

From climate emergency declaration to net zero emissions building standards:

A roadmap for municipal action

Municipalities across Canada each face unique challenges, constraints, and opportunities as they try to accelerate building performance and cut energy waste and emissions in new construction. For example, while local governments in BC are able to adopt different tiers of the BC Energy Step Code and municipalities in Quebec are able to adopt a building code or standard different than that of the province – municipalities in other areas of the country have limited authorities in this manner. As such, plotting a pathway to progress from declaring a climate emergency to adopting the upper tiers of the 2020 model codes or net zero emissions code will play out differently in each municipality.

While acknowledging these varied circumstances, there are a number of priority actions municipalities can take to put new buildings on the path to net zero energy and emissions. These include:

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Declare a climate emergency

How: Encourage municipal council to declare a climate emergency

Why: A climate emergency puts the local government on record in support of emergency action to respond to climate change and recognizes the pace and scale of action needed.



Who: More [than 600 Canadian municipalities](#) have declared a climate emergency, typically a resolution passed by the municipality.

Municipalities can also join 500 municipal counterparts and commit to the [Partners for Climate Protection](#) (PCP) program developed jointly by ICLEI—Local Governments for Sustainability Canada (ICLEI Canada) and Federation of Canadian Municipalities (FCM). PCP members are required to set local emissions reduction targets and have set ambitious net zero by 2050 targets.

Prioritize action areas via a community climate action plan or community energy/emissions plan (CEEP)

How: Use resources like FCM's [Municipal Climate Action Hub](#) to identify where your municipality is in their climate journey and strategies to advance emissions reduction efforts.

Why: A climate action plan should include an inventory of existing emissions, reduction goals or targets, and analyzed and prioritized reduction actions.

Identify municipal emissions arising from the buildings sector. Use the community's 2030/2050 objectives to establish an end point from which to backcast interim targets for building sector decarbonization.

Who: In most provinces, municipalities are required to update their energy management plans at set intervals. This includes reviewing and forecasting energy initiatives.



Signal that your jurisdiction is prepared for upper tier adoption and the net zero emissions code

How: Use NRCan's Codes Acceleration Fund (CAF) to conduct market readiness and building code compliance studies. These studies help demonstrate that the local market is prepared to deliver the upper tiers of the 2020 model codes and the net zero emissions code.

Use resources like Efficiency Canada to represent the advanced demands of municipalities in the development of the national model building codes.

Why: By taking advantage of federal funding opportunities municipalities can demonstrate their advanced demands related to building decarbonization and identify areas in need of additional support.

Market readiness and building code compliance studies can help a municipality map the transition from current codes to NZER and net zero emissions codes. This enables the municipality to provide specific direction to all aspects of the industry, as well as highlight necessary areas of capacity building and innovation.

Ensuring municipal priorities are incorporated into the development of the national model building codes has a two-fold effect of bolstering codes development with municipal priorities, and signalling to senior governments that municipalities need codes matching their level of ambition.

Who: The BC Energy Step Code has delivered a wealth of information and awareness materials to the buildings community to help drive step code uptake by builders and local governments.



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Have your municipality seek decarbonization amendments in the provincial adoption process

How: Use public review periods, council or mayoral letters, and other opportunities to seek amendments in the adoption process of the 2020 model codes to re-introduce mandatory air tightness testing, introduce zero carbon heating and hot water requirements like [Vancouver](#), “electric-ready” initiatives that will require new homes to install outlets for electric heating and appliances even if gas equipment is being installed, as well as renewable energy and electric-vehicle readiness requirements, or implement measures to report on embodied emissions in new construction.

Why: Development of the national model codes must balance the ambition, capacity, and resources of each of Canada’s provinces and territories. As a result, your province may be better prepared to deliver on net zero friendly code measures than jurisdictional peers.

Who: Municipalities in BC demonstrated their support for mandatory air-tightness measures found in the BC Energy Step Code and supported plans to amend the 2020 model codes to keep this important measure. Support for cutting emissions from new construction was also noted and in 2023 BC will also introduce a carbon pollution standard.

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If your municipality has the authority, adopt the upper tiers of the 2020 tiered energy codes

How: Use all available resources to demonstrate that your jurisdiction is prepared to deliver building constructed to an upper tier of the tiered energy codes.



Go above and beyond provincial building code adoption schedules by accessing CAF funds accessible to municipalities to support for technical studies, adoption/compliance tools, design validation, roadmaps, best practices guides, IDP, commissioning studies, training, and stakeholder engagement.

Why: New buildings are an opportunity to lock-in positive climate action and ensure low carbon buildings are the norm in your municipality. Taking action on new buildings ensures building owners have more comfortable, healthy spaces to live, work and play, and are insulated from unnecessary and costly retrofits in the future.

Who: Municipalities in BC via the BC Energy Step Code. Municipalities in Quebec and Saskatchewan have authority to implement local building standards.

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If municipal building code adoption is not an option or if additional measures are desired, use existing powers or green development standards (GDS) to encourage adoption of upper tiers of the 2020 codes.

How: Explore and leverage existing powers such as site plan control, zoning and development, and permitting. Through these existing powers, municipalities can set performance targets that are aligned with tiers of the 2020 model codes and offer incentives such as density bonusing, expedited development applications, or other non-financial incentives.

Introduce voluntary to mandatory GDS to target zero-emissions heating and hot water systems in all new buildings and reintroduce mandatory airtightness testing.



Encourage Low Carbon Energy Systems at scale by encouraging alternatives to fossil fuels in new developments via land subdivision and development controls.

Prioritize resources towards enforcing compliance with current codes and standards to verify as-constructed building performance meets as-modelled building energy and emissions performance. Include training for all buildings related staff that emphasizes the link between building codes and municipal climate plans.

Why: When aligned with the tiers of the 2020 national model codes, programs delivered under existing powers or GDS can accelerate building performance, build capacity in their local market, and offer builders a chance to innovate – all while maintaining the harmonization of codes within the province.

Advanced municipalities can bolster the effectiveness of the 2020 model codes with requirements for absolute energy metrics, operational and embodied emissions, and renewable and EV charging.

Who: Municipalities of all sizes across Ontario have implemented [green development standards](#) to prioritize the construction of low-carbon buildings.

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Support the building industry in the transition to high-performance, low carbon construction

How: Highlight areas of capacity building and innovation needed to make this transition and encourage stakeholders to find innovative solutions.



Require or incentivize whole building embodied carbon assessments or EPDs for common building materials. In addition to building awareness, assessments encourage the development embodied carbon tools, and collected assessments can offer insight into material choices and inform future benchmarking and policies.

Provide training for common embodied carbon assessment tools for architects, engineers, and consultants. These include design integrated tools like [Athena Impact Estimator](#) , [OneClick LCA](#), carbon calculators such as [Pathfinder](#), and product selection tools such as [EC3 \(Embodied Carbon in Construction Calculator\)](#)

Identify and address potential concerns around the electrification of heating and hot water systems by convening stakeholders, particularly utilities. Issues addressed should include electrical capacity potential, and the extent of renewable natural gas availability and how it can be incorporated into clean heating systems.

Why: By communicating what it means to be zero carbon ready, your municipality can map out the transition from current codes to NZER codes and deliver to industry clear and specific direction on future requirements.

Who: The National Research Council's Low Carbon Assets through Life Cycle Assessment Initiative (LCA²) includes the development of whole-building life cycle assessment guidelines, and life cycle inventory datasets for Canadian construction materials.



The cities of Nelson and Castlegar have initiated a Low Carbon Homes Pilot (2021) to reduce the impact of buildings by considering embodied emissions alongside operational carbon emissions.

For more information

- [What municipalities need to know about net zero emissions building codes](#)
- [Codes Acceleration Fund](#)

