Canada Green Building Strategy Submission

Date: September 14 , 2022 | **Prepared by:** Ollie Sheldrick, Program Manager, Clean Economy

Introduction

Clean Energy Canada is a climate and clean energy program within the Morris J. Wosk Centre for Dialogue at Simon Fraser University.

We are pleased to submit these comments as part of the Government of Canada's consultations on The Canada Green Building Strategy: Discussion Paper.

Clean Energy Canada's responses to the questions posed focus on the importance of reducing the embodied emissions from the production and use of construction materials, and the critical importance of a Buy Clean approach to procurement. We will soon be publishing a new report, which articulates Canada's Buy Clean opportunity and what governments must do now to position Canada in a net-zero construction world.

Please find Clean Energy Canada's responses to the discussion paper's questions below and please don't hesitate to contact us if you have any further questions.

Recommendations

1. **Any Buy Clean strategy must take a broad focus on infrastructure investments at all levels of government.** While direct federal government spending is a useful starting place, it only represents around 4% of total public infrastructure spending - in order to have a significant impact it must be extended rapidly to include Provincial Transfer Payments and Crown Corporations.
2. **Buy Clean should be built into federal funding conditions.** Government should require embodied carbon disclosures or specific reductions in funding programs; provide incentives to support adoption.

3. **Government should also lead the way by encouraging bulk purchasing and long term contracts** for major projects to increase use of low carbon materials.
4. **Government should accelerate the inclusion of embodied carbon into construction codes before 2030**. Other jurisdictions are already taking this approach, for example RE2020 in France (regulating ~50% reduction in embodied carbon by 2031).
5. **Government should increase the specificity and ambition of embodied carbon benchmarks and targets**, and set embodied carbon targets for provincial and local governments to adopt into their procurement policies.
6. **We recommend $250 million over 5 years be allocated to NRCAN's Low Carbon Building Materials Innovation Hub** (which was announced in the 2030 Emission Reduction Plan as part of the Green Building Strategy, but has yet to be specifically funded). This funding would support Canadian companies to identify early-stage and pre-commercial building materials and technologies, fund R&D and real-world material testing, collect and share data and lessons learned. Funding should support a diverse range of materials, products, and technologies addressing the full value chain of low-carbon construction solutions.
7. **Government should accelerate development of LCA databases and regional benchmarks**; require EPD disclosure for new projects and provide incentives for SMEs to develop EPDs.

Discussion Question	Clean Energy Canada Response
Does this discussion paper target the right strategic themes and areas requiring change, and communicate the level of action required?	**Recommendation 1: Any Buy Clean strategy must take a broad focus on infrastructure investments at all levels of government.** **Recommendation 2: Buy Clean should be built into federal funding conditions. Government should require embodied carbon disclosures or specific reductions in funding programs; provide incentives to support adoption.** Clean Energy Canada is focused on the role of Buy Clean, and the role of embodied carbon in construction materials, in relation to the Canadian Green Building Strategy. While the discussion paper does recognize a role for Buy Clean, embodied carbon is a large component of building sector emissions and should therefore be a significant focus for the targets and strategy • Focusing on net zero operational emissions would still leave significant embodied emissions unaddressed

	• IEA estimates construction materials equate to 20% of global emissions (on top of 27% for building operations and electricity use) • Analysis conducted by Priopta in British Columbia estimated that the embodied carbon (from building structure, envelope, mechanical, electrical, plumbing systems, and refrigerants) is between 47% and 87% of building operational emissions. Nationally this equates to 42-76 Mt per year. The discussion paper also notes that investment levels will need to be in the magnitude of tens of billions of dollars a year. In order to ensure that this is achieved in the private sector, the government has a role to play in sending a clear market signal for clean construction materials to scale their production and use. This is where a Buy Clean policy can have significant impact.
This discussion paper identifies current and potential actions that the federal government is taking under each theme. What actions can your organization contribute to support achieving the changes needed within each theme?	Clean Energy Canada is advocating for a national Buy Clean policy as an effective tool to ensure domestic industry remains globally competitive and innovative while aligning with Canada's commitment to net-zero emissions by 2050. Clean Energy Canada is part of a coalition of industry, think tanks, labour and environment groups with a common goal of advocating for a national Buy Clean policy and net-zero construction materials sector. The Buy Clean Industry Alliance comprises: Clean Energy Canada, Cement Association of Canada, BlueGreen Canada, Aluminum Association of Canada, Canadian Steel Producers Association, and Forest Products Association of Canada. The Alliance is calling on the federal government to work with key stakeholders to design a policy which sets ambitious targets to reduce embodied carbon and increase the uptake of low-carbon materials. A well-designed policy would: • Support workers and jobs in low-carbon manufacturing, green

	buildings and other growth sectors; • Enable consistency in approaches across the country; • Be material-neutral and support emission reductions for all industrial sectors; • Support ambitious climate action with achievable targets for industry; • Be based on evidence, data, and evolving best practices; • Support complementary priorities such as climate resilience, energy security, and housing affordability.
Are there other actions that you believe need to be taken, best practices we should consider, or potential risks to pursuing the Strategy?	**Recommendation 3: Government should also lead the way by encouraging bulk purchasing and long-term contracts for major projects to increase use of low carbon materials.** **Recommendation 6: We recommend $250 million over 5 years be allocated to NRCAN's Low Carbon Building Materials Innovation Hub** Without a lifecycle and whole-building approach there is a risk of energy retrofits leading to increased carbon emissions. For example, insulation accounts for the highest embodied carbon impacts for residential buildings (more than two thirds). Retrofits that increase insulation could lead to a net increase in life cycle building emissions if they choose high-impact insulation (eg XPS foam). Lower cost alternatives are readily available with much lower emissions. Government should therefore work to ensure that existing, readily available, lower carbon alternatives are championed through bulk purchasing and longer-term contracts, while also supporting the research and evaluation needed to bring new low-carbon alternatives to market.
What milestones should be used to track progress toward a net-zero emissions, climate-resilient buildings sector?	**Recommendation 4: Government should accelerate the inclusion of embodied carbon into construction codes before 2030.** **Recommendation 5: Government should increase the specificity and ambition of embodied carbon benchmarks and targets, and set embodied carbon targets for provincial and local governments to adopt**

	into their procurement policies. The discussion paper currently commits to reducing Embodied Carbon "(e.g., disclose the amount of embodied carbon in the structural materials of major construction projects by the end of 2022 and reduce embodied carbon by 30%, starting in 2025)." There is currently a lack of clarity around milestones for integrating embodied carbon in construction codes. The strategy must include a roadmap and milestones for net-zero whole-life carbon buildings (including embodied carbon) and provide strategies and incentives to support this goal. NRCan and NRC should work with key stakeholders to embed whole-life carbon requirements into the next updates of the model building codes in 2024, and work to ensure provincial adoption and harmonization under the CFTA. In addition to we believe that these targets should be more ambitious and specific for embodied carbon within construction materials: Firstly, government should begin publishing specific **embodied carbon benchmarks and targets** for construction materials, starting with regional industry-average benchmarks for cement and concrete by the end of 2022, and followed by steel products (e.g., reinforcing steel, structural steel[1]), structural wood products, aluminum, and other materials by the end of 2023. Secondly, the federal government should **set embodied carbon targets for provincial and local governments to adopt into their procurement policies.** Targets should take a two-tier approach by setting achievable minimum standards (e.g., industry average carbon limits) while providing

[1] See Buy Clean California Act and Colorado HOUSE BILL 21-1303

	incentives, through discounts or preferential scoring, for products or projects that exceed this minimum standard.[2] Targets should be ratcheted down over time to align with climate targets and industry roadmaps to net-zero.
What structures or processes should be put in place to support continued collaboration to 2050?	**Recommendation 7: Government should accelerate development of LCA databases and regional benchmarks; require EPD disclosure for new projects and provide incentives for SMEs to develop EPDs.** Collaboration between producers, the construction sector and government will require consistency in approach and understanding what is meant by low-carbon materials, as well as agreed standards and benchmarks. It is therefore critical that the government leverage the $183 million committed to the National Research Council's LCA2 Initiative in Budget 2022 to establish common emissions reporting standards and life-cycle datasets to support the creation of comparable EPDs for materials and products. The Buy Clean Industry Alliance is a successful example of cross-sector industry collaboration, unified around the clear opportunity that clean construction presents to Canada's heavy industry sector. Clean Energy Canada is working to expand support and membership to construction and architectural firms. Organizations such as Efficiency Canada have further expertise in developing structures for collaboration across industry, we would suggest drawing from their submission for further guidance.
What modelling has your organization done that could inform modelling out all the actions that will be identified under this strategy to ensure they are	Clean Energy Canada contracted Global Efficiency Intelligence (GEI) to analyze the impacts of Buy Clean on Canada's GHG emissions and manufacturing competitiveness, and develop policy recommendations for a federal Buy Clean strategy. Clean Energy Canada will release a

[2] See proposed legislation in New Jersey and California, or bonuses awarded by the Swedish Transport Administration

ambitious enough to meet our net-zero buildings sector commitment?	public-facing report alongside GEI's technical study in October 2022. Embargoed key findings from the report include: • The Canadian public sector makes up around a fifth of all infrastructure spending in the country. And the production, transport, and demolition of materials used in this infrastructure adds up to around 8 million tonnes of carbon emissions every year. • In a transformative Buy Clean scenario, where governments buy construction products with 50% lower embodied carbon than the current baseline, 4 million tonnes of carbon pollution could be avoided each year.
How can we best consider Indigenous priorities that have been raised through existing federal processes and initiatives regarding the built environment on reserves and in other remote and northern communities (e.g., the work to close critical infrastructure gaps by 2030, conduct infrastructure needs assessments, develop and implement Indigenous distinctions-based housing strategies, and co-develop the Urban, Rural and Northern Indigenous Housing Strategy)?	This question is best answered by Indigenous Nations and representative organizations.

Contact

Ollie Sheldrick
Program Manager, Clean Economy
oliver@cleanenergycanada.org
647-999-2992

Felix Whitton
Senior Policy Advisor
felix@cleanenergycanada.org
437-324-9323