| Photo source Francis Kimani

STORING CO2 IN VOLCANIC ROCKS

SUSTAINABILITY

New startup Cella Mineral Storage aims to use renewable power to capture CO2 and turn it into mineralised rock

Spotted: Over the last two centuries, the atmospheric concentration of CO2 has risen by 48 per cent. That's a quadrillion molecules of extra carbon dioxide per cubic centimetre of atmosphere. While innovators are finding more and more ways to capture this excess carbon, storage solutions have yet to match this success. In an effort to bridge this gap, New York-based startup Cella Mineral Storage has created a technology that turns CO2 into mineralised rock.

With help from the world's leading experts on mineralisation, the company's technology accelerates the Earth's natural geological process for transforming carbon dioxide into minerals. To achieve this, the company injects captured atmospheric CO2 into volcanic rocks, where mineralisation permanently locks it away. As Claire Nelson, the co-founder and chief science officer of Cella Mineral Storage, explains: "you're actually growing new minerals underground that turn CO2 into a solid rock."

Recently, Cella partnered with a Kenyan geothermal power company to try and run the process on renewable power. Once a new 140-megawatt geothermal power plant is installed in northern Kenya, the startup will then run a new pilot project that injects carbon over 1,300 feet underground.

Cella Mineral Storage has reportedly been given funding by Frontier, an advanced market commitment backed by tech giants like Stripe, Alphabet, and Shopify, which invests in global carbon removal.

Springwise has previously spotted other carbon storage innovations, including a scheme that pumps carbon into deep-sea reservoirs, and giant algae-filled ponds.

Written By: Georgia King

24th January 2023
Email: hello@cellamineralstorage.com
Website: cellamineralstorage.com

Download PDF

Takeaway:

To help you visualise the carbon problem, the unit of mass of one gigatonne is the same as one billion metric tonnes, 2.2 trillion pounds, or 10,000 fully-loaded U.S. aircrafts. Scientists have predicted that, globally, 10 times this amount will need to be removed every year from the atmosphere by 2050 and up to 20 times this amount by 2100. This is why technologies that capture carbon and permanently sequester it are gaining more attention as a solution to the climate crisis. In fact, according to Cella Mineral Storage, their innovation has the potential to scale to a climate-relevant impact within a decade.