

Carbfix

Turning CO_2 into stone

Carbfix turns captured CO_2 into stone underground in less than two years through a proprietary technology that imitates and accelerates natural processes

Carbfix

From research to deployment



The Carbfix process

Basalt and other reactive rock formations



Carbonates



See: https://www.carbfix.com/scientific-papers

Matter et al. 2016

Monitoring & verification

Comparison of expected (based on non-reactive tracers) and measured DIC and ¹⁴C concentrations in the target storage formation fluid during injection result in:

CO₂ precipitates as carbonates in less than two years







Certified carbon credits

Direct air capture using Carbfix storage = verified methodology according to international standards (DNV and ISO 14064-2)

Voluntary market: DAC Innovation Park to offer issuance of certified carbon credits from cradle to grave

DAC+S certification methodology validated by DNV – developed and implemented by Climeworks and Carbfix as partners for permanent carbon removal

Working with VERRA and CCS+ initiative towards the VCS (Verified Carbon Standard)



Iceland storage capacity: ~2500 Gt

Iceland is almost entirely made out of volcanic basalt.

The youngest formations lie along the rift zone from SW to NE

These are the most permeable and chemically favourable

- Young basaltic formations
- Existing harbor facilities
- Hellisheidi geothermal power plant
 & Carbfix demonstration site





IC OCEAN

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8238

Great potential in United States!

5529

ri, GEBCO, DeLorme, NaturalVue | Esri, GEBCO, IHO-IOC GEBCO, DeLorme, NGS

United States

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United States





- 1. The Columbia River basalts
- 2. Midcontinent Rift
- 4. Central Atlantic Magmatic Province

5. South Georgia Rift basin

6. Range Province in the desert Southwest.



3. The Hawaiian islands basalts

Conventional injection of pure CO₂

Carbfix injection of dissolved CO₂

Uniqueness about mineral storage





Pathways to CO₂ mineral storage at Gt scale

B) Transport to mineral storage hubs



CODA TERMINAL

A highly scalable, cost effective, CO_2 mineral storage hub



Coda Terminal

First of a kind CO₂ mineral storage hub_{*}

 CO_2

CO₂ dissolved in water

 H_2O

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Straumsvik storage site







DemoUpCARMA (Demonstration and Upscaling of CARbon dioxide MAnagement solutions for a net-zero Switzerland) is a pilot project lead by ETH Zurich in cooperation with Carbfix

In Iceland, a total of 1'000 tons are going to be injected into a geological reservoir with the aim of generating negative emissions. DemoUpCARMA aims to identify and investigate all aspects that are decisive for the feasibility and scalability of establishing such a CO2 transport chain.

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ANAGEMENT SOLUTIONS

CO, STORAGE IN

HIQ UP CARMA

THE UNDERGROUND

CO, STORAGE

IN CONCRETE



EXPLORING CO

A Rock-solid climate solution!

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Thank you!

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