

CLIMATE INNOVATION OPPORTUNITY:

INVESTING IN LOCAL GOVERNMENTS TO ACCELERATE THE TRANSFORMATION
TO A LOW-CARBON, RESILIENT CANADA



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Social Capital Strategies, Inc. on behalf of Canadian Urban Sustainability Practitioners (CUSP), a member-led, non-profit network of municipal practitioners from Canada's large and leading cities on climate and sustainability.

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The Canadian Urban Sustainability Practitioners network accelerates the adoption of transformative climate policies and programs. CUSP connects and aligns sustainability leaders in Canada's large and leading cities including Abbotsford, Calgary, Edmonton, Halifax, Mississauga, Montreal, New Westminster, North Vancouver, Ottawa, Richmond, Saanich, Saskatoon, Surrey, Toronto, Vancouver, Victoria and Winnipeg.



Social Capital Strategies is a strategic communications firm specializing in the development of values-based framing and engagement strategies that mobilize large segments of the public in support of environmental and climate solutions.

EXECUTIVE SUMMARY

Across Canada, cities are addressing the climate emergency through policies and programs that cut greenhouse gas emissions and increase resilience to the impacts of climate change. These efforts must be expanded and accelerated to meet the scale of the challenge.

The Canadian Urban Sustainability Practitioners (CUSP) network commissioned Social Capital Strategies to research the current capacity of CUSP members to address climate change, what leads to successful outcomes, and where there are resource gaps. This whitepaper distills findings to allow CUSP, local governments, federal and provincial governments, utilities, community foundations and private philanthropists that support climate action at the local level to leverage lessons learned.

There are five key elements of success that allow sustainability teams in local governments to generate innovative policy and market transformations on scale with what is needed to address the climate emergency. These include funding full-time permanent positions to focused on climate change and energy issues; adding a climate change and sustainability lens to decision-making and embedding action across local government departments; having capacity to generate political and public will for action by involving municipal staff,

city council members and community stakeholders in program planning and implementation; collaborating with other local government sustainability staff, utilities, and provincial and federal governments through facilitated peer networks; and tapping into or creating multiple funding sources including government and philanthropic grants.

In cities with these elements of success in place, emissions are dropping and communities are realizing economic, health and quality of life benefits. Yet responding to the climate emergency requires every local government to set even more ambitious goals and increase the pace of action. Additional investments in full-time positions and program budgets are needed to support the internal communications and change management processes critical to mainstreaming climate change and sustainability across city departments; expand the climate and energy file so that issues currently out of reach can be tackled; effectively engage community stakeholders and address equity; create new metrics such as tracking the costs associated with extreme weather events and job creation related to the transition to a low-carbon economy; gaining efficiencies and tackling complexity by participating in peer-networks; and adding fundraising capacity.

CANADIAN CITIES AND THE CLIMATE EMERGENCY

Flooding. Drought. Heat waves. Extreme winter storms. Forest fires. Undeniably, Canadians are living the **climate emergency**. The Intergovernmental Panel on Climate Change's [Global Warming of 1.5°C](#) report makes clear that to ensure a safe climate, the transition to low-carbon communities and economies must take place over the next decade. An emergency calls for a bold and rapid response. Four out of five Canadians live in cities. Cities are both major sources of emissions and vulnerable to climate impacts. As a result, every urban centre across the country must expedite efforts to dramatically cut emissions and adapt to climate change.

Many local governments are actively working to address the challenge. Skilled and resourceful sustainability teams are developing some of the most advanced climate and energy policies and programs in North America. They are driving the transition to a low-carbon Canada through efforts such as expanding the adoption of electric vehicles and renewable energy, promoting high energy performance in buildings, cutting emissions from municipal operations, and encouraging compact

development. In addition to climate security, these programs deliver quality of life, health, and economic benefits. Despite progress, it is not nearly enough. Keeping warming within safe limits requires cutting at least 50 percent of emissions by 2030. Transformative systems change and greater collaboration between governments and across multiple sectors are needed to achieve this goal.

Climate Innovation Opportunity highlights examples of ambitious climate action underway by local cities across Canada, what is contributing to success, and recommendations on how to accelerate and scale efforts by filling resource gaps and expanding the climate portfolio.

A case study of BC Hydro's Community Energy Managers Program exploring the key elements behind this successful initiative that funds staff positions in municipalities in British Columbia, facilitates peer-exchanges, and offers capacity building training programs is offered as an appendix.



Spruce Grove Passive House in Whistler BC,
photos by Kristen McCaughey Photography
Source: BC Energy Step Code

LOCAL GOVERNMENTS DRIVE THE TRANSFORMATION TO A LOW-CARBON, RESILIENT CANADA

Local governments have a huge role to play in addressing the climate emergency given they control or influence more than half of greenhouse gas emissions in Canada.¹ Many communities have set ambitious climate goals and are making progress cutting carbon pollution. An increasing number are taking steps to prepare for climate impacts.² Investing in sustainability staff and programs leads to policy and market innovations on scale with the challenge. For example:

Zero-Emissions Buildings:

The City of Vancouver was the first municipality in North America to map out how to achieve zero emissions from new buildings by 2050. Adopted in 2016, the Zero-Emissions Building Plan includes the Passive House Standard for certifying the highest level of energy performance. Now there are more than 300 dwelling passive energy housing units (300,000 square feet) as compared to one single-family home (2,400 square feet) in 2014. The country's largest passive energy building – a six-story apartment complex – is in Vancouver and construction is underway on the first of two passive energy high-rises in Canada.

Establishing a Pathway to High-Energy Performance:

A multisectoral working group including staff from Vancouver, Surrey, Richmond and Victoria, as well as the province, utilities and industry helped shape the development of the BC Energy Step Code, the net-zero energy-ready building performance goal established by the province in 2017 and regulated a pathway to achieve it. Lessons learned from the planning process were evaluated and distilled so that successful elements could be replicated in other complex policy arenas. As of **October 2019, 27 communities referenced the code in a policy, program or bylaw and another 24 local governments are considering adoption**.³ As a result, more than half of new building permits will perform at levels higher than the BC Building Code.



LOCAL GOVERNMENTS DRIVE THE TRANSFORMATION TO A LOW-CARBON, RESILIENT CANADA

Home Energy Labeling:

Energy labels provide a tool for considering energy efficiency when making construction and home purchasing decisions. The District of Saanich led a study for BC Hydro's Community Energy Manager network on the adoption of home energy labels as part of implementation of the Province's BC Energy Steps Code. Subsequently, Saanich and five other municipalities adopted the approach.

Electrical Vehicle Charging:

The City of Richmond, BC adopted a requirement that all residential parking in new developments be equipped with electric vehicle charging capacity, another first for North America. Within the year, eight cities in the province leveraged Richmond's work and adopted similar EV policies thanks to information sharing amongst Community Energy Managers.

Sustainable Neighborhoods:

The City of Edmonton is creating one of the largest sustainable communities in the world. Green, renewable energy, and carbon neutral design best practices are being applied in the Blatchford neighbourhood, which encompasses 535 acres in the heart of city. The city built a geothermal field to generate clean energy for the neighbourhood that will connect to a district energy sharing program which reduces energy use 15-20 percent by distributing energy between buildings.

High-Performance Construction and Renovations:

The City of Halifax is participating in an Efficiency Nova Scotia program that has embedded an Efficiency Nova Scotia energy engineer to work on energy efficiency projects in municipal operations that reduce energy use and costs. In 18 months, the engineer has completed \$2M in projects with \$1.5M in savings to date and growing.

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Adapting to Climate Change:

Thanks to council approval for an increase in funding and staff positions, the City of Toronto is now taking steps to adapt to climate change. The sustainability team developed a detailed study of changes in extreme weather and a risk assessment tool for incorporating climate adaptation into city decision-making. Climate adaptation and mitigation considerations are also being applied to capital budgeting and asset management. This builds on progress cutting community-wide emissions, which in 2017 were 44 percent less than in 1990, dropping across all sectors even while the economy and population grew.⁴

Low Carbon Cities Canada (LC3):

The federal investment in cities of \$1B from the 2019 Federal Budget acknowledges the leadership of cities and their unique ability to accelerate climate action through local collaboration and partnerships within and among Canadian cities. \$350M was committed to establish and endow seven urban climate centres under the umbrella of Low Carbon Cities Canada to drive Canada's transition to the low-carbon economy and unlock social and environmental benefits. CUSP staff and the core and associate members from the seven cities contributed to the design of the LC3 initiative along with The Atmospheric Fund and other environmental nonprofit and foundation partners. All seven cities in which these LC3 centres will be based are CUSP members and 15 of CUSP's 17 members will directly benefit from a centre within their region.

Climate Emergency Response:

More than 400 local governments across Canada have declared climate emergencies. In its Climate Emergency Response Plan, the City of Vancouver set more aggressive goals and shortened timelines. The City's "[Six Big Moves](#)" include promoting walkable, complete communities; safe and convenient active transportation and transit; pollution-free cars, trucks and buses; zero-emission space and water heating; low-carbon construction; and restored forests and coastal ecosystems.



The high bar raised by the City of Vancouver has been matched by the Cities of [New Westminster](#) and [Victoria](#) who have also adopted ambitious goals as well as systems-level changes such as the development of a climate action budgeting framework and lens for municipal decision-making. By early 2020, most of CUSP's member cities will be bringing forward their new or updated climate plans in response to the latest IPCC report and Paris Agreement commitments to limit global warming to 1.5 degrees.

ELEMENTS OF SUCCESS



Establishing Full-Time Permanent Positions:

Climate change and energy issues are multi-faceted, requiring a range of approaches to cut emissions and increase resilience across energy, waste, transportation, food, building and infrastructure, human, natural, economic and communication systems. This adds to the already broad range of responsibilities that sustainability departments are responsible for such as air and water quality, natural resource and/or waste management, procurement, and asset management. When local governments are able to resource their sustainability group with full-time permanent or multi-year staff, this complexity can be managed. Teams are able to track trends and work simultaneously on the development of new policies and programs that require distinct strategies, such as increasing energy performance in new versus existing buildings.



Adding a Sustainability and Climate Lens to Decision Making:

Leading municipalities successfully embed climate action and sustainability across local government by involving stakeholders from senior management and other city departments in setting and implementing goals and tracking progress. Embedding climate and sustainability requires persistent reinforcement and redundancy, but ultimately is what is required for transformative change to occur. When integrated into organizational systems it fosters a culture of leadership that motivates staff, helps attract and retain top talent, and protects multi-year initiatives from political changes.



Generating Political and Public Will for Action:

Sustainability teams with capacity to engage city staff, council members and the public in planning processes can set ambitious goals and gain support for staffing and department budgets. For example, after extensive public outreach and internal consultation with senior decision makers the sustainability team at the City of Toronto presented an aggressive emission reduction plan to council which was approved along with a budget increase and doubling of the staff in the Energy and Environment division to implement it. The team generated a strong business case that included co-benefits of climate action such as job creation, poverty reduction, and resilience to extreme weather.

ELEMENTS OF SUCCESS



Collaborating through Facilitated Peer Networks :

The creation of new, impactful policies and programs is being fostered through peer-learning networks facilitated by network staff and supported by resources for collaboration. It takes time to participate yet sustainability staff gain efficiencies by sharing best practices with other local governments and working together to develop new programs and access funding.

- Many of Canada's larger cities are members of the Urban Sustainability Director Network, CUSP's partner network. The access to information, networking, and funding USDN provides helps drive climate action. For example, the City of Toronto saved time and money by modelling its energy benchmarking program on Chicago's.
- Sustainability staff come together to share information, fill data gaps, and develop innovative program and policy approaches in the Canadian context via CUSP. For instance, member cities are working together through the Local Energy Access Program (LEAP) to advance work on climate action, equity and energy poverty. CUSP developed the [Energy Poverty and Equity Explorer](#), a nationwide, neighbourhood-scale equity and energy poverty map and produced two primers and a guidebook (all included on their new microsite www.energypoverty.ca) to assist policymakers at all levels of government, utilities and NGOs with the design and delivery of equity clean energy programs that advance poverty reduction, equity and affordability alongside GHG reductions.
- BC Hydro's Community Energy Manager Program (CEM) is accelerating climate and energy innovations across British Columbia. Through the program, local governments can apply for grants to cover half a salary for a staff position to cut energy use and carbon emissions. These Community Energy Managers participate in a peer network and capacity-building programs and access implementation funding for research and the development of new policies and initiatives. The CEM program was central in the creation of the BC Energy Step Code, the City of Richmond's EV policy, and District of Saanich's home energy labeling program.

ELEMENTS OF SUCCESS



Leveraging and/or Creating Multiple Funding Streams:

Local governments making progress on climate action have access to multiple funding streams that support the research, development, piloting and implementing of initiatives.

- Municipalities are coming up with new, innovative ways to pay for climate action. The District of Saanich established an innovative Carbon Fund in 2007. Each department contributes to the fund based on their annual GHG emissions and can apply to the fund for support on projects that help reduce their emissions further. The City of Halifax recovers its administration and staffing costs for its Solar City program through interest income on these solar loans. The City of Toronto uses a percentage of development fees to pay sustainability staff to review and determine if applications for developments meet energy performance standards. Toronto leverages recoverable debt from its capital budget for programs that generate cost savings or revenue. Toronto, Ottawa and Vancouver offered the first municipal green bonds in Canada to support sustainability projects.
- Local governments are tapping into federal government funding through Environment and Climate Change Canada, Natural Resources Canada and the Federation of Canadian Municipalities. For communities of less than 150,000 population, staff support grants are available to fund new two year climate mitigation or adaptation positions through FCM's Municipalities for Climate Innovation Program.
- Some local governments have secured grants to work on climate adaptation. For example, the Cities of Toronto, Calgary, Montreal and Vancouver were recipients of grants from the Rockefeller Foundation's 100 Resilient Cities program and were able to hire Chief Resilience Officers to identify shocks and stressors related to climate and other social and economic impacts and develop response strategies.
- In British Columbia, local governments are accessing resources via BC Hydro's Sustainable Communities program. They also generate ongoing funding via the Climate Action Revenue Incentive Program. Through CARIP, local governments receive an annual rebate equal to the amount of carbon taxes they paid, provided they are signatories to the BC Climate Action Charter and report to the Province on their carbon footprint and progress reducing emissions each year.

ACCELERATING AND SCALING IMPACT TO MEET THE CLIMATE EMERGENCY

To respond to the climate emergency, every city needs to set more ambitious goals and shorten the timeline for action. Yet at present, several of Canada's largest cities have less than a handful of staff working on sustainability. Even cities that have committed resources to climate change do not have adequate resources to respond to the magnitude of the challenge within the necessary timeframe. With additional investments in municipal sustainability staff positions and program budgets, climate action can be accelerated and scaled to meet the climate emergency by ensuring local governments have resources to:



Mainstream Climate Action and Sustainability Across Local Government:

Embedding climate action across municipal departments is key to success. Staff capacity is needed to take on the internal communications and change management this involves.



Expand the Climate and Energy File:

Adding staff would allow municipalities to work on complex issues that are currently out of reach. Large building benchmarking and disclosure programs for example, are enormous initiatives yet imperative for transforming markets by assigning value to energy efficiency. Measuring and cutting emissions from the production and consumption of goods is another largely untapped policy and market change opportunity. Efforts to work on climate adaptation are still in their infancy or not yet underway in most communities. Cities need resources to downscale climate impacts, determine vulnerabilities and risks, develop a plan, and integrate climate change adaptation into municipal operations such as emergency management, transportation, planning, and asset management.

ACCELERATING AND SCALING IMPACT TO MEET THE CLIMATE EMERGENCY



Effectively Engage the Community and Address Equity:

Additional investments in communication and public engagement are needed to build public support for ambitious goals and involve community members in cutting carbon and preparing for climate impacts. Particular attention needs to be placed on reaching and involving those most at risk due to age, race, income, health, language and other factors in climate plans and programs which can take time given the need to develop or repair relationships.



Create New Metrics:

Carbon, energy and cost savings are being tracked by sustainability staff. Other outcomes are more difficult to measure yet essential for developing effective strategies and making a business case for ambitious action. For example, local governments lack capacity to generate data on the cost of climate impacts and the economic, health, equity and security benefits of climate solutions. Metrics to track financial growth and job creation related to the transition to a low-carbon economy are also needed.



Gain Efficiencies and Grow Impact Through Collaboration:

Funding collaborative infrastructure and facilitation between local governments, federal and provincial governments, and utilities accelerates the pace and scale of progress by improving resource sharing, aligning policies and programs, and spurring the development of multi-city and/or multi-sector projects.



Add Fundraising Capacity:

Government and philanthropic grants provide essential support for climate programs. To take advantage of these offerings, local governments need staff capacity to research and respond to funding opportunities, report on grant outcomes and create funding streams through approaches such as municipal green bonds. Innovations in finance often require changes in decision-making processes, education and research, and new systems yet can result in transformative change.

CONCLUSION

Canada is warming on average two times faster than the rest of the world. Public concern is at an all-time high and there is strong support for climate action. The time for innovation is now and Canadian cities have proven they are up to the task. Expanding resources for municipal sustainability staff positions and budgets and increasing infrastructure and processes for collaboration among cities and between municipal, federal and provincial governments, utilities and other sector actors can help move Canada and the rest of the world from a climate emergency to climate security and prosperity.



Climate Innovation Opportunity was informed by a set of interviews, review of reports on the status of climate action in Canadian municipalities and a scan of thirteen CUSP member websites. Social Capital Strategies would like to thank the following interviewees:

- Mark Brostrom, Director Environmental Strategies, City of Edmonton
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- Brendan McEwen, Former Community Energy Manager, City of Richmond
- Maggie Baynham, Senior Sustainability Planner, District of Saanich
- Anna Mathewson, Manager Sustainability, City of Surrey
- Max Sykes, Climate and Energy Manager, City of Surrey
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- Ryan Freed, Director; Caroline Keicher, City Engagement Manager, City Energy Project
- Myung J. Lee, Executive Director, Cities of Service



Endnotes

- 1 Partners for Climate Protection National Measures Report 2018. ICLEI – Local Governments for Sustainability and the Federation of Canadian Municipalities. 2018.
- 2 The Governance of Climate Change Adaptation in Canada. D. Bednar, J Raikes, and G. McBean. The Institute for Catastrophic Loss Reductions. February 2018.
- 3 https://energystepcode.ca/implementation_updates/
- 4 Toronto's 2017 Greenhouse Gas Emissions Inventory <https://www.toronto.ca/services-payments/water-environment/environmentally-friendly-city-initiatives/transformto/torontos-greenhouse-gas-inventory/>
- 5 Evaluating the Quality of Municipal Climate Action Plans in Canada. Guyadeen, D., Thistlethwaite, J. & Henstra, D. Water Institute Research, University of Waterloo. 2018.