EDISON

Leigh Creek Energy

Energy

Increased visibility on pre-commercial demo

Oil & gas

Leigh Creek Energy's pre-commercial demonstration (PCD) continues to show progress, with funding now in place from China New Energy (CNE) and major construction contracts awarded and fabrication underway. The third and final tranche of funding of A$12.5m is due to settle after a shareholder vote later this quarter while regulatory approvals remain on the critical path in order for LCK to meet a late 2017 first gas target. Our RENAV remains at $0.26/share post equity dilution. We continue to risk our valuation with a subjective 20% chance of commercial success – we expect to revise this risking on completion of the demonstration project.

Year end	Revenue (A$m)	PBT* (A$m)	Capex (A$m)	Net cash (A$m)	Free cash flow (A$m)
06/15	0.0	(17.7)	(1.2)	1.4	(2.1)
06/16	0.0	(5.4)	(1.8)	8.7	(5.8)
06/17e	0.0	(2.9)	(0.0)	10.7	(2.0)
06/18e	0.0	(2.9)	(16.0)	7.8	(18.8)

Note: *PBT and EPS are normalised, excluding amortisation of acquired intangibles, exceptional items and share-based payments.

Securing South Australian power supplies

A state-wide power blackout in September 2016 led Jay Weatherill's government to take unprecedented steps to secure South Australia (SA) energy supplies. Short-term measures have dominated recent newsflow, with Tesla tasked to build the world's largest capacity and output lithium-ion battery within state, and APR Energy contracted to supply 200MW of mobile dual fuel generator supply. While the bulk of this new gas-powered capacity is expected to be used to reduce instability rather than act as baseload, concerns are being raised about the state's ability to source gas to power this generation fleet given forecast gas shortages.

LCK pre-commercial gas demonstration in 2017

LCK is now fully funded through its planned PCD, a significant de-risking event. On 10 July 2017, LCK awarded contracts for fabrication and installation of gas handling equipment, controls and instrumentation and communication systems. On 28 July 2017, the company announced that a further two contracts have been awarded for key process facilities and gas analysis instrumentation. Newsflow is expected shortly on further contract awards for on-site generation and storage equipment with LCK. Regulatory approval and community engagement has to be completed before first-gas extraction in late 2017.

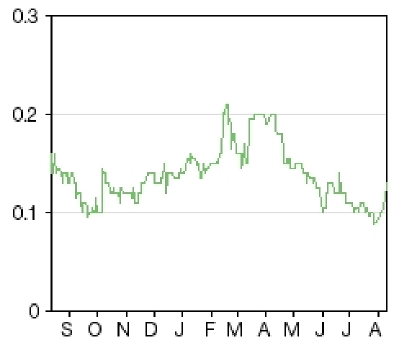
Valuation and sensitivities

Our risked valuation of A$0.26/share incorporates LCK's announced equity injection and associated dilution. We assume commercial demonstration in late 2017/early 2018 and first commercial gas production in 2021. Key project sensitivities include the timing of relevant permits and approvals for demonstration and full field commercialisation and LCK's ability to attract capital/farm-out the upstream development and to attract power/pipeline partners for mid-stream elements of the project.

10 August 2017

Price	**A$0.13**
Market cap	**A$43m**
	US$0.77/A$
Cash (A$m) at 30 June 2017	8.7
Basic shares in issue at June 2017	332.4m
Free float	63%
Code	LCK
Primary exchange	ASX
Secondary exchange	N/A

Share price performance



%	1m	3m	12m
Abs	23.8	(13.3)	(25.7)
Rel (local)	22.3	(12.5)	(28.0)
52-week high/low		A$0.2	A$0.1

Business description

Leigh Creek Energy (LCK) has a certified PRMS gas resource of 2,964PJ (2C) at the Leigh Creek Energy Project (LCEP) in South Australia. Monetisation of the gas through ISG is expected to be de-risked by a demonstration programme in late 2017.

Next events

Pre-commercial demo	2017

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Edison profile page

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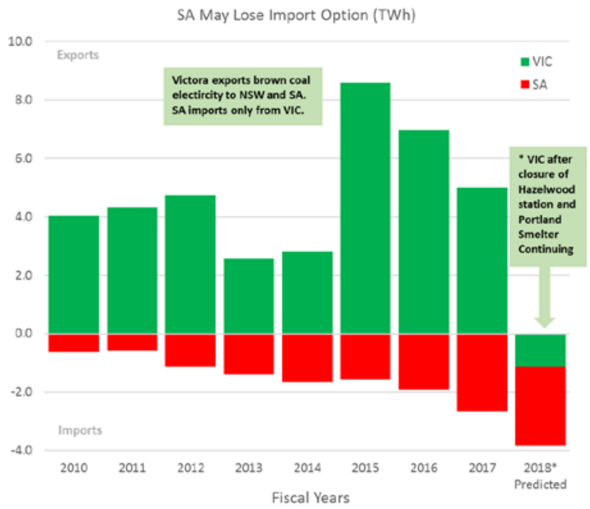
SA energy crisis continues

SA has been at the epicentre of the Australian energy crisis, with gas and electricity prices at record highs. With 40% of SA energy generated by renewable sources, such as wind and solar, and a material increase in non-synchronous generation within the supply-mix, the grid has become more susceptible to shortages and the need for load shedding. Wind and solar have a lower inertia, which means the systems have a higher rate of frequency change and they are also an intermittent power supply requiring backup from storage or conventional sources of generation capacity.

SA has become increasingly reliant on its single interconnector to import power supply, the Heywood interconnector to Victoria. In recent months, the Heywood interconnector has incurred reliability issues when strained, leaving SA isolated from the national grid. Plans for a second interconnector to New South Wales have been discussed, but at a cost of between A$500m-A$1bn would prove to be an expensive solution and one still reliant on the availability of import capacity. The dependency on one interconnector and lack of competition in SA means it can struggle to meet demand. On 8 February 2017, wind could only produce 2.5% of the state's electricity and, with the Heywood interconnector already at the maximum, the Australian energy market operator (AEMO) started load shedding as demand was too great. This left 40,000 SA households and businesses without electricity.

Exhibit 1: South Australia importing



Source: Leigh Creek Energy

The final report by AEMO on the 28 September 2016 blackout highlighted the need for an assessment of safety features, and increased interconnectivity, local competition and synchronous generation. With ever-increasing use of renewable energy, the SA government needs to be able to access stored power or backup sources of supply in order to increase energy security.

Implementation of government plans

The SA government announced in March 2017 a high-profile A$500m contingency plan to improve the supply of electricity, which has compelled a number of blue-chip power providers to offer solutions. This has included the likes of Tesla, which has been tasked with the role of building the world's largest capacity and output lithium-ion battery. The battery will be able to store 129MWh and has a maximum output of 100MW. CEO Elon Musk himself said the battery is to be built in "100 days once the contract is signed, or it is free." It is hoped that it can be built before summer and will be linked to a wind farm north of Adelaide.

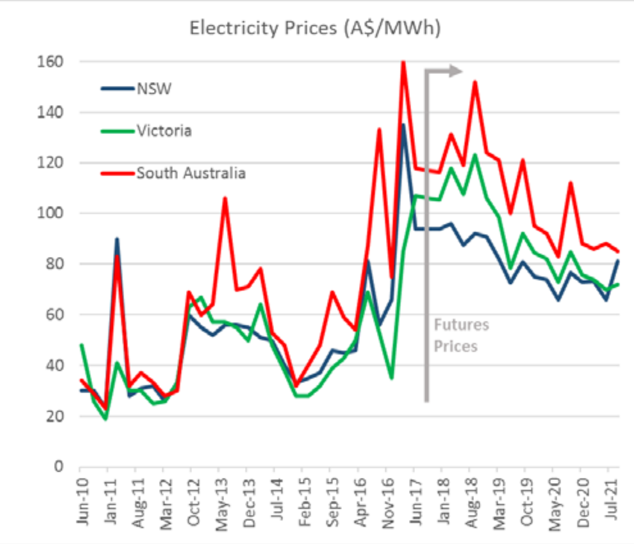
Jay Weatherill, the Premier of SA, announced that the state government will lease a range of nine new portable diesel generators from APR Energy (APR). APR reported that it should be in place before 1 December 2017. After two years, the state will have the option to purchase the newest generation of GE TM2500 turbines and turn them into a permanent gas generator. They will produce 267MWh of power together and are expected to be under the budget of A$360m.

The battery and portable generators are not designed to drive down prices, but to reduce volatility and assist during peak times, mitigating the risk of blackouts and load shedding. Hypothetically, this should then reduce electricity prices as it reduces risk premiums incorporated in energy companies' contracts.

The proposed gas generator and increased use of gas in turn poses its own problem. The government announced in March 2017 that there will be a gas shortage by 2019 in SA and other states could be affected by 2020. It has since reduced its risk level due to new proposals from Arrow for a major expansion with new wells and pipelines to double production at its Surat Basin site, as well as the option to redirect some exported liquefied natural gas (LNG) to domestic supply. There remains tension between the federal government and the SA government over the energy crisis.

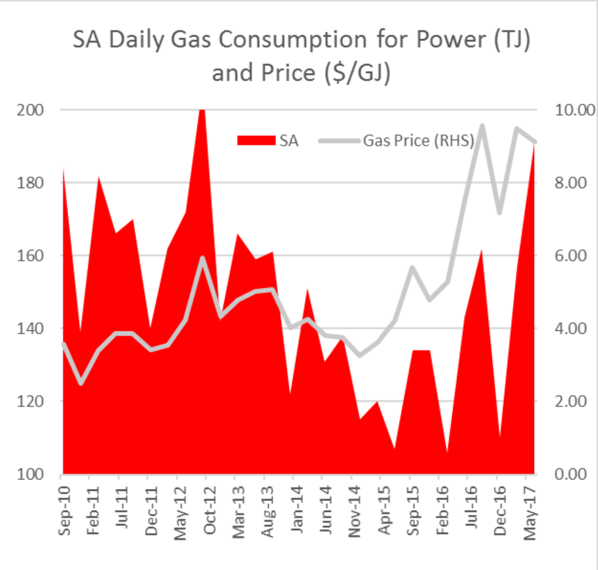
Australia was the second-largest exporter of LNG in 2016 and has neglected domestic supply, causing prices of electricity and gas to increase year-on-year. Last month, the three main providers – Origin, AGL and EnergyAustralia – all announced increases in gas and electricity of up to 20% for retail customers. They have blamed the increase on wholesale gas and electricity prices.

Exhibit 2: Electricity prices



Source: Leigh Creek Energy

Exhibit 3: Gas prices

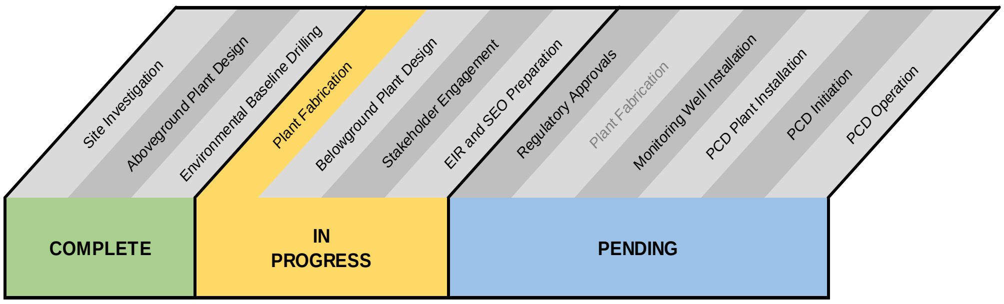


Source: Leigh Creek Energy

LCEP PCD progress

On 10 July 2017, LCK announced it had assigned two construction contracts, after an intensive tender process supported by the SA government. The first contract with Ottoway Engineering will provide LCK with bespoke gas handling equipment for the PCD to take gas from the underground gasifier to the thermal oxidiser. The scope of the contract is the fabrication and installation of the above-ground plant for piping, knock-out, metering and condensate handling skids. The second is a contract with ATSys, which will provide electrical, controls and high-end communication and data transfer systems for the PCD.

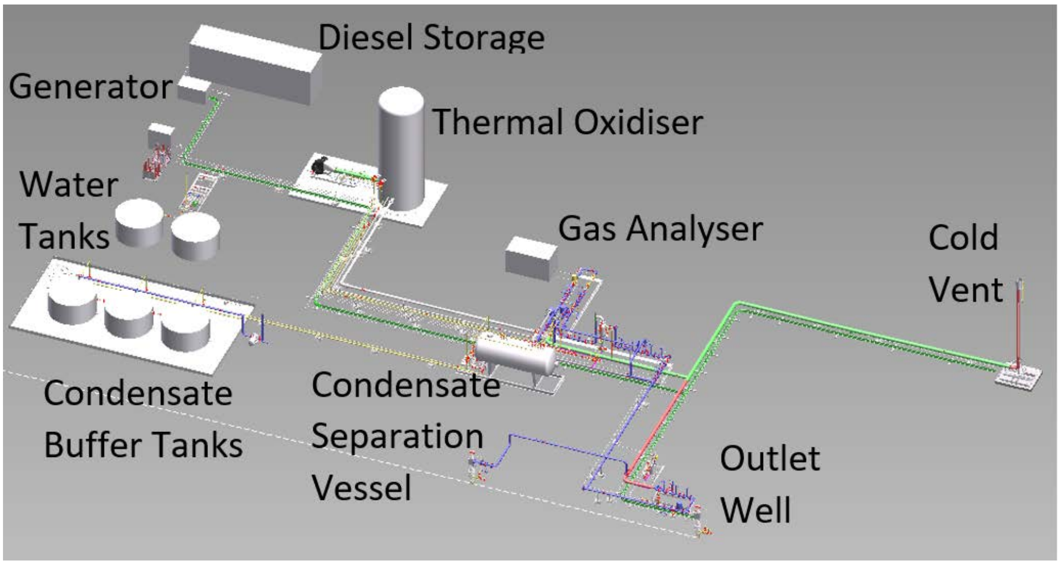
Exhibit 4: Progress chart



Source: Leigh Creek Energy

It was announced at the quarterly update on 28 July 2017 that LCK had awarded a further two contracts to Gasco and ABB Australia (ABB). Gasco won the contract to supply the thermal oxidiser and cold vent. The thermal oxidiser combusts syngas at high temperatures and the cold vent is a safety measure to release the pressure in the result of a blockage. ABB has been awarded the contract to supply the gas analyser and gas instruments. This will analyse the Syngas composition for commercial considerations. LCK is yet to award contracts for the generator, diesel storage and water tanks, but has already secured funding.

Exhibit 5: Site plan



Source: Leigh Creek Energy

LCK has received the first two tranches of financing from CNE and the third and largest tranche of A$12.5m at A$0.15 per share will be subject to a shareholder vote at a general meeting in September as it will increase CNE's stake to greater than 20%. Having obtained A$9.3m of funding from the first and second tranche, the LCEP is accelerating quickly and it is anticipated that plant fabrication of the PCD will be installed in November 2017. The total amount raised will be A$21.85m, before fees with an average share price of A$0.146. LCK remains on track to be fully funded for the completion of PCD, through tranche three and continued access to the Commonwealth Bank of Australia R&D working capital debt facility.

Valuation

Core elements of our valuation of LCK are provided in our initiation note (2 February 2017). We recently updated our valuation to reflect equity funding for the company's ISG demonstration project and a delay of LCEP first gas to 2021 (compared to 2020), offset by a roll-forward of our NAV discount date from 2016 to 2017. We flag that this is based on a subjective 20% chance of commercial success and assumed farm-out of the upstream full field development. Further details of gross project economics and farm-out assumptions can be found in our initiation note.

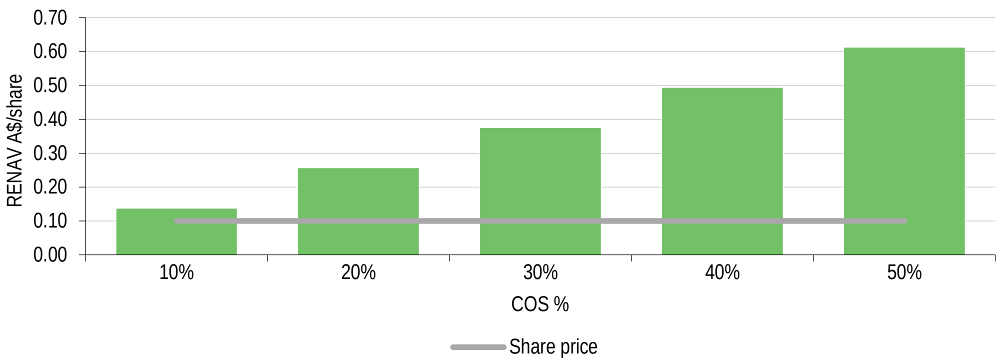
Exhibit 6: LCK valuation – farm-out of upstream: Base case

Asset	Country	Diluted WI	CoS	Recoverable reserves		NPV/GJ	Net risked	Value per share	Discount rate	
				Gross	Net		value	risked	10%	15%
		%	%	PJ	PJ	A$/GJ	A$m	A$/share	A$/share	A$/share
Net cash end 2018 after demonstration spend		100%	100%				8	0.02	0.02	0.02
SG&A – NPV_{10} of two years		100%	100%				(7)	(0.02)	(0.02)	(0.02)
Tax rebate		100%	100%				7	0.02	0.02	0.02
Development										
LCEP	Australia	31%	20%	2,955.3	916.1	0.52*	95	0.24	0.33	0.17
Core NAV							103	0.26	0.35	0.19
RENAV							103	0.26	0.35	0.19

Source: Edison Investment Research. Note: *Derived from LCEP DCF valuation including the positive value impact of cost carry.

A sensitivity to our chance of success assumption (20% base case) is provided below. The market implied chance of success, post equity dilution, currently stands at 12%.

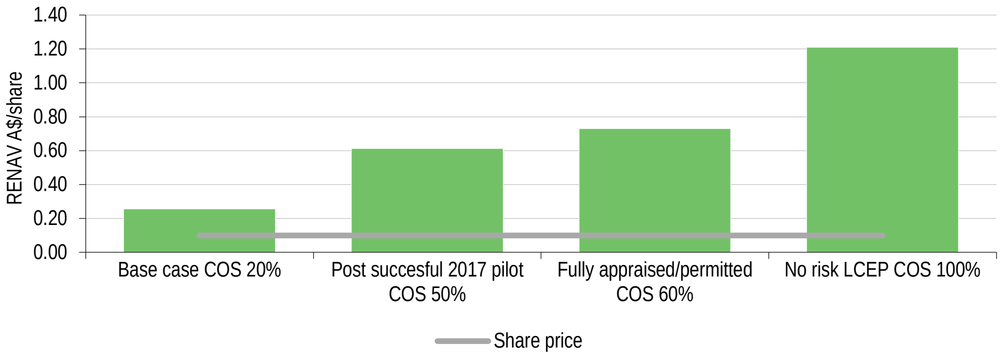
Exhibit 7: RENAV sensitivity to commercial chance of success % (post farm-down)



Source: Edison Investment Research

In addition, we recognise that there will be several phases of de-risking as the LCEP project progresses through successful demonstration, full appraisal, environmental permitting, full-field development funding and partner alignment. We attempt to demonstrate this de-risking and the potential impact on valuation in Exhibit 8 below.

Exhibit 8: Potential de-risking impacts on RENAV (post farm-down)



Source: Edison Investment Research

At the current share price, LCK offers investors an option on realising value from ISG in South Australia. LCEP has what appears to be an optimal site for an ISG project in a state with a need for additional baseload power capacity. The project does not come without technical and commercial risks; however, we expect technical and environmental aspects to be materially de-risked through the company's upcoming pilot programme in 2017.

Financials

The remaining net cost of LCK's ISG demonstration project including operational spend is estimated at c A$16m and is expected to be funded through the company's recently announced equity funding round of gross proceeds of A$21.85m.

Our LCK financial forecasts do not reflect LCEP first gas until our modelled start-up date of early 2021; however, we see potential for this to slip as the first gas from demonstration is now expected by end 2017. In our base case forecasts below we assume LCK is cost-carried for its portion of LCEP capex costs prior to first gas, hence there is minimal capex beyond 2018 in our financial forecasts. The availability and cost of farm-out funding is an investment risk – further details of which are provided in our recent initiation note.

Exhibit 9: Financial summary

A$m	2016	2017e	2018e	2019e	2020e	2021e	2022e
June	IFRS	IFRS	IFRS	IFRS	IFRS	IFRS	IFRS
PROFIT & LOSS							
Revenue	0.0	0.0	0.0	0.0	0.0	12.3	25.2
Cost of Sales	0.0	0.0	0.0	0.0	0.0	(1.1)	(2.2)
Gross Profit	0.0	0.0	0.0	0.0	0.0	11.2	22.9
EBITDA	(5.4)	(3.0)	(3.0)	(3.0)	(3.0)	8.2	19.9
Operating Profit (before amort. and except.)	(5.4)	(3.0)	(3.0)	(3.0)	(3.0)	8.2	19.9
Intangible Amortisation	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Exceptionals	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Operating Profit	(5.4)	(3.0)	(3.0)	(3.0)	(3.0)	8.2	19.9
Net Interest	(0.0)	0.1	0.1	0.1	0.1	0.1	0.2
Profit Before Tax (norm)	(5.4)	(2.9)	(2.9)	(2.9)	(2.9)	8.3	20.1
Profit Before Tax (FRS 3)	(5.4)	(2.9)	(2.9)	(2.9)	(2.9)	8.3	20.1
Tax	0.0	0.8	0.0	7.2	0.0	(2.1)	(5.6)
Profit After Tax (norm)	(5.4)	(2.1)	(2.9)	4.3	(2.9)	6.2	14.5
Profit After Tax (FRS 3)	(5.4)	(2.1)	(2.9)	4.3	(2.9)	6.2	14.5
Average Number of Shares Outstanding (m)	266.0	296.4	402.4	402.4	402.4	402.4	402.4
EPS - normalised (c)	(2.0)	(0.7)	(0.7)	1.1	(0.7)	1.5	3.6
EPS - normalised and fully diluted (c)	(2.0)	(0.7)	(0.7)	1.1	(0.7)	1.5	3.6
EPS - (IFRS) (c)	(2.0)	(0.7)	(0.7)	1.1	(0.7)	1.5	3.6
Dividend per share (c)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BALANCE SHEET							
Fixed Assets	2.6	2.6	18.6	18.6	18.6	18.6	18.6
Intangible Assets	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Tangible Assets	0.1	0.1	16.1	16.1	16.1	16.1	16.1
Investments	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Current Assets	9.0	11.1	8.2	12.6	9.8	16.0	30.6
Stocks	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Debtors	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Cash	8.7	10.7	7.8	12.2	9.4	15.7	30.2
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Current Liabilities	(0.8)	(0.8)	(0.8)	(0.8)	(0.8)	(0.8)	(0.8)
Creditors	(0.8)	(0.8)	(0.8)	(0.8)	(0.8)	(0.8)	(0.8)
Short term borrowings	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Long Term Liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Long term borrowings	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other long term liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Assets	10.8	12.9	26.0	30.3	27.5	33.8	48.3
CASH FLOW							
Operating Cash Flow	(4.0)	(2.0)	(2.8)	4.4	(2.8)	6.3	14.5
Net Interest	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tax	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Capex	(1.8)	0.0	(16.0)	0.0	0.0	0.0	0.0
Acquisitions/disposals	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Financing	13.1	4.1	15.9	0.0	0.0	0.0	0.0
Dividends	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Cash Flow	7.3	2.1	(2.9)	4.4	(2.8)	6.3	14.5
Opening net debt/(cash)	(1.4)	(8.7)	(10.7)	(7.8)	(12.2)	(9.4)	(15.7)
HP finance leases initiated	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	(0.0)	0.0	0.0
Closing net debt/(cash)	(8.7)	(10.7)	(7.8)	(12.2)	(9.4)	(15.7)	(30.2)

Source: Edison Investment Research, Leigh Creek Energy. Note: *Capex beyond 2018 funded through assumed farm-down. **R&D tax rebate.

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