Why is Ontario making new buildings less energy efficient?

The province's proposed building code is a step backward from net-zero

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If you could live in a home that was highly energy efficient, climate resilient, comfortable and healthy for about the same cost as a code-built home and was built to outlast current buildings, would you move in?

All that's missing to make that a reality for homebuyers is an improved government building code that recognizes how easy – and important – it is to lower household energy bills and provide shelter during extreme weather events.

Unfortunately, governments around the world have repeatedly failed to deliver, and this cycle of building-code failure is about to continue in Ontario.

During a short and rushed consultation that ended in March, the provincial government released a proposed update to the building code. The latest changes were meant to be based on the model national code released last month. The proposed federal code isn't the pathway to net-zero it's hyped to be; it's an improvement but not there yet. Meanwhile, Ontario's proposed code is a step backward when it comes to making buildings more energy efficient and resilient in the face of the climate crisis.

A quick code refresher: every five years, the Canadian Commission on Building and Fire Codes, established by the National Research Council of Canada, develops and publishes the model Canadian National Building Code. The federal code is voluntary, but since many provinces lack the ability or desire to develop their own, most adopt some or all of it.

The latest federal model code is a step code, much like that found in British Columbia. This means it's designed to allow provinces to ratchet up energy performance levels over time to increase efficiency and drive down greenhouse gas emissions. By having steps, it gives the building industry a clear idea of what will come next, performance-wise.

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Rather than adopt the step code, the provincial government in Ontario proposes to opt for the lowest possible efficiency level. For smaller buildings, Ontario will make no improvements in energy efficiency. For larger buildings, the province will put in place a standard that is less efficient on some of the requirements for windows, doors and insulation, making it less stringent than what is in place today. With everything we know about the climate crisis and building solutions, this is not only a wasted opportunity that will end up costing Ontario more in the long run; it will also hurt the province's long-term competitiveness to attract jobs in the low-carbon economy. Real estate investors in Europe and the United Kingdom are already seeing inefficient buildings suffer a 30% reduction in value, while a robust Canadian energy-efficiency marketplace could add up to $48 billion to GDP.

Worse still, it may come with the collateral damage of those homes and lives when buildings are not able to withstand extreme weather events. For example, buildings with generous insulation, triple-pane windows, air tightness, heat-recovery ventilators and low energy use can support residents during extreme temperatures, like those during the unprecedented heat dome that killed 600 people in B.C. last summer.

Ontario municipalities looking to improve their green-building standards will find that the regressive provincial code stymies their plans. Municipalities use a process called site plan control to develop green building standards, but having more tools, such as a unified robust building code, would drive consistency, predictability and capacity to help transform the market across the province.

Federal code is an improvement but a missed opportunity

Meanwhile, the top step of the new federal code calls for a 60% reduction in energy use over the previous model code, released in 2015. It's an improvement but not as ambitious as B.C.'s step code, which has limitations but targets a near 90% reduction. There's plenty of evidence demonstrating that more is possible, with minimal cost increases, but that

ambition did not make it into the code. In a world where Canada will have to double its electricity supply to get to net-zero, shouldn't we look to save energy at every step?

In today's building stock, including "green buildings," there is a performance gap between expected and actual energy performance. A low-cost way to close this gap and verify the efficiency level of buildings is by conducting what's called a blower-door test to see how air-tight they are. With heavy lobbying from the building industry, air-tightness testing was first added to and then pulled from the federal code (and wasn't added to the Ontario code).

The federal code also continues to use a "reference building approach," where energy performance is assessed against a similar hypothetical building – an approach that will continue to exacerbate the performance gap problem. In a net-zero world, where investors are seeking decision-useful climate data, shouldn't we aim to deliver quantifiable reductions in carbon pollution over the life of the building? Instead, we are expected to just trust the building industry.

Equally troubling is the near complete absence of resiliency measures added to the federal code to protect buildings from high winds, floods, wildfires and more. Incorporating projections about future climate conditions into the codes will reduce the need for costly future retrofits, according to the federal government's own expert panel on disaster resilience.

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One major problem: developing Canada's model code is a conservative and opaque process.

The Canadian Commission on Building and Fire Codes uses a series of committees composed primarily of members of the building industry to develop the new code. Gaining a seat at the table is near impossible. The commission also receives advice from provinces and territories through a

committee that can block virtually anything the code committee wants to move forward.

While the commission may have done good work in the past to ensure the integrity of our buildings, the process is too slow to address the innovative building needs of Canadians during a worsening climate crisis.

If the federal government wants to meet its climate-mitigation and -resilience goals, it needs a stronger code, and it needs provinces and territories to take a step forward, not back. The code-development process needs to be reformed to make it faster, more accountable, transparent and innovative to help solve the climate crisis.

More ambitious codes will spur jobs and innovation while delivering high-performing buildings that are comfortable and better for your health. If built correctly, they will have the potential to significantly cut carbon pollution while also sheltering us from some of the worst climate-related impacts. Change is needed because the codes belong to the public, not entrenched interests and recalcitrant provinces.