SOLID CARBON

A rock-solid climate solution

Solid Carbon removes emissions and safely secures carbon forever.

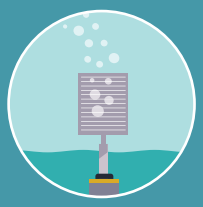
An urgent need

Unrelenting global emissions have put the entire planet at risk, amplifying natural and human-made disasters—wildfires, droughts, and hurricanes—that adversely affect our economies, communities, and environment. The 2018 Intergovernmental Panel on Climate Change reported that the world needs to take "unprecedented" steps to avert the most catastrophic effects of climate change through cutting emissions to zero, and removing massive amounts of Carbon dioxide (CO_2) from the atmosphere, a process referred to as negative emissions technology (NET).

How Solid Carbon works

Solid Carbon is developing an offshore NET that aims to turn CO_2 into rock by injecting it into ocean sub-seafloor basalt where it will mineralize and remain permanently stored. Integrating six proven technologies, Solid Carbon uses direct air capture from an ocean floating platform, repurposed offshore oil and gas technology and injection system to pump CO_2, powered by renewable energy, into the sub-sea floor where it will be durably mineralized over time.

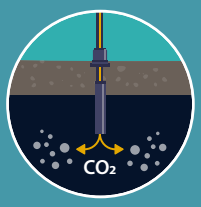
Techologies used



Direct air capture

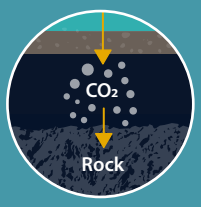
Ocean floating platform

Repurposing offshore oil & gas technology



CO_2 injection system

Renewable energy



Mineralization

Big potential

Solid Carbon presents an undeniable opportunity to durably store decades of anthropogenic emissions needed to meet planetary climate targets. Renowned economists and industry experts predict that carbon capture and storage (CCS) could become a $2 trillion industry by 2050. Since 90% of the world's basalt is beneath the ocean floor, Solid Carbon is globally scalable at different locations where ocean basalt occurs, with a virtually unlimited storage capacity. Cascadia Basin, Solid Carbon's proposed demonstration location, has the potential to store up to 20 years of total global CO_2 emissions.

Ahead of the curve

Despite the many NET options being developed today, together they are not enough to keep the planet habitable for people, nor are they durable. In the planned 2024 post-demonstration, Solid Carbon—already ahead of the curve when it comes to these parameters—will prove itself as a market leader within the industry with little or no competition, meeting the challenge of the sheer scale of need.

The team

Operating for over 15 years, Ocean Networks Canada (ONC) is the world leader in cabled ocean observing, including long-term monitoring at the Cascadia Basin off Vancouver Island—the proposed demonstration injection site for Solid Carbon. Uniquely suited to lead the Solid Carbon project, ONC is providing the monitoring infrastructure needed to measure the success of the demonstration at Cascadia Basin, the best studied ocean basalt site on the planet. ONC leas an international team of some of the world's top scientists, engineers and experts within this space and associated with six renowned universities in Canada, the US and the EU.

Join the solution

A successful demonstration will provide scientific evidence and investor acceptance, proving Solid Carbon as a critically important climate solution and setting the stage for rapid commercialization and global mass-scale deployment for permanent CO_2 removal. Solid Carbon is looking for support and partners.

Contact Jessica Stigant for more information,
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Project timeline

2017-2018

'CarbonSafe' feasibility studies

Funded by the US Department of Energy

2019-2023

Research, planning and approvals underway

Research on offshore direct air capture and wind power production

Field demonstration plan creation

Design monitoring. Pursuing regulatory acceptance

Funded by the Pacific Institute for Climate Solutions

2024

Initial demonstration on site

2030

Design prototype and manufacturing process

2040

Wide-scale deployment

OCEAN NETWORKS CANADA

University of Victoria

UBC

COLUMBIA UNIVERSITY IN THE CITY OF NEW YORK

PICS PACIFIC INSTITUTE FOR CLIMATE SOLUTIONS