a transaction under Listing Rule 11.1.2 (a significant change to the nature or scale of activities of the Company) or Listing Rule 11.2 (the disposal of the main undertaking of the Company) before the anniversary of the AGM.

Purpose – Listing Rule 7.3A.4

As noted above, the purpose for which the Placement Securities may be issued includes to raise funds for the Company and as non-cash consideration (further details of which are set out below). Funds raised from the issue of Placement Securities, if undertaken, would be applied towards delivering on the Company's strategic priorities, including to secure approval from the Queensland Government to proceed with the next stage of activities on the Blue Gum Gas Project and progressing overseas business development opportunities. Additionally funds

raised would be used for expenses associated with the issue of Placement Securities.

Shares Issued for Non-cash Consideration – Listing Rule 7.3A.4

The Company may issue Placement Securities for non-cash consideration, such as the acquisition of new assets or investments or the payment of interest (including under the existing Convertible Note Facility) or other expenses of the Company. If the Company issues Placement Securities for non-cash consideration, the Company will release to the market a valuation of the non-cash consideration that demonstrates that the issue price of the Placement Securities complies with Listing Rule 7.1A.3.

Company's Allocation Policy – Listing Rule 7.3A.5

The Company's allocation policy is dependent on the prevailing market conditions at the time of any proposed issue of the Placement Securities. The identity of the allottees of Placement Securities will be determined on a case-by-case basis having regard to a number of factors including but not limited to the following:

- (a) the methods of raising funds that are available to the Company, including but not limited to, rights issue or other issue in which existing Shareholders can participate;
- (b) the effect of the issue of the Placement Securities on the control of the Company;
- (c) the financial situation and solvency of the Company and its projected need for working capital at any given time; and
- (d) advice from corporate, financial and broking advisers (if applicable).

The allottees of the Placement Securities have not been determined as at the date of this Notice but may include existing substantial shareholders and/or new Shareholders who are not related parties or associates of a related party of the Company.

Further, if the Company is successful in acquiring new assets or investments for which Placement Securities are issued as consideration, it is likely that the allottees of some of the Placement Securities will be the vendors of the new assets or investments.

Company has previously obtained shareholder approval under Listing Rule 7.1A – Listing Rule 7.3A.6

The Company previously obtained Shareholder approval under Listing Rule 7.1A at the 2014 AGM but has not issued any Equity Securities under this authority.

As the Company has previously obtained Shareholder approval under Listing Rule 7.1A, the following information is

EXPLANATORY MEMORANDUM

provided to Shareholders, in accordance with Listing Rule 7.3A.6, regarding the Equity Securities issued in the previous 12 months preceding the date of the AGM (that is, since 30 November 2014):

Listing Rule 7.3A.6(a): Total equity securities issued in previous 12 months are set out below.

Number of equity securities on issue at commencement of 12 month period	1,328,144,751
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Equity securities issued in prior 12 month period	150,918,950
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Percentage above issues represent of total number of equity securities on issue at commencement of 12 month period	10.9%
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Listing Rule 7.3A.6(b): Details of equity securities issued in previous 12 months are set out in Schedule 1.

Voting Exclusion Statement

A voting exclusion statement is included in the Notice of Meeting. At the date of the Notice of Meeting, the proposed allottees of any Placement Securities are not as yet known or identified. In these circumstances (and in accordance with the note set out in Listing Rule 14.11.1 relating to Listing Rules 7.1 and 7.1A), for a person's vote to be excluded, it must be known that that person will participate in the proposed issue. Where it is not known who will participate in the proposed issue (as is the case in respect of the Placement Securities), Shareholders must consider the proposal on the basis that they may or may not get a benefit and that it is possible that their holding will be diluted and there is no reason to exclude their votes.

Board Recommendation

The Directors of the Company unanimously recommend that Shareholders vote in favour of Resolution 7.

Resolution 8 (Advisory) To adopt the Remuneration Report

Remuneration Report

The Board has submitted its Remuneration Report to Shareholders for consideration and adoption by way of a non-binding Advisory Resolution.

If there is a vote of 25% or more against the Remuneration Report at the 2015 AGM, and another vote of 25% or more at the 2016 AGM, then a resolution will be put to the 2016 AGM

to put the Board (other than the Managing Director) up for re-election ('Spill Resolution'). If the Spill Resolution passes, then the Company must hold a Spill Meeting within 90 days at which all Directors (other than the Managing Director) who were Directors at the time the Remuneration Report that received the second strike will retire and may resubmit themselves for re-election.

The Remuneration Report is set out in the Directors' Report section of the Annual Report. The Remuneration Report, amongst other things:

- explains the Board's policy for determining the nature and amount of remuneration of Key Management Personnel of the Company;
- explains the relationship between the Board's remuneration policy and the Company's performance;
- sets out remuneration details for each Key Management Personnel of the Company, including details of performance related remuneration and options granted as part of remuneration; and
- details and explains any performance conditions applicable to the remuneration of Key Management Personnel of the Company.

The Report is available on pages 27 to 42 in the Company's Annual Report for the period ended 30 June 2015 and is available at www.carbonenergy.com.au within the Announcements and Reports section of the website.

A reasonable opportunity will be provided for discussion of the Remuneration Report at the Meeting.

Voting restrictions on Key Management Personnel and their proxies and Closely Related Parties

A voting exclusion statement is set out under Resolution 8 in the Notice of Meeting.

Recommendation of Directors:

The Directors abstain, in the interests of corporate governance, from making a recommendation in relation to this resolution.

EXPLANATORY MEMORANDUM

Interpretation

In this Explanatory Memorandum the following terms have the following meanings, unless the context requires otherwise:

ASX means the ASX Limited ABN 98 008 624 691.

Associate has the meaning given to that term in the Listing Rules.

Board means the board of directors of the Company.

China means the Peoples Republic of China

Closely Related Party (as defined in the Corporations Act) of a member of the Key Management Personnel for an entity means:

- (a) a spouse or child of the member; or
- (b) a child of the member's spouse; or
- (c) a dependant of the member or the member's spouse; or
- (d) anyone else who is one of the member's family and may be expected to influence the member, or be influenced by the member, in the member's dealings with the entity; or
- (e) a company the member controls; or
- (f) a person prescribed by the regulations for the purposes of this paragraph.

Company means Carbon Energy Limited ABN 56 057 552 137.

Convertible Note Facility means the \$10 million Convertible Note Facility Agreement between the Company and Pacific Road Capital Management Pty Ltd.

Corporations Act means the *Corporations Act 2001* (Cth) as amended from time to time.

Demonstration Project means the initial commercial project is successfully commissioned using *keyseam* technology in China through the JV.

Directors mean directors of the Company.

Disinterested Directors means Dr Chris Rawlings, Mr Morné Engelbrecht, Dr Helen Garnett, Mr Louis Rozman and Mr Peter Hogan.

Eligible Entity has the meaning given to that term in the Listing Rules.

Equity Securities has the meaning given to that term in the Listing Rules.

Explanatory Memorandum means this explanatory memorandum accompanying, and forming part of, the Notice of Meeting.

Independent Expert means PricewaterhouseCoopers Securities Ltd

Independent Expert's Report or IER means the report prepared by PricewaterhouseCoopers Securities Ltd and dated 19 October 2015 which accompanies the Notice of Meeting.

JinHong means Beijing JinHong Investment Co., Ltd.

Joint Venture or **JV** means a contractual joint venture company to be formed in Beijing, China as a Sino-Foreign contractual joint venture named Beijing JinHong New Energy Co., Ltd. pursuant to the Joint Venture Agreement for the purposes of developing and promoting *keyseam* technology in the People's Republic of China.

Joint Venture Agreement means the joint venture agreement entered between Carbon Energy (Operations) Pty Ltd and JinHong on or about 25 September 2015 pursuant to which those parties have agreed to establish the Joint Venture.

Kam Lung means Kam Lung Investment Development Company Ltd.

Kam Lung Subscription Agreement means the subscription agreement entered by the Company and Kam Lung on or about 25 September 2015 pursuant to which Kam Lung subscribed for 123,845,128 Shares in the Company at a price of \$0.01554 per Share.

Key Management Personnel has the definition given in the accounting standards as those persons having authority and responsibility for planning, directing and controlling the activities of the entity, directly and indirectly, including any director (whether executive or otherwise) of that entity.

keyseam technology means intellectual property rights of Carbon Energy (Operations) Pty Ltd and its affiliates in the proprietary UCG technology initially developed in conjunction with the CSIRO and subsequently enhanced and further developed through field trials and related work for the production of Syngas from underground coal resources. *keyseam*® is a registered Trademark of Carbon Energy.

License Agreement means the license agreement to be entered by Carbon Energy (Operations) Pty Ltd and the Joint Venture in the form agreed pursuant to the Joint Venture Agreement, the terms of which are summarised in Schedule A

Listing Rules means the official listing rules of the ASX as amended from time to time.

Market Price has the meaning given to the term 'closing market price' in the Listing Rules.

Meeting or **Annual General Meeting** or **AGM** means the Annual General Meeting of Shareholders to be held at Hopgood Ganim Lawyers Level 7, Waterfront Place, 1 Eagle Street, Brisbane on Monday 30 November 2015 at 9.30am AEST.

EXPLANATORY **MEMORANDUM**

Non-Associated Shareholders means the holders of the Company's Shares whose votes are not to be disregarded on Resolution 6.

Notice of Meeting means the notice of meeting convening the Meeting and the Explanatory Memorandum.

Ordinary Resolution means a resolution passed by more than 50% of the votes cast at a general meeting of shareholders.

Related Party has the meaning given to that term in the Corporations Act.

Resolution means

a resolution to be proposed at the Meeting.

Shares means fully paid ordinary shares in the Company.

Shareholder means a holder of Shares in the Company.

Special Resolution means a resolution:

- (a) of which notice has been given as set out in paragraph 249L(1)(c) of the Corporations Act; and
- (b) that has been passed by at least 75% of the votes cast by members entitled to vote on the resolution.

Successful commissioning of a Demonstration Project means successful ignition of at least one panel, using *keyseam technology*, is achieved.

Technical Services Agreement means the technical services agreement to be entered by Carbon Energy (Operations) Pty Ltd and the Joint Venture in the form agreed pursuant to the Joint Venture Agreement, the terms of which are summarised in Schedule A.

Trading Day has the meaning given to that term in the Listing Rules.

Transaction means the transactions contemplated by the Joint Venture Agreement, the License Agreement and the Technical Services Agreement.

Trial Demonstration Project means the successfully commissioned and decommissioned Bloodwood Creek, Queensland, Australia, project commenced

UCG means underground coal gasification.

EXPLANATORY MEMORANDUM

Schedule 1 – Equity Securities Issued in Last 12 Months

Date of Issue:	Number Issued:	Class/Type of equity security:	Summary of terms:	Names of persons who received securities or basis on which those persons was determined:	Price at which equity securities were issued:	Discount to market price (if any):	For cash issues:			For non-cash issues:		
							Total cash consideration received:	Amount of cash consideration spent:	Use of cash consideration:	Intended use for remaining amount of cash (if any):	Non-cash consideration paid:	Current value of that non-cash consideration:
1/12/14	10,000	Fully paid ordinary shares.	Shares rank pari passu with all other fully paid ordinary shares on issue in the Company.	Shareholder exercising listed \$0.06 option with an expiry date of 30 July 2016	\$0.06	Nil	\$600.00	\$600.00	General working capital.	N/A	N/A	N/A
1/12/14	5,541,564	Unlisted Options	Options with an exercise price of \$0.0301 and an expiry date of 25 August 2017. Note these options have not yet been exercised so no cash has been received by the Company.	Morné Engelbrecht CEO entitled to short term incentive for 2014 financial year as approved by shareholders at 2014 AGM.	Nil	Nil	Nil	N/A	N/A	N/A	N/A	N/A

EXPLANATORY MEMORANDUM

Date of Issue:	Number Issued:	Class/Type of equity security:	Summary of terms:	Names of persons who received securities or basis on which those persons was determined:	Price at which equity securities were issued:	Discount to market price (if any):	For cash issues:			For non-cash issues:		
							Total cash consideration received:	Amount of cash consideration spent:	Use of cash consideration:	Intended use for remaining amount of cash (if any):	Non-cash consideration paid:	Current value of that non-cash consideration:
1/12/14	2,838,415	Fully paid ordinary shares.	Shares rank pari passu with all other fully paid ordinary shares on issue in the Company.	PRCM Nominees Pty Ltd (563,716 shares) and Pacific Road Holdings NV (2,274,739 shares).	\$0.0444 per share (deemed issue price).	Nil	Nil	N/A	N/A	N/A	In consideration of the interest costs, payable quarterly in arrears, in relation to the \$10M Pacific Road Convertible Note Facility.	\$126,027.40
2/3/15	4,272,115	Fully paid ordinary shares.	Shares rank pari passu with all other fully paid ordinary shares on issue in the Company.	PRCM Nominees Pty Ltd (848,441 shares) and Pacific Road Holdings NV (3,423,674 shares).	\$0.0295 per share (deemed issue price).	Nil	Nil	N/A	N/A	N/A	In consideration of the interest costs, payable quarterly in arrears, in relation to the \$10M Pacific Road Convertible Note Facility.	\$121,917.82
2/6/15	4,935,944	Fully paid ordinary shares.	Shares rank pari passu with all other fully paid ordinary shares on issue in the Company.	PRCM Nominees Pty Ltd (980,277 shares) and Pacific Road Holdings NV (3,955,667 shares).	\$0.0247 per share (deemed issue price).	Nil	Nil	N/A	N/A	N/A	In consideration of the interest costs, payable quarterly in arrears, in relation to the \$10M Pacific Road Convertible Note Facility.	\$126,027.39

EXPLANATORY MEMORANDUM

Date of Issue:	Number Issued:	Class/Type of equity security:	Summary of terms:	Names of persons who received securities or basis on which those persons was determined:	Price at which equity securities were issued:	Discount to market price (if any):	For cash issues:			For non-cash issues:		
							Total cash consideration received:	Amount of cash consideration spent:	Use of cash consideration:	Intended use for remaining amount of cash (if any):	Non-cash consideration paid:	Current value of that non-cash consideration:
28/8/15	9,475,744	Fully paid ordinary shares.	Shares rank pari passu with all other fully paid ordinary shares on issue in the Company.	PRCM Nominees Pty Ltd (1,881,880 shares) and Pacific Road Holdings NV (7,593,864 shares).	\$0.0133 per share (deemed issue price).	Nil	Nil	N/A	N/A	N/A	In consideration of the interest costs, payable quarterly in arrears, in relation to the \$10M Pacific Road Convertible Note Facility.	\$126,027.40
7/10/15	123,845,128	Fully paid ordinary shares.	Shares rank pari passu with all other fully paid ordinary shares on issue in the Company.	Kam Lung Investment Development Company Ltd	\$0.01554 per share (deemed issue price).	14% premium to closing price 25/09/15	\$1,924,081	Nil	General working capital including the pursuit of opportunities for business growth.	N/A	N/A	N/A

EXPLANATORY MEMORANDUM

Proxies and Representatives

Shareholders are entitled to appoint a proxy to attend and vote on their behalf. Where a shareholder is entitled to cast two or more votes at the Meeting, they may appoint two proxies. Where more than one proxy is appointed, each proxy may be appointed to represent a specific proportion or number of votes the shareholder may exercise. If the appointment does not specify the proportion or number of votes each proxy may exercise, each proxy may exercise half of the votes. The proxy may, but need not, be a shareholder of the Company.

Shareholders who are a body corporate are able to appoint representatives to attend and vote at the Meeting under Section 250D of the Corporations Act 2001 (Cth).

The proxy form must be signed by the shareholder or his/her attorney duly authorised in writing or, if the shareholder is a corporation, in a manner permitted by the Corporations Act.

The proxy form (and the power of attorney or other authority, if any, under which the proxy form is signed) or a copy or facsimile which appears on its face to be an authentic copy of the proxy form (and the power of attorney or other authority) must be **deposited at, posted to, or sent by facsimile transmission to the Share Registry at the address listed below** not less than 48 hours before the time for holding the Meeting, or adjourned Meeting as the case may be, at which the individual named in the proxy form proposes to vote.

LINK MARKET SERVICES LIMITED
LEVEL 15, 324 QUEEN STREET,
BRISBANE, QLD, AUSTRALIA, 4000
Tel: 1300 554 474

If a representative of the corporation is to attend the Meeting the appropriate "Certificate of Appointment of Corporate Representative" should be produced prior to admission. A form of the certificate may be obtained from the Company's share registry.

A proxy form is attached to this Notice.

Voting Entitlement

For the purposes of determining voting entitlements at the Meeting, shares will be taken to be held by the persons who are registered as holding the shares at 9.30am on 28 November 2015. Accordingly, transactions registered after that time will be disregarded in determining entitlements to attend and vote at the Meeting.

Signing Instructions

You must sign the proxy form as follows in the spaces provided:

- Individual: Where the holding is in one name, the holder must sign.
- Joint Holding: Where the holding is in more than one name, any security holder may sign.
- Power of Attorney: To sign under Power of Attorney, you must have already lodged this document with the registry. If you have not previously lodged this document for notation, please attach a certified photocopy of the Power of Attorney to this form when you return it.
- Companies: Where the company has a Sole Director who is also the Company Secretary, this form must be signed by that person. If the company (pursuant to section 204A of the Corporations Act 2001) does not have a Company Secretary, a Sole Director can also sign alone.

Otherwise this form must be signed by a Director jointly with either another Director or a Company Secretary.

Please indicate the office held by signing in the appropriate place

SCHEDULE A:

JOINT VENTURE AGREEMENT SUMMARY OF TERMS

Parties	Carbon Energy (Operations) Pty Limited (30%) (CEL) Beijing JinHong Investment Co., Ltd (70%) (JinHong)
Incorporation details	Contractual Joint Venture Company incorporate in Beijing, with the name Beijing JinHong New Energy Co., Ltd
Purpose of JV	To develop and promote <i>keyseam technology</i> in the People's Republic of China (China) PRC including its sublicensing
Required Approvals	The rights and obligations of the parties under the Joint Venture Agreement, other than in respect of Confidentiality and other miscellaneous clauses, are subject to: <ul style="list-style-type: none"> - Carbon Energy Limited shareholder approval as required by Australian law; and - Beijing local office of the PRC Ministry of Commerce approval which will be sought once Carbon Energy shareholder approval has been obtained. If the approvals are not obtained by the sunset dates set out below, the Joint Venture Agreement will terminate unless the parties agree otherwise.
Key Dates	28 February 2016 – sunset date for shareholder approval. Five (5) months following the receipt of Carbon Energy's Shareholder Approval - sunset date for the Joint Venture Agreement becoming effective (i.e. the date specified in the Approval Certificate issued by Beijing local office of the PRC Ministry of Commerce, which is a statutory requirement under PRC laws) 15 September 2016 – last date for satisfying conditions precedent to the Technology License Agreement and Technical Services Agreement (which is the trigger for CNX 30% profit distribution right)
Term of Agreement	30 years, unless the parties agreed to extend
JinHong Contribution	JinHong is required to contribute US\$30M in capital to the JV. US\$10M of this amount is to be contributed thirty days following the establishment of JV (i.e. the date when the PRC company registry issues the business license) with balance US\$20M payable in accordance with requirements for progress payments specified in the Demonstration Project Development Program and the budget determined by the JV board from time to time, but in any event within 3 years from establishment. JinHong will be entitled to 70% of dividends distributed by the JV upon making its capital contribution. If JinHong fails to contribute its capital as required, then its right to 70% of dividends distributed will be adjusted pro rata until such time as the contribution has been made. In addition, JinHong is to provide assistance to obtain approvals and permits for developing and promoting <i>keyseam technology</i> in China.
CEL Contribution	Pursuant to the License Agreement, CEL shall grant the following in respect of the <i>keyseam technology</i> : <ul style="list-style-type: none"> - non-exclusive technology license for the development of the Demonstration Project; and - exclusive China wide technology license from the Ignition Date for the Demonstration Project which includes sub-licensing rights in China. Key terms of the Technology License Agreement between the JV and CEL are set out below.
Non-dilution	CEL have non-dilution rights, however, CEL can be diluted for the purposes of an IPO but only with CEL consent (i.e. where it is a strategic decision to bring another investor on board). CEL can terminate JVA and other agreements if it does not want to be part of an IPO. CEL does not have to contribute any further equity or provide financing support to the JV.

Board Composition	The board of the JV will comprise 3 directors, 2 JinHong representatives and 1 CEL representative. JinHong shall appoint the chair and CEL shall appoint the vice-chair.
Decisions	<p>All decisions of the Board by simple majority except a number of specific matters which require unanimous resolution including the following:</p> <ul style="list-style-type: none"> (a) amending the Articles of Association (b) increasing or decreasing the registered capital of the JV (c) pledging, mortgaging or granting a security interest in any assets of the JV as collateral for a debt (d) termination, dissolution and liquidation of the JV (e) merger or consolidation of the JV or change of the organization of the JV (f) any sub-license of the key UCG technology to be made by the JV to any Third Party Projects (g) change in the business scope of the JV (h) the public offering of its equity shares in whatsoever form by the JV or delisting of the JV (i) appointment and dismissal of the General Manager and determination of the remuneration and benefits of the General Manager (j) allocation ratio of the general reserve fund, the bonus and welfare fund and the enterprise expansion fund to be established by the JV (k) any determination and change of power, function, responsibilities and authorities of the General Manager and Chief Financial Officer (l) the establishment of any Branches or subsidiaries of the JV in relation to Demonstration Project and Subsequent Project or the restructuring or dissolution of any of them (m) the annual budget, financial accounts and distribution and payment of profits of the JV (n) any resolution on any material reports of the JV, including annual long-term business plans, annual operation loans and annual budget and financial reports (o) bringing up or defending any claim exceeding 5% of the contributed capital of the JV, or involving any conclusion that may have a material impact on the JV or the Technology License (p) any assignment, transfer, lease or other disposition of substantially the assets of the JV in the aggregated amount more than 5% of the contributed capital of the JV (q) approval, change or termination of any transaction with any affiliates other than in the ordinary course of business (r) if any debt to be guaranteed for any person other than the JV exceeds 10% of the contributed capital of the JV (s) if any withdrawal or payment from the bank account of the JV is greater than 10% of the contributed capital of the JV and such amount is not covered in the financial budgets as approved by the Board (t) if the amount for the contract and related contracts are out of the scope of the JV budget and exceeds 10% of the contributed capital of the JV
Disposal of Interest	<p>CEL has first right of refusal to acquire JinHong JV interest in disposal on same price and terms as offer to third party.</p> <p>Neither party can transfer its interest in the JV prior to the Ignition Date for the Demonstration Project.</p> <p>Unless agreed by JinHong, CEL agrees not to assign to a third party or encumber all or part of its right to profit in the JV to a third party.</p>
Funding	Neither party is under any obligation to provide guarantees or loans to the JV
Dividend Policy	The minimum distribution will be 70% of the total amount of the after-tax profit of the JV unless otherwise agreed by a unanimous decision of the Board
Competing Interests	The Parties and their affiliates may engage or invest in, independently or with others, any business activity of any type or description except those in China that might be the same as or similar to the business of the JV or that might be in direct or indirect competition with the JV in China in which case, such opportunity must first be presented to the JV. This does not prevent CEL from issuing technology licenses directly to third parties in China prior to the JV license becoming exclusive (which will occur on the Ignition Date for the Demonstration Project).
Termination Rights	<p>The JVA will terminate if:</p> <ul style="list-style-type: none"> (a) the Technology License Agreement or Technical Services Agreement

	<p>terminates</p> <p>(b) order or resolution is made to wind up the JV</p> <p>(c) if CEL decides not to participate in IPO for JV</p> <p>(d) JinHong capital contributions are overdue by more than 30 days</p> <p>(e) if CEL does not comply with its obligations in respect of the License Agreement for more than 30 days</p> <p>(f) material breach which is unremedied for 90 days</p> <p>(g) force majeure suspension in excess of 150 days</p> <p>(h) revocation of the JV's business license such that it can't carry out its intended business</p> <p>(i) currently controlling shareholder of JinHong ceases to hold more than 50% of the shares in JinHong having a material adverse effect on the JV</p>
Liquidation	Distribution of remaining assets will be in accordance with then entitlement to profit distribution except that if it occurs prior to Ignition Date for Demonstration Project, KL has priority rights to the value of its capital contribution at that time
Governing Law	China, with any dispute to be finally resolved by arbitration by the International Chamber of Commerce Hong Kong.

TECHNOLOGY LICENSE AGREEMENT

Parties	Beijing JinHong New Energy Co., Ltd (JV) Carbon Energy (Operations) Pty Limited (CEL)
Conditions Precedent	<p>Agreement is to be entered upon establishment of JV and the Joint Venture Agreement becoming effective. Conditions precedent include:</p> <ul style="list-style-type: none"> the Statement of accuracy for CEL warranties contribution of first US\$10M capital by JinHong to JV execution of Technical Services Agreement allotment of shares under subscription agreement (which occurred on 7 October 2015)
CP Sunset Date	15 September 2016 if conditions are not satisfied by this date, either party may terminate the agreement
Stage 1 License	<p>A non-exclusive, non-transferable license (with the right to grant sub-licenses to Third Party Projects) is granted to the JV to use the <i>keyseam technology</i> to design, engineer, procure, construct, operate and maintain the Demonstration Project</p> <p>License is subject to CEL being appointed exclusive technical services provider and CEL receiving 90% of any sublicensing fees received from third parties (grossed up to take into account any PRC tax payable)</p> <p>The terms of any sub-license require the unanimous approval of the JV Board under the Joint Venture Agreement (including with respect to the appointment of CEL as the exclusive technical services provider for that third party project)</p>
Stage 2 License	<p>From Ignition Date for Demonstration Project, the JV is granted:</p> <ul style="list-style-type: none"> an exclusive, non-transferable license to use the <i>Keyseam technology</i> to design, engineer, procure, construct, operate and maintain Subsequent Projects the right to sub-license the <i>keyseam technology</i> for use in the development of Third Party Projects <p>The Stage 2 License is subject to CEL being appointed exclusive technical services provider for subsequent projects developed by the JV, to the extent permitted by law</p> <p>The terms of any sub-license require the unanimous approval of the JV Board</p>

	under the Joint Venture Agreement (including with respect to the appointment of CEL as the exclusive technical services provider for that third party project)
Licensor Warranties	CEL provides various warranties that are usual in an agreement of this nature.
Termination Rights	<p>The License Agreement may be terminated in the following circumstances:</p> <p>General rights for either party to terminate:</p> <ul style="list-style-type: none"> • material breach un-remedied in excess of 60 days • appointment of administrator, liquidator, receiver by/to either party • failure to achieve Ignition Date for Demonstration Project within 3 years <p>CEL has a right to terminate if:</p> <ul style="list-style-type: none"> • change of control of JV where competitor take control, results in a likely inability for JV to perform under this Agreement or reduces CEL profit distribution under JVA to less than 30% (other than where this is requested by CEL) • assignment by JV of rights under agreement without consent or sublicensing in breach of agreement • breach of confidentiality by JV • termination of Technical Services Agreement or Joint Venture Agreement • ignition Date for Demonstration Project not achieved within 18 months for reasons solely attributable to JV <p>JV has a right to terminate if:</p> <ul style="list-style-type: none"> • ignition Date for Demonstration Project not achieved within 18 months for reasons solely attributable to CEL • CEL warranties inaccurate or misleading • JV suffers or is likely to suffer material economic loss or material adverse change to its business prospect due to any license or sublicense of <i>keyseam technology</i> granted or facilitated by CEL to a third party after the conditions satisfaction date but before grant of Stage 2 License
Limitation of Liability	CEL liability under agreement and Technical Services Agreement limited to amounts actually paid to CEL under the agreements (i.e. sub-license fees actually passed through before the grant of the Stage 2 License and fees for services provided)
Confidentiality	Both parties bound by standard confidentiality obligations
Intellectual Property	CEL has and shall continue to have sole and exclusive ownership of all right, title, and interest in and to all intellectual property rights related to the <i>keyseam technology</i> . If a party makes an improvement, that party shall, if requested by the other party, grant the other party an exclusive, perpetual, royalty-free, freely-assignable License to use the improvement
Assignment	No assignment without the approval of the other party
Indemnities	<p>Indemnities provided by CEL to the JV for:</p> <ul style="list-style-type: none"> • personal injury to employees of CEL or affiliates • property damage where owned by CEL or affiliates • loss or damage cause by breach of warranty <p>except to the extent caused or contributed to by the wilful or negligent conduct of JV or not caused by CEL</p> <p>Indemnities provided by JV to CEL for:</p> <ul style="list-style-type: none"> • personal injury to any other person • property damage where owned by any other person • except to the extent caused or contributed to by the wilful or negligent conduct of CEL or not caused by JV
Governing Law	Queensland, with any dispute to be finally resolved by arbitration by the International Chamber of Commerce Hong Kong.

TECHNOLOGY SERVICES AGREEMENT

Parties	Beijing JinHong New Energy Co., Ltd (JV) Carbon Energy (Operations) Pty Limited (CEL)
Conditions Precedent	Agreement is to be entered upon establishment of JV and the Joint Venture Agreement becoming effective. Conditions include: <ul style="list-style-type: none"> • statement of accuracy for CEL warranties • contribution of first US\$10M capital by JinHong to JV • execution of Technical Services Agreement • allotment of shares under subscription agreement (which occurred on 7 October 2015)
CP Sunset Date	15 September 2016 if conditions are not satisfied by this date, either party may terminate the agreement.
CEL Obligation	CEL is to provide technical services and technical documentation to the JV in respect of each project. CEL is required to provide staff onsite to provide technical guidance and co-ordination.
Third Party Projects	The JV must ensure that the grant of a sub-license to any Third Party Project proponent will be subject to the proponent's engagement of CEL as technical services provider on equivalent terms
Warranties	Each party provides warranties that are usual for agreements of this nature.
Technical Services Fees	CEL may issues monthly invoices for fees in respect of services performed in the previous month, together with expenses for which reimbursement may be claimed. Fees are charged on cost plus basis plus a management fee of 15% for the Demonstration Project and 10% for any Subsequent Project. Daily rates have also been agreed.
Technical Documentation Fee	CEL will receive a fixed fee for the Technical Documentation for each Project. The fee will be calculated on the basis of the agreed scope of work for the Project, and the estimated number of man days required to deliver, plus the management fee consistent with the Technical Services Fees. 30% of the Technical Documentation Fee for each Project is payable upfront, with 40% due on delivery of draft documentation and 30% due on delivery of final documentation. The second and final payments are to be made by letter of credit.
Performance Test	<p>The JV carries out the performance test for each project. The general requirements and process for the performance test are set out in the agreement. The specific guarantees are to be agreed on a project by project basis.</p> <p>The Ignition Date is achieved on satisfaction of the performance test.</p> <p>If the performance test for the Demonstration Project is not satisfied due to reasons attributable to the JV, then the JV will be granted up to two x three month extensions to satisfy the performance test. If this is not achieved CEL may terminate the agreement.</p> <p>If the performance test for the Demonstration Project is not satisfied due to reasons attributable to CEL, then CEL will be granted up to two x three month extension to satisfy the performance test. If after the extension the performance test is still not satisfied due to reasons attributable to CEL, then CEL must pay liquidated damages to the value of 50% of the Technical Services Fees for the Demonstration Project that CEL has received, and the JV can terminate the agreement.</p> <p>Following the Ignition Date, these termination rights for each party fall away, but the requirement to pay liquidated damages applies for each Subsequent Project.</p>
Termination Rights	<p>The License Agreement may be terminated in the following circumstances:</p> <p>General rights for either party to terminate:</p> <ul style="list-style-type: none"> • material breach un-remedied in excess of 60 days • appointment of administrator, liquidator, receiver by/to either party <p>CEL has a right to terminate if:</p> <ul style="list-style-type: none"> • change of control of JV where competitor take control, results in a likely inability for JV to perform under this Agreement or reduces CEL profit distribution under Joint Venture Agreement to less than 30% (other than where this is requested by CEL)

	<ul style="list-style-type: none"> • assignment by JV of rights under agreement without consent or sublicensing in breach of agreement • breach of confidentiality by JV • termination of Technical Services Agreement or Joint Venture Agreement • failure to satisfy performance test for Demonstration Project caused by JV • JV warranties inaccurate or misleading <p>JV has a right to terminate if:</p> <ul style="list-style-type: none"> • failure to satisfy performance test for Demonstration Project caused by CEL and liquidated damages are payable by CEL • CEL warranties inaccurate or misleading • termination of Technical Services Agreement or Joint Venture Agreement • breach of confidentiality by CEL
Limitation of Liability	CEL liability under agreement and License Agreement limited to fees actually paid to CEL under the agreements.
Confidentiality	Both parties bound by standard confidentiality obligations
Assignment	No assignment without the approval of the other party
Indemnities	<p>Indemnities provided by CEL to the JV for:</p> <ul style="list-style-type: none"> • personal injury to employees of CEL or Affiliates • property damage where owned by CEL or Affiliates • loss or damage cause by breach of warranty <p>except to the extent caused or contributed to by the wilful or negligent conduct of JV or not caused by CEL</p> <p>Indemnities provided by JV to CEL for:</p> <ul style="list-style-type: none"> • personal injury to any other person • property damage where owned by any other person • loss or damage caused by inaccurate documentation or information provided by JV <p>except to the extent caused or contributed to by the wilful or negligent conduct of CEL or not caused by JV</p>
Governing Law	Queensland, with any dispute to be finally resolved by arbitration by the International Chamber of Commerce Hong Kong.



carbonenergy

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Independent Expert's Report

*Carbon Energy
Limited*

*Prepared for the
Directors of Carbon
Energy Limited in
relation to the
proposed joint venture
with Beijing JinHong
Investment Co., Ltd
for the licencing and
commercialisation of
keyseam technology in
China*

22 October 2015



The Directors
Carbon Energy Limited
PO Box 2118
Toowong QLD 4066

22 October 2015

Dear Directors

Proposed joint venture with Beijing JinHong Investment Co., Ltd for the licencing and commercialisation of keyseam technology for use in China

Introduction

1. On 28 September 2015, Carbon Energy Limited (Carbon Energy or the Company) announced its proposed Joint Venture with Beijing JinHong Investment Co., Ltd (JinHong), an associate of the Company's largest shareholder, Kam Lung Investment Development Company Limited (Kam Lung).
2. The strategic rationale for the transaction is to develop and promote Carbon Energy's keyseam technology in China, including its sublicensing. The first objective of the Joint Venture is to develop and operate a demonstration facility. We understand the demonstration facility could be part of a commercial project.
3. The Joint Venture will be incorporated in Beijing and will be capitalised by JinHong to the amount of US\$30 million over a three year period. Carbon Energy will initially contribute a non-exclusive license to the Joint Venture to use its keyseam technology for the development of the demonstration facility. Upon successful ignition of the demonstration facility, Carbon Energy will grant an exclusive license for the use and sub-licencing of keyseam within China. The Joint Venture profit distribution will be allocated 30% to Carbon Energy and 70% to JinHong (Proposed Transaction).
4. The shareholders of Carbon Energy are to consider a resolution seeking approval of the Proposed Transaction at the 2015 Annual General Meeting of Carbon Energy's shareholders that is expected to be held in November 2015.
5. The directors of Carbon Energy have engaged PricewaterhouseCoopers Securities Ltd (PwC Securities) to prepare an independent expert's report setting out whether, in its opinion, the Proposed Transaction is fair and reasonable to the Non-Associated Shareholders and to state reasons for that opinion.
6. This letter contains a summary of the opinion and main conclusions of PwC Securities and is extracted from the full independent expert's report, a copy of which (including this summary letter) will accompany the Explanatory Memorandum.



Our conclusion

The Proposed Transaction is fair and reasonable to the Non-Associated Shareholders

7. Our assessment of the Proposed Transaction has been undertaken in accordance with the principles of Australian Securities and Investments Commission (“ASIC”) Regulatory Guide 111, Content of expert reports (RG 111). In our opinion the Proposed Transaction is fair and reasonable. In arriving at this opinion, we have had regard to the following factors.

The Consideration offered under the Proposed Transaction is fair

8. In considering whether the Proposed Transaction is fair we have considered the substance of the Proposed Transaction, which is Carbon Energy are selling the technology rights for keyseam within China via Technology License Agreements and receiving as consideration a right to 30% of the profit distribution from a joint venture (Proposed Transaction Consideration).
9. We have assessed the market value of the Technology Licence Agreements as at the date of this report to be in a range from US\$12.3 million to US\$40.0 million with a mid-point value of US\$26.1 million. The Proposed Transaction Consideration has been assessed to have a market value in a range of US\$23.1 million to US\$38.4 million with a mid-point value of US\$30.7 million. On the basis that our assessed mid-point value of the Proposed Transaction Consideration is above the mid-point of our valuation of the Technology Licence Agreements, we consider that it is fair.
10. The primary reasons our value for the Proposed Transaction Consideration is higher than the value of the Technology License Agreements are:
 - By partnering with JinHong, Carbon Energy:
 - Avoid incurring US\$15 million they might otherwise need to fund to develop a Proof of Concept for the keyseam technology in China; and
 - Are assumed to increase the probability of successfully licensing projects in China from 25% to 50%.
 - Offset to some extent by Carbon Energy granting a 70% interest in future UCG projects in China to JinHong (other than projects introduced by Carbon Energy during the pre-ignition stage of the demonstration project where in that case JinHong has a 10% interest).
11. Our valuation of both the Technology Licensing Agreement and the Proposed Transaction Consideration adopt a probability weighted DCF approach. If the Proposed Transaction consideration was simply valued using the value implied by JinHong contributing US\$30 million for a 70% interest in the Joint Venture, the implied consideration would be US\$12.9 million. While this is within the range of our values it is materially less than our mid-point value of the Technology Licence Agreements of US\$26.1 million so if that value was adopted for the Proposed Transaction Consideration the Proposed Transaction would be unlikely to be fair. However, we consider the value of \$12.9 million does not properly reflect the synergies of pairing the keyseam technology with a Chinese partner.
12. In any event, if the Proposed Transaction was not fair, we would still consider it reasonable.



The Proposed Transaction is reasonable

13. Typically, in accordance with RG 111 a Proposal which is considered fair is automatically considered reasonable. In this instance whilst this does apply, we recognise that the valuation of any technology yet to be commercialised is particularly subjective and there may be a wide range of views on value. Therefore it is appropriate that detailed consideration be given to whether the Proposed Transaction is reasonable. We consider the Proposed Transaction to be reasonable for the reasons set out below where the advantages associated with obtaining a partner in China and funding the project commercialisation of the keyseam technology outweigh the disadvantages associated with giving up a percentage of the upside for the keyseam technology in China and the complexities and reduced flexibility resulting from entering into a joint venture in China.

The financial situation and solvency of Carbon Energy

14. While Carbon Energy has extensively pursued business development opportunities across Asia in recent years and continues to work with the Queensland Government on progressing its Blue Gum Gas Project, its financial position continues to be a challenge and it is increasingly reliant upon support from current shareholders and on securing additional sources of funds for the development and commercialisation of its keyseam technology.
15. Market conditions have also substantially decreased the attractiveness of coal and gas assets to investors so that divestment of coal and gas assets held by Carbon Energy (as a potential source of funding) is problematic and even if possible, is likely to be at significant discounts to expected market values.
16. The Proposed Transaction does go some way to address the deteriorating financial position of Carbon Energy by providing access to funding to enable the development and exploitation of the keyseam technology in China, which in turn creates the potential for access to an income stream from technology licences and establishing a potential source of income from Carbon Energy providing technical services to the Joint Venture.
17. The Joint Venture will be capitalised to the extent of US\$30 million by JinHong which is expected to fund the cost of completing the demonstration facility, which we understand could be part of a commercial project. A portion of the costs of establishing the demonstration facility will be the technical services which Carbon Energy will provide to the joint venture, thus providing a source of income to Carbon Energy.
18. In addition, at the same time the Proposed Transaction was announced Kam Lung agreed to a Private Placement which contributed approximately \$2 million to Carbon Energy in return for 123.8 million shares, which takes Kam Lung's interest in Carbon Energy to 19.99%. The private placement was at a 14% premium to the closing price on 25 September 2015. The private placement is not subject to the Proposed Transaction being approved however it was negotiated simultaneously and has provided Carbon Energy with much needed cash reserves.
19. Notwithstanding the funds received from the private placement provide some cash for Carbon Energy; at 30 September 2015 Carbon Energy had a cash balance of approximately \$3.3 million and monthly expenses of approximately \$0.4 million to \$0.5 million. This means even if the Proposed Transaction is approved, Carbon Energy will need to raise additional capital or generate services or other income relatively quickly. The Joint Venture itself remains subject to condition precedents even if the Proposed Transaction is approved and these conditions precedents include approval by Chinese regulatory authorities. Therefore, it may still be some months before Carbon Energy is able to provide services to the Joint Venture.



20. If Carbon Energy were to go into Administration or become insolvent, the Joint Venture is not dissolved. An administrator or equivalent person would need to deal with the Joint Venture. This may make it more challenging to realise value for the keyseam technology in China than if the Joint Venture and China licensing arrangement were not in place. The Joint Venture would not have any rights over the technology itself outside of China.

The likely consequences for Non-Associated Shareholders of the company if the Proposed Transaction does proceed

The Proposed Transaction provides ready access to funding for development and commercialisation of keyseam

21. The Proposed Transaction provides access to a source of funds for the development and commercialisation of the keyseam technology in China which Carbon Energy may otherwise not have access to, particularly given current depressed market conditions for coal and gas assets.

The Proposed Transaction includes an exclusive technical service provider arrangement for Carbon Energy

22. Through the Technical Services agreements established with the Joint Venture, Carbon Energy is contracted to provide technical services to the Joint Venture thereby providing a source of revenue and cash flow to the Company which can potentially alleviate the cash flow constraints being experienced by Carbon Energy. This is funded via the capital contributed to the joint venture by JinHong for the development project and project owners for future projects. However it may be some months before these cash flows can commence.

The Proposed Transaction offers strong links to China through business and government contacts

23. A key benefit of the Joint Venture is that it will offer strong links to China through business and government contacts that JinHong holds. This is expected to enable greater access to China and suitable coal resources thereby enabling Carbon Energy to capitalise on opportunities that would potentially not be possible to access in the Chinese market without a local Chinese partner. This potentially also reduces risk for shareholders.

No requirement for capital

24. The Proposed Transaction does not require any capital to be committed by Carbon Energy. This is a valuable benefit particularly given the limited ability for Carbon Energy to access additional sources of funding and its limited cash resources.

Added complexity and reduced flexibility

25. Added complexity and reduced flexibility in structuring the Proposed Transaction results from Carbon Energy partnering with a foreign company in a foreign jurisdiction. This creates complexities not faced by Carbon Energy today. In addition, participating in a corporate structure in China reduces flexibility otherwise available when Carbon Energy is not committed to such a structure. For example, Carbon Energy has significant Australian tax revenue losses and entering into the Proposed Transaction potentially reduces Carbon Energy's ability to utilise these losses to reduce tax that might otherwise be paid in relation to commercialising the keyseam technology in China. The Proposed Transaction may result in a Capital Gain as it is a deemed disposal of an interest in the keyseam technology, however Carbon Energy expects to have sufficient tax losses to ensure no liability is payable.



The likelihood of another offer emerging for the Licence Agreement that is better than the current Proposed Transaction from the perspective of the Non-Associated Shareholders of the company.

26. There are limited alternatives to the Proposed Transaction at present. Carbon Energy has been in negotiations with various parties since 2012 and has conducted extensive negotiations with the respective parties but has had limited success in securing license agreements. This process has demonstrated that in the current market and given Carbon Energy's perceived position as capital constrained, it is extremely difficult to enter into licensing agreements on reasonable terms.
27. The negotiations Carbon Energy have conducted with other potential parties were considered less attractive as they:
 - Required Carbon Energy to contribute cash;
 - Exposed Carbon energy to more significant risk of dilution in joint venture arrangements in the future; and
 - Did not provide Carbon Energy with any greater interest in the joint venture than has been negotiated in the Proposed Transaction.
28. In addition, the Joint Venture with JinHong still allows Carbon Energy to license projects through the Joint Venture before the ignition date of the Joint Venture Demonstration Plant and retain 90% of those license fees, rather than the 30% of distributions otherwise received from the Joint Venture. Carbon Energy therefore retains a large part of the potential licensing value from these projects. Carbon Energy also has the option not to license projects through the Joint Venture during this period if deemed appropriate at the time, in which case Carbon Energy retains 100% of license fees for these projects.
29. The Technology License granted to the Joint Venture remains non-exclusive in China until ignition is achieved at the demonstration plant. If the Joint Venture fails to find an appropriate project or JinHong fails to fund the Joint Venture and therefore fail to achieve ignition, Carbon Energy are free to enter into other potential license agreements.
30. The one advantage some other potential parties had over JinHong was they had identified or had control over coal assets potentially suitable for the keyseam technology. However, on balance this is not considered a material disadvantage given there are known potential coal projects and JinHong is motivated to work with Carbon Energy to find an appropriate project.

The likely consequences for Non-Associated Shareholders of the company if the Proposed Transaction does not proceed

31. If the Proposed Transaction is not approved it is likely Carbon Energy would still need to continue to try and find a partner in China, if they are to successfully exploit the keyseam technology in that market. There is no certainty Carbon Energy could find and reach an agreement with such a partner given the significant time already taken to pursue potential parties in China. As an alternative, Carbon Energy could pursue that market on their own however their reducing financial resources are likely to make pursuit of such a strategy difficult.
32. It is likely Carbon Energy would need to raise additional equity or divest itself of assets to fund itself while such a process took place. Based on the current market conditions, these assets



would potentially have to be divested at unfavourable prices. Having recently undertaken a private placement at a slight premium to market value, any further attempts to raise additional equity would potentially be on dilutive terms particularly if the Proposed Transaction were not to take place.

33. In the meantime, Carbon Energy has finite cash reserves with limited income so the ongoing funding of the business would become increasingly problematic, which in turn would make it even more difficult for Carbon Energy to negotiate a deal on favourable terms. To continue operating under such circumstances the ability of Carbon Energy to continue as going concern may come into question.
34. Kam Lung has a 19.99% interest in Carbon Energy. If the Proposed Transaction is not approved Kam Lung would have no other ongoing relationship with Carbon Energy. While we are not in a position to predict what Kam Lung may do with its interest in Carbon Energy if the Proposed Transaction is not approved, this could create the perception in the market of an overhang of shares held by investors considering disposal of that interest, although the recent issue of shares to Kam Lung are subject to a 12 month escrow period.

Other matters

35. The decision to approve or not to approve the Proposed Transaction is a matter for individual Shareholders based on each shareholder's view as to value, their expectations about future market conditions and their particular circumstances including risk profile, liquidity preference, investment strategy, portfolio structure and tax position. In particular, taxation consequences may vary from shareholder to shareholder. If in any doubt as to the action they should take in relation to the Proposed Transaction, Shareholders may wish to obtain personal financial product advice from the holder of an Australian Financial Services License to assist in this assessment.
36. This independent expert's report has been prepared solely for the benefit of the Directors of Carbon Energy and for the benefit of the Non-Associated Shareholders. Neither PwC Securities nor its employees, officers and agents undertake responsibility to any person, other than the Directors of Carbon Energy or the Non-Associated Shareholders, in respect of the independent expert's report, including any errors or omissions howsoever caused.
37. Carbon Energy has indemnified PwC Securities, PwC and its employees, officers and agents against any claim, liability, loss or expense, cost or damage, including legal costs on a solicitor client basis, arising out of reliance on any information or documentation provided by Carbon Energy, which is false and misleading or omits any material particulars or arising from a failure to supply relevant documentation or information.



38. Our opinion is made at the date of this letter and reflects circumstances and conditions as at that date. This letter must be read in conjunction with the full independent expert's report attached.

Yours faithfully

A handwritten signature in black ink that reads 'A. Wellington'.

Andrew Wellington
Authorised Representative
PricewaterhouseCoopers Securities Ltd

A handwritten signature in black ink that reads 'R. Stewart'.

Richard Stewart
Authorised Representative
PricewaterhouseCoopers Securities Ltd

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1 Overview of the Proposed Transaction and basis of assessment

1.1 Overview of the Proposed Transaction

39. On 28 September 2015, Carbon Energy Limited (Carbon Energy) proposed to enter a Joint Venture with Beijing JinHong Investment Co., Ltd (JinHong), an associate of the Company's largest shareholder, Kam Lung Investment Development Company Limited (Kam Lung). Mr Huihai Zhuang is a 100% shareholder of Kam Lung which currently holds 19.99% of the Shares in the Carbon Energy. Mr Zhuang also indirectly controls JinHong and will indirectly control the Joint Venture (once formed).
40. The strategic rationale for the transaction is to develop and promote Carbon Energy's keyseam technology in China, including its sublicensing. The first objective of the Joint Venture is to develop and operate a demonstration facility and obtain the relevant Central Government endorsement for the use of the keyseam technology in China.
41. The Joint Venture will be incorporated in Beijing and will be capitalised by JinHong to the amount of US\$30 million over a three year period. Carbon Energy will initially contribute a non-exclusive license to the Joint Venture to use its keyseam technology for the development of the demonstration facility, which we understand could be part of a commercial project. Upon successful ignition of the demonstration facility, Carbon Energy will grant an exclusive license for the use and sub-licencing of keyseam within China. The Joint Venture profit distribution will be allocated 30% to Carbon Energy and 70% to JinHong.
42. The shareholders of Carbon Energy are to consider a resolution seeking approval of the Proposed Transaction at the 2015 Annual General Meeting of Carbon Energy shareholders which is expected to be held in November 2015.
43. The Proposed Transaction is subject to the following key conditions:
 - Carbon Energy shareholder approval which is subject to a sunset date of 28 February 2016;
 - Approval from the Beijing local office of China Ministry of Commerce, which will be sought should Carbon Energy shareholder approval be obtained; and
 - JinHong contributing initial registered capital of US\$10 million within 30 days of the establishment of the Joint Venture.

44. Key terms of the Joint Venture include:
- The term of the Joint Venture Agreement is to be 30 years unless the parties agree to extend;
 - JinHong is to contribute US\$30 million in total, US\$10 million of which to be contributed within thirty days following the establishment of the Joint Venture (i.e. the date when the Chinese company registry issues the business license) with the balance payable in accordance with the Board approved budget and within 3 years from establishment. If JinHong fails to contribute the balance as agreed, then its right to 70% profit will be adjusted pro rata until such time as the contribution has been made;
 - Carbon Energy is to contribute a non-exclusive technology license for the development of the Demonstration Project. The technology license will become exclusive for China from the ignition date of the Demonstration Project. Carbon Energy does not have to contribute any equity to the Joint Venture;
 - Carbon Energy will have non-dilution rights. Carbon Energy's 30% distribution right however can be diluted in an IPO but only with Carbon Energy's consent. Carbon Energy can also terminate the Joint Venture Agreement and other agreements if it does not want to proceed with an IPO;
 - Carbon Energy has first right of refusal to acquire JinHong's Joint Venture interest in disposal on the same price and terms offered to a third party;
 - The minimum distribution will be 70% of the total amount of the after-tax profit of the Joint Venture unless otherwise agreed by a unanimous decision of the Board; and
 - JinHong will have the right to appoint 2 Directors and a Chairman to the Board and Carbon Energy will have the right to appoint 1 Director and a Vice Chairman.
45. Carbon Energy has agreed to propose the Proposed Transaction to Carbon Shareholders and the Directors of Carbon Energy (excluding any nominee director of Kam Lung) have unanimously recommended that Carbon Energy Shareholders vote in favour of the Proposed Transaction in the absence of a superior proposal and subject to the independent expert concluding that the Proposed Transaction is fair and reasonable.
46. The directors of Carbon Energy have engaged PricewaterhouseCoopers Securities Ltd (PwC Securities) to prepare an independent expert's report setting out whether, in its opinion, the Proposed Transaction is fair and reasonable to the Non-Associated Shareholders and to state reasons for that opinion.

1.2 Basis for our assessment

Purpose of Report

47. ASX Listing Rule 10.1 provides that a listed company must ensure that neither it nor any of its subsidiaries disposes of a substantial asset to (among others) a person who has a relevant interest in at least 10% of the company's voting shares at any time within the 6 months prior to the disposal, without the approval of Non-Associated Shareholders in the company's ordinary shares. As at 15 October 2015, Kam Lung holds a 19.99% interest in Carbon Energy Limited.
48. An asset is deemed to be substantial if its value, or the value of consideration paid, is 5% or more of the equity interest of the selling entity.
49. We have been advised by Carbon Energy that the value of the licence agreement exceeds 5% of the equity in Carbon Energy as at 15 October 2015 and therefore shareholder approval will be required prior to Carbon Energy entering into the Proposed Transaction.
50. ASX Listing Rule 10.10 states the notice of shareholders meeting required under ASX Listing Rule 10.1 must include a report on the transaction from an independent expert. The report must state whether, in the expert's opinion, the transaction is fair and reasonable to the Non-Associated shareholders of Carbon Energy. The purpose of this report is to consider that opinion.

51. We are also aware that shareholder approval is required in accordance with Chapter 2E of the Corporations Act 2001 (Cth).

Basis of Evaluation

52. There is no specific guidance on forming an opinion on fairness and reasonableness under ASX Listing Rule 10.10. In this regard, we have given due consideration to common market practice and the guidance provided by:

(a) ASIC Regulatory Guide 111 “Content of experts reports”, which requires an expert to focus on the issues facing the security holders for whom the report is being prepared. In particular RG 111 requires the expert to focus on the purpose and outcome of the transaction, rather than the legal mechanism to effect it; and

(b) ASIC Regulatory Guide 76 “Related party transactions” which sets out guidance to public companies and responsible entities of managed investment schemes of their governance and disclosure requirements regarding related party transactions; and

(c) ASIC Regulatory Guide 112 in respect of the independence of experts.

Regulatory Guide 111

53. This regulatory guide provides guidance in relation to the content of independent expert’s reports prepared for a range of transactions. Regulatory Guide 111 notes that an expert should focus on the substance of a related party transaction, rather than the legal mechanism and, in particular where a related party transaction is one component of a broader transaction, the expert should consider what level of analysis of the related party aspect is required.
54. Regulatory Guide 111 notes that a proposed related party transaction is:
- fair, if the value of the financial benefit to be provided by the entity to the related party is equal to or less than the value of the consideration being provided to the entity
 - reasonable, if it is fair, or, despite not being fair, after considering other significant factors, there are sufficient reasons for shareholders to vote for the proposed related party transaction.
55. In considering the fairness of the Proposed Transaction we have had regard to the economic substance of the Proposed Transaction.

1.3 Approach to the assessment of Fairness

56. As noted above, the Proposed Transaction is fair if the value of the financial benefit provided by the entity to the related party is equal to or less than the value of the consideration being provided to the entity. The financial benefit being provided by Carbon Energy is the provision of a non-exclusive licence to the Joint Venture to use keyseam to develop and operate the demonstration facility and an exclusive licence to use and sub-licence keyseam within China following successful ignition of the demonstration facility (Technology Licence Agreements). The consideration being provided to the entity is a right to 30 percent of the Joint Venture profit distributed (Joint Venture Profit Share), with Carbon Energy entitled to 90% of the distribution of projects contributed to the Joint Venture prior to ignition being achieved and 100% of returns from projects received outside the Joint Venture prior to ignition being achieved. Consequently, we consider the fairness of the Proposed Transaction is most appropriately assessed by comparing the estimated value of the Technology Licence Agreements to the estimated value of the Joint Venture Profit Share.
57. If the value of the Joint Venture Profit Share is greater than or equal to the value of the Technology Licence Agreements, the Proposed Transaction is fair. Our fairness assessment therefore includes the valuation of:
- Technology Licence Agreements; and
 - Joint Venture Profit Share.

58. Our valuation analysis is based on the concept of market value, which we have defined as the price which would reasonably be negotiated by an informed, willing but not anxious purchaser and an informed, willing but not anxious seller acting at arm's length and within a reasonable timeframe.

1.4 Selection of valuation methodologies

Technology Licence Agreements

59. The value of the Technology Licence Agreements lies in the number of technology licences and sub-licence agreements that can be entered into within China, the prices at which such licenses can be sold and the associated technical service fees that can be potentially earned.
60. We are of the opinion that the most appropriate methodology to value the Technology Licence Agreements is a probability weighted discounted cash flow methodology as:
- The technology is at an early stage and has not yet been successfully commercialised. Early stage technology projects are exposed to significant risk associated with the likelihood of success of the technology's progression, which can only be adequately reflected by probability weighting the cash flows associated with the project; and
 - The development and commercialisation stage will require significant capital expenditure.
61. We do not consider the trading in Carbon Energy shares prior to the Announcement Date as a reliable indicator of the market value of the Technology Licence Agreements due to:
- The lack of liquidity of the shares. For the 12 months prior to the Announcement Date, there was a low level of trading in Carbon Energy shares;
 - The large shareholding controlled by Kam Lung (shareholding increased to 19.99% announced on the Announcement Date) which may have reduced the attractiveness of the Carbon Energy shares for certain investors; and
 - With a market capitalisation of less than \$30m, there is limited coverage of Carbon Energy and there are limited institutional investors on the share register.

Joint Venture Profit Share

62. To estimate the value of the Joint Venture Profit Share, we have had regard to
- The same factors considered in our valuation of the Technology Licence Agreements which includes the number of sub-licenses that can be sold, the price at which they may be sold and the associated technical services fees that can be earned; and
 - Synergies and benefits that the Joint Venture is able to capture through the combination of the JinHong Contribution and the Carbon Energy Contribution.
63. We are of the opinion that the most appropriate methodology to value the Joint Venture Profit Share is the discounted cash flow methodology as:
- The value of the Joint Venture Profit Share is derived from the same factors which determine the value of the Technology Licence Agreements, which is based on discounted cash flows; and
 - The value of synergies can only be adequately reflected through consideration of the number of licence and sub-licence agreement that the Joint Venture can potentially enter into and the probability weighting of the cash flows derived from licencing and services fees.

1.5 Approach to the assessment of Reasonableness

64. We have assessed the reasonableness of the Proposed Transaction by considering the factors set out below as well as the advantages and disadvantages of the Proposed Transaction to the Non-Associated Shareholders, having particular regard to:
- The process undertaken by the parties in negotiating the terms of the Proposed Transaction;
 - The financial situation and solvency of Carbon Energy;
 - The likely consequences for Non-Associated Shareholders of the company if the Proposed Transaction does proceed;
 - The likelihood of another offer emerging for the Licence Agreement that is better than the current Proposed Transaction from the perspective of the Non-Associated Shareholders of the company;
 - The likely consequences for Non-Associated Shareholders of the company if the Proposed Transaction does not proceed; and
 - Any other commercial advantages and disadvantages to the Non-Associated Shareholders as a consequence of the Proposed Transaction proceeding.

Sources of information

65. In preparing this report, we have used and relied on the information set out in Appendix B and representations made by Carbon Energy.
66. We have conducted checks, enquiries and analyses of the information provided to us which we regard as appropriate for the purposes of this report. Based on these procedures, we believe that the information used as the basis for forming the opinions in this report is accurate, complete and not misleading and we have no reason to believe that material information relevant to our report has been withheld by Carbon Energy. Whilst our work has involved an analysis of financial information and accounting records, it does not constitute an audit or review of Carbon Energy in accordance with Australian Auditing Standards, and accordingly no such assurance is given in this report.
67. Our assessment has been made as at the date of our report. Economic conditions, market factors and changes in exploration or development potential may result in the report becoming outdated. We reserve the right to review our assessments and, if we consider it necessary, to issue an addendum to our report, in the light of any relevant material information which subsequently becomes known to us prior to acceptance of the Proposed Transaction.
68. All amounts in the report are denominated in Australian dollars (\$) unless otherwise stated. Financial tables may be subject to rounding. We have presented the value of the Technology License Agreements and the Joint Venture Profit Share in US dollars as both assets relate to operations in China and it is expected prices will be negotiated in US dollars.
69. We have provided draft copies of this independent expert's report to the Directors of Carbon Energy for their comments as to factual accuracy, as opposed to opinions, which are our responsibility alone. The independent Directors' review has not changed the methodology or conclusions reached by us.

General advice

70. In preparing this report, we have considered the interests of Carbon's Non-Associated Shareholders taken as a whole. This report contains only general financial product advice and does not consider the personal objectives, financial situation or needs of individual shareholders. An individual's decision in relation to voting for or against the Proposed Transaction may be impacted by the individual's particular circumstances and Shareholders may wish to obtain personal financial product advice from their financial adviser.

Scope exclusions

71. This report has been prepared solely for the purpose of assisting Carbon Energy's Non-Associated Shareholders to consider whether to vote for or against the Proposed Transaction. This report has not been prepared to provide information to parties considering the purchase or sale of securities in Carbon Energy. Accordingly, we do not assume any responsibility or liability for any losses suffered as a result of the use of this report contrary to the provisions of this paragraph.

2 *Industry overview*

2.1 *Introduction*

72. Underground coal gasification (UCG) technology has advanced considerably in the last decade where Australia has been at the forefront of investment and trials. This section of the report provides an overview of UCG technology and the UCG industry environment in Australia and China.

2.2 *Underground Coal Gasification technology*

73. UCG was initially established in the former Soviet Union in the 1930s. Advancements in the industry have made most progress in times of tougher economic conditions such as high fuel prices and concerns over energy security. From the early 1970s to the mid-80s, as global oil prices reached new highs, the US Department of Energy conducted a series of trials to demonstrate advancements of UCG in the field. In recent years, advances in directional drilling, increasing energy demand worldwide and a global focus on delivering more environmentally sound energy production, have reinvigorated UCG innovation. The historical evolution of UCG designs includes Linked Vertical Well, Steeply Dipping Bed, Tunnel and Controlled Retracting Injection Point (CRIP)¹.
74. UCG technology enables the production of syngas which is composed of a selection of gases primarily consisting of carbon monoxide, hydrogen, methane and carbon dioxide which are extracted through a well and utilized in various sectors, ranging from power generation to biodiesel and fertilizer production. The UCG process gasifies coal in-situ, eliminating the need for mining the coal and processing it through a surface gasification plant. UCG offers the potential to use the energy stored in coal deposits that are uneconomic to mine by conventional methods.
75. UCG technology is considered a “clean coal” technology. When coupled with electricity generation, UCG produces 25% less greenhouse gases, 80% less nitrous oxides, and 95% less sulphur oxides per megawatt hour than traditional coal-fired power generation².
76. The value generated by UCG technology is based on the fact that “stranded” coal has no value unmined. The only way to monetize the asset is to utilise UCG for the conversion of the coal to syngas. Once converted to syngas the coal may be economically moved at the lowest possible cost from one location to another in a gaseous form for further conversion to high value product. Syngas itself does not currently have a market or a value of its own and typically can only be valued within an integrated project involving both upstream UCG and downstream conversion process to the higher value product.
77. UCG is typically considered for stranded resources that are any one or a combination of the following:
- Too deep to mine;
 - Lower quality or energy content;
 - Not economical to mine; or
 - Transport to an end user or to port for export is not economical.

¹ Carbon Energy 2015, A short history of Underground Coal Gasification, <http://www.carbonenergy.com.au/irm/content/pdf/A%20short%20history%20of%20Underground%20Coal%20Gasification.pdf>

² The Conversation 2014, Is Underground Coal Gasification the new fracking?, <http://www.australianmining.com.au/news/is-underground-coal-gasification-the-new-fracking>

78. The Gasification Technologies Council claim that there are numerous economic and environmental benefits that UCG can deliver that include:
- Increase in safety as the coal no longer is required to be mined;
 - Clean environment as there is no need for coal handling;
 - Air improvements as there is less dust particles in atmosphere through no need to transport the coal;
 - Direct injection of syngas to downstream process requiring no need to prepare raw coal before entering a reactor;
 - Minimal ash or slag significantly reducing disposing needs;
 - No requirement for significant infrastructure such as an above ground gasification plant of high capital intensity;
 - Surface land able to be utilised while gasification occurs underground;
 - Minimal use of groundwater;
 - Environmental impacts traditionally associated with coal mining and handling are no longer an issue; and
 - All or a substantial portion of the sulphur, mercury, arsenic, tar, ash and particulates found in coal remain underground³.

2.3 UCG technology in Australia

79. There are few companies engaged in UCG development and the industry is dwarfed in size by other competing energy industries, such as CSG, that collectively make up the broader alternate energy sector. The domestic UCG industry appears to be clustered in Queensland while on a global perspective is traditionally centred in the Former Soviet Union and is now otherwise fragmented in areas such as Asia, USA, Europe, as well as Australia.
80. UCG projects in Australia were initiated in the 1980s. There have been three pilot projects, all in Queensland being Linc Energy's Chinchilla project, Cougar Energy's Kingaroy project and Carbon Energy's Bloodwood Creek project⁴. None of the projects have reached commercial scale operations and the Cougar Energy project ceased operating following environmental concerns specific to that project. Both of the Cougar Energy and Linc Energy were using technologies other than the keyseam technology used by Carbon Energy.
81. Carbon Energy operated a pilot project at Bloodwood Creek in Queensland from 2008 to 2012 in order to fine-tune the application of their keyseam technology, and to collect necessary data to submit to the state government for approval to operate the technology in Queensland. Although most of the syngas over the demonstration period was flared, some of the syngas was used to power generators, with power used on site and also exported to the local electricity grid. The pilot-scale demonstration project involved operating two underground gasifiers. The "panels" of coal where the gasifiers operated were constructed at a depth of about 200 meters, are 500 meters long, and 30 meters wide, with an average thickness of 8–9 meters⁵. In March 2012, the Company achieved Proof of Concept from panel construction to

³ The Gasification Technologies Council 2014, What is gasification, Underground Coal Gasification, <http://www.gasification.org/what-is-gasification/how-does-it-work/underground-coalgasification/>

⁴ Queensland State Government 2007, Linc Energy Ltd Underground Coal Gasification Gas to Liquids and Power Generation Project, <http://www.statedevelopment.qld.gov.au/resources/project/linc-energy/linc-energy-tor.pdf>

⁵ Engelbrecht 2015, Carbon Energy delivers innovations in Underground Coal Gasification, <http://cornerstonemag.net/carbon-energy-delivers-innovations-in-underground-coal-gasification/>

gasification to electricity generation. In October 2012 activities were then ceased as part of the decommissioning phase of the full operational lifecycle.

82. In 2013 the Government commissioned an Independent Scientific Panel (ISP) to report on the Underground Coal Gasification industry. The ISP report stated that UCG has a commercial future and can be managed in an environmentally friendly and socially acceptable manner. The ISP made a number of recommendations and during the 2014 financial year the Company was focussed on achieving the recommendations to demonstrate the keyseam technology environmental credentials⁶. A comprehensive drilling and sampling program was undertaken validating that the Company's unique keyseam technology is environmentally robust and has a low and controlled impact on the environment. The Company lodged a Decommissioning Report and Rehabilitation Plan during 2014 being the final step in the process to satisfy the recommendations in the ISP. These reports demonstrate that the Company can operate its keyseam technology with minimal impact on the environment and also decommission and rehabilitate completed panels.³
83. Since October 2012 the Company has continued advancing its keyseam technology by investing in research and development activities, including:
 - Development of models for predicting UCG production and ground responses to gauge the impact on the underground environment;
 - Enhancing the design for a UCG module with an improved panel start up process and syngas quality control; and
 - Development of the decommissioning and rehabilitation process for exhausted panels.

2.4 UCG technology in China

84. Global energy demand is expected to rise 37% by 2040, according to the International Energy Agency's "World Energy Outlook 2014" with China now consuming approximately 23% of all energy consumed in the world. China's energy demand is set to increase heavily over the next two decades as the country lifts its standards of living⁷. With China's hunger for energy growing, unlocking new energy sources that are commercially and environmentally sustainable have become a priority for China's Government, as reflected in the expected inclusion of UCG in the Chinese strategic 5 year plan. The expected inclusion of UCG in the 5 year plan recognises the significance coal continues to play in providing low cost energy and matches China's strategic imperative to look for cleaner alternatives to traditional coal mining and energy production.
85. China's central planning agency, the National Development and Reform Commission (NDRC), has started to reveal details about the direction of the country's 13th Five-Year Plan (5YP) which covers 2016-2020. The 5YP is the NDRC's blueprint for the long term social and economic policies and sets actionable targets and priorities that are made relevant for all levels of government and industry which have the potential to shape and focus initiatives across China. While details of the next 5YP are not complete, drafts of the plan have begun to be circulated and the inclusion of UCG as a pillar for cleaner, more efficient use of coal is significant to Carbon Energy and setting a positive regulatory environment for new projects⁸.
86. Asia-Pacific is expected to be a growing market for UCG over the next 5 years due to growth in end-use industries ranging from power to chemicals. China along with India and Australia are key markets for UCG projects. China is considered among the countries closest to commercialisation.

⁶ Queensland Ombudsman 2012, The Underground Coal Gasification Report, <http://www.parliament.qld.gov.au/documents/tableOffice/TabledPapers/2012/5412T1124.pdf>

⁷ International Energy Agency 2014, World Energy Outlook 2014, <http://www.iea.org/textbase/npsum/weo2014sum.pdf>

⁸ Carbon Energy 2015, 2015 Annual Report, <http://www.carbonenergy.com.au/IRM/Company/ShowPage.aspx/PDFs/2205-10000000/2015AnnualReportCorporateGovernanceStatement>

87. China has run approximately 15 UCG trials to date. ENN Group (ENN), which is part of the Hebei based XinAo Group, is working closely with corporations in Uzbekistan, the US, Australia, South Africa and the EU, with the aim of using UCG syngas for chemical manufacture. The Chinese Government provided a significant grant to ENN to develop UCG to reduce the nation's dependency on foreign imported natural gas⁹.
88. In 2011, a US\$1.5bn commercial partnership was launched between the UK and China to gasify 6m t/y of buried coal in Inner Mongolia's Yi He coal field to generate 1,000 MW of power⁹.

⁹ Yang, Sheng and Green 2014, UCG: Where in the world?, http://eprints.whiterose.ac.uk/78720/7/872gasiUCG_NW.pdf

3 Overview of Carbon Energy

3.1 Profile of Carbon Energy Limited

89. Carbon Energy Limited is a Queensland based energy technology company focused on the development and commercialisation of (UCG) projects using its proprietary UCG keyseam technology that transforms solid coal into gas underground and optimises the amount of energy extracted from otherwise stranded coal resources.

90. Carbon Energy Limited current has four main projects as summarised in the table below:

Table 1: Carbon Energy's main projects

Project	Location	Parties involved
Blue Gum Gas Project	Dalby, Surat Basin, Queensland	Carbon Energy Limited
Haoqin Coal Field	Inner Mongolia, China	Carbon Energy Limited and Zhengzhou Coal Industry Group Co Ltd under a Master Technology License Agreement
Mulpun Project	Mulpun, Chile	Carbon Energy Limited and Antofagasta Minerals S. A under a Project Agreement
Claromeco Coal Basin	Argentina	Carbon Energy Limited and Delmo Group under a Memorandum of Understanding

91. Bloodwood Creek was the pilot site for the commercialisation trial of the company's keyseam technology. In March 2012, the Company achieved Proof of Concept from panel construction to gasification to electricity generation. In October 2012 activities were then ceased as part of the decommissioning phase of the full operational lifecycle. Since October 2012 the Company has continued developing its UCG knowledge by undertaking further research and development activities to advance the keyseam technology. Activities included undertaking a comprehensive drilling and sampling program validating that the Company's unique keyseam technology is environmentally robust and has a low and controlled impact on the environment.

92. The Blue Gum Gas Project is a key focus for the company as it seeks to achieve Queensland Government approval and develop a plan for a commercial scale project. It is expected that the project will be able to supply 25PJ of natural gas per annum within three years from project commencement. The Blue Gum Gas Project will also involve an expansion of Carbon Energy's existing Bloodwood Creek site (both sites are adjacent to each other) and the construction and operation of a Synthetic Natural Gas (SNG) Plant on the Blue Gum project site.

93. In June 2013, Carbon Energy Limited entered in to a Master Technology License Agreement with Zhengzhou Coal Industry Group Co Ltd to be the exclusive UCG technology partner for a commercialisation project aiming to produce 30PJ per annum, with the project fully funded by the Zhengzhou Group. The payments to be made to Carbon Energy under the Agreement include \$10 million in Technology Licensing fees, \$5.25 million in Engineering Service fees for a total of \$15.25 million. A trigger payment of \$0.7 million was received in November 2013. In March 2014 another milestone payment of \$1.1 million was made, commencing stages 4, 5, and 6 of the project. However this takes the total payments received to only \$1.8 million and work on the project is on hold until further payments are received.

94. The two projects in South America show the company's continued push to demonstrate the keyseam technology's global application. Both projects have completed initial project development and drilling activities, however, negotiations for the progression towards commercialisation remain ongoing between the respective parties involved.

3.2 Company history

95. We have listed below a summary of key events in Carbon Energy Limited’s history:

Table 2: Carbon Energy timeline of key events

Date	Event
2006	• Company formed through a joint venture between Metex (now Carbon Energy Ltd) and the Commonwealth Scientific and Industrial Research Organisation (CSIRO)
2008	• Development and construction of its first UCG pilot trial at Blackwood Creek
2011	• Demonstrated a core component of the keyseam technology by proving automation of its Controlled Retractable Injection Point (CRIP)
2011	• First attempt to take technology international via Mulpun Project in Chile
2012	• Achieved Proof of Concept at Bloodwood Creek site and first generation of electricity
2012	• Decommission of Bloodwood Creek site
2013	• Entered into a Master Technology License Agreement with Zhengzhou Coal and received first trigger payment for Haoqin Coal Field Project
2014	• Decommissioning report and rehabilitation plan for Bloodwood Creek lodged
2014	• Announcement of significant increase to 2P reserves making the company Queensland’s 5 th largest holder.
2015	• \$2 million remitted by key shareholder - Kam Lung with shareholding increasing to 19.99%
2015	• Proposed joint venture with Beijing JinHong Investment Co., Ltd (a Chinese associate of the Hong Kong based Kam Lung)

3.3 Overview of keyseam technology

96. The keyseam technology was originally developed by the CSIRO and has been proven through six years of field trials to be a highly controlled technology that minimises surface disturbance, preserves groundwater quality (compared to other surface-underground mining activities such as fracking), and provides access to coal and gas resources that may have been previously considered uneconomical.
97. Through the process of UCG a consistent quality and maintainable flow of gas throughout the extraction process is required for consistent quality gas to be produced for electricity generation. Traditional UCG technologies can encounter difficulties in achieving the necessary consistent flow. The gas product produced with the keyseam technology is referred to as “syngas” a blend of methane, ethane, hydrogen and other gases, which allows for the consistent quality gas flow from the extraction process and ease in power generation. In addition, unlike other UCG technologies that attempt to gasify the total coal seam, keyseam technology leaves pillars of coal between each panel, which minimises surface subsidence.
98. A further benefit of the keyseam technology relative to above ground gasification is the capital is typically staged through the life of the project whereas the capital required for above ground gasification projects is largely at the beginning of the project.

3.4 Financial information

Historical profit and loss

99. The reported operating performance of Carbon Energy for the three financial years ended 30 June 2015 (audited) is summarised in the table below:

Table 3: Carbon Energy Statement of Profit or Loss

Statement of Profit or Loss (AUD millions)	Audited FY13	Audited FY14	Audited FY15
Revenue and other income	0.82	6.46	4.19
Employee costs	(5.93)	(6.18)	(4.28)
Administration, legal and corporate costs	(3.18)	(2.36)	(1.76)
Consultancy costs	(1.88)	(1.05)	(1.33)
Other operating costs	(1.87)	(1.62)	(0.31)
Impairment expense	(18.79)	(1.97)	(0.63)
EBITDA	(30.83)	(6.73)	(4.12)
Depreciation and Amortisation	(0.10)	(0.15)	(0.23)
EBIT	(30.93)	(6.87)	(4.35)
Finance expense	(3.51)	(2.02)	(1.88)
Profit before tax (and abnormal items)	(34.44)	(8.89)	(6.22)
Abnormal items	(1.15)	0.00	0.00
Profit before tax	(35.58)	(8.89)	(6.22)
Income tax expense	0.00	(0.23)	0.05
Net Profit	(35.58)	(9.12)	(6.17)

Source: Carbon Energy Annual Reports

100. Historically, revenues have been derived primarily from research and development tax incentive rebates from the Australian Taxation Office and an export market development grant from Austrade.
101. Impairment expenses in FY13 and FY14 primarily relate to US coal assets which were written down following a decision not to proceed with the commercialisation of the resource. The impairment charge in FY15 relates to the creation of a trade receivable provision with respect to an amount owing from Haoqin Mining which has experienced continued delays in payment.
102. As a result of Carbon Energy's limited revenue streams and continued investment in the development of the keyseam technology, significant losses have been incurred historically.

Statement of financial position

103. The reported summary statement of financial position of Carbon Energy for the three financial years ended 30 June 2015 (audited) is set out in the following table:

Table 4: Carbon Energy Statement of Financial Position

Statement of Financial Position (AUD millions)	Audited 30 June 2013	Audited 30 June 2014	Audited 30 June 2015
Cash and cash equivalents	1.8	2.4	1.7
Trade and other receivables	0.1	1.5	0.1
Other current assets	0.1	0.0	0.1
Total current assets	2.0	3.9	1.8
Property, plant and equipment	95.7	95.6	95.6
Long term investments	3.9	1.1	1.1
Intangible assets	47.6	47.6	47.9
Total non-current assets	147.2	144.3	144.6
Total assets	149.2	148.2	146.4
Trade and other payables	0.6	0.4	0.3
Accrued expenses	0.3	0.3	0.4
Deferred revenue	0.0	0.9	0.0
Borrowings	3.0	0.0	1.2
Other current liabilities	1.8	1.0	0.2
Total current liabilities	5.7	2.7	2.0
Borrowings	6.2	7.0	8.0
Other non-current liabilities	2.3	2.9	3.7
Total non-current liabilities	8.5	9.9	11.8
Total liabilities	14.2	12.6	13.8
Net assets	135.0	135.6	132.6

Source: Carbon Energy Annual Reports

104. Cash reserves have historically been low and Carbon Energy has relied on equity funding and short-term financing facilities to fund their liquidity and working capital requirements.
105. Property, plant and equipment primarily relates to the carrying amount of exploration and evaluation assets. Recoverability of the carrying amount is dependent on successful development and commercial exploitation of the resource.
106. The intangible asset balance represents the keyseam technology. The intangible has an indefinite life and is tested annually for impairment.
107. Non-current borrowings relate to a secured convertible note owing to Pacific Road Capital. Pacific Road may convert all or part of the Facility amount to shares in the Company at any time during the term at a conversion price of \$0.14. The Pacific Road Convertible Note Facility is secured by a mortgage over the keyseam technology. Interest on the convertible note is paid through the issue of shares.

Statement of cash flows

108. The summary cash flow statements for Carbon Energy for the three financial years ended 30 June 2015 (audited) is summarised in the table below:

Table 5: Carbon Energy Statement of Cash Flows

Statement of Cash Flows (AUD millions)	Audited FY13	Audited FY14	Audited FY15
Cash flows from Operating Activities			
Receipts from customers and Government Grants	7.00	5.68	3.96
Payments to suppliers and employees	(13.37)	(12.43)	(8.14)
Taxes paid	-	(0.18)	-
Interest received	0.19	0.17	0.09
GST and other receipts	0.61	0.75	0.43
Net cash used in operating activities	(5.58)	(6.01)	(3.66)
Cash flows from Investing Activities			
Payment for PP&E and intangibles	(0.62)	(0.13)	(0.11)
Sale of PP&E and intangibles	0.35	1.05	-
Payments for exploration and evaluation costs	(0.46)	(0.12)	(0.20)
Other payments	(0.16)	-	-
Net cash (used in) investment activities	(0.90)	0.80	(0.30)
Cash flows from financing activities			
Proceeds from issue of shares	-	8.87	2.57
Proceeds/(repayments) from borrowings	3.0	(3.0)	1.17
Capital raising and financing costs	(0.01)	(0.05)	(0.25)
Term facility costs	(1.01)	-	(0.22)
Net cash provided by financing activities	1.98	5.83	3.27
Net increase/(decrease) in Cash	(4.49)	0.61	(0.69)
Cash at the beginning of the period	6.27	1.77	2.39
Cash at the end of the period	1.77	2.39	1.69

Source: Carbon Energy Annual Reports

109. In the three years to 30 June 2015 the annual operating cost shortfall has been between \$3.7 million and \$6 million. At 30 September 2015 the cash balance available to Carbon Energy was \$3.4 million which includes the \$2 million placement funds from Kam Lung. Funding for the business has primarily been sourced through cash proceeds raised from share issuances or borrowings from short-term financing facilities as operating cash flows have historically been negative.

3.5 Capital structure

Ownership

110. As at the close of trading on 21 October 2015, Carbon Energy had a market capitalisation of \$25.1 million and the issued capital of Carbon Energy comprised 1,479.1 million ordinary shares.
111. Ownership of Carbon Energy is somewhat concentrated, with the top 10 shareholders holding 49% of the total ordinary shares on issue. The top 10 shareholders and their respective holdings are set out in the table below:

Table 6: Carbon Energy List of Top 10 Shareholders

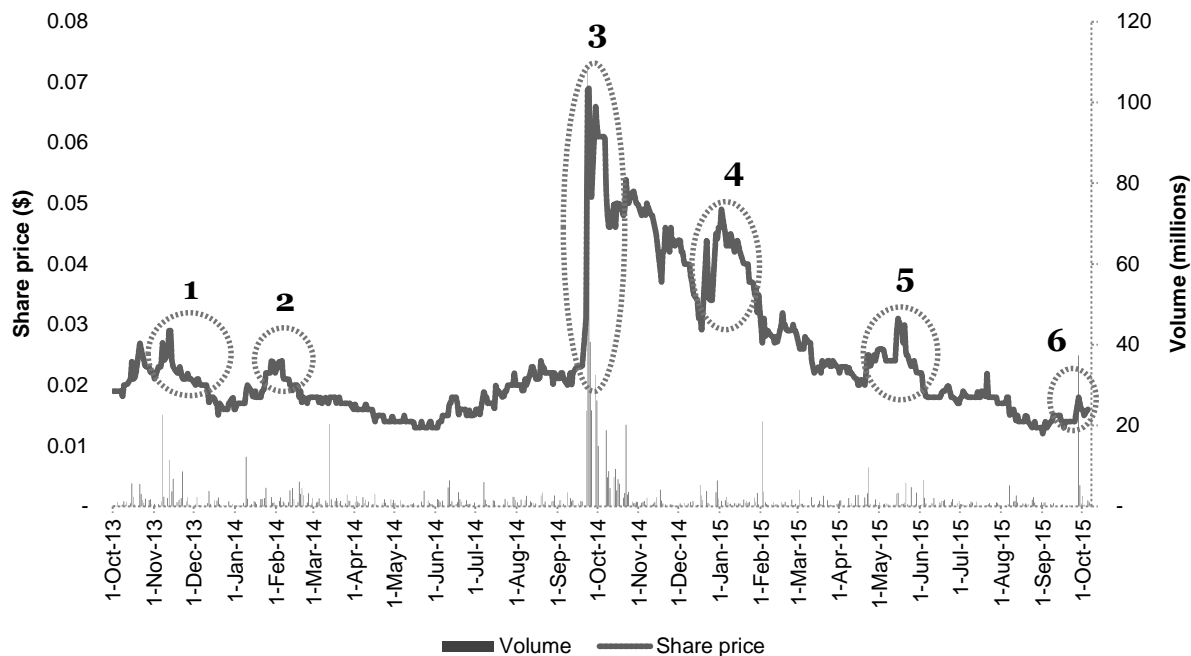
Rank	Name	Shares (millions)	% held
1	Kam Lung Investment Development Company Limited	295.7	19.99%
2	Pacific Road Group of Companies	132.8	9.0%
3	Citicorp Nominees Pty Limited	81.5	5.5%
4	Incitec Pivot Limited	75.6	5.1%
5	Lujeta Pty Ltd	40.4	2.7%
6	Commonwealth Scientific and Industrial Research Organisation	28.3	1.9%
7	Mr Ross Francis Stanley	22.9	1.6%
8	Twynam Agricultural Group Pty Ltd	19.6	1.3%
9	Mr Clifford Mallett and Mrs Wendy Mallett	17.9	1.2%
10	Mr KB	15.5	1.0%
Top 10 shareholders		730.2	49.4%
Remaining Holders Balance		748.8	50.6%
Total		1,479.1	100.0%

Source: Carbon Energy

Recent share price analysis

112. The figure below illustrates the trading performance of Carbon Energy shares from 16 October 2013 to 16 October 2015 together with historical volumes traded and key influencing items:

Chart 1: Carbon Energy historical share price and trading volumes



Source: Capital IQ

Table 7: Key events influencing Carbon Energy's share price

Key influencing items		
1	13 November 2013	CNX entered into a trading halt and issued a Rights Issue Shortfall Prospectus for a shortfall of 90 million shares.
2	30 January 2014	December 2013 Quarterly Activities Report released.
3	22 September 2014	Carbon Energy announced a significant increase in its Proved and Probable Surat Basin gas reserves.
	2 October 2014	Carbon Energy enters into a trading halt and announces a material private placement capital raising at a price of \$0.05 per share.
4	22 December 2014	Carbon Energy advises that they have received confirmation from the Department of Environment and Heritage Protection that the Government appointed external consultant has completed its review of the Company's Decommissioning Report and Rehabilitation Plan.
	30 December 2014	Carbon Energy responds to a price query issued by the ASX, no further investigation pursued.
5	27 April 2015	March 2015 Quarterly activities and business development updates.
	22 May 2015	Carbon Energy releases update on Summa Resources dispute.
6	28 September 2015	Announcement of the Proposed Transaction.
Over the period 27 September 2013 to 16 October 2015 Carbon Energy's share price has traded in a range of \$0.069 to \$0.012 per share.		

Source: ASX Announcements and Capital IQ

113. The 30 day VWAP of a Carbon Energy share prior to the announcement of the Proposed Transaction on 28 September 2015 was \$0.0139. We note that the VWAP of a Carbon Energy share from the announcement of the Proposed Transaction to 16 October 2015 is \$0.021, which represents a 49% increase in value per share relative to the 30 day VWAP, prior to the announcement.

Liquidity

114. From the table below, it can be seen that Carbon Energy shares had a low level of trading liquidity on the ASX, with approximately 4.3% of the total number of securities changing hands on average per month in 2015.

Table 8: Analysis of Carbon Energy's historical trading volumes

Year	Days Traded	Avg Daily Price (\$)	Avg Daily Volume Traded (millions)	% of Shares Traded Monthly
2011	261	0.353	1.2	3.7%
2012	261	0.129	1.5	4.0%
2013	260	0.046	1.0	2.6%
2014	261	0.020	1.4	2.5%
2015	261	0.031	2.9	4.3%

4 *Valuation of Technology License Agreement*

4.1 *Valuation summary*

115. The value of the Technology Licence Agreements has been assessed on the basis of market value as described in Section 1 of this report.
116. We have assessed the value of the Technology Licence Agreements in the range of US\$12.3 million to US\$26.1 million with a mid-point value of US\$40.0 million.
117. The valuation of an asset such as the Technology Licence Agreements is particularly subjective. The value outcomes are highly sensitive to assumptions on a range of key factors including the probability of successfully signing licence agreements for projects, the number of projects that might acquire licence agreements and the price that might be paid for each project licence.
118. While there is some objective basis on which to base these key assumptions, given the technology is still to be commercialised there is a high degree of judgement in forming such views. As a result, while we present our valuation ranges as our best estimates of the value of the Technology Licence Agreements, we acknowledge there is potentially a broad range of values for the asset.
119. For this reason, notwithstanding our assessment as to the fairness of the Proposed Transaction, the consideration of the reasonableness of the Proposed Transaction is also very important in this instance.

4.2 *Our approach*

120. There are a number of commonly adopted methodologies that could be used to assess the value of the license. Widely accepted methodologies include:
 - **Discounted cash flow** – This method indicates the value of an asset based on the present value of the cash flows that the asset can be expected to generate in the future. Such cash flows are discounted at a discount rate (the cost of capital) that reflects the time value of money and the risks associated with the cash flows;
 - **Market approach** – Assesses the value of an asset by comparing it to market transactions of other similar assets. This method relies upon being able to identify comparable transactions. As intangible assets are normally inherently unique and are often sold with other assets, these conditions are rarely satisfied; and
 - **Cost approach** – Is based on the theory that a prudent investor would pay no more for an asset than the amount for which the asset could be replaced. To the extent the asset being valued provides less utility than the new asset, replacement cost is reduced for such factors as physical deterioration and functional or economic obsolescence.
121. Each methodology is appropriate in certain circumstances and the decision as to which methodology to apply generally depends on the nature of the IP being valued; commonly adopted approaches used to value similar IP and the availability of information.
122. We have selected the discounted cash flow (DCF) methodology as our primary valuation methodology to assess the underlying value of the Technology Licence Agreements. In choosing to adopt a DCF approach we have considered a number of factors including:
 - The nature of the IP;
 - The licence’s cash flow profile; and

- The limited availability of comparable market data.
123. In assessing the value of the Technology Licensing Agreement we have determined its value assuming Carbon Energy continue to license it outside of a Joint Venture arrangement. We consider this the most objective basis for our fairness assessment, as otherwise we would be considering the value of the Technology Licensing Agreement in an alternative Joint Venture structure when we are already aware that to date Carbon Energy have not been able to identify a Joint Venture arrangement partner prepared to proceed on terms more attractive than the terms of the proposed transaction.
124. In applying the DCF approach we have probability weighted the cash flows to reflect the technical, commercialisation and market risks given the early stage of the Technology.

4.3 Valuation assessment

125. The DCF methodology is generally considered the most appropriate valuation methodology when valuing projects with discrete cash flows as it explicitly considers the size and timing of individual cash flows with a finite life and which have significant initial capital costs.
126. As such, we have applied the DCF methodology in undertaking our valuation assessment of the project as our primary methodology.
127. Carbon Energy has provided us with a per project fee model for licensing of the Technology. This technology fee model has been developed based on their experience of prior licensing contract negotiations. This project fee model forms the basis for our valuation. From the fee model, we have developed cash flow projections taking into account the following:
- The investment required to demonstrate the keyseam technology in China
 - Consideration of the potential market in China for UCG technology;
 - Analysis of the manner in the technology could be licenced;
 - The rate at which licencing projects can be undertaken; and
 - The revenues and costs associated with licencing of the Technology.
128. In developing the cash flow projections, we have adopted certain estimates for key parameters including, the discount rate, project probability of success and number of projects consistent with a market valuation approach.
129. We have considered market based approaches and carried out a comparable company analysis, however there does not appear to be any valid or meaningful cross-check available based on transactions in the UCG industry due to a lack of comparability of the licensing structures.
130. A summary of the valuation assessment as at the date of this report based on low, mid-point and high asset values is set out below.

Table 9: Technology License Agreement valuation range

Valuation (US\$ in millions)	Low	Mid-point	High
Technology License Agreement	12.3	26.1	40.0

131. We consider the low value to be a conservative assessment of value, which reflects a lower number (5) of projects successfully licensed in China. The low scenario has the project success probability weighted at 25% for each of the 5 projects.
132. The high value is an optimistic assessment of the value, which includes a higher number (10) of projects successfully licensed in China. The high scenario has the project success probability weighted at 25% for each of the projects.

133. The mid-point value has been assessed based on the mid-point of the range of the possible valuations.

4.4 Key assumptions for future cash flows

134. The key parameters adopted in the DCF valuation analysis are summarised below:

Technology fees

135. In the valuation the technology fees are separated into three components:

- License fees are a one off fee that are generated in the first year of the project. The license fee is assumed to be US\$10m in year 1, which is based on the previous negotiations Carbon Energy has engaged in with other parties in recent years. For example, the agreement with Xiwuqi Haoqin Tiancheng Mining Co. Ltd for the project in Inner Mongolia signed in June 2013 included approximately US\$10m (at then exchange rates) in technology licensing fees;
- Technical service fees are generated during the first and second year of the project. These are assumed to be US\$4 million in each year and have been based on previous work packages undertaken on projects and preliminary negotiations with actual and potential licensees of the Technology; and
- Royalties or retainer payments form an ongoing revenue stream from year 3 onwards until the joint venture agreement ends. The value of the royalty is based on an average project size using a cubic metre of Syngas basis at a rate of 2¥/Scm³. The timing and size of the revenue can be seen in the table below:

Table 10: Summary of timing and magnitude or revenue stream assumptions

Fee (US\$)	Year 1	Year 2	Year 3 & onward
License Fee	10,000,000	-	-
Technical Services income	4,000,000	4,000,000	-
Royalty or retainer fee	-	-	6,000,000

Number of projects

136. The value of the Technology Licence Agreements lies in the number of technology licences and sub-licence agreement that can be entered into within China and the associated technical service fees that can be potentially earned.
137. As previously described in the industry section, China currently has numerous opportunities for coal producers to utilise the keyseam technology. Based on Carbon Energy’s 5 year China plan, it is estimated that between 5 and 10 projects can be licenced.
138. Carbon Energy estimate there are many, possibly hundreds, of coal deposits that UCG technology could be applied to in China. However the commercial reality is that the total capital cost over the life of a UCG project is significant, potentially hundreds of millions of dollars. In addition, Carbon Energy has an ongoing involvement in projects to ensure the technology is operating as required. It is these ongoing services which the ongoing royalties or retainer payments will cover. This means that in the short to medium term at least there is some constraint on how many projects or retainer payments Carbon Energy could reasonably service.
139. Since 2012 Carbon Energy has been involved in meaningful discussions on 3 projects in China, however none of those projects have yet delivered any material revenues for Carbon Energy.
140. In this context we have estimated a range of 5 to 10 projects being successfully licensed during the period of the Joint Venture. We note that Carbon Energy’s own internal valuation analysis used to support the carrying value of the intangibles on their balance sheet assumed between 5 and 8 projects in China.
141. It is assumed each project has a life of 26 years.

Probability of projects

142. There is limited direct evidence available to estimate the probability of Carbon Energy successfully licensing the keyseam technology in China. It is certainly possible given the gasification of coal is expected to be promoted as part of China's next 5 year plan, a license agreement was signed in 2013 for the Haoqin coal project in Inner Mongolia and Carbon Energy have been involved in discussions with a number of other potential project partners in China. However these factors must be considered in the context that Carbon Energy have been holding discussions with parties in China since 2012 and in that time have only signed one license agreement and received one partial license payment.
143. Studies into the percentage of patents that are commercialised should be treated with caution as to their applicability to a specific piece of technology; however they are at least instructive as to the range of probabilities that may be contemplated.
144. Reported percentages vary widely but some studies we are aware of include:
- A paper jointly prepared by the World Intellectual Property Organisation and the International Federation of Inventors Associations in 1996 indicated that only 5% to 7% of inventions for which patents have been granted reach commercialization¹⁰;
 - A 2009 working paper published by the University of Melbourne surveyed Australian patent applicants and found that 41.5% of patent applications granted reached mass production, with that figure rising to 45% if patents that did not reach development stage were excluded¹¹. Of course not all patents that reach mass production will be profitable. In fact the same study referenced a study published in 1991 which found in a survey of Canadian inventors that around 43.3% of patents received positive revenues but only approximately half of those were profitable; and
 - A 2006 survey covering Swedish patents granted to individuals and small firms found that approximately 61% of patents were commercialized however approximately 28% were profitable¹².
145. In this instance there has been significant investment made into the keyseam technology including the Bloodwood Proof of Concept project so it is reasonable to expect the probability of achieving commercial success in China is well above the low rates of 5% to 7% considered for patents broadly. However given the challenges experienced to date in China and the difficulties in doing business there without a partner we consider a probability of 25% as being a reasonable estimate of the probability of success without a partner in China. This is broadly in line with the percentages reported in the Canadian and Swedish studies referred to above.

Operating costs

146. Operating costs have been determined using a build-up approach by Carbon Energy Management. The cost of US\$3.0 million represents a cost of 75% of the total fee for PDP/UDP/TSA services which is US\$4 million for years 1 and 2 of each project. From year three onwards operating costs are estimated to represent 15% of the US\$6 million fee per annum. The estimate of US\$0.9 million for operating costs is to encompass the cost of resources to perform quarterly project visits and 24/7 remote data monitoring.

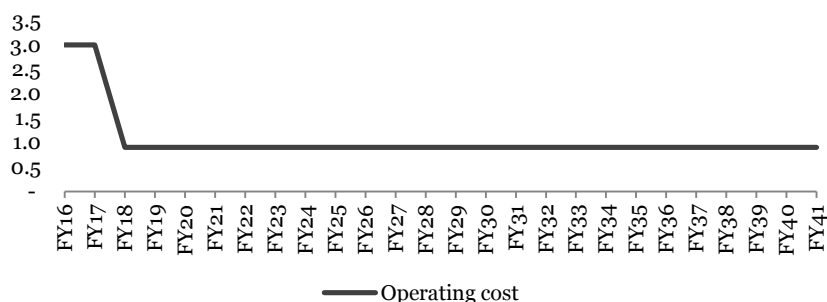
¹⁰ World Intellectual Property Organization and International Federation of Inventors' Associations 1996, Introduction to commercialization of patented inventions, http://www.wipo.int/meetings/en/doc_details.jsp?doc_id=637

¹¹ Webster and Jensen 2009, Do patents matter for commercialization, http://www.epip.eu/conferences/epip04/files/WEBSTER_Elizabeth.pdf

¹² Braunerhjelm and Svensson 2006, The inventors role: Was Schumpeter right?, http://www.ipadvocate.org/studies/kaswan/pdfs/3.2c_inventor%20role.

Chart 2: Real operating costs per project

Real operating cost per project



- 147. Corporate general and administrative expenses (G&A) have been incorporated. The proposed G&A expense per annum is estimated to be \$1.0 million per annum for management and operational staff during the life of Technology Licensing Agreements.

Capital costs

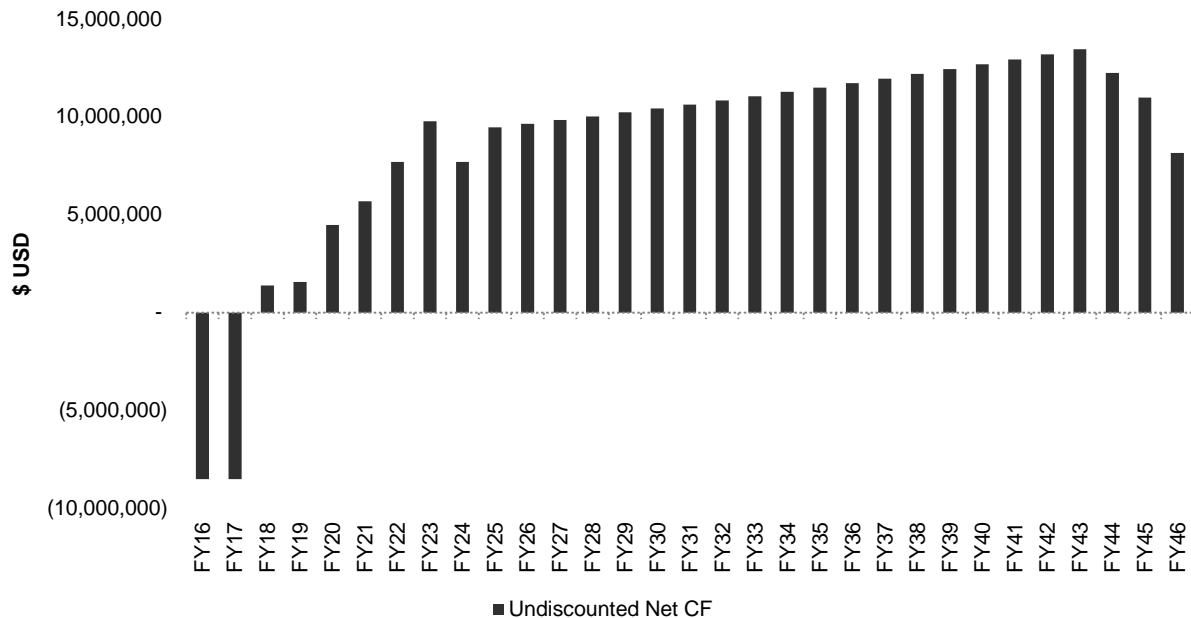
- 148. In the valuation of the Technology Licence Agreements, we have assumed Carbon Energy (without a Joint Venture partner) would need to incur capital to demonstrate the proof of concept for the keyseam technology in China. While Carbon Energy has not been planning this capital it is apparent from their latest discussions this is an important stage in establishing the technology in China. We have estimated US\$15 million in capital is incurred over two years. The US\$15 million is less than the amount being contributed to the Joint Venture in the Proposed Transaction to fund the demonstration plant, the operations of the Joint Venture and development of future sub-licensing opportunities in China. However, it is considered a reasonable estimate given Carbon Energy’s historical experience with the costs of establishing a demonstration facility at Bloodwood Creek and recognising that the capital to be contributed to the joint venture is intended to give the joint venture sufficient capital to explore a range of options in the way an initial project may be configured and the keyseam technology commercialised in China.
- 149. It is assumed the capital is incurred regardless of the success of licensing projects. That is, our cash flow model assumes 100% of the capital but applies the probability weighting of 25% to the potential success of projects.

Cash Flows

150. The graph below sets out the probability weighted cash flows included in our model.

Chart 3: Probability weighted cash flows of the Technology License Agreements

Valuation of Technology License Agreement (10 Projects)



Other considerations

151. We have assumed a corporate tax rate of 30% in our valuation of the Technology Licence Agreements recognising that for now the intellectual property sits in Australia.
152. Where values were presented in real terms, we converted the values to nominal using a long term inflation rate of 2.0% per annum. Our estimate is based on the United States Federal Open Market Committee's judgement that annual inflation of 2.0% is the most consistent over the longer run with the Federal Reserve's mandate for price stability.

Sensitivity analysis

153. We have conducted sensitivity testing for the valuation of the Technology Licensing Agreement by flexing our assumptions for the probability weighting of each cash flow.
154. The impact of changing the probability weighting of cash flows can be seen in the table below. As illustrated in the table, the valuation in both scenarios is sensitive to the probability assumptions. The mid-point of our valuation is US\$26.1 million, with a sensitivity test of +/- 10% probability weighting for the cash flows.

Table 11: Valuation sensitivity of Technology License Agreements

No. of projects	Probability				
	15%	20%	25%	30%	35%
5	0.0	5.7	12.3	18.8	25.4
10	15.8	27.9	40.0	52.1	64.2

Other Valuation Cross Checks

155. There are limited meaningful cross checks that can be performed in relation to our valuation of the Technology Licensing Agreement of US\$12.3 million to US\$40.0 million
156. The keyseam technology is carried at \$47.9 million in the Carbon Energy balance sheet; however this represents the value for all the technology, the Technology License Agreement is only for China.
157. The market capitalisation of Carbon Energy at 21 October 2015 is approximately \$25.1 million, which is below at least part of our valuation range for the Technology License Agreement in China alone. However there are a number of reasons why the trading price of Carbon Energy may not reflect the value of its underlying assets including, its modest liquidity levels and concern over ongoing funding risks.

4.5 Discount rate

158. We have discounted the cash flow forecasts to their present value using a post-tax nominal discount rate in the range of 10.75% to 12.0% with a mid-point of 11.25%.
159. While the discount rate should reflect the inherits risk of a project, by attempting to adjust the discount rate to account for a higher risk in the valuation of the Technology Licensing Agreement, there is a potential double counting of risk as the probability weightings already attempt to encompass the risk of the technology being successfully licensed.
160. Our assessment of the cost of capital for the Technology Licence Agreements is set out at Appendix C. Our assessed cost of capital incorporates the comparable company data from a multitude of comparable companies which includes global underground gasification companies, coal gasification companies, coal seam gas companies and general gas explorers and producers. We have also had regard to biotechnical companies which face similar types of commercialisation risks to those faced by Carbon Energy. Given we have adopted an asset beta of 1.3 which is above our base estimate for coal and gas companies and we have probability weighted cash flows we have not included any additional specific risk premium in our discount rate.
161. As the proposed transaction is located in China, the risk free rate is required to be revised to incorporate an emerging market risk premium. For the purpose of the valuation we have adopted a risk premium of 0.90%, which is sourced from the research conducted by the Stern School of Business.

5 Valuation of Joint Venture Profit Share

5.1 Assessment of the Proposed Transaction Consideration

162. Under the terms of the Joint Venture Agreement, Carbon Energy will have the right to 30% of the profit distributed by the Joint Venture (Joint Venture Profit Share). To assess the offer under the Proposed Transaction, it is necessary to consider the value of the Joint Venture Profit Share.

5.2 Valuation summary

163. The value of the Joint Venture Profit Share has been assessed on the basis of market value as described in Section 1 of this report.
164. We have assessed the value of the Joint Venture Profit Share in the range of US\$23.1 million to US\$38.4 million with a mid-point value of US\$30.7 million.
165. The Joint Venture will hold, as its primary asset, the Technology Licensing Agreements which provide it with the ability to exploit the use of the Technology in China. The value of the Joint Venture is a function of the combination of the Technology License Agreements and the value of the synergies that can be realised through the strong links with China that the joint venture partner holds. This enables the Joint Venture to capitalise on opportunities that might otherwise be more difficult to secure in the Chinese market without a local Chinese partner.
166. The valuation of the Joint Venture Profit Share is equally as subjective as the valuation of the Technology Agreement itself. The value outcomes are highly sensitive to assumptions on a range of key factors including the probability of successfully signing license agreements for projects within the Joint Venture, the number of projects that might acquire license agreements and the price that might be paid for each project license.
167. While there is some objective basis on which to base these key assumptions, given the technology is still to be commercialised there is a high degree of judgement in forming such views. As a result, while we present our valuation ranges as our best estimates of the value of both the Technology License Agreement and the interest in distributions of the Joint Venture being received, we acknowledge there is potentially a broad range of values for both assets.
168. For this reason, notwithstanding our assessment as to the fairness of the Proposed Transaction, the consideration of the reasonableness of the Proposed Transaction is also very important in this instance.

5.3 Our approach

169. There are a number of commonly adopted methodologies that could be used to assess the value of the Joint Venture Profit Share. Widely accepted methodologies include:
- **Discounted cash flow** – This method indicates the value of an asset based on the present value of the cash flows that the asset can be expected to generate in the future. Such cash flows are discounted at a discount rate (the cost of capital) that reflects the time value of money and the risks associated with the cash flows;
 - **Market approach** – Assesses the value of an asset by comparing it to market transactions of other similar assets. This method relies upon being able to identify comparable transactions. As intangible assets are normally inherently unique and are often sold with other assets, these conditions are rarely satisfied; and

- **Cost approach** – Is based on the theory that a prudent investor would pay no more for an asset than the amount for which the asset could be replaced. To the extent the asset being valued provides less utility than the new asset, replacement cost is reduced for such factors as physical deterioration and functional or economic obsolescence.
170. Each methodology is appropriate in certain circumstances and the decision as to which methodology to apply generally depends on the nature of the asset being valued, commonly adopted approaches used to value similar assets and the availability of information.
171. We have selected the discounted cash flow (DCF) methodology as our primary valuation methodology to assess the underlying value of the Joint Venture Profit Share. In choosing to adopt a DCF approach we have considered a number of factors including:
- The nature of the anticipated profit share;
 - The profile of the profit share; and
 - The limited availability of comparable market data.
172. In applying the DCF approach we have probability weighted the anticipated profit share of the Joint Venture to reflect the technical, commercialisation and market risks given the early stage of the Technology on which the profit share is based.

5.4 Valuation assessment

173. The DCF methodology is generally considered the most appropriate valuation methodology when valuing cash flow streams with discrete cash flows as it explicitly considers the size and timing of individual cash flows with a finite life.
174. As such, we have applied the DCF methodology in undertaking our valuation assessment of the Joint Venture Profit Share as our primary methodology.
175. The profit projections for the Joint Venture have been developed using the same assumptions which underpin the Technology License Agreement cash flows. These are set out in paragraphs 135 to 147 of this report. In addition we have taken account of the following additional factors:
- The terms of the Joint Venture agreement and its structure; and
 - The enhanced ability of the Joint Venture to exploit the Technology in China given its local presence, contacts and experience, that is, the synergies of creating the joint venture through the Proposed Transaction.
176. A summary of the valuation assessment as at the date of this report based on low, mid-point and high asset values is set out below:

Table 12: Valuation range of Joint Venture Profit Share

Valuation (US\$ in millions)	Low	Mid-point	High
Joint Venture Profit Share	23.1	30.7	38.4

177. We consider the low value to be a conservative assessment of value, which reflects a lower number (5) of projects. The low scenario has the project success probability weighted at 50% for each of the projects.
178. The high value is an optimistic assessment of the value, which includes a higher number (10) of projects. The high scenario has the project success probability weighted at 50% for each of the projects.
179. The mid-point value has been assessed based on the mid-point of the range of the possible valuations.

5.5 Key assumptions for future cash flows

The key parameters adopted in the DCF valuation analysis are summarised below:

Key terms of the Joint Venture

The key terms of the Joint Venture are set out in Section 1 of this report.

Key assumptions

180. The key parameters adopted in developing revenues and costs in the valuation analysis are the same as for the Technology Licence Agreements with respect to the technology fees, number of projects, operating and capital costs. These are set out in paragraphs 135 to 149 of this report. We consider the following additional items in determining the future cash flows for discounting purposes:
- Dividends payable from the Joint Venture are assumed at the rate of 80% of after-tax profits in accordance with the Joint Venture contract. This is based on after tax profits from the licensing agreements sold through the Joint Venture. The Joint Venture Agreement requires that a minimum of 70% of after tax profits is distributed however our assumptions recognise both parties will be incentivised to maximise the distributions made. Upon a liquidation event, the Joint Venture parties are entitled to the remaining assets of the Company after liquidation in accordance with the then ratio for dividend distribution. As a result, we have assumed that at the end of the Joint Venture term of 30 years, any undistributed profits are distributed to the parties;
 - Percentage interest in the Joint Venture – 30% of the dividends are attributable to Carbon Energy in respect of their Joint Venture Profit Share. With regard to projects that are contributed to the Joint Venture by Carbon Energy which have already been identified by Carbon Energy and are contributed to the Joint Venture during the non-exclusive license stage, a 90% share of the dividends are attributable to Carbon Energy. We assume one such project is contributed by Carbon Energy in our valuation. We have not assumed any projects where Carbon Energy receive 100% of project returns.
 - Depreciation calculated for the purposes of determining after-tax profit is based on depreciating the capital invested in the demonstration facility over the 30 year life of the joint venture;
 - Carbon Energy earns a 15% margin on the first project and a 10% margin on Technical Services and Technical Documentation Fees for subsequent projects for those services provided to the Joint Venture, with the remaining margins on such fees for services provided to other projects being earned within the Joint Venture; and
 - We have assumed the Joint Venture will not participate as an investor in a commercial project where they would require capital in excess of the US\$30 million being contributed by JinHong. As Carbon Energy has non-dilution rights it is reasonable to this would only be done if it delivered more value than the sub-licensing arrangements.

Probability of projects in the Joint Venture

181. As indicated under the Technology Licence Agreements valuation, there is limited direct evidence available to estimate the probability of Carbon Energy successfully licensing the keyseam technology in China. The rationale for our probability assumption under the Technology Licence Agreements is set out in paragraphs 142 to 145 of this report.
182. Obtaining a partner in China is expected to significantly enhance the probability of being able to successfully licence the keyseam technology in China. Due diligence commissioned by Carbon Energy identified a number of significant projects which Mr Zuang has been involved with and concluded that Mr Zhuang maintains good relationships with government officials in the provinces of Guizhou and Hunan, and at the central government level. Consequently, we have estimated the probability of achieving commercial licencing with a partner in China would potentially improve from 25% to 50%. This percentage is at the upper end of percentages reported in the studies we have referred to but reflects the fact the technology has already been proved in a demonstration plant in Australia and the Chinese Government is poised to encourage the gasification of coal in its upcoming five year plan. The

involvement of a Chinese partner with financial resources significantly improves the position that a small resource constrained Australian company would be in trying to sell its technology in China.

Other considerations

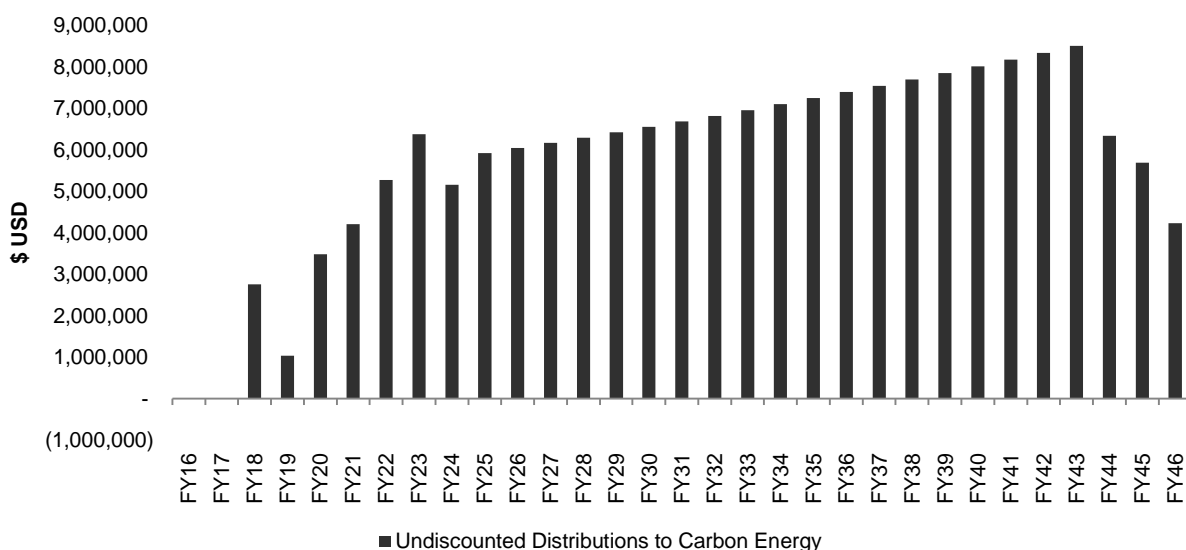
183. The Joint Venture Profit Share represents a significant interest at 30% but is less than a controlling interest which typically would attract some sort of discount to value. In considering any potential discount, we have had regard to the fact that the entity is jointly controlled and requires a unanimous vote on several key decisions, which include:
- any changes to the articles or registered capital of the Joint Venture;
 - granting security over assets;
 - mergers or acquisitions;
 - the public offering of shares;
 - sub licensing of the keyseam technology; and
 - annual budgets, financial accounts or distributions.
184. The interest also has non-dilution rights which protect against dilution without Carbon Energy’s approval. As a result we believe it would be appropriate to apply a minority discount at the low end of the range to the value of the Joint Venture Profit Share. We consider a 5% discount appropriate in this instance.
185. We have assumed a corporate tax rate of 25% in our valuation being the standard corporate tax rate in China.

Cash Flows

186. The graph below sets out the probability weighted cash flows in our model.

Chart 4: Probability weighted cash flows of the Joint Venture Profit Share

Valuation of JV Profit Share (10 Projects)



Sensitivity analysis

187. We have conducted sensitivity testing for the valuation of the Joint Venture Profit Share by flexing our assumptions for the probability weighting of each cash flow.

188. The impact of changing the probability weighting of cash flows can be seen in the table below. As illustrated in the table, the valuation in both scenarios is sensitive to the probability assumptions. The mid-point of our valuation is US\$30.7 million, with a sensitivity test of +/- 10% probability weighting for the cash flows.

Table 13: Valuation sensitivity of Joint Venture Profit Share

No. of projects	Probability				
	40%	45%	50%	55%	60%
5	17.9	20.5	23.1	25.6	28.2
10	30.3	34.3	38.4	42.4	46.5

Other valuation cross checks

189. An alternative view on value is the value of a 30% Joint Venture Profit Share given JinHong have committed to pay US\$30 million for a 70% Joint Venture Profit Share. This price implies a value of US\$12.9 million for a 30% share. This is a material discount to the mid-point value we have estimated for the 30% Joint Venture Profit Share in our DCF based approach, however the US\$12.9 million value arguably doesn't reflect the synergy value created by pairing a Chinese partner with financial reserves with the keyseam technology.

5.6 Discount rate

190. We have adopted the same discount rate range of 10.75% to 12.0%, with a mid-point of 11.25%, assumed for the valuation of the Technology Licensing Agreement.

6 Our assessment of the Proposed Transaction and conclusion

6.1 Assessment of fair

191. On the basis that the consideration under the Proposed Transaction exceeds our assessment of the market value of the Licence agreement, we conclude that the Proposed Transaction is fair. Set out in the table below is a summary of our findings:

Table 14: Valuation summary

	Unit	Low value	Mid-point value	High Value
Estimated market value of Technology Licence Agreements	US\$ million	12.3	26.1	40.0
Estimated market value of Joint Venture Profit Share	US\$ million	23.1	30.7	38.4

Source: PwC analysis

192. The primary reasons our value for the Proposed Transaction Consideration is higher than the value of the Technology License Agreements are:

- By partnering with JinHong, Carbon Energy:
 - Avoid incurring US\$15 million they might otherwise need to fund to develop a Proof of Concept for the keyseam technology in China; and
 - Are assumed to increase the probability of successfully licensing projects in China from 25% to 50%.
- Offset to some extent by Carbon Energy granting a 70% interest in future UCG projects in China to JinHong (other than projects introduced by Carbon Energy during the pre-ignition stage of the demonstration project where in that case JinHong has a 10% interest)

193. This is why at the high end of our range the values of the Technology License Agreements exceeds the value of the Joint Venture Profit Share. The interest in future projects foregone is higher relative to the US\$15 million capital assumed as the base amount required to demonstrate Proof of Concept in China. Therefore, as assumptions on the number of projects or probability of projects being successfully licensed increases, the less likely the transaction is to be fair. However we also note that as such assumptions increase, the value of the Technology Licence Agreements would increase above our current high range of US\$40.0 million which at an exchange rate of US\$0.72 to A\$1 is approximately \$56 million, well above the current market capitalisation of Carbon Energy which is \$25.1 million.

194. Our valuation of both the Technology Licensing Agreements and the Proposed Transaction Consideration adopt a probability weighted DCF approach. If the Proposed Transaction consideration was simply valued using the value implied by JinHong contributing US\$30 million for a 70% interest in the Joint Venture, the implied consideration would be US\$12.9 million. As this is materially less than our mid-point value of the Technology Licence Agreements of US\$26.1 million the Proposed Transaction would be unlikely to be fair. However, we consider the value of \$12.9 million does not properly reflect the synergies of pairing the keyseam technology with a Chinese partner.
195. Notwithstanding our conclusion on fairness, we acknowledge the valuation of the Technology Licence Agreements and the Joint Venture Profit Share is subjective and so we consider our assessment of reasonableness below is important.

6.2 Assessment of reasonableness

196. We conclude that the Proposed Transaction is reasonable on the basis that it is fair; however given the subjectivity of the valuation our consideration of reasonableness factors is still important.
197. We note the implications of a number of qualitative issues which are generally considered in assessing reasonableness. These issues broadly comprise:
 - The process undertaken by the parties in negotiating the terms of the Proposed Transaction;
 - The financial situation and solvency of Carbon Energy;
 - The likely consequences for Non-Associated Shareholders of the company if the Proposed Transaction does proceed;
 - The likelihood of another offer emerging for the Licence Agreement that is better than the current Proposed Transaction from the perspective of the Non-Associated Shareholders of the company;
 - The likely consequences for Non-Associated Shareholders of the company if the Proposed Transaction does not proceed; and
 - Any other commercial advantages and disadvantages to the Non-Associated Shareholders as a consequence of the Proposed Transaction proceeding.

The process undertaken by the parties in negotiating the terms of the Proposed Transaction

198. Kam Lung became a significant shareholder of Carbon Energy in August 2013. Discussions between Carbon Energy and Kam Lung in relation to forming a joint venture initially began in January 2014.
199. Following the successful results achieved in the Queensland UCG trial, Carbon Energy has increased its efforts to market this information to a broader international base, including Asia. Through this process, enquires and interest developed from China, Asia, Europe and South America. With the experience gained from these negotiations with various parties, Carbon Energy has been able to establish key criteria for suitable partners and has acquired knowledge regarding transaction parameters. All current agreements entered into and negotiations underway have stalled to date and no other suitable partners have been identified for the establishment of a gas business in China.
200. In January 2015, discussions between Carbon Energy and Kam Lung were stepped up. The period of review and negotiation continued for several months and involved both the senior management and the board of directors of Carbon Energy.
201. The negotiations were concluded in September 2015, when the commercial terms of the Proposed Transaction were finalised, subject to certain conditions precedent. Therefore, Carbon Energy has followed a process where they have held discussions with a number of parties and the Proposed Transaction has been the only partnership they have been able to conduct on terms acceptable. Carbon Energy also undertook due diligence procedures as part of the process of considering the suitability of Mr Zhuang as a proposed business partner through commissioning of an independent report.

202. Features of the Proposed Transaction which are considered attractive relative to other negotiations which took place are:

- Carbon Energy are not required to contribute cash to the Joint Venture;
- Carbon Energy have the right to refuse any capital raising or sale which may dilute their interest;
- The Technology License is non-exclusive until the demonstration plant has been completed and ignition achieved. This is particularly important given Carbon Energy have previously signed license agreements to eventually find the project does not progress;
- Although their percentage interest is 30% unanimous approval is required for a number of significant items; and
- Carbon Energy retains a 90% interest in license fees from projects they have already identified and commenced negotiations on which are introduced to the Joint Venture during the non-exclusive period.

The financial situation and solvency of Carbon Energy

203. Following the development of its keyseam technology and submission in the last quarter of 2014 of the Carbon Energy Decommissioning Report and Rehabilitation Plan to the Queensland Government, Carbon Energy awaits approval to develop the Blue Gum Gas Project. This project requires substantial funding and there is no certainty as to timing or funding, particularly in light of the current slump in coal and gas markets. It is, therefore, unlikely that this will be a source of funds for Carbon Energy in the foreseeable future.
204. Carbon Energy has also been pursuing different options to realise value through the licencing of its technology to commercial projects. While Carbon Energy was successful in entering into its first licencing agreement in 2013 in relation to a project in Inner Mongolia, progress has been slow. Income amounting to approximately \$1.8 million has been received from the licencing agreement to date but the project has subsequently stalled. Other potential licencing agreements are at differing stages of negotiations but no further agreements have been reached and the ability for any of these projects to start to generate cash in the short to medium term is highly uncertain.
205. In the interim, Carbon Energy's financial position continues to deteriorate and it is increasingly reliant upon support from current shareholders and on securing additional sources of funds to fund the development and commercialisation of its keyseam technology. Market conditions have also substantially decreased the attractiveness of coal and gas assets to investors indicating that divestment of assets (as a potential source of funding) is likely to be at significant discounts to market values. The Proposed Transaction does go some way in addressing the deteriorating financial position. This will be achieved by providing ready access to funding to enable the development and exploitation of the keyseam technology in China thereby creating the potential for access to an income stream from technology licences and establishing a potential source of income from technical services which may, in turn, reduce some of the insolvency risk faced by the company.
206. The joint venture will be capitalised to the extent of US\$30 million by JinHong which is expected to fund the cost of completing the demonstration facility, which could be part of a commercial project. A portion of the costs of establishing the demonstration facility will be the technical services which Carbon Energy will provide to the joint venture, thus providing a source of income to Carbon Energy.
207. In addition, at the same time the Proposed Transaction was announced Kam Lung agreed to a Private Placement which contributed approximately \$2 million to Carbon Energy in return for 123.8 million shares which takes Kam Lung's interest in Carbon Energy to 19.99%. The private placement was at a 14% premium to the closing price on 25 September 2015. The private placement is not subject to the Proposed Transaction being approved however it was negotiated simultaneously and has provided Carbon Energy with much needed cash reserves.

208. Notwithstanding the funds received from the private placement provide some cash for Carbon Energy; at 30 September 2015 Carbon Energy had a cash balance of approximately \$3.3 million and monthly expenses of approximately \$0.4 million to \$0.5 million. This means even if the Proposed Transaction is approved, Carbon Energy will need to generate services or other income or secure funds from alternative sources relatively quickly. The Joint Venture itself remains subject to condition precedents even if the Proposed Transaction is approved and these conditions precedents include approval by Chinese regulatory authorities. Therefore, it may still be some months before Carbon Energy is able to provide services to the Joint Venture.
209. If Carbon Energy were to go into Administration or become insolvent, the Joint Venture is not dissolved. An administrator or equivalent person would need to deal with the Joint Venture. This may make it more challenging to realise value for the keyseam technology in China than if the Joint Venture and China licensing arrangement were not in place. The Joint Venture would not have any rights over the technology itself outside of China.

The likely consequences for Non-Associated Shareholders of the company if the Proposed Transaction does proceed

The Proposed Transaction provides ready access to funding for development and commercialisation of keyseam

210. The Proposed Transaction provides access to a source of funds for the development and commercialisation of the keyseam technology in China which Carbon Energy would otherwise not have access to, particularly given current depressed market conditions for coal and gas assets.

The Proposed Transaction includes an exclusive technical service provider arrangement for Carbon Energy

211. Through the Technical Services agreements established with the Joint Venture, Carbon Energy is contracted to provide technical services to the Joint Venture thereby providing a source of revenue and cash flow to the Company which can potentially alleviate the cash flow constraints currently being experienced by Carbon Energy. This is funded via the capital contributed to the joint venture by JinHong for the development project and project owners for future projects. However it may be some months before these cash flows can commence.

The Proposed Transaction offers strong links to China through business and government contacts

212. A key benefit of the Joint Venture is that it will offer strong links to China through business and government contacts that Kam Lung holds. This is expected to enable greater access to China and suitable coal resources thereby enabling Carbon Energy to capitalise on opportunities that would potentially not be possible to access in the Chinese market without a local Chinese partner. This potentially also reduces risk for shareholders.

No requirement for capital

213. The Proposed Transaction does not require any capital to be committed by Carbon Energy. This is a valuable benefit particularly given the limited ability for Carbon Energy to access additional sources of funding and its limited cash resources.

Added complexity and reduced flexibility

214. Added complexity and reduced flexibility in structuring the Proposed Transaction results from Carbon Energy partnering with a foreign company in a foreign jurisdiction. This creates complexities not faced by Carbon Energy today. In addition, participating in a corporate structure in China reduces flexibility otherwise available when Carbon Energy is not committed to such a structure. For example, Carbon Energy has significant Australian tax revenue losses and entering into the Proposed Transaction potentially reduces Carbon Energy's ability to utilise these losses to reduce tax that might otherwise be paid in relation to commercialising the keyseam technology in China. The Proposed Transaction may result in a Capital Gain as it is a deemed disposal of an interest in the keyseam technology, however Carbon Energy expect to have sufficient tax losses to ensure no liability is payable.

The likelihood of another offer emerging for the Licence Agreement that is better than the current Proposed Transaction from the perspective of the Non-Associated Shareholders of the company.

215. There are limited alternatives to the Proposed Transaction at present. Carbon Energy has been in negotiations with various parties since 2012 and has conducted extensive negotiations with the respective parties but has only been unable to secure one other licence agreement for a project in Inner Mongolia and that project has currently stalled. This process has demonstrated that in the current market and given Carbon Energy's perceived position as capital constrained, it is extremely difficult to enter into licensing agreements on reasonable terms.
216. The negotiations Carbon Energy have conducted with other potential parties were considered less attractive as they:
 - Required Carbon Energy to contribute cash;
 - Exposed Carbon energy to more significant risk of dilution in joint venture arrangements in the future; and
 - Did not provide Carbon Energy with any greater interest in the joint venture than has been negotiated in the Proposed Transaction.
217. In addition, the Joint Venture with JinHong still allows Carbon Energy to license projects before the ignition date of the Joint Venture Demonstration Plant and retain 90% to 100% of the profits depending on whether it introduces a project to the joint venture or it licenses a project outside the Joint Venture, rather than the 30% of distributions otherwise received from the Joint Venture. Carbon Energy retains a large part of the potential licensing value from the projects.
218. The Technology License granted to the Joint Venture remains non-exclusive until ignition is achieved at the demonstration plant. If the Joint Venture fails to find an appropriate project or JinHong fails to fund the Joint Venture and therefore fail to achieve ignition, Carbon Energy are free to enter into other potential license agreements.
219. The one advantage some other potential parties had over JinHong was they had identified or had control over coal assets potentially suitable for the keyseam technology. However, on balance this is not considered a material disadvantage given there are known potential coal projects and JinHong is motivated to work with Carbon Energy to find an appropriate project.

The likely consequences for Non- Associated Shareholders of the company if the Proposed Transaction does not proceed

220. If the Proposed Transaction is not approved it is likely Carbon Energy would still need to continue to try and find a partner in China, if they are to successfully exploit the keyseam technology in that market. There is no certainty Carbon Energy could find and reach an agreement with such a partner given the significant time already taken to pursue potential parties in China. As an alternative, Carbon Energy could pursue that market on their own however their reducing financial resources are likely to make pursuit of such a strategy difficult.
221. It is likely Carbon Energy would need to raise additional equity or divest itself of assets to fund itself while such a process took place. Based on the current market conditions, these assets would potentially have to be divested at unfavourable prices. Having recently undertaken a private placement at a slight premium to market value, any further attempts to raise additional equity would potentially be on dilutive terms particularly if the Proposed Transaction were not to take place.
222. In the meantime, Carbon Energy has finite cash reserves with limited income so the ongoing funding of the business would become increasingly problematic, which in turn would make it even more difficult for Carbon Energy to negotiate a deal on favourable terms. To continue operating it is likely Carbon Energy would need to raise additional equity or divest itself of assets to fund itself while such a process took place. Under such circumstances the ability of Carbon Energy to continue as going concern may come into question.

223. Kam Lung has a 19.99% interest in Carbon Energy. If the Proposed Transaction is not approved Kam Lung would have no other ongoing relationship with Carbon Energy. While we are not in a position to predict what Kam Lung may do with its interest in Carbon Energy if the Proposed Transaction is not approved, this could create the perception in the market of an overhang of shares held by investors considering disposal of that interest, although the recent issue of shares to Kam Lung are subject to a 12 month escrow period.
224. We have summarised the key advantages and disadvantages of the proposed transaction below where the advantages associated with obtaining a partner in China and funding the project commercialisation of the keyseam technology outweigh the disadvantages associated with giving up a percentage of the upside for the keyseam technology in China and the complexities and reduced flexibility resulting from entering into a joint venture in China.

Advantages of the Proposed Transaction

225. The likely advantages to the Non-Associated Shareholders if the Proposed Transaction is approved include:
- Access to ready funding for development and commercialisation of keyseam in China without the requirement to contribute capital, albeit in the short term, Carbon Energy still have limited cash reserves until services start to be generated by the Joint Venture;
 - Access to a partner in China, without which the prospects for successfully capitalising on the China UCG opportunity are severely limited;
 - The Proposed Transaction provides Carbon Energy with non-dilution rights up until a possible IPO of the Joint Venture. This avoids the risk of Carbon Energy being severely diluted through the introduction of additional capital or investors into the IPO, unless Carbon Energy agrees to such dilution. Carbon Energy also holds a number of veto rights over key business decisions;
 - The Joint Venture arrangement is non-exclusive and only becomes exclusive once successful ignition has been achieved. This gives Carbon Energy the ability to consider its options should ignition not yet have taken place within the initial three year period; and
 - Carbon Energy may become more attractive to potential acquirers due to the opening up of the opportunity that exists for the commercialisation of the keyseam technology in China.

Disadvantages of the Proposed Transaction

226. The likely disadvantages to the Non-Associated Shareholders if the Proposed Transaction is approved include:
- Reduced exposure to the possible future growth potential of the Technology Licence Agreements. If the Proposed Transaction is completed and approved, the exposure of Non-Associated Shareholders to Carbon Energy will be reduced, with Carbon Energy's exposure declining from 100% (with the requirement for capital) to 30% (without the requirement for capital). Our valuation of the Technology Licence Agreements recognises the potential for future growth based on our consideration of its potential future earnings. However, if the Joint Venture is able to generate additional earnings beyond those contemplated in our valuation, some portion of this upside would be foregone by the Non-Associated Shareholders;
 - The Joint Venture does not have an identified coal resource, although there are known projects. Since identification of a suitable coal resource is so integral to the success of the keyseam technology,, the fact that the Joint Venture has not yet identified one is potentially disadvantageous. However, this is somewhat mitigated by the fact that the Joint Venture agreement does cater for the introduction of such a resource to the Joint Venture, in which case Carbon Energy is entitled to share in 90% of the profit distributions from any projects that they are able to bring to the Joint Venture;
 - The 30% interest held in the Joint Venture is a right to distributions rather than an equity interest. If the Joint Venture is wound up at a point, Carbon Energy will receive 30% of any distribution but they may need to wait until the end of the Joint Venture in 30 years for that to happen. There are some protections

in the Joint Venture Agreement for Carbon Energy such as a minimum distribution of 70% of after-tax profit is required and the financial accounts and distribution require unanimous approval. If there are disputes which cannot be resolved they will be determined by the International Chamber of Commerce Hong Kong; and

- There are complexities in partnering with foreign companies in overseas jurisdictions that are not faced domestically and if the Proposed Transaction is approved Carbon Energy will be exposed to such complexities. This includes potentially reduced flexibility to utilise Australian tax losses of Carbon Energy in reducing tax payable as the keyseam technology is commercialised in China. However this is offset to some extent by the assistance a foreign partner provides in foreign jurisdictions.

Other considerations

Trading in Carbon Energy shares subsequent to the Announcement Date

227. The impact of the Proposed Transaction on the share price of Carbon Energy shares following the announcement of the Proposed Transaction is summarised below:

Table 15: Carbon Energy share price following the announcement of the Proposed Transaction

	Unit	
Closing price of shares one day prior to Announcement Date	A\$	0.0140
30 day VWAP of Carbon Energy shares prior to Announcement Date	A\$	0.0139
Volume weighted average price (VWAP) of shares from Announcement date to 16 October 2015	A\$	0.0210
Change in price of Carbon Energy Shares since Announcement Date	%	49.0%

Source: Capital IQ, PwC analysis

228. As set out above, following the announcement of the Proposed Transaction, there was a positive movement in the price of Carbon Energy shares, with Carbon Energy shares trading at a VWAP 49.0% higher than the price before the Announcement Date. We also note that the intra-day high price on the day of announcement was \$0.03. Whilst limited emphasis can be placed on such analysis due to the low level of liquidity in Carbon Energy shares, we consider this provides some evidence that market participants viewed the Proposed Transaction as being value enhancing.

6.3 Conclusion

229. Since there are presently no other obvious alternatives to the Proposed Transaction in the current circumstances and for as long as Carbon Energy is unable to continue to fund the further development and commercialisation of its keyseam technology, the Proposed Transaction puts the Non-Associated Shareholders in a better position than they would be were the Proposed Transaction not to proceed. Carbon Energy is provided with the potential to commence sharing in licence fee, technical services and royalty income in the short to medium term without the need for capital contribution. Accordingly, in the absence of a superior proposal, the Proposed Transaction is reasonable for the Non-Associated Shareholders.

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Appendix A Statement of qualifications and declarations

Qualifications

PwC Securities is beneficially owned by the partners of PricewaterhouseCoopers (“PwC”), a large international entity of chartered accountants and business advisors. PwC Securities holds an Australian Financial Services License under the Corporations Act.

Mr Andrew Wellington is an associate of The Institute of Chartered Accountants in Australia and a Senior Fellow of the Financial Services Institute of Australia. He holds a Bachelor of Commerce (Hons) and a Master of Accounting. He has in excess of 20 years’ experience preparing IER’s and business valuations. He is a Partner with PwC Australia (PwC) and is an authorised representative of PwC Securities.

Richard Stewart OAM is a Senior Fellow of the Financial Services Institute of Australasia, Chartered Accountants in Australia and New Zealand (CAANZ) and the Society of Certified Practising Accountants in Australia. He is also an adjunct professor in Business Valuation at the University of Technology, Sydney and is Business Valuations Specialist Accredited, CAANZ. He holds a Bachelor of Economics and a Masters of Business Administration. He has 29 years’ experience with PwC and extensive experience in preparing valuations and independent expert reports as well as providing merger and acquisition advice. He is also a partner of PwC, and is an authorised representative of PwC Securities.

Andrew Wellington and Richard Stewart were assisted by Elizabeth Sherratt and Nick Masters in the preparation of this independent expert report.

Declarations

Prior to accepting this engagement, we considered our independence with respect to Carbon Energy by reference to ASIC Regulatory Guide 112 Independence of Experts. In our opinion, we are independent of Carbon Energy and the outcome of the transaction.

Neither PwC Securities nor PwC has any interest in the outcome of the Proposed Transaction. PwC Securities is entitled to receive a fee for the preparation of this Independent Expert’s Report based on time spent at our normal hourly rates for this type of work and will be reimbursed for out of pocket expenses incurred. The fee payable to us is payable regardless of the outcome of the Proposed Transaction. None of PwC Securities, PwC, Mr Wellington, Mr Stewart, Mrs Sherratt and Mr Masters holds securities in Carbon Energy and have not held any such beneficial interest in the previous two years.

In the past 2 years PwC has provided some taxation related services to Carbon Energy, none of which relates to the Proposed Transaction and the fees were less than \$100,000.

Mr Peter Hogan is a Director of Carbon Energy and was a partner of PwC prior to his retirement in March 2008. As a retired partner, PwC provides Mr Hogan a pension. However, Mr Hogan has no other active involvement with PwC or PwC Securities and therefore we do not consider this to impact our independence.

A draft of this report was provided to the directors of Carbon Energy for a review of factual accuracy on 15 October 2015 with a final draft provided on 19 October 2015. No changes to our opinion arose as a result of this review.

Purpose of report

This Independent Expert's Report has been prepared at the request of the Directors of Carbon Energy and should not be used for any other purpose. In particular, it is not intended that this Independent Expert's Report should serve any purpose other than an expression of our opinion on whether the Proposed Transaction is fair and reasonable. This Independent Expert's Report has been prepared solely for the benefit of the Directors of Carbon Energy and for the benefit of the existing shareholders of Carbon Energy. Neither the whole nor any part of this Independent Expert's Report nor any reference to it may be included in or attached to any document, circular, resolution, letter or statement without our prior written consent to the form and context in which it appears.

Special note regarding forward-looking statements and forecast financial information

Certain statements in this Independent Expert's Report may constitute forward-looking statements. Such forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance and achievements of Carbon Energy to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Such factors include, among other things, the following:

- General economic conditions;
- The future movements in interest rates and taxes;
- The impact of terrorism and other related acts on broader economic conditions;
- Changes in laws, regulations or governmental policies or the interpretation of those laws or regulations to Carbon Energy in particular; and
- Other factors referenced in this Independent Expert's Report.

Indemnity

In preparing this Independent Expert's Report, Carbon Energy has indemnified PwC Securities, PwC and its employees, officers and agents against any claim, liability, loss or expense, cost or damage, including legal costs on a solicitor client basis, arising out of reliance on any information or documentation provided by Carbon Energy which is false and misleading or omits any material particulars or arising from a failure to supply relevant documentation or information.

In addition, Carbon Energy has agreed that if it makes any claim against PwC or PwC Securities for loss as a result of a breach of our contract, and that loss is contributed to by its own actions, then liability for its loss will be apportioned having regard to the respective responsibility for the loss, and the amount Carbon Energy may recover from PwC Securities will be reduced by the extent of its contribution to that loss.

Consent

PwC Securities has consented in writing to this Report in the form and context in which it appears being included in the Explanatory Memorandum which will be issued by the directors of Carbon Energy and which will be distributed to Proposed Transaction Shareholders.

Neither PwC Securities nor PricewaterhouseCoopers has authorised or caused the issue of all or any part of the Explanatory Memorandum other than this report. Neither the whole nor any part of this report nor any reference to it may be included in or with or attached to any other document, circular, resolution, letter or statement without the prior consent of PwC Securities to the form in which it appears.

APES 225 "Valuation Services"

This independent expert report has been prepared in accordance with APES 225 "Valuation Services".

Appendix B Sources of information

In preparing this Independent Expert's Report, we have had access to and relied upon major sources of information, including:

- The Joint Venture Agreement and other related transaction documents;
- ASX announcements for Carbon Energy;
- Annual Reports (audited) for the three years ended 30 June 2015 for Carbon Energy;
- Discussions with Carbon Energy management;
- Other information provided by management of Carbon Energy including but not limited to roadshow presentations, information pertaining to previous licensing negotiations and government submissions;
- Information obtained from Bloomberg, Capital IQ, Mergermarket, Broker Reports and Industry Reports; and
- Other publicly available information including information from websites.

We have not performed an audit, review or any other verification of the information presented to us. Accordingly, we express no opinion on the reliability of the information supplied to us.

In forming our opinion PwC Securities has assumed that:

- matters such as compliance with laws and regulations and contracts in place are in good standing and will remain so and that there are no material legal proceedings, other than as publicly disclosed; and
- the publicly available information relied on by PwC Securities in its analysis was accurate and not misleading.

In addition, PwC Securities assumes no responsibility and offers no legal opinion or interpretation on any issue in respect of legal issues relating to assets, properties, or business interests or issues regarding compliance with applicable laws, regulations and policies.

Appendix C Weighted average cost of capital

The discount rate applicable for market valuation purposes represents the required market rate of return for capital invested in the company or asset being valued. The cost of capital for a company reflects the opportunity cost of the funds employed. This means that a company must obtain sufficient return on its assets to cover the required return to equity and debt holders as reflected by the capital markets.

The expected rate of return for invested capital is conventionally derived using the Weighted Average Cost of Capital (“WACC”) approach after considering available market evidence for the company being examined.

The cost of capital comprises a required rate of return on equity plus the current tax-effected rate of return on debt, weighted by the relative proportions of equity and debt comprising the financial structure.

For equity investors, the cost of equity capital has two components; an explicit opportunity cost such as dividend payments and an implicit opportunity cost in the form of an expected cash equivalent gain in share price. The expected return to debt investors (the cost of debt) represents the interest payments and the amortisation of any difference between the market value of debt and its face value.

Significant judgement is inherent in the selection of discount rates. Discount rates can be derived using a framework which is theoretically sound, however when determining required future rates of return, there is inherently a substantial degree of subjectivity involved in estimating variables, which by definition are unable to be observed.

The formulation of the WACC using modern finance theory and commonly accepted practice is derived in the first instance on a post-tax, nominal basis as the parameters comprising WACC are observable in the market on this basis.

The determinants of the WACC calculation are derived from observable market data for the selected company (if listed) or a peer group, which is consistent with the definition of market value. The peer group companies are selected primarily on the basis of the industry and geographic region in which they operate. Considerations of size, asset quality, growth prospects and revenue sources are also taken into account.

Cost of equity

The cost of equity is typically considered to be an estimate of an equity investor’s required rate of return for a given risk level associated with an investment.

The most commonly used tool to estimate the required rate of return on equity for a given level of risk is the Capital Asset Pricing Model (“CAPM”) framework. Under CAPM, the expected return on equity is measured as the return on a risk free investment plus a premium for the non-diversifiable risk associated with the relevant asset or company.

The CAPM model states that:

$$K_e = R_f + \beta_e * (EMRP)$$

where:

K_e = expected or required return on equity

R_f = risk free rate

β_e = equity beta for investment

EMRP = the equity market risk premium which is the expected return on a broad portfolio of stocks in the market less the risk free rate

Each of the above elements is described below.

Risk free rate

The risk free rate represents the minimum return an investor will accept from investing in any asset or company, being the amount an investor could earn on an equivalent investment with zero risk. The required return reflects the time value of money and expected inflation over the investment period.

The most commonly used proxy for a risk free investment is the return on long dated government bonds which are assumed to be close to risk free in many developed countries. For example, government bonds are assumed to be “risk free” if they are held to maturity.

The risk free rate selected should reflect a period consistent with the longevity of the cash flows of the underlying asset or company. Typically, the yield on a 10 or 20 year government bond is a widely used and accepted benchmark for the risk free rate and is applied for long term cash flows; yields on government bonds of shorter maturity are used to value assets with shorter economic lives.

Equity market risk premium

The Equity Market Risk Premium (“EMRP”) is the premium over the risk free rate that investors require from equity capital, generally measured as the difference between actual long term historical returns on a market share portfolio and long term government bonds.

Theoretically, the premium should be based on expected returns over the future investment horizon. However, historical returns earned by equity investors over an extended period are typically used as a proxy given expected returns cannot be observed. Empirical evidence collected by a number of academics and valuation practitioners over periods of up to 100 years suggests the long term average EMRP is between 4% and 8%.

Recent studies have highlighted that current economic conditions may support the need for a higher EMRP given equity investors perceive greater risk in capital markets at present. Notwithstanding this, the EMRP is based on long term historical data including periods of both positive and negative returns experienced during various stages of a market cycle.

Beta

Beta is a measure of systematic risk reflecting the sensitivity of a company’s share price to the movements of the stock market as a whole. Whilst expected betas cannot be observed, conventional practice is to estimate an appropriate beta with reference to the historical betas for a company over a finite period. It is also appropriate to consider betas for comparable companies and sector averages as a proxy, particularly if the subject company is not listed.

Observed betas in the market place, known as equity betas, are affected by the gearing of the individual company. The beta for equity reflects the non-diversifiable or systematic risk of a company. Equity betas incorporate the operational risk of the underlying company assets and other financial risk associated with the financial structure of the company (i.e. the combination of debt and equity employed to finance the company assets), whereas asset betas reflect only the operational risk.

The beta of an investment represents relative risk, not a measure of the total risk of a particular investment. Under the CAPM framework, the greater a security’s beta, the greater the required return. This is indicated by a beta greater than one, which implies that firms with higher volatility of returns (as measured by standard deviation) will have higher required returns due to greater risk, other things being equal.

As mentioned above, determination of a beta can be undertaken with reference to analysis of comparable companies. It is generally necessary to make adjustments to the observed equity betas in the market place to remove the impact of the different capital structures and levels of gearing in the companies examined. This process, known as de-levering, involves removing the gearing of the subject company to arrive at the asset beta and subsequently re-levering in line with the target level of gearing.

We adopt the Harris Pringle formula to de-lever and re-lever betas as follows:

$$\text{Asset beta (un-g geared)} = \text{Equity beta (g eared)} / [1 + (D/E)]$$

$$\text{Equity beta (re-g eared)} = \text{Asset beta (un-g eared)} \times [1 + (D/E)]$$

where:

E = market value of equity

D = market value of debt

D/E = company's debt to equity ratio

The betas of comparable companies are calculated relative to their respective local index of the securities exchange on which the company's shares are listed. We adopt the betas measured against the securities exchange on which the company's shares are listed.

Company specific risk

Company specific risk adjustments are often made to the cost of capital to reflect attributes of a company's operations that may not be adequately reflected in the forecast cash flows or the observable inputs. Common adjustments include allowances for country specific risk and size relative to the market as a whole.

Cost of debt

The cost of debt is the rate a prudent debt investor would require on interest-bearing debt after considering the appropriate capital structure and the nature and risks pertaining specifically to the company's operations.

Since the interest on debt is deductible for income tax purposes, the WACC incorporates the after-tax interest rate in the calculation. For the purpose of assessing WACC, the existing effective Chinese corporate tax rate of 25% has been used.

In assessing an appropriate cost of debt, we normally have regard to corporate debt issued by the company (where available) or its comparator group, the existing and expected future cost of debt provided by financiers and current market conditions in debt markets. The yield on a corporate bond is typically higher than the yield on a government bond, reflecting a premium for credit risk. The premium or debt margin is calculated as the difference or spread between the yield on a corporate and a government bond with the same duration or maturity.

Capital structure

In order to calculate an appropriate post-tax cost of capital, it is necessary to determine the optimal or target level of debt funding (or debt and equity mix) for the subject company. Optimal capital structures are not readily observable. In practice, the existing capital structures of comparable companies are used as a guide to estimate the likely optimal capital structure for the company being valued, taking into consideration the specific financial circumstances of that company.

Typically, the gearing changes over time and differs between comparable companies. In order to remove the impact of the fluctuations in the level of gearing over time, the five year average level of gearing of the comparable company set was considered in selecting an appropriate target debt and equity mix. This is consistent with the period over which betas have been observed and removes the effect of isolated market events.

WACC

The cost of equity and the cost of debt are combined to arrive at the WACC using the following formula:

$$WACC = [K_e * E / (D + E)] + [K_d * (1 - T_c) * D / (D + E)]$$

The key inputs are defined as follows:

K_e = the expected or required return on equity

E = the market value of equity

K_d = the cost of debt

T_c = the marginal effective corporate tax rate

D = the market value of debt (net of surplus cash)

E = the market value of equity

Carbon Energy discount rate

A nominal post-tax discount rate range of 10.75% to 12.0% has been selected for CNX to apply to the nominal ungeared post tax cash flows of the proposed joint venture adopted for valuation purposes. We consider this discount rate reflects the rate of return that investors would use in the current market in assessing the value of the keyseam technology. This is a US dollar rate as we are applying it to cash flows estimated in US dollars.

Risk free rate

In line with our internal assessment as at 16 October 2015, we have applied an estimate of 2.58% (being the 20 year spot rate on US government bonds) as an estimate of the normalised measure of the risk free rate in the US for use in conjunction with our long-term estimate of the market risk premium (see below) in determining the cost of equity for a company.

The 20 year spot US government bond provides the closest proxy for the benchmark return an investor would be willing to accept for an investment with zero risk. It is common practice to adopt the US 20 year spot US government bond as it is long dated and liquidly traded and generally assumed to be “risk free” if held to maturity.

Equity market risk premium

Our selected EMRP of 6% is within the range of generally accepted figures for the long term market risk premium applied to companies within the capital markets in the United States and is consistent with empirical research⁶.

The EMRP varies over time and economic cycles. In selecting the EMRP for use in the assessment of the relative merits of the Offer, we have been mindful that the rate adopted should reflect the prospective estimate of EMRP over the timeframe of the cash flows modelled. This will include not just the current economic circumstances, but periods of both positive and negative returns experienced during various stages of future market cycles. The long term historical average EMRP is generally adopted as the most appropriate measure for this and as such PwCS has adopted 6% as the EMRP.

Beta

In determining an appropriate beta range to adopt, we have considered the observed betas for listed companies with a similar risk profile to Carbon Energy over a five year period. There is a range of companies considered for the peer group, which have at least some involvement in the gas industry (a mix of international and Australian operations); we have also had regard to biotechnical companies to capture the risk profile of commercialisation of new technologies, which is similar to the risk faced for Carbon Energy. We have categorised the selected comparable companies into 3 groups:

- a) coal gasification producers;
- b) oil and gas explorers and producers; and
- c) biotechnical companies.

We have used the observed five-year gearing ratios to de-lever the observed equity betas of the companies in the peer group. The table below summarises the observed and de-levered betas for the comparable company set:

⁶ *Officer & Bishop (2008) and Grabowski and Damodaran (2009)*

Guideline public company analysis

Company	Market capitalisation (USD million)	5 year average debt / equity ⁴	5 year average debt / EV ⁴	Equity beta	Asset beta
Carbon Energy Limited	17.4	25.2%	20.2%	-	-
Coal Gasification Producers					
WildHorse Energy Ltd.	10.2	n/m	n/m	1.10	1.10
Cluff Natural Resources Plc	10.7	n/m	n/m	0.77	0.77
Linc Energy Ltd	58.6	223.6%	69.1%	0.77	0.24
Taiyuan Coal Gasification Company, Limited	551.0	52.2%	34.3%	1.17	0.77
Sasol Ltd.	22,039.1	9.4%	8.6%	0.54	0.49
KBR, Inc.	2,798.9	2.6%	2.5%	1.37	1.34
Mean	3,640.8	62.6%	27%	1.27	1.05
Median	58.6	25.2%	20%	1.27	1.05
Oil and Gas Explorers and Producers					
Karoo Gas Australia Ltd.	372.4	0.3%	0.3%	1.78	1.78
Senex Energy Limited	148.7	n/m	n/m	1.51	1.51
Nido Petroleum Ltd.	16.1	39.0%	28.0%	1.65	1.19
AWE Limited	295.0	7.7%	7.1%	1.31	1.22
Petsec Energy Ltd.	17.0	13.3%	11.7%	1.15	1.01
Horizon Oil Limited	103.3	36.1%	26.5%	1.60	1.18
Tap Oil Ltd.	38.6	8.1%	7.5%	1.40	1.29
Beach Energy Limited	492.9	n/m	n/m	1.35	1.35
Swift Energy Co.	28.1	105.0%	51.2%	2.14	1.04
Resolute Energy Corporation	42.4	83.1%	45.4%	2.09	1.14
Goodrich Petroleum Corp.	43.5	108.9%	52.1%	2.46	1.18
Warren Resources Inc.	49.5	55.1%	35.5%	1.61	1.04
Zion Oil & Gas, Inc.	53.2	n/m	n/m	1.64	1.64
Mean	130.8	45.7%	27%	1.67	1.27
Median	49.5	37.5%	27%	1.61	1.19
Biotechnical Companies					
Benitec Biopharma Limited	49.1	n/m	n/m	1.54	1.54
Mesoblast Limited	776.9	n/m	n/m	0.90	0.90
Tissue Therapies Ltd.	9.8	n/m	n/m	2.39	2.39
Prima Biomed Ltd.	80.2	n/m	n/m	1.48	1.48
Sirtex Medical Limited	1,340.8	n/m	n/m	0.80	0.80
Benitec Biopharma Limited	49.1	n/m	n/m	1.54	1.54
Bone Medical Ltd.	1.5	15.7%	13.5%	1.67	1.44
Biotron Ltd.	12.0	n/m	n/m	1.30	1.30
Imugene Ltd.	8.6	n/m	n/m	1.73	1.73
Medibio Limited	31.1	28.4%	22.1%	1.66	1.29
BELLUS Health Inc.	34.2	6.3%	5.9%	2.97	2.79
Oncolytics Biotech Inc.	54.3	n/m	n/m	1.73	1.73
Vical Incorporated	41.2	n/m	n/m	1.76	1.76
Mean	151.2	16.8%	14%	1.60	1.53
Median	34.2	15.7%	14%	1.66	1.30

Shading indicates low R-Squared value

Notes:

- Equity betas derived from share price (monthly, 5 year where available, against local index, bayesian adjusted)
- Market Capitalisation as at 02 Oct 2015 from Capital IQ
- Equity betas have been unlevered using the formula discussed in Brealey and Myers "Principles of Corporate Finance", 5th Edition, Ch 9
- Formula for unlevering equity betas: equity beta / (1 + debt / equity), gearing derived from balance sheet (annual, 5 year where available)
- Comparators chosen on basis of industry sector and statistically sufficient number of beta observations

Source: S&P Capital IQ, PwC Analysis

Carbon Energy is a listed company with historical returns that can be observed. Accordingly, we have also considered its observed beta for the purposes of determining an appropriate discount rate. The observed asset beta for ASX:CNX was not meaningful (regressed against ASX 200) as at 7 October 2014. We note that the driver for the non-meaningful beta is the result of Carbon Energy being a relatively illiquid stock relative to the broader market and as a result there was no relationship between Carbon Energy and the ASX 200.

Evident from the above table, there are only 2 comparable companies with meaningful data for coal gasification producers, which have a median Asset beta of 1.05. The asset betas of oil and gas explorers/producers have a median asset beta of 1.19, which is slightly higher than the beta for the coal gasification producers; however it is

also supported by a much larger sample size. Finally we have given some regard to biotechnical companies as they typically face a commercialisation risk, similar to Carbon Energy attempting to commercialise its technology.

We have adopted an asset beta in the range of 1.20 to 1.40 with a mid-point of 1.30 for the purposes of assessing an appropriate discount rate in our valuation of the Technology License Agreement and the Joint Venture. We consider this range to be a reasonable estimate for both of the valuations given that the risk of project success is already accounted for in the probability weightings.

Cost of debt

We have estimated a pre-tax cost of debt capital of 4.29% using a build-up approach and implied debt margin over our estimate of the normalised risk free rate. This is representative of the long term cost of debt finance for the proposed transaction.

As a starting point we have used the spot 5 year United States government bond rate of 2.58% and the 5 year United States domestic market BBB corporate bond rate of 4.09% as at 15 October 2015. The spread between the 5 five year bonds is 1.51%. We applied this spread to the spot 20 year United States government bond rate of 2.58% to determine an implied 20 year BBB corporate bond rate of 4.29%.

To reflect the tax shield advantage of debt in the cost of capital calculation, we have applied the existing corporate tax rate in China of 25%. This corresponds to a post-tax cost of debt of 3.22%.

Capital structure

In determining an appropriate level of gearing, we have had regard to:

- a) the mean and median gearing levels of the comparable companies; and
- b) the optimal level of gearing adopted by various brokers in their analysis of the value of Carbon Energy.

Based on the above, we have assumed a target long term average gearing level of 10.0% (debt/enterprise value) in determining the WACC.

Company specific risk

In the valuation model used to determine the value of the proposed transaction, the revenues have been adjusted to reflect the probability of success. Therefore we have made no adjustment to the cost of equity to represent any risks in the project that have not been captured in the parameters discussed above

WACC

Based on the above, we have assessed an appropriate post tax nominal discount rate to apply in valuing the Joint Venture and the Technology License to be in the range of 10.75% to 12.00% with a mid-point of 11.25%, as set out below.

Nominal post-tax geared WACC

Input	Low	Mid	High
Risk Free Rate (Rf)	2.58%	2.58%	2.58%
Country Risk Premium (CRP)	0.90%	0.90%	0.90%
Adjusted Risk Free Rate	3.50%	3.50%	3.50%
Asset Beta (Ba)	1.20	1.30	1.40
Debt/Equity Ratio (D/E)	11.11%	11.11%	11.11%
Target Gearing (D/(D+E))	10.00%	10.00%	10.00%
Equity Beta (Be)	1.33	1.44	1.56
Equity Market Risk Premium (EMRP)	6.00%	6.00%	6.00%
Cost of Equity (Ke)	11.5%	12.2%	12.8%
Long term cost of debt	4.09%	4.09%	4.09%
Debt issuance costs	0.20%	0.20%	0.20%
Pre Tax Cost of Debt	4.29%	4.29%	4.29%
Tax Shield	25.0%	25.0%	25.0%
Post Tax Cost of Debt (Kd)	3.22%	3.22%	3.22%
Post Tax WACC	10.75%	11.25%	12.00%

Source: Bloomberg, CapitalIQ and PwC Analysis

A brief overview of each of the comparable companies (source: Capital IQ) is provided below:

Company	Company description
Carbon Energy Limited	Carbon Energy Limited engages in building gas business in Queensland. It is involved in the development of clean energy and chemical feedstock using UCG technology. The company is developing the Blue Gum Gas Project near Dalby in Queensland. It delivers services ranging from initial project assessment through to commercial project development, operations, site decommissioning, and rehabilitation.
WildHorse Energy Ltd.	Wildhorse Energy Limited evaluates and develops Underground Coal Gasification (UCG) and uranium projects. The company operates in four segments: Hungary Coal, Hungary Uranium, the United States, and Central Europe.
Cluff Natural Resources Plc	Cluff Natural Resources plc engages in the exploration, evaluation, and development of mineral exploration properties in the United Kingdom. The company holds 100% working interests in the nine UCG licenses covering an area of 690 square kilometres across the United Kingdom. It also holds 5 promote licenses incorporating 11 blocks, which cover an area of approximately 2,400 square kilometres located in the Southern North Sea.
Linc Energy Ltd	Linc Energy Ltd operates as an oil and gas company. The Oil and Gas segment is involved in the exploration, development, and production of oil and gas assets in North America. The Clean Energy segment develops and commercializes coal-to-liquids processes through the utilization of UCG and gas to liquids technologies. It is also developing a coal gasification technology for the extraction of heavy oil.
Taiyuan Coal Gasification Company, Limited	Taiyuan Coal Gasification Company, Limited operates in the coal, urban infrastructure, and chemical industries in China. The company primarily offers coke, clean coal, raw coal, gas, middle coal and chemicals, and others.
Sasol Ltd.	Sasol Limited operates as an integrated energy and petrochemicals company. The company operates six coal mines in South Africa; develops and manages upstream interests in oil and gas exploration and production in Mozambique, South Africa, Canada, Gabon, and Australia; and operates coal-based synthetic fuels manufacturing facility that produces synthesis gas through coal gasification and natural gas reforming and an extensive range of other by-products.
KBR, Inc.	KBR, Inc. operates as a diversified services company worldwide. The company offers services and solutions surrounding the hydrocarbons, chemicals, and fertilizer markets. KBR also offers technology related to the design of vessels, as well as drillship and floating production, storage, and offshore vessels; technologies for conversion of heavy hydrocarbon streams to fuels in refining markets, and technologies for the conversion and production of olefins; and ammonia process technology solutions for ammonia and fertilizer markets, as well as clean coal gasification technology.
Karoon Gas Australia Ltd.	Karoon Gas Australia Ltd operates as an oil and gas exploration company with projects primarily in Australia, Brazil, and Peru. It holds interests in Western Australia; Brazil; and, Peru.
Senex Energy Limited	Senex Energy Limited explores, develops, and produces oil and gas resources in Australia. It holds a portfolio of oil and gas assets in Australia's Cooper and Eromanga Basins, as well as coal seam gas tenements in Queensland's Surat Basin.

Nido Petroleum Ltd.	Nido Petroleum Limited explores for, develops, produces, and sells oil and gas in the Philippines. The company holds a working interest multiple tenements located in the North West Palawan basin, Philippines.
AWE Limited	AWE Limited engages in the exploration and production of oil and gas properties in Australia, New Zealand, the United States, and Indonesia. It produces and sells crude oil, gas, condensate, LPG, and LNG products.
Petsec Energy Ltd.	Petsec Energy Ltd operates as an independent oil and gas exploration and production company. It has operations in the Gulf of Mexico, Louisiana Gulf Coast, Gulf Coast, Texas, Louisiana and the Republic of Yemen.
Horizon Oil Limited	Horizon Oil Limited engages in the exploration, development, and production of oil and gas properties in Southeast Asia. It holds assets in China; New Zealand; and Papua New Guinea.
Tap Oil Ltd.	Tap Oil Limited engages in the exploration, development, and production of oil and gas properties in Australia and South East Asia. The company's flagship project is the Manora oil field located in Thailand. It is also involved in the purchase and sale of gas.
Beach Energy Limited	Beach Energy Limited explores, develops, produces, and sells oil, gas, and gas liquids. The company holds interests in approximately 300 exploration and production tenements in Australia, Tanzania, and New Zealand.
Swift Energy Co.	Swift Energy Company, an independent oil and gas company, acquires, explores, develops, and operates oil and gas properties. The company focuses on the Eagle Ford trend of South Texas, as well as the onshore and inland waters of Louisiana.
Resolute Energy Corporation	Resolute Energy Corporation, an independent oil and gas company, acquires, explores for, develops, and produces oil, gas, and hydrocarbon liquids. It holds interest in Utah; Texas, New Mexico and Wyoming..
Goodrich Petroleum Corp.	Goodrich Petroleum Corporation, an independent oil and natural gas company, engages in the exploration, development, and production of oil and natural gas. It owns working interests in 260 producing oil and natural gas wells located in 43 fields in 8 states.
Warren Resources Inc.	Warren Resources, Inc., an independent energy company, engages in the exploration, development, and production of domestic onshore crude oil and gas reserves. As of December 31, 2014, it had estimated net proved reserves of 71.3 million barrels of oil equivalent.
Zion Oil & Gas, Inc.	Zion Oil & Gas, Inc. engages in the exploration of oil and gas properties in Israel. It primarily holds the Megiddo-Jezreel petroleum exploration license that covers an area of approximately 90,000 acres located on onshore Israel. The company was founded in 2000 and is based in Dallas, Texas.
Benitec Biopharma Limited	Benitec Biopharma Limited, a biotechnology company, develops treatments for chronic and life-threatening human diseases based on its gene silencing technology, DNA-directed RNA interference (ddRNAi) in Australia.
Mesoblast Limited	Mesoblast Limited, engages in the development of regenerative therapeutic cell-based products in Australia, the United States, and Singapore. The company has strategic alliances with Lonza Group for clinical and long-term commercial production and Teva Pharmaceutical Industries Ltd. for the development and commercialization of its products.
Tissue Therapies Ltd.	Tissue Therapies Limited, a biomedical technology company, researches, develops, and commercializes biomedical heating technologies for chronic wound healing and tissue regeneration worldwide. It offers VitroGro ECM, a synthetic matrix protein comprising a portion of vitronectin and IGF-1. The company develops treatments for acute and chronic wound healing applications, such as chronic skin ulcers and burns.
Prima Biomed Ltd.	Prima BioMed Ltd. researches, develops, and commercializes medical biotechnology products in Australia. The company develops immunotherapeutic products for the treatment of cancer. Prima BioMed Ltd. is based in Sydney, Australia.
Sirtex Medical Limited	Sirtex Medical Limited, a life-sciences company, develops and distributes oncology treatments using small particle technology in the Asia Pacific, North and South America, Europe, the Middle East, and Africa. The company is based in North Sydney, Australia.
Benitec Biopharma Limited	Benitec Biopharma Limited, a biotechnology company, develops treatments for chronic and life-threatening human diseases based on its gene silencing technology, DNA-directed RNA interference (ddRNAi) in Australia.
Bone Medical Ltd.	Bone Medical Ltd, a specialty biopharmaceutical company, develops therapeutics to prevent and/or treat bone and joint diseases and conditions, primarily osteoporosis, osteoarthritis, and rheumatoid arthritis in Australia.
Biotron Ltd.	Biotron Limited, a biotechnology company, engages in the development and commercialization of novel small molecule antiviral therapeutics targeting Hepatitis C virus (HCV) and HIV-1 in Australia.
Imugene Ltd.	Imugene Limited, an immuno-oncology biopharmaceutical company, together with its subsidiaries, engages in the research and development of HER2 +ve gastric and breast cancer immunotherapies in Australia.
Medibio Limited	Medibio Limited engages in the research, development, and commercialization of medical diagnostic technology for mental health based on Heart Rate Variability technology in Australia and internationally. In addition, the company is involved in the oil and gas exploration activities primarily in the Philippines
BELLUS Health Inc.	BELLUS Health Inc., together with its subsidiaries, focuses on the research and development of pharmaceutical drug candidates. It has a strategic partnership with Auvon Therapeutics for the development of KIIACTA and Pharmascience Inc.
Oncolytics Biotech Inc.	Oncolytics Biotech Inc., a development stage biopharmaceutical company. The company develops REOLYSIN, a cancer therapeutic that is in various clinical trials for human use. Its cancer product is a potential therapeutic for tumours possessing an activated Ras pathway.
Vical Incorporated	Vical Incorporated engages in the research and development of biopharmaceutical products based on its DNA delivery technologies for the prevention and treatment of serious or life-threatening diseases. Further, it engages in contract manufacturing of plasmid investigational products for various clients.

Appendix D Glossary

Term	Definition
\$, or AUD	Australian dollars
AFSL	Australian Financial Services Licence
Announcement date	28 September 2015
ASIC	Australian Securities and Investments Commission
ASX	Australian Securities Exchange
Carbon Energy	Carbon Energy Limited
Carbon Energy contribution	A non-exclusive licence to the Joint Venture to use keyseam to develop and operate the demonstration facility and an exclusive licence to use and sub-licence keyseam within China following successful ignition of the demonstration facility
Company	Carbon Energy Limited
CRIP	Controlled Retracting Injection Point
CSG	Coal Seam Gas
DCF	Discounted Cash Flow
EBIT	Earnings before Interest and Tax
EBITDA	Earnings before Interest, Tax, Depreciation and Amortisation
EU	European Union
Explanatory Memorandum	The Notice of Meeting and the explanatory statement
FSG	Financial Services Guide
FY	Financial Year
G&A	General and Administrative
GST	Goods and Services Tax
IER	Independent Experts Report
IP	Intellectual Property
IPO	Initial Public Offering
Joint Venture	Joint venture with JinHong with the objective of commercialisation of Carbon Energy's keyseam technology to form a new vertically integrated Chinese gas business that will seek to develop its own projects within the region
JinHong	Beijing JinHong Investment Co., Ltd., an associate of Kam Lung
Joint Venture Capitalisation	JinHong to invest US\$10 million in initial capital and a further US\$20 million over the first three years of the JV
Kam Lung	Kam Lung Investment Development Company Limited

Term	Definition
Kam Lung Contribution	Joint Venture Capitalisation and business and government contacts in China
keyseam or keyseam Technology	Intellectual property rights of Carbon Energy (Operations) Pty Ltd and its affiliates in the proprietary UCG technology initially developed in conjunction with the CSIRO and subsequently enhanced and further developed through field trials and related work for the production of Syngas from underground coal resources. keyseam® is a registered Trademark of Carbon Energy.
Mr Zhuang	Mr Huihai Zhuang, controlling shareholder of Kam Lung. Mr Zhuang also indirectly controls JinHong.
NDRC	National Development and Reform Commission
Non-Associated Shareholders	Shareholders of Carbon Energy other than Kam Lung
PDP	Process Design Package
PJ	Petajoule
China	Peoples' Republic of China
Proposed Transaction	A binding agreement to form a Joint Venture with JinHong for the purpose of establishing a gas business in China whereby the Joint Venture will be incorporated in Beijing and will be capitalised by JinHong in the amount of US\$30 million over a three year period. Carbon will initially contribute a non-exclusive license to the Joint Venture to use its keyseam UCG Technology for the development of the demonstration facility. Upon successful ignition of the demonstration facility, Carbon Energy will grant an exclusive license for the use and sub-licencing of its keyseam UCG Technology within China. The Joint Venture profit distribution will be allocated 30% to Carbon Energy and 70% to JinHong
Proposed Transaction Meeting	General meeting of Carbon Energy Communications Limited shareholders that is expected to be held in April 2015
PwC	PricewaterhouseCoopers
PwC Securities	PricewaterhouseCoopers Securities Ltd
RG111	Regulatory Guide 111 (Content of expert reports)
Shareholders	Carbon Energy shareholders
Substantial Asset	An asset where the book value or value of consideration when the asset is disposed of is 5% or more of the last reported equity interests of the listed entity
Technology Licence Agreements	A non-exclusive licence to the Joint Venture to use keyseam to develop and operate the demonstration facility and an exclusive licence to use and sub-licence. keyseam within China following successful ignition of the demonstration facility and associated Technical Services Agreement
TSA	Technical Services Agreement
UCG	Underground coal gasification
UDP	Underground Design Package
UK	United Kingdom
US\$, or USD	United States dollars
VWAP	Volume Weighted Average Price

Term	Definition
WACC	Weighted average cost of capital
¥	Chinese Yuan Renminbi

Appendix E Financial services guide

PricewaterhouseCoopers Securities Ltd

This Financial Services Guide (FSG) is dated 22 October 2015.

About us

PwC Securities (ABN 54 003 311 617, Australian Financial Services License No 244572) has been engaged by Carbon Energy Limited to provide a report in the form of an independent expert's report (IER) for inclusion in the Proposed Transaction Booklet.

You have not engaged us directly but have been provided with a copy of the IER as a retail client because of your connection to the matters set out in the IER.

This financial services guide

This FSG is designed to assist retail clients in their use of any general financial product advice contained in the IER. This FSG contains information about PwC Securities generally, the financial services we are licensed to provide, the remuneration PwC Securities may receive in connection with the preparation of the IER, and how complaints against us will be dealt with.

Financial services we are licensed to provide

Our Australian Financial Services License allows us to provide a broad range of services, including providing financial product advice in relation to various financial products such as securities, interests in managed investment Proposed Transactions, derivatives, superannuation products, foreign exchange contracts, insurance products, life products, managed investment Proposed Transactions, government debentures, stocks or bonds and deposit products.

General financial product advice

The IER contains only general financial product advice. It was prepared without taking into account your personal objectives, financial situation or needs.

You should consider your own objectives, financial situation and needs when assessing the suitability of the IER to your situation. You may wish to obtain personal financial product advice from the holder of an Australian Financial Services License to assist you in this assessment.

Fees, commissions and other benefits we may receive

PwC Securities charges fees to produce reports, including this IER. These fees are negotiated and agreed with the entity who engages PwC Securities to provide a report. Fees are charged on an hourly basis or as a fixed amount depending on the terms of the agreement with the person who engages us. In the preparation of this Report our fees are charged on a fixed basis and are approximately \$60,000.

Directors, authorised representatives or employees of PwC Securities, PricewaterhouseCoopers (PwC), or other associated entities, may receive partnership distributions, salary or wages from PwC.

Associations with issuers of financial products

PwC Securities and its authorised representatives, partners, employees and associates may from time to time have relationships with the issuers of financial products. For example, PwC may be the auditor of, or PwC Securities may provide financial advisory services to, the issuer of a financial product in the ordinary course of its business.

Complaints

If you have a complaint, please raise it with us first, using the contact details listed below. We will endeavour to satisfactorily resolve your complaint in a timely manner. In addition, a copy of our internal complaints handling procedure is available upon request. If we are not able to resolve your complaint to your satisfaction within 45 days of your written notification, you are entitled to have your matter referred to the Financial Ombudsman Service (FOS), and external complaints resolution service. FOS can be contacted by calling 1300 780 808. You will not be charged for using the FOS service.

Compensation arrangements

PwC Securities has professional indemnity insurance in place that satisfies the compensation arrangement requirements under section 912B of the Corporations Act. This insurance will cover claims in relation to the conduct of representatives and employees who no longer provide services to PwC Securities (but who did at the time of the relevant conduct).

Contact details

PwC Securities can be contacted by sending a letter to the following address:

Mr Andrew Wellington
Authorised Representative
PricewaterhouseCoopers Securities Ltd
GPO Box 150
Brisbane QLD 4001



carbonenergy

ABN 56 057 552 137

LODGE YOUR VOTE



ONLINE

www.linkmarketservices.com.au



BY MAIL

Carbon Energy Limited
C/- Link Market Services Limited
Locked Bag A14
Sydney South NSW 1235 Australia



BY FAX

+61 2 9287 0309



BY HAND

Link Market Services Limited
1A Homebush Bay Drive, Rhodes NSW 2138; or
Level 12, 680 George Street, Sydney NSW 2000



ALL ENQUIRIES TO

Telephone: +61 1300 554 474

LODGEMENT OF A PROXY FORM

This Proxy Form (and any Power of Attorney under which it is signed) must be received at an address given above by **9:30am on Saturday, 28 November 2015**, being not later than 48 hours before the commencement of the Meeting. Any Proxy Form received after that time will not be valid for the scheduled Meeting.

Proxy Forms may be lodged using the reply paid envelope or:



ONLINE

www.linkmarketservices.com.au

Login to the Link website using the holding details as shown on the Proxy Form. Select 'Voting' and follow the prompts to lodge your vote. To use the online lodgement facility, shareholders will need their "Holder Identifier" (Securityholder Reference Number (SRN) or Holder Identification Number (HIN) as shown on the front of the Proxy Form).

HOW TO COMPLETE THIS SHAREHOLDER PROXY FORM

YOUR NAME AND ADDRESS

This is your name and address as it appears on the Company's share register. If this information is incorrect, please make the correction on the form. Shareholders sponsored by a broker should advise their broker of any changes. **Please note: you cannot change ownership of your shares using this form.**

APPOINTMENT OF PROXY

If you wish to appoint the Chairman of the Meeting as your proxy, mark the box in Step 1. If you wish to appoint someone other than the Chairman of the Meeting as your proxy, please write the name of that individual or body corporate in Step 1. A proxy need not be a shareholder of the Company.

DEFAULT TO CHAIRMAN OF THE MEETING

Any directed proxies that are not voted on a poll at the Meeting will default to the Chairman of the Meeting, who is required to vote those proxies as directed. Any undirected proxies that default to the Chairman of the Meeting will be voted according to the instructions set out in this Proxy Form, including where the Resolution is connected directly or indirectly with the remuneration of KMP.

VOTES ON ITEMS OF BUSINESS – PROXY APPOINTMENT

You may direct your proxy how to vote by placing a mark in one of the boxes opposite each item of business. All your shares will be voted in accordance with such a direction unless you indicate only a portion of voting rights are to be voted on any item by inserting the percentage or number of shares you wish to vote in the appropriate box or boxes. If you do not mark any of the boxes on the items of business, your proxy may vote as he or she chooses. If you mark more than one box on an item your vote on that item will be invalid.

APPOINTMENT OF A SECOND PROXY

You are entitled to appoint up to two persons as proxies to attend the Meeting and vote on a poll. If you wish to appoint a second proxy, an additional Proxy Form may be obtained by telephoning the Company's share registry or you may copy this form and return them both together.

To appoint a second proxy you must:

- on each of the first Proxy Form and the second Proxy Form state the percentage of your voting rights or number of shares applicable to that form. If the appointments do not specify the percentage or number of votes that each proxy may exercise, each proxy may exercise half your votes. Fractions of votes will be disregarded; and
- return both forms together.

SIGNING INSTRUCTIONS

You must sign this form as follows in the spaces provided:

Individual: where the holding is in one name, the holder must sign.

Joint Holding: where the holding is in more than one name, either shareholder may sign.

Power of Attorney: to sign under Power of Attorney, you must lodge the Power of Attorney with the registry. If you have not previously lodged this document for notation, please attach a certified photocopy of the Power of Attorney to this form when you return it.

Companies: where the company has a Sole Director who is also the Sole Company Secretary, this form must be signed by that person. If the company (pursuant to section 204A of the *Corporations Act 2001*) does not have a Company Secretary, a Sole Director can also sign alone. Otherwise this form must be signed by a Director jointly with either another Director or a Company Secretary. Please indicate the office held by signing in the appropriate place.

CORPORATE REPRESENTATIVES

If a representative of the corporation is to attend the Meeting the appropriate "Certificate of Appointment of Corporate Representative" should be produced prior to admission in accordance with the Notice of Meeting. A form of the certificate may be obtained from the Company's share registry or online at www.linkmarketservices.com.au.

**IF YOU WOULD LIKE TO ATTEND AND VOTE AT THE ANNUAL GENERAL MEETING, PLEASE BRING THIS FORM WITH YOU.
THIS WILL ASSIST IN REGISTERING YOUR ATTENDANCE.**

PROXY FORM

I/We being a member(s) of Carbon Energy Limited and entitled to attend and vote hereby appoint:

APPOINT A PROXY

the Chairman of the Meeting (mark box)

OR if you are **NOT** appointing the Chairman of the Meeting as your proxy, please write the name of the person or body corporate you are appointing as your proxy

or failing the person or body corporate named, or if no person or body corporate is named, the Chairman of the Meeting, as my/our proxy to act on my/our behalf (including to vote in accordance with the following directions or, if no directions have been given and to the extent permitted by the law, as the proxy sees fit) at the Annual General Meeting of the Company to be held at **9:30am on Monday, 30 November 2015 at Hopgoodganim Lawyers, Level 7, Waterfront Place, 1 Eagle Street, Brisbane QLD 4000** (the Meeting) and at any postponement or adjournment of the Meeting.

Important for Resolution 8: If the Chairman of the Meeting is your proxy, either by appointment or by default, and you have not indicated your voting intention below, you expressly authorise the Chairman of the Meeting to exercise the proxy in respect of Resolution 8, even though the Resolution is connected directly or indirectly with the remuneration of a member of the Company's Key Management Personnel (KMP).

The Chairman of the Meeting intends to vote undirected proxies in favour of each item of business.

VOTING DIRECTIONS

Proxies will only be valid and accepted by the Company if they are signed and received no later than 48 hours before the Meeting. Please read the voting instructions overleaf before marking any boxes with an

Resolutions

	For	Against	Abstain*
1 To Re-elect Dr Helen Garnett as a Director	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2 To Re-elect Mr Louis Rozman as a Director	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3 To Elect Mr Huihai Zhuang as a Director	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4 Ratification of previous issue of 21,522,258 Shares pursuant to Convertible Note Facility	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5 Ratification of previous issue of 123,845,128 Shares to Kam Lung Investment Development Company Ltd	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6 Approval of the terms of, and undertaking the transactions contemplated by, the Joint Venture Agreement, the License Agreement and the Technical Services Agreement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7 Approval to issue an additional 10% of the issued capital of the Company over a 12 month period pursuant to Listing Rule 7.1A (Special Resolution)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8 To Adopt the Remuneration Report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



* If you mark the Abstain box for a particular Item, you are directing your proxy not to vote on your behalf on a show of hands or on a poll and your votes will not be counted in computing the required majority on a poll.

SIGNATURE OF SHAREHOLDERS – THIS MUST BE COMPLETED

Shareholder 1 (Individual)

Sole Director and Sole Company Secretary

Joint Shareholder 2 (Individual)

Director/Company Secretary (Delete one)

Joint Shareholder 3 (Individual)

Director

This form should be signed by the shareholder. If a joint holding, either shareholder may sign. If signed by the shareholder's attorney, the power of attorney must have been previously noted by the registry or a certified copy attached to this form. If executed by a company, the form must be executed in accordance with the company's constitution and the *Corporations Act 2001* (Cth).

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