Research as a Service

1st July 2019

Leigh Creek Energy Limited

Developing an in-situ gasification project in SA

Leigh Creek Energy Limited (ASX:LCK) is the owner and operator of the Leigh Creek Energy Project (LCEP) at the now dormant Leigh Creek Coalfield, 550 kms north of Adelaide, South Australia. The project is using in-situ gasification to develop the deep coal resources that are unable to be accessed through open-pit mining. The project has a Petroleum Resources Management System (PRMS) certification of 2P 1,153 PJ, having successfully extracted gas at economic flow rates at its pre-commercialisation demonstration plant (PCD), which commenced Q4 2018 and concluded Q1 2019. The project has a JORCed resource of 301.2m tonnes of coal, of which 62% is indicated and 38% inferred. The company raised $3.86m in March 2019 when it undertook a 1 for 15 non-renounceable rights issue at $0.12/share. The company also raised $3m through the issue of 25m convertible notes at a fixed conversion price of $0.12/note to one of its top 20 shareholders, Crown Ascent Development Ltd. Net cash at 31 March 2019 was $3.0m, comprising $6.6m cash and $3.6m drawn on its CBA Research and Development working capital facility. Cash burn in the June quarter is expected to be $4.27m.

The Project

LCK owns the East Coast's largest uncontracted 2P gas reserve with 1,153 petajoules, with all larger 2P reserves contracted for LNG export projects. Through successful operation of the PCD, the company has successfully demonstrated that the syngas in the reserve is of sufficient quantity and quality to support a commercial project. Peak flow achieved in testing was measured at 7.5mmcfd. All commercial and environmental objectives of the PCD were culminating in the upgrade of contingent resource gas to 2P reserves. Following the South Australian Regulator's environmental approval for the PCD in April 2018, the Regulator published its Assessment Rep[ort (advised by international subject matter experts) on the LCEP, concluding that "the Leigh Creek site represents one of the strongest opportunities for low risk commercial UCG anywhere in the world" and "… it is 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."

Target markets

The project has multiple commercialization opportunities in Australia, most significantly as feedstock for the production of urea (fertilizer) and ammonia for chemical/industrial production, explosives and minerals processing, or for domestic natural gas sales. Both options show strong economic returns. Australia's Urea demand is 2.5Mt/year, with 90%+ imported, positioning LCK to displace foreign supply. Equally, demand for natural gas in eastern Australia is supply constrained, with existing projects largely contracted to long term LNG exports and public policy restraining new exploration. The company is currently undertaking its commercial options analysis for development.

Pathway to development

Following successful PCD operations and subsequent maiden 2P reserve declaration, LCK is now focussed on monetising this vast gas reserve. LCK intends to have its Environmental Impact Statement (EIS) approved and Feasibility Studies completed ahead of Final investment Decision and commencement of construction by CY2021. The company plans to have a commercial operation underway by CY2023.

Share details

ASX Code	LCK
Share Price	$0.26
Market Capitalisation	$145.1M
Number of shares	548.1M
Number of unlisted options (various expiry dates to October 2021)	42.3M
Net cash at 31 March	$3.0M

Share price performance (12 months)

Upside Case

- Owns the East Coast's largest uncontracted 2P gas reserve
- Pre-Commercialisation Demonstration Plant has successfully produced targeted commercial gases at commercial flow rates
- Potential for additional gas reserve upgrades

Downside Case

- Investors are wary of ISG projects due to environmental damage caused by previous UCG operators in QLD
- Risk of delays in EIS and government approvals
- Offtake agreements take longer to negotiate than anticipated

Catalysts

- Project/JV funding
- Complete options/geotechnical analysis H2CY19
- Pre-feasibility study and EIS submission in CY2020
- EIS approvals and feasibility completion in CY2021

Comparative companies (Australia & NZ)

BLU, CTP, GLL

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FINANCIAL SERVICES GUIDE

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- our services
- how we transact with you
- how we are paid, and
- complaint processes

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