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**ASX RELEASE**

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# Low Emission Hydrogen and Carbon Sequestration Project

## Highlights

- State Gas enters into Memorandum of Understanding (MoU) with Rockminsolutions to investigate carbon sequestration and low emission hydrogen.
- Hydrogen to be manufactured from gas, with carbon to be securely stored based on a proven process being implemented in Iceland and elsewhere in Europe.
- Dissolved carbon dioxide to be pumped underground, to form solid-form carbonate minerals for long term, safe and stable storage.
- Proposed project site on the western border of State Gas' 100%-owned ATP 2062 Rolleston-West Project in Central Queensland.

**State Gas Limited (ASX: GAS)** announces its collaboration with Rockminsolutions Pty Ltd ('Rockminsolutions') to investigate the manufacture of low emission hydrogen with carbon sequestration in the west of its 100%-owned ATP 2062 Rolleston-West Gas Project.

State Gas has entered into a MoU with basalt specialist Rockminsolutions to investigate the potential to sequester carbon dioxide in the Buckland Basaltic Sequence within and surrounding the western area of ATP 2062. The carbon mineralisation technique is based on a process currently being successfully implemented by Carbfix (www.carbfix.com) at the Hellisheidi power plant in Iceland. Carbfix has developed a novel approach to capturing and storing $CO_2$ by its capture in water and injection of the solution into suitable subsurface basalts. The Hellisheidi carbon mineralisation project in Iceland has attracted high-profile investors including Microsoft Corp. founder Bill Gates[1].

The western area of ATP 2062 contains a large portion of the Buckland Basaltic Sequence, an extensive area of Tertiary aged basaltic ignimbrites (volcanic ash deposits) up to 330m thick, having similarities with basaltic rocks at Hellisheiði in Iceland.

Under the Carbfix process[2], carbon dioxide is dissolved in water and pumped into a favourable rock formation. The solution then reacts with minerals present in the rock to create carbonates such as calcium carbonate and magnesium carbonate. In these forms, the carbon is stable and safe and can be expected to remain so for thousands of years. In its trials in Iceland, Carbfix has found this process has resulted in more than 95% of carbon mineralising underground within two years.

[1] See https://www.bloomberg.com/news/articles/2021-03-05/bill-gates-investment-in-carbon-removal-tech
[2] See www.carbfix.com

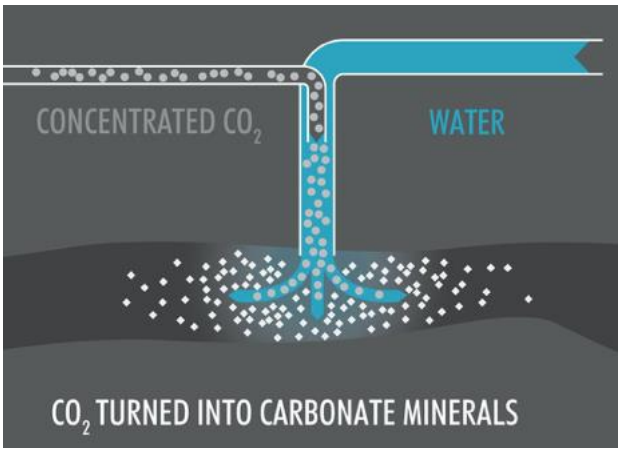


**Illustration**: Process of carbon mineralisation into underground basaltic rock formation.

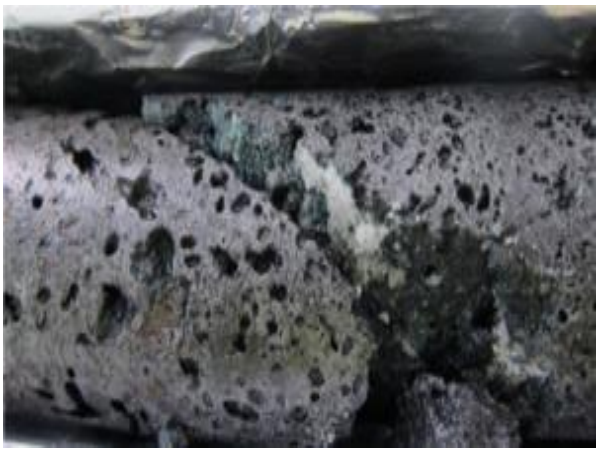

**Image**: Calcite formed in basalt from $CO_2$-charged water-rock interaction at Carbfix sequestration site in Hellisheiði, Iceland.

Basaltic ignimbrites such as those in the Buckland Basaltic Sequence within and adjacent to ATP 2062 are considered to have the greatest potential for the sequestration of carbon by this process. Basalt rocks are highly reactive and contain the elements needed for permanently immobilising carbon dioxide through the formation of carbonate minerals. When in the form of non-welded ignimbrites, the basalt is likely to be very permeable and porous, containing storage space for the mineralised carbon.

Dissolving the carbon dioxide in water creates a stable solution which can be readily pumped into formations much shallower than those required for traditional carbon sequestration. The high porosity of the rock is expected to facilitate the retention of the carbonated water without the need for a geological seal. As a result, the Carbfix process has the potential to provide a more secure carbon storage solution at substantially lower cost than traditional processes.

Should investigation of the project area confirm the potential of the Buckland Basaltic Sequence to store carbon dioxide, State Gas and Rockminsolutions envisage manufacturing hydrogen from gas, which may be sourced from State Gas' Rolleston-West or adjacent Reid's Dome Projects. Carbon dioxide created through the process would be stored within the Basaltic sequence underground, creating a safe and sustainable low emission hydrogen.

State Gas Executive Chairman, Richard Cottee, said that the Company was very pleased to enter into the hydrogen and sequestration initiative with Rockminsolutions.

"While State Gas remains focussed on development of its Reid's Dome and Rolleston-West Gas Projects, the carbon mineralisation approach has the potential to be a gamechanger in the production of low emission hydrogen from gas", he said. "A combined gas and hydrogen portfolio would provide significant optionality for State Gas into the future."

"State Gas is committed to reducing its carbon footprint whilst ensuring there are sufficient supplies of natural gas, and eventually hydrogen, to enable the transition to a lower carbon future. Hopefully this MOU will bring the technology forward to coincide with the development of the Rolleston-West Gas Project in Central Queensland", Mr Cottee said.

"With worldwide gas prices at decades' highs, State Gas remains focussed on bringing its Reid's Dome and Rolleston-West gas to the east coast market. Our gas projects are not restricted by domestic gas reservation requirements, providing even more optionality for commercial opportunities over the next few years."

This announcement was approved for release by Mr Richard Cottee, Executive Chairman.

## ABOUT STATE GAS

**STATE GAS LIMITED** (ASX: **GAS**) is a Queensland-based gas exploration and development company focussing on the Bowen Basin in Central Queensland. State Gas is 100%-owner of the contiguous Reid's Dome (PL-231) and Rolleston-West (ATP 2062) Gas Projects, both of which contain both CSG and conventional gas. The Projects, together some 1,595km$^2$, are located south of Rolleston, approximately 50 and 30 kilometres respectively from the Queensland Gas Pipeline and interconnected east coast gas network. Neither project is restricted by domestic gas reservation requirements.

State Gas' sole ownership of the Reid's Dome and Rolleston-West Projects enables integration of activities and a unified super-gasfield development, providing economies of scale, efficient operations, and optionality in marketing.

State Gas is implementing its strategic plan to bring gas to market from Reid's Dome and Rolleston-West to meet near term forecast shortfalls in the east coast domestic gas market.

## ABOUT ROCKMINSOLUTIONS

**ROCKMINSOLUTIONS PTY LTD** is a mineral exploration company with expertise in basalt. It has obtained mineral exploration permit (EPM) 27596 and application for EPM 27970 over the Buckland Basaltic Sequence south west of Rolleston, in Central Queensland. Prior to establishing Rockminsolutions the principals of the company owned the Mt Sylvia diatomaceous earth mine and basalt quarry near Gatton QLD, where they became aware of the potential of basaltic formations for a range of beneficial uses.

Rockminsolutions is investigating the potential of the Buckland Basaltic Sequence for carbon sequestration using the Carbfix process, enabling the establishment of a low emission hydrogen manufacturing hub in the area.

## FOR FURTHER INFORMATION


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