# CARBON ENERGY LIMITED QUARTERLY REPORT SEPTEMBER 2014





## CARBON ENERGY LIMITED

## QUARTERLY ACTIVITIES REPORT FOR THE PERIOD ENDED 30 SEPTEMBER 2014

ABN 56 057 552 137

ASX Code: CNX OTCQX Code: CNXAY

## **KEY EVENTS**

- A Decommissioning Report was submitted to the Queensland Government in August 2014, demonstrating Carbon Energy's ability to operate its keyseam technology in an environmentally safe manner and without impact on regional use of groundwater.
- In September 2014 Carbon Energy announced a significant increase in its Proved and Probable (2P) Surat Basin gas Reserves to 1,128 PJ, (1 Tcf or 188 mmboe), 3P gas Reserve of 5,300 PJ (5 Tcf or 883 mmboe) with total Reserves and Resources (3P + 2C) of 13,810 PJ (13 Tcf or 2,302 mmboe) transforming the Company into the fifth largest 2P gas Reserve holder in Queensland.<sup>1</sup>
- The Blue Gum Gas Project was announced as the Company's planned first commercial scale operation, with the potential to deliver \$4 billion in revenue over 25 years, pending financing and receipt of government approvals.
- The Company received a \$3.7 million incentive cash rebate from the ATO in September 2014. This rebate was used to repay the \$1.5 million loan facility from Macquarie Bank Limited which was fully drawn down by the Company in August 2014.

## SUBSEQUENT TO THE END OF THE QUARTER

- On 1 October 2014, the Company submitted its Rehabilitation Plan to the Queensland Government. This is the Company's last submission to meet the final requirement set by the Queensland Government.
- The Company announced a share purchase plan (SPP) for existing eligible shareholders. The SPP closed on 23 October 2014 and raised \$2.5 million before offer costs.
- Xstract Mining Consultants, an internationally recognised resource and asset evaluator, valued the Company's in situ gas assets between \$91m and \$600m, with a preferred fully risk weighted valuation of \$205m.

<sup>&</sup>lt;sup>1</sup> Refer to the Section entitled Carbon Energy Gas Reserves & Resources for disclosure regarding estimates.

## **BUILDING A GAS BUSINESS**

### RESERVE UPGRADE

During September 2014 the Company became the holder of the fifth largest 2P gas Reserve in Queensland, announcing a certified 2P gas Reserve located in the Surat Basin of 1 Tcf of natural gas equivalent, upgrading the Company's previous Reserve statement.<sup>2</sup>

This Reserve upgrade reinforces Carbon Energy's ability to provide the Queensland market with access to a major new gas Reserve and comes at a time when the east coast industrial and domestic market is facing medium term gas shortages. The Company is planning to bring these Reserves onto the market within three years pending securing funding partners and a decision from Government allowing the Company to proceed with the approvals process for a commercial scale gas project.

Subsequent to quarter end, Carbon Energy received an independent expert valuation of the upgraded gas Reserves. The valuation was conducted by Xstract Mining Consultants, an internationally recognised resource and asset evaluator who valued the Company's in situ gas assets between \$91m and \$600m, with a preferred valuation of \$205m.<sup>3</sup>

The independent expert has fully risk weighted its valuation being cognisant of the current policy regime as it pertains to underground coal gasification (UCG) development, in addition to the likely capital costs to bring the Blue Gum Gas Project into production. Should either of these key risks be resolved Xstract considers there would likely be a sizable uplift in the valuation.

### COMMERCIALISATION IN QUEENSLAND

During the quarter Carbon Energy submitted a Decommissioning Report and subsequently a Rehabilitation Plan to the Queensland Government for its Bloodwood Creek trial site. These submissions satisfy the final steps in the process set out by the Queensland Government to meet the recommendations of the Independent Scientific Panel (ISP) appointed to assess the pilot trials in Queensland.

The ISP was appointed by the Queensland Government to provide recommendations on the future of the UCG industry in the State. In July 2013 the ISP concluded in its recommendations that "UCG could, in principle, be conducted in a manner that is acceptable socially and environmentally safe when compared to a wide range of other existing resource-using activities."

The Decommissioning Report and the Rehabilitation Plan demonstrate Carbon Energy's ability to operate without any significant impact on the environment and surrounding aquifers. Specifically, the submissions show very low levels of localised contamination, and that the site will remediate itself rapidly and naturally.

The Company continues to work collaboratively and transparently with the Queensland Government to progress a decision to allow the commencement of a commercial scale operation in the Surat Basin, the Blue Gum Gas Project. A decision on the commercial future of keyseam in Queensland is expected in the near future.

<sup>&</sup>lt;sup>2</sup> Refer to the Section entitled *Carbon Energy Gas Reserves & Resources* for disclosure regarding estimates.

<sup>&</sup>lt;sup>3</sup> Refer to the *Basis of Valuation* attached to this report for disclosure regarding the valuation.

## BLUE GUM GAS PROJECT

Subject to a favourable decision from Government, the Company is working to establish partnerships for it first commercial scale gas development, the Blue Gum Gas Project. The Project is planned for development on MDL374 and land owned by the Company in the Surat Basin. The Blue Gum Gas Project is intended to deliver 25PJ per annum of pipeline quality natural gas. It is anticipated that first gas could be supplied to local industry three years from finding suitable investment partners and commencement of current project approvals process.

Based on projected gas prices, the Blue Gum Gas Project could deliver in excess of \$4 billion in gross revenue to the Company over a 25 year period and could create more than 1,000 jobs during the construction phase and approximately 150 sustained direct jobs in the region over the 25 years.

The Project is located within easy access to markets and close to existing infrastructure.

## CARBON ENERGY GAS RESERVES & RESOURCES

Area	Reserve and Resource Classification	Gross (100%) Syngas Energy (PJ)	Gross (100%) SNG Energy (PJ)
MDL374	1P Reserves	11.0	7.1
	2P Reserves	1,737.9	1,128.5
	3P Reserves	2,512.4	1,631.5
EPC867	3P Reserves	5,650.0	3,668.9
	2C Contingent Res	7,734,3	5,022.3
EPC869	2C Contingent Res	4,150.3	2,695.0
EPC1132	2C Contingent Res	1,220.1	792.3

Notes to the above table:

- 1P Reserves = Proved
- 2P Reserves = Proved + Probable
- 3P Reserves = Proved + Probable + Possible

All Reserve and Resource estimates (Estimates) in this document are reported in accordance with the requirements of ASX Listing Rules 5.25 to 5.28. It is noted in particular that:

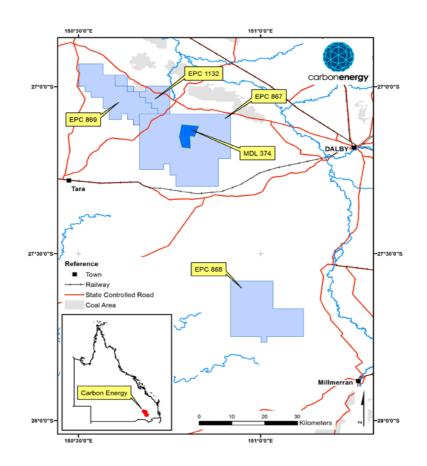
- (a) This document refers to Estimates reported on 19 September 2014 and released to the market on 22 September 2014 (Updated Reserves Statement);
- (b) All Estimates are based on the deterministic method for estimation of petroleum resources at the field and project levels and are attributable to the gross (100 percent) ownership interest of Carbon Energy in certain coal properties located in MDL374, EPC867, EPC869 and EPC1132 located in the Surat Basin of Queensland, Australia;
- (c) All Estimates are reported using the following conversion factors as relevant:
  - (i) UCG Energy conversion factor is 16.73 GJ of syngas per tonne of coal gasified;
  - (ii) UCG syngas to Synthetic Natural Gas (SNG) conversion factor is 38.5 to 25;
  - (iii) 1,055 Petajoule (PJ) = 1 Trillion cubic feet (Tcf); and
  - (iv) 1 barrel of oil equivalent (boe) = 6,000 cubic feet.

Further, for the purposes of ASX Listing Rule 5.43, Carbon Energy confirms that it is not aware of any new information or data that materially affects the information included in the Updated Reserves Statement and that all material assumptions and technical parameters underpinning the estimates in the Updated Reserves Statement continue to apply and have not materially changed.

## TENEMENT STATUS AT 30 SEPTEMBER 2014

Tenement	Status	Area km <sup>2</sup>
MDL374	Renewal Pending	28.68
MLa50253	Application Pending	13.43
PFL 6	Granted	0.03

Tenement	Status	As at 30 June 2014 Sub-Blocks	Area km <sup>2</sup>
EPC867	Granted	167	509.56
EPC868	Granted	96	291.57
EPC869	Granted	63	192.53
EPC1132	Granted	23	70.28
Total Eastern Surat Basin Tenements		349	1,063.94



### Figure 1 Carbon Energy Coal Tenure Surat Basin

## LICENSING TECHNOLOGY & TECHNICAL SERVICES

### **CHINA**

No further payments have been received from the client (Haoqin Mining) during the quarter. The Company will only commence further work on receipt of payment for completed packages and the first milestone payment relating to commencement of remaining packages.

### CHILE

Carbon Energy continued discussions with potential investors in the Mulpun UCG Project in Chile, South America during the quarter.

### ARGENTINA

Carbon Energy has a memorandum of understanding (MOU) with Delmo Group Pty Limited (Delmo) to become the UCG technology partner for a commercial UCG project in Argentina. The project proposal remains with the Department of Energy in Argentina for review.

## CORPORATE

### CASH MANAGEMENT

In July 2014, the Company secured a \$1.5 million loan facility with Macquarie Bank Limited. The facility was drawn down in full by the Company in August 2014 to assist in funding its working capital requirements prior to receipt of the FY2014 ATO R&D Rebate. The Company received a \$3.7 million incentive cash rebate from the ATO in September 2014 for R&D expenditure incurred during 2013-14. This rebate was used to repay the \$1.5 million loan facility in full.

Subsequent to quarter end, Carbon Energy announced a share purchase plan (SPP) for existing eligible shareholders. The SPP closed on 23 October 2014 and raised \$2.5 million before offer costs. At the date of this report the Company will have access to approximately \$5.4 million of cash.

Funds raised under the SPP are proposed to be used primarily to support:

- the closing out the Queensland Government's review process;
- the advancement of the Blue Gum Gas Project, which might include the following; the completion of an Advanced Conceptual Study moving onto a detailed pre-feasibility study, an initial advice statement (IAS) for the environmental impact statement (EIS) process, and other associated activities;
- the pursuit of an off-take and/or investment partner in the Blue Gum Gas Project;
- the pursuit of further business development and technology licensing opportunities both in Australia and internationally; and
- general working capital.

## **CONTRACTUAL MATTERS**

### Summa Share Sale Agreement

Carbon Energy maintains its position announced on 30 May 2013 that project financial milestones under the Agreement with Summa were not able to be achieved.<sup>4</sup> Carbon Energy maintains it is not obliged to issue further tranches of shares to Summa nor is it required to reserve those shares. Without prejudice discussions between representatives from both parties have to date failed to bring the matter to a close.

For and behalf of the Board

Morné Engelbrecht Chief Executive Officer & Managing Director 31 October 2014

<sup>&</sup>lt;sup>4</sup>See ASX Announcement 23 February 2011.

### **ISSUED CAPITAL**

As at 30 September 2014

Ordinary Shares 1,271,556,041 shares

Options - Listed 443,708,404 Listed options exercisable at \$0.06 and expiring 31 July 2016

Options – Unlisted:

61,728,395 Unlisted Credit Suisse options

44,645,845 Unlisted Pacific Road Capital Convertible Note options

10,000,000 Unlisted ex CNX management options

77,925,247 Unlisted current CNX management options

### **SHAREHOLDERS**

As at 30 September 2014

### **Ordinary Shares:**

5,574 Shareholders

Top 20 Shareholders hold 51.5% of listed shares

Major Shareholders (more than 5% holding):

1.	Kam Lung Investment Development Company Limited	13.51%
2.	Pacific Road Capital	8.75%
3.	CitiCorp Nominees Pty Ltd	6.47%
4.	Incitec Pivot Ltd	5.94%

### Options – Listed (exercisable at \$0.06 expiring 31 July 2016):

1,319 Listed Option Holders

Top 20 Listed Option Holders hold 67.52% of listed options

Top 5 Listed Option Holders:

1.	Kam Lung Investment Development Company Limited	38.72%
2.	Citicorp Nominees Pty Limited	11.34%
3.	Archfield Holdings Pty Ltd	2.61%
4.	J P Morgan Nominees Australia Limited	2.07%
5.	Peter Andrew Proksa	1.92%

## **BOARD OF DIRECTORS & MANAGEMENT**

### Board of Directors

Dr Chris Rawlings	Non-Executive Chairman
Mr Morné Engelbrecht	Chief Executive Officer & Managing Director
Mr Max Cozijn	Non-Executive Director
Dr Helen Garnett	Non-Executive Director
Mr Peter Hogan	Non-Executive Director
Mr Louis Rozman	Non-Executive Director

### **Executive Management**

Mr Morné Engelbrecht	Chief Executive Officer & Managing Director
Ms Catherine Costello	Chief Financial Officer
Dr Cliff Mallett	Technical Director
Mrs Tracy Bragg	General Counsel & Company Secretary
Mr Justin Haines	General Manager Technical Services
Mr Terry Moore	General Manager Operations

## **APPENDIX 5B**

### MINING EXPLORATION ENTITY QUARTERLY REPORT

Introduced 01/07/96 Origin Appendix 8 Amended 01/07/97, 01/07/98, 30/09/01, 01/06/10, 17/12/10, 01/05/13

#### Name of entity

### CARBON ENERGY LIMITED

ABN

Quarter ended ("current quarter")

56 057 552 137

30 September 2014

### CONSOLIDATED STATEMENT OF CASH FLOWS

Cash flows related to operating activities		Current Quarter	Year to date
		\$A'000	\$A'000
1.1	Receipts from product sales and related debtors	-	-
1.2	Payments for		
	(a) Exploration & Evaluation	(122)	(122)
	(b) BWC Site Operating & Maintenance Costs & Technical Services & Rehabilitation Drilling	(1,517)	(1,517)
	(c) Production	-	-
	(d) Corporate, Commercial, New Business & Administration	(901)	(901)
1.3	Dividends received	-	-
1.4	Interest and other items of a similar nature received	30	30
1.5	Interest and other costs of finance paid	-	-
1.6	Income taxes paid	-	-
1.7	Other (provide details if material)	3,699	3,699
	Government grants: Research & Development rebate		
	Net Operating Cash Flows	1,189	1,189

	Cash flows related to investing activities		
1.8	Payment for purchases of: (a) prospects (b) equity investments (c) other fixed assets	- - (3)	- - (3)
1.9	<ul><li>Proceeds from sale of:</li><li>(a) prospects</li><li>(b) equity investments</li><li>(c) other fixed assets</li></ul>		- - -
1.10	Loans to other entities	-	-
1.11	Loans repaid by other entities	-	-
1.12	Other (provide details if material)	-	-
	Exploration & evaluation costs, trademarks		
	Net investing cash flows	(3)	(3)
1.13	Total operating and investing cash flows	1,186	1,186
	Cash flows related to financing activities		
1.14	Proceeds from issues of shares and options	-	-
1.15	Proceeds from sale of forfeited shares	-	-
1.16	Proceeds from short term loan facility	1,500	1,500
1.17	Repayment of short term loan facility	(1,500)	(1,500)
1.18	Term facility costs	(103)	(103)
1.19	Capital raising costs	-	-
	Net financing cash flows	(103)	(103)
	Net (decrease) / increase in cash held	1,083	1,083
1.20	Cash at beginning of quarter/year to date	2,387	2,387
1.21	Exchange rate adjustments to item 1.20	-	-
1.22	Cash at end of quarter	3,470	3,470

## PAYMENTS TO DIRECTORS OF THE ENTITY, ASSOCIATES OF THE DIRECTORS, RELATED ENTITIES OF THE ENTITY AND ASSOCIATES OF THE RELATED ENTITIES

		Current quarter \$A'000
1.23	Aggregate amount of payments to the parties included in item 1.2	177
1.24	Aggregate amount of loans to the parties included in item 1.10	-
1.25	Explanation necessary for an understanding of the transactions	
	Costs included in item 1.23 above relate to Directors' fees and su	perannuation.

## NON-CASH FINANCING AND INVESTING ACTIVITIES

2.1 Details of financing and investing transactions which have had a material effect on consolidated assets and liabilities but did not involve cash flows

Issue of 5,576,434 Ordinary Shares to cover the interest costs, payable 3 months in arrears, in relation to the Facility utilised under the \$10 million Pacific Road Convertible Note Facility Agreement. These shares are issued in accordance with ASX Listing Rule 7.

2.2

Details of outlays made by other entities to establish or increase their share in projects in which the reporting entity has an interest

N/a

## FINANCING FACILITIES AVAILABLE

Add notes as necessary for an understanding of the position.

3.1 Loan facilities (Pac Road Convertible Note Facility)3.2 Credit standby arrangements

Amount available	Amount used
\$A'000	\$A'000
10,000	10,000
344	235

The Company secured and repaid a \$1.5 million financing facility with Macquarie Bank during the quarter.

## ESTIMATED CASH OUTFLOWS FOR NEXT QUARTER

		\$A'000
4.1	Exploration and evaluation	50
4.2	BWC Site Operating & Maintenance Costs & Technical Services & Rehabilitation Drilling	1,150
4.3	Production	-
4.4	Corporate, Commercial, New Business & Administration (includes costs associated with the capital raising)	1,300
	Total	2,500

## **RECONCILIATION OF CASH**

Reconciliation of cash at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts is as follows.		Current quarter \$A'000	Previous quarter \$A'000
5.1	Cash on hand and at bank	70	387
5.2	Deposits at call	3,400	2,000
5.3	Bank overdraft	-	-
5.4	Other (provide details)	-	-
	Total: cash at end of September 2014 quarter (item1.22)	3,470	2,387

### CHANGES IN INTERESTS IN MINING TENEMENTS

		Tenement reference	Nature of interest (note (2))	Interest at beginning of quarter	Interest at end of quarter
6.1	Interests in mining tenements relinquished, reduced or lapsed	-	-	-	-
6.2	Interests in mining tenements acquired or increased	-	-	-	-

# ISSUED AND QUOTED SECURITIES AT END OF CURRENT QUARTER

Description includes rate of interest and any redemption or conversion rights together with prices and dates.

		Total number	Number quoted	Issue price per security (see note 3) (cents)	Amount paid up per security (see note 3) (cents)
7.1	Preference	-	-	-	-
	* <b>securities</b> (description)				
7.2	Changes during quarter (a) Increases through				
	issues	-	-	-	-
	(b) Decreases through returns of capital, buy- backs, redemptions	-	-	-	-
7.3	*Ordinary securities	1,271,556,041	1,271,556,041	Various	Fully paid
7.4	Changes during quarter (a) Increases through issues (b) Decreases through returns of capital, buy- backs	5,576,434	5,576,434	\$0.0226	Fully paid -
7.5	*Convertible debt	Pacific Road Capital \$10 million Convertible Note Facility issue			•
	securities (description)	January 2012 and expiring 5 January 2017 with 5% interest payable quarterly in arrears in Company shares.			
7.6	<ul> <li>Changes during quarter</li> <li>(a) Increases through</li> <li>issues</li> <li>(b) Decreases through</li> <li>securities matured,</li> </ul>	-		-	
	converted				

7.7	Options			Exercise Price	Expiry Date
	Unlisted Options \$1.00	10,000,000		\$1.00	10/12/2014
	Unlisted Options \$0.0610	61,728,395		\$0.0610	15/11/2015
	Unlisted Options \$0.0610	9,645,845		\$0.0610	15/11/2015
	Unlisted Options \$0.12	3,084,000		\$0.12	31/12/2015
	Listed Options \$0.06	443,708,404	443,708,404	\$0.06	31/07/2016
	Unlisted Options \$0.026	8,174,581		\$0.026	15/10/2016
	Unlisted Options \$0.1678	7,000,000		\$0.1678	18/01/2017
	Unlisted Options \$0.1678	28,000,000		\$0.1678	25/02/2017
	Unlisted Options \$0.06	33,333,333		\$0.06	30/06/2018
	Unlisted Options \$0.06	33,333,333		\$0.06	30/06/2019
7.8	Issued during quarter	-	-	-	-
7.9	Exercised during quarter	-	-	-	-
7.10	Expired during quarter	-	-	-	-
7.11	Debentures	-	-		
	(totals only)				
7.12	Unsecured notes	-	-		
	(totals only)				

## COMPLIANCE STATEMENT

- 1 This statement has been prepared under accounting policies which comply with accounting standards as defined in the Corporations Act or other standards acceptable to ASX.
- 2 This statement does give a true and fair view of the matters disclosed.

Sign here:

Conneth

Date: 31 October 2014

Name: Catherine Costello

Title: Chief Financial Officer

## **Basis of Valuation**

Xstract Mining Consultants Pty Ltd (Xstract) provided the "Eastern Surat Syngas Reserves Independent Valuation" (the Report) to Carbon Energy Ltd on 15 October 2014. Carbon Energy's wholly owned Eastern Surat Syngas Reserves in the Surat Basin, Queensland, form the reserve base underpinning the Blue Gum Gas Project (the Project). This Basis of Valuation provides a summary of the key methodologies used and risks identified in the Report.

The information in the Report is deemed commercially sensitive as the Company has not received the requisite approvals from the Queensland government to commence the Project. This impacts on the negotiations underway to secure off-take agreements and investment funding for the Project.

#### Valuation methodology

To arrive at the valuation Xstract applied a number of valuation methods outlined in the 2005 edition of the Code for the Technical Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Expert Reports (VALMIN).

Xstract relied heavily on transaction market multiples and comparable transaction data however had to make adjustments for the Company's Keyseam technology against other extractive technologies. The factors taken into account are listed below:

- Comparable energy recovery to conventional coal mining without the need to transport inert ash;
- Around 50 times greater energy recovery per square kilometre than CSG;
- Produces gas which is raw material for a wide range of saleable products;
- Does not impact on regional water quantity or quality;
- Accesses coal resources otherwise not commercially viable;
- Very small extractive area;
- Utilises off-the-shelf enabling technologies such as gas & water processing;
- Project is near to all required major infrastructure e.g. natural gas pipelines to ready markets, power lines, roads, skilled workforce;
- Negligible remediation costs;
- Queensland Government approvals process for UCG technology is in development;
- Emerging technology may be difficult to fund;
- Emerging technology may be difficult to gain social licence;
- Up-front capital costs;
- Project timeline dependent upon policy and approvals process; and
- Constraints with existing resource holders.

#### <u>Reserves</u>

Xstract used the Reserves detailed in Carbon Energy's ASX announcement dated 19 September 2014 as the basis for Reserves underpinning the financial assessment presented in the Report.

Permits	Category	Gross (100%) Syngas Energy (PJ)	Gross (100%) SNG Energy (PJ)
MDL374	1P Reserves	11.0	7.1
	2P Reserves	1,737.9	1,128.5
	3P Reserves	2,512.4	1,631.5
EPC867	3P Reserves	5,650.0	3,668.9
	2C Contingent Resources	7,734.3	5,022.3
EPC869	2C Contingent Resources	4,150.3	2,695.0
EPC1132	2C Contingent Resources	1,220.1	792.3

#### Key risks

The results of the valuation detailed in the Report are forward looking information that is subject to a number of known and unknown risks, uncertainties and other factors that may cause the actual results to differ materially from those presented here. Key risks to the Project are considered by Xstract to be:

- Carbon Energy requires approval from the Queensland Government in order to continue with activities designed to commission the Project site and commence commercial production of syngas for conversion to SNG. Having recently submitted a decommissioning report and rehabilitation plan, Carbon Energy is hopeful that it will receive the requisite approvals in order to commence construction activities in calendar year 2015, targeting first production in 2017. Xstract considers this timeline may be pushed out by up to two years pending support from the Queensland Government.
- Delineating a second area capable of supporting up to 47 panels may prove more difficult that currently expected given the various geological, hydrological and geotechnical requirements for commercial production.
- The classification of the syngas reserve for Carbon Energy's EPCs 867, 869 and 1132 located in the Surat Basin, Queensland (i.e. outside of Carbon Energy's MDL374) may be overstated in terms of confidence.
- Relative to historic transactions, the current market is heavily discounting certain unconventional gas assets, including NSW CSG and Queensland UCG pending greater clarity regarding the development pathway for projects in these sectors. Any change in the current political landscape for unconventional gas may result in a marked re-rating of these sectors.
- The current price outlook for SNG is heavily dependent upon the on-going development of CSG and LNG infrastructure, which is due to come on-line within the next few years. Whilst current prices are comparatively low relative to near to medium term forecasts, gas prices are expected to rise dramatically during the transition from a domestic focussed to export oriented marketplace.

### Reporting standard

The Report has been prepared in accordance with the following codes:

- The 2005 edition of the Code for the Technical Assessment and Valuation of Mineral and Petroleum Assets and Securities for Independent Expert Reports (VALMIN Code); and
- The 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (JORC Code).

For the purposes of the Report, value is defined as 'fair market value' (FMV), being the amount for which a mineral asset should change hands between a willing buyer and a willing seller in an arm's length transaction where each party is assumed to have acted knowledgeably, prudently and without compulsion.

The estimates of syngas reserves and contingent resources presented in the Report have been prepared by MHA Petroleum Consultants (MHA) in accordance with the definitions and guidelines set forth in the 2007 Petroleum Resources Management System (PRMS) approved by the Society of Petroleum Engineers (SPE).

### Data sources

In developing its assumptions for the Report, Xstract relied upon information provided by Carbon Energy and information available in the public domain including:

- Various papers extracted from technical conference proceedings and Australasian Institute of Mining and Metallurgy (AusIMM) Monographs;
- Press releases, public announcements, media and analyst presentation material and other public filings, including information available on Carbon Energy's website;
- Brokers' reports and recent press articles on Carbon Energy and other comparable companies, as well as the coal and coal gasification industry;
- Share market data and related information on Australian and international listed companies engaged in the coal and gas industries and on acquisitions of companies and businesses in these industries; and
- Information relating to the coal and gas markets including forecasts regarding supply and demand, commodity price, inflation rates and exchange rates.

In the execution of its mandate, Xstract reviewed all relevant pertinent technical and corporate information made available by representatives of Carbon Energy, which has been accepted in good faith as being true, accurate and complete, after having made due enquiry.

### Reliance on other Experts

Xstract has not relied on any third party opinion in compiling its value opinion. The technical personnel responsible are based entirely in Xstract's Brisbane office. Xstract has held discussions with Carbon Energy personnel in its Brisbane office to facilitate an understanding of the Project.

For the technical assessment, Xstract sent two representatives (a geologist and mining engineer) to carry out a visit to Carbon Energy's Project site. In addition, Xstract has completed a data review of the available technical data and held discussions with independent parties regarding Carbon Energy's proposed development and exploration assets. Based on these validation steps, Xstract has developed a good in-house understanding of the assets and has no reason to question the validity of the technical information supplied.

### **Competent Persons and Experts statement**

Xstract's consultants involved are Independent Experts as defined by the VALMIN Code. They are also members of either the AusIMM or the Australian Institute of Geoscientists (AIG), for which compliance with the JORC and VALMIN Codes is mandatory. Xstract's Competent Persons involved in the preparation of the Report are members in good standing with one or more of these professional institutions and have the required qualifications and experience as defined in the JORC and VALMIN codes to conduct this technical assessment and valuation.

Xstract's consultants have extensive experience in preparing competent persons, mineral specialist, independent geologist and valuation reports for mineral exploration and production companies. The authors of the Report are qualified to express their professional opinions on the values of the mineral assets described.

#### Independence, disclaimer and warranty

Xstract is an independent mining consultancy. Xstract confirms its independence for the purpose of the Australian Securities and Investment Commission's Regulatory Guide 112 – Independence of experts (ASIC, 2011). Xstract was commissioned by Carbon Energy on a fee for service basis according to Xstract's standard schedule of rates. Xstract's fee is not contingent on the outcome of its valuation. None of Xstract's consultants or their immediate families involved in the preparation of the Valuation have (or had) a pecuniary or beneficial interest in Carbon Energy prior to or during the preparation of the Valuation.

Xstract has made due enquiries to the Queensland Department of Natural Resources and Mines (DNRM) in order to validate information provided by Carbon Energy. However, Xstract is not qualified to express legal opinion and has not sought any independent legal opinion on the ownership rights and obligations relating to the respective mineral assets under licence or any other fiscal or legal agreements that Carbon Energy may have with any third party in relation to its Queensland assets.

The Valuation may contain or refer to forward-looking information based on current expectations, including, but not limited to timing of mineral resource estimates, future exploration or project development programmes and the impact of these events on Carbon Energy's projects. Forward-looking information is subject to significant risks and uncertainties, as actual results may differ materially from forecasted results. Forward-looking information is provided as of the date hereof and Xstract assumes no responsibility to update or revise them to reflect new events or circumstances.

The valuation is appropriate as at 15 October 2014. The valuation is only appropriate for this date and may change in time in response to variations in economic, market, legal or political factors, in addition to ongoing exploration and development studies. All monetary values outlined in the Report are expressed in AUD unless otherwise stated.

#### Forward-looking Statements

This announcement contains certain "forward-looking statements". Such forward-looking statements are not guarantees of future performance and involve known and unknown risks, uncertainties and other factors and are subject to significant business, economic and competitive uncertainties and contingencies associated with exploration and/or production, many of which are beyond the control of Carbon Energy, that may cause actual results to differ materially from those predicted or implied by any forward-looking statements. No representation or warranty is made by or on behalf of Carbon Energy, Xstract or their respective directors or officers, employees, advisers or agents that any projection, forecast, calculation, forward-looking statement, assumption or estimate contained in this presentation should or will be achieved or that actual outcomes will not differ materially from any forward-looking statements.