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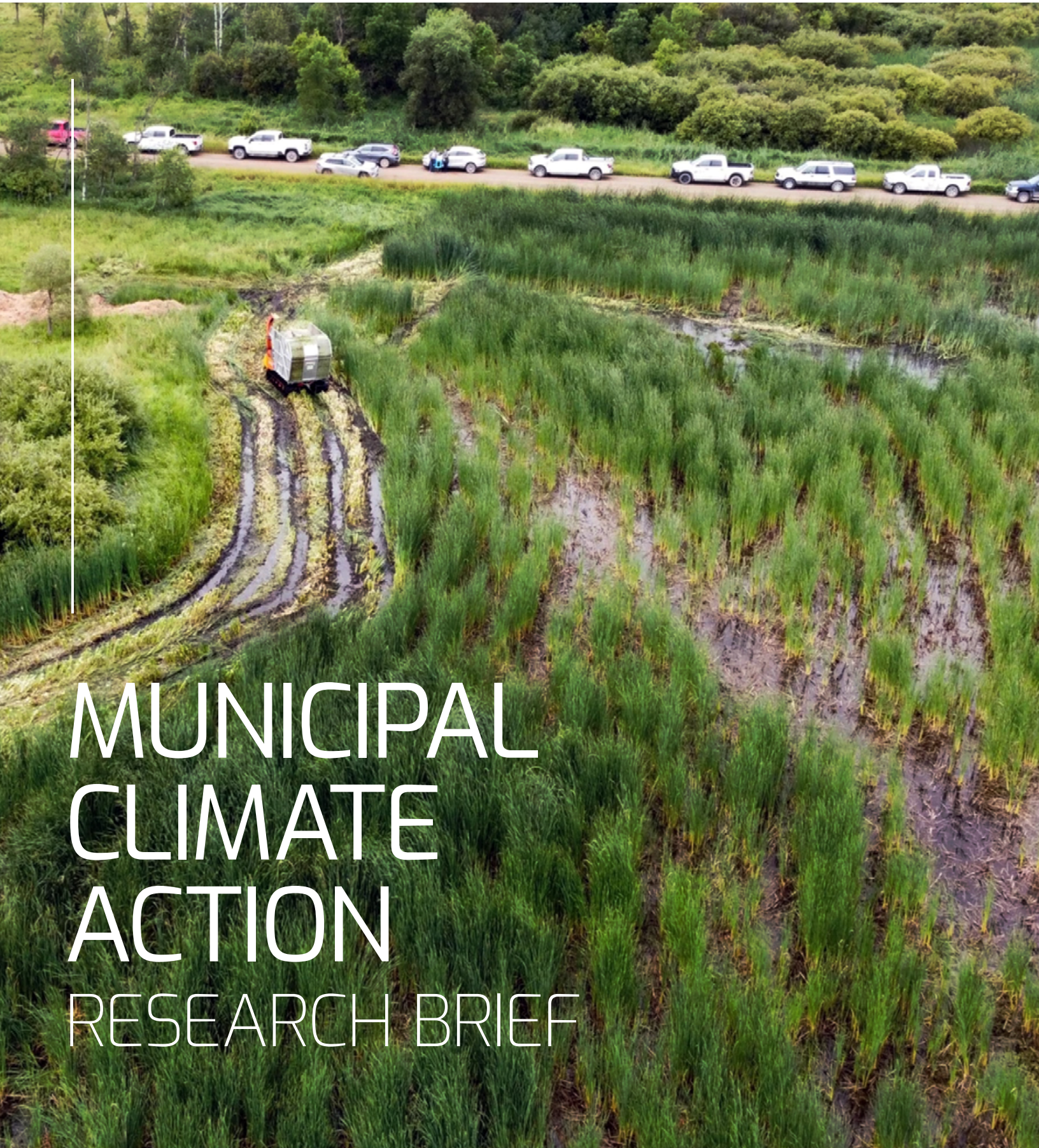

MUNICIPAL CLIMATE ACTION

RESEARCH BRIEF

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Open North

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To learn more about the research that went into this report please contact csn@opennorth.ca.

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WHO IS THIS FOR?

First, this brief is primarily for small- and medium-sized municipalities and communities. While much of what is highlighted here will not be new to staff in these organizations, particularly climate focused staff, the purpose of this brief is to demonstrate that these are shared challenges. Understanding that you are facing many of the same challenges as your neighbours is the first step in facilitating greater collaboration, the central solution proposed here.

This brief is also for funders, conveners, and higher orders of government. One of the roles these organizations play is to support the work of climate staff in local government, and understanding the unique challenges that many of the smaller municipalities and communities face is integral to designing funding and support that accomplishes this. This research identifies the funding and support that has worked and the types that has not.

BACKGROUND

Through our role as the Lead Technical Advisor in the Community Solutions Network, Open North identified a gap in support and capacity for data governance and the integration of digital technology into day-to-day operations in small- and medium-sized municipalities[1] and communities. This informed the direction of our work, focusing on small- and medium-sized municipalities and communities for this research. In conducting 40 virtual interviews with local government staff[2] responsible for climate change and 11 calls with experts working in climate and local government space, we sought to identify some of the gaps in climate adaptation efforts in communities in Canada. This brief is a product of those calls, highlighting the challenges that were most typically cited and the potential steps that could be taken to mitigate them.

In an effort to keep this brief more accessible, not all of what was raised in those calls is included here.

(1) Small-sized municipalities are defined as population centres below 30,000, and medium-sized municipalities are defined as population centres between 30,000 and 100,000, per Statistics Canada. Statistics Canada, Dictionary, Census of Population, 2021 Population centre, February 9, 2022, https://www12.statcan.gc.ca/census-recensement/2021/ref/dict/az/Definition-eng.cfm?ID=geo049a.

(2) Local government staff included staff from municipal and regional governments, as well as local boards and special purpose bodies such as conservation authorities and watershed districts.

THE ROLE OF LOCAL GOVERNMENTS IN CLIMATE ADAPTATION

Municipalities, including small and rural communities, are on the front line of responding to climate change impacts. As a result, numerous local governments have established at least one climate-focused staff position, with titles such as Sustainability Coordinator, Climate Change Coordinator, Climate Change and Energy Specialist, Environmental Officer, or similar roles. Broadly, these staff are responsible for identifying opportunities to embed a climate lens into decision making at all levels, whether these efforts are geared toward mitigation, adaptation, or both.[3]

Mitigation measures reduce or eliminate point-source greenhouse gas (GHG) emissions. Examples include switching fleets from gas or diesel-powered vehicles to electric or hybrid models and capturing landfill gas for reuse as electricity or heat.

Adaptation measures reduce the negative impacts of climate change and take advantage of new opportunities. Actions can be reactive, based on experienced impacts, or proactive, based on data informed projections. For example, after a flood, a community might immediately install protective berms and later amend land-use policies or bylaws to limit future uses in vulnerable areas, such as floodplains.

The responsibilities of climate staff vary from community to community, but their roles typically include several of the following types of activities:[4]

- Conducting a corporate and community greenhouse gas inventory;
- Conducting a community climate vulnerability assessment;
- Developing and adopting an emissions reduction target;
- Developing a corporate or community climate action plan;[5]
- Forming a community climate task force;
- Identifying and applying for funding opportunities;
- Integrating a climate lens across municipal departments and strategies.

(3) Federation of Canadian Municipalities, Guide for Municipal Climate Change Staff, n.d., https://data.fcm.ca/documents/programs/MCIP/guide-municipal-climate-change-staff.pdf.

(4) FCM, *Guide for Municipal Climate Change Staff*.

(5) For an example of a community climate action plan, see The City of Greater Sudbury's Community Change Action Plan, n.d., https://www.greatersudbury.ca/live/environment-and-sustainability1/climate-action/community-climate-change-adaptation-plan/.

WHAT WE HEARD—CHALLENGES

Capacity

Unsurprisingly, capacity is the most cited challenge by climate staff at small- and medium-sized municipalities. Most municipalities have just a single staff member responsible for climate, which typically means a single staff member responsible for all climate mitigation and adaptation efforts. For the many municipalities that do not have a dedicated climate staff member, climate work becomes *side of the desk* work for staff with many existing responsibilities.

With many small- and medium-sized municipalities, funding for climate initiatives is heavily dependent on external funding sources. Identifying and applying for these, particularly given lengthy application processes and feasibility studies, can be a particular strain on already overburdened climate staff.

Rural and remote municipalities in Canada face additional capacity challenges that may not always be considered at higher funding levels. For example, northern communities often face substantially higher costs when it comes to purchasing materials and equipment and hiring skilled labour compared to municipalities in the southern part of the country. Geography can also bring capacity challenges. If the municipality is responsible for administering multiple population centres spread over a large geographic area, it may face substantially higher servicing and infrastructure costs than municipalities with more compact jurisdictions.

Getting buy-in

Local governments that have created a staff position focused on climate have usually already identified climate action as a priority, even if only at a high level. However, a high level commitment by council may not always translate into buy-in among senior decision-makers and across departments. This presents a challenge because municipal climate action is, by definition, a shared responsibility that involves stakeholders from across departments working together.

Ultimately, all climate projects need to be funded, whether by the municipality or through outside financing or grants. This necessitates that municipal climate staff prepare compelling business cases for their projects to convince decision-makers to prioritize climate projects when facing many other financial constraints and pressures. This requires not only access to relevant data and information but also a deep understanding of community needs and priorities (e.g., as set out in official plans and strategies) as well as sensitivity to the ever-changing political landscape surrounding climate action.

Lack of access to high-quality data

Access to high-quality data can result in stronger funding applications, better monitoring of risks and progress, and a higher level of data-driven decision making than otherwise achievable. However, ensuring that data is of high quality and accessible can be challenging. Many municipalities lack the capacity to conduct their own data collection and analysis and rely on data sourced from third-party providers (usually under a paid license).

The use of third-party data presents problems, especially when climate staff have questions about how the data was collected, and what types of transformations it has undergone. Data providers are often protective of their intellectual property and may opt not to include detailed information (metadata) with their data products to indicate when and how the data was collected and what kinds of transformations the raw data has undergone before being packaged and licensed to the municipality. Overly restrictive licensing conditions may also prevent municipal climate staff from reusing datasets in other projects, which can result in high costs if they must repeatedly re-purchase datasets.

Even where data may be available at no direct cost, the capacity cost for climate staff may still be too high. For example, in interviews, several climate staff understood the importance of using socioeconomic data to understand which groups of individuals in their communities were most vulnerable to climate change effects. However, these staff lacked an understanding of the data and/or the capacity to incorporate it into their work.

Why is data so important?

Communicating the urgency of climate action

To help generate buy-in, climate staff need the ability to transform and combine data from multiple sources into a format that clearly communicates the urgency of climate action to various internal stakeholders and decision-makers.

Demonstrating positive impacts of climate projects

Municipal climate projects need to be funded, requiring climate staff to prepare compelling business cases to secure internal or external financing. This involves understanding community needs, priorities, and the political landscape. Access to comprehensive and accurate data is essential for developing persuasive funding proposals, as well as meeting any reporting conditions attached to funding programs. Climate staff need to be able to use data to demonstrate the effectiveness of past initiatives, forecast future benefits, and justify the allocation of resources.

WHAT WE HEARD—WHAT WORKS

In conducting interviews for this brief we heard not only the challenges, but also what is working and how municipal climate staff believe they can make serious inroads.

Collaboration

The impacts of climate change are felt at a regional level and are not constrained to the geographic boundaries of a single municipality or community. This makes collaboration on climate adaptation efforts beneficial where local governments are working within the same context.

Planning and prioritizing projects

When municipalities prioritize similar climate adaptation measures, they can support each other towards a shared goal. When municipalities plan in silos, it exposes them to the risk of climate maladaptation,[6] where climate adaptation efforts in one municipality have negative impacts on another. An example of maladaptation would be efforts to address water insecurity in one municipality that results in increased water insecurity in municipalities downstream.

Increase capacity

In municipalities where there is only a single person responsible for climate work, collaborating with other communities can share the load of many aspects of the climate staff's role. Climate staff working in these municipalities should consider the following:

- Sharing knowledge and funding opportunities with their counterparts at neighbouring municipalities to identify emerging best practices and leverage opportunities such as applying for funding jointly.
- Collecting, managing, and procuring climate data jointly.
- Creating climate policy in collaboration with neighbouring municipal governments to make future coordination easier.

(6) Leela Viswanathan, "Preventing Climate Maladapation," Indigenous Climate Hub, May 2, 2022, https://indigenous-climatehub.ca/2022/05/preventing-climate-maladaptation/.

How it works

Existing formal collaborative structures between two or more municipalities are a natural forum for coordinating on climate action, since a common set of interests has already been established; these structures often will have some power vested in them, so there is authority to create and implement climate action plans. Municipalities should leverage these existing structures whenever possible. Examples include regional governments, conservation authorities, and watershed districts.

Local governments that are not a member of any formal collaboration with adjacent local governments will need to be more proactive, seek out potential jurisdictional partners, and establish common grounds for collaboration. These collaborations might look different than the formal structures referenced above, and they may be more about knowledge-sharing and relationship-building. For example, a partnership with an academic institution focused on data collection, or creating an advisory committee with not-for-profit organizations as members.

Other examples of potential avenues of collaboration include:

- Place-based collaborations: create collaborative structure to convene local actors;
- Networks: communities of practice, knowledge sharing, data sharing, etc.

Case study—Niagara Adapts[7]

Niagara Adapts, a partnership between Brock University and seven municipalities in the Niagara Region, collaborated on the planning and development of climate adaptation plans. This collaboration meant that climate staff or the designated staff member at these municipalities had a community to discuss, plan, troubleshoot, and express shared struggles, removing the isolation that can come with being the only climate staff person at a municipality.

These municipalities shared many of the same climate risks and engagement challenges, so tackling these together meant they could rely on a shared knowledge network, one including academic experts, and reduce the capacity constraints on each individual staff.

(7) Brock University, Niagara Adapts, https://brocku.ca/esrc/niagara-adapts/#aboutniagaraadapts

RECOMMENDATIONS FOR HIGHER ORDERS OF GOVERNMENT AND FUNDERS

Create funding opportunities tailored to smaller, more remote municipalities

When funding and support is made available to municipalities based solely on location in Canada or a particular province, smaller, more remote municipalities can get overlooked. These municipalities face the unique challenges highlighted above, meaning they benefit from funding or support that is more localized, such as funding for northern municipalities, under a certain population size, or just within a more localized region. Additionally, funding aimed at specific regions has the potential to incentivize regional population centres to support smaller surrounding communities.

When focused on particular types of municipalities or geographic regions, funding and support can be more responsive to their distinct challenges, the lack of capacity, the higher costs, and the smaller capital budgets.

Fund capacity

Of the 40 local governments interviewed for this research, nearly half explicitly credited funding from the Federation of Canadian Municipalities' Green Municipal Fund with allowing them to hire their first dedicated climate staff. Given many of these same local governments have only a single dedicated climate staff, this funding has proved crucial to enabling climate adaptation efforts in these governments. This type of funding allows local governments to build internal capacity that can last beyond the initial funding period.

Other initiatives that provide direct capacity support through experts can ease some of the capacity burden on municipal government climate staff. Programs like the Ontario Resource Centre for Climate Adaptation's Staff Capacity Program and Clean Foundation's Community Climate Capacity program both offer expert support on climate adaptation measures at regional levels (Ontario and Nova Scotia respectively).

Prioritize data standardization

Using the levers of policy and funding, higher orders of government can encourage greater levels of data standardization in climate adaptation and mitigation data. Municipalities acknowledge that they look to provincial, territorial, and federal levels of government to guide how to standardize their data. An absence of this guidance leads to incompatible data standards.

As an example, of the municipalities we talked to, few approached the collection and reporting of GHG emissions the same way. This is not born out of any desire to do it a specific way due to contextual differences; rather, there is rarely guidance in how to calculate and report on GHG emissions. The benefits of standardization in this example are as follows:

- Becomes easier to compare and contrast reporting across different municipalities;
- Makes GHG emission reporting more consistent, decreasing the chance that a municipality changes how they report over time;
- Reduces the capacity burden, as climate staff do not have to learn or create an entire new system but can rely on a readily available approach and calculation formula;
    - Additionally this can reduce the need of some municipalities to rely on consultants to conduct the calculations, a costly process that does not always guarantee they have access to how the data was collected and determined.
- Makes it easier for municipalities to collaborate as they no longer have to figure out the differences in their reporting data.

CONCLUSION

The challenges presented by climate change will continue to grow in the years ahead, unlike most municipal budgets. Climate adaptation therefore cannot be the responsibility of individual municipalities alone. The core of our findings here point to the need for collaboration to alleviate the burdens facing municipalities, particularly small- and medium-sized municipalities. This means one of the first questions municipalities need to ask when approaching any type of climate action is whether they can take on this challenge alongside other organizations. Likewise, higher orders of governments and organizations that can direct efforts through funding, support, and policy need to include opportunities for collaboration into the direction they provide.

Open North's role in municipal climate adaptation and mitigation efforts

Open North recognizes that its work in data and digital transformation can play a critical supporting role in public-led efforts to adapt to and mitigate the impacts of climate change.

By providing direct support and resources to municipalities on the sharing, standardization, and management of climate data, Open North aims to facilitate greater collaboration and equip municipalities with the tools and knowledge they need to maximize the value of their climate data.

How Open North supports municipalities

Accessible, right-sized solutions

As a small not-for-profit organization, we understand the unique constraints faced by smaller organizations and work to tailor solutions to your organization's capacity and resources.

Commitment to knowledge sharing

We believe in learning in the open by publishing free resources, guides, tools, and courses.

Building capacity for autonomy

We focus on equipping your organization with the capacity to succeed on its own, without dependence on outside support.

Specific areas of support

Climate data management planning

To get the most value from climate data, a municipality needs a comprehensive data management plan. Open North can assist municipalities in developing tailored plans to address the collection, organization, storage, and use of their climate data.

Data sharing agreements and guides

Inter-municipal data sharing can help address data access and quality gaps, but it is not without risks. Open North can provide guidance and templates for creating data sharing agreements that support responsible data sharing and respect mutual privacy and security needs.

Climate data hubs

Effective data sharing requires digital infrastructure that allows partners to maintain possession of their data while making it available for use by others for specific purposes and timelines, according to an established data governance framework. Open North can support the design and implementation of climate data hubs to facilitate secure and scalable collaboration.

Contact us today to learn how we can help your organization use data more effectively in its climate adaptation and mitigation planning.

Email us at info@opennorth.ca

Visit our website: opennorth.ca

To learn more about the research that went into this report please contact csn@opennorth.ca.

If your organization is seeking to use data more effectively in its climate adaptation and mitigation planning, Open North is here to help. We can connect with you the guides, resources, courses, and direct support to strengthen your team or organization's climate data capacity. Reach out to us at info@opennorth.ca or visit our website.

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