



Direct Air Capture technology
designed for scale + engineered for impact

www.heirloomcarbon.com

An American made industry leader

Louisiana, a cornerstone of America's energy economy, has the workforce, geology, business incentives, and policy framework needed to lead the U.S. in carbon management. Heirloom, a U.S.-founded technology and project developer, is at the forefront of advancing carbon capture, storage, and utilization technologies, pioneering the next generation of energy jobs. Using Direct Air Capture (DAC) technology, Heirloom removes CO₂ directly from the atmosphere, allowing us the flexibility to deploy anywhere in Louisiana and the Gulf to create jobs supporting American energy security and competitiveness.

Unlike traditional carbon capture technologies that must co-locate with emission sources, Heirloom has patented an innovative process that transforms limestone into a CO₂-absorbing sponge. In partnership with local transport and storage providers, Heirloom ensures the safe storage of captured CO₂, producing high-quality carbon removal credits. Our credits are trusted by leading U.S. companies, including Meta, JPMorgan, and Microsoft.

Heirloom operates the nation's first commercial Direct Air Capture (DAC) facility in California's Central Valley. As a leader in the carbon removal industry, Heirloom is expanding its operations to Louisiana as part of the Project Cypress Northwest DAC Hub where it will create ~1,000 jobs over the next 2-6 years, supporting both construction and permanent operations in the state's growing low-carbon energy sector. According to Rhodium Group analysis, DAC in Louisiana has the potential to support over 50,000 jobs, underscoring the transformative impact of this technology on the state's economy and energy future.





A rendering of Heirloom's DAC Hub in Louisiana

Project Cypress Northwest: Building in Louisiana

Heirloom is making a significant investment of hundreds of millions of dollars at the Port of Caddo-Bossier to remove hundreds of thousands of tonnes of CO₂ annually. As part of the Project Cypress Northwest DAC Hub, Heirloom is creating a Community Engagement Council (CRC) to ensure local residents have a direct voice in shaping workforce development initiatives. This council will play a key role in scaling a skilled local workforce while developing meaningful local partnerships.

Learn more about our efforts and the Project Cypress DAC Hub at www.projectcypress.com

Safe and responsible operations

Heirloom facilities are designed and operated to prioritize safety while delivering seamless and efficient performance. As part of a cost-effective carbon management ecosystem, our Louisiana operations will be powered entirely by low-carbon energy.

Captured CO₂ from our Louisiana facilities will be transported through dedicated pipelines to Class VI wells in Central Louisiana, where it will be permanently stored and carefully monitored by our storage partner, CapturePoint Solutions.

To maximize the impact of this investment in the region, Heirloom actively supports local investment by fostering small business development and prioritizing Louisiana-based suppliers and vendors, contributing to the region's economic vitality.



A safety team completes contactor inspections at Heirloom's Direct Air Capture facility

Heirloom's Technology

Heirloom's patented DAC technology accelerates the natural ability of limestone—one of the world's most abundant minerals—to capture carbon dioxide from the atmosphere. Composed of calcium oxide (CaO) and carbon dioxide (CO₂), limestone undergoes a chemical transformation when CO₂ is removed. The remaining calcium oxide is then hydrated to create lime, which acts like a sponge, eagerly absorbing atmospheric CO₂ and then returning to its limestone state. Heirloom's unique technology accelerates this natural process, reducing the carbonation process from years to less than three days.

The carbonation process begins with heating limestone mineral powder in an electric kiln, which is powered by renewable energy, to extract the CO₂. The resulting powder (CaO) is then placed on vertically stacked trays, where advanced algorithms guide our systems to optimize its CO₂ absorption capacity. Once saturated the limestone powder can be cycled repeatedly through this process to maximize efficiency.

Heirloom's facilities are safe, environmentally friendly, and non-disruptive to local wildlife. Limestone is a familiar and non-toxic material found in everyday products like cement, chalk, and toothpaste. Robust safety protocols ensure the secure management of the small quantities of CO₂ temporarily stored on-site, providing peace of mind for both communities and the environment.

Heirloom's Direct Air Capture (DAC) Process

STEP 1

Heirloom takes crushed calcium carbonate [CaCO₃] or limestone and places it in a renewable-powered electric kiln.

STEP 2

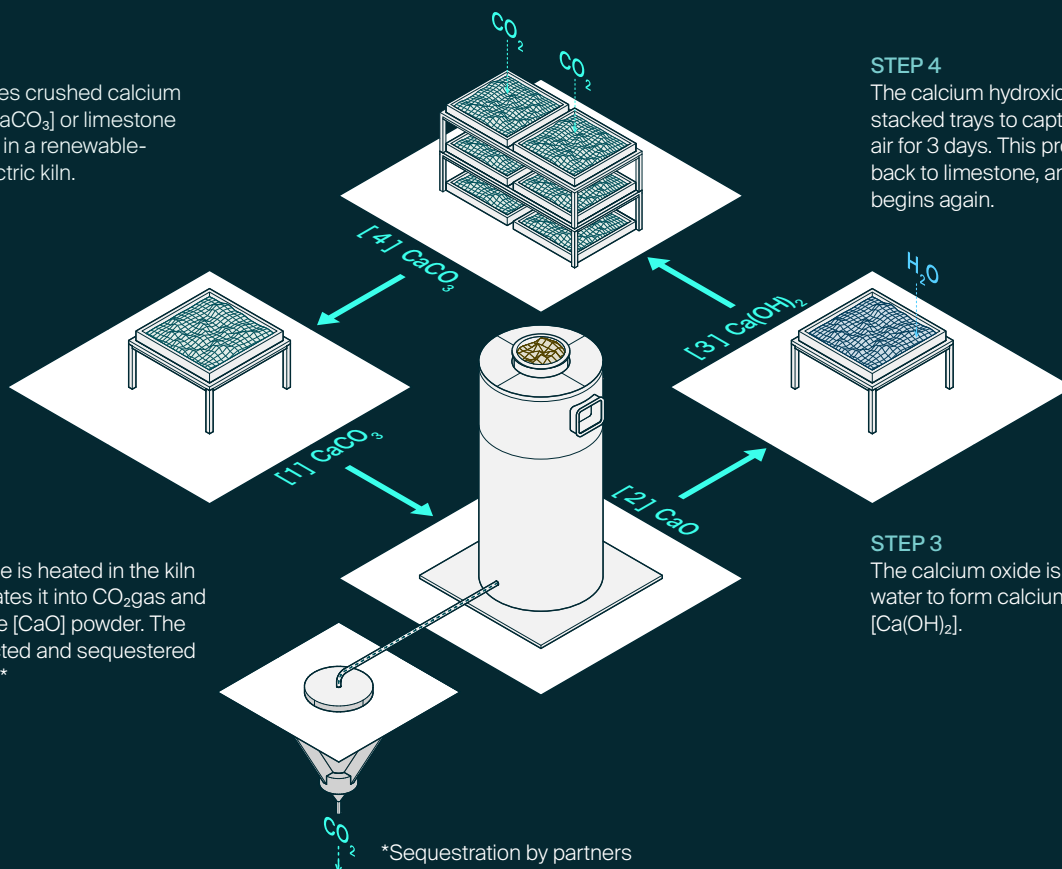
The limestone is heated in the kiln which separates it into CO₂ gas and calcium oxide [CaO] powder. The CO₂ is extracted and sequestered permanently.*

STEP 4

The calcium hydroxide is spread onto stacked trays to capture CO₂ from the air for 3 days. This process converts it back to limestone, and the entire cycle begins again.

STEP 3

The calcium oxide is hydrated with water to form calcium hydroxide [Ca(OH)₂].





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