



QUARTERLY REPORT

FOR THE QUARTER ENDED
30 September 2018

(ASX : CNX)



carbonenergy

CARBON ENERGY LIMITED

(ABN 58 057 552 137)

QUARTERLY ACTIVITIES REPORT FOR THE QUARTER ENDED 30 SEPTEMBER 2018

KEY EVENTS FOR THE QUARTER AND SUBSEQUENT TO QUARTER END

- As part of the previous 30 June 2018 Quarterly Report, Carbon Energy Limited ('Carbon Energy' or 'Company') provided updates on its various company and business development matters, including its progress with works in Australia and China..
- As part of Carbon Energy's new strategic direction, the team has been focusing on adapting the use of our proven keyseam® technology to propel the Company into the new age of the hydrogen fuel economy. The existing keyseam® technology, safely and effectively turns underground coal into syngas. By combining keyseam® with proven oil and gas technology, we anticipate that we can produce 98% CO₂-free hydrogen via coal steam reforming, based on the concept study prepared by thyssenkrupp for the Company. The result of this work has uncovered great power in the Company's own intellectual property.
- In July 2018, thyssenkrupp completed the concept study to support both the economics and viability of the project using coal steam reforming with keyseam® technology. The final results are extremely encouraging with the hydrogen production costs being estimated at less than A\$1.80/kilogram compared to current market rates of A\$16-20/kilogram. We have already started the process of presenting our proposed project to many interested parties. Our vision is to be the first choice for hydrogen producers, as well as providing a bridge towards "green hydrogen." Carbon Energy's technology remains trail blazing and this new direction and the development of a hydrogen project offers great potential, with expectations of strong returns once production commences.
- Carbon Energy has identified a low cost hydrogen production opportunity, utilising deep stranded coal for steam reforming. Carbon Energy believes that its unique and proven keyseam® technology can be combined with proven oil and gas technology to produce gas with up to 68.6% hydrogen. This high quality, hydrogen rich gas can then be refined into streams of pure hydrogen and/or ammonia. The estimated headline production costs are less than A\$1.80/kilogram for hydrogen and less than A\$190/tonne for ammonia. These figures compare to a current market price of A\$16 to A\$20 per kilogram for hydrogen and A\$650 to A\$700 per tonne for ammonia. As a result, the likely project economics are very attractive with a payback period of 4 years and an IRR of 37%.
- Effective 16 July 2018, as detailed in the 'Form 604 – Notice of change of interests of substantial holder' lodged with ASX on 17 July 2018, there was a change in the nature of Kam Lung Investment Development Company Limited's (Kam Lung's) and Beijing Jinhong Investment and Development Co., Ltd's (Beijing Jinhong's) relevant interest as a result of the transfer of 51,946,721 fully paid ordinary shares from Kam Lung to Beijing Jinhong. Kam Lung and Beijing Jinhong are both entities that are, and remain, wholly owned and controlled by Mr Zhuang.
- On 19 July 2018, being 12 months from the date of share issuance to Kam Lung on 19 July 2017, 46,799,113 shares were released from Voluntary Escrow pursuant to the Voluntary Escrow Deed as previously detailed as part of the announcement for the Notice of Annual General Meeting of Shareholders held on 18 July 2017 and Notice of Initial Substantial Holder on 20 July 2017.
- The Carbon Energy group entered into an offer to lease for a new office premise commencing in 2019.

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- The Company released its financial report for the financial year ended 30 June 2018 in September 2018.
- On 2 October 2018, the Company announced a share purchase plan (SPP) for eligible shareholders to raise up to circa \$1.5 million. Under the SPP, the Company invited eligible shareholders to participate by subscribing for up to \$15,000 of Carbon Energy ordinary shares at \$0.08 per share, without incurring any transaction or brokerage costs. The right to participate in this SPP was available exclusively to eligible shareholders who were on the Company register at 7:00pm (Sydney time) on 1 October 2018 (Record Date) and having a registered address in Australia or New Zealand. The SPP remains open at the date of this report.

COMPANY UPDATE

HEALTH, SAFETY, ENVIRONMENT & COMMUNITY

There were no reportable health, safety, environmental or community related matters or incidents recorded during the quarter, or subsequent to the end of the quarter up to the date of issue of this report.

BUSINESS DEVELOPMENT

The Carbon Energy group continues to prioritise the establishment of keyseam® as a commercial technology to be licensed internationally and as the underground coal gasification (UCG) technology of choice for UCG projects worldwide. We continue to maintain our unique and proven technology that has been developed here in Australia. Additionally we have adapted the technology to target hydrogen production, and we can do it more cost effectively than what is available in the market today. The technology will still require further definition as part of normal project development.

Hydrogen is placed to be the fuel of the future. Demand for hydrogen is on the increase. A growing global market is realising the benefits of a fuel with zero emissions. Hydrogen is rapidly becoming the focus for the decarbonisation of the world's energy economy. It is a clean fuel because carbon can be captured during production and hydrogen can also be produced using renewable energy. This means that the use of hydrogen can allow the capture and utilisation of CO₂ at the source of energy production. Keyseam® technology is perfectly suited to produce high quality low cost hydrogen. With relatively simple advancements, Carbon Energy is set on being one of the key players to achieve 98% CO₂ free hydrogen production.

Deep coal hydrogen production using steam reforming produces low cost 98% CO₂ free hydrogen. The production cost is estimated to be lower than methane steam reforming. At the moment, the vast majority of hydrogen is produced by methane steam reforming as it is currently the most cost effective method. The hydrogen can be readily transformed into ammonia and then transported as liquid ammonia. Currently there is a global market and logistics system in place for ammonia. Recently CSIRO has developed a cost effective system for transforming ammonia back into pure hydrogen that can then be readily used in hydrogen cars, buses, trucks and trains.

In the September 2018 quarter the Carbon Energy group held ongoing discussions with several companies with interests in hydrogen production, transportation and trading for the Japanese led hydrogen economy. These companies include energy companies and chemical companies..

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SOUTH AUSTRALIA, AUSTRALIA

During the quarter, the Carbon Energy group met again with the South Australian Government and a number of operators in the Cooper Basin to progress the potential coal tenure acquisition for deep coal gasification (DCG) for a CO₂ free hydrogen production project. The Cooper Basin is an ideal location as the project can easily transport liquid CO₂ for enhanced oil production and/or sequestration into depleted oil and gas reservoirs.

We are focussing on the Cooper Basin, as South Australia's regulatory environment provides support for in-situ coal gasification and energy innovation. We have identified a suitable deep coal resource in the Cooper Basin for hydrogen production. The Cooper Basin is also ideally suited for CO₂ sequestration into existing depleted deep oil and gas reservoirs.

The Cooper Basin deep coal resource has the capacity for hydrogen production of up to 20 MT pa for over 50 years. That would result in estimated revenues of up to \$100 Billion per year. Consequently, South Australia is well positioned to be a global leader in hydrogen production.

We have continued our engagement with the South Australian Government during the last 6 months as South Australia is the leading Australian State for innovation in energy projects. They have recently approved an in-situ gas trial project at Leigh Creek and are fostering a supportive environment to help deliver South Australia's energy requirements.

In the September 2018 quarter the Carbon Energy group held discussions with several companies with interests in hydrogen production, transportation and trading for the Japanese led hydrogen economy. These companies include energy companies and chemical companies.

At the date of this report, the Carbon Energy group, together with its advisors, continues with the conceptual design of the hydrogen production plant and estimations of the keyseam® technology panels for Cooper Basin at particular depths. Upon completion, it is anticipated that the Carbon Energy group will progress towards estimates for the pre-FEED and FEED (Front End Engineering Design) for a hydrogen production plant at the Cooper Basin.

This is an exciting but extremely challenging time for the Carbon Energy group. Currently the Carbon Energy group is seeing potentially a new beginning for the development of keyseam® technology as it is extremely well placed to produce low cost hydrogen. Based on the preliminary results from the conceptual studies, it is anticipated that the working depth for keyseam® technology panels for hydrogen, ammonia or methane production is between 600 metres and 1800 metres.

The Carbon Energy group has chosen to describe its keyseam® UCG activities as DCG (Deep Coal Gasification) which differentiates our keyseam® technology from other conventional industries, such as coal seam gas (CSG) or coal mining. It is anticipated that there will be no surface effects or other effects on valuable near surface water aquifers.

The Carbon Energy group intends to continue building its future brand of keyseam® technology and CO₂ free hydrogen production under our 100% wholly owned subsidiary named Hydrogen Production Group Pty Ltd.

CHINA

JinHong Joint Venture

The Carbon Energy group continues to support proposed UCG projects at two sites in Shanxi Province where there is an opportunity to provide its keyseam® technology. A number of coal mining and energy companies in Shanxi have been assessing coal deposits and progressing permitting requirements for UCG, as a basis for clean coal initiatives being encouraged by the Chinese central

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government. These uses include particulate free power generation with gas, synthetic natural gas for the expanding gas pipeline network, and feedstock for chemicals.

SOUTH AFRICA

The Carbon Energy group continues the negotiation of technical services and support of proposed UCG projects in South Africa. A number of companies have requested the involvement of Carbon Energy to assess coal deposits and assist in progressing UCG potential project in South Africa.

QUEENSLAND, AUSTRALIA

Bloodwood Creek Rehabilitation

The Carbon Energy group continues to fulfil its environmental obligations in progressing rehabilitation requirements and on-going monitoring at its Bloodwood Creek Site following the recommendations of the independent experts accredited by the Queensland Government that the Bloodwood Creek site requires no active remediation. However continued environmental monitoring provides the Carbon Energy group with further assurance and confidence in our successful keyseam® technology.

The Carbon Energy group will continue to assess relevant commercial opportunities for use of the Bloodwood Creek Site for alternative purposes, and in seeking to maximize value from the assets held at Bloodwood Creek.

Tenements

The Exploration Permit for Coal tenements were granted when Carbon Energy's exploration goal was to find and characterise a coal resource suitable for a commercial UCG project in Queensland. On 24 August 2017, the Queensland Parliament passed legislation which places a moratorium on all activities relating to UCG through the Mineral Resources Act 1989. The Carbon Energy group has reached a decision that continued development of the EPC tenements no longer aligns with the Carbon Energy group's strategic direction.

The surrender process for the EPC tenements is in progress. Final Reports for EPC 867, EPC 868, EPC 869 and EPC 1132 have been lodged with the Queensland Government Department of Natural Resources, Mines and Energy. The Company is preparing the necessary reports required to surrender the associated Environmental Authorities, and anticipate the surrender process to be completed during the 2018-2019 Financial Year. In August 2018, correspondence was received by the Carbon Energy group stating that the administering authority has decided to approve the application for the surrender of EPC 1132.

MDL 374 and PFL 6 tenement will be retained to enable the rehabilitation activities at the Bloodwood Creek site to continue.

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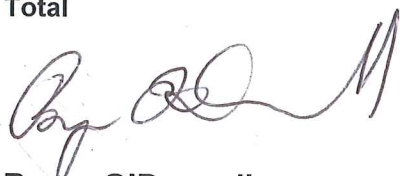
CORPORATE

CASH MANAGEMENT

As at 30 September 2018, the Company and its controlled entities held total cash of \$0.5 million¹. The Carbon Energy group continues to manage cash resources prudently and to ensure costs are minimised.

Cash payments for exploration and evaluation activities during the quarter comprises of the following:

	\$'000s
Bloodwood Creek site and rehabilitation costs	78
Technology	24
Consultants and other costs	<u>67</u>
Total	169



Bryan O'Donnell

CEO and Managing Director

30 October 2018

¹Cash include amounts held in operating accounts and exclude amounts held in term deposits as security for credit facilities and bank guarantees and amounts held in trust by external parties or security deposits held by suppliers.

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TENEMENT STATUS AT 30 SEPTEMBER 2018

Tenement	Status	Area km ²
MDL 374	Current*	28.68
PFL 6	Renewal Pending**	0.03

* MDL374 expires 1 February 2023

** PFL6 Renewal submitted March 2015

Tenement	Status	Sub-Blocks	Area km ²
EPC 867	Surrendering permit	167	509.35
EPC 868	Surrendering permit	44	134.20
EPC 869	Surrendering permit	63	192.15
EPC 1132	Surrendering permit***	23	70.15
Total Eastern Surat Basin Tenements		297	905.85

*** In August 2018, correspondence was received by the Carbon Energy group stating that the administering authority has decided to approve the application for the surrender of EPC 1132.

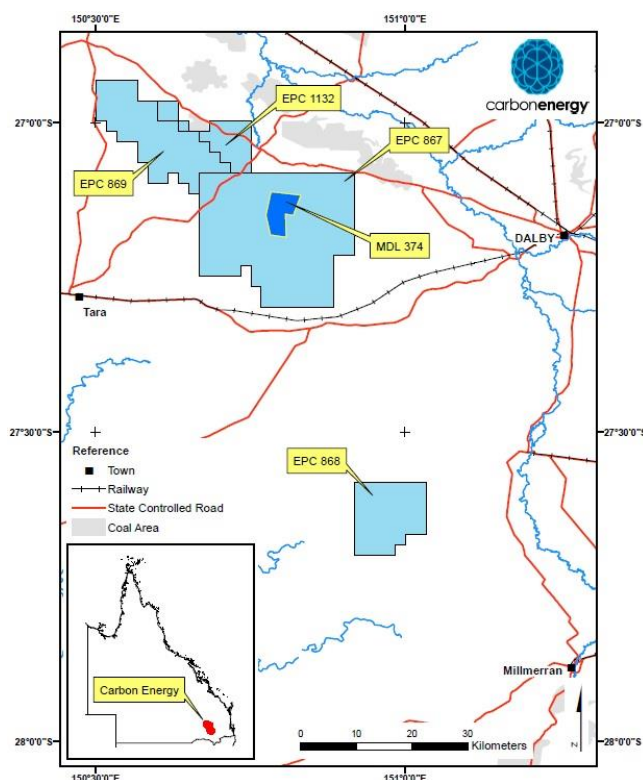


Figure 1 Carbon Energy Coal Tenure Surat Basin

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ISSUED CAPITAL AND SECURITIES ON ISSUE

As at 1 October 2018, Carbon Energy has the following securities on issue:

Listed Ordinary Shares	64,933,515
\$1,000 Convertible Notes	9,200

SHAREHOLDERS

As at 1 October 2018:

- Carbon Energy has 4,556 shareholders; and
- The “Top 20” shareholders held approximately 87.59% of the listed shares on issue.

MAJOR SHAREHOLDERS

As at 1 October 2018, the major shareholders include:

SHAREHOLDER	% HOLDING
1. Beijing Jinhong Investment and Development Co Ltd	80.00%
2. Incitec Pivot Limited	1.16%
3. Citicorp Nominees Pty Limited	0.88%

The major shareholders are presented on a non-grouped basis and therefore may not represent the full shareholding by any one beneficiary.

BOARD OF DIRECTORS

Mr Peter Hogan	Chairman and Non-Executive Director
Mr George Su	Non-Executive Director and Consultant
Mr Huihai Zhuang	Non-Executive Director
Mr Bryan O'Donnell	Chief Executive Officer and Managing Director

Appendix 5B

Mining exploration entity and oil and gas 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, 01/09/16

Name of entity

Carbon Energy Limited

ABN

56 057 552 137

Quarter ended ("current quarter")

30 September 2018

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (3 months) \$A'000
1. Cash flows from operating activities		
1.1 Receipts from customers	-	-
1.2 Payments for		
(a) exploration & evaluation	(169)	(169)
(b) development	-	-
(c) production	-	-
(d) staff costs	(406)	(406)
(e) administration and corporate costs	(193)	(193)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	6	6
1.5 Interest and other costs of finance paid	(1)	(1)
1.6 Income taxes paid	-	-
1.7 Research and development refunds	-	-
1.8 Other (sublease and other income)	62	62
Other (administrator and legal fees and costs)	-	-
1.9 Net cash from / (used in) operating activities	(701)	(701)
2. Cash flows from investing activities		
2.1 Payments to acquire:		
(a) property, plant and equipment	-	-
(b) tenements (see item 10)	-	-
(c) investments	-	-

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (3 months) \$A'000
(d) other non-current assets	-	-
2.2 Proceeds from the disposal of:		
(a) property, plant and equipment	-	-
(b) tenements (see item 10)	-	-
(c) investments	-	-
(d) other non-current assets	-	-
2.3 Cash flows from loans to other entities	-	-
2.4 Dividends received (see note 3)	-	-
2.5 Other (provide details if material)	-	-
2.6 Net cash from / (used in) investing activities	-	-

3. Cash flows from financing activities		
3.1 Proceeds from issues of shares	-	-
3.2 Proceeds from issue of convertible notes	-	-
3.3 Proceeds from exercise of share options	-	-
3.4 Transaction costs related to issues of shares, convertible notes or options	(5)	(5)
3.5 Proceeds from borrowings	-	-
3.6 Repayment of borrowings	-	-
3.7 Transaction costs related to loans and borrowings	-	-
3.8 Dividends paid	-	-
3.9 Other (provide details if material)	-	-
3.10 Net cash from / (used in) financing activities	(5)	(5)

4. Net increase / (decrease) in cash and cash equivalents for the period		
4.1 Cash and cash equivalents at beginning of period	1,182	1,182
4.2 Net cash from / (used in) operating activities (item 1.9 above)	(701)	(701)
4.3 Net cash from / (used in) investing activities (item 2.6 above)	-	-
4.4 Net cash from / (used in) financing activities (item 3.10 above)	(5)	(5)

Mining exploration entity and oil and gas exploration entity quarterly report

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (3 months) \$A'000
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	Cash and cash equivalents at end of period	476²	476²

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	476	82
5.2	Call deposits	-	1,100
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	476²	1,182³

6. Payments to directors of the entity and their associates

- 6.1 Aggregate amount of payments to these parties included in item 1.2
- 6.2 Aggregate amount of cash flow from loans to these parties included in item 2.3
- 6.3 Include below any explanation necessary to understand the transactions included in items 6.1 and 6.2

Current quarter \$A'000

(27)

-

Directors' fees and reimbursement of expenses made to Directors and their associate entities.

7. Payments to related entities of the entity and their associates

- 7.1 Aggregate amount of payments to these parties included in item 1.2
- 7.2 Aggregate amount of cash flow from loans to these parties included in item 2.3
- 7.3 Include below any explanation necessary to understand the transactions included in items 7.1 and 7.2

Current quarter \$A'000

-

-

² Cash include amounts held in operating accounts and exclude amounts held in term deposits as security for credit facilities and bank guarantees and amounts held in trust by external parties or security deposits held by suppliers.

³ Cash include amounts held in operating accounts and term deposits, and exclude amounts held in term deposits as security for credit facilities and bank guarantees and amounts held in trust by external parties or security deposits held by suppliers.

Mining exploration entity and oil and gas exploration entity quarterly report

8. Financing facilities available <i>Add notes as necessary for an understanding of the position</i>	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
8.1 Loan facilities	10,200	10,200
8.2 Credit standby arrangements	5,000	-
8.3 Other (company credit cards)	10	3
8.4 Include below a description of each facility above, including the lender, interest rate and whether it is secured or unsecured. If any additional facilities have been entered into or are proposed to be entered into after quarter end, include details of those facilities as well.		

The Company has a \$9.2 million secured convertible note facility with Kam Lung Investment Development Co Ltd (Convertible Note Facility). Interest on the Convertible Note Facility accrues at 8% p.a. and is settled in cash or, subject to election, be capitalised to the outstanding principal or converted into shares or a combination of both. The \$9.2 million facility amount presented is exclusive of any accrued or capitalised interest.

The Company has a \$5 million secured uncommitted cash advance facility with Kam Lung Investment Development Co Ltd (Cash Advance Facility) which remains undrawn at the date of this report. Interest on the Cash Advance Facility accrues at 8% p.a. or if the parties so agree, the aggregate of BBSY in relation to the interest period for that advance and the 5.5% p.a. margin. Interest maybe capitalised or cash settled.

The Company has a \$1 million interest free unsecured loan facility with the Pacific Road Capital A Pty Limited, Pacific Road Capital B Pty Ltd and Pacific Road Capital Management G.P. Limited (Pacific Road Group). The facility is guaranteed by Kam Lung Investment Development Co Ltd.

The Company holds, in total, a \$10 thousand secured credit card facility with National Australia Bank. Interest on cash advances are at the NAB Business Card Indicator Rate.

9. Estimated cash outflows for next quarter	\$A'000
9.1 Exploration and evaluation	(112)
9.2 Development	-
9.3 Production	-
9.4 Staff costs	(342)
9.5 Administration and corporate costs	(560)
9.6 Other	(855)
9.7 Total estimated cash outflows	(1,869)⁴

⁴ As the Company focuses on establishing keyseam® as a commercial technology, it is expected that the Company will continue to have negative operating cash flows. The estimated cash outflow for the next quarter also includes components which are discretionary at the date of this report and/or subject to further commercial arrangements. On 2 October 2018, the Company announced a share purchase plan (SPP) for eligible shareholders to raise up to circa \$1.5 million. The Company anticipates that further funds will be available in the course of its commercial operations and to undertake further capital raisings to support future expenditures.

Mining exploration entity and oil and gas exploration entity quarterly report

10.	Changes in tenements (items 2.1(b) and 2.2(b) above)	Tenement reference and location	Nature of interest	Interest at beginning of quarter	Interest at end of quarter
10.1	Interests in mining tenements and petroleum tenements lapsed, relinquished or reduced	EPC 867, EPC 868, EPC 869, EPC 1132	Ownership of exploration permit – coal (surrendering permit) Refer further information under the Quarterly Activities Report for the Quarter Ended 30 September 2018 – Tenements Status at 30 September 2018.	100%	100%
10.2	Interests in mining tenements and petroleum tenements acquired or increased	MDL 374 PFL 6	Ownership of mineral development tenement Ownership of petroleum facility licence Refer further information under the Quarterly Activities Report for the Quarter Ended 30 September 2018 – Tenements Status at 30 September 2018.	100% 100%	100% 100%

Compliance statement

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.



Sign here:
(Company secretary)

Date: 30 October 2018

Print name: Ye-Fei Guo

Notes

1. The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity that wishes to disclose additional information is encouraged to do so, in a note or notes included in or attached to this report.
2. If this quarterly report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, AASB 6: Exploration for and Evaluation of Mineral Resources and AASB 107: Statement of Cash Flows apply to this report. If this quarterly report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.