

Leigh Creek Energy Project (LCEP)



FACT SHEET

Leigh Creek Energy holds the Petroleum Exploration Licence 650 (PEL 650) overlying the previously mined Leigh Creek Coalfield.

Its Pre-Commercial Demonstration (PCD) has successfully operated.

The project has a PRMS reserve of 2P 1,153 PJ, which is now the largest uncontracted gas reserve available to eastern Australia Cooper Basin (ACCC, 2018).



What is Leigh Creek Energy doing?

Leigh Creek Energy (LCK) is commercialising gas within PEL 650 of the Telford Basin at Leigh Creek Coalfield, 550km north of Adelaide.

The company has successfully met the objectives of its Pre-Commercial Demonstration (PCD) facility at Leigh Creek.

PCD objectives and success

1. Produce syngas comprising Carbon Monoxide (CO), Methane (CH₄), Nitrogen (N) and Hydrogen (H).
2. Produce Syngas at over 1 million cubic feet per day.
3. Capture information required to upgrade the existing SPE-PRMS of 2,964 PJ 2C resource to 2P reserve.
4. Demonstrate that LCK can operate the In-Situ Gasification (ISG) gasifier safely and in an environmentally responsible manner.
5. Provide key data and information for the development of the commercial project.

What will the gas be used for?

Depending on partner requirements, the gas will either be piped into the gas transmission network or used as feedstock for a fertiliser plant.

SITE: Leigh Creek Energy's Pre-Commercial Demonstration operations, located within the former Leigh Creek coal mine site.



How will the gas get into the network pipeline?

After being treated in a gas treatment plant at Leigh Creek, a pipeline will be constructed to transport pipeline quality gas either directly to Moomba or into the Moomba-to-Adelaide Pipeline System.

When is gas likely to be available?

First gas is estimated to be in 2024.

What are the next steps?

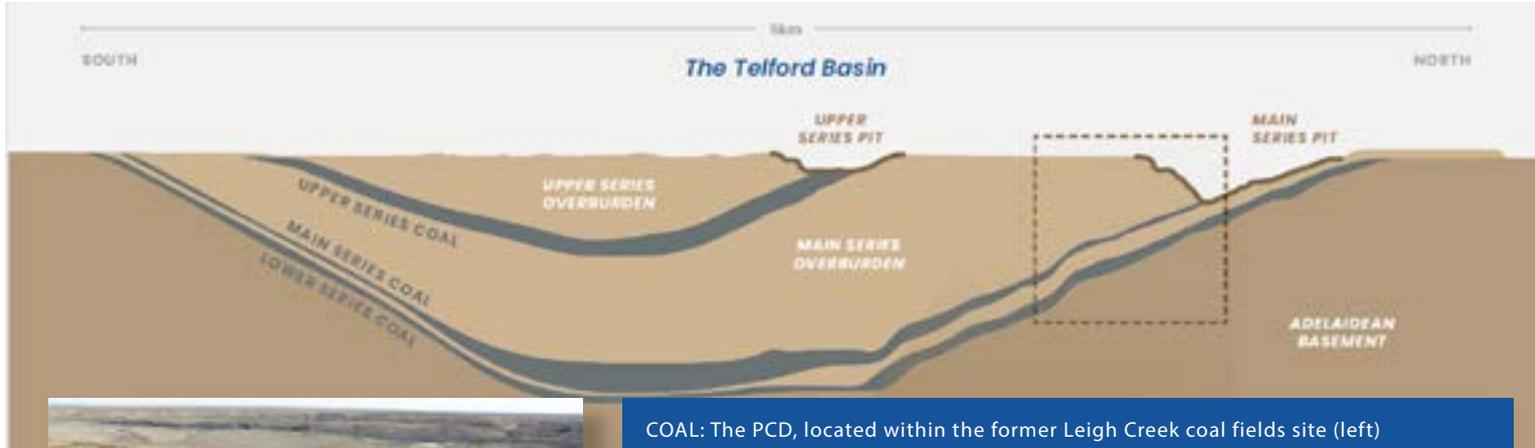
The next steps of the project are to progress the LCEP to a commercial stage. We updated the 2C resource to a 2P reserve of 1,153 PJ in March 2019.

A recent Expression of Interest (EOI) for up to 50 PJ of gas was well received. LCK will look to commercialise the gas during 2019.

LCEP offers an opportunity for Australian gas buyers to buy into one of the largest uncontracted 2P (proven and probable) gas reserves that can service the East Coast gas market.

PIPELINES: Leigh Creek Energy Project sits east of the Moomba-Adelaide pipeline, south of the Cooper Basin.





COAL: The PCD, located within the former Leigh Creek coal fields site (left) demonstrated commercial production within the Main Series, leaving additional opportunities for resource upgrades in the Telford Basin's Lower and Upper Series.



Market dynamics

Leigh Creek Energy's status as a Syngas producer places the company in the enviable position of being able to commercialise production for several markets, boasting extremely cost-effective operational base-line margins.

Gas demand

1. East Coast Gas Crisis
2. \$10GJ 'norm'
3. Contract certainty/term

Fertiliser demand

1. 95% imported
2. Syngas - no need for methane feedstock

3. Australian producer under pressure

Supply factors

1. Restrictions on gas exploration
2. Large volume of resource and reserve status gas
3. Opportunities for further upgrades at Leigh Creek

Company milestones

	Environmental Approval	Q2 2018		Initiation of ISG chamber, first gas	Q3 2018
	Pre-Commercial Demonstration construction	Q2 2018		Commercial gas flows produced	Q1 2019
	Construction and commissioning	Q3 2018		2P reserve status	Q1 2019

**For further information
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1,153 PJ

Leigh Creek Energy's 2P syngas reserve



LCK's 1,153 PJ of syngas could power all 9.9 million Australian homes continuously for 2.8 years



Pipeline gas
865 petajoules

OR



Ammonia
31 million tonnes

OR



Urea
52 million tonnes

OR



Electricity
240,363 gigawatt hours

Why ISG?

The remaining resource in the Telford Basin at Leigh Creek is deep and no longer economic to mine using open cut mining methods.

ISG technology is able to access the deep coal via a system of drilled linked wells.

Syngas can be used to make other products such as; electricity, synthetic natural gas, ammonia and derivatives (fertilisers or explosives), methanol and diesel.

Stats: ABS 2016 Census report

To obtain information to inform the design for a commercial facility, Leigh Creek Energy proposed to construct, operate and decommission a small-scale ISG demonstration plant. This facility involved the construction of an above ground plant (and associated service infrastructure) and the establishment of a below ground single ISG gasifier chamber. The demonstration plant was commissioned and has operated for a short period to produce syngas, so that the technical and environmental performance of the process can be confirmed.

Leigh Creek Energy acknowledges and respects the Adnyamathanha people, the Traditional Owners of the land on which our operations occur and pays our respects to their Elders past and present.

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