

Wednesday, 16 May 2018: ASX ANNOUNCEMENT (ASX: LCK)

Small Scale Commercial Development Pathway

- **Post PCD small scale power generation pathway selected**
- **Staged development approach provides multiple de-risking benefits**
- **Logical step toward a large scale commercial project**

Leigh Creek Energy Limited (ASX: LCK) (“LCK” or “the Company”) is pleased to announce that it has selected a staged commercial development pathway post its Pre-Commercial Demonstration (PCD) stage of the Leigh Creek Energy Project (LCEP). The first stage in the commercialisation process is a small scale power generation development that provides a clear pathway to the larger project development. More details on this stage of the commercial project development, including scale, will be provided in due course.

Managing Director’s comments

Commenting on the announcement, LCK Managing Director Phil Staveley commented: *“Whilst LCK is focussed on the PCD stage of the LCEP we are progressing work programmes in parallel that continue to progress the pathway to commercialisation. The selection of a staged development approach via a small scale power generator provides many benefits to the project in the short and longer term.”*

Small scale power generation

The small-scale power plant is an enabler for the large-scale commercial project providing the following key project benefits:

- Manageable project size with reduced capital and operational risks
- Simple design
- No redundant capital - power plant is utilised for later stage commercial project
- Minimal offsite infrastructure required
- Early cash flow
- Commercial stepping stone, proof of commerciality on path to large scale commercial project

Summary

An updated corporate presentation is attached which incorporates this de-risked development pathway to the unlocking of the value contained in the significant LCK petroleum resource with the LCEP.

Leigh Creek Energy – poised for growth

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About Leigh Creek Energy

Leigh Creek Energy Limited (LCK) is an emerging energy company focused on developing its Leigh Creek Energy Project (LCEP), located in South Australia. The LCEP will produce high value products such as electricity, methane (synthetic natural gas) and ammonium nitrate products (fertiliser and industrial explosives) from the remnant coal resources at Leigh Creek, utilising In Situ Gasification (ISG) technologies, and will provide long term stability and economic development opportunities to the communities of the Upper Spencer Gulf, northern Flinders Ranges and South Australia.

The Company is committed to developing the LCEP using a best practice approach to mitigate the technical, environmental and financial project risks.

LCK acknowledges and respects the Adnyamathanha people, the Traditional Owners of the land on which its operations occur and pays its respects to their Elders past and present.

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Corporate Presentation | May 2018

Phil Staveley - Managing Director

Disclaimer

This presentation has been completed by Leigh Creek Energy Limited. It may contain forward looking statements that are subject to risk factors associated with the energy industry. It's believed that the expectations reflected in these statements are reasonable, but they may be affected by a variety of changes in underlying assumptions which could cause actual results or trends to differ, including but not limited to: price fluctuations, actual demand, currency fluctuations, drilling & production results, reserve estimates, loss of market, industry competition, environmental risks, physical risks, legislative, fiscal & regulatory developments, economic & financial market conditions in various countries & regions, political risks, project delay or advancement, approvals & cost estimates amongst other items, & the cumulative impact of items.

This presentation may also contain non-IFRS measures that are unaudited, but are derived from & reconciled to the audited accounts. All references to dollars, cents or \$ in this presentation are to Australian currency, unless otherwise stated.

Mineral Resource Compliance Statement

Estimates of Mineral Resources reported in this announcement were initially reported & released to the ASX on 8 Dec 2015. We are not aware of any new information or data that materially affects the information included in the 8 Dec 2015 announcement & all the material assumptions & technical parameters underpinning the estimates in that announcement continue to apply & have not materially changed.

Gas Resources Compliance Statement

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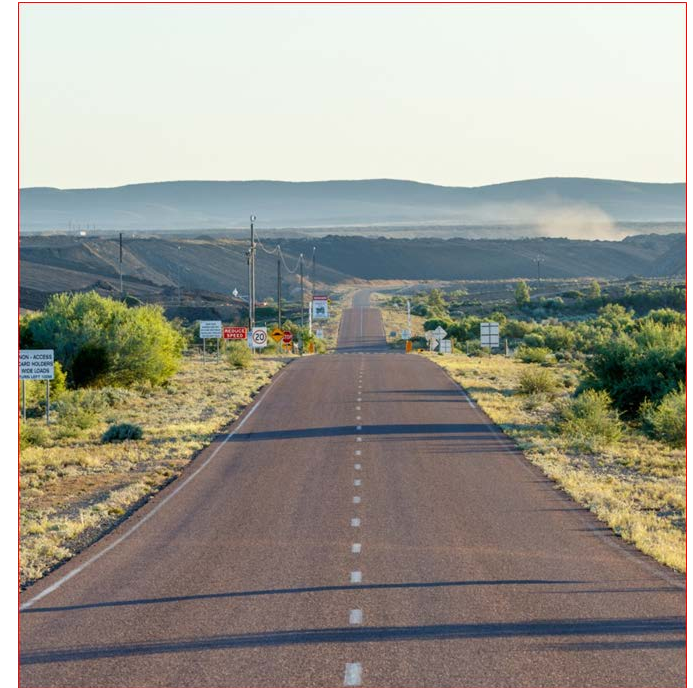


LCK PCD site at Leigh Creek

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Overview

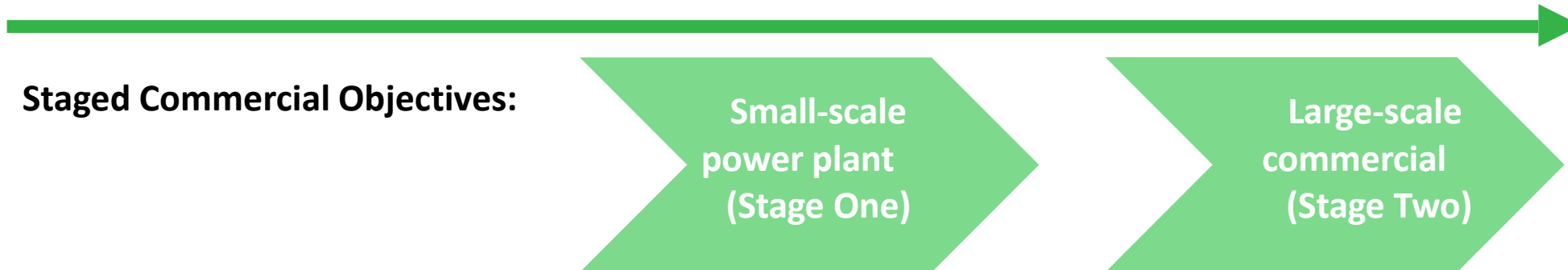
- ASX listed (ASX:LCK)
- Unconventional Gas company (ISG) – developer of energy, petrochemicals
- Leigh Creek Energy Project – Flagship project
- Major de-risking event occurred April 2018 – environmental approval received
- PCD operations commence – planned Q3 2018
- Nationally significant gas resource – anticipated upgrade to Reserve rating Q4 2018
- Ideal location - infrastructure, geology, regulatory
- Support from two major offshore investors
 - China New Energy Group Limited (32.8%)
 - CITIC (4.2%)



Commercial Pathway



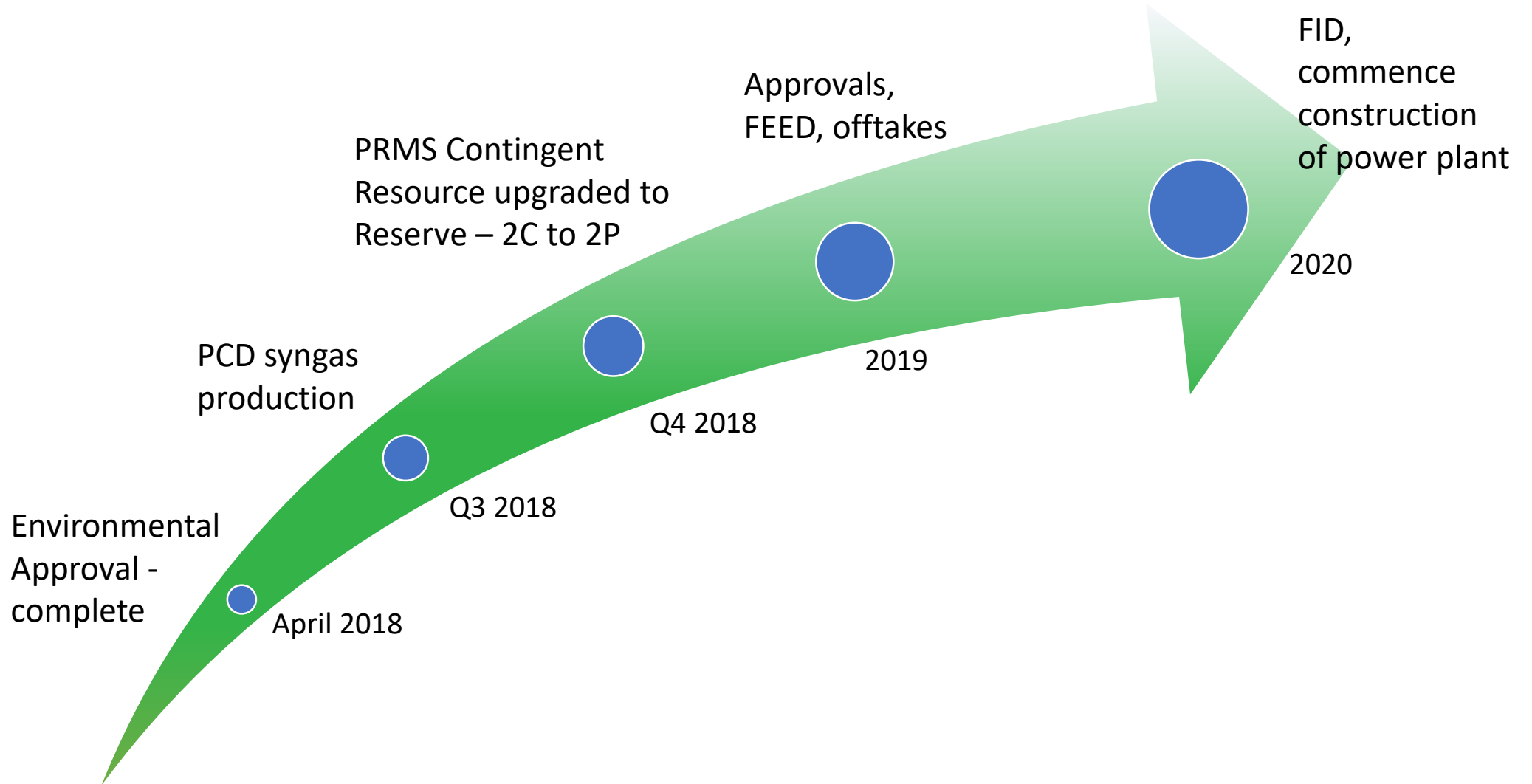
Feasibility → Stage One Construction → Stage One Operation → Stage Two Construction → Stage 2 Operation



- Small-scale power plant is enabler for large-scale project
- Manageable project size for LCK
- Staged development to larger-scale
- Cashflow positive

Valuation Catalysts to Stage One Commercial

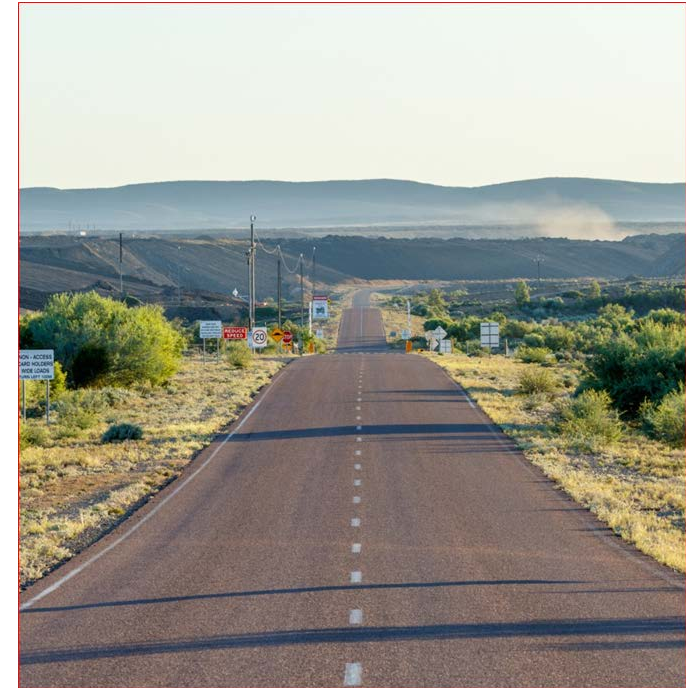
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Overview – Cornerstone Investor

China New Energy Group Limited (32.8%)

- Hong Kong based company jointly owning assets with Shanxi Meijin Energy Limited (Chinese private entity)
- Contributed \$20m in equity in 2017 (before fees)
- Funds were received in 4 tranches – all settled early
- Long term focussed investor with experience in petrochemical manufacture and trade in China



Entrance to Leigh Creek site

Project Status

Section 2



Leigh Creek coal field

RIGHT PLACE - Leigh Creek Coalfield – “Best site in the world for ISG”

- Open-cut coal mine supplied Port Augusta power station, 250km away, for 60 years until 2016
- Remote location with pre-existing infrastructure available
- No useful water resource or aquifer in vicinity of operations
- Accommodation and town services in Leigh Creek and Copley
- Connected by:
 - Power transmission lines
 - Sealed road and rail to site, from Adelaide
 - Commercial airport
- Major gas pipeline 125km away

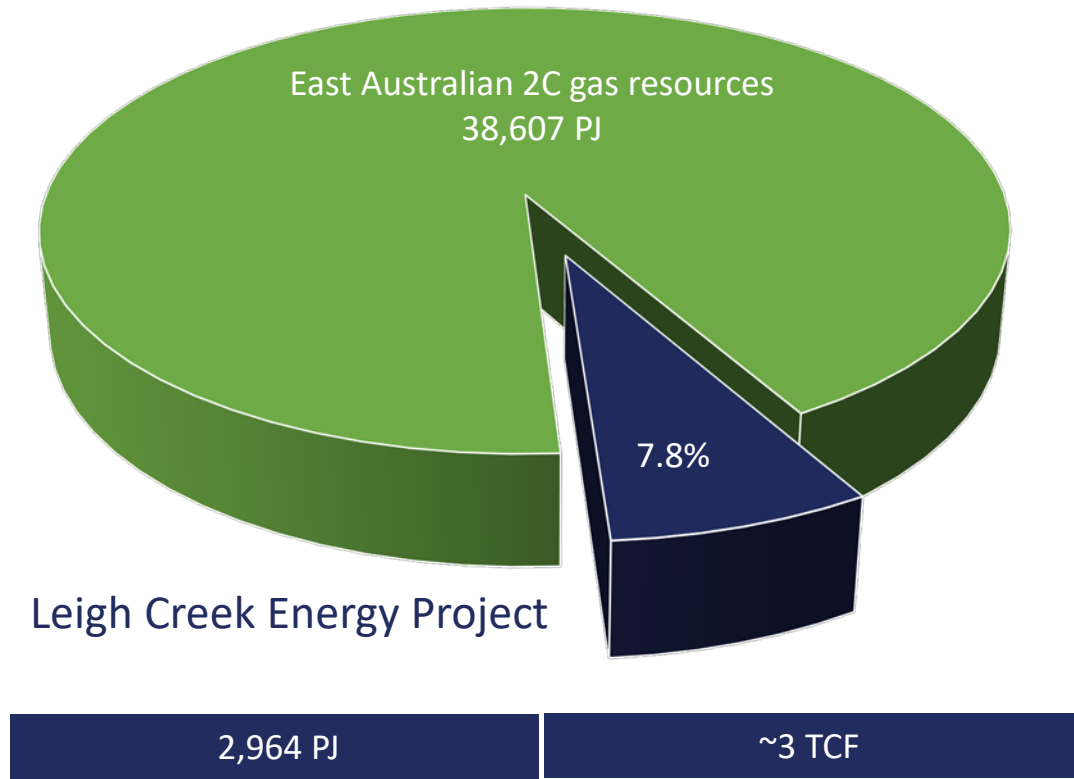


Former mine site, Leigh Creek

“the Leigh Creek site represents one of the strongest opportunities for low risk commercial UCG anywhere in the world” - Dr Gary Love (subject matter expert to the Queensland Regulator)

LCEP gas is a significant resource

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Category	1C	2C	3C
Syngas Resource (PJ)	2,748	2,964	3,303

- **Syngas resource:** SPE-PRMS: 2,964 PJ 2C
- Potential for up to 80PJpa
- 30+ year Project timeline
- **Portion of resources expected to convert from 2C to 2P Reserves post-demonstration – Q4 2018**

Source: Energy Quest, December 2017 Quarterly Report

Development Pathway

Pre-commercial demonstration

- Demonstrate effectiveness of ISG operations
- Inform design of commercial plants
- PRMS upgrade from 2C Resource to 2P Reserve

Small scale power

- Offtake agreements and negotiations commence
- Complete technical and financial feasibility
- Approval and operation of small scale power - FID
- Construction of plant (up to 30MW)

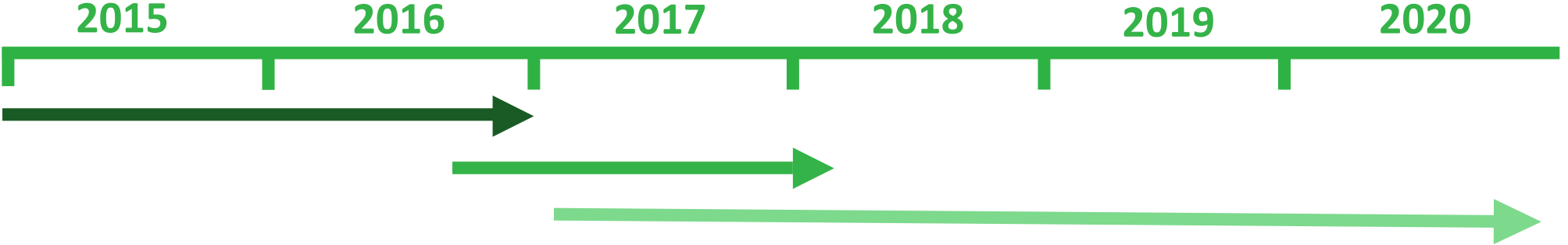


Large-scale commercial plant

- Option analysis
- Pre-feasibility
- Funding and offtake negotiations with major partners

Next steps

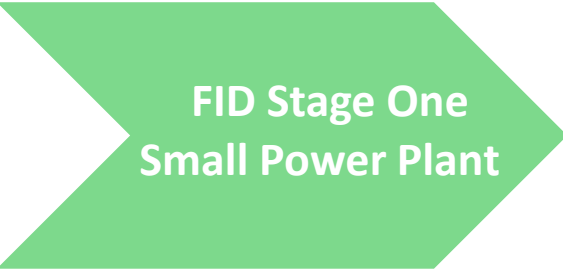
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- ✓ JORC Coal resource
- ✓ PRMS Gas resource
- ✓ Site environmental characterisation
- ✓ Scoping study



- ✓ Environmental approval
- PCD assembled, tested and commissioned
- PCD operations ('flaring') – Q3 2018
- PRMS certificate upgraded from 'Contingent Resource' to 'Reserve'
- Complete pre-feasibility studies



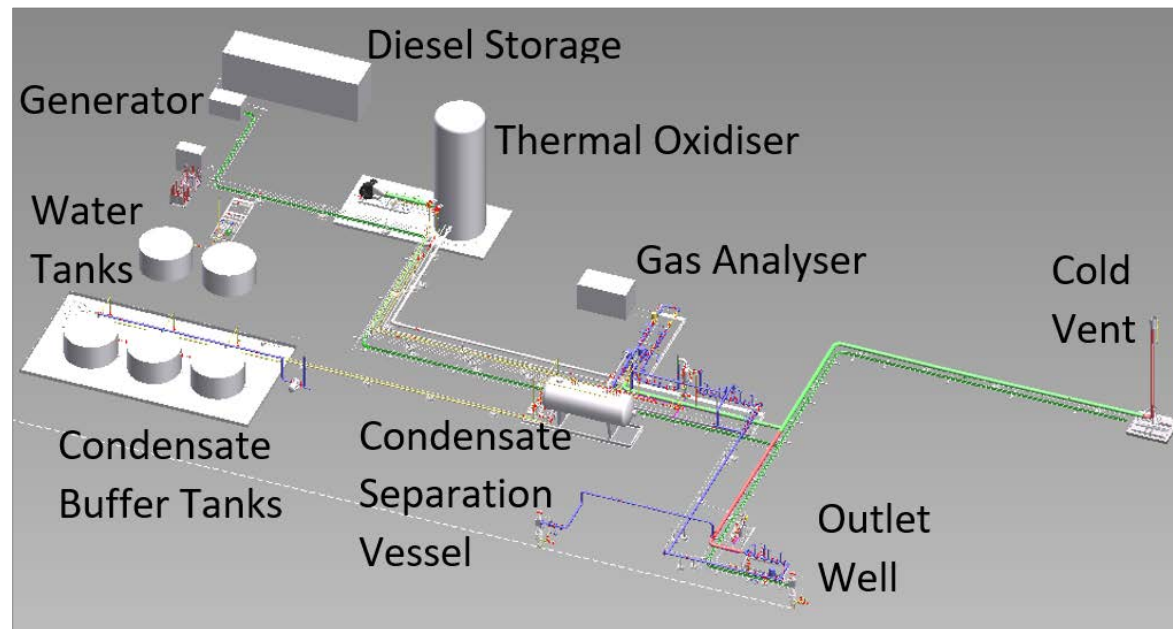
- Complete Feasibility Study
- Sales contracts and offtake agreements
- Commercial approval
- Funding
- Construction commences

Next steps – 2018 PCD Operation

- | | |
|--|---------|
| 1. Construction commences | Q2 2018 |
| 2. Activity Notification – ISG Well installation | Q2 2018 |
| 3. Construction complete | Q3 2018 |
| 4. Commissioning complete | Q3 2018 |
| 5. Activity Notification – PCD Operations | Q2 2018 |
| 6. Initiation of ISG chamber | Q3 2018 |
| 7. PRMS upgrade process initiated | Q3 2018 |
| 8. Completion of operations | Q3 2018 |
| 9. Decommissioning | Q4 2018 |
| 10. PRMS process complete, upgrade to 2P | Q4 2018 |

PCD underway - outcomes and objectives

1. Produce first gas from the ISG process at the LCEP
2. Demonstrate that LCK can operate ISG gasifiers safely and in an environmentally responsible manner
3. Provide information required for the review of the existing PRMS 2C Resource and the expected partial conversion from Contingent Resources to Reserves
4. Provide information for the development of the commercial project



PCD Surface Plan layout

Small-scale power plant is enabler for large-scale project

1. Manageable project size
2. Low CAPEX
3. Low operational risk
4. Smaller scale reduces sovereign risk from government policy uncertainty
5. Simple design
6. No redundant capital - power plant is used for large-scale project
7. Minimal offsite infrastructure required
8. Early cash flow
9. Commercial stepping stone, proof of commerciality on path to large scale project



Steam Turbine

Commercial Studies are progressing

Stage Two large scale options

- Power Generation - 460MW base load (completed 2016)
- Natural Gas - 80PJpa (completed 2016)
- Urea - 2Mtpa (ongoing)
- Methanol - 2Mtpa (ongoing)

- Encouraging results in petrochemicals/fertilisers



There are no guarantees that a specific option can be supported by the Company's current 2C Syngas Resource of 2,964PJ, until operation of PCD complete and reassessment of PRMS reserves

Technology and Site Suitability

Section 3



In-Situ Gasification technology

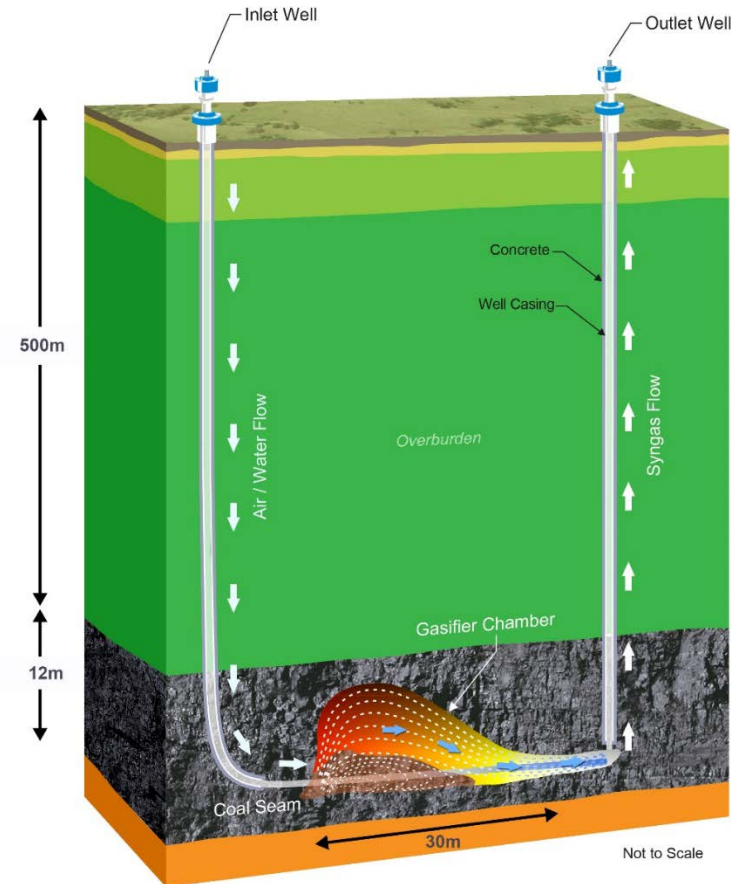
Successes and failures of ISG are not a function of the process technology, they are determined by the management of such technology and the suitability of the site

In situ gasification (ISG) converts coal to Syngas underground and is brought to the surface.

Syngas is processed for conversion into:

- Power
- Natural Gas
- Petrochemical products
- Agricultural products
- Others

Standard oilfield equipment is used



Graphical representation of ISG

Worldwide experience of ISG

International

- Angren, Uzbekistan - 60 years
- Eskom, Majuba, South Africa
 - co-firing power station with Syngas since 2010
- North America
 - 40 years of trials/demonstration
 - Multiple sites, techniques, outcomes

Australia

- Linc Energy operated for 11 years
- Carbon Energy operated for 5 years



Carbon Energy, Bloodwood Creek

Queensland Government's Chief Scientist, **Dr. Geoff Garrett AO**, confirmed that Carbon Energy:

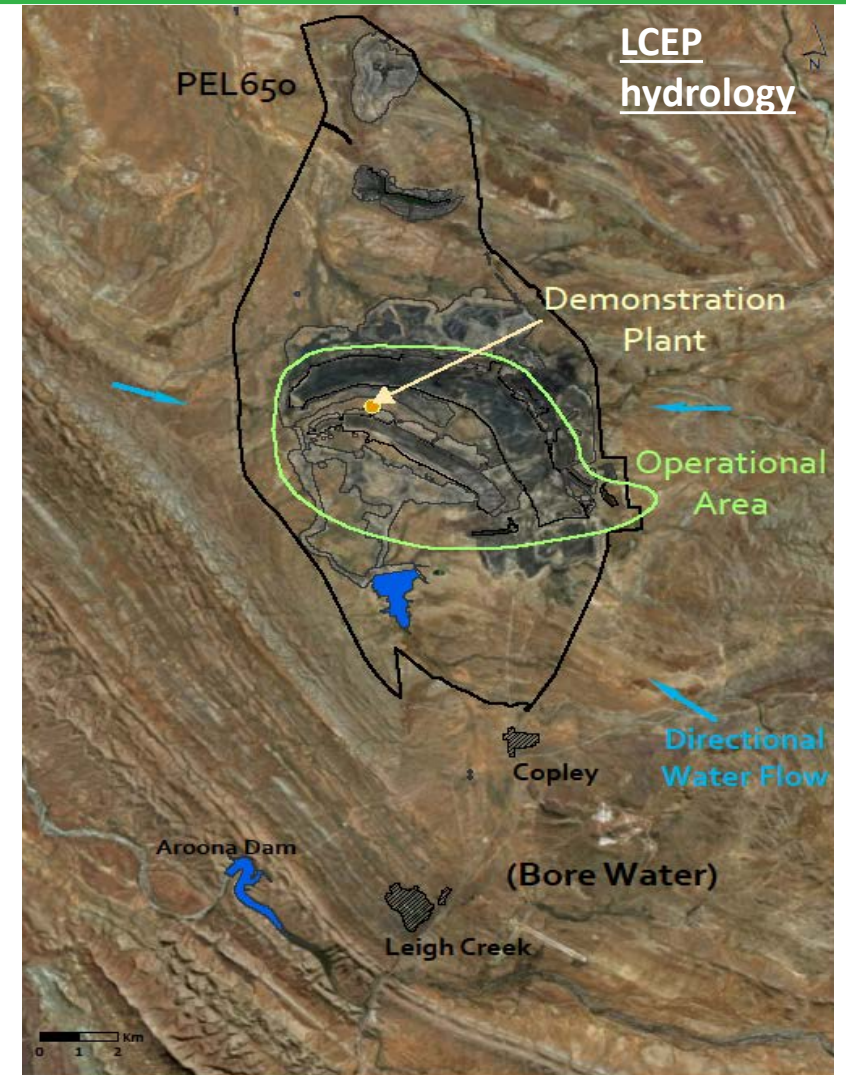
- Met the key recommendations of the government appointed Independent Scientific Panel (ISP).
- "It is clear that Carbon Energy has contributed to the collective understanding of UCG and the conditions under which the operation is likely to be both safe and successful."
- Demonstrated safe and effective decommissioning and completing of a plan for rehabilitation which were independently reviewed by experts appointed by the DEHP.

Linc Energy, Chinchilla

- Court processes proceeding BUT IS NOT RELEVANT to LCK
 - Ralph Devlin QC, opening address, 31 January 2018 - allegation that Linc "did not follow the fundamental science in fundamental ways"
- SA government Assessment Report "... unreasonable to draw an association between these projects due to the **material differences** related to site suitability, operational practices and the level of regulatory oversight."

RIGHT PLACE - Leigh Creek Coalfield – Best site in the world for ISG

- No aquifers or users of groundwater in operational area
- Water flows inward to the LCEP from surrounding strata
- Limited use of water regionally
- Water not connected to regional sources
- Useful water resources are disconnected from the operations area
- Bore water sources from bores is mostly brackish and saline, not suitable for most uses
- LCEP underground water is an Aquitard (moves very slowly if at all)



Applying 'best practice' for ISG

From Camp, W, and White, J "Underground Coal Gasification: An Overview of Groundwater Contamination Hazards and Mitigation Strategies, March 2015, Lawrence Livermore National Laboratory

1. Minimal and manageable land use conflict
2. Manageable groundwater resources
3. Minimal environmental receptors and impact
4. Suitable geology creates low risk for:
 - Subsidence
 - Fugitive gas



Former mine site
Leigh Creek

LCEP site meets these 4 parameters



Aroona Dam
Leigh Creek

Regulatory

Section 4

South Australia – Internationally recognised regulation

South Australia consistently ranks well in the world's oil and gas regulatory jurisdictions for exploration and production

- Clear title and development pathway
- ISG approval process outlined in existing legislation
- Government support for Unconventional Gas

SA has a Roadmap for Unconventional Gas, has encouraged the migration of gas companies into the state, and has established grants to assist in the proving of new resources

South Australia Assessment of Leigh Creek Energy UCG Trial Proposal, April 2018

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- “key factors ... proper site selection and deployment of fit for purpose technology and monitoring ... “
- “the scenario at Leigh Creek is vastly different to that at Chinchilla, in terms of geology and operations...”
- Vigilant oversight by South Australia’s regulator and requirements for LCK to deploy good industry practices will combine to preclude any such repeat in LCK’s pilot UCG project.
- “the Leigh Creek site represents one of the strongest opportunities for low risk commercial UCG anywhere in the world” - Dr Gary Love (subject matter expert to the Queensland Regulator)

Department of the Premier and Cabinet

South Australia Assessment of Leigh Creek Energy UCG Trial Proposal

Energy Resources Division
April 2018

www.petroleum.dpc.sa.gov.au



South Australia – It's all about the Science

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Dan van Holst Pellekaan MP
Minister for Energy and Mining

7 March 2018 “project(s) should be fully assessed (and) guided by the experts (internal and external) ... (to demonstrate) risk to the environment can be managed appropriately and safely, then consider economic benefits”

**South Australian government support
consistent across administrations**



Tom Koutsantonis MP
Former Minister for Mineral Resources and Energy

30 Aug 2016 “... approval ... should be left to independent experts. We have the best regulatory systems in the world ... and those systems should be trusted to protect the environment, the agriculture industry and communities.”

Market Opportunity

Section 5



Entrance to
Leigh Creek
site

Stage Two Commercial Opportunities

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Petrochemicals

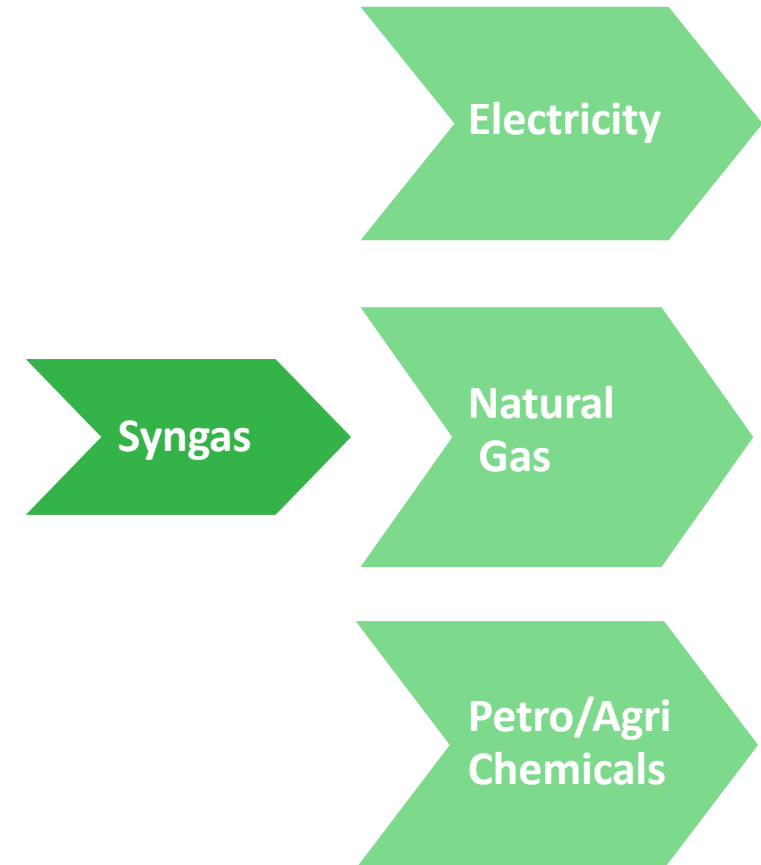
- Domestic and international demand - Australia heavily reliant on imports (particularly for urea)
- High natural gas prices in Australia hampers new construction of domestic plants
- Syngas a feedstock for production, conventionally produced from natural gas
- Stable price outlook
- International demand from China and SE Asia increasing
- Demand for Olefins (plastics, adhesives, etc) driving demand growth of methanol

Electricity

- Withdrawal of baseload
- Penetration of renewables - intermittency
- Price increases well documented

Gas

- Demand increased three-fold due to Gladstone LNG
- Moratoria on exploration in eastern states
- Price increases



Team

Section 6



Experienced Executive Team

Justyn Peters
Executive Chairman

Lawyer; depth of experience in the ISG industry and senior management roles; experience in mining, industry representative bodies and various state and federal environment departments and authorities.

Phil Staveley
Managing Director

Finance Executive; 30+ years' experience working in resources and oil and gas sectors; finance, commercial and operational functions; last 20 years in CFO/CEO/MD roles in Australia, Asia and Latin America.

Justin Haines
Chief Operations Officer

Broad experience across engineering and geological services. Most recently, Technical Manager for Carbon Energy Ltd, successfully operating CNX ISG facility; leads the Operations Team.

Cristian Bolda
Operations Manager

Experience in delivering high value petroleum and infrastructure projects internationally; senior management roles in the middle east, Wheatstone LNG project (WA), and the APLNG gas field facilities (Qld), and power station upgrades and bioremediation plants.

Mark Terry
Chief Financial Officer

CPA; 20+ years' experience in management of financial and project matters in the mineral exploration and mining industry; with KPMG before holding a range of senior finance roles with Normandy Mining, Newmont Australia and Xstrata Zinc.

Corporate & Financial

Section 7



Company Summary

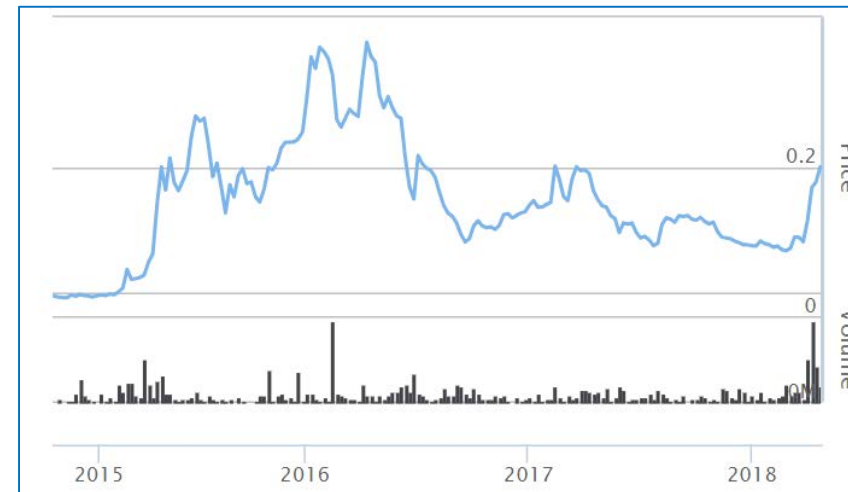
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LCK Capital Structure

Ordinary Shares	415.9m
Listed Options (\$0:50 strike)	17.7m
Unlisted Options (\$0:21 - \$1:50 strike)	24.9m
Market Cap @ \$0:20	\$83.4m
Cash (at 31 Dec 2017)	\$8.6m
*Debt drawn (\$6.5m facility)	\$2.2m
Enterprise Value	\$77.0m

Top Shareholders

	# of Shares	%
China New Energy Group	136.3m	32.8
Allied Resource Partners	94.7m	22.8
CITIC Australia	17.2m	4.2
Rubi Holdings	8.1m	1.9
One Design Skiff & Sails	5.1m	1.2
Top 20	289.6m	69.6
All Other (~2,400)	126.3m	30.4



*Federal R&D tax offset on PCD Expenditure:

Secured CBA working capital debt facility linked to Federal Government cash rebate on eligible Research & Development expenditure during 2017/18 year

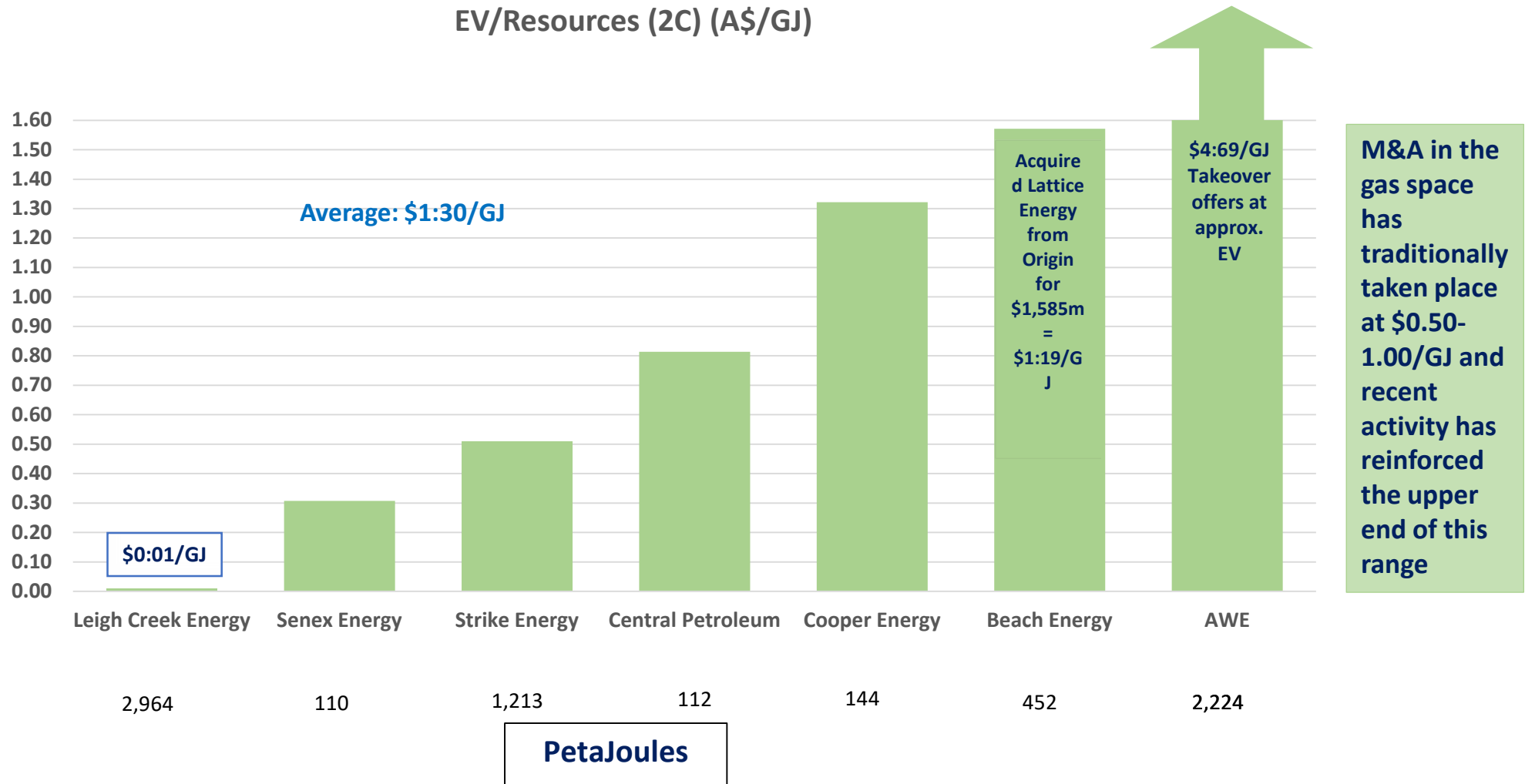
Concluding Remarks

Section 8



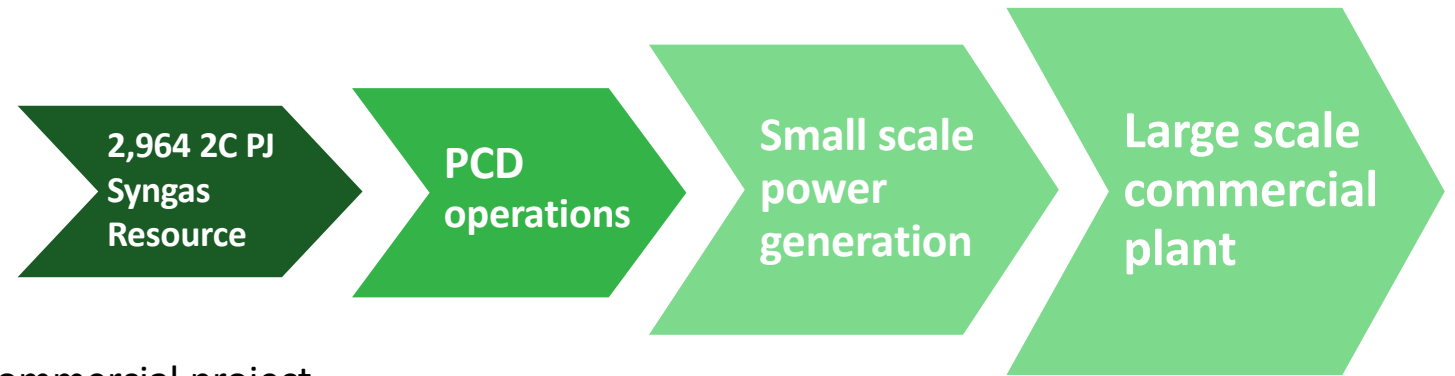
The Chasm – EV/Resources (2C) (\$/GJ)

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Conclusion: Right market, right time, right place

1. Large resource – 2,964 PJ
2. Near term de-risking events
 - ✓ Environmental Approval – complete
 - On site assembly of pre-fabricated PCD plant
 - PCD operations
 - PRMS upgrade to reserve
3. Long life project – 30+ years
4. Supportive investor base
5. Clear regulatory pathway
6. Project costs incrementally staged through commercial project
7. Flexibility of products
8. Existing infrastructure
9. Ideal site characteristics
10. We have the resource, we have the approval, we have the skill to execute



Poised for Growth

Thank you for your time

Questions?

