



carbonenergy

Carbon Energy Limited | ABN 56 057 552 137

ASX Announcement

17 November 2015

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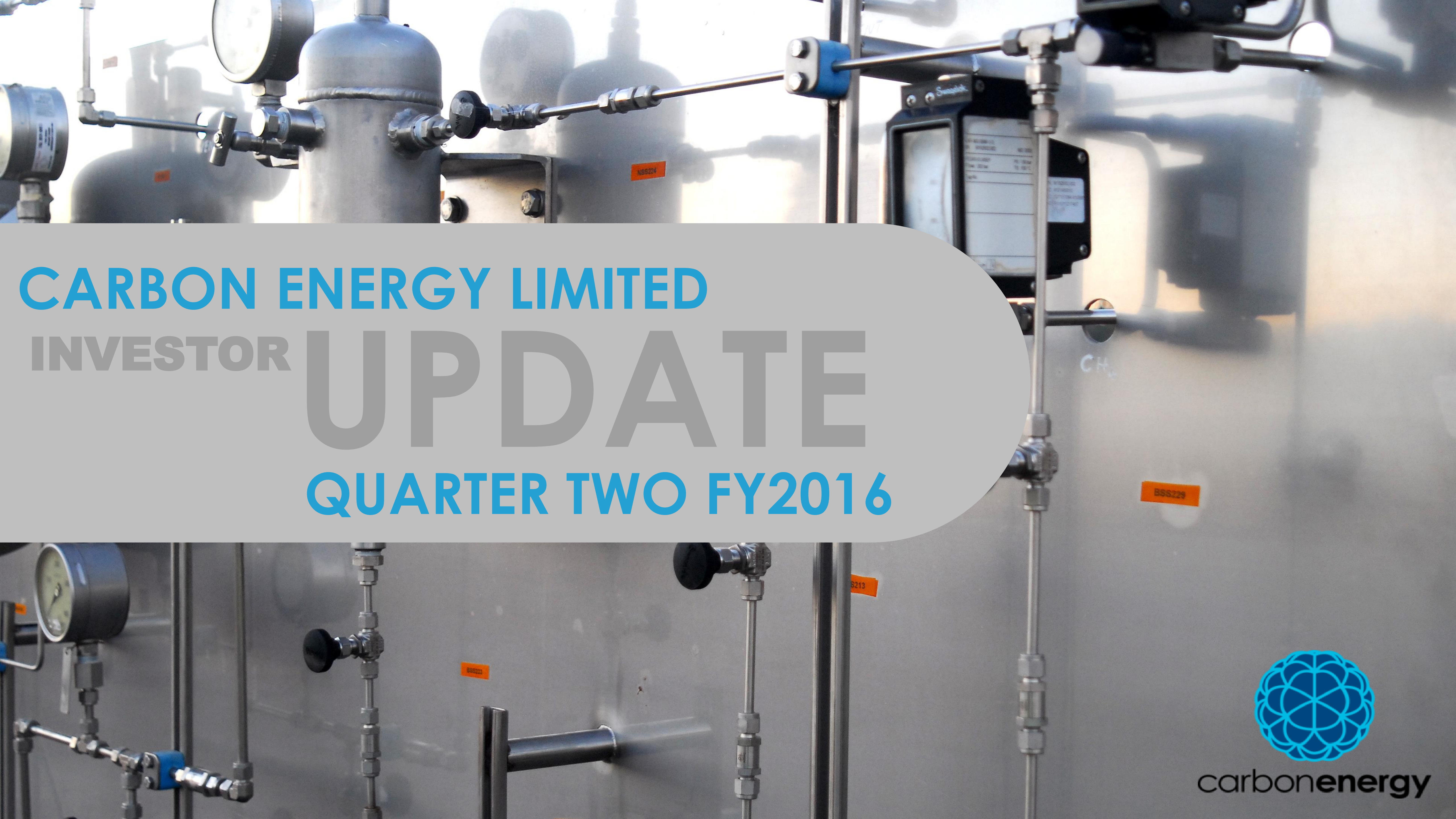
Investor Update – Quarter Two FY2016

Carbon Energy (ASX:CNX; OTCQX:CNXAY) The attached activities update will be presented by Managing Director, Morné Engelbrecht in Sydney, Brisbane and Melbourne over the coming month.

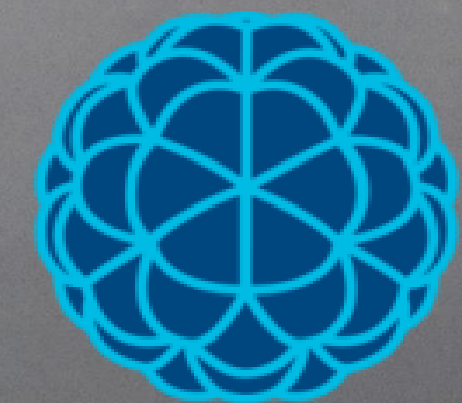
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For and on behalf of the Board

Catherine Costello
Chief Financial Officer & Company Secretary



CARBON ENERGY LIMITED
INVESTOR UPDATE
QUARTER TWO FY2016



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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.

keyseam® is a registered trademark of Carbon Energy.

INVESTMENT HIGHLIGHTS

- **Scientific credentials of keyseam technology** confirmed through demonstration project
- **Strategic focus – Company to apply its keyseam technology** to meet China growing clean energy demand
- **China Joint Venture – Foundation for commercialising keyseam technology in China**
- **Backed by Chinese cornerstone investor – CNX** shareholding increased to 19.99%
- QLD keyseam project further development **pending government policy**



OBJECTIVE & STRATEGY

To establish keyseam[®] as the gasification technology of choice for monetising deep coal resources worldwide.

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

COMPANY OVERVIEW

- **Technology Company based in Queensland, Australia, ASX listed**
- **Leading** keyseam technology, developed in collaboration with **Australia's premier research agency the Commonwealth Scientific and Industrial Research Organisation (CSIRO)**
- **Technology licensing and engineering services** including site geological suitability assessments
- Focused on providing a **low cost energy (syngas) feedstock for downstream users**



Photo: Bloodwood Creek

STRATEGIC PRIORITIES

Priority 1



Further licensing of projects internationally

- **Build on existing projects with Chinese** partners leveraging commercially proven keyseam technology, trial results and growing Chinese clean energy demand
- **Further licensing deals** will bring additional revenue and confidence in the technology
- **Outcomes of rigorous scientific review** will assist further business development

Priority 2



State Government approval to proceed commercially

- All requirements met to satisfy pre-conditions to **commercialisation in QLD**
- **Environmental Impact Statement (EIS)** ready to commence
- **Awaiting QLD Government further advice on policy** direction before can proceed

Priority 3



Development of QLD Blue Gum Gas project – Stage 1 Mid-Scale Project

- **Commercialising Blue Gum project in staged approach** to help monetise domestic assets
- **Stepped approach** mid-scale commercial project then full-scale commercial facility



2015 PROGRESS

Corporate and Australian focused progress made

- **Scientific credentials confirmed through pilot project - strengthening foundations of business**
- **Lodged Decommissioning Report and Rehabilitation Plan completed for Bloodwood Creek pilot project**
- **Completion of Independent Scientific Panel (ISP) recommendations at Bloodwood Creek - as concluded by QLD government appointed experts**
- **First Bloodwood Creek Rehab Status Report submitted - rehabilitation on track**
- **Continued engagement with QLD government - re: commercialising Blue Gum Gas Project**



Photo: Bloodwood Creek

2015 PROGRESS

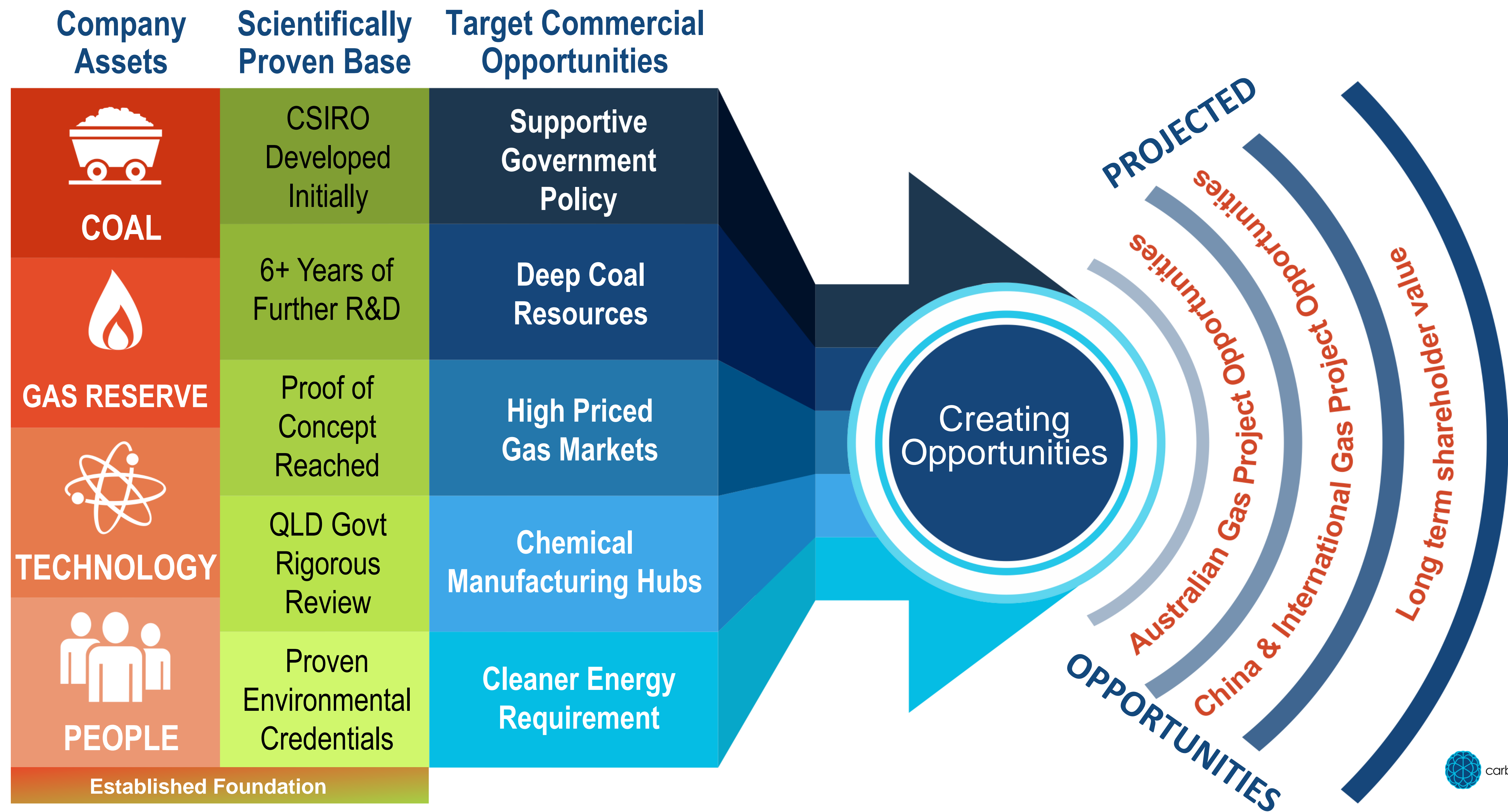
Strategic review and project refocus

- **Strategic rebase** - company realigns priorities to progress business development of its keyseam underground coal gasification technology focussing on China
- **China JV agreement established** - foundation for commercialising keyseam technology in China – pending agreement of shareholders and Chinese Government
- **Became Foundation Partner of China UCG Research Institute** - to help form operational and environmental standards in China
- **Increased support from cornerstone investor** - to 19.99%



Photo: Beijing, China

FOCUSED COMMERCIAL OPPORTUNITY



COMMERCIAL EXECUTION PHASES

Sale of keyseam[®] licensing and gas as feedstock to downstream users



Commercial Demonstration Project

Typically consists on 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



CHINA GAS MARKET

Ripe for keyseam®

- China's cleaner energy demand is set to increase heavily over the next decade^{1/}
- Unlocking new energy sources that are commercially and environmentally sustainable have become a priority
- Reflected in inclusion of UCG in the Chinese strategic 5 year plan

China	keyseam®
Abundant deep coal	Access stranded (deep coal) reserves
Population growth = increased energy usage	Unlocks new energy sources
Targets for greater energy independence	Utilises unused State owned resources
Focus on manufacturing = requirement for gas feedstocks	Economic costs compared to natural gas and aboveground gasification
UCG a strategic pillar for next 5YP	keyseam's technical and environmental credentials
Water scarcity across N/NW China	Minimises use of water vs other "coal to .." technologies

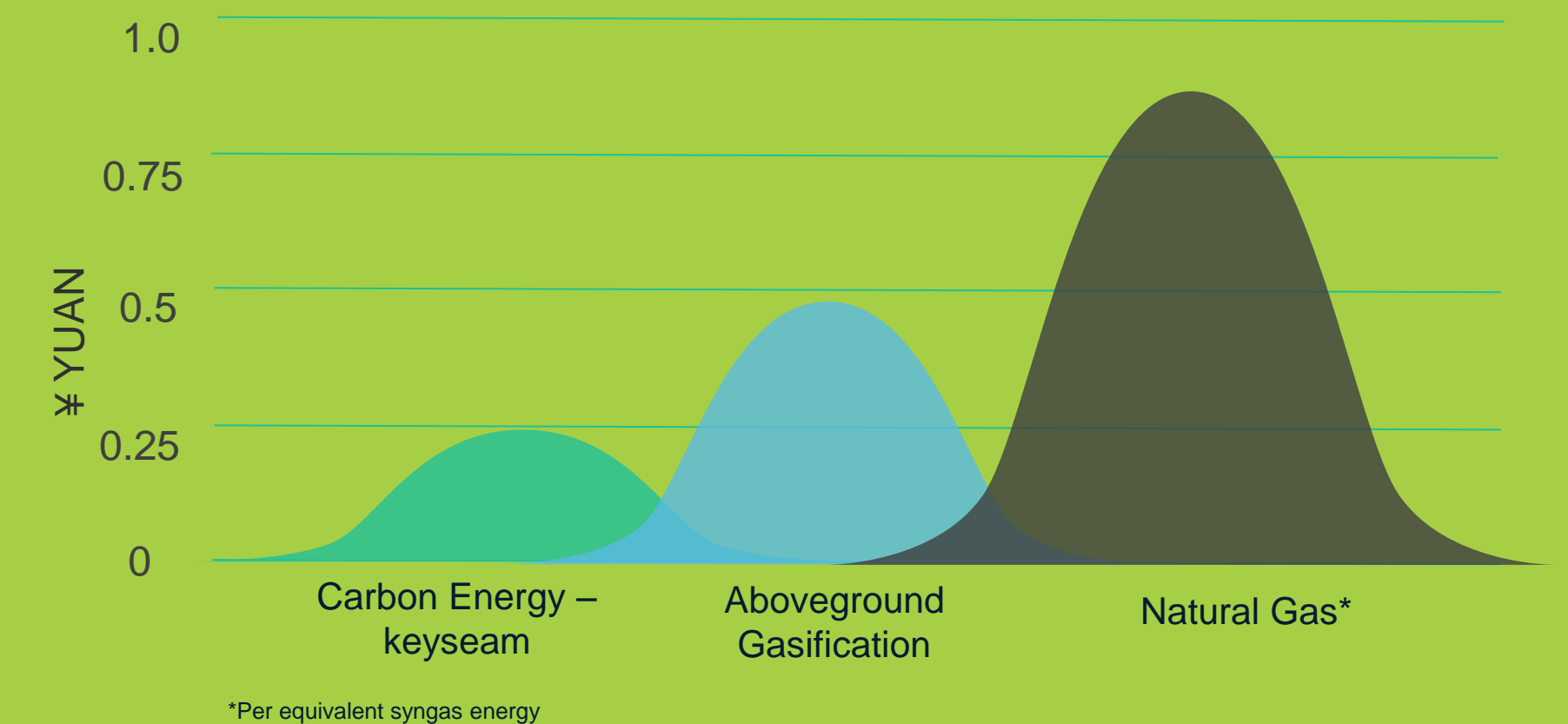
1. International Energy Agency 2014, World Energy Outlook 2014, <http://www.iea.org/textbase/npsum/weo2014sum.pdf>

China's limited access to oil and gas sees coal used more broadly and with greater diversity than other nations.

China is the only nation to use coal to produce industrial quantities of olefins, required to support its manufacturing industry.

keyseam is 48% cheaper than aboveground gasification and 69% cheaper than Natural Gas².

China Gas Costs



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

JINHONG JOINT VENTURE

Purpose

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

Approvals

- CNX Shareholder approval at AGM 30 Nov 2016.
- China Ministry of Commerce approval to be gained by mid-2016.
- JV becomes effective after all approvals.

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 contribute technology licensing (non-exclusive until ignition of demonstration project).
- CNX has non-dilution rights.
- CNX will be entitled to 90% during non-exclusive period and 30% following.



Photo: Beijing, China

JINHONG JV COMMERCIALISATION STAGES



JV Establishment

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

November 2015



Project Selection

- Secure coal leases
- near existing gas users
- Site suitability assessment
- Project Gov approvals
- Licensing and service agreements

< September 2016



Project Execution

- Feasibility studies
- Appoint EPCM
- CNX Engineering services
- Procurement
- Construction
- Off-take agreements
- Commercial operation and ongoing support

< April 2017

Demonstration ignition requirement. Depends on PRC Government approval of JV

JINHONG JOINT VENTURE ADVANTAGES

A strong partnership for future growth



First fully funded commercial demonstration Project to be established outside Australia.



First commercial 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 license 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 concludes Proposed Transaction is fair and reasonable.

CHINA RESEARCH INSTITUTE

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 the world's largest mining university.



Chinese Government Backing to be Gained

The formation of the Centre has been established to gain the backing of the National Development and Reform Commission (NDRC) - China's central planning agency.



Recognises Carbon Energy's Achievements

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 Global 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

QLD REMAINS A PRIORITY

- CNX maintains **significant gas and coal assets in Queensland**
- The Company's headquarters, **workforce, technical services and demonstration facilities** are located QLD
- 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

- **QLD Government to confirm policy** for commercialisation of keyseam



Photo: Bloodwood Creek

STRONG SCIENTIFIC CREDENTIALS

Most Comprehensive, Complete Lifecycle Industry Review Ever Commissioned

RIGOROUS REVIEW PROCESS

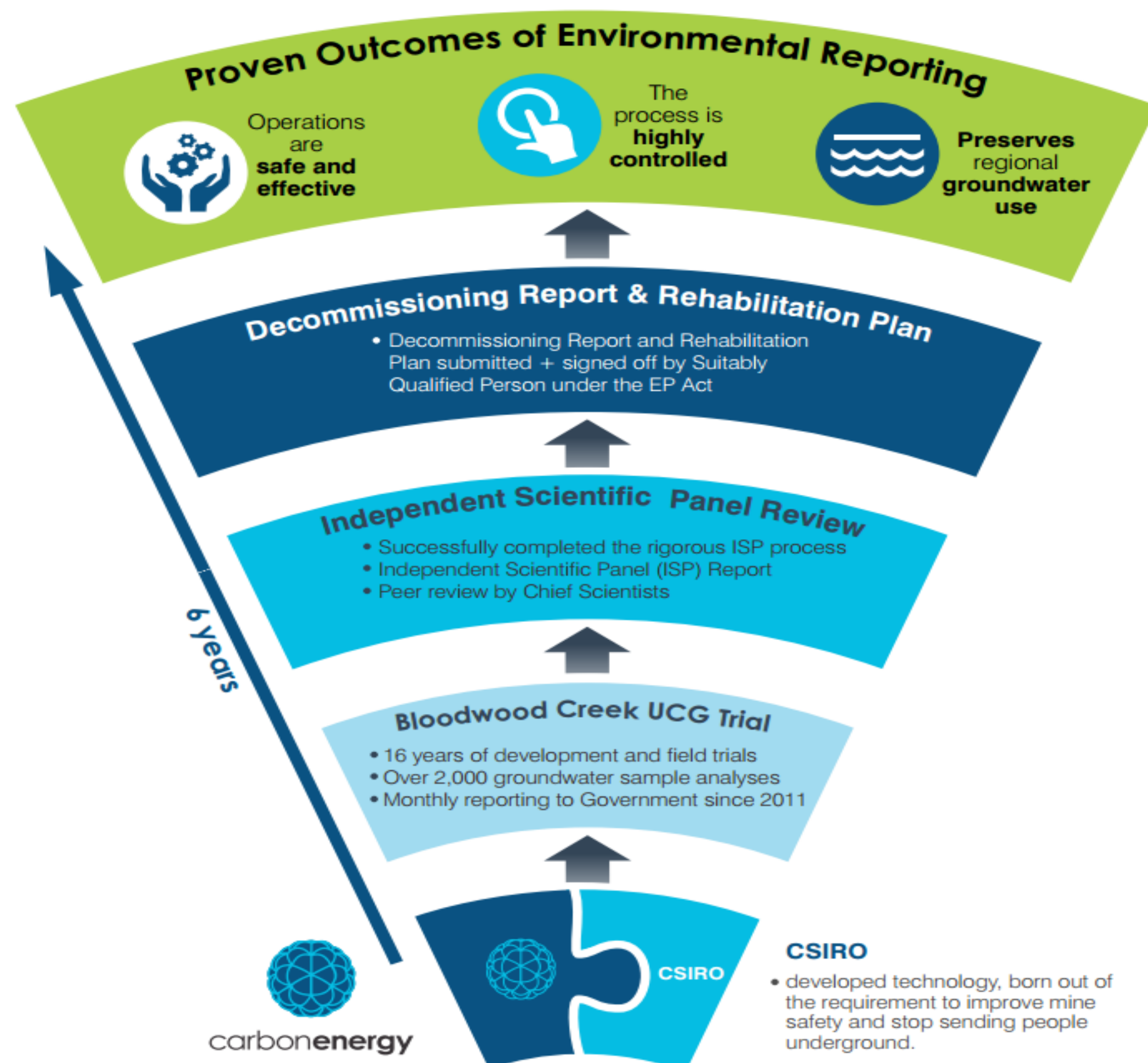
- 6 years of rigorous scientific review of commercial scale operations
- > \$150 million in R&D
- 2000 groundwater samples

Outcomes:

- The only company to successfully complete full-life cycle UCG trial under intense independent environmental scrutiny

Scientifically Proven:

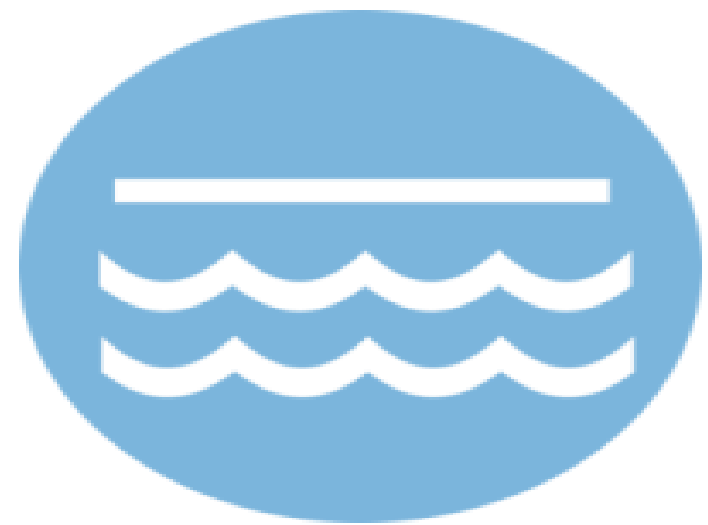
- Operations are safe & effective
- Process is highly controlled
- Preserves regional groundwater



ENVIRONMENTAL BENEFITS*



- **Small footprint** for amount of energy recovered
- **Maximises resource efficiency**



- **No impact on regional groundwater use**
- Proven operation **without impact** on regional groundwater use

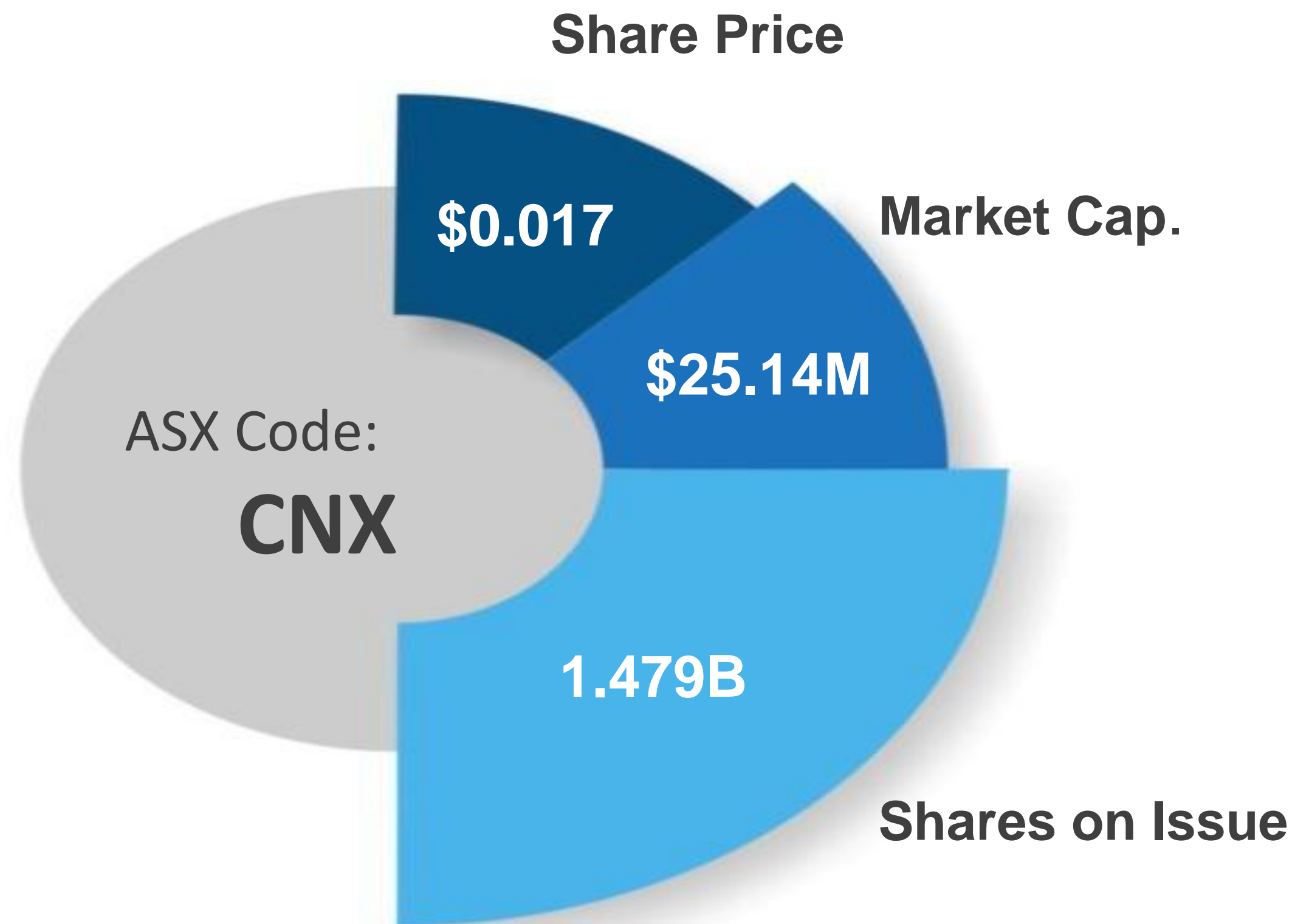


- **Minimises environmental impact**
- **No fracking**, excavating or coal transporting
- **Ash remains underground**

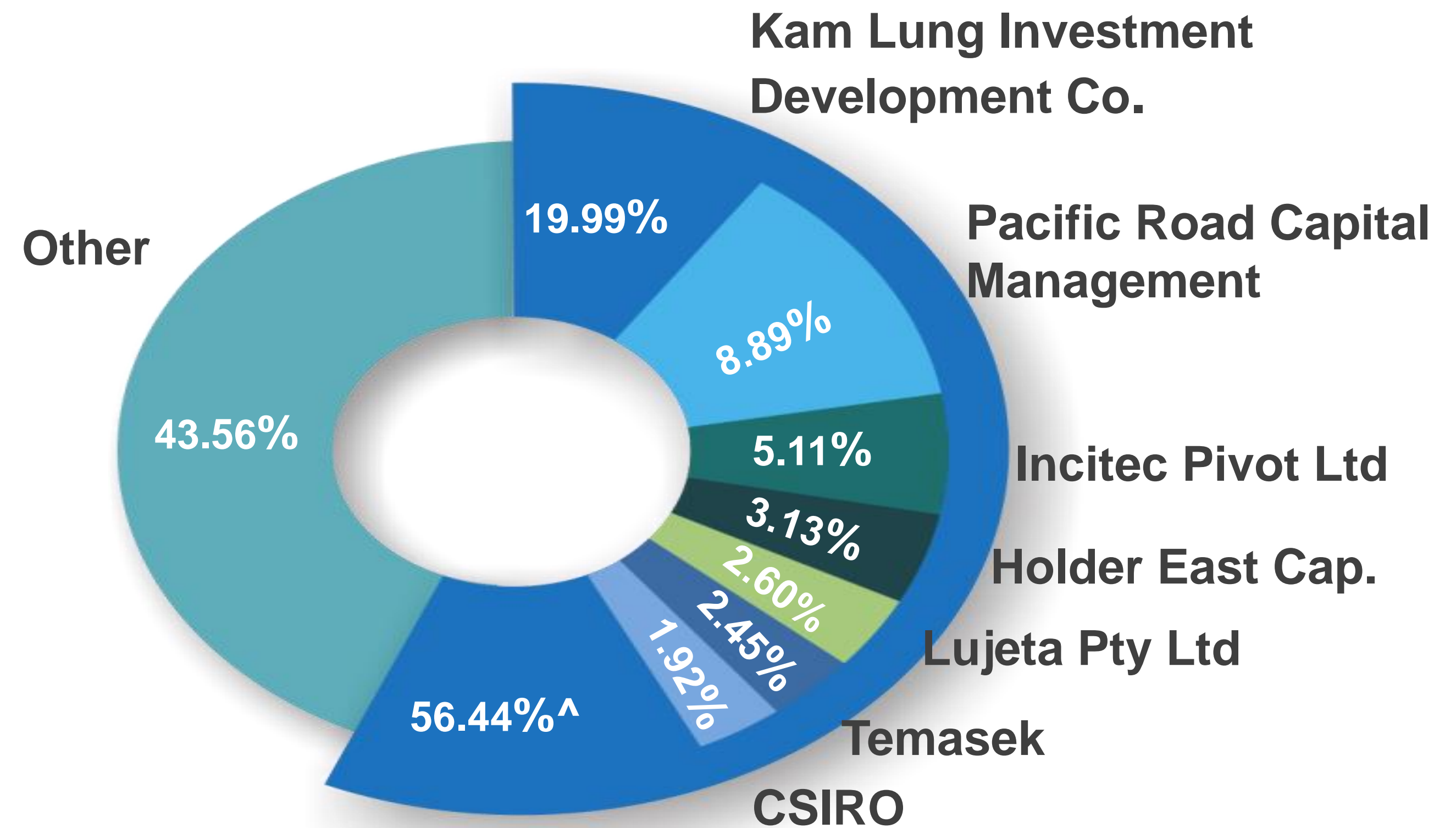
*Compared to conventional coal mining and other gas operations

CORPORATE OVERVIEW

Capital Structure*



Major Shareholders



*As at 13 November 2015

^Top 20 Shareholders (27)

APPENDICES

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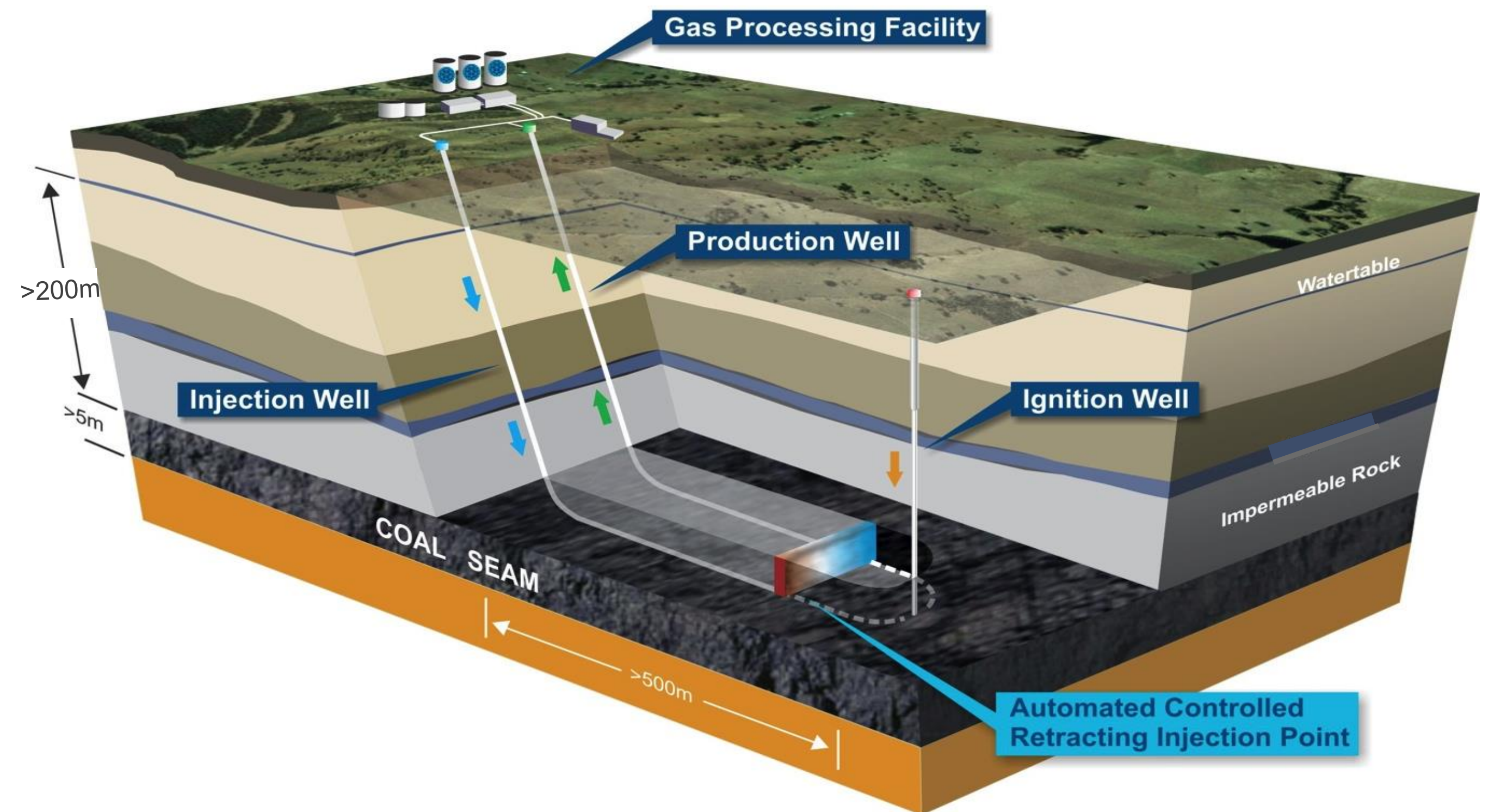
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Appendix Follows

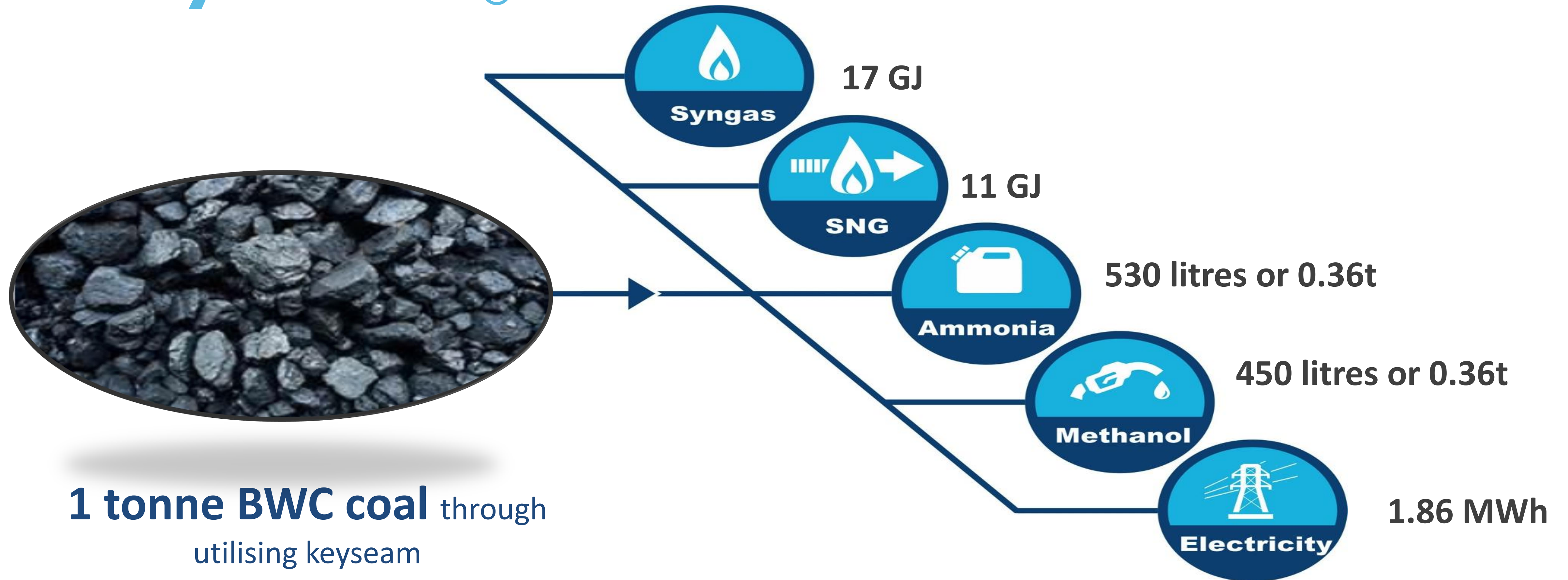
keyseam® DIFFERENCE

keyseam's world leading technology delivers proven environmental credentials and effective innovation of syngas production

- Initially invented by Australia's premier research agency the CSIRO, further enhanced by 6 years of in-field trials
- Unparalleled site selection and advanced geological modelling
- Complete innovation delivering high quality more consistent gas production.
- Continuous/automated gas production
- Comprehensively and successfully achieved rigorous environmental credentials



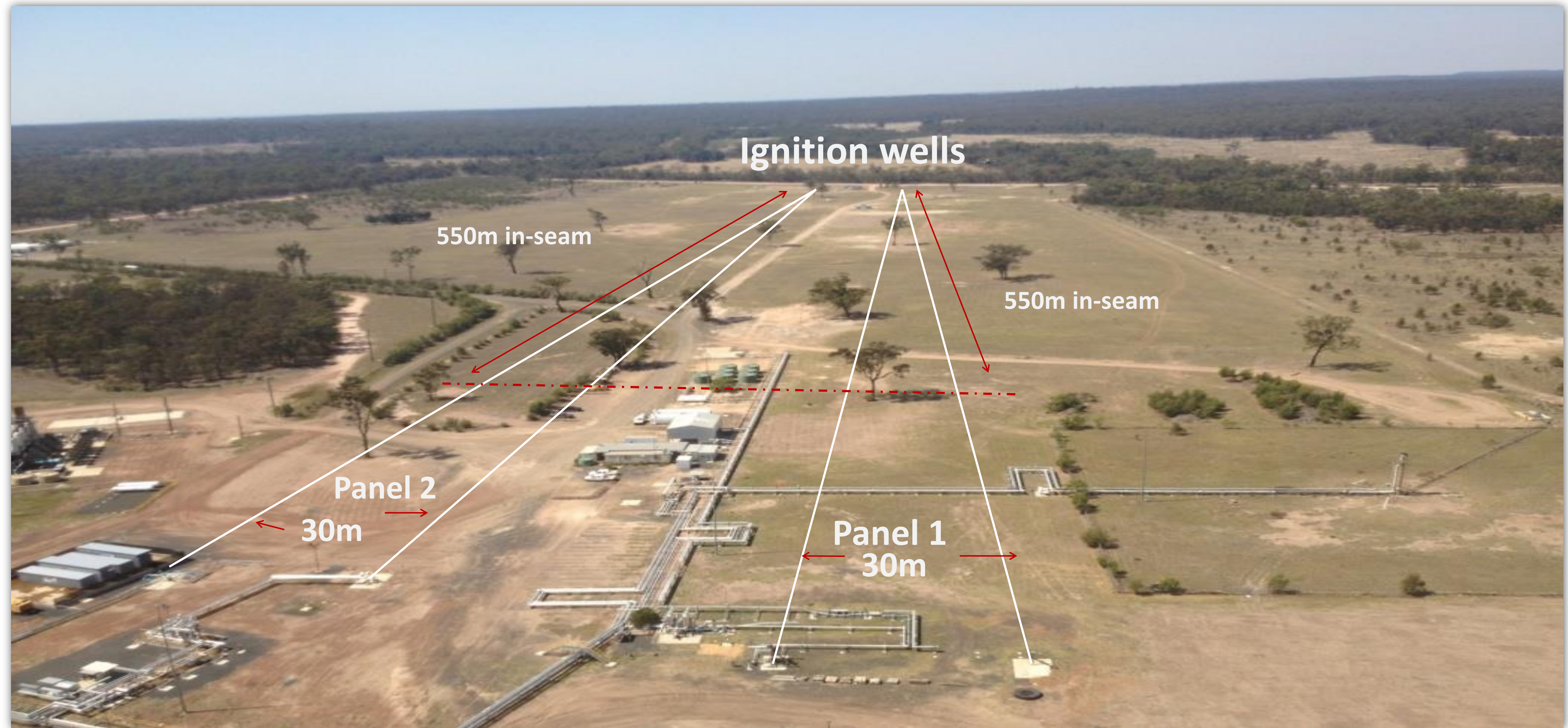
keyseam[®] - MARKETS



BLOODWOOD CREEK PILOT SITE



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