

## CANADA

### Standards Council of Canada (SCC)

### CarbonCure: Recycling CO<sub>2</sub> to make greener concrete

#### Overview

Technology that turns waste carbon into usable concrete holds great promise in the fight against climate change. In line with its net-zero carbon objectives, the Canadian government is showing leadership in the procurement of low-carbon building materials, including cement and concrete products. As part of this initiative, it has recognized technologies that can significantly reduce carbon dioxide emissions in the concrete and cement sector, such as carbon capture, usage and storage.

In May 2021, the Government of Canada and Cement Association of Canada announced a partnership to support the decarbonization of the sector. In its news release, the government recognizes CarbonCure, a Carbon XPRIZE winner and Global Cleantech 100 recipient, as a unique technology to permanently store carbon in concrete.

Based in Nova Scotia, CarbonCure Technologies Inc. is on a mission to decarbonize concrete and reduce emissions associated with building materials. Its patented technology permanently sequesters or “locks in” carbon dioxide by injecting it into concrete as it is mixed. This makes for a concrete product that meets or exceeds the benchmarks for quality and strength, while decreasing greenhouse gas emissions and lowering manufacturing costs.

In order to expand, CarbonCure needs its revolutionary technology to be recognized in the relevant industry standard as one of the acceptable methods for producing concrete. To this end, Standards Council of Canada (SCC) is helping the company get the existing standard updated with the addition of a new annex endorsing the CarbonCure system. The revised standard, which allows for the use of injected carbon dioxide in cement, is referenced in the National Model Construction Codes as well as in provincial and territorial adoptions of the Codes.

#### Outcomes and benefits

As part of this initiative, SCC is also helping CarbonCure take part in international standardization by facilitating an opportunity to sit as an observer on relevant European technical committees for concrete specifications. This will be incredibly valuable because it will support CarbonCure’s entry and expansion into European markets.

Overall, this initiative will be instrumental in helping Canada establish itself as a leader in the field of innovative carbon technologies on the world stage. By encouraging technical alignment within major European markets and allowing Canadian stakeholders to participate in European decision-making forums, SCC is supporting government priorities by leveraging international relationships and providing growth opportunities for Canadian businesses.

## Partners involved

As part of this project, Standards Council of Canada engaged with the Cement Association of Canada, CarbonCure, the National Research Council of Canada, and accredited standards development organization CSA Group.

SCC is a member of the Clean Growth Hub, a free service by the Government of Canada that supports advancement in clean technology through the federal ecosystem. Thanks to its Innovation Initiative, SCC connects directly with clean tech companies to develop a customized standardization strategy and examine funding possibilities to support their projects.

## Timeline

SCC first engaged CarbonCure under the Innovation Initiative in early 2017 and provided strategic advice. This led to an amendment to the relevant industry standard, which was published in June 2018.

### References

- Government of Canada and Cement Association of Canada [news release](#)
- [The Innovation Initiative](#) (Standards Council of Canada)
- [Clean Growth Hub](#) (Government of Canada)
- Trade Commissioner Service [case study](#) (Government of Canada)
- [CSA Group](#)