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Burying the Sky: Turning Carbon Dioxide Into Rock

FOR IMMEDIATE RELEASE

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Two innovative projects sequester greenhouse gases in bedrock

Carbon capture and storage (CCS) has been an energy industry practice for decades, originating as a mechanism to enhance oil and gas recovery. But carbon dioxide gas is tricky to capture, and even trickier to store: Without airtight seals and careful monitoring, the gas seeps up through cracks in the subsurface and quickly reenters the atmosphere. But what if the carbon dioxide could be instead stored as rock?

Two projects — one in Iceland, the other in eastern Washington state — are taking advantage of their common underlying geology to do just that. Basalt, which is highly reactive compared to most bedrock, mixes with carbon dioxide and precipitates carbonate minerals; this phenomenon is observed in the natural weathering of volcanic rocks, a geochemical process already well known to geoscientists. By harnessing this natural process and accelerating it, these projects have the potential to help meet global climate goals. Further research will look into whether the method can be scaled up, implemented elsewhere, possibly even in other geologic environments, and be economically feasible.

"We're tackling the technology questions, but until we significantly scale up, we're not solving the climate problem," says David Reiner, assistant director of the Energy Policy Research Group in Cambridge University's Judge Business School in England, who spoke with EARTH for the story. "It's incredibly important for these first projects to happen if we ever want to get up to project three, four and five; or, if we are serious about climate change, projects 30, 300 and 3,000."

Read about CarbFix and the Wallula Basalt Pilot Project in EARTH Magazine, online at <https://www.earthmagazine.org/article/burying-sky-turning-carbon-dioxide-rock>.

The June issue of EARTH is now available online. In Geomedia, EARTH contributing editor Callan Bentley offers an enthusiastic review of "The Planet Remade," a 2015 popular science book on geoengineering. Also, read how two sudden shifts in monsoon patterns may have influenced early Chinese culture. For these stories and more, subscribe to EARTH Magazine.

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About the American Geosciences Institute

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AGI represents and serves the geoscience community by providing collaborative leadership and information to connect Earth, science, and people.

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