Cement Association of Canada

October 3, 2022

SUBMISSION

ERO # 019-5769 Emissions Performance Standards (EPS) program regulatory amendments for the 2023-2030 period

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Ms. Melissa Ollevier
Ministry of Environment, Conservation and Parks (MECP)
Financial Instruments Branch
40 St. Clair Avenue West, Floor 8
Toronto, Ontario
M4V 1M2

Dear Ms. Ollevier,

On behalf of the Cement Association of Canada and our member companies in Ontario, I am pleased to submit comments on the proposed Emissions Performance Standards (EPS) program regulatory amendments for the 2023-2030 period. We look forward to ongoing discussions with the Ministry of the Environment, Conservation and Parks.

Our top priorities, as outlined in greater detail below are:

1. **Ensure proposed stringency does not negatively impact the competitiveness of industry.**
2. **Recycle revenue back into industry, to support economic competitiveness as Ontario competes with other jurisdictions for investment in low-carbon technology.**
3. **Provide additional support for the deployment of carbon capture, utilization and storage (CCUS) in Ontario, as a compendium to an effective carbon pricing system.**
4. **Develop an offset system, both to support compliance and the deployment of necessary emissions reducing technology.**

We appreciate that the Ministry is prioritizing principles of continuity and predictability for Ontario businesses and minimizing the risk for carbon leakage, considering competitiveness impacts to Ontario industry, especially Emissions Intensive and Trade Exposed (EITE) sectors.

Ontario's cement industry remains a strong proponent of climate action, including carbon pricing. We look forward to working with you to ensure Ontario's industrial pricing regime maintains the right balance between establishing a meaningful price signal to encourage emissions reductions while supporting competitiveness for industry.

Our sector has declared our commitment to charting a path to net-zero cement and concrete by 2050, including a commitment to reduce emissions by 15MT CO_2 cumulatively by 2030. Our ambition includes maintaining competitiveness throughout the

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transition, but **this is at risk in absence of significant evolution in Ontario's industrial policy**. To support decarbonization and economic competitiveness in the cement industry, we need funding and regulatory support to accelerate the deployment of transformational technologies including, but not limited to, Carbon Capture Utilization and Storage (CCUS); increased scope and ambition on low-carbon procurement; recognition that the codes and standards system must prioritize the uptake of lower carbon construction materials as a core metric; a policy and regulatory environment that allows for development and increased use of advanced lower carbon fuels, and consideration of enhanced measures to protect EITEs from carbon leakage. To help achieve this, we therefore offer the following comments as Ontario considers the next stage of the EPS:

Stringency

The cement industry understands the need for a stringency factor to match what is required under the federal benchmark, and broadly supports Ontario acting in this regard. We concede that we are paying a tax with little opportunity to act on today and look forward to future opportunities to reduce our emissions. However, we are requesting a solution for several issues that must be resolved in the immediate term if the cement industry is to remain competitive throughout the transition.

There remains a material discrepancy between allowance calculations under the EPS compared to other carbon pricing systems (including the OBPS) that must be addressed.

Virtually all industrial carbon pricing systems calculate compliance obligations based on yearly production of clinker but determine a producer's eligible allowances for those emissions based on product shipments. This is to ensure that the appropriate level of allowances is provided depending on the actual product shipped—clinker or cement—and specifically, to recognise that a key decarbonization strategy for cement is to reduce the amount of clinker used in the final cement product.

It is normal for cement manufacturers to increase their inventories of clinker and/or cement at the end of the year to prepare for regular maintenance and to secure supply for the coming construction season. The amount of clinker inventoried in any given year can fluctuate significantly depending on market conditions and other factors.

Under the EPS program, both compliance obligations and allowances are calculated strictly on in-year production. While this provides welcome accounting stabilities and makes compliance obligations more predictable, it also increases overall compliance costs by failing to acknowledge the incremental emissions reductions that happen when inventoried clinker is blended into cement. Under the EPS, cement producers cannot receive allowances for the additional carbon saved when clinker is blended into lower carbon cements in a subsequent production year. This is an immediate concern to our members and one that could have a significant financial and environmental impact if not addressed.

We therefore request that the EPS update its allowance calculations to account for the net additive carbon benefit when a producer produces cement from its inventoried clinker. There are two ways this could be done:

1) Establish a separate formula for allowances for cement from inventoried clinker where the net additive benefit (i.e., additional allowances) is the difference the cement benchmark in the production year and the clinker benchmark in the previous year multiplied by the tonnes of cement made from inventoried clinker:

Allowances for Inventoried Clinker (in year Y) = Tonnes of cement from inventoried clinker (in year Y) x [clinker benchmark (in year Y-1) - cement benchmark (in year Y)].

2) Include cement from inventoried clinker in the total cement allowances in a production year but subtract the allocations received in the previous year on that inventoried clinker.

Cement Allowances (in year Y) = [Tonnes of cement (in year Y) x cement benchmark (in year Y)] – [Tonnes of inventoried clinker consumed (in year Y) x clinker benchmark (in year Y-1)]

3) Normalise cement production in a calendar year by including inventoried clinker in an "equivalent cement" calculation based on the annualised clinker content of cement produced in that calendar year. This would have the advantage of containing all eligible allowances within a single compliance year:

Clinker allowances (in year Y) = clinker exported (in year Y) x clinker benchmark (in year Y).
Cement Allowances (in year Y) = equivalent cement (in Year Y) x cement benchmark (in year Y)

where:

a) *equivalent cement (in year Y) = [clinker produced (in year Y) – clinker exported (in year Y)] / % clinker incorporated (in year Y)*
b) *% clinker incorporated (in year Y) = [clinker produced (in year Y) – clinker exported (in year Y)- clinker put into inventory (in year Y)] / Cement produced (in year Y)*

The above formulae are suggested approaches, but we are keen to discuss the issue with Ministry officials to come up with any workable solution. Addressing this issue is important to both the ongoing competitiveness of Ontario's cement sector as well as to maintaining appropriate incentives to innovate lower carbon cements.

For additional context, some 40% of our sector's production in Ontario is exported to the United States, where no carbon pricing system exists. **As Ontario contemplates stringency factors for different industries, it is paramount that the cement sector's status as the top three Emissions and Trade Exposed Sectors (EITEs) in Canada is considered**. Of note, under the OBPS cement is one of only three sectors to attract the highest level of carbon leakage protection, both with a 95% benchmark level and with a federal stringency rate that is half that of other sectors (i.e., "1% or less). While we appreciate that Ontario must close the gap between the current EPS and the OBPS to remain equivalent (which our industry supports) it may be necessary to accommodate the relatively higher competitiveness risks faced by cement as benchmarks decline over this and subsequent compliance periods.

Reducing process emissions is critical to meeting climate targets and achieving net-zero by 2050. However, pathways to do so are limited and the technology is prohibitively expensive. Fixed process emissions account for 60% of the total emissions in cement manufacturing—resulting from the calcination of limestone in the production of clinker. Currently, the only commercial-ready technology available to eliminate these emissions is carbon capture, utilization and storage (CCUS). Challenges with deploying this technology in Ontario include lack of: identified storage space, transportation infrastructure, capital funding, and market demand for lower carbon concrete products.

As Ontario applies a declining stringency factor on process emissions, it must simultaneously scale up strategic supports to maintain the competitive strength of industry, and the jobs and economic growth that accompany it. The need for industrial policy to support the decarbonization of supply, while scaling up demand is well understood amongst many jurisdictions, and is well documented in the International Energy Agency's landmark report, Achieving Net Zero Heavy Industry Sectors in G7 Members. We therefore urge the Ontario government to rapidly develop industrial policy to match the pace and scale of the stringency factor proposed, and we would be pleased to act as a collaborative partner with government in this regard.

Finally, we would like to raise **the removal of the biomass use adjustment as a concern** in the proposed EPS regulation. A major pathway for all cement producers to reduce CO2 is the replacement of coal or pet coke with alternative low-carbon fuels, which includes a heavy portion of biomass. Our action plan to net-zero concrete sees biomass fuels as a significant decarbonization lever to 2030 with more advanced biomass fuels (e.g., biochar) becoming increasingly important after 2040. Discontinuing the biomass use adjustment from the system provides less of an incentive to replace fossil-based fuel sources with biomass and less of a market signal to develop the advanced biomass fuels that will be needed in the coming decade.

The importance of biogenic CO2 is globally recognized and removing it from the atmosphere (which is what could occur when paired with CCUS or other carbon removal technology) is considered carbon negative. Ontario has also recognized the importance of biomass, as evidenced by its release of the Forest Biomass Action Plan. As we strive towards net-zero, this additional option for emissions reductions should be left on the table.

Recycling Revenue into Industry

With federal funds such as the Net-Zero Accelerator requiring provincial contributions, it is important that Ontario have a pool of funds available to support the deployment of low-carbon technologies and support emissions reducing projects. These projects come with significant benefits to the province—both in terms of emissions reductions and economic opportunity—and therefore **Ontario needs to offer capital support at a scale that meets or beats the ambition of competing jurisdictions seeking to attract the same pool of capital. This has become a critical issue with the passing of the Inflation Reduction Act in the United States, our largest export market and largest competitor in terms of foreign direct investment.**

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The cement sector has attracted considerable private sector investment in low carbon fuels and other low-carbon technologies in those provinces where these types of funds exist. These types of funding programs can increase investment in innovative technologies and accelerate their commercialization, resulting in decreased GHG emissions, jobs, and economic growth while also helping to mitigate the potential negative impact of carbon pricing on competitiveness. Our international companies will invest in these technologies in the jurisdictions which are best suited to investment risk reduction.

We would like to reiterate our previous position that any payments collected under the EPS should be recycled back to industry to support investment in innovative low carbon technologies. This funding should be administered in a way that is straightforward, flexible, and predictable in its support of GHG reductions in industry.

Deployment of CCUS in Ontario

We thank the Ministry of Environment, Conservation and Parks (MECP) for recognizing the role that CCUS provides in reducing emissions in industry via the proposal to deduct stored CO2 from the covered facility's reported emissions. While the proposed regulation states that carbon utilization is not being explored at this time, **we urge the Ontario government to consider the growing role that carbon utilization will play in a province with limited storage capacity and prioritize it**. We would also note that the recently proposed federal Investment Tax Credit for CCUS includes carbon storage in concrete as eligible utilization.

As you know, the scale up of CCUS is vital to industrial decarbonization both within Ontario, across Canada, and globally. In their foundational report, *Net Zero By 2050: A Roadmap for the Global Energy Sector*, the International Energy Association defines CCUS as an essential 'pathway' to reduce GHG emissions to avoid catastrophic climate change. The report calls for an unprecedented rate of CCUS development and deployment as part of a broader energy system transition to achieve the scale of GHG mitigation needed, including an expansion of global CCUS capacity from 40 Mt per year in 2020, to more than 7600 Mt per year by 2050.

Worldwide, cement manufacturing is a major source of carbon emissions— accounting for approximately 7% of GHGs globally. In Canada the manufacturing of cement accounted for 1.5% of the country's emissions in 2019. These emissions primarily come from the calcination reaction of limestone (60%), and from the fossil-fuel emissions generated through combustion to produce the high temperatures (approximately 1,450 degrees Celsius) required to achieve that process (40%). CCUS is the only technology capable of reducing the process emissions resulting from clinker production, and therefore all our CAC member companies are integrating and/or testing CCUS technologies at various scales across the country.

While carbon pricing is and important tool, it is an insufficient incentive for CCUS. While the predictable increases in the backstop carbon price improve the economics of

operating a carbon capture system (carbon capture is energy intensive and expensive to operate), even at $170/tonne, carbon pricing falls significantly short of justifying the massive up front capital costs of building a capture system, not to mention the underlying infrastructure needed to transport and utilize or store carbon once captured.

Ontario has begun the process to consider the future of geological carbon storage in the province, we urge the government to move forward with the funding required to support the deployment of this technology.

Need for an Offset System

We would once again like to raise the importance of an offset system—both as an additional EPS compliance pathway, and to help improve the economics of transformational technologies needed for the cement industry to reach net-zero, namely CCUS.

For example, many of our members purchase Renewable Natural Gas from gas suppliers, with an intent to contribute to decarbonization by supporting the growth and uptake of that fuel. This is an opportunity recognized by the province as it begins to approve RNG projects in the province.

As we have highlighted in previous submissions, offsets can be a highly effective tool in keeping compliance costs manageable while maintaining the integrity of emissions reductions goals. In addition, as the cement industry moves to deploy the necessary technology required to reach net-zero, selling offsets into the market will be required to mitigate the prohibitive capital and operating costs of the technology.

We view offsets as a critical measure for securing the long-term competitiveness of EITE sectors such as cement and encourage the province to work closely with provincial counterparts and the federal government to align and allow fungibility of offsets credits across regions.

Thank you for the opportunity to provide input on this important regulatory amendment. We look forward to discussing these issues in further detail, and we are pleased to continue to work with the Government of Ontario to decarbonize our industry and build a competitive economy with jobs and growth for all.

Sincerely,

Adam Auer
President & CEO
Cement Association of Canada

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The Cement Association of Canada (CAC) is the voice of Canada's cement industry. Five of our companies have operated in Ontario for many decades: Ash Grove (a CRH Company); Lafarge Canada Inc.; Lehigh Hanson Canada; St Marys Cement; and Federal White Cement Inc.

Cement, concrete and aggregates facilities are in every community across Ontario, large and small. Our industry generates over 54,000 direct and indirect jobs in Ontario, and our direct, indirect and induced economic contribution is over $25 Billion.

We are the world's most important building material. Virtually all construction projects – above and below ground – need concrete. Twice as much concrete is used than all other materials combined and concrete is the second highest consumed commodity in the world, second only to water.

Ontario's cement producers are important participants in the national and global marketplace and provide a strategic and reliable supply of the cement required to build Ontario's provincial and municipal transportation infrastructure, buildings and homes, waterworks and dams, and of course our hospitals and schools.

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