Leigh Creek Energy

Developing Syngas into Urea

LEIGH CREEK ENERGY
Growing our future

June 2021

Leigh Creek Energy (ASX: LCK)

Important Notice

Disclaimer

This presentation has been prepared by, or for Leigh Creek Energy Limited (LCK). It contains, and we may make other written or verbal forward looking statements with respect to certain of LCK's plans, current goals and expectations relating to future financial condition, performance, results, strategic initiatives and objectives. By their nature, all forward-looking statements involve risk and uncertainty and are subject to factors that could cause actual results to differ materially from those indicated in this presentation and/or any statement, including forward-looking statements. Some of the factors that could cause actual results or trends to differ materially, include but are not limited to: price fluctuations; actual demand; currency fluctuations; drilling & production results, reserve estimates, loss of market, industry competition, market developments and government actions, environmental and physical risks, legislative, fiscal and regulatory developments, local, regional and international political, regulatory, economic and financial market conditions, political risks, the effect of information and technology and third-party service providers for certain of our operations and systems, legal proceedings and regulatory investigations, the impact of operational risks, including inadequate or failed internal and external processes, systems and human error or from external events (including cyber attack), risks associated with arrangements with third parties, including joint ventures, the failure to attract or retain the necessary key personnel; systems errors or regulatory changes, the effect of fluctuations in share price as a result of general market conditions or otherwise, the effect of simplifying operating structure and activities, the effect of a decline in any ratings or recommendations for losses due to defaults by counterparties or restructurings, on the value of investments, changes in interest rates or inflation, changes in equity and/or prices on our investment portfolio, the impact of natural and man-made catastrophic events on business activities and results of operations, reliance on our standing among customers, broker-dealers, shareholders, agents, wholesalers and/or other distributors of our products and/or services, changes to brand / reputation, changes in government regulations or tax laws in jurisdictions where we conduct business, the inability to protect intellectual property, the effect of undisclosed liabilities, the timing of any regulatory approvals, integration risk, and other uncertainties, such as non-realisation of expected benefits or diversion of management attention and other resources, relating to future acquisitions and/or pending disposals, project delays or advancement, approvals and cost estimates amongst other items and the cumulative impact of items.

While we try to ensure that the information we provide is accurate and complete, LCK advises you to verify the accuracy of any information and/or statement, including a forward-looking statement before relying on it. LCK has no obligation to update the forward-looking statements in this presentation or comm other forward-looking statements we may make. Forward-looking statements in this presentation are current only as of the date on which such statements are made.

This presentation may also contain non-IFRS measures that are unaudited but are derived from and reconciled to the audited accounts. These should only be considered in addition to, and not as a substitute for, or superior to, our IFRS financial measures. All references to dollars, cents or $ in this presentation are to Australian currency, unless otherwise stated.

Gas Resources Compliance Statement

The PRMS resources estimates stated herein were initially reported to the ASX on 27 March 2019. LCK is not aware of any new information or data that materially affects this information and all the material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.

Mineral Resource Compliance Statement

The JORC resource estimates stated herein were initially reported to the ASX on 8 December 2015 and were updated on 27 March 2019. LCK is not aware of any new information or data that materially affects this information and all the material assumptions and technical parameters underpinning the estimates continue to apply and have not materially changed.

Cautionary Statement

The Preliminary Feasibility Study (“PFS”) referred to in this announcement has been undertaken to assess the alternative commercialisation pathways for the produced syngas and recommending a path forward. It is a preliminary technical and economic study of the potential viability of the Leigh Creek Energy Project (“LCEP”). Operating and capital costs are based on a Class 5 scoping study prepared by thyssenkrupp in 2018. A Class 5 study allows for an expected accuracy variation range of Low -20 to -50 and High +30 to +100% . Further evaluation work and appropriate studies are required before LCK will be in a position to provide any assurance of an economic development case. The PFS is based on the material assumptions outlined below. These include assumptions about the availability of funding. While LCK considers all of the material assumptions to be based on reasonable grounds, there is no certainty that they will prove to be correct or that the range of outcomes indicated by the PFS will be achieved. To achieve the range of outcomes indicated in the PFS, total funding of in the order of $2.6 billion will likely be required. Investors should note that there is no certainty that LCK will be able to raise that amount of funding when needed. It is also possible that such funding may only be available on terms that may be dilutive to or otherwise affect the value of LCK’s existing shares. It is also possible that LCK could pursue other ‘value realisation’ strategies such as a sale, partial sale or joint venture of the project. If it does, this could materially reduce LCK’s proportionate ownership of the project. Given the uncertainties involved, investors should not make any investment decisions based solely on the results of the PFS.

Material Financial Model Assumptions

Dollar figures are in AUD unless otherwise stated

Debt Raised	50% of capital costs to be debt funded
Loan Repayments	Rolling 7 year facility extending over the project life
Interest expense	Borrowing rate 6%
Income Tax Payable	Financials included in this report are before income tax
Urea pricing	Available CRU forecast to 2030, escalated thereafter
Royalties	Average 9% of gas revenue, comprising SA Government (subject to negotiation) and overriding royalties
Urea plant operating costs	Per thyssenkrupp 2018 scoping study, ex-plant only
Gasifier operating costs	Management assumed gasifier operating costs based on demonstration plant experience
Gasifier replacement	Management assumed gasifier replacement costs based on demonstration plant experience
Capital costs	Per thyssenkrupp 2018 scoping study

LEIGH CREEK ENERGY
Growing our future

Equity Raising

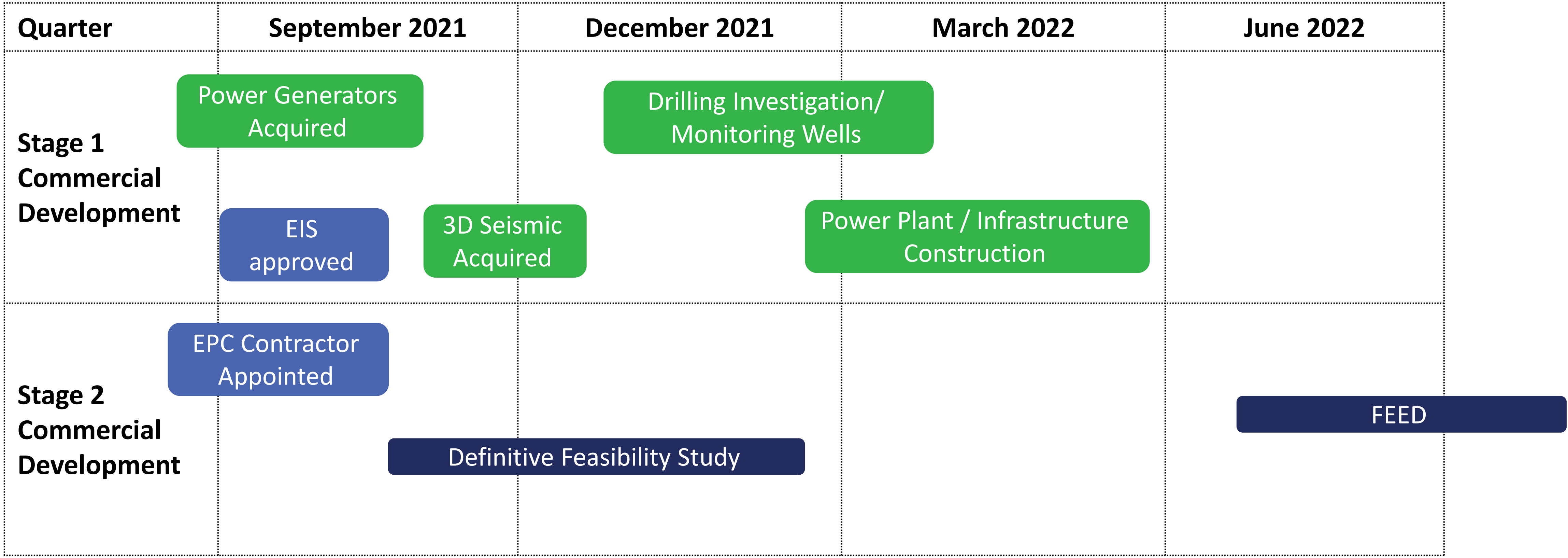
Leigh Creek Energy raised $18 million on Friday 11 June 2021

Offer Structure and Size	• Placement to sophisticated, professional and other institutional investors to raise $18 million (Placement) • Equities to be issued comprise one share plus an option for an additional share
Offer Structure and Size Placement Price Placement	• Fixed bookbuild at $0.18 per new share (the Price) • Options exercisable at $0.28 (subject to shareholder approval) • The Price represents a 20% discount to the last trading price of $0.225 prior to the Placement and a 21.6% discount to the 5 day VWAP
Advisers	• Lead Manager is Evolution Capital Advisors Pty Ltd (ACN 603 930 418), Authorised Representative (number 1264208) of Amplus Global Pty Ltd (ACN 162 631 325), the holder of Australian Financial Services Licence number 505929

Uses of Funds	$ Million
Acquisition of 3D seismic	1.0
Drilling and construction of gasifier chambers	6.5
Acquisition of power generation infrastructure	6.0
General Working Capital	5.0
Total	**18.5**

Near Term Activities

Funding for near-term development activities sourced from Placement plus existing funds



- Funded from Placement proceeds
- Funded from existing LCK funds
- Part of proposed DL E&C EPCC agreement

Leigh Creek Energy Overview

- LCK's flagship project is the Leigh Creek Energy Project (LCEP), located in South Australia, 550km north of Adelaide
- The LCEP will initially produce 1Mtpa of urea from a dedicated facility at a cash cost of $109/t, using syngas sourced from its wholly owned resources
- Of the 2 million tonnes of urea used in Australia each year, 95% is imported[1] from the Middle East and Asia
- Australian produced urea will avoid the risks and costs associated with transport, exchange rates, commodity prices and import logistics
- LCEP is located near existing infrastructure allowing easy distribution of urea to domestic and international markets

2 Million tonnes
Urea annual demand

95% Imported

Benefits

- ✓ Competitive price
- ✓ Domestic production
- ✓ Australian jobs

[1] Source: Fertiliser Australia https://www.fertilizer.org.au/Fertilizer-Industry/Australian-Fertilizer-Market

Development Activities to Date

Urea Production Facility

- Full scale PFS yielded a $3.4 billion pre-tax leveraged NPV and 30% IRR
- EPCC Heads of Agreement with Korean construction giant, DL E&C
- Urea offtake Heads of Agreement discussions underway

Syngas Feedstock Development

- Pre-commercial demonstration successfully produced syngas
- 1,153PJ of, PRMS certified, syngas reserves
- Final Investment Decision (FID) for Stage 1, syngas commercialisation

Environmental Credentials

- Petroleum Production Licence awarded by the SA Government
- Environmental monitoring yielded zero incidents of environmental disturbance, post the pre-commercial demonstration
- Signatory to the United Nations Global Compact

Leigh Creek Energy Project Advantages

Reliable Supply of Syngas

Syngas has been successfully produced at LCEP using in-situ gasification (ISG) during the Project's pre-commercial demonstration phase

Leigh Creek geology is ideally suited for ISG due to the nature of the coal resource and local geology

30+ Years of Gas Reserves

Exploration and production permits have 1,153PJ[1] 2P gas reserves of and 301.2Mt coal resources

These reserves are sufficient to operate a 1Mtpa urea plant for 30+ years

Inputs for Urea Production On Site

Urea operations are vertically integrated as gas and electricity will be produced on site. This eliminates commodity and supply risks associated with buying gas and power for urea production

Access to Infrastructure

The Leigh Creek site has access to existing road and rail infrastructure for transport to domestic and export markets

LCEP urea will be competitive in the wholesale Australian market as it's cheaper, faster and less risky for urea traders than importing it from the Middle East and Asia

Low Cost Urea Producer

Average nominal pre-tax operating cost for the urea plant forecast to be $109/t, putting the project in the lowest cost quartile of global urea producers

This is possible because syngas can be produced for approximately $1 per gigajoule

[1] Based on 31% of the project's coal reserves

Our Commitment to Sustainability

The Company established ESG processes early and they have continued to evolve as we grow

WE SUPPORT UN GLOBAL COMPACT

Environmental

- Commitment to be carbon neutral by 2030
- Carbon capture and underground storage plan
- Zero emissions (water and chemical)
- Macro and micro Going Green initiatives

Social

- Continue outstanding safety record
- Maintain positive, enduring stakeholder relationships
- Community education and sponsorship programmes
- Staff mental health initiatives
- Develop ethical supply chains

Governance

- Abide by United Nations Global Compact standards
- Adhere to strategic framework
- Continue strict regulatory compliance
- Develop sustainability reporting

Urea Market

Target markets for LCEP urea are domestic users, plus international fertiliser traders and distributors

LCEP urea will be globally competitive because:

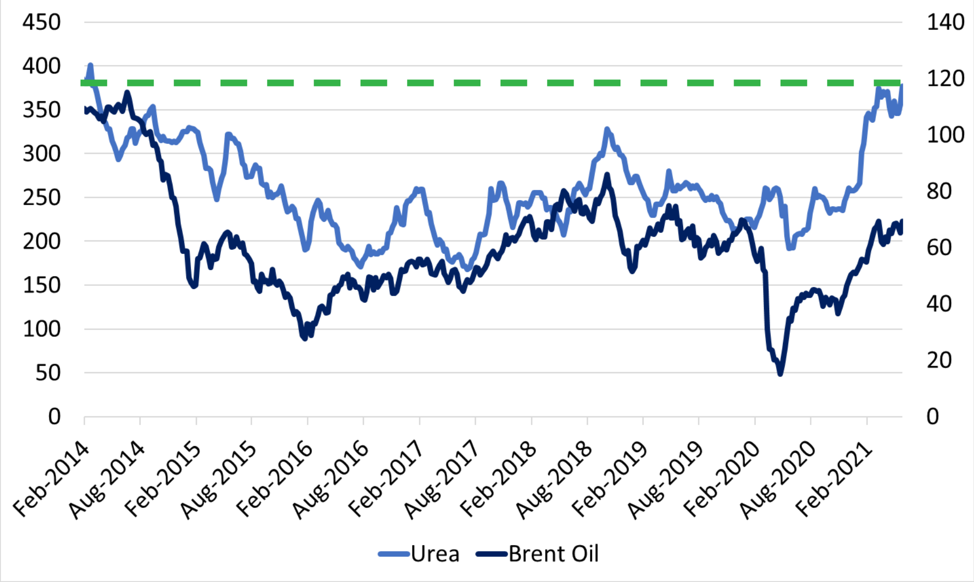
It's cheaper, faster and less risky for distributors to buy LCK urea for sale to Australian farmers than to ship it from the Middle East or Asia

Ports accessible from Leigh Creek are central to the main Australian urea markets

LCEP operating costs will be very competitive as it can produce syngas on site for as little as $1 per gigajoule

LCEP plans to export a proportion of its urea to take advantage of both the autumn-winter Australian season and the spring-summer Asian market

Urea Granular Bulk FOB Middle East (all netbacks) Spot US$/t[1] Vs Brent Oil Spot US$/barrel[2]



1. Urea Granular Bulk FOB Middle East (all netbacks) Spot USD/t per CRU
2. Brent oil spot price per the US Energy Information Administration

LCEP Pre-Feasibility Study

The PFS released in November 2020 highlighted robust economics for urea

- Initial annual urea plant capacity of 1.0 million tonnes per annum
- Initial capital cost $2.3 billion
- Commercial life of over 30 years
- Nominal operating cost of A$109 per tonne of urea compared with the spot price of A$489[1] per tonne (May 2021)
- Hydrogen production potential
- Pre-tax leveraged Net Present Value (NPV) $3.4 billion
- Internal Rate of Return (IRR) 30%

Project Value Metrics		
Discount Rate	%	9%
Leveraged Pre-Tax NPV_9	$m	3,431
Leveraged Pre Tax IRR		30%
Leveraged Pre Tax Payback Period	Years	4

Project Metrics		
Syngas produced per year	PJ	35
Urea produced per year	Mt	1.0
Discount Rate	%	9%
Net Revenue/tonne[2]	$/tonne	410
Pre-Tax Opex/tonne[3, 4]	$/tonne	109
Sustaining Capex	$m	347
Construction Capex	$m	2,285

1. Source: CRU MEGU FOB
2. CRU 2024 forecast pricing.
3. Operating costs represent cost of production to the factory gate.
4. Average life of project, nominal figures.

Commercial Development Pathway

	Demonstration Stage Completed 2018	Stage 1 Commercial Development Underway now	Stage 2 Commercial Development Following Stage 1
Gas	Pre-Commercial Demonstration →	Expand Gas Production →	Large Scale Gas Production (35PJ pa)
Power company		Up to 5MW power plant ↓ Power Offtake	Up to 100MW power plant
Urea			Urea Plant ↓ 1Mtpa Urea Offtake

Advancing Key Workstreams

	Addressed or Progressed
Regulatory approvals	Petroleum licencing approval for upstream development attained
Technical know-how	Technical capability proven with successful operation of the pre commercial demonstration plant and faultless post operation environmental monitoring. Engineering, Procurement, Construction and Commissioning (EPCC) to be managed by Korean based DL E&C, an experienced partner
Financing	Combination of debt, equity and strategic partner injection is expected. Discussions with proposed strategic partners have commenced
Construction	Small scale, up to 5MW, power plant to be acquired and installed to enable commissioning of future gasifiers. Large power plant and urea plant construction to be managed, per EPCC Heads of Agreement, under turn key, fixed price contract with DL E&C
Commercialisation	Heads of Agreement for urea offtake being finalised

Conclusion

LCEP will help Australia become self-sufficient in urea providing local farmers with quality, cost competitive fertiliser

LCK are committed to be Carbon neutral by 2030

Manageable technical risk, large resource base and low cost of production

LCEP has strong project economics with an NPV of $3.4 billion and an IRR of 30%

Strong structural demand for fertiliser provides positive tailwinds for the project

[1] Source: CRU MEGU FOB

Thank you

Leigh Creek Energy Limited

L11, 19 Grenfell Street

Adelaide SA 5000

Phone +61 (8) 8132 9100

Email contactus@lcke.com.au

Website www.lcke.com.au/

Phil Staveley
Managing Director

Nicola Frazer

Tony Lawry

Investor Relations

The Board of Leigh Creek Energy authorised this to be given to the ASX

LCK
LEIGH CREEK ENERGY
Growing our future