



Circular Built Environment Roadmap Initiative

Background:

This initiative, which is a collaboration between [Circular Economy Leadership Canada](#) (CELC) and [CSA Group](#), will undertake pre-cursory research and stakeholder engagement to inform the potential development of an industry roadmap to advance circular economy practices within Canada's construction and real estate sectors.

Construction is one of the most important economic sectors in Canada, generating \$152 billion in GDP in 2022. Simultaneously, Canada's construction sector generates more than 4 million tonnes of waste per year – with much of the value from these waste materials and resources currently being lost from Canada's economy at end of life.

The way we design, construct, and eventually demolish our buildings and infrastructure is entrenched in the linear take-make-waste economy. Currently, Canada's built environment – made up of the buildings, roads, infrastructure, and other human-made features of our surroundings – uses almost half the materials extracted globally every year and is a significant contributor to greenhouse gas (GHG) emissions.

By applying circular economy principles, practices, and strategies to the way we design, build, maintain, refurbish, and deconstruct buildings, infrastructure, and other elements of the built environment, we can reduce GHG emissions while creating urban areas that are more livable, productive, and resilient.

Objectives:

The overall objective of this initiative is to undertake foundational work to investigate the benefits and value-add that a circular construction and built environment (CBE) roadmap could bring for Canada, including considerations for standards development as part of the process.

Specific objectives include:

- Testing with industry stakeholders the interest and appetite for developing a CBE roadmap for Canada, including how it aligns with and supports existing efforts and priorities.
- Examining the 'levers' that support multi-level systems change across the CBE value chain.
- Identifying a set of specific priorities, goals, targets, and performance improvement indicators that resonate with industry stakeholders (i.e., success measures such as productivity enhancements, waste reduction, preservation of embodied carbon, etc.) and could form the basis of a CBE roadmap for Canada, as well as related timelines for the action plan (e.g., 2030).
- Exploring the connections between supply and demand-side market factors influencing circular materials, products, and services across various business models in the CBE supply chain, as well as opportunities for reducing / eliminating barriers.
- Determining how the circular economy aligns with and supports other key policies and measures, including public procurement (e.g., decarbonization, net-zero buildings, waste reduction policies, etc.), establishing linkages between existing policy mandates.
- Establishing national / international standardization frameworks, as well as gaps and opportunities for the development of standards and guidelines.



Scope of Work:

This 12-month initiative is broken out into 3 phases, with a number of tasks / sub-tasks that make up the project's core activities. The three phases are described in more detail below. Research will include consideration for the design, repurposing / retrofit, and deconstruction of residential and commercial buildings, as well as building products / materials and circular supply chains. Considerations around embodied carbon will be included, especially as it relates to linkages between circularity, the built environment, and net-zero GHG emissions policies. The work will also build on previous and ongoing CELC, CSA Group, and other research to avoid duplication.

Phase 1 - Environmental scan and gap analysis (March-May 2023)

- Undertaking a literature review of past reports and case studies supportive of the transition to a CBE - including a review of key challenges and barriers faced by stakeholders along the supply chain.
- Conducting a detailed environmental scan and a gap analysis of existing domestic or international regulations, standards, and guidelines.
- Developing a summary report from the research and a presentation of key findings / results.

Phase 2 - Stakeholder engagement and needs assessment (May-October 2023)

- Undertaking extensive engagement with industry and other key stakeholders within the CBE ecosystem (interviews, roundtables, and workshops) as part of a needs assessment to identify the support for a national industry-led roadmap, define priorities, and identify specific goals, targets, performance measurement indicators for the roadmap.
- Collecting input on what key stakeholders think would be the best model for Canada in terms of a CBE roadmap, such as the potential focus areas /structure for the roadmap, governance and implementation considerations, and the recommended process to support its development.
- Considerations for regional and sector-specific lenses to be applied (e.g., by material type, residential versus IC&I sectors, local versus provincial / territorial, etc.).

Phase 3 - Roadmap outline and development process (October 2023-February 2024)

- Establishing a suggested 'process' for future convening, including for the design and development of the CBE roadmap itself, as well as a proposed governance and implementation structure for the CBE roadmap that will enable success.

Performance Metrics:

The expected outcome from this project include:

- A better understanding of the key barriers and opportunities for the key stakeholder groups that are part of the CBE ecosystem.
- Well-established linkages between different components and stakeholders (supply vs demand for products, services, and process along the construction supply chain).
- Defined framework, goals, performance measurement indicators, and timelines to support the development of CBE roadmap for Canada.