



# MEDIA RELEASE

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## **New Australian venture aims to 'close the carbon loop' on CO<sub>2</sub> emissions**

A CO<sub>2</sub> mineral carbonation research pilot plant will be established at the University of Newcastle (UoN), Australia, to trial a new technology that transforms captured CO<sub>2</sub> emissions into forms of carbonate rock for potential use as new green building materials in the construction industry.

Mineral Carbonation International Pty Ltd (MCI) has received funding to establish the research pilot plant and undertake further industrial and fundamental research into mineral carbonation technology.

Following six years of R&D undertaken by the UoN, GreenMag Group and industry partner Orica Limited, Australia is leading the development of a novel method for permanently and safely disposing of carbon from the emissions of fossil fuel electricity generators and other industrial processes, effectively closing the loop on carbon and preventing it accumulating in the atmosphere.

MCI will conduct the project over four years with a budget of AUD\$9.12m, with funding of AUD\$3.04 million each from the Australian and New South Wales Governments and Orica. Orica Managing Director and CEO Ian Smith said the company saw this project as a major sustainability commitment. Orica is already capturing some of its CO<sub>2</sub> emissions at its Kooragang Island manufacturing facility in Newcastle, however with no suitable disposal technology is looking for solutions appropriate for itself and industry.

Orica views the MCI Joint Venture and research pilot plant project as providing a safe and sustainable solution in the future mitigation of CO<sub>2</sub> emissions. Orica will provide its technical expertise and commitment to innovation to support the technology's development to help reduce the environmental footprint of mining operations.

The mineral carbonation technology mimics and accelerates the Earth's own carbon sink mechanism by combining CO<sub>2</sub> with low grade minerals to make inert carbonates, which are similar to common baking soda. The solid products can be used in various applications including building materials like bricks and pavers.



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"The technology is proven in the lab and we now want to see if we can scale it to reduce the cost to be in line with a future carbon price," MCi CEO Marcus St. John Dawe said. "The major difference between this and geosequestration is that we are permanently transforming CO<sub>2</sub>, not just storing it underground."

"It's ideal for New South Wales where there is an abundance of low grade mineral deposits that fit our environmental standards and don't compete with farming land. The potential exists to create many new jobs in a cleaner energy industry."

The project is being conducted by a multi-disciplinary team of researchers, chemical and industrial engineers led by Dr. Geoff Brent from Orica and Professors Bogdan Dlugogorski and Eric Kennedy at the Priority Research Centre for Energy (PRCfE) at UoN.

The pilot plant will be built at the UoN's Newcastle Institute for Energy & Resources (NIER) and will operate and produce carbonates for industry to test in new building products whilst locking carbon away for good.

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