

Meet Mr. Emissions

# Let's put him back where he belongs



FEBRUARY 2020 | [solidcarbon.ca](http://solidcarbon.ca)

## Solid Carbon: A Negative Emissions Solution

### We have to cut emissions, but that's not enough

Attitudes about emissions reduction and clean technology are changing around the world, yet greenhouse gas emissions continue to increase to record levels. Even with progress made towards new alternatives to fossil fuels, climate change demands advanced technologies that will permanently and safely sequester carbon dioxide.

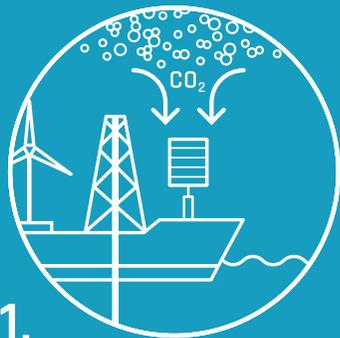
### We need negative emission technologies

Negative emission technologies like Solid Carbon need to be deployed on a global scale. Solid Carbon combines direct air capture of carbon dioxide with its permanent removal by pumping the gas into rock beneath the ocean floor—all powered with renewable energy. This technology has huge potential to scale globally to reverse the course of massive volumes of emissions that are not being reversed quickly enough.

### Solid Carbon can remove emissions and safely secure them forever

Solid Carbon will demonstrate the vast capacity for capture of carbon dioxide and its permanent removal safely beneath the ocean floor. Science has proven that carbon dioxide chemically reacts rapidly with basalt and turns it into rock. The Solid Carbon solution is ocean-based because greater than 90% of the basalt on Earth is in the ocean, providing us with a vast reservoir for irreversible removal of carbon dioxide.

## How Solid Carbon works:



1.

### Capture carbon dioxide

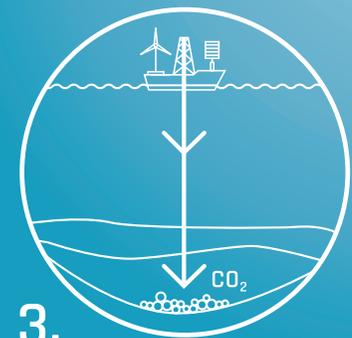
Pull CO<sub>2</sub> out of the atmosphere.



2.

### Pump below seafloor

Pump CO<sub>2</sub> down through the water column into the sub seafloor.



3.

### Turn into rock

In a short amount of time, the CO<sub>2</sub> becomes rock.

# We can put CO<sub>2</sub> back where it belongs:

Solid Carbon brings six proven technologies together with cutting edge expertise to create a fully-integrated system, targeting wide-spread industrial deployment by 2040.



## Project funding accelerates

### \$1M

Implement a stakeholder engagement plan and add research capability on CO<sub>2</sub> sequestration below the seafloor.

### \$5M

Development and testing of field instruments, sensors, and remote surveys to validate safe, long-term removal into sub-seafloor basalt reservoirs.

### \$10M

Co-fund a field demonstration for future large-scale production and global deployment.

## Project timeline

### 2017-2018

**'CarbonSafe' feasibility studies.**  
*Funded by the U.S. 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 of Climate Solutions.*

### 2025

**Initial demonstration on site.**

### 2030

**Design prototype and manufacturing process.**

### 2035

**Begin manufacturing and operations.**

### 2040

**Wide-scale deployment.**

## International experts, scientists and researchers

Led by Ocean Networks Canada, the project team comprises U.S. and Canadian researchers and industry partners including:

- City of Port Alberni
- Columbia University
- University of Victoria
- Institute for Integrated Energy Systems
- DP Group Limited
- National Consortium for Indigenous Economic Development
- Lengkeek Vessel Engineering Inc.
- Pacific Institute for Climate Solutions
- Stratford Managers Corporation

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