



Thursday, 29 August 2019: ASX ANNOUNCEMENT (ASX: LCK)

Chinese and Australian Government's acknowledge significance of LCK 2P reserves and validate LCEP

Announcement Summary:

- ACCC includes LCK 2P gas reserve in inquiry into the supply of, and demand for, gas supply and gas transportation services, and measures to improve the transparency of gas supply arrangements in Australia (Gas Inquiry).
- LCK has been invited by the China Economic & Trade Herald - a department of the National Reform and Development Commission (NRDC) to participate in the China Development Report of National Strategy on Emerging Industries.
- LCK acknowledges high level, third party international validation of its 2P reserve and LCEP commercial progress

Leigh Creek Energy Limited ("LCK", or "the Company") announces that its large 2P gas reserve, and progress advancing the commercialisation stages of the Leigh Creek Energy project ("LCEP"), have recently been acknowledged by two high level, government agencies in Australia and China. Acknowledgement by internationally recognised federal government agencies represents significant third party validation of LCK's technology, project and corporate operations and pathway to monetising the largest uncontracted 2P gas reserve available to the east coast of Australia.

ACCC issues notice under section 95ZK of the Competition and Consumer Act 2010

LCK welcomes its inclusion in the inquiry on gas by ACCC.

The Chair of the Australian Competition and Consumer Commission (ACCC) has recently issued LCK a notice under section 95ZK of the Competition and Consumer Act 2010 (Cth) (CCA). The Notice relates to the ACCC's inquiry into the supply of, and demand for, gas supply and gas transportation services, and measures to improve the transparency of gas supply arrangements in Australia. LCK looks forward to supplying the information requested and cooperating with ACCC to improve transparency in the Australian Gas Market.

The National Reform and Development Commission

Following LCK's announcement on 13 August 2019 of a binding Heads of Agreement (HoA) with China New Energy Group Limited (CNE), the Company is honoured to have been invited by a Department of the National Reform and Development Commission (NRDC) to participate in the

China Development Report on the National Strategy of Emerging Industries. Having *In-Situ gasification* (“ISG”) recognised as a National Strategic Emerging Industry is extremely important when considering LCK’s recent announcement of its HoA with CNE.

This engagement will be ultimately documented in the China Economic and Trade Herald, a periodical of the NRDC (formerly State Planning Commission and State Development Planning Commission), and is seen as “a reference book for development and reform” and “a compass for economic work” within China.

The importance of hydrogen in the energy mix in China cannot be underestimated. It is anticipated that between 2020 to 2025, the expected industrial output of the hydrogen industry will be RMB 1,000bn (US\$148bn) and it is anticipated that there will be 50,000 fuel cell vehicles running in China, served by 200 refilling stations (*White Book on the China Hydrogen Energy and Fuel Cell Industry*).

Given that LCK’s pre-commercial demonstration indicated potential production of 200,000 tonnes of hydrogen per year, LCK is ideally placed to take advantage to contribute to the rapidly developing hydrogen economy and ultimately use its technology for the production syngas and hydrogen.

Continuation with domestic operations

The LCEP continues to be LCK’s major focus.

This and the announcement of the HoA with CNE are ancillary and secondary to the primary focus LCK has in achieving commercial success with the LCEP. The progress LCK is making in China supports LCK’s flagship project at Leigh Creek. The invitation to participate in China’s hydrogen economy and acknowledgment by influential agencies in China enables and assists LCK to secure long term partners and funding for the LCEP.

These developments represent months of conversations and negotiations that followed the successful production of commercial quality and quantities of gas at the demonstration facility at Leigh Creek. It is no coincidence that LCK’s progress in China has immediately followed the announcement of moving towards commercial production, and that LCK has been able to report no environmental impact or safety concerns nearly 1 year after it first produced gas.

Achieving a significant revenue stream before we commence production of gas in South Australia has been a long-held objective of LCK. The first opportunity for revenue is being commissioned by Chinese coal companies to evaluate coal resources that are suitable for ISG. After the evaluation and locating suitable ISG projects we will enter into negotiations in being the operator and/or being a joint venture partner.

Shareholders can expect more announcements in the near future as LCK move towards securing revenue streams from China operations and provide more information regarding domestic operations of which negotiations are continuing.

Executive Chairman's comments

LCK Executive Chairman Justyn Peters stated:

"We are now participating in the ACCC gas inquiry and look forward to providing our input to the ACCC. We look forward to progressing with CNE and working with the National Reform and Development Commission while remaining focused on our flagship project in South Australia."

"The HoA with CNE is exciting as it presents a huge opportunity for LCK to move into such a large energy market in China. China is a nation that is rich in large resources of stranded coal that are suitable for ISG. China is also rapidly moving to a "Hydrogen Economy" and is spending billions of dollars on that new energy strategy."

"Leigh Creek's ISG process has proven that it has the potential to produce massive amounts of hydrogen as a standalone commodity. Since that announcement only one week ago, we have been recognised by the significantly influential National Reform and Development Commission as a strategic partner focussing on Hydrogen production in China."

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About Leigh Creek Energy

Leigh Creek Energy Limited is an emerging energy company focused on developing its Leigh Creek Energy Project (LCEP), located in South Australia. The LCEP will produce synthetic natural gas and/or ammonium nitrate products (fertiliser and industrial explosives) from the remnant coal resources at Leigh Creek, utilising In Situ Gasification 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 information in this announcement that relates to the 2P Syngas Reserve was detailed in an announcement lodged with ASX on 27 March 2019 and is available to view at www.lcke.com.au. The Company confirms that it is not aware of any new information or data that materially affects the information included in that announcement and that all material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed. All estimates are based on the deterministic method for estimation of petroleum resources.

Fast Facts

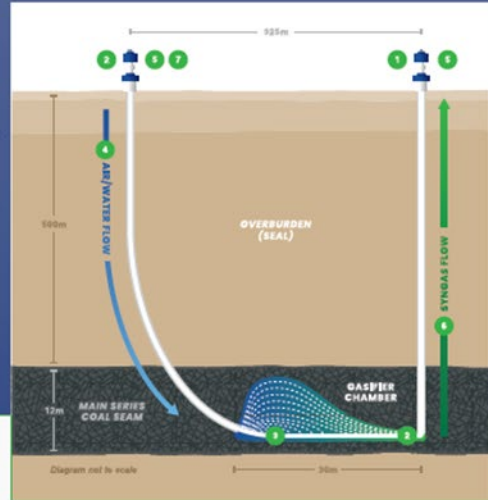
1,153 PJ syngas - largest uncontracted gas reserve available to eastern Australia

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 turning 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 was LCK's Pre-Commercial Demonstration?

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

- ✓ Produce syngas comprising Methane (CH₄), Hydrogen (H₂), Carbon Monoxide (CO) and Nitrogen (N₂).
 - ✓ Produce syngas at over 1 million cubic feet per day.
 - ✓ Capture information required to upgrade the existing Petroleum Resources Management System (PRMS)
- 2,964 PJ 2C resource to 2P reserve.
- ✓ Demonstrate safe and environmentally responsible ISG operations.
 - ✓ 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.

Leigh Creek Energy milestones



LCK's PCD facility.