



Quarterly Report - December 2020

Leigh Creek Energy Limited (“LCK” or “the Company”) provides this operations update for the three months to 31 December 2020.

Highlights

- Award of Petroleum Production Licence (PPL) in November 2020
 - The final petroleum licencing approval for upstream development of the Leigh Creek Energy Project (LCEP)
- Release of Pre-Feasibility Study (PFS) outcomes in November 2020
 - Pre-tax leveraged Net Present Value (NPV) A\$3.4 billion
 - Internal Rate of Return (IRR) 30%
 - Average nominal production cost of \$109/tonne places LCEP in the lowest cost quartile of the global urea cost curve
 - Annual urea plant capacity of 1.0 million tonnes per annum
- Announced as signatory to the United Nations Global Compact
 - Qualified as a signatory to the world’s largest corporate sustainability initiative, the United Nations Global Compact

LCK Managing Director Phil Staveley commented on the December 2020 quarter’s activities:

“The December quarter has been a very active and successful period as the Company continues to progress the LCEP towards the commercial production of urea at lowest quartile prices, providing additional security to a critical product for the Australian agricultural sector. The granting of the PPL by the South Australian Government means LCK can proceed with certainty towards monetising the large gas reserves of the LCEP. The completion of the PFS moves LCK a step closer to initiating construction of this major project that will stimulate the South Australian regional and state economy and underpin Australia’s agricultural sector by producing nitrogen-based fertiliser and hydrogen products for local and international markets.”

“Development of the Leigh Creek Energy Project (LCEP) will see the Company become a key supplier of urea to Australia’s agriculture sector through Australia’s first fully integrated urea production facility 1 million tonne per annum urea capacity, helping to provide food security for the nation, long-term economic development opportunities to communities of the Upper Spencer Gulf, northern Flinders Ranges and South Australia and provide significant returns for our shareholders.”

Petroleum Production Licence

The Company was issued with PPL 269 and Associated Activities Licence (AAL) 292 by the South Australian Government for the LCEP on 25 November 2020.

PPL 269 is the final petroleum licence required for upstream (sub-surface In-Situ Gasification (ISG)) development along the Company's defined path towards commercial urea production, and represents a major milestone in LCK's commercial development pathway.

The issue of AAL 292 allows access to areas adjacent the PPL to conduct operations ancillary to petroleum related activities, such as acquisition of 2D and 3D seismic surveys, drilling of wells, checking existing geotechnical and hydrology monitoring wells and to use roads and other existing infrastructure that support the production of petroleum products from the PPL.

Significance of the PPL to LCK

The issue of PPL 269 endorses LCK's performance over the last five years and establishes the environmental and commercial credentials of the LCEP. It also gives LCK's shareholders and its potential strategic partners confidence that LCK is on track for full-scale commercial production of syngas and nitrogen based fertiliser.

Milestones along LCK's path toward issuance of PPL 269 include:

- Petroleum Exploration Licence Application issued
- Gas Storage Licence issued
- Petroleum Exploration Licence issued
- JORC certification of 301.2Mt coal resource
- Successful construction, operation and decommissioning of the pre-commercial demonstration plant
- PRMS certification of 1,153PJ 2P gas reserve (comprised of 654PJ in PPL269 and 499PJ in PEL650)
- Petroleum Retention Licence issued
- PFS completed

Pre-Feasibility Study

In early November 2020, the Company released the findings from its PFS.

The LCEP PFS reflects the optimal pathway to commercialise the 1,153PJ of ISG 2P reserves at the LCEP. The construction of Australia's first fully integrated urea production facility promises to provide the most value-accretive pathway for the development of the project. The facility's first train with 1Mtpa capacity, with potential to expand with the second train to 2Mtpa in the future, provides the ability for urea produced from the LCEP to displace imported urea fertiliser, of which 90% is currently imported from the Middle East, China and Malaysia. LCEP will provide the Australian agriculture sector with locally produced urea in a much more cost-effective and timely manner and will help improve national food security and regional employment.

The LCEP PFS highlights the robust economics for the development of a urea production plant to provide fertiliser to the domestic Australian market and potentially for export. Key project parameters include

- Pre-tax NPV of A\$3.4 billion
- IRR of 30%
- 1Mtpa urea plant supported by syngas feedstock
- Average nominal operating cost of A\$109/tonne, **establishing LCK as one of the lowest cost producers** of urea in the world
- Total capital cost estimate of A\$2.6 billion
- Commercial life of over 30 years supported by 1,153 PJ of 2P reserves

Commercial Development

The LCEP's commercial development pathway is a two-stage process.

Stage 1

LCK plans to undertake 3D seismic acquisition the first half of 2021 to enable completion of the field development plan that will set out the drilling program for the gasifiers required for the project. The gas production from gasifiers will produce syngas to power a 5MW power plant

Completion of Stage 1 Commercial Development of the LCEP will create shareholder value by:

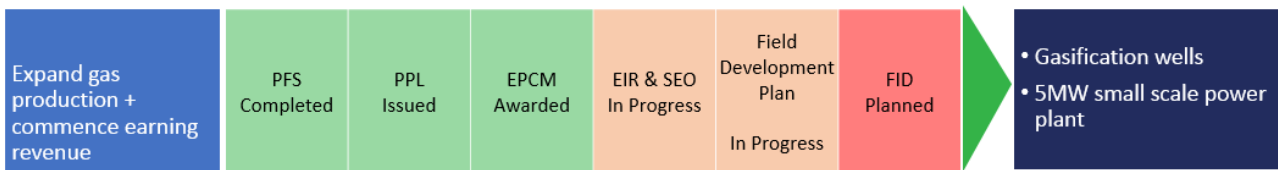
- Producing syngas from multiple gasifiers
- Generating revenue from early syngas production

The 5MW plant will ultimately be used to commission newly developed gasifiers for use in urea production (Stage 2 Commercial Development graphic, below).

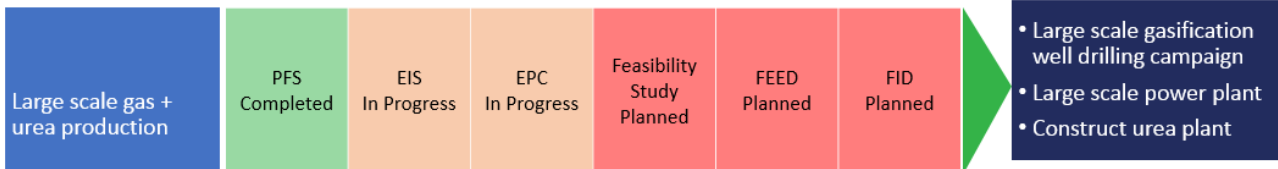
The Stage 1 Commercial Development will also assist in attracting funding for urea plant development as it will prove that commercial syngas can be reliably produced from the LCEP on an ongoing basis.

Further drilling will continue for preparing the gas production to meet the needs of the urea facility at the commissioning stage

Stage 1 Commercial Development



Stage 2 Commercial Development



Subsequent to the end of the quarter, Engineering, Production, Construction and Management (EPCM) Contracts were awarded for drilling management services and above ground development of a 5MW power station as part of Stage 1 Commercial.

Stage 2

Stage 2 is the downstream, or above-ground, development of the fully integrated urea production facility, with an initial capacity of 1 million tonnes per annum, and potential to increase to 2 million tonne per annum.

Ongoing Environmental Monitoring

Extensive monitoring was undertaken prior to, during and following the Pre-Commercial Demonstration (PCD) in late 2018 to mid-2019. In June 2020 LCK issued a report on the 12 months following completion of the PCD. Monitoring confirmed LCK's operator capability to manage ISG within the boundaries approved in Statement of Environmental Objectives for the PCD without impact to environment.

This included monitoring of groundwater, air and subsidence.

This extensive monitoring regime is ongoing and continues to confirm the outcomes documented above and reported to the Regulator of ISG activities in South Australia and creating the baseline for the commercial stage.

2020 South Australian Budget

During the quarter, the financial year 2021 South Australian State Budget was released, in which \$2 million was committed to development of the Leigh Creek township this year, and \$28.6 million over the next three financial years to improve the town and maintain critical infrastructure including health and ambulance services, and the local aerodrome.

United Nations Global Compact

LCK qualified as a signatory to the United Nations Global Compact (Compact) after demonstrating and fulfilling the eligibility criteria for human rights, labour, environment and anti-corruption required for businesses to be included in the world's largest corporate sustainability initiative.

The Compact has 12,000 members in more than 160 countries that are committed to building a sustainable future. LCK's participation in the Compact strongly aligns with the Company's operating purpose and supports the environmental, social and governance (ESG) strategy to create enduring value for all its stakeholders.

Carbon Neutral by 2030

LCK has an established plan and is committed to being carbon neutral by 2030. As well as CO₂ being consumed during the conversion from ammonia to urea phase, strategies are being developed for:

- Geological sequestration (storing CO₂ in depleted gasifiers)
- Biological sequestration (through offsets by land use and revegetation)
- Converting CO₂ into useable products
- Using renewable energy to provide green ammonia as feedstock.

Cooper Basin Oil & Gas Exploration

Following award of Cooper Basin permits PELA 675 and 676 in the 2019 SA Acreage Release, land access agreements with traditional owners are being progressed and preparation for reprocessing of existing seismic data to resolve multiple leads has started.

Bridgeport Energy (QLD) Pty Limited, operator of ATPs 2023 and 2024 in Queensland, are progressing the Permit Year 1 obligations consisting of Geological, Geophysical and Engineering (GG&E) studies. 2D seismic reprocessing has begun and expected to be completed in the coming months.

Finance

Subsequent to the end of the quarter the Company raised \$18 million from an institutional share placement to US based institutional investors. The first tranche of \$6 million was received by the Company in early January, and the Company has, under the agreement, a unilateral option to place a further two \$6 million tranches.

As of 31 December 2020, the Company's total cash balance was AUD\$3.27 million.

The accompanying Appendix 5B (Quarterly Cashflow Report) includes a summary of cashflow inflows and outflows for the quarter, including amounts in item 6.1 which were executive and non-executive director fees paid as salaries and wages.

Tenements

As of 31 December 2020, LCK holds interest in the licences listed below:

	Ownership
Leigh Creek Energy Project permits:	
PPL 269	100%
PEL 650	100%
GSEL 662	100%
PELA 582	100%
PELA 643	100%
PELA 644	100%
PELA 647	100%
PELA 649	100%
Cooper Basin gazettal permits:	
PELA 675	100%
PELA 676	100%
Bridgeport farm-in permits 1:	
ATP 2023	0% ¹
ATP 2024	0% ¹

¹ LCK has the option for a 20% participating interest at the end of the farm in obligations under its agreement with Bridgeport Energy (QLD) Pty Limited

The Board of Leigh Creek Energy Limited authorised this announcement to be provided to the ASX.

Further information:

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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.

About Leigh Creek Energy

Located in South Australia, Leigh Creek Energy Limited (ASX:LCK) is an emerging energy company focused on developing its Leigh Creek Energy Project (LCEP). The LCEP will produce nitrogen-based fertiliser utilising ISG technologies.

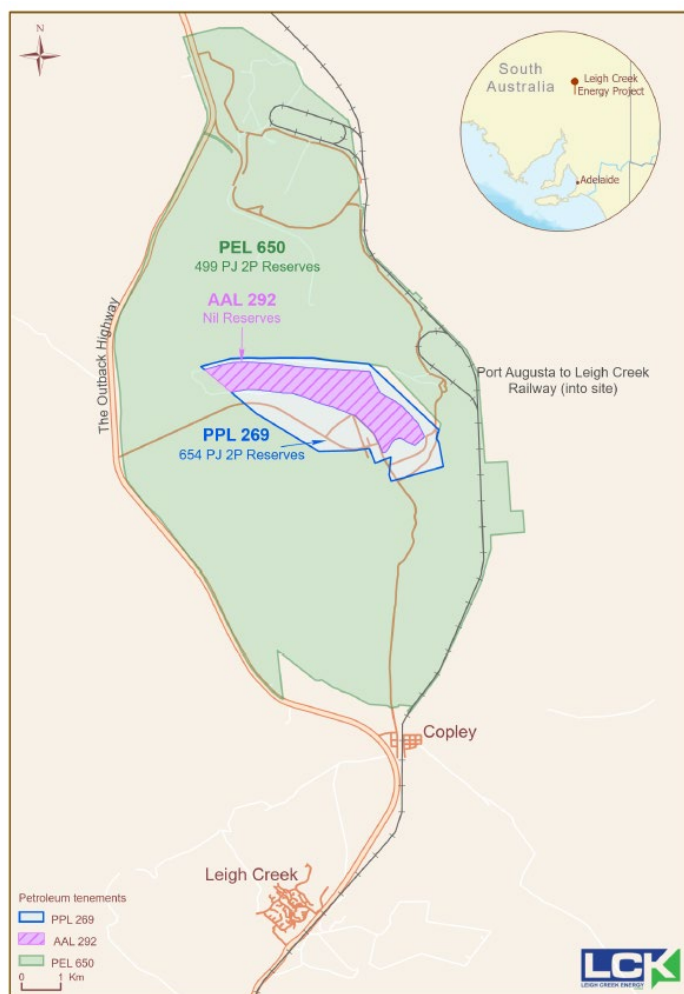
LCK is committed to developing the LCEP using a best practice approach to mitigate the technical, environmental and financial project risks.

The 100% owned LCEP is located 550km north of Adelaide and sits within PEL 650 and PPL 269, which overlay the existing Leigh Creek Coalfield.

PEL 650 and PPL 269 contain proved and probable 2P reserves of 1,153 PJ of gas from 31% of the coal.

The positive project economics of a urea production facility supported by syngas feedstock were confirmed in the Company's PFS which estimated a pre-tax leveraged Net Present Value of \$3.4 billion and an Internal Rate of Return of 30% with a total capital cost estimate of \$2.6 billion.

The LCEP will become the first and largest in-situ gasification project and the only fully integrated urea manufacturing facility in in the World. The LCEP will be a significant supplier of low cost, domestically produced urea to Australia's agricultural sector, and will strengthen the supply chain resilience for Australian farmers in the post-COVID 19 economy.



LCEP site area

Appendix 5B

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Name of entity

LEIGH CREEK ENERGY LIMITED

ABN

31 107 531 822

Quarter ended ("current quarter")

December 2020

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (6 months) \$A'000
1. Cash flows from operating activities		
1.1 Receipts from customers		
1.2 Payments for		
(a) exploration & evaluation (if expensed)		
(b) development		
(c) production		
(d) staff costs	(727)	(1,453)
(e) administration and corporate costs	(816)	(1,337)
1.3 Dividends received (see note 3)		
1.4 Interest received	0	2
1.5 Interest and other costs of finance paid		
1.6 Income taxes paid		
1.7 Government grants and tax incentives	25	50
1.8 Other – R&D rebates received	493	493
1.9 Net cash from / (used in) operating activities	(1,025)	(2,245)
2. Cash flows from investing activities		
2.1 Payments to acquire:		
(a) entities		
(b) tenements		
(c) property, plant and equipment	30	42
(d) exploration & evaluation (if capitalised)	(300)	(950)
(e) investments		
(f) other non-current assets		

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (6 months) \$A'000
2.2	Proceeds from the disposal of:		
	(a) entities		
	(b) tenements		
	(c) property, plant and equipment		
	(d) investments		
	(e) other non-current assets		
2.3	Cash flows from loans to other entities		
2.4	Dividends received (see note 3)		
2.5	Other (provide details if material)		
2.6	Net cash from / (used in) investing activities	(270)	(908)
3.	Cash flows from financing activities		
3.1	Proceeds from issues of equity securities (excluding convertible debt securities)		
3.2	Proceeds from issue of convertible debt securities		
3.3	Proceeds from exercise of options	58	58
3.4	Transaction costs related to issues of equity securities or convertible debt securities	(14)	(14)
3.5	Proceeds from borrowings	0	147
3.6	Repayment of borrowings	(452)	(521)
3.7	Transaction costs related to loans and borrowings	(52)	(66)
3.8	Dividends paid		
3.9	Other (provide details if material)		
3.10	Net cash from / (used in) financing activities	(460)	(396)
4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	5,020	6,814
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(1,025)	(2,245)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(270)	(908)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	(460)	(396)

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (6 months) \$A'000
4.5	Effect of movement in exchange rates on cash held		
4.6	Cash and cash equivalents at end of period	3,265	3,265

5. Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts		Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	1,743	3,498
5.2	Call deposits	1,522	1,522
5.3	Bank overdrafts		
5.4	Other (Term deposits)		
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	3,265	5,020

6. Payments to related parties of the entity and their associates

- 6.1 Aggregate amount of payments to related parties and their associates included in item 1
- 6.2 Aggregate amount of payments to related parties and their associates included in item 2

**Current quarter
\$A'000**

322

Note: if any amounts are shown in items 6.1 or 6.2, your quarterly activity report must include a description of, and an explanation for, such payments

Explanation:

Executive and Non-Executive Directors fees.

Piper Alderman lawyers were paid for legal services rendered to the Group. Non-Executive Director Mr Greg English is a partner at Piper Alderman lawyers.

Mining exploration entity or oil and gas exploration entity quarterly cash flow report

7. Financing facilities	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
<i>Note: the term "facility" includes all forms of financing arrangements available to the entity. Add notes as necessary for an understanding of the sources of finance available to the entity.</i>		
7.1 Loan facilities		
7.2 Credit standby arrangements		
7.3 Other (please specify)		
7.4 Total financing facilities		
7.5 Unused financing facilities available at quarter end		
7.6 Include in the box below a description of each facility above, including the lender, interest rate, maturity date and whether it is secured or unsecured. If any additional financing facilities have been entered into or are proposed to be entered into after quarter end, include a note providing details of those facilities as well.		
R&D working capital facility with Commonwealth Bank of Australia. The facility remains available until December 2020.		

8. Estimated cash available for future operating activities	\$A'000
8.1 Net cash from / (used in) operating activities (Item 1.9)	(1,025)
8.2 Capitalised exploration & evaluation (Item 2.1(d))	(300)
8.3 Total relevant outgoings (Item 8.1 + Item 8.2)	(1,843)
8.4 Cash and cash equivalents at quarter end (Item 4.6)	3,265
8.5 Unused finance facilities available at quarter end (Item 7.5)	-
8.6 Total available funding (Item 8.4 + Item 8.5)	3,265
8.7 Estimated quarters of funding available (Item 8.6 divided by Item 8.3)	1.77
8.8 If Item 8.7 is less than 2 quarters, please provide answers to the following questions:	
1. Does the entity expect that it will continue to have the current level of net operating cash flows for the time being and, if not, why not?	
Answer: Yes	
2. Has the entity taken any steps, or does it propose to take any steps, to raise further cash to fund its operations and, if so, what are those steps and how likely does it believe that they will be successful?	
Answer: Yes, funding for operations successfully sourced as per ASX announcement 5 January 2021.	
3. Does the entity expect to be able to continue its operations and to meet its business objectives and, if so, on what basis?	
Answer: Yes, funding for operations successfully sourced as per ASX announcement 5 January 2021.	

Compliance statement

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Date: 28 January 2021

Authorised by: By the Board
(Name of body or officer authorising release – see note 4)

Notes

1. This quarterly cash flow report and the accompanying activity report provide a basis for informing the market about the entity's activities for the past quarter, how they have been financed and the effect this has had on its cash position. An entity that wishes to disclose additional information over and above the minimum required under the Listing Rules is encouraged to do so.
2. If this quarterly cash flow report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, *AASB 6: Exploration for and Evaluation of Mineral Resources* and *AASB 107: Statement of Cash Flows* apply to this report. If this quarterly cash flow report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.
4. If this report has been authorised for release to the market by your board of directors, you can insert here: "By the board". If it has been authorised for release to the market by a committee of your board of directors, you can insert here: "By the [name of board committee – eg Audit and Risk Committee]". If it has been authorised for release to the market by a disclosure committee, you can insert here: "By the Disclosure Committee".
5. If this report has been authorised for release to the market by your board of directors and you wish to hold yourself out as complying with recommendation 4.2 of the ASX Corporate Governance Council's *Corporate Governance Principles and Recommendations*, the board should have received a declaration from its CEO and CFO that, in their opinion, the financial records of the entity have been properly maintained, that this report complies with the appropriate accounting standards and gives a true and fair view of the cash flows of the entity, and that their opinion has been formed on the basis of a sound system of risk management and internal control which is operating effectively.