Carbon Direct and Arca announce collaboration on Industrial Mineralization technology

Carbon Direct and Arca announce collaboration to accelerate the number and scale of carbon dioxide removal projects using Industrial Mineralization technology

NEW YORK, NY / VANCOUVER, BC — April 28, 2026 — Carbon Direct and Arca have announced a new collaboration to bring Arca's first-of-its-kind Industrial Mineralization (IMin) carbon dioxide removal (CDR) credits to market. Arca's technology is the first field-scale system to accelerate carbon mineralization in mine waste, turning a major industry challenge into a scalable CDR solution.

Arca has validated the technology under real-world operating conditions and is currently generating data to support further development, with the potential to remove millions of tonnes of CO_2 over the coming decade. After completing an 18-month pilot in partnership with mining giant BHP that removed net CO_2 at high efficiency at an active mining site, Arca is now laying groundwork to deploy the technology at additional locations. In Australia, Arca has formed a partnership with the Tjiwarl Aboriginal Corporation to develop projects in Western Australia's Goldfields region.

When occurring naturally, carbon mineralization (also known as mineral carbonation) is a slow process whereby alkaline rocks react with and remove carbon dioxide from the atmosphere. Arca's CDR pathway, known as Industrial Mineralization (IMin), deploys proprietary techniques that accelerate carbon mineralization in alkaline rock waste from heavy industries like mining and steelmaking. This pathway leverages industrial expertise and infrastructure to durably store CO_2 as stable minerals for over 10,000 years, making this a high-quality scalable CDR solution.

Carbon Direct will serve as co-developer with Arca on future IMin projects, contributing scientific expertise and carbon market knowledge to deliver credits with the highest standards for durability, measurement, and verification. Arca's technology has already attracted the attention of major buyers, including Frontier, who provided an early prepurchase agreement, and Microsoft, who entered a 10-year CDR offtake agreement with Arca for nearly 300,000 tonnes.

"We're proud to collaborate with Arca to co-develop this unique solution that transforms one of the mining sector's biggest environmental challenges into real climate action," **said Greg FitzGerald, Vice President of Supply at Carbon Direct.** "Arca's Industrial Mineralization pathway accelerates a natural process that would otherwise take thousands of years, turning mining waste from a liability into a climate asset. Arca delivers what the market desperately needs: proven carbon mineralization at field scale with durable storage and advanced measurement – all while using existing mining infrastructure and land with minimal new equipment or energy requirements."

"Collaborating with Carbon Direct on new Industrial Mineralization projects will help us scale more quickly," **said Paul Needham, CEO at Arca**. "Our stakeholders, customers and industrial partners will value objective industry-leading expertise to de-risk decisions about projects, offtakes and new technology adoption. We look forward to working with Carbon Direct as a thought partner and enabler."

The mining industry generates billions of tonnes of alkaline rock waste annually, requiring environmental management. At this scale, the industry also presents a substantial opportunity to remove CO_2. IMin offers a new paradigm for mining: one that would have improved economics and the potential for important environmental co-benefits such as tailings stabilization. With 16.5 billion tonnes of suitable legacy mining waste globally and 3 billion tonnes produced annually, Arca's technology can scale alongside mining operations worldwide.

Science-backed carbon removal credits from this pathway are available for forward offtake. Buyers interested in procuring high-quality CDRs from the project should visit the Carbon Direct website: https://www.carbon-direct.com/services/carbon-credits

About Carbon Direct
Carbon Direct is a trusted energy and climate solutions company that combines world-class scientific expertise, technical rigor, and market insights to help clients achieve their business goals. Our 70+ scientists work closely with our finance, policy, and market experts to design, diligence, and deliver decarbonization solutions across industries. From JPMorganChase to Microsoft, Carbon Direct helps leading companies with carbon dioxide removal, carbon measurement, firm, clean power opportunities, and low-carbon energy solutions.

About Arca
Arca is an Industrial Mineralization company that leverages pre-existing industrial infrastructure and alkaline waste to accelerate the natural process of carbon mineralization and permanently remove carbon dioxide from the atmosphere. Arca was founded on 20 years' pioneering research at the University of British Columbia by Dr. Greg Dipple and is backed by some of the world's leading climate technology investors. Arca is supported by several Canadian government departments and private philanthropic institutions and was a Milestone Award winner and Top 20 Finalist in the globally prestigious XPRIZE Carbon Removal competition. Arca's cost-efficient system creates highly durable (10,000+ year) removals supported by robust third-party verification. By partnering with heavy industry like mining and steel production, Arca is building the foundation for gigatonne-scale carbon removal.

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