

CANADIAN FEDERATION OF APARTMENT ASSOCIATIONS

ENERGY, ENVIRONMENT AND CLIMATE CHANGE POLICY

September 10, 2021

It is widely accepted that human activity is warming the Earth, and causing climate change largely through the emission of greenhouse gases (GHGs), and that the warming needs to be reduced and stopped. CFAA accepts that view, and accepts that Canada and Canadians need to play their part in making the necessary changes. At the same time, CFAA advocates for the reduction of GHGs to be done in ways which minimize the negative effect of making those GHG reductions on the affordability of rental housing.

Background

Rental housing, and other relatively dense housing tends to be greener than other forms of housing, especially spread-out low-rise housing. At its simplest, heating an apartment heats the apartments on both sides (and above and below), whereas heating a single-family home heats the home and the air around the home, thus using more energy and emitting more GHGs per unit than the apartment does.

De-carbonization is seen as a major part of the solution to reduce GHG emissions in housing. That means substituting electricity for combustion fuels such as fuel oil, propane or natural gas. However, now and at any point in time, there are technological limitations, such as the ability to obtain only so much heat from given heat sources, the efficiency of insulation, the need for ventilation in buildings and the carbon intensity of the electricity grid.

The carbon intensity of the electricity grid matters a great deal because current technologies for reducing GHG emissions from heating building mostly rely on using electricity to generate or capture heat (e.g. through heat pumps). Carbon intensity in the electrical grid currently varies from province to province, with high carbon intensity in Alberta, Saskatchewan and Nova Scotia (which burn coal, coke and oil-based fuels to generate electricity), and low intensity in BC, Manitoba, Ontario and Quebec (which generate a greatdeal of hydro-electricity).

Currently, using electricity to heat buildings usually means installing heat pump technology. To use heat pump technology means buildings require extensive and expensive building retrofits. With current technology, those retrofits are so expensive that amortizing them over even as long as 50 years results in a massive increase in the total cost of heating buildings.

Another technological limitation is the ability of air-source heat pump technology to extract heat at the low temperatures which occur in many parts of Canada for many months of the year. Even the latest technology works only until minus 25 degrees C; and at low temperatures it produces much lower heat than combustion or electrical resistance heating. In many parts of Canada, the use of current heat pump technology requires a supplementary combustion or resistance heating source to be available besides a heat pump.

It will take time for a workforce of experts and tradespeople to design, recommend, install, service and maintain these new technologies and the building retrofits that are needed. At the moment, their numbers are insufficient for wide-scale application of the retrofits and technologies.

As a result of all those factors, and other factors, different buildings offer different opportunities for reducing energy use and GHG emissions.

General policy

For all the reasons identified in the Background section, there is no best one-size-fits-all solution to reducing GHG emissions in the rental housing sector. Changes to reduce GHG emissions need to vary according to the circumstances, including the building characteristics, the climate at the building location, available technology, and the carbon intensity of the electricity grid serving the building.

Carbon emissions should be reduced at the fastest rate which technology permits without undue increased expense to renters or rental housing providers, since increased capital costs or operating costs negatively affect rental affordability and housing availability. Alternately, government subsidies should be available to pay part or all of the cost of the necessary building retrofits.

The best approach is one that takes into account both monetary return on investment and GHG impact per dollar invested. Some steps can substantially reduce carbon emissions at a moderate cost, such as improved boiler and digital controls. Complete retrofits or electrification are much more expensive, and are cost-prohibitive with current technology.

Government support and an education transformation is also needed to create the workforce of experts and tradespeople needed to design, recommend, install, service and maintain the new technologies and the building retrofits that are needed.

Maintaining a cap-and-trade system across Canada is important to create a market to promote and feed commercially viable solutions for reducing carbon emissions.

Carbon taxes are a legitimate approach to pricing the externalities of carbon emissions into choices in fuel usage.

Carbon capture is also an option which should be developed, explored, and adopted when it is the most efficient way to reduce GHG in the atmosphere. Other mitigation measures should also be explored, especially then they are moderate, responsive and temporary.

Building heating and cooling

In order for building heating and cooling to result in lower GHG emissions through decarbonization, the following changes are needed:

- Better technology for heat delivery (extraction or generation)
- Better technology for building retrofits
- Greener electricity grids (with lower carbon intensity)

- Cheaper electricity
- Funding and support for the expansion of the necessary work force
- Appropriate government subsidies for building retrofits to enable GHG reductions without undue effect on housing affordability.

New buildings versus life-cycle approach

In reducing GHG emissions in the residential rental buildings sector, a common focus is on incorporating energy efficiency in the construction of new rental buildings. What is often forgotten is that the most significant contributor to GHG emissions in the rental housing sector is at the front end – with the energy intensive and extensive use of concrete, the use of heavy machinery for new construction, and the manufacturing of new construction material and finishes.

Of course, new rental housing construction must take place in order to keep up with growing affordable housing demand, but making sure new rental buildings are energy efficient is only part of the solution.

In rental housing, the problem of GHG emissions reductions must be viewed from a life cycle perspective. For this reason, policies aimed at improving energy efficiency should include a major focus on maintaining and preserving existing rental housing stock, and incentivizing rental property owners to make energy efficient improvements, while extending the lifespan of their buildings.

CFAA action

CFAA intends to contribute to the development of policies and programs to reduce carbon emissions at the fastest rate which technology permits without undue increased expense to renters or rental housing providers, taking into account government subsidies available to pay part or all of the cost of the building retrofits necessary to de-carbonize building heating.

CFAA and Canada’s rental housing sector can be key drivers of the Pan-Canadian [Framework](#) on Clean Growth and Climate Change released by Canada’s First Ministers in December 2016 – which provides a plan to reduce emissions across the economy to achieve the national GHG emission reduction target of a 30% reduction in GHGs from 2005 levels by 2030.

This potential is recognized in the federal government’s overall policy approach for reducing building sector GHG emissions – [Build Smart—Canada’s Buildings Strategy: A Key Driver of the Pan-Canadian Framework on Clean Growth and Climate Change](#).

CFAA will build on the “The Framework’s” approach to reducing emissions in the building sector, which includes the following elements:

- extending the lifespan of existing rental housing;
- retrofitting existing buildings;
- fuel greening;
- making new buildings more energy efficient; and
- improving energy efficiency of appliances and equipment.