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 ($\text{CO}_2$) 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 $\text{CO}_2$ 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 $\text{CO}_2$, powered by renewable energy, into the sub-sea floor where it will be durably mineralized over time.

Technologies used

- Direct air capture
- Ocean floating platform
- Repurposing offshore oil & gas technology
- $\text{CO}_2$ 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 CO₂ 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 CO₂ removal. Solid Carbon is looking for support and partners.

Contact Jessica Stigant for more information, jstigant@oceannetworks.ca