

Canada's municipalities push for health-based climate action

Canada's cities are leading the efforts to stem the harmful effects of the climate emergency on human health. Paul Webster reports from Toronto.

Few countries face climate change risks to the environment and to public health as severe as those threatening Canada. Across the world's second-largest country, massive forest fires, melting arctic ice masses, and vast regional weather shifts threaten numerous flood-prone large cities as well as agriculture, and economically vital infrastructure such as hydroelectricity lines, roads, and coastal ports. Evidence of severe human health effects from climate change is also growing.

While Canada's federal, provincial, and territorial orders of government—many of which are deeply dependent on tax revenues from the world's fifth-largest fossil fuel industry—continue to hesitate, more than 500 Canadian municipalities have now declared climate change emergencies, by far the largest number of cities to do so from any single nation.

Backed by a fast-growing body of health research underlining the severity of the threats to local public health, and under pressure from local voters, Canada's municipal leaders are pushing ahead with sweeping reforms aimed at reducing urban carbon emissions while promoting active lifestyles.

"We're leading the way", said Garth Frizzell, mayor of Prince George, a mid-sized city in the interior of forest-fire wracked British Columbia, and President of the Federation of Canadian Municipalities, which has 2200 member cities and manages a federally funded Green Municipal

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Fund of CA\$1 billion. "We're not in the planning stages. We're in the executing stages", he told *The Lancet*.

David Miller, former Toronto mayor who serves as global ambassador for the C40, a network of almost 100 cities worldwide that work together to address climate-related concerns, agrees with Frizzell. Canada's municipal governments are rising to the challenges far more effectively than their federal and provincial counterparts, he says, while acknowledging that many provinces are cleaning up their electrical power grids, and that federal funding is now seeding many local initiatives. "Canada's biggest cities have been leading a worldwide trend of growing municipal climate action for at least 15 years", Miller said.

"City councilors and mayors are aware of the health effects of things like air pollution and deforestation", Miller explained. "They know that the epidemics and pandemics can be environmentally related. And they know they can make a difference through real actions, whenever there is real funding available."

Much of this municipal momentum can be credited to health researchers, Frizzell and Miller both believe. Canadian health researchers began

flocking into the climate field in 1998, when a deep-winter ice storm that seemed suspiciously related to a warming climate resulted in 28 deaths and almost 1000 injuries in Ontario and Quebec. During the storm, in which electricity was cut for 4.5 million people, many water pumping stations lost power, compromising water quality and supply, and 250 communities in Ontario and Quebec declared emergencies. Researchers at McGill University, Montreal, later found that children whose stress-affected mothers were pregnant during the ice storm had poorer cognitive and language skills relative to other children.

In 2011, a comprehensive health-research scan compiled by the National Round Table on the Environment and the Economy, an influential Canadian think tank, led the organisation to conclude that climate change poses significant health risks for Canadian cities, including high temperatures that exacerbate cardiovascular and respiratory illnesses. A greater risk of exposure to infectious diseases and diseases transmitted through water and food was also expected. By 2050, the group warned, 1% of all deaths in Canada could stem from climate change effects.

Julia Langer, a veteran environmental campaigner who leads The Atmospheric Fund, a government-funded clearing-house for investment in local health-based programmes related to climate change, says the growing availability of firm scientific evidence justifying investment and action is hugely helpful. Since 1991, Langer's Fund, which she describes as the first local agency in the world dedicated to addressing climate change, has helped Toronto reduce carbon emissions by a third, largely



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thanks to a successful campaign to phase out the use of coal in generating electricity. In 2014, that campaign resulted in the largest single reduction in greenhouse-gas emissions in North America—the equivalent of taking 7 million cars off the road. The campaign relied heavily on epidemiological research, endorsed by the Ontario Medical Association and Toronto’s then Medical Officer of Health, Sheela Basrur, asserting that Ontario’s coal stations were killing 1800 people annually.

Langer argues that linking municipal climate change action to rigorous health research is essential in propelling local political action. She is focusing on efforts to realise vast reductions in vehicle emissions across the Greater Toronto Area—which has a population approaching 7 million and is North America’s fastest-growing region—through investment in new zero-emission public transit systems. In this campaign, Langer relies on research collated in a report from four Greater Toronto and Hamilton Area (GTHA) medical officers of health alongside Jim Dunn, chair in applied public health at McMaster University, Hamilton.

“Over a period of decades, we have removed physical activity from people’s lives, designing, for example, communities that require the use of cars”, the report, which cites dozens of peer-reviewed published health studies from Canada and around the world, explains. “The annual costs of physical inactivity and obesity in the GTHA are now \$4 billion, including \$1.4 billion in direct medical costs. Diabetes rates are projected to double in 25 years, from 7.1% in 2002 to 16.4% by 2027. Diabetes-related medical costs attributable to inactivity currently exceed \$550 million in the GTHA each year.” Considering these health cost calculations, the GTHA medical officers called for investment in long-planned public transportation projects while achieving modest increases in walking and cycling to work, school, and on errands. These

investments, they argue, “would increase physical activity and reduce traffic emissions, preventing over 330 premature deaths per year, over 1000 cases of diabetes per year, and over 90 hospitalisations per year. Numerous additional health benefits would also be expected.”

Langer similarly draws on health research regarding indoor air quality to compel investment in retrofits to public and private housing.

In harnessing human health research to municipal climate change action, Langer’s approach has attracted powerful support. Last year the Government of Canada awarded a \$183 million grant to the Federation of Canadian Municipalities to replicate The Atmospheric Fund’s Toronto model in six more big cities. Mary Pickering, who is coordinating this effort alongside Langer, says the focus is on a Low Carbon Cities Canada initiative that invests in innovative efforts to help Canada rapidly drive down its national emissions and meet its international targets.

“The targets are not accomplishments”, Pickering warned. “If they aren’t accompanied by real investment in real projects, they’re just empty promises—like the person who says he’ll lose fifty pounds by Christmas. What we really need is more, and faster, federal investment in specific municipal projects across the country. The cities themselves are strapped. The [COVID-19] crisis is hitting them extremely hard. So we urgently need a redistribution of federal funds down to the city level.”

In pushing for direct federal funding to the municipalities to help them address climate change, Miller notes that many cities face competing, often contradictory agendas backed by the federal and provincial governments. For example, Caledon, which is located in one of the last semirural regions adjacent to the Greater Toronto Area, vigorously supports the Government of Ontario’s plan to construct a new 50 km superhighway through forests



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and farmlands that environmental critics describe as unnecessary and a severe affront both to local health conditions and to Canada’s national climate change commitments. Alexandra Service, who serves as Caledon’s climate change adviser, has warned the town’s mayor and elected councillors that their support for the new highway will significantly impair their pledges to reduce emissions. “That kind of dissonance isn’t uncommon”, said Miller.

Ryan Ness, who directs climate change adaptation for the Canadian Institute for Climate Choices, a think tank that describes itself as “an unparalleled collaboration of experts from a diverse range of disciplines and organizations across the country”, strongly emphasises the political potency of research into the human health effects of climate change, and the health benefits that flow from mitigating those effects.

Ness aims to develop national models that can inform decision makers, especially at the municipal level, where human health concerns are most acutely considered by politicians and voters alike.

“The human health research is proving to be extremely persuasive in compelling action, especially at the municipal level”, Ness said. “This research has become fundamental in making the case for action.”

Paul Webster