LEADERSHIP & LEGACY
Handbook for Local Elected Officials on Climate Change

I.C.L.E.I Local Governments for Sustainability
ACKNOWLEDGEMENTS

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“As mayors—the great pragmatists of the world’s stage and directly responsible for the well-being of the majority of the world’s people—we don’t have the luxury of simply talking about change but not delivering it... In every corner of the globe, cities are at the forefront of climate change action.”

Mayor Michael Bloomberg, New York City
Adapting to climate change is the new reality. Time and again we are witnessing the varied impacts that extreme weather events have on our communities, from wide-spread infrastructure failure to isolated senior citizens without access to life’s essentials. However, it’s not just the storms and hurricanes that should be grabbing our attention, it is the subtle impacts of climate change as well. How the Elm Bark Beetle’s range is expanding, putting more and more of our urban forests at risk of destruction from Dutch Elm Disease. Or how drought can make our remote communities more at risk of wildfires and heat waves can put our most vulnerable citizens at risk.

Mayors and Councillors have a very special role to play when preparing a community for climate change. They are on the front lines, often the public face of a community’s response to a climate change impact. If there is mass flooding in a neighbourhood, power outages, or boil water advisories, citizens will look to elected officials for guidance, reassurance, and a calm voice of reason in a stressful situation.

Mayors and Councillors also influence municipal policy direction at the highest level. They can set supportive policies that enable municipal planners, engineers and sustainability specialists to study the vulnerability and risk associated with each of the city’s key service areas, and make informed decision about how to best plan for the local impacts of climate changes.

Leadership & Legacy: Handbook for Local Elected Officials on Climate Change was developed by ICLEI to help local elected officials rise to the unique challenge that climate change will bring to their community.

Embrace your role and help create more adaptive and resilient communities.

I am pleased to present the Leadership & Legacy: Handbook for Local Elected Officials on Climate Change. This handbook explores the climate change impacts on municipalities in Canada and the importance of climate change adaptation; the significance of local government action and the benefits of a proactive approach to planning for climate change; and strategies for successful climate change communication with constituents and fellow elected officials.

I support an approach to climate change that achieves real environmental and economic benefits for Hamilton and all Canadians. In October 2011, Hamilton became the first municipality in Ontario to create and endorse a community Climate Change Action Charter. The Charter and Hamilton received a letter of recognition for local efforts to address climate change from the West Central Region office of the Ministry of the Environment. In February 2012, at the Federation of Canadian Municipalities Sustainable Communities Conference, Hamilton received Milestones 3 and 4 of the Partners for Climate Protection (PCP) Program. Hamilton was also recognized as one of the Top 10 Canadian Cities tackling Climate Change by the World Wildlife Fund in 2011.

This resource captures the importance and value of adapting to climate change, including the opportunities that present themselves when taking a proactive approach. The City of Hamilton will continue the efforts to protect the environment by developing solutions, strengthening our knowledge base, and working with the Hamilton community, the provinces, territories, and international partners in the fight against climate change.

I hope that this handbook inspires you.

Megan Meaney
Director, ICLEI Canada

Bob Bratina
Mayor, City of Hamilton
Mayors, elected officials, and city managers in Canada already face numerous and urgent challenges that fill their daily schedules, from waste management to policing to public health. If mainstreamed, and integrated as a core-municipal function, climate change does not have to represent additional time and budget demands for decision-makers. Studies have shown that elected officials who believe that climate change is a problem deserving of government attention should say so, publicly and enthusiastically, because it will gain votes on Election Day.¹

Long-standing community events and traditions are also in jeopardy – in Ottawa, the National Capital Commission (NCC) had to create a program that was less “vulnerable to fluctuating weather conditions”² for Winterlude 2012. During the event, unseasonably warm weather led to deteriorating conditions, requiring all three venues to be closed until the NCC could ensure it was safe for visitors.³
Communities are seeing and feeling changes in weather first hand. More frequent and severe weather events tax the built environment and human population, storm surges damage infrastructure, and extreme heat and smog days send vulnerable populations to hospital.

This Handbook has been tailored for Mayors and other elected officials as you are the ones on the front lines; your communities are experiencing the changes in climate most acutely. The goal of this Handbook is to provide justifications for why cities should proactively undertake an adaptation process and information on climate change that you can use when explaining or rationalizing adaptive actions. The Handbook also offers clear-cut strategies on communicating climate change and the necessity of adaptation in cities. Although it is intended to be used by elected officials directly, this Handbook can also serve as a tool for municipal staff to build and maintain momentum at the political level for ongoing climate change adaptation action.

The Handbook is divided into three sections: Section one provides information on climate change impacts and how to approach adaptation. Section two provides an overview of the importance of local government action, the value of being proactive, and how to build and maintain momentum when integrating adaptation into municipal operations. The final section offers strategies for communicating climate change and adaptation successfully, including specific responses that can be given when confronted with common impediments to climate change action.

The National Aeronautics and Space Administration (NASA) describes the difference between weather and climate as follows: “In most places, weather can change from minute-to-minute, hour-to-hour, day-to-day, and season-to-season. Climate, however, is the average weather over time and space. An easy way to remember the difference is that climate is what you expect, like a very hot summer, and weather is what you get, like a hot day with pop-up thunderstorms.”
Climate change is already being felt in towns and cities across the country. Canadian communities are becoming more vulnerable to a range of impacts including rising temperatures and sea levels, and extreme weather-related events such as more frequent and intense storms, floods, heat waves and forest fires. Municipal services and infrastructure are increasingly being affected by these events, with each region of the country experiencing the impacts of climate change differently. All levels of government and all sections of society have a responsibility to become informed and to take appropriate action within their mandates to prepare for and adapt to the impacts of climate change.

This infographic illustrates just a few of the changes in Canada’s climate that have been observed in recent history, and how temperature, precipitation, the arctic, freshwater levels, sea levels, and extreme weather are expected to continue changing in the coming years.⁶
# THE CANADIAN CLIMATE

## Observed Changes

<table>
<thead>
<tr>
<th>Change Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface Temperature</td>
<td>1.3°C – average warming since 1948, 2X rate of global average</td>
</tr>
<tr>
<td>Precipitation</td>
<td>12% ↑ in precipitation across country over the past 50 years</td>
</tr>
<tr>
<td>Sea Ice</td>
<td>Arctic sea ice ↓ 8% since 1979; snow-cover duration ↓ by ~20 days since 1950</td>
</tr>
<tr>
<td>Freshwater</td>
<td>Freshwater changes: ↓ glacial melt in Western Canada, ↑ evaporation, water loss</td>
</tr>
<tr>
<td>Sea Level</td>
<td>Sea level ↑ during 20th century: Charlottetown, PEI — 32 cm Victoria, BC — 8 cm</td>
</tr>
<tr>
<td>Extreme Weather</td>
<td>Extreme weather 1950-2003: ↓ cold days; ↑ extreme warm days; ↑ extreme precipitation</td>
</tr>
</tbody>
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## Projected Changes

<table>
<thead>
<tr>
<th>Change Type</th>
<th>Description</th>
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<tbody>
<tr>
<td>Temperature</td>
<td>Entire country projected to warm over the next 80 years</td>
</tr>
<tr>
<td>Precipitation</td>
<td>More precipitation falling as rain</td>
</tr>
<tr>
<td>Arctic</td>
<td>↑ 0-10% in the far south to 40-50% ↑ in the high Arctic by 2080s</td>
</tr>
<tr>
<td>Sea Ice</td>
<td>Greatest warming expected during the winter and in the Hudson Bay and high Arctic areas</td>
</tr>
<tr>
<td>Great Lakes</td>
<td>Great Lakes to continue ↓ following current water loss trend</td>
</tr>
<tr>
<td>Sea Level</td>
<td>Global sea level will ↑ 18-59 cm by 2100</td>
</tr>
<tr>
<td>Extreme Weather</td>
<td>1/year—times storm surge flooding will occur in Charlottetown by 2100 without adaptation</td>
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Handbook for Elected Officials on Climate Change
CLIMATE CHANGE IN CONTEXT: HOW IMPACTS WILL AFFECT YOUR COMMUNITY

Like gears in a machine, impacts on one area of the municipality can be felt throughout the whole community (i.e. the effects of sewage system failures on the physical sewer infrastructure, the wider environmental system, and impacts to human health). The images below highlights the possible climate change impacts that will be felt in different ways. You can see the ripple-effect the changes will have, affecting various areas of your community’s infrastructure, economy, social wellbeing, and environment. Looking at climate change impacts in this way will help you better understand the effect and nature of the climatic change and promote organizational communication at all levels within your local government.

Environment and Natural Systems
- Temperature and precipitation fluctuations will affect plant growing seasons and productivity, animal habitat, migration, insect infestations, etc.
- Shifts in vegetation and insects due to climate change will affect tourism and recreational activities, as well as sectors such as agriculture, forestry and urban park management.

In 2012, researchers from the Texas Forest Service stated that ongoing drought has killed 5.6 million city trees (10% of the state’s urban forests) and removing them will cost at least $560 million. The trees provided roughly $280 million in annual environmental and economic benefits (e.g. controlling stormwater runoff).

Human Health/Social Wellbeing
- Greater strain on people’s health (especially vulnerable populations), increasing the need for up-to-date emergency response plans
- Exacerbation by non-climate related phenomenon (i.e. economic downturn, civil conflict, etc.), increasing the incidents of environmental refugees and displaced persons, and limiting the livelihoods of certain populations while improving it for others.

During the 1995 heat wave in Chicago, more than 700 people died in 5 days, challenging the city’s medical system. With high night temperatures, record humidity levels, and the urban heat island effect, there was little relief for poorer, older citizens who could not afford air conditioning.

Economy
- Significant economic losses (due to extreme events) stemming from changes to the production, price, and demand for goods and services, and costs related to public health and safety, etc.
- Important consideration for the insurance industry – e.g. the cost of insurance for homes and businesses has increased in recent years in regions where new research shows that the expected future damage is higher than historical damage.

In 1998 the severe winter storm in Eastern Québec and the Maritime Provinces resulted in $1.5 billion in insurance claims. It is estimated that the total cost of the storm reached $5.4 billion.

Built Form/Infrastructure
- Increased maintenance and protection costs, replacement costs, and the loss of assets across the country
- Physical areas affected include: dykes, culverts, roadways, bridges, buildings, sewer systems, and levees

On August 19th 2005, the Greater Toronto Area was hit with a major rain storm that caused flooding, leading to infrastructure failure, backed up storm sewers and property damage. At more than $500 million in insured damage, it is the costliest natural catastrophe in Ontario to date, and the second most expensive on record for all of Canada.
NOW WHAT? ADAPTING TO CLIMATE CHANGE

Now that you have an idea of what your community is facing with respect to the impacts of a changing Canadian climate, it is easy to see why adapting to climate change must be an essential part of your community’s future. Staff from across all municipal departments should be involved in your adaptation process, as it should be an integrated approach to planning that examines the environmental, economic, social, and health implications of climate change. Although the need for adaptation planning is clear, it is important to recognize that there is no one way to approach planning for climate change. Adaptation planning, by its definition of responding to local impacts, requires a certain degree of ‘right-sizing’ or localizing, as any plan must be tailored to the community.

Hundreds of municipalities in Canada and around the world have already undertaken efforts to reduce the rate and magnitude of climate change (mitigation) and have successfully reduced their emissions. However, with the increasing effects of climate change becoming apparent, communities are beginning to assess their vulnerability to the changes that are already underway, and to develop responses that protect their citizens and their economies. While neither adaptation nor mitigation actions alone can stop the effects of climate change, taken together they form a comprehensive climate change response strategy that will prepare communities for the climate impacts underway, while working to avoid even worse future affects.

Climate change mitigation can reduce the rate and magnitude of climate change, while the goal of adaptation is to reduce damages from climate change that cannot be avoided.

Reactive adaptation actions are taken after impacts have been felt, however they can be planned (i.e. as a result of deliberate policy decisions) or occur spontaneously. Generally reactive adaptations will incur higher long-term costs and be less effective than anticipatory adaptation actions.

Anticipatory adaptation actions are taken before impacts are observed and can be planned. Generally, this will incur lower long-term costs and be more effective than reactive actions. They also provide opportunities to capitalize on potential benefits of climate change.

There are different ways to look at the differences between mitigation and adaptation. Consider these perspectives.
The Big Five: Principles to Consider When Engaging in Climate Change Adaptation

Balance – consider your community’s immediate and long-term needs
While climate change projections and data tend to look 25, 50, or 100 years into the future, many weather-related impacts are being felt today. Take a balanced approach to address both long-term climate change and current weather-related events.

Supplement interaction with action – work together and take the lead!
The complexity and widespread nature of climate change impacts requires the action of many stakeholders for a truly holistic response, yet the coordination of such a large number of actors can be daunting! Your community will need to be committed to driving climate change adaptation by taking action, without getting sidetracked or held back by the inaction of stakeholders.

Commit to act in the face of uncertainty – take a page from the Scouts, be prepared!
As humans, we constantly act in the face of uncertainty. Whether it’s medical testing, gambling, or buying insurance, we live our lives in spite of uncertainty existing all around us. Acting on climate change is no different! The lack of certainty about how our climate is changing should not be seen as an impediment to taking action. Your municipality must commit to an approach that enables staff to make decisions without knowing everything to come.

Recognize existing work – you’re already on your way!
Your community is no doubt already doing things that address climate change impacts – they just may not be labelled as “adaptation”. Any future adaptation planning should be combined with existing efforts to ensure that you create an integrated and comprehensive adaptation plan. By mainstreaming and integrating adaptation into core-municipal functions means it doesn’t have to represent additional time and budget demands for decision-makers!

Planning for risk isn’t new!
Risk is the product of an event’s likelihood and its consequences; therefore when planning, we must weigh the consequences of an event against its likelihood. Most commonly, we plan for risks that are extremely likely with lower consequences, and those that are very unlikely but would have serious consequences if they were to occur (e.g. a bomb threat). Since decisions made today will have implications for the future, when planning for climate change we must understand the risks associated with its varying impacts (i.e. what is the likelihood of more frequent extreme weather events? What degree of consequence will they have?).
“Local government with its jurisdiction over local land use and infrastructure planning is uniquely positioned to adapt to the challenges of climate change. If we use the tools we have to implement policies and actions, and continue to advocate for municipal support, we can do more than any order of government to make our communities sustainable for the benefit of future generations.”

Mayor Steve Parish, Town of Ajax
As an elected official you, and other municipal decision-makers, have the unique opportunity to begin preparing for a changing climate since you will be on the front lines of responding to its impacts. These impacts will affect the essential service areas that local governments are expected to provide and care for, such as infrastructure, parks and recreation, public health, and transportation. As public leaders, you have a responsibility to protect your municipalities’ assets and invest in your communities’ future by responding to climate change with strategic adaptation planning. In essence, you are on the front lines, and as the following outlines, local governments are well-positioned to plan for climate change.
WHY ELECTED OFFICIALS?

Risk management and good governance
Governments of all levels around the world share the goal of guaranteeing the health, safety, and well-being of their communities now and in the future. The changing climate will affect a broad range of municipal assets and government services, operations and policy areas, making preparing for climate change a matter of good governance and risk management – something municipalities have been engaged in for a long time.

Tailoring to the specifics
You and your government are in a position to tailor climate change adaptation strategies to your local circumstances and to the geographically unique set of climate change impacts your community can expect to face since climate change impacts will vary from place to place.

Anticipate and reap the benefits!
As an elected official, you help set a course for the future of your municipality through Official Community Plans and Visions. By incorporating anticipatory adaptation planning, you can increase future benefits and reduce future risks associated with climate change. Also, as shown earlier, taking anticipatory actions now can save money by avoiding higher costs of reacting in the future. It’s a win-win scenario!

“Cities are terrific laboratories for testing environmental policies and initiatives. We can demonstrate what works [to reduce emissions] and send a signal to the federal level that they are economically safe to implement.”

Richard M. Daley, former Mayor of the City of Chicago
HOW YOU CAN DRIVE LOCAL ACTION ON CLIMATE CHANGE

There are key mechanisms available to local governments to drive local action on climate change adaptation. Local government can use direct and indirect influences to support and foster a community that can adapt to a changing climate. For example, a policy tool such as zoning regulation to create buffer areas can reduce vulnerability to flooding and natural disasters. As community leaders, you help set the direction for these drivers and therefore can help make preparing for climate change a priority. By introducing by-laws that take into account a changing climate, or voting for policies that will make your community more resilient to future impacts, you can exercise your power in a way that will help your community adapt.

- **Land use and urban planning:** A key role of your local government is to manage local places in a coordinated, planned way that reflects the community’s shared vision adapting to climate change.
- **Licensing and regulation:** Your local government can use its powers to set the local regulatory environment through assessment and approval processes, the use of surcharges and rebates, and through the enforcement of local laws, to implement adaptive policies.
- **Facilitation, advocacy, and leadership:** Your influence can be used to develop shared understandings and encourage responses to climate change from the whole community, including businesses, residents, community organizations, and other stakeholders.
- **Community service delivery, community development and civic engagement:** Be committed to preserving the safety, health and wellbeing of residents and visitors, and to ensuring active civic participation.
- **Workforce development:** Lead the way in ensuring good occupational health and safety systems. This includes reducing workplace risks.

“**Municipalities must wake up and recognize that we must do our part in lowering greenhouse gases which contribute to climate change. It is clear from the Hamilton experience that our infrastructure does not have the capacity to accommodate the ferocity of rainfalls we are experiencing. The infrastructure cost is significant. The human cost is immeasurable.**

Councillor Terry Whitehead, City of Hamilton
BE PROACTIVE! AN OUNCE OF PREVENTION IS WORTH A POUND OF CURE

There are a variety of motivations for communities to pursue adaptation planning. Some communities are stirred by events, such as flooding or wildfires that have occurred or are expected to occur, while others have a history of proactive community leadership and are building on that footing when it comes to adaptation planning. By taking proactive steps to anticipate and address expected impacts, you can save money and protect the well-being of your community, whether your actions are taken before impacts are observed or after impacts have been felt. The following outlines why local governments should take a proactive approach when preparing for climate change in their communities.23

Anticipating future changes can add value to today’s investments at low additional cost

Opportunities exist to add value to existing capital projects by preparing for the impacts of climate change. For example, “piggybacking” a reclaimed water system onto a planned expansion of a wastewater treatment system would reduce the marginal cost of adding the new system while also providing a buffer against expected impacts on water supply.

Thinking strategically can reduce future risks

Planning strategically for climate change impacts and being proactive can lead to opportunities to modify current policies and practices so that your community is less vulnerable to climate change. An example would be amending zoning by-laws to discourage development in areas at risk to anticipated sea level rise and coastal flooding before those areas are built-up.

City of Winnipeg Flood Control

In 1950, the City of Winnipeg experienced a flood that caused a State of Emergency and $125 million in damages (estimated at $1 billion in present day figures). This led to the construction of a diversion channel around Winnipeg to protect the city during extreme flooding events. Manitoba’s Red River Floodway was completed in 1968 at a cost of $63 million and has since been operated more than 20 times, preventing over $10 billion in flood damages. More recently the floodway has also been used during emergency summer flood periods to protect against basement flooding.24
Thinking strategically can increase future benefits
You can capitalize on some of the benefits of climate change by being proactive. For example, a potential longer growing season could lead to greater agricultural production. Also, cost savings could be achieved from reduced winter road maintenance requirements due to warmer temperatures.

Proactive planning is effective and less costly than responding reactively to climate change impacts as they happen. Anticipating how climate change will affect your municipality and taking steps to adapt can save money and protect the well-being of your community by lessening the impacts on your resources—whether natural, human, or economic. For example, planning for future water supply and demand given expected climate change impacts when designing a new reservoir ensures that the new infrastructure will meet future needs, and may be less costly than having to expand it in the future (if it is even possible to do so at that time). A study by the National Round Table on the Environment and the Economy (NRTEE) concluded that by 2020, less than 10 years from now, climate change costs in Canada will be approximately $5 billion per year. Furthermore, in the 2050s, costs are estimated at $43 billion (with a 5% chance that costs could reach at least $91 billion per year).27

"As the insurance industry, we are concerned with climate adaptation issues. We want governments at all levels, the private sector, citizens and community groups to come together for an effective severe weather adaptation strategy."

Don Forgeron, President and CEO of the Insurance Bureau of Canada
Planning for the future can benefit the present
When assessing impending climate change impacts, your government may find many projected effects are more extreme versions of what your community experiences from current weather. A climate change impact such as drought is something that most communities face periodically. Implementation of a water conservation program in anticipation of this increasing drought risk creates the immediate benefit of managing current droughts, in addition to addressing the more frequent and intense water shortages that might be projected in the coming years due to climate change.

Legal liability
Legal liability related to adaptation is a discussion that is being strengthened by climate change awareness. A growing number of legal professionals are looking at how failure to adapt to known and expected climate change realities may expose communities and governments to legal actions by individuals or others for property damage and personal injury. Beyond financial compensation, the implications of this heightened exposure to legal liability include investor risk aversion, decreased confidence in governments, and backlogs in infrastructure projects.

Despite the fact that Canada does not currently have legislation that addresses obligations or responsibilities to adapt to climate change, infrastructure decision-makers should still consider the significance of climate risks. This is particularly important because a lack of legislation does not guarantee legal immunity should climate change affect infrastructure developments. In some communities, the prospect of legal liability will likely be a significant driver of climate change adaptation responses in the future.

A study commissioned by the United States Federal Emergency Management Agency (FEMA) found that on average, for every $1 the organization spends on actions to reduce disaster loss from natural hazards, the country saves $4 in future benefits.29

“Since companies depend on community members as suppliers, customers and employees, and need to count on local services and infrastructure to be able to operate efficiently, the well-being of communities on the frontlines of climate change and the viability of companies are intricately intertwined.”
Raymond C. Offenheiser, President of Oxfam America
INTEGRATING ADAPTATION AS A CORE FUNCTION

Remember that, in many ways, your municipality is likely already addressing weather-related impacts, but existing plans and policies may not be labelled as “adaptation”. Stormwater management plans, summer cooling centres, and emergency management and response work, are just a few examples of common municipal plans and actions that contribute to a community’s ability to adapt.

In addition, there may be plans and policies from various departments that should include adaptation provisions in the future. Transportation or Environmental Master Plans, as well as strategic policy documents such as Official Community Plans and Strategic Plans all have the potential to include elements that will help your community prepare for climate change. When revisiting existing plans and policies, draw on the expertise within your municipal network, take into account expected climate change impacts, and integrate ways your community can address them so that future iterations include climate change adaptation components. Doing so means that mainstreaming climate adaptation doesn’t have to represent additional costs or time.

You can also increase your municipality’s technical capacity to prepare for climate change impacts in various ways. This can include creating a task force or working group to look into how climate change will affect various municipal departments or areas of the community, building on existing relationships with local partners such as academic institutions, non-profits, or businesses, and collaborating with neighbouring municipalities. Other, more in-depth, initiatives to increase technical capacity are creating staff positions for managing adaptation action, expanding research into future climate scenarios, or setting up a permanent climate change preparation team to monitor adaptation actions across different government departments. A climate resilient community is one that understands how climate change affects all levels of its government.30

Remaining resilient to climate change impacts requires that you “mainstream” information about climate change and preparedness actions into your planning, policy-making, and investment decisions. To do so, a more systematic way of addressing climate change in government activities will be needed, along with making decisions that will hold up in a variety of climate change scenarios, and increasing flexibility with respect to management of government programs and services.31

“As mayors we must inspire citizens and elected officials to take action, become involved, and learn how to deal with drastic changes in weather patterns! It’s time to ‘reinvest in our natural heritage.’ A resilient watershed will help with integrating and adapting to prevent storm water damage!”

Mayor Delbert Shewfelt, Town of Goderich
BUILDING AND MAINTAINING MOMENTUM

Driving an adaptation effort in your community will be based on some combination of political will, financial resources, personnel, and public support. Building momentum for your community’s climate change adaptation work and continuing to maintain interest are important to its success.

Identify allies

Help secure widespread support for the creation and implementation of climate change preparedness activities by identifying allies within and outside your municipality. Working relationships with internal and external stakeholders can help you overcome the challenges of climate change adaptation, as they contribute to turning the abstract idea of planning into concrete joint activities. A climate change adaptation team that includes municipal staff and external members, may result in a more comprehensive mandate and show the public that you are keen to engage with the community and work together. Moreover, impacts from climate change are likely to originate outside your jurisdictional boundaries. Allies from other local/regional governments, federal or provincial agencies, First Nations groups, non-profit organizations, or the private sector will often be required to address climate change impacts effectively.

Outreach—choose a champion!

Outreach will play a major role in building and maintaining support for your adaptation effort; therefore it is a good idea to identify an adaptation “champion” to lead outreach activities. Selecting an appropriate champion, who is committed to your municipality’s adaptation process and the responsibility of being the public spokesperson, will help solidify the awareness and long-term commitment from your local government to the planning process. As an elected official, you yourself could take on the role, or it could belong to former elected officials, key business leaders, a local celebrity, or other respected members of the community.
WHO’S ACTING?

In December 2011, 114 Mayors from 28 countries around the world adopted the Durban Climate Change Adaptation Charter, emphasizing their commitment to strengthening local resilience to climate change. By signing the Charter, local governments pledged to take unparalleled levels of climate action to mainstream adaptation, ensure adaptation plans align with mitigation strategies, seek innovative funding mechanisms, and much more. Signatories include Buenos Aires, Cape Town, Lagos, New Delhi, and Vancouver.

In Canada, many municipalities are working together to create climate change adaptation plans with the help of ICLEI Canada’s Adaptation Initiative. Participants include the City of Iqaluit, the Town of New Glasgow, the City of Red Deer, the City of Vancouver, the City of Windsor, and more. For more information on the Adaptation Initiative and other resources, please visit: www.iclei.org/canada
“...As public leaders and public servants who have assumed the responsibility for the health, safety, and welfare of our citizens, we have a professional and moral obligation to prepare our communities for climate change.”

Ron Sims, King County, WA Executive
Communicating climate change and the need for adaptation can be challenging, however, there are ways to successfully get your message across and find support for your climate preparation plans and actions. You work at the level of government closest to residents, and therefore are well-positioned to inspire individuals and organizations to take action on climate change adaptation. Use this opportunity to create an open dialogue with your residents. Consider consulting other departments, local academics, publications, etc. for help – use any resources you have available to you to increase your chances of success!
STRATEGIES FOR SUCCESSFUL CLIMATE CHANGE COMMUNICATION

The following guidelines will help you convey your message about climate change science, local impacts, and solutions.

Know your audience
You need to know who your audience is in order to communicate a message that resonates with them. Engaging the right stakeholders will help secure widespread buy-in for the creation and implementation of your activities to address the impacts of climate change. Success will come from choosing credible messengers who can relate to your audience and who share similar values.

Be aware of values and beliefs
Framing climate change in a way that your audience will understand and relate to, and that respects their values and priorities, works better than unloading science and statistics that can be hard to understand or relate to one’s own life. People usually gravitate towards beliefs and political positions that reinforce their deeply held values. This explains why climate change skeptics are dismissive – their core values conflict with typical climate messaging. Skeptics may support local climate-related policies framed as community improvement projects, such as increasing public transportation and the number of bike lanes, requiring new buildings to be more energy efficient, or changing zoning regulations to make communities less car-dependent. The work you do on adaptation can be framed as general community improvement, defense against future weather-related disasters, or the protection of your community’s assets. It is important to use language that your audience will understand and which may or may not directly refer to “climate change.”

Stay current and local
Focus on the local, more tangible aspects of climate change to illustrate its relevance to members of the community. Graphs and abstract statistics aren’t as powerful as photographs of flooded neighbourhoods, or the number of people admitted to hospitals during heat waves and heavy smog days. Draw on experiences with climate change impacts that are being felt in your community, such as more extreme weather events, flooded basements, heat waves, etc. People are motivated by how climate change will affect them personally and climate adaptation will become a more pressing issue to them if they are shown how their neighbourhoods will change, or how their family’s health may be affected. Make the issue about being innovative and proactive when it comes to hazard mitigation and risk management – it is difficult to deny the importance of having a local government who protects public safety, community members’ interests, property, and natural resources!
Emphasize the power and practicality of local solutions

Lead with practical solutions – it’s empowering! Focus on solutions in the here-and-now, as opposed to potentially overwhelming future consequences. A lot of solutions can be framed as “no-brainer” actions – who wouldn’t support an elected official who values risk management, energy efficiency, saving money, creating jobs, protecting local assets and generally investing in the community’s future? Use language that highlights aspects of climate change that people can relate to such as quality of life, economic prosperity, sustainability, stewardship, innovation, or resilience.

Avoid ‘doom and gloom’

Overwhelming people with dire predictions of climate disasters will not motivate them to take action, but instead paralyze them with a feeling that the situation is out of their control. Instead, talk about climate change in a local, manageable and solution-oriented way that piques interest and inspires action.

Be simple and certain

Give facts without telling people how they should feel about them. Lead with the bottom line or the main point you’re trying to make in layman’s terms. You can incorporate background information or supporting details if needed at a later point, without using scientific jargon and terms that are unclear of course! When providing evidence, try to incorporate visuals, such as pictures or climate graphics, whenever possible. Perhaps most importantly, remember to stress what is known for certain and can be backed up with evidence, while remaining respectful, calm (don’t be defensive), and willing to listen.

Simple but effective climate graphics like these can be found on the website: www.skepticalscience.com. They can provide information and data in a visual way that is easy to understand, without too many overwhelming details.
THE DIFFERENCE BETWEEN WEATHER AND CLIMATE

Weather and climate are not synonymous and it is important to distinguish between the two concepts. **Weather** is the state of the atmosphere at a **particular time and place** (e.g. daily weather forecasts), while **climate** is how the atmosphere behaves over **long periods of time** (e.g. projections for 2050, 2100, etc). Therefore, when climate change or global warming is mentioned, it does not mean that each day will be warmer or that there will never be snow storms, but that on average, the temperature is rising.

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**“As elected officials we must initiate and cultivate discussion and action on climate change. We must also reach out to academic institutions and put their ideas into practice. When I was first elected as Mayor of Delta in 1999 I did just that. I am confident that the work that we have done and leadership we have shown in Delta will form a lasting legacy.”**

Mayor Lois Jackson, Corporation of Delta

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Q & A SESSION: THE NEED-TO-KNOW

As an elected official, you may find yourself facing some opposition to preparing for climate change when engaging in a dialogue with members of your community or municipal staff. The following provides some common barriers, a brief response that you can use, and further reasoning to back up your position based on some of the key messages outlined in this resource.

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**We don’t have the time or money to confront climate change today.**

In most cases, climate change will make existing problems worse, rather than creating entirely new challenges, so think of climate change preparation as insurance and protecting community assets.

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**Consider this...**

Efforts to address current management concerns affected by climate change can simultaneously reduce vulnerability to predicted impacts, especially if they are mainstreamed. Some degree of climate change adaptation planning can be achieved by “piggybacking” onto work on your existing strategies for dealing with current issues, requiring no additional financial, technical, institutional, or human resources.
Consider this...

Public concern about climate change, increasing evidence of its occurrence, and stronger capabilities to access information about impacts at a regional level are all driving efforts to prepare. Look into how “peer” communities (ones that are of similar size or geography) are investing in climate change adaptation for examples specifically related to your municipality.

Why don’t we wait until we see other communities planning for climate change?

Many communities in Canada, and around the world, are already preparing for climate change impacts by creating adaptation plans and implementing corresponding actions.

Local government shouldn’t be responsible for climate change action; shouldn’t it happen at higher levels of government?

While action is required at all levels of government, international and national policies are slower-acting and not tailored to a local scale, where climate change will be felt most acutely. As such, local governments are better equipped to understand how their communities will be affected and develop strategies to address the localised impacts of climate change.

Consider this...

As a matter of good governance, it is your responsibility as a public leader to prepare for climate change to protect the wellbeing of your citizens. In addition, you know your municipality best and are able to tailor plans and actions to address the specific vulnerabilities that climate change will affect. See the section on the importance of local government action for more.
Consider this...

Current information on climate change impacts can be incorporated into plans and designs, and those documents should have room for a range of expected extremes. They should also be updated more frequently as information improves over time. Local climate change vulnerability and risk assessments will help determine what you will need to adapt to in the future.

How will climate change affect our community?

There are various local impacts of climate change, for example, current weather-related problems will become worse, with a higher risk of health problems and damage to the environment. They will affect the community and government functions in many ways, such as requiring more spending on health care and putting local resources at risk.

Consider this...

Future climate change will exacerbate existing climate-related problems such as intense storms, flooding, drought, heat stress, etc. Consider completing vulnerability and risks assessments to determine the specific sectors of your community that will require the most attention when preparing for climate change.
Leadership & Legacy

Consider this...

Protecting your community from the damage climate change is likely to cause in the future requires both the reduction of greenhouse gas emissions (mitigation) and preparation for the impacts of climate change (adaptation). If your community is already involved in mitigation, seize the moment to spark conversation about how climate change will exacerbate existing problems and the need for adaptation.

Isn’t undertaking climate change adaptation actions synonymous with ‘giving up’ on reducing greenhouse gas emissions? Climate change impacts will continue to be felt for the foreseeable future even if emissions were to stop tomorrow, so climate change adaptation is needed in addition to greenhouse gas reductions.

Consider this...

Waiting to deal with the impacts of climate change after they are felt more acutely may close the door on lower-cost options available now. Acute climate change may not be evident in some areas for a while. This time lag can contribute to a perception that climate change is an issue to address when it is obvious down the road, however, preparing for climate change through adaptation plans and actions can have present-day benefits for your community.

Consider this...

Much can be learned from looking at past impacts of extreme events on communities, infrastructure, and natural systems, but they should not be the main influence in your decision-making. This is not a new idea—governments regularly make decisions anchored in expectations and assumptions about the future.

Aren’t government operations based on historical statistics, not models of the future? The past is no longer a reliable predictor of the future; however it should not be ignored altogether as much can be learned from looking at the consequences of previous extreme events. Instead of relying solely on historical climate conditions when making decisions, expectations of future changes need to be considered.
“To be a leader you only have to be one step ahead of the people next to you. You don’t have to be way out there in front of them.”

Dr. Mehmet Oz, January 2012
Climate change is already being felt in towns and cities across the country: temperatures are increasing, snowpack is disappearing, spring is arriving earlier, and seas are rising. Across Canada, warmer temperatures have supported the rapid spread of invasive animal and plant species, melting of arctic and glacial ice, and increased heat stress among vulnerable populations. At the same time, these impacts are exacerbating Canadians’ concerns about extreme weather events and their affects on municipal services and infrastructure.
A LOOK BACK BEFORE MOVING FORWARD

Local action on climate change is quickly becoming mainstream as communities can no longer wait for directives from higher levels of government who cannot provide localized solutions. Hundreds of Canadian municipalities have stepped up to the climate change challenge and are doing their part to control emissions by undertaking successful climate change mitigation and adaptation activities to protect their communities. Working together with allies from outside your municipality will often be required to effectively address climate change impacts. Collaborating with neighbouring municipalities will help you gain leverage and share the resources needed to successfully prepare for climate change.

Using the communication strategies outlined in the previous section will help you effectively deliver the following key messages when finding support for your climate change activities in your community.

Understand what adaptation is
Adaptation to climate change includes activities that reduce the negative impacts of climate change and/or takes advantage of new opportunities presented. Adapting to climate change is a matter of “good government” and risk management in an effort to ensuring the safety, health and welfare of communities now and into the future. To reduce your community’s vulnerabilities, you must establish a positive lasting influence so that future generations do not bear the worst effects of climate change. Build a legacy of leadership and establish your community’s reputation as forward-thinking and action oriented!

Realise that adaptation and mitigation are not mutually exclusive
Mitigation efforts, or efforts to curb greenhouse gas emissions, have become widespread among local governments. However, scientific evidence indicates that even if we could halt greenhouse gas emissions today, the world would still experience a changing climate for decades to come, with many of the impacts felt directly at the local level. Local governments have the greatest ability to prepare for these changes, and many are now embracing climate adaptation as a co-strategy to their climate mitigation efforts to form a comprehensive climate change response strategy.
Know what you are adapting to
Use the old management adage “you cannot manage what you don’t measure” – developing your community’s understanding of climate change impacts and the major service areas which are likely to feel these impacts most acutely is crucial to know what you will need to adapt to. Commit to having both a vulnerability and risk assessment conducted, as they are important first steps in becoming more adaptive to a changing climate and building support for your planning effort among stakeholders and residents.

Prepare for climate change impacts
As practitioners of good governance, you and other elected officials must develop responses that protect your citizens, environment, and economy. Preparing for the impacts that will affect your community is a fundamental action you must take. It is important to remember that as you and your community engage in climate change adaptation, you should consider the balance of immediate and long-term needs, the need for commitment to plan for impacts despite facing uncertainty, and the fact that community interaction must be supplemented with municipal action.

Realize there is no ‘one size fits all’ approach
It is important to recognize that there is no one way to approach planning for climate change. Adaptation planning, by its definition of responding to local impacts, requires a certain degree of ‘right-sizing’ or localizing, as any plan must be centred on your community. As an elected official, you are in the unique position of being the voice of the residents and are a valuable part of adaptation planning. You can bring the experiences of your constituents to the table when discussing how they are directly being affected by extreme weather events and other impacts of climate change. Relaying the information about the areas of your community that are most vulnerable will help your adaptation planning team develop an approach tailored to your municipality.

Adaptation planning is not a new process and should be integrated with existing efforts
Acknowledge the work that your community is already doing that addresses climate change impacts (but may not be labelled as “adaptation”). Where such work exists, it is important to incorporate any future adaptation planning with existing efforts (while avoiding duplication) to ensure an integrated and comprehensive approach. In many cases, climate change will exacerbate existing high priority management concerns, rather than creating completely new challenges. It is likely that your community will find that efforts to address existing management concerns affected by climate change may simultaneously reduce vulnerability to projected climate impacts.

Anticipatory planning is more effective than reactive planning
Taking proactive steps to be flexible, and to anticipate and address expected impacts, can save money and protect the well-being of communities. This includes activities that are taken before impacts are observed (anticipatory) and after impacts have been felt (reactive). In most circumstances, anticipatory adaptations will incur lower long-term costs and be more effective than reactive adaptations. Successful adaptation does not mean that negative impacts will not occur, only that they will be less severe than would be experienced had no adaptation occurred. Taking practical steps now with the best information available enables you to reduce your future risk and also realize possible near-term benefits. Leave a lasting legacy by committing to climate change preparedness to protect your community’s assets and citizens.

React now to what lies in the path ahead. Adapt.
When driving down a wintery road, your chances of spinning out of control and crashing due to an approaching patch of ice are much lower if you are able to react sooner, taking the appropriate precautions to change your course. Climate change is no different—why wait and increase your community’s risk?


8 Ibid


21 Ibid

About ICLEI

ICLEI – Local Governments for Sustainability, is an association of local governments worldwide that have made a commitment to sustainability. ICLEI’s mission is to build and serve a worldwide movement of local governments to achieve tangible improvements in global sustainability through cumulative local actions.

To act on this mission, ICLEI is represented in all regions of the world. The Canada Office is located in Toronto, ON and works with local governments from coast to coast to coast. Working in Canada allows us to bring sustainability issues of global significance to the local level. Working through a variety of campaigns and programs, ICLEI engages communities on issues ranging from climate protection to water conservation to procurement and biodiversity management.

If you would like more information on ICLEI and our work please contact the Canada Office by email: iclei-canada@iclei.org or telephone +1-647/728-4308.