

The Canadian cement & concrete industry is pleased to announce that a collaborative *Industry Climate Ambition Statement* with 2030 and 2050 targets, and a supporting net-zero road map, is currently under development for release in early 2022.

Concrete, in all its forms, offers market-leading inherent resilience and reuse opportunities, as well as low operational energy, low lifecycle carbon emissions, and re-carbonation (uptake) properties. Our industries are transparent about embodied carbon and look forward to surprising you with the low footprint we can offer. We know we can't do this alone and look forward to collaboration with all members of the architecture, engineering and construction (AEC) communities.

Current Strategies: Are you Taking Full Advantage? Ask Us About:

- The commitment from the cement and concrete industry to transparency and Environmental Product Declarations (EPDs). With more EPDs than any other industrial building product category, our industry aligns with environmental experts and values validated, third-party benchmarking as the critical starting point for driving our exponential improvements.
- Migrating fully to PERFORMANCE-BASED specifications per CSA cement and concrete standards. This is the single-most critical concrete-related action you can take using existing strategies to get quality concrete with the lowest carbon footprint. Specify strength and performance needed at a given age, but do not specify cement contents or the contents of other ingredients that contributes to unnecessary carbon emissions.
- Updating your specifications to allow the full range of lower carbon cementitious materials in the CSA cement and concrete standards, such as Portland Limestone Cements (PLCs), and avoiding the use of arbitrary limitations on Supplementary Cementitious Materials (SCMs).
- Updating your specifications to allow the use of advanced chemical admixtures that support achieving strength and performance with lower cementitious material contents or, in the case of self-consolidating concretes, that expedite placement of concrete in the field or at the plant.
- Existing energy efficiency and circular economy waste reuse strategies in our operations.
- Leveraging re-carbonation. The Intergovernmental Panel for Climate Change report released in August 2021 reported: "The uptake of CO₂ in concrete infrastructure (carbonation) offsets about one half of the carbonate emissions from current cement production." The Global Cement and Concrete Association says that "A practical estimate of the global carbon sink provided by all concrete is 25% of the process CO₂ emissions released during cement production".
- Concrete's resilience, especially in the face of increased climate-change driven natural disasters and weather extremes.
- How concrete provides low lifecycle carbon and lifecycle operational energy for heating and cooling, including its contribution to Net-zero and Passive House solutions.



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- Designs leveraging concrete's higher strengths to reduce total volume of concrete use.
- Evaluating long-term carbon and energy impacts of projects by using beyond 50-year lifecycles to ensure embodied carbon and energy wins are supported by operational and lifecycle carbon and energy reductions.
- If the 111 million tonnes of aggregates consumed annually by the Greater Golden Horseshoe were to be transported from sites further from market (at an average additional distance of 75 km), an extra 360,000 metric tonnes of GHG emissions would be produced annually – the equivalent of nearly 1 billion miles driven by an average car.
- How the strength and versatility of concrete products can be used to achieve other environmental goals such as concrete pipe's reduction of excess soils.
- Supporting the use of alternate fuels and raw materials at cement plants to dramatically reduce the embodied carbon footprint of clinker and cement production.

More Recent Ground-Breaking Strategies: How Can You Support? Ask Us About:

- How the cement and concrete sectors are partnering with the Government of Canada to drive a global-leading journey to <u>#NetZeroCarbon</u>. "Through this partnership ... we are helping to make Canada a global leader in green concrete" the Hon. Francois-Philippe Champagne, Minister of Innovation, Science & Industry
- Carbon capture and utilization technologies for cement plants.
- Carbon sequestration technologies.
- Cement and concrete used as "waste sinks" such as recovering landfill waste from other industries to turn into CSA-conforming Supplementary Cementitious Materials (SCMs) to replace clinker.
- Circular Economy opportunities such as waste re-use in our operations.

Concrete is a strategic and critical building material for climate change adaptation and resilience. Collaborating together on how we can unlock existing and ground-breaking strategies highlighted above means we can build more robust, safer, **lower carbon** communities. We look forward to working together towards this rewarding and most necessary goal.

In the meantime – please contact any of our member associations (see attached) to discuss the many existing and new strategies available towards climate-adapted, lower carbon, lower energy concrete construction.



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