

Our Technical Capabilities

04 Corporate Series



This information sheet provides an overview of Linc Energy's technical capabilities, knowledge and expertise for its Underground Coal Gasification (UCG) and Gas to Liquids (GTL) operations as Linc Energy works towards commercialisation.

CORPORATE SERIES

UCG SERIES

GTL SERIES

ENVIRONMENT SERIES



Chinchilla Demonstration Facility

Linc Energy has designed, constructed and operated the Chinchilla Demonstration Facility to convert UCG synthesis gas (syngas) to liquid fuels. The facility is located about 300 kilometres west of Brisbane and is the only one of its kind in the world, which includes UCG trial generators and a GTL pilot plant.

The company has successfully combined UCG and GTL technologies to produce high quality hydrocarbon

liquids and wax product produced from syngas.

The Chinchilla Demonstration Facility provides Linc Energy with research and development capabilities for process refinements to enhance the next phase of UCG and GTL technology commercialisation in Australia and around the world.

Technical expertise

The ultimate success of Linc Energy's UCG and GTL vision rests with the

capabilities of its team to deliver successful projects with predictable technical outcomes at a competitive cost.

The globally sourced team brings together a wealth of experience and qualifications. A team with a strong balance of academic knowledge and industry skills allows Linc Energy to conduct high quality technology development for successfully engineered projects.

Underground Coal Gasification

As an evolving technology, UCG is technically demanding. It requires significant research and development, utilising a range of skills in a variety of disciplines. Linc Energy is committed to using modern techniques to demonstrate the effectiveness of UCG technology, and has established the team necessary to do so.

With commercialisation at the forefront of its objectives, a diverse mix of qualified, experienced and committed UCG team members allows Linc Energy to:

- Understand the geology and coal chemistry to predict the suitability of particular locations and coals for UCG
- Understand the hydrogeological systems, including groundwater flow and balance around the UCG generator
- Understand UCG chemistry and reaction kinetics, including linkages with the physical aspects of UCG design, configuration, geometry, hydrogeological impacts, coal chemistry, and other parameters

- Predict gasification performance, resource utilisation and environmental impacts
- Develop and enhance methods to improve the control of synthesis gas quality and quantity
- Develop effective UCG planning capabilities, including well construction and completion techniques to maximise the capital efficiency of UCG development and operation. This will ensure predictability and reliability during operations
- Develop and protect core UCG technologies and technical intellectual property
- Continue to gain useful information from UCG demonstration operations and apply that to validate our technical tools and assist with commercial scale UCG execution.

The UCG technical team consists of: General Manager, Technology Manager, Project Managers, Hydrogeologists, Drilling Engineers, Coal Geologists, Process Engineers, Gasification and Coal Technologists, Modeller, Translator (Russian) and Research Coordinator.

Operations staff at the Chinchilla Demonstration Facility are responsible for operating and maintaining the demonstration operations. The operations team provides valuable information on the UCG process and works closely alongside the technical team. Linc Energy has assembled a team of operators with practical, hands-on experience.

The UCG operations team consists of: Operations Manager, Shift Team Leaders and Operators.

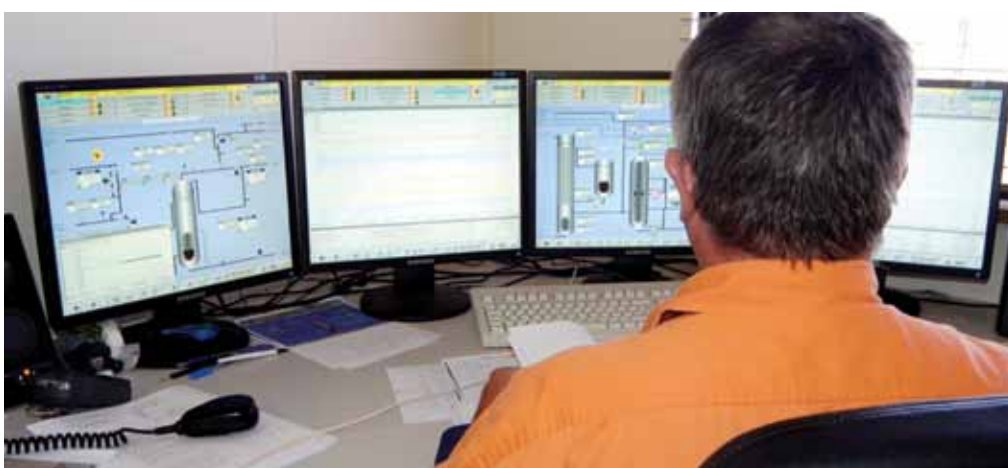
Yerostigaz

Linc Energy holds a 91.6 per cent interest in Yerostigaz, the world's only current commercial UCG operation. Yerostigaz supplies synthesis gas to the 600MW Angren Power Station¹, which generates electricity for the Uzbekistan city of Angren (population 120,000).

This holding ensures that Linc Energy has the unique ability to combine the most successful aspects of Soviet UCG with more widely-available UCG technology developed elsewhere.

1. 100MW attributable to syngas from Yerostigaz.





Gas to Liquids

With specialists in the areas of gas clean up, Fischer-Tropsch, catalysis, refining, operations, and process engineering, Linc Energy has established a team of experienced GTL practitioners. The significant experience of the team from other commercial GTL projects around the world places Linc Energy in a strong position to capitalise on its UCG to GTL ambitions.

The integration of experienced and committed GTL technical and operations personnel allows Linc Energy to:

- Pursue a safe, efficient and viable GTL business within Linc Energy's strategy to value add to UCG business opportunities
- Develop a sound GTL development process, including engineering scope, technology selection, project delivery, feasibility studies and scheduling
- Implement GTL technology, including opportunity identification and verification, economic optimisation, detailed engineering, procurement and construction of commercial facilities
- Perform GTL technology operations, involving safe and efficient operation of the commercial GTL business and deliver value according to business objectives and project assumptions

- Develop and grow core GTL technologies and technical intellectual property, including process refinement and further development and optimisation of the Chinchilla GTL demonstration facility.

The GTL technical team consists of: General Manager, Principal Process Engineers and Senior Process Engineers.

The GTL operations team consist of: Operations Manager, Shift Team Leaders, Process Controllers, Maintenance Team Leader and Tradespeople.

Laboratory

Linc Energy has established a specialised laboratory at Chinchilla to enable 24 hour gas and liquid analysis to support its UCG and GTL operations and facilitate technology development through lab scale reactor and catalyst research and development.

The specialised laboratory team provides on site support to:

- Allow fast turnaround on UCG and GTL analyses
- Provide analysis for production performance and quality control
- Conduct Fischer-Tropsch catalyst evaluation and performance verification using both syngas drawn from the plant as well as gas blended from analytical sources

- Integrate third party lab capacity to enhance analytical capability for operations
- Collect and share data for technology improvement and development
- Record all historical and analytical data for continuous technology improvement.

The Laboratory team consists of: Senior Process Engineer, Laboratory Chemist and Laboratory Technicians.

Engineering

A project engineering team has been established to incorporate engineering and quality control into project design, initiation, operations and maintenance. The team also facilitates feasibility studies and assessment of commercial design options.

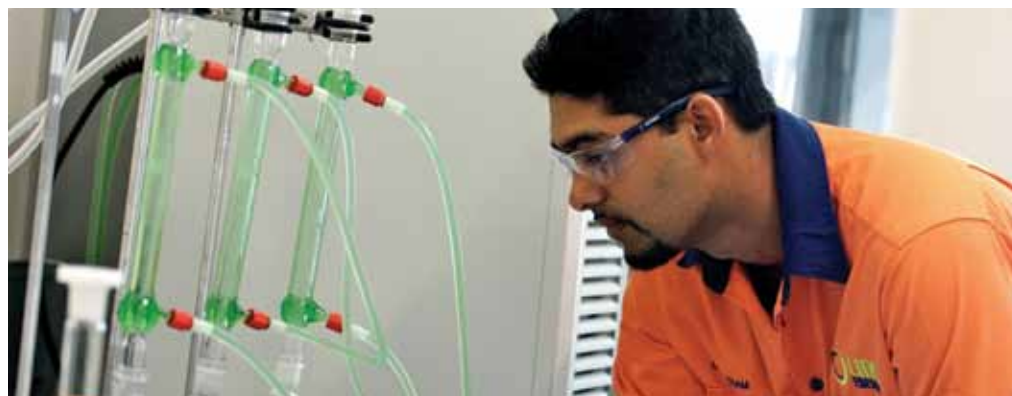
Specifically, the engineering team works to:

- Establish engineering standards relevant to our unique operations
- Determine project specifications
- Manage contracting and technical scoping requirements for projects
- Undertake technical and cost evaluations of proposals
- Provide engineering and maintenance support to the Chinchilla Demonstration Facility.

The Engineering team consists of: General Manager and Engineering Managers.

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Environmental management

Key to commercialising UCG and its related applications will be Linc Energy's environmental performance and the rigour of environmental assessments for commercial scale UCG.

Linc Energy's environment team works to:

- Ensure the environmental impacts of UCG and the downstream applications are fully understood and communicated to relevant stakeholders
- Predict and monitor the effectiveness of environmental and operational controls to minimise environmental impacts from Linc Energy's current and proposed operations
- Ensure knowledge about the interaction of the operations with the environment are fully considered in operational planning
- Obtain environmental approvals, including conducting environmental impact studies for future commercial scale operations

- Develop systems for effective environmental management.

The team has resource industry professionals with significant relevant experience. Linc Energy has established strong relationships with expert consultants in specific fields of environmental management.

The Environmental Management team consists of: Manager (Environmental Affairs), Environmental Engineers and Expert Consultants.

About Linc Energy

Linc Energy is an Australian energy company which listed on the Australian Securities Exchange (ASX) in May 2006 and the OTCQX in December 2007. Through the unique combination of Underground Coal Gasification (UCG) and conventional Fischer-Tropsch technology to produce Gas to Liquids (GTL), Linc Energy is developing a significant energy business based on the production of cleaner energy solutions for the future.

Related information sheets

[About Linc Energy](#)

[Overview of Underground Coal Gasification](#)

[Overview of Gas to Liquids](#)

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