



Tuesday, 25 June 2019: ASX ANNOUNCEMENT (ASX: LCK)

PCD Shutdown stage complete

- **Pre-Commercial Demonstration plant shutdown completed**
- **Operational costs associated with PCD significantly reduced**
- **PCD monitoring confirms operations and shutdown were conducted within environmental parameters**
- **Commercial negotiations advancing**

Leigh Creek Energy Limited (ASX: LCK) (“LCK” or “the Company”) is pleased to announce that it has completed the processes to shutdown the plant and facilities associated with the Pre-Commercial Demonstration phase (“PCD”) of the Leigh Creek Energy Project (“LCEP”).

PCD shutdown process

On 14 June 2019, LCK successfully completed its program to cease operations, shutdown and preserve the plant and equipment of the PCD, which commenced 11 April 2019. Preservation works refers to those activities required to maintain the PCD in good condition whilst not in an active operational phase.

Monthly operating expenditures

Consequent to the shutdown of the PCD, LCK’s monthly operating expenditures have decreased by approximately \$500,000 per calendar month.

PCD monitoring confirms operations conducted within environmental parameters

The Company previously announced that the PCD had been operated within its conditions of approval (ie. the Statement of Environmental Objectives, or SEO, which was approved by the Regulator on 19 April 2018 (refer ASX announcement 19 April 2018) and has had no reportable environmental or safety incidents during operations. We are pleased to report that on completion of shutdown there have been no reportable incidents at the site. This supports the Regulator and LCK’s claim that the process could be operated and shutdown in a safe, regulated and controlled manner and that the Leigh Creek site is ideally suited to the ISG process. The Company’s monitoring regime has commenced, and to date also confirms no environmental impacts or safety issues from the PCD within its zone of operation.

Maiden gas reserve announcement advances commercial phase of LCEP

Consequent to the successful operation of the PCD, LCK announced its maiden 2P gas reserve of 1,153PJ on 27 March 2019. This gas reserve represents the largest uncontracted gas reserve available to the east coast of Australia, a market in very short supply of gas (refer Figure 1). Interest in the LCEP gas reserve has magnified. Commercial discussions with these parties are for Gas Sales Agreement’s and these negotiations are continuing.

The Company had also been in discussions with potential partners prior to LCK receiving its 2P reserve of 1153PJ of gas. After reviewing the independent reserve report and production data from the PCD, commercial negotiations have also advanced to more mature stage and continues to do so with recent

meetings held in Hong Kong and Beijing over the last two weeks. Commercial discussions with these parties are for a potential Joint Venture and project finance.

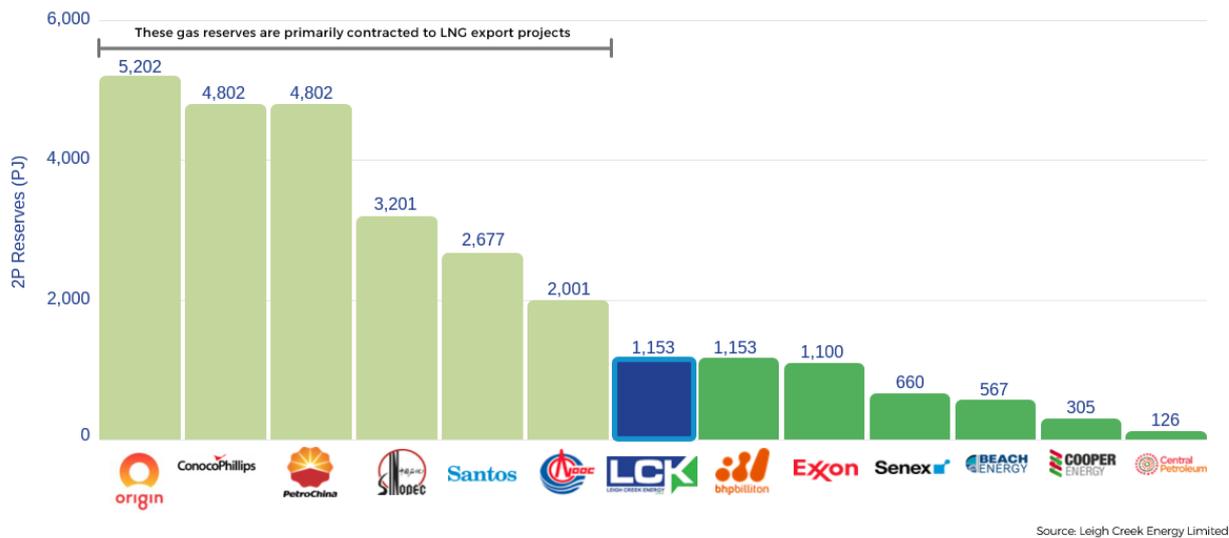


Figure 1 – Gas reserves on east coast of Australia

Managing director’s comments

LCK Managing Director Phil Staveley commented: *“The successful shutdown of LCK’s Pre-Commercial Demonstration plant is important for LCK as it has allowed us to minimise expenditure as we move to the next phase to monetise this large gas reserve. We have been very encouraged by recent negotiations on both gas sales agreements and joint venture partners. It must be remembered that value of these agreements dollar value is in the Billions of dollars and as such negotiations and discussions by their very nature are protracted and thorough. At the moment we are in advanced discussions with three large, reputable and bankable parties and look forward to being able to make an announcement on this in due course.”*

Further information:

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Fast Facts

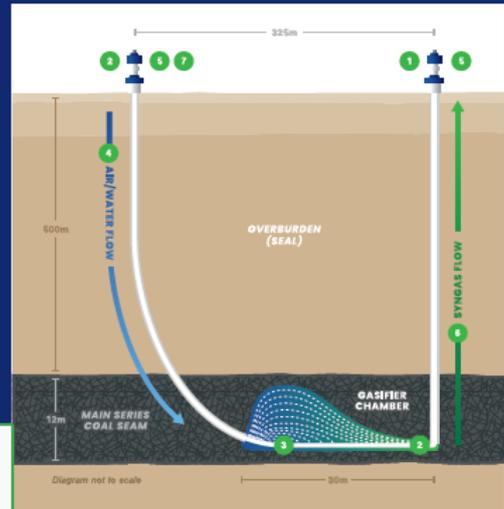
1153 PJ syngas - largest uncontracted gas reserve available to eastern Australia

How does the ISG process work?

The In-Situ Gasification (ISG) process converts coal, through a series of chemical reactions, from its solid state into a gaseous form, resulting in the generation of syngas, or synthetic gas.

Syngas comprises energy gases, such as methane, hydrogen and carbon monoxide with variable amounts of inert gases, such as carbon dioxide and nitrogen.

1. Outlet well is drilled to intersect coal seam.
2. Inlet well is drilled and steered to link up with outlet well.
3. Initiation tool is placed down the inlet well to heat the coal and starts the gasification process.
4. Addition of air and water creates a series of chemical reactions transforming coal to syngas.
5. Process is controlled by using inlet well to manage the flow of air and water.
6. Syngas will flow up through the outlet well and is analysed on the surface.
7. Process is stopped by tuning off air and water supply from the inlet well.



The demonstration plant was located in the heavily modified Telford Basin in the former Leigh Creek Coalfield.

What is the Leigh Creek Energy Project?

The project location at the now closed Leigh Creek Coalfield was initially identified as a highly favourable location for In-Situ Gasification using environmental, technical and commercial criteria.

The coal reserve is technically suitable for undertaking ISG in a safe manner minimising environmental impact, and the local area is well serviced by existing and useful infrastructure.

The State Government Regulator's Independent Assessment Report concluded that "... the Leigh Creek site represents one of the strongest opportunities for low risk commercial UCG anywhere in the world."

What is LCK's Pre-Commercial Demonstration?

LCK's Pre-Commercial Demonstration (PCD) commenced Q4 2018 and concluded Q1 2019 and had five main objectives:

1. Produce syngas comprising Methane (CH₄), Hydrogen (H₂), Carbon Monoxide (CO) and Nitrogen (N₂).
2. Produce syngas at over 1 million cubic feet per day.
3. Capture information required to upgrade the existing Petroleum Resources Management System (PRMS)

2,964 PJ 2P resource to 2P reserve.

4. Demonstrate safe and environmentally responsible ISG operations.

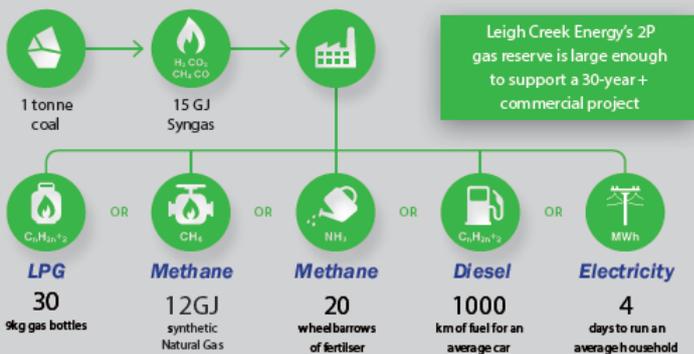
5. Provide key data and information for commercial project development.

The PCD was deemed a success having met or exceeded all objectives, taking the company another step closer to commercial operations.



LCK's PCD facility.

Leigh Creek Energy milestones



What is a 2P Reserve?

The project has a PRMS reserve of 2P 1,153 PJ, which is now the largest uncontracted gas reserve available to eastern Australia and larger than what is commercially available in the entire Cooper Basin (ACCC, 2018).

LCK's certification comes after having successfully extracted gas at economic flow rates at its PCD.

The size of the reserve indicates that LCK has multiple commercialisation paths, mainly the sale of synthetic natural gas in the Australian East Coast market and/or using the gas to manufacture ammonia-based fertiliser products.



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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 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.

Resource Compliance Statement

The PRMS resources estimates stated herein are based on, and fairly represent, information and supporting documentation prepared by Timothy Hower of MHA Petroleum Consulting, Denver USA. Mr Hower is a member of the Society of Petroleum Engineers and has consented to the use of the Resource estimates and supporting information contained herein in the form and context in which it appears.