

Year 2 Annual Progress Report

Municipalities for Climate Innovation Program



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Acronyms and abbreviations

ACASA	Atlantic Climate Adaptation Solutions Association
AQME	Association québécoise pour la maîtrise de l'énergie
AMC	Agreement Management Committee
CAPG	Climate Adaptation Partner Grants
CAMN	Climate and Asset Management Network
FCM	Federation of Canadian Municipalities
GHG	Greenhouse gas
ICLEI	Local Governments for Sustainability
INRS	Institut national de la recherche scientifique
IPCC	Intergovernmental Panel on Climate Change
GMF	Green Municipal Fund
MAMOT	Ministère des Affaires municipales et de l'Occupation du territoire
MAMP	Municipal Asset Management Program
MCIP	Municipalities for Climate Innovation Program
MIRARCO	Mining Innovation Rehabilitation and Applied Research Corporation
OCCIAR	Ontario Centre for Climate Impacts and Adaptation Resources
PCP	Partners for Climate Protection program
PTA	Provincial and territorial municipal association
PVWC	Pembina Valley Water Cooperative
QUEST	Quality Urban Energy Systems of Tomorrow

1. Overview of MCIP

The Canadian municipal context

Canadian municipalities have been leaders in climate action for over two decades. Canada's cities and communities have influence, either directly or indirectly, over close to half of GHG emissions in Canada. They are also on the front lines when it comes to climate change impacts and are the focal point of Canada's long-term climate resilience in terms of planning and the built environment. For instance, municipalities are implementing solutions on the ground that help communities enhance energy efficiency and improve transportation options. They are taking steps to adapt their existing infrastructure and make long-term investment decisions that take into account changing climate conditions. They are also implementing policy tools that improve quality of life, reduce greenhouse gas (GHG) emissions, and address risks posed by climate impacts. Many municipalities, however, face capacity constraints in terms of available human and financial resources, which limits their ability to assess alternatives, plan, and take action in the face of climate change.

What is the Municipalities for Climate Innovation Program?

The Municipalities for Climate Innovation Program (MCIP) is a five-year, \$75 million program designed to help build the capacity of Canadian municipalities to better prepare for and adapt to the new realities of climate change, as well as reduce greenhouse gas emissions. The program is ultimately helping to accelerate the transition to low-carbon and resilient cities and communities in Canada, using a two-pronged approach:

1. Increase the capacity of municipalities to reduce local GHG emissions and adapt to local impacts of climate change through a mix of awareness-raising, technical assistance and peer-learning, and grant funding for municipalities and municipal partners.
2. Contribute to a more supportive environment for local climate action by sharing knowledge products and lessons learned, and by engaging with a range of key actors involved in climate change or the municipal sector.

MCIP was launched at a pivotal time. The Canadian municipal sector was already active on climate change, particularly in the area of GHG emissions reduction. The federal, provincial and territorial orders of government in Canada have enabled a dynamic and supportive policy environment for climate action, especially through the Pan-Canadian Framework on Clean Growth and Climate Change, in parallel with a growing international emphasis on the climate change actions of local governments.

MCIP's added value in this space is through its focus on building the capacity of municipalities, including local elected officials and municipal staff, to better understand risks and opportunities, plan, and take action on climate change. The program is also unique in its focus on integrating climate change considerations and asset management. MCIP's approach also takes into account regional differences, including policy and regulatory contexts, motivating factors and priorities, and climate change impacts.



MCIP builds on FCM's 18 years of experience with the Green Municipal Fund and approximately 20 years of experience with the FCM-ICLEI Canada Partners for Climate Protection (PCP) program.

Overview of MCIP's first year of implementation

Year 2 of MCIP (fiscal year 2017–2018) was the program's first year of implementation, and was highly successful. MCIP received a very high volume of applications from municipalities and municipal partners for its grant funding, which indicates the readiness of Canadian municipalities to plan, undertake studies and implement climate initiatives.

Insights from Year 2

- Municipalities value the availability of partner organizations with regionally relevant expertise who understand their context and can support their climate change and sustainability goals.
- Overall, there is high demand within the Canadian municipal sector for climate funding. Different regions in Canada vary in their focus on GHG emissions reduction versus climate change adaptation.
- Integrating climate considerations into asset management is a new area of practice — FCM is working with leading municipalities and partners who are innovating in this space.

Program achievements: FY2017-2018

Figure 1 presents a timeline of some of the key milestones MCIP has achieved over the course of the year. After its first full year of implementation, MCIP is already playing a key role in helping to accelerate local climate leadership and the transition to low-carbon and resilient cities and communities in Canada, and has achieved the following specific objectives:

- Delivered awareness-raising activities to local elected officials and municipal staff.
- Launched technical assistance activities and continued work with FCM-ICLEI Canada Partners for Climate Protection (PCP) program.
- Launched grant funding for plans, studies, capital projects and climate change staff.
- Cultivated relationships with key partners and stakeholders to expand the reach of the program and foster a more enabling environment for municipal climate change action.



2017-2018 timeline

Figure 1: MCIP program timeline for Year 2



Working in partnership and leveraging expertise

Partnering with other organizations is an integral part of MCIP's program delivery strategy, in an effort to expand the reach of the program, leverage existing expertise, and deliver regionally relevant capacity-building support. Over the course of Year 2, MCIP established partnerships with 18 organizations that have deep expertise in the area of climate change or in the municipal sector. MCIP also continued to foster its existing relationship with ICLEI Canada, a key delivery and technical assistance partner for the PCP program. Table 1 provides an overview of the partner organizations working with MCIP in Year 2 to support FCM-ICLEI Canada PCP program activities.

Table 1: List of MCIP partner organizations

Name of organization	Program activity	Regional focus
All One Sky	Climate Adaptation Partner Grant recipient	Alberta
Association québécoise pour la maîtrise de l'énergie (AQME)	Regional Climate Advisor	Quebec
Clean Air Partnership	Regional Climate Advisor	Ontario
Clean Foundation	Climate Adaptation Partner Grant recipient	Nova Scotia
Community Energy Association	Regional Climate Advisor	British Columbia and the Yukon
Conservation Corps Newfoundland and Labrador	Climate Adaptation Partner Grant recipient	Newfoundland and Labrador
Eco-West	Regional Climate Advisor	Prairies
Fraser Basin Council	Climate Adaptation Partner Grant recipient	British Columbia
Conservation: Grand River Conservation Authority	Climate Adaptation Partner Grant recipient	Ontario
ICLEI Canada	Co-delivery partner for the FCM-ICLEI Canada PCP program, Climate Adaptation Partner Grant recipient	National
Institut national de la recherche scientifique (INRS)	Climate Adaptation Partner Grant recipient	Quebec
Mining Innovation Rehabilitation and Applied Research Corporation (MIRARCO)	Climate Adaptation Partner Grant recipient	Ontario
Ontario Centre for Climate Impacts and Adaptation Resources (OCCAR)	Regional Climate Advisor	Ontario
Ontario Climate Consortium	Regional Climate Advisor	Ontario
Ontario Parks Association	Climate Adaptation Partner Grant recipient	Ontario
Ouranos Inc.	Climate Adaptation Partner Grant recipient	Quebec
Quality Urban Energy Systems of Tomorrow (QUEST)	Regional Climate Advisor, Climate Adaptation Partner Grant recipient	National/Atlantic
Réseau Environnement	Regional Climate Advisor	Quebec
Smart Prosperity Institute	Climate Adaptation Partner Grant recipient	National

2. Raising awareness about the importance of municipal climate action

MCIP and its partners are raising awareness amongst local elected officials and municipal staff about the value of engaging in climate action. Awareness-raising activities are focused on GHG emissions reduction and reducing risk to climate change impacts through adaptation.

This work is largely driven by two groups: FCM-ICLEI Canada PCP program Secretariat (composed of MCIP capacity-building staff and ICLEI Canada representatives) and the Regional Climate Advisors — eight organizations working with MCIP to support municipalities in different parts of the country.

Results — awareness-raising activities

- 68 awareness-raising activities delivered by MCIP or its partners, with 3892 attendees in total
- More than 15 awareness-raising webinars delivered to a total of 659 participants across the country, on a wide range of topics related to local climate action
- Presentations delivered at 53 national or provincial/territorial events
- 45 new municipalities joined the FCM-ICLEI Canada PCP program

A key aspect of awareness raising is the messaging. MCIP and the Regional Climate Advisors prepared regionally specific messaging to raise awareness about the benefits of local GHG emissions reduction, taking into account local realities and priorities as well as the broader provincial or territorial context. MCIP's approach to raising awareness about local climate adaptation has largely been focused on risks that climate change impacts pose to the community — particularly relating to infrastructure or critical municipal services.

Over the course of Year 2, MCIP staff, ICLEI Canada, and the Regional Climate Advisors delivered presentations and workshops at relevant national, provincial and territorial events. MCIP targeted events with a high level of municipal participation that were closely aligned with the program's mandate and areas of focus. Regional Climate Advisors also met with local elected officials and municipal staff within their communities.

MCIP and its partners also delivered webinars to participants across the country on adapting to climate change and reducing GHG emissions, including an “introduction to climate action” webinar for local elected officials.

These awareness-raising activities provided municipalities with information about key tools and resources that can help them get started on their own initiatives to reduce GHG emissions and adapt to climate change.

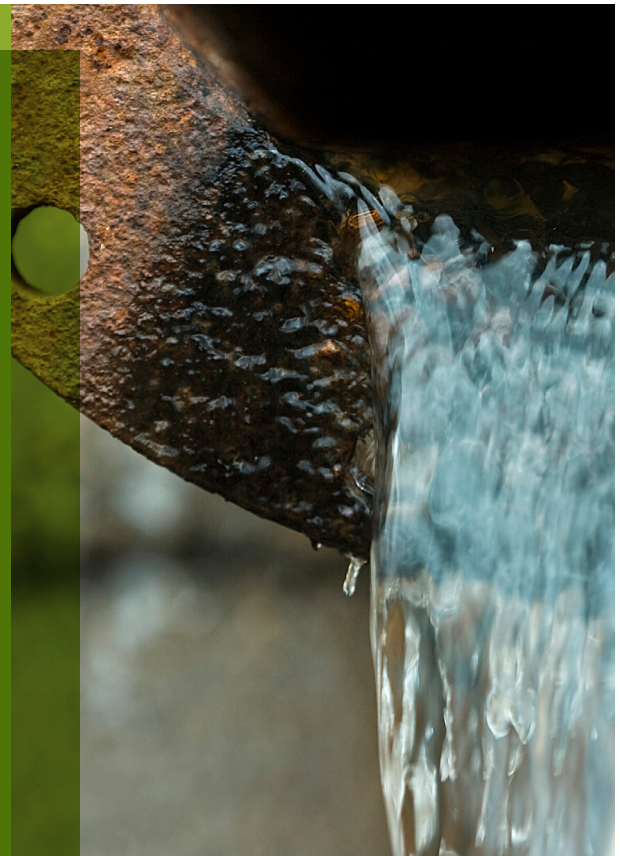


Key to success:

Consider the regional context and the specific factors that drive local decision-making — these can be an entry point for awareness raising.

Hands-on learning about tools for building municipal capacity to work on climate adaptation

MCIP delivered its first adaptation workshop at the Canadian Water and Wastewater Association Conference in St-John's, NL, in November 2017. The conference was an opportunity for in-person engagement with municipal professionals working on resilience and stormwater management, framed around FCM's Climate Adaptation Maturity Scale. Participants provided feedback on what capacity-building supports they might find most critical in progressing through five levels indicated in the scale, within each of the three competencies: policy, human resources and governance, and technical and risk management capacity. Having support for a dedicated staff resource to work on adaptation was highlighted in participant discussions as critical, which aligns well with MCIP's grant funding to support municipal staff working climate change.



Convening spaces for dialogue and connections on local climate adaptation

MCIP hosted an interactive session called “Open dialogue on climate impacts” at FCM's Sustainable Communities Conference in February 2018, which engaged more than 80 participants from across the country to share their respective challenges and risk response approaches relating to climate adaptation. Representatives from MCIP's program delivery partner organizations shared regionally relevant knowledge and alluded to resources that could be beneficial to municipal stakeholders in the room. Several connections were made through this workshop, including

between a rural Atlantic municipality and the Atlantic Climate Adaptation Solutions Association (ACASA). ACASA is an online platform that shares a range of resources, tools and case studies related to adaptation planning, vulnerability assessments, and options for responding to different climate risks. Exchanges such as this one convened by MCIP, enable key connections to be made for peer-learning, knowledge brokering, and general awareness raising about municipal adaptation priorities.



3. Skills enhancement through technical assistance

The technical assistance component of the program seeks to build the skills of municipal staff to plan and implement approaches for reducing local GHG emissions and adapting to climate change impacts.

Results — technical assistance activities

- 19 municipalities selected to participate in the Climate and Asset Management Network
- 12 organizations selected to receive Climate Adaptation Partner Grants, engaging 71 municipalities of different sizes from across Canada and one First Nation
- 8 organizations working with MCIP as Regional Climate Advisors in five regions of the country: British Columbia and the Yukon, the Prairies, Ontario, Quebec, and Atlantic Canada
- 10 technical assistance activities delivered by Regional Climate Advisors, with a total of 279 attendees and representation from 75 municipalities

GHG emissions reduction Regional Climate Advisors

Regional Climate Advisors deliver outreach and peer-learning activities in support of the FCM-ICLEI Canada Partners for Climate Protection (PCP) program. The advisors reach out to municipalities that are interested in reducing their GHG emissions and encourage them to follow the five-milestone framework of the PCP program. They also provide support to municipalities that have already joined PCP to help them progress through the program's milestones through a mix of coaching, training and peer-learning.

The Partners for Climate Protection (PCP) framework includes five milestones:

1. Creating a GHG emissions inventory and forecast
2. Setting a GHG emissions reduction target
3. Developing a Local Action Plan
4. Implementing the Local Action Plan
5. Monitoring progress and reporting on results

Climate change adaptation

Climate and Asset Management Network

The Climate and Asset Management Network (CAMN) offers peer-learning opportunities, training and grant funding to cohorts of Canadian municipalities to help them integrate climate and sustainability considerations into their infrastructure decisions and asset management practices. The network includes staff from multiple departments in participating municipalities (including public works, finance and planning/sustainability). This helps to build bridges across silos and ensure that asset management is considered as part of a corporate strategy.

Participating municipalities also pursue individual projects, such as developing or updating an asset management strategy, policy and governance framework to integrate climate considerations. Municipalities that are more advanced can instead focus on levels of service, risk assessment or life cycle management.

CAMN's first cohort, consisting of 19 municipalities, held an initial face-to-face meeting in Ottawa, ON, in November 2017 and has met virtually through a series of web meetings over the course of Year 2.

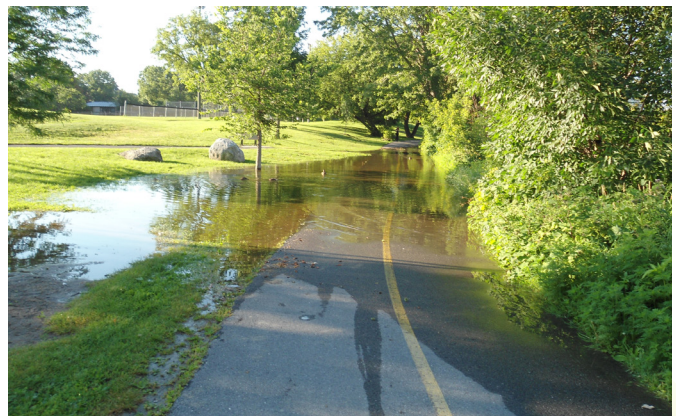


Key to success:

A municipal network, such as the cohort created by CAMN, allows participants to share learning, discuss experiences, and work toward filling critical knowledge gaps in areas such as integrating risk management into asset management practices, considerations for future levels of service, and the management of natural assets such as wetlands.

Climate Adaptation Partner Grants

Twelve organizations are receiving funding from MCIP's Climate Adaptation Partner Grants (CAPG) to help municipalities identify approaches and test solutions to local climate change impacts. These partner organizations provide technical assistance to groups of five or more municipalities either in the same region or from different parts of the country that face similar climate impacts. The groups of municipalities share knowledge and develop innovative solutions to local climate impacts, discussing issues such as flood prevention, vulnerability and risk assessments, adaptation planning, and the safeguarding of municipal infrastructure. The partner organizations are capturing lessons from each of the cohorts. MCIP will mobilize this knowledge in later stages of the program.





Reducing climate risk through asset management and peer-learning

The City of Selkirk, MB, has been experiencing regular spring flooding of the Red River over the last 10 years due to heavier snowfall downstream, as well as overland flooding caused by more frequent and heavy rainstorms. Through its participation in CAMN, the city will benefit from the experiences of other Canadian municipalities while pursuing a project to connect their climate change adaptation planning and asset management practices, identifying infrastructure enhancements needed over the longer term and the financial strategies to get there.

Improving regional climate resilience through vulnerability analysis and planning

The Fraser Basin Council will be working with six municipalities in Northeast British Columbia to help them prepare for a changing climate, understand the associated risks and vulnerabilities, and increase public awareness. The project will develop a report on regional climate projections for Northeast BC and will develop community-based vulnerability assessments according to individual community context and needs. Through the Northeast Climate Risk Network, local leaders will help each other work on innovative approaches and solutions to common challenges and explore ways to integrate climate adaptation into new or existing plans and systems.



4. Direct funding for implementing climate initiatives

MCIP provides funding for municipal initiatives to reduce GHG emissions or enhance resilience to climate change.

Results — direct funding for municipalities

- 57 plans and studies approved in Year 2
- 7 capital projects approved in Year 2
- \$13.4M in funding awarded

Learn more about climate initiatives funded through MCIP in 2017–2018.

The direct funding portfolio

MCIP funding targets the following sectors: water, waste, transportation, energy, and the cross-sectoral category of climate change adaptation. Table 2 provides an overview of the different types of initiatives eligible for MCIP funding.

Table 2: Overview of MCIP grant funding

	GHG emissions reduction	Local climate adaptation
Plans	<ul style="list-style-type: none">• Local action plans focused on GHG emissions reduction• Community energy plans• Transportation and land use plans	<ul style="list-style-type: none">• Climate change risk and vulnerability assessments• Climate risk response plans
Operational studies	<ul style="list-style-type: none">• Studies that assess the actual or potential benefit of an operational change that reduces GHG emissions• Studies that carry out research needed to design a program or policy change that will enable a municipality to reduce its GHG emissions	<ul style="list-style-type: none">• Studies that assess the actual or potential effectiveness of an operational change to reduce vulnerability to climate change• Studies that carry out research needed to design a program or policy change that will enable a municipality to better adapt to climate change
Feasibility studies	<ul style="list-style-type: none">• Studies on how to reduce GHG emissions from existing infrastructure• Studies on how to avoid the production of new GHG emissions	<ul style="list-style-type: none">• Studies that assess the technical and financial feasibility of a specific approach for adapting to climate change, aligned with the level of service determined by the municipality

	GHG emissions reduction	Local climate adaptation
Capital projects	<p>Projects that reduce GHG emissions at the level of an entire region, a neighbourhood or an individual site, either within the community or through municipal operations, including:</p> <ul style="list-style-type: none"> • Retrofit of municipal facilities • Change in municipal processes • Retrofit of district energy systems or wastewater treatment plants • New infrastructure or retrofit related to advanced treatment of municipal solid waste or landfill gas capture • Improvements to municipal fleets 	<ul style="list-style-type: none"> • Projects focused on reducing the vulnerability of an asset or group of assets • Projects that reduce vulnerability to climate impacts within the community
Climate change staff grants	Funding to cover the salary of a new or existing staff person who will work to advance the municipality's progress in reducing GHG emissions	Funding to cover the salary of a new or existing staff person who will work to advance the municipality's readiness to work on local climate adaptation

MCIP's application, evaluation and selection process

The approval process for MCIP's grant program consists of an online application followed by evaluation by peer reviewers prior to selection. Peer review is an important way of ensuring that the selection process for projects is fair and transparent. MCIP receives support from a cohort of 29 trained peer reviewers that it shares with the Green Municipal Fund.

Overview of applications received

MCIP received 221 applications, requesting a total of \$58M. The breakdown of applications by grant type is illustrated in Table 3.

Table 3: Breakdown of funding applications submitted to MCIP

	Plans	Studies	Capital projects	Total
Number of applications	82	90	49	221
Funding amount requested	\$10M	\$11M	\$37M	\$58M
Funding available	\$20.4M (including Quebec)		\$22M	\$42.4M

The figures below provide an overview of the applications received, broken down into urban vs. rural (Figure 2), by climate focus (Figure 3) and by sector (Figure 4).

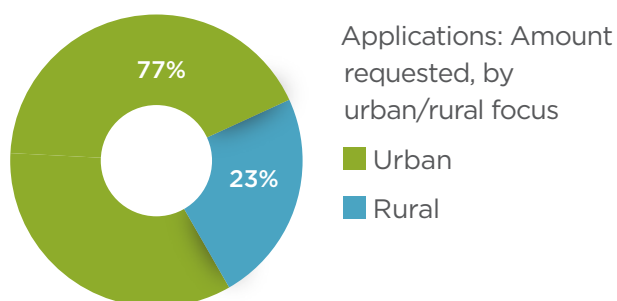


Figure 2: Percentage of total amount requested through applications to MCIP by urban vs. rural divide

MCIP is aiming to direct at least 20 per cent of its direct funding to municipalities with a population of 10,000 residents or less, in keeping with the fact that roughly the same proportion of Canada's population lives in such communities. With 23 per cent of the applications received thus far originating from rural municipalities, MCIP is on track to meeting this target. Furthermore, MCIP's climate change staff grants will target small and mid-sized municipalities.

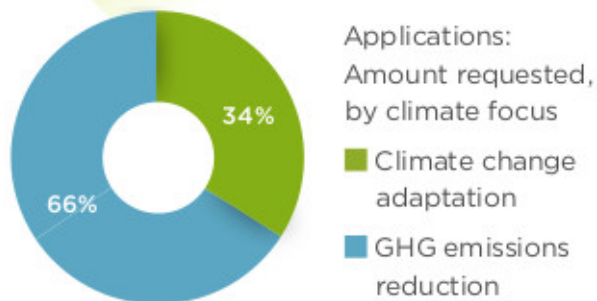


Figure 3: Percentage of total amount requested through applications to MCIP by climate focus

A total of 66 per cent of applications received thus far are focused on GHG emissions reduction, which indicates that Canadian municipalities are further advanced in this area than on climate adaptation. Adaptation is a newer and more complex area of focus that requires cross-departmental coordination and a strong understanding of local climate risks and vulnerabilities.

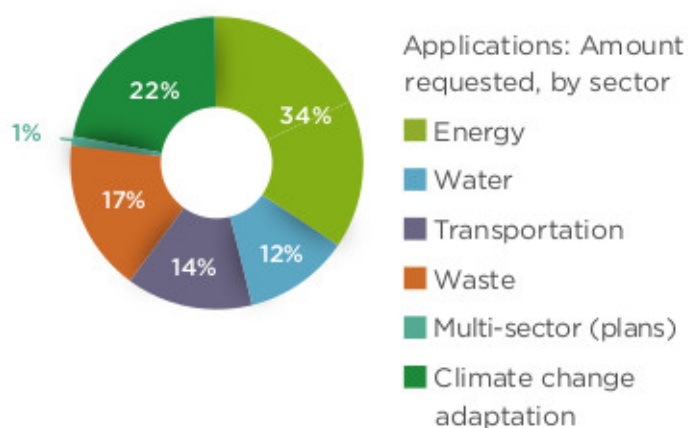


Figure 4: Percentage of total amount requested through applications to MCIP by sector

A good mix of sectors is represented in the applications submitted to MCIP thus far. In Figure 4, the “climate change adaptation” sector includes initiatives that undertake life cycle analysis, the retrofit of existing buildings or the construction of new buildings to improve overall resilience, climate risk assessments and response plans, neighbourhood-level adaptation strategies, and natural asset management.

Changes to MCIP funding

MCIP’s grant funding was launched in spring 2017, with applications accepted for funding toward plans, studies and capital projects. MCIP received a very high volume of applications in the first nine months following the launch. As a result, the program closed its open funding offer in December 2017 and postponed the launch of its climate change staff grants to the end of Year 2. This decision was made to help with the timely processing of applications and ensure the program’s accessibility across Canada. Funding changes included a shift to a competitive, time-bound call for applications instead of a continuous intake model, with preference given to first-time applicants for a given MCIP grant product.

Due to the timeline to secure a “décret d’exclusion” under the Quebec M-30 law, Quebec municipalities were unable to access MCIP funding directly in Year 2. In December 2017, FCM reached an agreement with the Government of Quebec’s Ministère des Affaires municipales et de l’Occupation du territoire (MAMOT) to allow Quebec municipalities to access funding through MCIP as well as through FCM’s Leadership in Asset Management Program (LAMP) and Municipal Asset Management Program (MAMP). A call for applications targeting municipalities in Quebec will be launched in Year 3.

Researching options for the Newmarket, ON, new residential energy efficiency retrofit program

Type of initiative: Feasibility study (GHG emissions reduction)

Since 2001, the Town of Newmarket has seen population growth at a rate consistently greater than the regional average. Over the next 15 years, the town is expected to grow even further. By undertaking to reduce GHG emissions through its residential sector, Newmarket is taking a step towards managing this growth by implementing actions set out in their 2016 Community Energy Plan. This MCIP-funded feasibility study is helping to build the business case for a community program to reduce GHG emissions in residential buildings by 40 per cent by 2031, compared to the 2013 baseline. Through consultation with relevant stakeholders and the general public, the town aims to engage 80 per cent of the population in implementing deep energy-efficiency retrofits in their homes. These retrofit packages take a whole-building approach to determining the most effective efficiency measures, such as weather stripping, supplementary insulation, and lighting upgrades. The findings from the study will be used to advise council on which packages should be offered to residents, taking costs and anticipated benefits into account. This study shows great promise to reduce GHG emissions, engage a large portion of the community, and produce lessons that can potentially be used by municipalities that are looking to undertake a similar initiative.





Planning for deep GHG emissions in the City of Charlottetown, PE

Type of initiative: Plan (GHG emissions reduction)

As a member of the FCM-ICLEI Canada Partners for Climate Protection (PCP) program since 2002, the City of Charlottetown has demonstrated a lasting commitment to reducing its GHG emissions and recently completed its corporate GHG inventory for 2013–2016. Now, with MCIP funding, they are able to complete their community inventory and develop an official GHG Emissions Reduction Plan with the aim of contributing to the province's emissions reduction target. The province aspires to reduce emissions by 40 per cent below 1990 levels by 2030. The City of Charlottetown's plan will serve this goal, and pursue a reduction in community emissions by 80–95 per cent below 1990 levels by 2050. The city will engage with subject matter experts, local advisory groups, and the public to generate a variety of proposals to reduce emissions and form the basis for the plan. While the plan is focused on GHG reductions, proposals will also be evaluated based on their social and economic benefits, as well as adaptation considerations. In addition to achieving Milestone 3 of the PCP framework, the City of Charlottetown intends to include in its reduction plan at least one GHG emissions reduction measure that offers the added benefit of adapting the area to climate change impacts, specifically one that protects critical infrastructure from sea level rise, storm surges, and flooding. This plan, informed by up-to-date corporate and community GHG inventories, will set achievable actions to reduce emissions within municipal operations and throughout the community.



Planning for the future: Climate change adaptation, drought, and disaster management in Manitoba's Pembina Valley

Type of initiative: Plan (climate change adaptation)

The Province of Manitoba has experienced numerous drought events in recent years, with increasing intensity, and was challenged to respond. Two major drought events occurred in the rural towns of Carman and Letellier in April and June of 2017, at which times the Pembina Valley Water Cooperative (PVWC) was able to provide only limited quantities of water to the affected populations. Based on the framework put forth in the Manitoba Drought Management Strategy, PVWC will use MCIP funding to develop a regional and agriculturally relevant drought management plan that integrates a proactive approach to risk management. Using climate modelling provided by the province and the Prairie Climate Centre, PVWC will examine historical, present, and future anticipated drought conditions. This analysis will enable them to explore possible adaptation measures that can be implemented to prepare the region for the expected increase in intensity, frequency and duration of droughts. The plan will benefit from the input of numerous regional and provincial stakeholders and, once complete, will be integrated into the emergency preparedness plans of 14 rural municipalities in the area. PVWC recognizes the important cultural, economic and environmental value that water holds within the significant farming community in the region. Their analysis will also take into account the effect of demographic shifts on water demand, and the subsequent consequences for farming communities. Overall, this plan is likely to have an important impact for the communities in this region now and into the future.



Assessing vulnerabilities to climate impacts to inform adaptation planning in Ajax, ON

Type of initiative: Operational study (climate change adaptation)

The Town of Ajax completed a risk assessment study in 2017, which revealed three principal areas of vulnerability: overland and stormwater flooding, damage to the natural environment, and emergency preparedness and response. A robust response plan to address these vulnerabilities remains to be developed. The town will use MCIP funding to develop a 3D model of their grey and green infrastructure, which will demonstrate the effects of future climate stresses. Using high-resolution aerial imagery and elevation data, the town will use modelling to identify vulnerabilities to future impacts of climate change. These include identifying areas that are most susceptible to flooding, transportation systems that are susceptible to failure due to increased precipitation, and threats to urban forests. The findings from the study will inform policy planners, conservation authorities, and sector experts of best management practices and will assist in the development of the Community Climate Action Plan. The baseline from the 2017 risk and vulnerability assessment drew on the knowledge of experts, municipal, conservation authority and federal ministry representatives, and various environmental committees. These same stakeholders will be involved throughout the modelling study and the development of the plan by way of working groups. Considerations from the final adaptation plan will be integrated into the town's Asset Management Plan and long-term budget forecast to ensure climate resilience is a top municipal priority.



Improving the energy efficiency of the Bridgetown & District Memorial Arena in the County of Annapolis, NS

Type of initiative: Capital project (GHG emissions reduction)

The Bridgetown & District Memorial Arena is an integral facility for winter recreation in this rural community. The County of Annapolis has undertaken to reduce energy consumption and related GHG emissions from this facility by 74.5 per cent. Through third-party inspection and consultation with nearby municipalities, the county has chosen to implement two highly effective efficiency measures. First, a layer of insulation will be installed over a 12,100 ft² area, which is roughly the size of one-fifth of a standard football field. A seasonal controller designed to extract maximum efficiency from all components of the refrigeration plant will also be installed. This controller will not only reduce emissions — it will also monitor all system data, provide trend information, and control all of the building's HVAC systems. The efficiencies achieved through these upgrades contribute to the county's economic development goal to promote efficient housing and to reduce electricity consumed within the county by 80 per cent by 2050. Furthermore, the environmental, social and economic benefits of the project will be posted publicly at the arena to demonstrate the value of the work, and the cost savings on annual operations will be reinvested into the facility. This project is an excellent example of an MCIP initiative applying lessons from GMF. Over the years, GMF has found that efficiency upgrades to arenas provide substantial emissions reductions and economic benefits.

Increasing tree cover to reduce heat island effect and run-off in Hull, QC

Type of initiative: Feasibility study (climate change adaptation)

The Island of Hull, situated in the centre of the City of Gatineau, has experienced the effects of urban heat island due to minimal tree cover in the area — trees occupy only 10 per cent of the district's surface. As a result, in the summertime, there have been recorded temperature differences of 4-8°C compared to nearby rural areas. Residents are facing the effects of these heat islands, including difficulties regulating runoff water. This MCIP-funded initiative is a partnership between the Conseil régional de l'environnement et du développement durable de l'Outaouais (CREDDO) and the Institut des Sciences de la Forêt Tempérée (ISFORT), with support from the department of natural sciences at the Université du Québec en Outaouais. The initiative will take stock of the public and private tree cover of the area and propose a plan to increase tree cover on both public and private land. Increasing tree cover will not only reduce temperatures in the area, but will also serve to reduce the amount of runoff water that has posed problems to the community. Furthermore, other benefits to the community include better air quality, increased communal green space, revitalization of the commercial sector in the district, and new job creation.



5. Mobilizing knowledge and creating a more enabling environment for local climate action

One of MCIP's objectives is to help create a more enabling environment for local climate action in Canada. To do so, MCIP develops new knowledge products that feature best practices and case studies, leverages relevant networks to mobilize new and existing resources in the Canadian municipal sector, and connects with key stakeholders to share learning from the program.

Results — mobilizing knowledge and creating an enabling environment

- 4 new knowledge products developed
- Knowledge mobilization strategy developed
- Stakeholder mapping completed, to identify knowledge mobilization partners

Stakeholder mapping and collaboration

MCIP did a mapping exercise in Year 2 to identify and track relevant stakeholders across Canada that are working on climate issues or in the municipal sector. Through this mapping, MCIP has identified a wide range of organizations that are well-positioned to support program delivery and knowledge mobilization. The mapping also helped to support the communications strategy for the program. The organizations ultimately selected to serve as Regional Climate Advisors, and the recipients of the Climate Adaptation Partner Grants (CAPG) (following an open call for applications), span every province in Canada. A focus in Year 3 will be to partner with organizations in the territories to ensure pan-Canadian reach.

MCIP is also involved in a number of multi-stakeholder working groups, platforms and fora. For instance, MCIP engages with the provincial and territorial municipal associations (PTAs), the 13 federal departments involved in the Pan-Canadian Framework on Clean Growth and Climate Change, the Adaptation Platform (coordinated by Natural Resources Canada), the National Research Council, professional associations such as Engineers Canada and the Canadian Institute of Planners, and other organizations that are actively involved in building the capacity of municipalities to work on aspects of climate action.

Knowledge mobilization strategy

Knowledge mobilization is core to supporting MCIP's ultimate outcome of accelerating the transition to low-carbon and resilient communities in Canada. It cuts across all the program components, with the aim of sharing emerging knowledge, lessons, best practices and resources — primarily with local elected officials and municipal staff, but also with key stakeholders who can help to shape a more enabling environment for local climate action in Canada. MCIP developed a strategy in Year 2 to help guide its approach to knowledge mobilization. This will be particularly relevant when results from MCIP-funded initiatives begin to emerge.



Research into readiness for local climate action

Early in Year 2, MCIP conducted research into the policy and regulatory context for climate change and asset management in each of the provinces and territories. A clear takeaway was that in certain jurisdictions, provincial and territorial policies were driving much of the focus on GHG emissions reduction, often with a much lesser focus on climate adaptation. These insights were helpful for informing the planning and delivery of MCIP's capacity-building activities.

This work is complemented by a research project that MCIP has undertaken in partnership with the University of British Columbia and the University of Waterloo. This project involved a nationwide local adaptation survey that targeted all municipalities in Canada. The survey results, which will be made available publicly in late 2018, will help to improve the current understanding of adaptation planning by Canadian municipal governments, support policy development, and inform capacity-building activities for local governments.

Knowledge products and tools

MCIP developed several knowledge products and tools in Year 2, including the Climate Adaptation Maturity Scale and the GHG Emissions Reduction Maturity Scale. These maturity scales are intended to serve as resources for municipalities. They outline the types of policy, governance, human resource, and technical actions that will help municipalities build their institutional capacity to work on climate adaptation or reduce their GHG emissions. MCIP also published recordings on the FCM website of the two awareness-raising webinars that it delivered in Year 2. In addition, MCIP helped to mobilize the PCP Hub, an online platform that encourages knowledge sharing and collaboration.

Domestic and international engagement

MCIP engages on a national and international level with organizations and platforms that are directly and indirectly involved in climate change or the municipal sector. For instance, FCM is working with four other organizations in Quebec to develop and launch the [Phare Climat website](#), an interactive site that features climate initiatives in Quebec (including initiatives that received funding through GMF and MCIP).

Internationally, MCIP staff attended the 23rd Conference of the Parties (COP 23) to the United Nations Framework Convention on Climate Change in Bonn, Germany, in November 2017, and participated in two international panels focused on the role of local governments in climate action, which were hosted by the European Committee of the Regions and ICLEI Global. MCIP led a session at the Cities and Climate Change conference in February 2018 in Edmonton, hosted by the Intergovernmental Panel on Climate Change (IPCC), to share insights on local climate action from the Canadian municipal sector. MCIP also supported the process for developing recommendations on areas for research by the IPCC that could inform further local climate action.

Through MCIP, FCM is engaging with the Global Covenant of Mayors for Climate & Energy to define the parameters for the launch of the Covenant in Canada.

6. Program management and governance

Governance

MCIP has three governance bodies: the Agreement Management Committee (AMC), FCM's Executive Committee (which acts on behalf of the FCM Board of Directors for certain decisions relating to MCIP), and GMF Council. Their roles with regard to MCIP were further clarified and refined in Year 2 and are described in Table 4.

Table 4: MCIP's governance bodies

Governance body	Role
Agreement Management Committee	Oversees and actively manages the implementation of the contribution agreement for MAMP and MCIP, and has approval authority for strategic program decisions. Includes representation from FCM and Infrastructure Canada.
FCM's Executive Committee	Approval authority for funding-related recommendations put forward by GMF Council.
GMF Council	Acts as the steering committee for MCIP by providing strategic guidance on program delivery and funding decisions. Makes funding recommendations for approval by FCM's Executive Committee.

Communications and marketing

MCIP developed tailored communications and marketing plans for each of its program components launched in Year 2. These individual plans allowed for specific approaches to reach relevant audience segments at key conferences and events, as well as through FCM's established communications channels.

Monitoring and evaluation

MCIP monitors its progress at the program and project level, and collects a wealth of data on GHG emissions reduction initiatives and progress in local climate change adaptation. All municipalities that participate in MCIP-funded technical assistance activities or that receive grant funding report to FCM on results, outcomes and lessons learned.

Over the course of Year 2, the program developed and implemented a number of tools to support monitoring and evaluation. These include the new Climate Adaptation Maturity Scale and the Maturity Scale for GHG Emissions Reduction. Municipalities receiving funding for climate adaptation initiatives are required to complete a self-assessment scale at the beginning and end of their initiative, which will help to demonstrate the progress that they have made. MCIP has also developed surveys to gather insights from participants on its awareness raising and technical assistance activities.

7. Looking forward

MCIP's success in its first year of implementation reflects its relevance and timeliness. With Canadian municipalities leading the way in reducing GHG emissions and at various stages in adapting to the impacts of climate change, MCIP's capacity-building initiatives and funding are in high demand across the country. The program's success would not be possible without the engagement and hard work of municipalities and MCIP's partner organizations. As MCIP enters its third year, its technical assistance activities, funded initiatives and knowledge resources will continue to build the capacity of Canadian municipalities of all sizes to engage in climate action — ultimately helping to accelerate the transition to low-carbon and climate-resilient communities in Canada.

