



**carbonenergy**

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Carbon Energy Limited

ABN 56 057 552 137

Carbon Energy (Operations) Pty Ltd

ABN 61 105 176 967

## **ASX / Media Announcement**

21 March 2016

*Not for release in the United States*

## **Shareholder Information Session**

Carbon Energy (ASX: CNX, OTCQX: CNXAY) provides the following presentation that Managing Director and CEO, Mr Morne Engelbrecht, will deliver to shareholders during domestic shareholder information sessions this week.

### **ENDS**

For and on behalf of the Board

Catherine Costello

Chief Financial Officer & Company Secretary

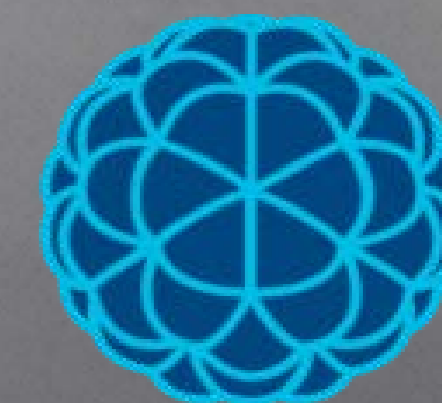


CARBON ENERGY LIMITED

PRO-RATA  
ENTITLEMENT

OFFER

MARCH 2016



carbonenergy



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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:

- This document refers to Estimates reported on 19 September 2014 and released to the market on 22 September 2014 (**Updated Reserves Statement**);
- 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;
- All Estimates are reported using the following conversion factors as relevant:
  - UCG Energy conversion factor is 16.73 GJ of syngas per tonne of coal gasified;
  - UCG syngas to Synthetic Natural Gas (SNG) conversion factor is 38.5 to 25;
  - 1,055 Petajoule (PJ) = 1 Trillion cubic feet (Tcf); and
  - 1 barrel of oil equivalent (boe) = 6,000 cubic feet.

Further, 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.

# RIGHTS ISSUE DETAILS & STRUCTURE

- 3 for 11 pro-rata renounceable entitlement issue at 1.3¢ per share to raise up to approximately \$5.3 million.
- Underwritten to \$1.8 million
- The Offer price represents a 19.1% discount to the 5 day VWAP of 1.607¢ (being the last day before lodgment of the Prospectus).
- The Offer price represents a 13.3% discount to the close price of 1.5¢ (being the last day before lodgment of the Prospectus).
- Shareholders will have the ability to apply for additional shares in excess of their entitlement.
- Based on the issue price of 1.3¢ per share, assuming the full amount is raised the indicative capital structure of the Company will be:

Capital Structure	Shares	Listed Options*	Amount (\$)	Market Cap
Shares on issue	1,496m	-	-	\$19.4m
Rights Issue (3:11)	408m	443.7m	\$5.3m	\$5.3m
<b>Total</b>	<b>1,904m</b>	<b>443.7m</b>	<b>\$5.3m</b>	<b>\$24.7m</b>

\* Unlisted options total 51.6 million

# USE OF FUNDS

Purpose	Estimated \$ million	Estimated %
Pursuing international and Australian business development opportunities	\$0.8	14%
Progressing the activities of the work plan for the Company's mineral development licence (MDL374), that include the continuation of the Company's ground water monitoring program under its Environmental Authority which form part of its Rehabilitation Plan for the Trial Site.	\$1.4	27%
Meeting general working capital requirements	\$2.9	56%
Paying offer costs <sup>^</sup>	\$0.2	3%
<b>Total<sup>^</sup></b>	<b>\$5.3</b>	<b>100%</b>

<sup>^</sup> This includes the capital raising fees that are payable to the Lead Manager, the details of which are outlined in section 1.4 of the Offer Booklet.



# INDICATIVE TIMELINE

Activity	Date
Announcement of the Entitlement Offer	11 March 2016
Ex date	16 March 2016
Record Date for Entitlement Offer (7.00pm AEDT)	17 March 2016
Information Booklet and Entitlement and Acceptance Form despatched	22 March 2016
Entitlement Offer opens	22 March 2016
Entitlement trading begins	16 March 2016
Entitlements trading ends (5.00pm AEDT)	24 March 2016
New Shares quoted on a deferred settlement basis	29 March 2016
Closing date for acceptances under Entitlement Offer (5.00pm AEDT)	4 April 2016
Announcement of results of Entitlement Offer and under-subscriptions	7 April 2016
Settlement of New Shares under the Entitlement Offer	11 April 2016
Allotment of New Shares issued under the Entitlement Offer	11 April 2016
Despatch of holding statements for New Shares issued under the Entitlement Offer	13 April 2016
Normal ASX trading for New Shares issued under Entitlement Offer commences	14 April 2016

These dates are indicative only and subject to change without notice. The Company, in consultation with the Lead Manager, may extend the period of the Offer or bring forward the Closing Date at its discretion. This may have a consequential effect on the other dates.



# OBJECTIVE & STRATEGY

To establish keyseam<sup>®</sup> as technology of choice for monetising deep coal resources worldwide.

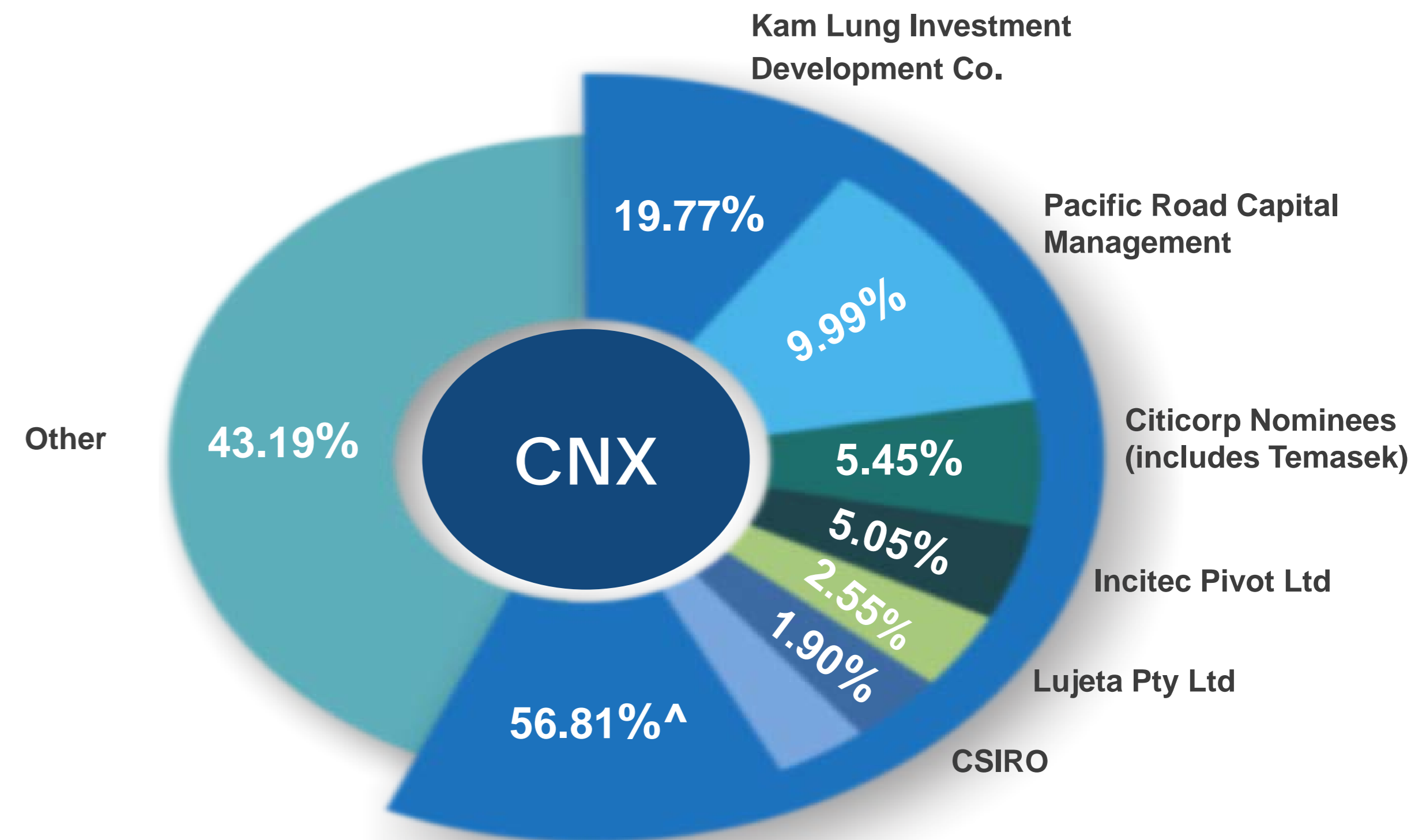
This will be achieved through the downstream use of keyseam as a commercial and environmentally effective alternative to current gas feedstocks.



# COMPANY OVERVIEW

- Gas technology company based in Queensland, Australia, ASX listed – CNX.
- *keyseam* technology, developed in collaboration with the Commonwealth Scientific and Industrial Research Organisation (CSIRO)
- Revenue generated from technology licensing and engineering services including site geological suitability assessments
- Focused on providing a low cost gas and energy feedstock for downstream users

## Major Shareholders



^Total Top 20 Shareholders (27)

As at 21 March 2016



# STRATEGIC PRIORITIES



## China Joint Venture – JinHong New Energy JV

- **Joint Venture** approved by CNX shareholders
- **Leverage proven design of keyseam technology**, trial results and growing clean energy demand in China
- **Establish** keyseam as commercial technology to be licensed in China
- **Commence first project in China**



## Further licensing of projects internationally

- **Further licensing deals** will bring additional revenue and confidence in the technology
- **Targeting newly industrialised nations** with cleaner energy demand
- **Outcomes from Queensland, Independent Scientific Panel (ISP) review** will assist further business development



## Queensland Government approval to proceed commercially

- All requirements as recommended by the ISP met to satisfy pre-conditions to **commercialisation in QLD**
- **Awaiting further advice from QLD Government on policy direction** before can proceed.

# RECENT MILESTONES

Recent Milestone	Status	Comments
<b>CHINA JV:</b>		
Sign JV Agreement	Completed	US\$30M to invest in the JV in establishing new project in China
CNX shareholder approval of JV at AGM	Completed	Shareholders approved the JV Agreement signed by parties
Secure suitable coal field in China	Underway	Number of coal fields around China are being assessed for suitability
Register and get approval for the JV in China	Commenced	Lodgement of 1 <sup>st</sup> round of documents with local PRC authorities - lodged end of February 2016 – Next round of documents to be lodged in March 2016
Commence revenue from JV Technical Services	Commenced	First invoice raised for Technical Services to be rendered in March 2016
Appoint appropriate JV personnel	Progressed	3 key roles have been filled
Commence early engineering works	Commenced	Early engineering works are to be completed mainly relating to drafting and agreeing division of Scope of Work with identified EPCM Contractor
Secure an appropriate in-China EPCM Contractor	Identified	Kick-off meeting to be held and contracts to be agreed
<b>CHINA – IN GENERAL:</b>		
Establish UCG Research Centre to ensure policy development in China is advanced	Completed	Became Foundation Partner of China's International UCG Research Institute to help form operational and environmental standards and policies in China
Licensing to other projects	Ongoing	Discussions with parties being progressed re: Licensing
<b>QUEENSLAND:</b>		
Certified Gas Reserve	Completed	Gas Reserve was announced on 22 September 2014*
Completion of Independent Scientific Panel (ISP) recommendations at Bloodwood Creek	Completed	As concluded by QLD government appointed, independent experts
Lodged Decommissioning Report and Rehab. Plan	Completed	keyseam and Bloodwood Creek trial full lifecycle demonstrated
Securing a policy from Queensland government	Ongoing	Continue interaction with Government

\* Carbon Energy reserve and resource as at 22/9/14



# WHAT IS keyseam®?

- **keyseam turns deep underground coal into energy** in an environmentally and cost effective manner
- **keyseam has been innovated in Queensland in-conjunction with the CSIRO**
- Rather than the mechanical excavation as in conventional mining, **energy is extracted by gasification**
- **keyseam can access deep coal resources**
- **keyseam is completely unique.** No other UCG process has achieved the results keyseam has.

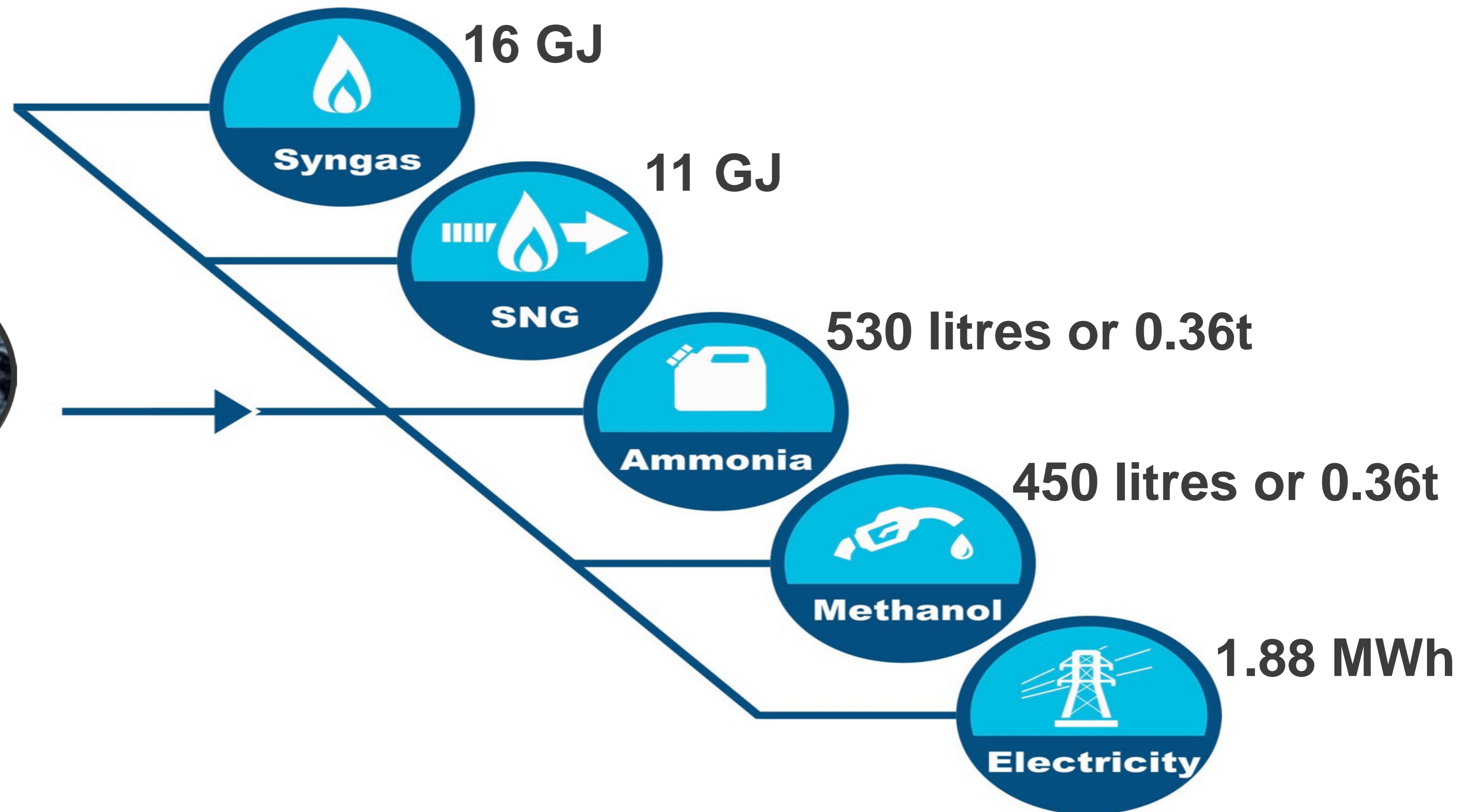


“Coal is after all simply stored sunshine.” Prof Robin Batterham

# keyseam<sup>®</sup> - WHAT IS IT USED FOR?



**1 tonne BWC coal**  
through utilising keyseam  
can produce one of these options.



BWC = Bloodwood Creek project site in Surat Basin, Queensland, Australia.  
SNG = synthetic natural gas or natural gas equivalent.



# keyseam® DIFFERENCE

Comparisons of UCG and Coal Seam Gas (CSG/CBM) are often made. The key differences between the two processes include:

## keyseam:



Invented in Australia, in conjunction with the CSIRO



Delivers more than 60 times more energy from the same coal resource as CSG when compared at BWC



Minimal impact on regional groundwater use at BWC

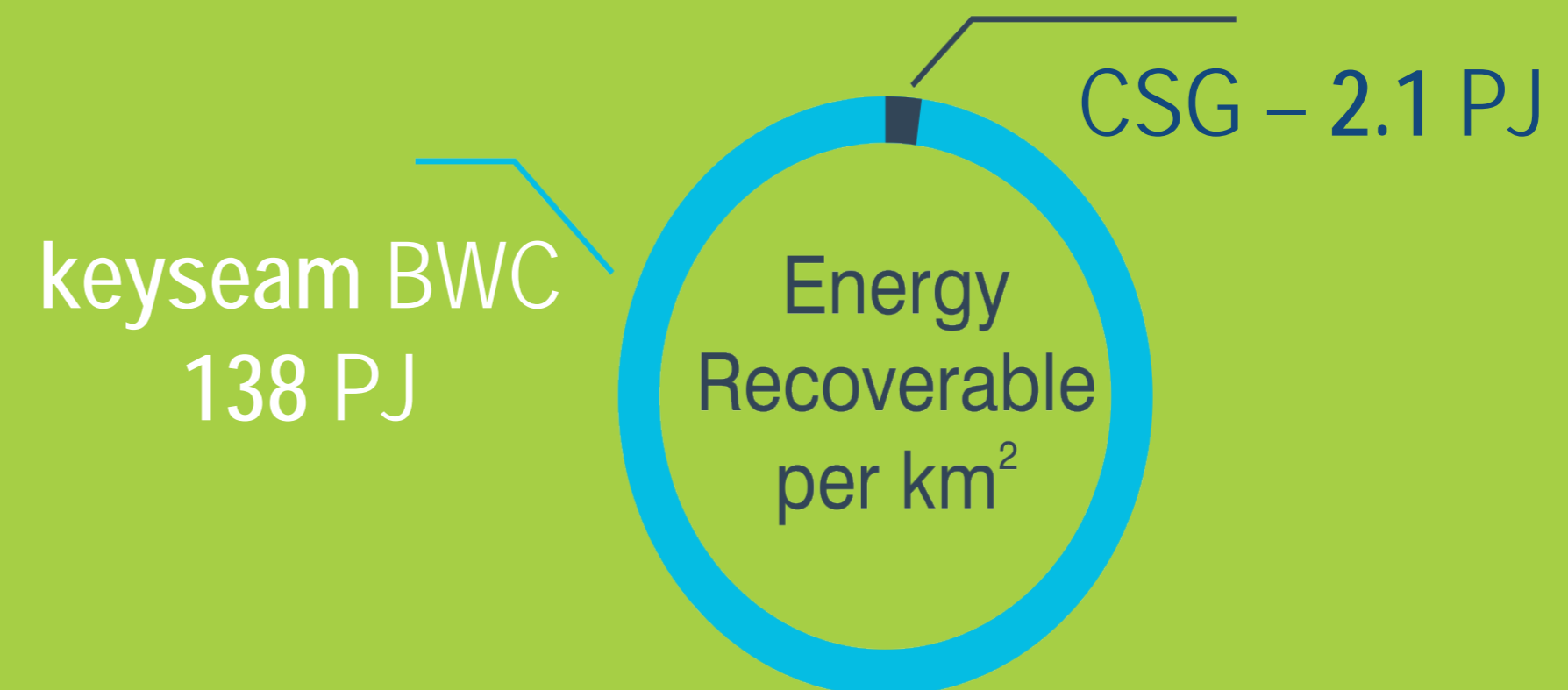


Does not involve “fracking”

## ENERGY COMPARISON

### keyseam vs CSG

compared on the same resource.



Comparison based on Bloodwood Creek (BWC) trial site

# COMMERCIAL EXECUTION PHASES

keyseam<sup>®</sup> Licensing and Gas as Feedstock to Downstream Users



## Commercial Demonstration Project

Typically consists of one panel used as a co-feed gas to an existing downstream plant.



## Mid-Scale Commercial

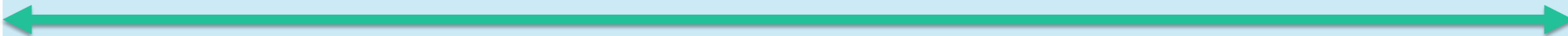
More than one panel.



## Full-Scale Commercial

Expansion of mid-scale project.

Condensed timeline by utilising already established downstream plants





# JINHONG JOINT VENTURE

## **Purpose:**

- To develop a vertically integrated gas company utilising the keyseam technology in China.

## **Approvals:**

- CNX Shareholder approval (AGM on 30 Nov 2015).
- China Ministry of Commerce approval being processed.
- JV becomes effective after all approvals obtained.
- Early works commencing.

## **JinHong Contribution & Distribution:**

- JinHong is required to contribute US\$30 million over three years.
- JinHong will be entitled to 70% of dividends.

## **CNX Contribution & Distribution:**

- CNX will only provide the JV with an exclusive technology license on successful ignition of demonstration project.
- CNX has non-dilution rights.
- CNX will be entitled to 90% of licence fees negotiated before the JV is allocated an exclusive licence and 30% following the allocation of the exclusive licence earned by the JV.
- CNX will earn Technology Services fees from the JV and its clients.



Photo: Beijing, China

# JINHONG JOINT VENTURE ADVANTAGES

## A Strong Partnership for Future Growth



First fully funded demonstration Project to be established outside Australia.



First mover in market to capitalise on China's supportive government environment.



Shareholder value protected. Transaction structured to reduce execution risk and maximise returns.



A source of revenue to Carbon Energy in contracted technology service and licence fees.



Support from the Company's cornerstone investor Kam Lung with experienced local business and government contacts.



Carbon Energy has equal voice in setting the strategic direction and management of the JV irrespective of its % share.



The JV allows CNX to showcase the most up to date application keyseam to attract further investors.



Independent Expert concluded: Proposed Transaction was fair and reasonable.



# JINHONG JV COMMERCIALISATION STAGES\*



## JV Establishment

- CNX shareholder approval
- PRC Gov approval of JV
- US\$30m total contribution
- JV Beijing office established
- Gain PRC Gov. technology support during 2016
- First JV Board meeting
- Confirm JV strategy, execution, budget etc.
- Identify project opportunities

JV Approved by  
CNX Shareholders  
November 2015



## Project Selection

- Secure coal leases located near existing gas users
- Conduct site suitability assessment
- Appoint EPCM Company
- Appoint Drilling Company
- Obtain project PRC/local Government approvals
- Formally sign Licensing and service agreements (already agreed)

Aiming < April 2016  
Contractually < September 2016



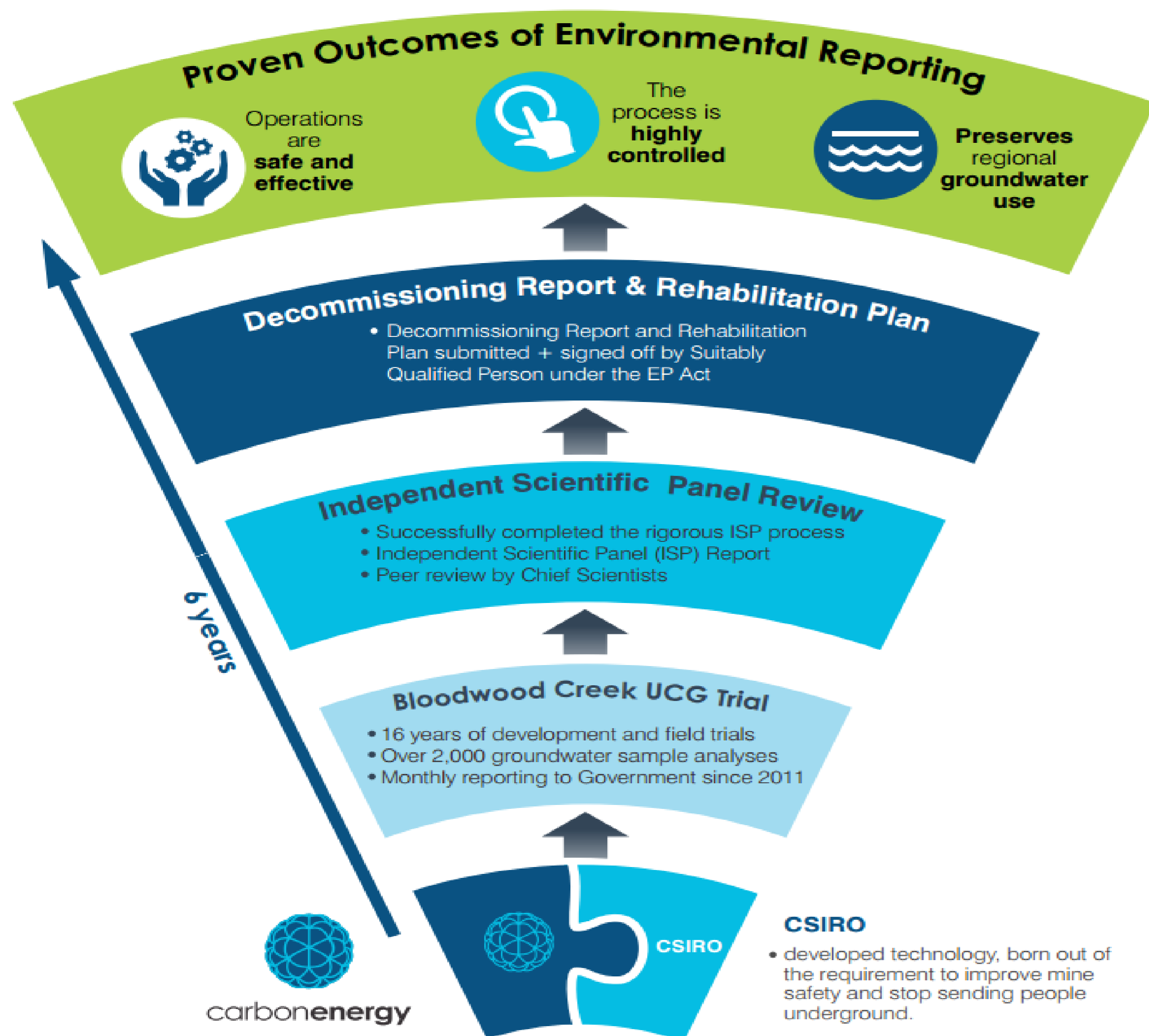
## Project Execution

- Feasibility studies
- CNX Engineering services
- Project Procurement
- Project Construction
- Negotiate and execute off-take agreements
- Commercial operation and ongoing support

< April 2017  
Demonstration ignition  
required by April 2017\*

\* Estimated timeline only. Subject to approval of the JV structure by the PRC, finding a suitable coal field suitable for keyseam etc.

# STRONG SCIENTIFIC CREDENTIALS



## RIGOROUS REVIEW PROCESS

### General process overview:

- 6 years of rigorous scientific review of commercial scale operations
- > \$150 million spent in R&D
- Monthly groundwater samples

### Overall ISP outcome:

- The only company to successfully complete the ISP recommendations and report to the QLD Government the full-life cycle of our trial under independent environmental scrutiny

### Operational outcomes:

- Process is controlled
- Minimal impact on regional groundwater use at BWC

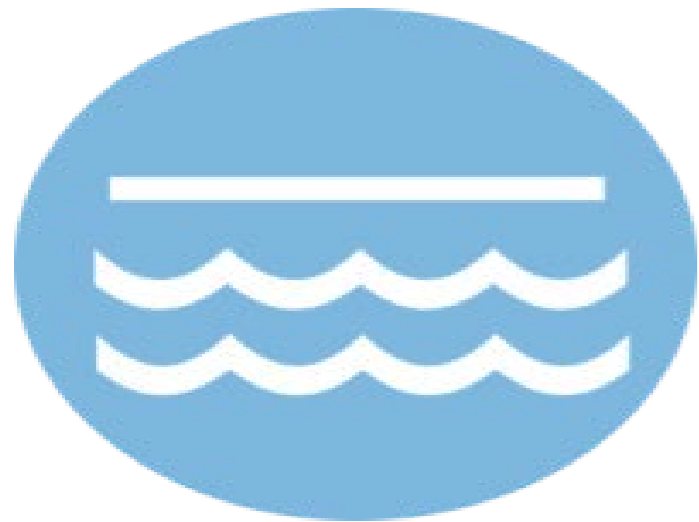


# ENVIRONMENTAL BENEFITS\*



1. **Small footprint** for amount of energy recovered

2. **Maximises resource efficiency**



3. **Minimal impact on regional groundwater use at BWC**

4. **No fracking, excavating or coal transporting**



5. **Ash remains underground**

6. **Minimises surface disturbance**

\*Compared to conventional coal mining and CSG/CBM

# INTERNATIONAL UCG RESEARCH CENTRE

**Carbon Energy** becomes the foundation partner of the research institute set to drive standards and innovation of UCG in China.



## The World's Largest Mining University

China University of Mining Technology is one of China's top national universities as well as one of the world's largest mining universities.



## NDRC Backing to be Gained

The formation of the Centre has been established to align with the anticipated inclusion of UCG as a pillar of China's next five year plan – expected to launch in March 2016.



## Recognises Carbon Energy's Technology Advancement

The invitation to be a foundation partner is recognition of the Company's achievements and also provides a credible reference platform to develop further business relationships in China.



## Promote China's UCG Market & Set Benchmarks

The purpose of the Centre is to establish the highest standards in developing and managing UCG in China.



Photo: China University of Mining Technology



# QUEENSLAND REMAINS A PRIORITY

- CNX maintains **significant gas and coal assets in Queensland**
- The Company's headquarters, **workforce, technical services and demonstration facilities** are located in Queensland
- The Company remains committed to **helping industrial users find reliable low cost gas feedstock**
- CNX is well positioned to **supply gas to local industry** subject to Government policy, approvals and funding

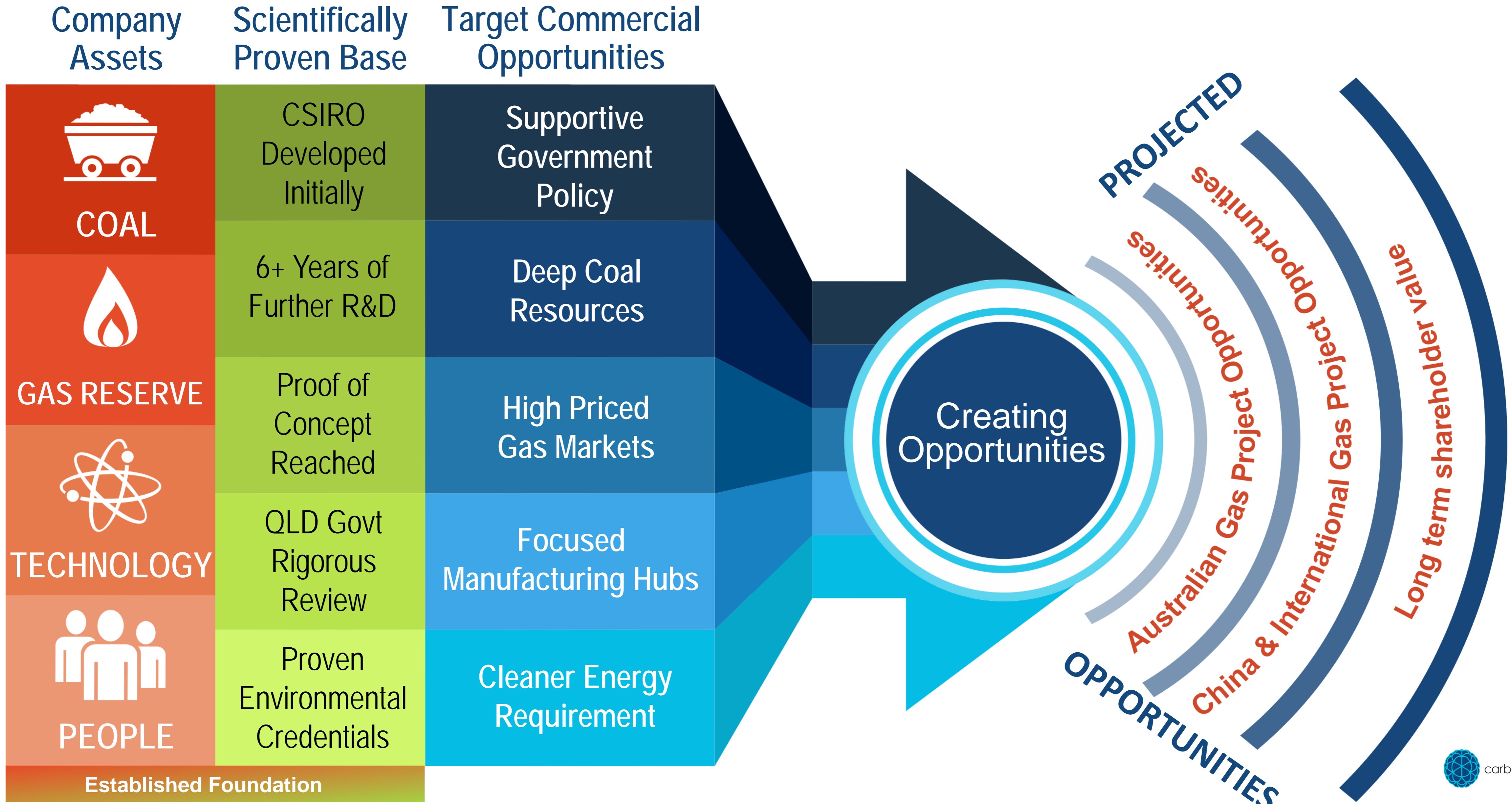
## Next Steps

- **Queensland government to confirm CNX has met all ISP recommendations**



Photo: Bloodwood Creek

# FOCUSED COMMERCIAL OPPORTUNITY





# APPENDICES

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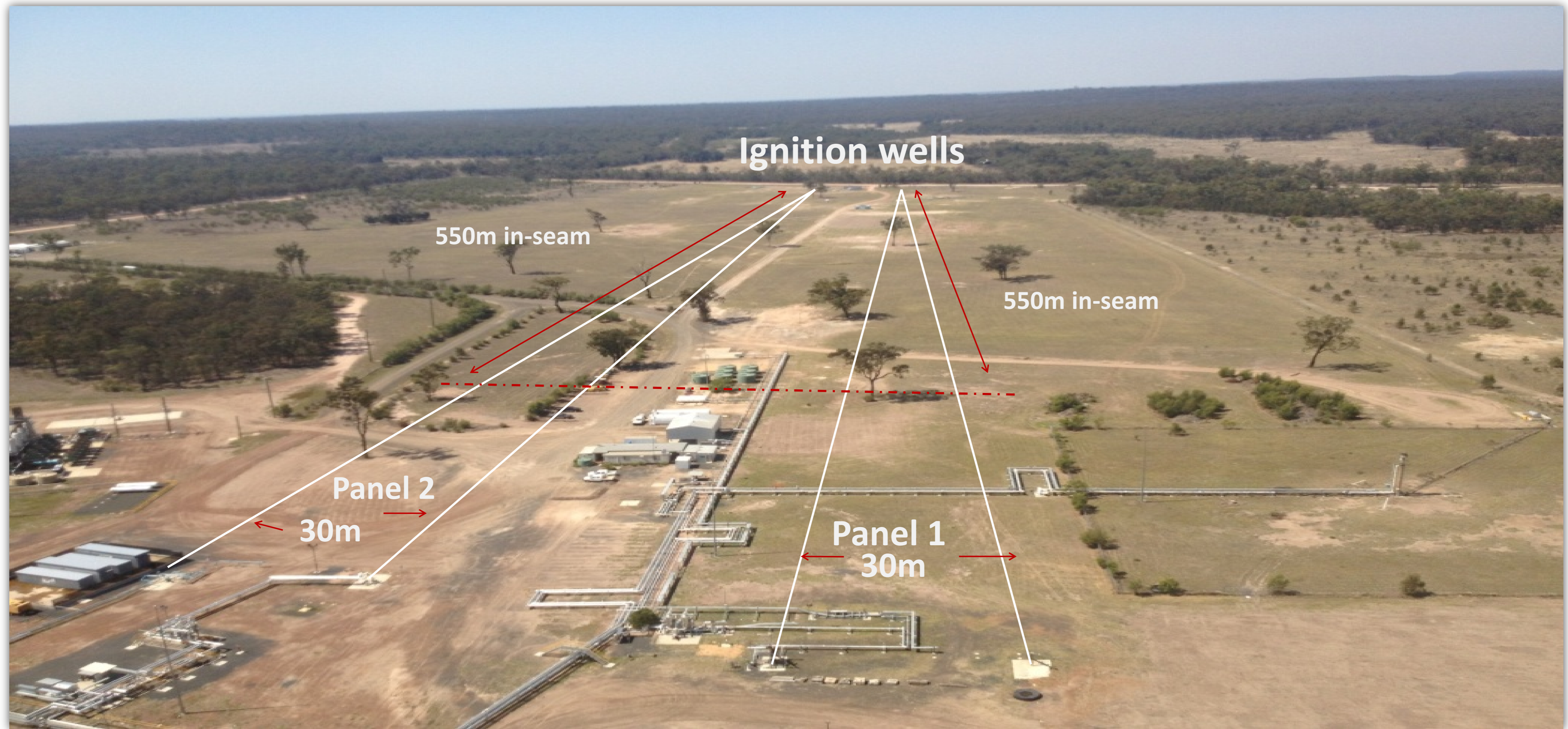
Appendix Follows

# BLOODWOOD CREEK PILOT SITE





# BLOODWOOD CREEK PILOT SITE



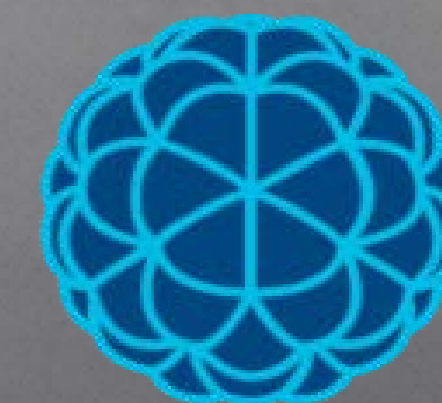
# BLOODWOOD CREEK PILOT SITE





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THANK YOU



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