Getting Ready to Finance

Examples of Resilient Infrastructure Projects
# Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>1</td>
</tr>
<tr>
<td>Foreword</td>
<td>1</td>
</tr>
<tr>
<td>Introduction</td>
<td>3</td>
</tr>
<tr>
<td>Acknowledgements</td>
<td>9</td>
</tr>
<tr>
<td><strong>Energy System Resilience Projects</strong></td>
<td></td>
</tr>
<tr>
<td>Building Upgrades</td>
<td>15</td>
</tr>
<tr>
<td>Downtown District Energy</td>
<td>17</td>
</tr>
<tr>
<td>Emergency Centre Microgrid</td>
<td>19</td>
</tr>
<tr>
<td><strong>Flood Resilience Projects</strong></td>
<td></td>
</tr>
<tr>
<td>Building Rainwater Retention (Blue Roofs)</td>
<td>21</td>
</tr>
<tr>
<td>Flood-Resilient Architecture and Building Engineering</td>
<td>23</td>
</tr>
<tr>
<td>Integrated Drainage and Stormwater Management Plans</td>
<td>25</td>
</tr>
<tr>
<td>Low Impact Development</td>
<td>27</td>
</tr>
<tr>
<td>Multi Use Stormwater Management Ponds</td>
<td>29</td>
</tr>
<tr>
<td>Relocation of Residences</td>
<td>31</td>
</tr>
<tr>
<td>Stormwater Infrastructure Renewal</td>
<td>33</td>
</tr>
<tr>
<td>Surface Flood Mitigation and Stormwater Management</td>
<td>35</td>
</tr>
<tr>
<td><strong>Resilient Community Planning Projects</strong></td>
<td></td>
</tr>
<tr>
<td>Climate-Resilient Roads</td>
<td>37</td>
</tr>
<tr>
<td>Disaster Management Hub</td>
<td>39</td>
</tr>
<tr>
<td>Neighbourhood Emergency Exits</td>
<td>41</td>
</tr>
<tr>
<td>Snow Management Upgrades</td>
<td>43</td>
</tr>
<tr>
<td><strong>Resilient Development Projects</strong></td>
<td></td>
</tr>
<tr>
<td>Climate-Resilient Housing and Fire Station</td>
<td>45</td>
</tr>
<tr>
<td>Innovation Park Development</td>
<td>47</td>
</tr>
<tr>
<td><strong>Water and Wastewater System Resilience Projects</strong></td>
<td></td>
</tr>
<tr>
<td>Flood Protection of Wastewater Treatment Plant</td>
<td>49</td>
</tr>
<tr>
<td>Lake Dam Stabilization and Spillway Redesign</td>
<td>51</td>
</tr>
<tr>
<td><strong>Wildfire Resilience Projects</strong></td>
<td></td>
</tr>
<tr>
<td>Fire-Resistant Metal Roofs</td>
<td>53</td>
</tr>
<tr>
<td>Fortification of Critical Buildings</td>
<td>55</td>
</tr>
<tr>
<td>Wildfire Interface Resiliency Treatment</td>
<td>57</td>
</tr>
</tbody>
</table>
Foreword

Taking action to prepare for a changing climate is a priority for municipalities and towns across Canada. The latest science and recent experiences highlight the devastating risks climate change represents for our communities. While it is clear that resilience to these risks must be incorporated into planning and growth, this must be done in a way that is sustainable and financially viable.

How can this be achieved? Put simply, new and innovative financing approaches are needed to build resilience at the local level. Such approaches need to include mechanisms that can be used to acquire, structure, govern, and allocate financial resources towards resilient infrastructure. In addition, financial resources must come from a variety of sources including financial institutions, private investors, and institutional investors to support and complement traditional sources of public funding. The Financing Resilient Infrastructure Project (FRIP) brought together municipal practitioners, project developers, financial experts, and climate risk experts to explore practical strategies to put this approach into practice.

Through FRIP, municipal practitioners examined a range of possible projects that could be implemented in their communities and worked to identify possible financial instruments that could be used to finance their implementation. This document, Getting Ready to Finance: Examples of Resilient Infrastructure Projects, provides an overview of 22 projects that emerged from this work. These projects aim to address a variety of climate hazards across a range of infrastructure sectors.

Building resilient infrastructure at the pace and scale needed to address the climate challenge requires innovation, agility, and new ways of thinking. It is our hope that these examples will inspire others to explore innovative ways to finance and implement resilient infrastructure projects in communities across the country. Together, we can build tomorrow’s infrastructure today.

Climate change is getting costlier to Canadians and our economy, and beginning to disrupt health and quality of life. The impacts of the increasing frequency and severity of climate-related events are set against Canada’s pre-existing infrastructure gap. In fact, the Federation of Canadian Municipalities estimates that adapting infrastructure just at the municipal level to avoid the worst impacts of climate change will require investment of $5.3 billion per year in Canada. While efforts to mitigate climate change are underway and expanding, with governments and businesses setting net-zero targets and ramping up investment to reduce emissions, investment in climate adaptation is lagging woefully behind the projected costs, which are poised to worsen over time. Importantly, even those mitigation investments are at risk if they are not themselves resilient to the changing conditions in the decades ahead.

Indeed, there can be no smooth transition to a net-zero future without enhancing resilience along the way. More investment is needed to help Canadian communities adapt to climate change. This is at the root of why Co-operators and its asset management arm, Addenda Capital, engaged with Canadian municipalities through ICLEI’s Financing Resilient Infrastructure Project.

Through this project, we aimed to understand barriers while also raising the art of the possible about the role private capital can play in building community resilience. Outputs from the rich dialogues that occurred through this work will support municipalities as they consider innovative approaches involving private finance, as a complement to public funding, in the spirit of accelerating and scaling the mission-critical work of building communities that are resilient to climate change.

Megan Meaney
Executive Director
ICLEI Canada

Ewa Jackson
Managing Director
ICLEI Canada

Chad Park
Vice President, Sustainability & Citizenship
Co-operators

Don Iveson
Executive Advisor, Climate Investing and Community Resilience
Co-operators
Introduction

Financing Resilience

Despite the strong economic case for investing in climate adaptation, public funds are significantly limited. This challenge is particularly acute for municipalities which own and operate 60 percent of Canada’s public infrastructure, have limited capacity and revenue sources to address climate impacts, and are facing a large price tag for infrastructure adaptation. Given the accelerating changes in our climate and the multi-billion-dollar loss events recently experienced in communities across Canada, a whole-of-society approach is needed. Through a financing model where private investors work alongside all orders of government, municipalities can achieve the scale and speed of the resilient infrastructure construction required to withstand and recover from climate impacts.

The effectiveness of this approach depends on the collaboration of municipal climate practitioners and financial experts. The opportunity to exchange insights on topics related to project feasibility and bankability (i.e., the unlocking of cash flows) and explore other finance-related questions is immensely valuable in the design and implementation of finance-ready infrastructure projects. This is exactly what a group of municipal practitioners from 10 communities across Canada and financial experts from both the public and private sectors did as part of the Financing Resilient Infrastructure Project (FRIP). Through FRIP, participating municipalities worked with financial experts to identify a suite of possible resilient infrastructure projects that private investors could help realize.

Participating Municipalities

New Glasgow, Nova Scotia
Halifax, Nova Scotia
Fredericton, New Brunswick
Laval, Québec
Mississauga, Ontario
Timmins, Ontario
Saskatoon, Saskatchewan
Canmore, Alberta
Port Moody, British Columbia
Saanich, British Columbia
Getting Ready to Finance: Examples of Resilient Infrastructure Projects provides an overview of 22 projects identified through FRIP. While FRIP participants identified projects that could theoretically be implemented in their respective communities, they did not commit to implementation. Rather, the projects are meant showcase possible resilient infrastructure projects that address a range of climate hazards and could be implemented in any Canadian community. For this reason, the projects are grouped based on project type rather than location. Colours and icons are used throughout the resource to represent the types of resilient infrastructure projects and the climate hazards these would address.

Project Types
- Energy system resilience
- Resilient development
- Flood resilience
- Water and wastewater system resilience
- Resilient community planning
- Wildfire resilience

Climate Hazards
- Coastal erosion
- Overland flooding
- Coastal flooding
- Riverine/fluvial flooding
- Extreme heat
- Sea level rise
- Extreme snow
- Storm surges
- Extreme temperature
- Urban and pluvial flooding
- Extreme weather
- Urban heat island
- Heavy rainfall
- Wildfires
- Hurricanes
- Wildfire smoke
- Ice and wind storms
- Winter storms
About ICLEI Canada

ICLEI Canada is part of a global network working to achieve tangible sustainability results through cumulative local actions. We drive local action and influence policy for low-emission, nature-based, equitable, resilient, and circular development. Our Members and team of experts work together through peer exchange, partnerships, and capacity building to create systemic change for urban sustainability.

The ICLEI Canada team has over 150 cumulative years of experience in the municipal sector and in non-profit organizations. We provide a wide range of services for local, provincial, and federal governments in support of developing sustainable, climate-ready communities. This support includes but is not limited to adaptation and resilience planning, energy and emissions planning, and capacity building.

About Co-operators

Co-operators is a leading Canadian financial services co-operative, offering multi-line insurance and investment products, services, and personalized advice that drive toward its purpose: Financial security for Canadians and our communities. Co-operators brings its vision to be a catalyst for a resilient and sustainable society to life through its products and services, community partnerships, and investments. At the end of 2022, Co-operators had invested nearly 24% of its total portfolio – $2.69 billion – into impact investments that measurably address the world’s pressing environmental and social issues. To help move Canada towards its net zero targets and build climate resilient communities, Co-operators has a target to direct 60% of its invested assets to impact investments or climate transition and resilience investments by 2030. As a carbon neutral organization, Co-operators has also committed to achieving net zero emissions in its operations and investments by 2040, and 2050, respectively.

Getting Ready to Finance Toolkit

The projects featured in Getting Ready to Finance: Examples of Resilient Infrastructure Projects, as well as the tools that were used to identify and prepare these for financing, have been compiled into the Getting Ready to Finance Toolkit. Municipalities can access and use this toolkit to prepare resilient infrastructure projects for financing in communities across Canada. Visit icleicanada.org/project/getting-ready-to-finance/ to access all resources from the Toolkit and identify bankable resilient infrastructure projects in your community.
Acknowledgments

Financing Resilient Infrastructure

This resource was developed by ICLEI Canada and Co-operators through FRIP. We gratefully acknowledge that this project was undertaken with the financial support of Co-operators. We would also like to acknowledge the municipal staff, financial experts, and the FRIP Advisory Group who were instrumental in the creation of this resource.

FRIP Advisory Group
Natasha Apollonova, Canada Infrastructure Bank
Allison Ashcroft, Municipal Finance Authority of BC
Chris Boivin, Federation of Canadian Municipalities
Mike Christopher, Infrastructure Canada
Jaime Gesualdo, Public Safety Canada
Fabrizio Palmucci, Climate Bonds Initiative
Andrew Posluns, Canada Infrastructure Bank
Mary Rowe, Canadian Urban Institute

FRIP Participating Municipal Staff
Tony Mummery, Town of New Glasgow, NS
Peter Douthwright, Town of New Glasgow, NS
Shannon Fernandes, Halifax Regional Municipality, NS
Shannon Miedema, Halifax Regional Municipality, NS
Jillian Hudgins, City of Fredericton, NB
Dominique Bastien, Ville de Laval, QC
Maude Brochu, Ville de Laval, QC
Julie-Louise Levasseur, Ville de Laval, QC
Christina Beaton, City of Timmins, ON
Leya Barry, City of Mississauga, ON
Theresa Chan, City of Mississauga, ON
Erin Placatka, City of Saskatoon, SK
Caitlin Van Gaal, Town of Canmore, AB
Julie Pavey-Tomlinson, City of Port Moody, BC
Rebecca Newlove, District of Saanich, BC

FRIP Team
Don Iveson, Co-operators
Tom Ewart, Co-operators
Paul Manias, Addenda Capital
Megan Meaney, ICLEI Canada
Ewa Jackson, ICLEI Canada
Adrián Tóth, ICLEI Canada

FRIP Team Support
Jon-Erik Lappano, Co-operators
Hiba Kariem, ICLEI Canada
Curniss McGoldrick, ICLEI Canada
Ariane Mooney, ICLEI Canada

Design and Layout
Jennifer Myers Chua
Land Acknowledgements

ICLEI Canada
We respectfully acknowledge that our work happens across Turtle Island which has traditionally been and is home to many diverse First Nations, Inuit, and Métis peoples since time immemorial. We recognize that reconciliation is a fundamental component to building net-zero resilient communities. We are committed to strengthening relationships with Indigenous groups and knowledge keepers, knowing that reconciliation requires ongoing learning, unlearning, reflection, and action. We endeavour to listen to and learn from Indigenous Peoples on an ongoing basis in the process of our work.

Co-operators
Co-operators was founded in 1945 in Regina, SK, Treaty 4 territory, the traditional land of the Cree, Saulteaux, Dakota, Lakota, Nakoda and the homeland of the Métis. Today, our co-operative exists in communities from coast to coast to coast. We recognize that the many places where we live and work are home to past, present and future First Nations, Inuit and Métis Peoples. Our corporate headquarters in Guelph, ON, sits on the Between the Lakes Treaty (No. 3) territory, the traditional land of the Mississaugas of the Credit First Nations and the ancestral homelands of the Anishinaabe, Haudenosaunee and Attawandaron Peoples. We acknowledge that Indigenous Peoples are stewards of this land and that our work is carried out across the traditional territories of the First Nations, Inuit and Métis Peoples. This grounds our journey toward a path of truth and reconciliation with our Indigenous neighbours, clients, members, employees and partners.

New Glasgow, Nova Scotia
We pause to remember that this province [Nova Scotia] we live and work on lands that are by law the unceded territories of the Wabanaki peoples – predominantly the land of the Mi'kmaq. May we live with respect on this land and live in peace and friendship with its people. We also recognize the African Nova Scotians whose culture, heritage, and history have been and remain a key part of our province for more than 400 years.

Halifax, Nova Scotia
The Halifax Regional Municipality is located in Mi'kma'ki, the ancestral and traditional lands of the Mi'kmaq people. The Municipality acknowledges the Peace & Friendship Treaties signed in this Territory and recognizes that we are all Treaty People.

Fredericton, New Brunswick
The City of Fredericton is situated in the traditional homeland of the Wolastoqey Nation since time immemorial. The Wolastoq (St. John River) which runs through our City means "Beautiful and Bountiful River" from which the Wolastoqiyik People take their name. This homeland is covered by the "Treaties of Peace and Friendship" that Wolastoqiyik, Peskotomuhkatiyik (Passamaquoddy) and Mikmaq (Mi'kmaq) first signed with the British Crown in 1725. These treaties did not deal with surrender of lands and resources but in fact recognized Wapnahkiyik (Wabanaki) title and established the rules for what was meant to be an ongoing relationship between nations.

Mississauga, Ontario
We acknowledge the lands which constitute the present-day City of Mississauga as being part of the Treaty and Traditional Territory of the Mississaugas of the Credit First Nation, The Haudenosaunee Confederacy, and The Huron-Wendat and Wyandot Nations. We recognize these peoples and their ancestors as peoples who inhabited these lands since time immemorial. The City of Mississauga is home to many global Indigenous peoples.

Timmins, Ontario
The City of Timmins acknowledges that we are located on the traditional Lands of Mattagami First Nation, Flying Post First Nation, and Matachewan First Nation, home to many Ojibway, Cree, Oji-Cree, Algonquin and Métis people. We also acknowledge that we are situated in Treaty 9 territory (also known as the James Bay Treaty), which is steeped in the rich Indigenous history of many First Nations, Metis and Inuit People. We make this acknowledgement as a first step in recognizing First Peoples’ long history and living culture, made with respect to Elders, both past and present.

Saskatoon, Saskatchewan
We acknowledge that our community is located on Treaty 6 Territory and the Traditional Homeland of the Métis. Indigenous people of primarily Cree, Dakota and Saulteaux descent have called Saskatoon home for thousands of years. Today, Saskatoon is home to Indigenous people from a diversity of cultures and language groups. The City of Saskatoon (City) recognizes the distinct order of government of First Nations and Métis and is committed to maintaining strong relationships through meaningful dialogue with Indigenous communities and organizations. Strengthening cooperation and mutual support by working in partnership with Indigenous communities toward respective community goals and objectives is vital to fostering more inclusive communities.
Canmore, Alberta
The Town of Canmore is located within Treaty 7 region of Southern Alberta. In the spirit of respect, reciprocity and truth, we honour and acknowledge the Canmore area, known as “Chuwapchipchiyani Kudi Bi” (translated in Stoney Nakoda as “shooting at the willows”) and the traditional Treaty 7 territory and oral practices of the Îyârhe Nakoda (Stoney Nakoda) – comprised of the Bearspaw First Nation, Chiniki First Nation, and Goodstoney First Nation – as well as the Tsut’ina First Nation and the Blackfoot Confederacy comprised of the Siksika, Piikani, Kainai. We acknowledge that this land is also home to the Rocky View Métis District 4 within the Battle River Territory. We acknowledge all Nations who live, work, and play and help us steward this land and honour and celebrate this territory. We commit to working to live in right relations and to advance Truth and Reconciliation.

Port Moody, British Columbia
We carry out our business on the ancestral and unceded homelands of the kʷikʷəƛ’̓əm (Kwikwetlem), səlilwətaɬ (Tsleil-Waututh), xʷməθk̓ʷəy̓əm (Musqueam), Sḵwx̱wú7mesh (Squamish), q’ícəy (Katzie), q’waʔən (Kwantlen), qiqeyt (Qayqayt), and Stó:lo Peoples, and extend appreciation for the opportunity to work on this territory. We are grateful to these Coast Salish Nations for their stewardship and protection, past and present, of the land, water, and air that we all rely on. And we acknowledge and appreciate their generosity of spirit in sharing their knowledge and teachings with Port Moody residents and visitors.

Saanich, British Columbia
The District of Saanich lies within the territories of the lək̓ʷəŋən peoples represented by the Songhees and Esquimalt Nations and the WSÁNEĆ peoples represented by the W̱JOLELP (Tsartlip), BΟΚΕĆEN (Pauquachin), SΤΑÛTW (Tsawout), WŚIKEM (Tseycum) and MÁLEXEL (Malahat) Nation. The First Peoples have been here since time immemorial and their history in this area is long and rich. The First of Saanich is proud that our name is derived from the WSÁNEĆ peoples. Saanich Council is committed to taking a leadership role in the process of healing wounds of the past and becoming a more just, fair and caring society.

Over the course of 2023, 10 Canadian municipalities worked with financial and climate experts to identify a suite of possible resilient infrastructure projects that aim to address various climate hazards and could be implemented with the help of innovative financing solutions.

The following 22 finance-ready projects were identified through this work. These showcase possible resilient infrastructure projects that address a range of climate hazards and could be implemented in any Canadian community. Visit icleicanada.org/project/getting-ready-to-finance/ to learn more and access resources to identify bankable resilient infrastructure projects in your community.

Learn More and Access Resources
Building Upgrades

Project summary
The primary goal of this project would be to upgrade the existing mechanical systems to reduce the selected municipal buildings' greenhouse gas (GHG) emissions by approximately 80 tonnes, decrease building energy use by 40%, and increase the buildings' accessibility rating above the previous Rick Hansen Foundation Accessibility Certification score of 66%. This would involve upgrading the existing mechanical and electrical systems and installing new mechanical systems in the buildings. Mechanical systems include base building heating, ventilation, and air conditioning. While some systems still have useful life remaining, they would be replaced to minimize GHG emissions. This project would also involve the implementation of energy-efficient measures and heat pump cooling in municipally-owned single-family homes that qualify based on income.

Community outcomes
By retrofitting municipal and private buildings, the municipality would improve energy efficiency, add cooling, and improve air quality. The project would upgrade heating and cooling for public and income-qualified homes, prevent extreme heat- and cold-related diseases and health concerns, increase the efficiency of heating and cooling systems to save energy and electricity, and reduce the operating costs of heating and cooling systems. This project would decrease GHG emissions linked to operating specific buildings. Additionally, it would improve community resilience to the impacts of climate change by providing cooling and heating to vulnerable populations. The selected buildings would also serve as public emergency comfort centers.

Intended beneficiaries
Municipality, municipal staff, residents, low-income homeowners, community visitors, youth, First Nations, seniors, and the broader community.

Possible sources of cash flows
Municipal grants (e.g., GICB, etc.) and heating and cooling user fees where possible.

Climate hazards addressed
- Extreme heat
- Extreme temperature
- Extreme weather
- Urban heat island
Downtown District Energy

Project summary

This project would involve using district energy (DE) in the municipal Downtown area. DE is known as an efficient building heating and cooling system which consists of three main components: (1) a central plant that produces thermal energy (i.e., hot and cold water); (2) an underground network of pipes that distribute the hot and cold water to individual buildings; and (3) an energy transfer station at each building to connect them to the DE system. This project would span the first phase of the development and construction of a DE system. This would include incorporating DE into three municipal buildings in the Downtown area and buildings on the local college campus.

Community outcomes

Once implemented, the district energy system would be expected to yield numerous benefits. Its development would contribute to a decrease in greenhouse gas (GHG) emissions from energy production, thanks to increased efficiencies, centralized energy production, and the use of renewable energy as the main fuel source. DE systems enhance community resilience as they can largely rely on local energy and fuel sources (e.g., geothermal), which decreases a community’s reliance on external fuel sources. At the same time, the central plant typically include a back-up, increasing the resiliency and reliability of the system. The system also delivers thermal energy through underground pipes. This means that the system is more resilient to extreme weather events like ice and wind storms.

Intended beneficiaries

Municipality, any buildings connected to the DE system, building users, and the general community.

Possible sources of cash flows

Heating and cooling user fees could be the main sources of revenue for this project. Various ownership models could also be explored.
Project summary

The objective of this project would be to design and build a solar microgrid specifically tailored to supply power to an emergency center located in a municipally owned arena during extended power outages and extreme weather events. The core mission would be to provide critical assistance to the most vulnerable residents during emergencies by offering safe shelter, enhancing energy resilience, and fostering independence. The enduring benefits of providing critical assistance to vulnerable residents during emergencies would include improvements in both physical and mental well-being.

Community outcomes

A functional emergency centre ensures the safety and well-being of vulnerable populations and allows access to essential services during extended power outages and extreme weather events. This project would enhance public safety, increase access to medical supplies and essential resources, reduce greenhouse gas emissions emitted from the building as the microgrid would be powered by renewable energy, and increase energy efficiency of the centre. Implementation of this microgrid would also enhance the resiliency of the surrounding community, create a more reliable electricity output, and reduce stress and workload of emergency service providers.

Intended beneficiaries

Municipality, vulnerable residents during emergency events, local businesses, essential service providers, visitors to the city, and the broader community.

Possible sources of cash flows

Energy generation through the solar microgrid has the potential to generate revenue.

Climate hazards addressed

- Extreme heat
- Extreme weather
- Extreme snow
- Heavy rainfall
- Extreme temperature
- Winter storms
Building Rainwater Retention (Blue Roofs)

Project summary

Blue roofs are a sustainable stormwater management solution engineered to effectively store and control rainwater on building rooftops. They serve as temporary reservoirs, releasing retained rainwater into stormwater systems after rainfall events. These innovative systems yield a host of advantages primarily centered around the management of stormwater runoff in urban areas. By mitigating runoff, they play a pivotal role in curbing flood risks and decreasing the need for water treatment such as cleaning and chlorination. As a whole, they contribute to both the environmental sustainability and the resilience of water sources.

Community outcomes

It is expected that the installation of blue roofs would mitigate flooding within flood-prone neighbourhoods and prevent infrastructure damage, transportation interruptions, displacement, and flood-related health impacts. Using blue roofs as a proactive flood mitigation measure would also reduce costs from repair and restoration typically necessary after flood events.

Intended beneficiaries

Municipality, flood-affected residential, commercial, and municipal infrastructure, businesses, and the broader community.

Possible sources of cash flows

Directly from the resiliency infrastructure through insurance premium benefits. Indirectly from the infrastructure but dependent on it through monthly/annual stormwater charges.

Climate hazards addressed

Urban and pluvial flooding
Overland flooding
Flood-Resilient Architecture and Building Engineering

Project summary
This project would develop and operationalize a residential flood resiliency home assessment process to allow residents located in flood-prone areas to identify how their homes might be vulnerable to water damage. A home assessment of about 50 residences would be carried out with certified home inspectors to identify these vulnerabilities. The results would be provided to the participating homeowner in the form of a curated report that includes various adaptation strategies and how to implement these. Through the assessment process, the municipality would also have the chance to gain a better understanding of the most prevalent weaknesses found in local homes, the cost of adaptation strategies, and whether flood resilience home assessments should become a permanent municipal program. The provincial government would be able to use findings shared by the municipality to support the reassessment of flood plains regulations.

Community outcomes
Social benefits would include increasing citizens’ flood risk awareness, preparedness, and resilience. Citizens would also gain knowledge of financial programs available at various government levels, thus reducing impacts on household and community healthcare. Once implemented, the adaptation strategies recommended in the flood resiliency home assessment reports would help reduce flood costs at the household level and better control insurance cost as well as insurance availability in concerned neighbourhoods. Environmental outcomes would include reducing the amount of post-flood construction materials in landfills and decreasing contaminants in the water and soil from hazardous materials. The flood-risk adaptation strategies could also consider GHG emissions reduction, therefore supporting climate change mitigation.

Intended beneficiaries
Municipality, flood-prone households, local emergency services, public infrastructure owners, property owners, and the wider community.

Climate hazards addressed
- Overland flooding
- Coastal flooding
- Riverine/fluviial flooding
- Extreme weather
- Urban and pluvial flooding
- Heavy rainfall

Possible sources of cash flows
A PACE-style program could provide participating homeowners with very low interest rates loans to implement the suggested renovations from their evaluation. The interests could be kept in this specific fund and reinvested.
Flood Resilience

Integrated Drainage and Stormwater Management Plans

**Project summary**

Through a multi-faceted approach, this project would enhance engineered and natural assets in a coordinated way to manage stormwater for future climate scenarios and reduce flooding risks. This would include upgrading storm sewers to increase capacity, restoring stream habitats and daylighting culverted streams, and integrating green infrastructure solutions in the municipality’s centre. The primary focus would be to implement flooding control measures, bioswales, rain gardens, and erosion mitigation all of which play a crucial role in protecting watershed health including important aquatic habitat. Furthermore, essential infrastructure upgrades would be completed to accommodate updated Intensity-Duration-Frequency (IDF) curve flows that describe the likelihood of a range of extreme rainfall events driven by the challenges of climate change.

**Community outcomes**

This project would preserve and enhance natural ecosystems and municipal infrastructure against the impacts of a changing climate. Additionally, the project would improve the economic resilience of the community, particularly small businesses, and reduce the chance of property damages and impacts from overland flooding. There would also be co-benefits with the green infrastructure relating to heat island effects, shade, human health, well-being, and air quality. This project would improve access to active transportation and recreation options in rainy conditions, improve drainage, increase safety, ameliorate bank stability, and decrease erosion potential.

**Intended beneficiaries**

Municipality, residents, First Nations, businesses, heavy industry, regional transportation connections, and visitors.

**Climate hazards addressed**

- Riverine/fluvial flooding
- Urban and pluvial flooding
- Overland flooding
- Heavy rainfall

**Possible sources of cash flows**

Dedicated drainage levy/utility fees funded through monthly/annual taxation, development cost charges (DCCs), drainage levies, and insurance premium reductions and costs.
Low Impact Development

**Project summary**

Due to a high groundwater table and minimal grade from developed areas to water bodies, traditional piped stormwater collection systems do not exist in part of the community. Instead, stormwater runoff is injected into an unconfined aquifer which is also used as a source of potable water. This approach results in a risk of source water contamination and can lead to localized pluvial flooding in high intensity rain events. This project would involve conducting a comprehensive community assessment to identify areas where the existing storm infrastructure is inadequate.

**Community outcomes**

Using green stormwater infrastructure would provide additional stormwater capacity and would reduce the severity of flooding during high intensity rain events by absorbing peak rainfall in a distributed fashion. Green stormwater infrastructure would also remove pollutants from stormwater runoff, protecting the municipality’s source water. Implementing a suite of green stormwater infrastructure retrofits would improve stormwater quality management, reduce localized pluvial flooding, mitigate for urban heat island, increase biodiversity and habitat connectivity, and improve well-being and mental health.

**Intended beneficiaries**

Municipality, residents and business owners in parts of the community without stormwater infrastructure, local ecosystem, schools, low-income households, and the broader community. Certain vulnerable groups such as the elderly and people with mobility challenges may especially benefit.

**Climate hazards addressed**

- Overland flooding
- Riverine/fluvial flooding
- Urban and pluvial flooding
- Heavy rainfall

**Possible sources of cash flows**

Municipal taxes and fees.
Multi Use Stormwater Management Ponds

Project summary
This project would develop a dual-purpose soccer field and skatepark combined with the use of the area as green space during the dry season — an innovative approach to community development. In times of flooding, this versatile area would transform into a vital water retention zone to mitigate potential flood risks. This project would be strategically designed to achieve comprehensive benefits to the entire community with a particular focus on neighbourhoods susceptible to flooding. By providing recreational amenities during fair weather and flood resilience during inclement conditions, this project would exemplify how forward-thinking initiatives like this one can enhance community wellbeing and safety.

Community outcomes
During the dry season, this green space would function as a soccer field and skatepark and, during the wet season and flood events, it would function as a water retention area. By providing recreational amenities for the community, the space would increase physical, mental, and social well-being of individuals. It would also increase flood resilience during inclement conditions and play a pivotal role in curbing flood risks. The water retention pond functionality would prevent flooding that would otherwise potentially destroy infrastructure, housing, and put the community’s health and safety in harm’s way. By diverting excess water, it would mitigate flooding while also providing dynamic green and blue space for the community leading to community engagement and interest.

Intended beneficiaries
Municipality, flood-affected residential, commercial, and municipal infrastructure, park ecosystems, residents, businesses, and the broader community.

Possible sources of cash flows
Development cost charges/user fees, increased taxation based on increase in property value of the protected adjacent residences, and insurance premium reductions.

Climate hazards addressed
- Overland flooding
- Urban and pluvial flooding
- Heavy rainfall
Relocation of Residences

Project summary
This project would involve identifying buildings that are suitable for relocation within a flood zone. These relocations would enable the restoration of the watercourse’s freedom of movement. The buildings targeted by this project are those at very high risk of flooding whose relocation would allow private land on the riverbank to become public land. The project would focus on flooding protection, maintenance of safe access to houses, and the ecological revitalization of the area. Wetland restoration and the creation of an urban park accessible to citizens would also be included in this project. Additionally, a dike would be built further downstream to maintain the protection of nonexpropriated residences.

Community outcomes
These permanent relocation measures would greatly reduce the stress on citizens and municipal employees. Reducing the vulnerability of local residents to flooding would greatly reduce the time, effort, and expenses required in the long term to protect their assets. This would also be an important improvement for the protection of the community’s mental and physical wellbeing. Additionally, this would be an opportunity to improve access to public green spaces and present an opportunity to implement green infrastructure for stormwater management which would benefit citizens beyond the immediate intervention area.

Intended beneficiaries
Municipality, flood-prone households, taxpayers, public infrastructure owners, property owners, and the wider community.

Possible sources of cash flows
Taxation options based on the increase in property value and the proximity of a large riverside part of the remaining protected residences.

Climate hazards addressed
- Coastal flooding
- Overland flooding
- Riverine/fluvial flooding
- Urban and pluvial flooding
- Heavy rainfall
Flood Resilience

Stormwater Infrastructure Renewal

Project summary
The renewal of municipal stormwater infrastructure in key areas is important in light of climate change impacts and related challenges. With the increasing frequency and intensity of heavy rainfall events due to climate change, addressing inundation issues is of paramount importance, particularly for certain neighbourhoods. This infrastructure renewal project would not only mitigate flooding concerns from increasingly frequent heavy rainfall events but would also contribute significantly to enhancing the municipality’s overall resilience in the face of changing weather patterns. By effectively managing stormwater, the municipality would not only protect property and public safety but also reduce the environmental impact of runoff, ultimately creating a more sustainable and resilient urban environment for current and future generations.

Community outcomes
Infrastructure upgrades would increase the capacity of the municipal storm sewer system to withstand increased flows and create safe routes for runoff. It would also help ensure the health and safety of vulnerable residents during and after extreme rainfall events. Once completed, people living or working in the area targeted by this project would be less exposed to the risk of pluvial flooding, emergency service routes would be protected from disruption, impacts to health and safety concerns (e.g., ponding water, sewer backup) would be reduced, significant economic activity disruptions would be minimized, and costs due to damage would be avoided.

Intended beneficiaries
Municipality, flood-prone households, taxpayers, public infrastructure owners, property owners, and the wider community.

Possible sources of cash flows
Taxation options based on the increase in property value and the proximity of a large riverside part of the remaining protected residences.

Climate hazards addressed
- Coastal flooding
- Overland flooding
- Riverine/fluvial flooding
- Urban and pluvial flooding
- Heavy rainfall
Surface Flood Mitigation and Stormwater Management

Project summary

This surface flood mitigation initiative would substantially lower flooding risks by implementing measures to improve the stormwater management system as a whole. This would involve above-ground measures that slow overland runoff into the stormwater system, thereby reducing the peak flow and increasing the level of storm that the system can handle without backup or flood. These measures would also manage the flow of water across the urban landscape and reduce hazards caused by flooding or ponding in low-lying areas. In some cases, an additional benefit would include stormwater reuse where water is stored and used on site. Measures could include bioswales, improved and vegetated drainage ditches, rain gardens, low impact design (e.g., increased permeable surfaces), naturalized dry ponds, culverts, and native plantings. The project would add natural assets to an existing structural system.

Community outcomes

Surface flood mitigation and stormwater management places a strong emphasis on addressing the most vulnerable flood-prone areas of the municipality which typically consist of older neighbourhoods, and neighbourhoods that possess underground storm sewer systems. By focusing efforts on these high-risk areas, the project would enhance community resilience, reduce public health impacts, and safeguard properties and infrastructure from the detrimental effects of flooding.

Intended beneficiaries

Municipality, property owners in flood-prone neighbourhoods, municipal wastewater treatment plant, and the broader community.

Possible sources of cash flows

Existing stormwater utility fee and local improvement charges could be implemented if improvements are clustered in one area using a neighbourhood-by-neighbourhood approach, or if enhanced stormwater management systems are introduced in new developments.

Climate hazards addressed

- Overland flooding
- Riverine/fluvial flooding
- Urban and pluvial flooding
- Heavy rainfall
Climate-Resilient Roads

Project summary

This three-phase project would make the municipality’s road network more resilient to climate change hazards. Prioritized projects would be involved to adapt existing neighbourhoods to climate hazards such as flooding, sea level rise, storm surge, and wildfires. The first phase would use stormwater management to reduce roadway flooding during high intensity rainfall events. The second phase would involve relocating a coastal road that also acts as emergency access for a neighbourhood. The final phase would involve creating new egress roads for two neighbourhoods affected by wildfires. Overall, the project would improve the safety of residents by upgrading road infrastructure in order to maintain egress and evacuation routes during high intensity rainfall events, wildfire, or other climate-related emergencies.

Community outcomes

It is expected that each of the three phases of the project would have a variety of benefits that would improve the health and safety of the broader community. Phase one would mitigate conditions of the roadway to better maintain evacuation routes during high intensity rainfall events or other climate-related emergencies. Phase two would maintain egress and evacuation routes during extreme storm surge and wave run-up events. And phase three would provide additional egress during emergency events such as wildfires. All three phases of the project would achieve safer and faster evacuations for all neighbourhoods involved and decrease risks from climate hazards.

Intended beneficiaries

Municipality, local residents and road users, emergency management/services.

Possible sources of cash flows

Insurance premium reductions for local residents.

Climate hazards addressed

- Coastal erosion
- Overland flooding
- Coastal flooding
- Riverine/fluvial flooding
- Extreme snow
- Sea level rise
- Extreme weather
- Storm surges
- Heavy rainfall
- Hurricanes
Disaster Management Hub

Project summary
This project would involve building a multifunctional facility that would play a pivotal role in both emergency response relief and year-round recreation services for residents, especially vulnerable populations. This versatile hub would function as a population displacement facility, offering essential services such as warming and cooling centers, along with its primary role as a year-round multi-use recreation center. Equipped with hydration stations, it would ensure that the community has access to critical resources during times of crisis while also promoting recreational activities and overall well-being throughout the year.

Community outcomes
The creation of a disaster management hub would serve as a multifunctional facility. It would offer essential services such as warming and cooling centers to displaced populations. Equipped with hydration stations, it would also ensure that the community has access to critical resources during times of crisis. The hub would mitigate adverse safety and health concerns related to increasing hot days, heat waves, extreme cold, and other extreme weather events. With its primary role as a year-round multi-use recreation center, the hub would also promote recreational activities and overall social, physical, and mental well-being throughout the year.

Intended beneficiaries
Municipality, community members, climate/disaster refugees, vulnerable populations, and the broader community.

Possible sources of cash flows
User fees with a range of ~$30-60 per month, insurance premium benefits, and various grant options.

Climate hazards addressed
- Ice and wind storms
- Wildfires
- Heavy rainfall
- Extreme weather
- Hurricanes
- Extreme heat
Neighbourhood Emergency Exits

Project summary
The project would involve the use of active transportation infrastructure as emergency exit routes during extreme weather events, flooding, or wildfires. These emergency exits would serve neighbourhoods that currently only have one access/egress point. The project would have numerous potential benefits — beyond ensuring the safety and well-being of residents, this project presents a significant opportunity for reducing greenhouse gas emissions through a transportation modal shift. It would also increase resident’s physical fitness, mental well-being, and overall public health while promoting sustainability, resilience, and the overall quality of life within the community.

Community outcomes
The new multi-use paths would improve the resilience of the municipality by enhancing public safety during extreme weather events. They would also have a strong climate mitigation and public health benefit. The paths would increase the length of the municipality’s active transportation network and provide new links to neighbourhoods, thereby reducing vehicle dependence. They would also improve and promote active urban mobility, provide potential mental and physical health benefits to residents, reduce vehicular traffic and associated greenhouse gas emissions, and improve air quality.

Intended beneficiaries
Municipality, the residents of the targeted neighbourhoods, the extended community users of the active transportation network, emergency services, and the broader community.

Possible sources of cash flows
Sources may include provincial funding and taxation, and increasing property values and taxes around the new multi-use pathways.
Snow Management Upgrades

Project summary

This project would relocate the municipality’s snow storage site away from a natural wetland which is a sensitive ecosystem that contains a species of concern. Relocation of the snow storage site would allow the municipality to restore the wetland area, reduce the pollutants in this sensitive area, increase biodiversity, and provide valuable ecosystem services. Simultaneously, the project would include the construction of a dedicated snow management facility situated off-site. This purpose-built snow management facility would employ engineered controls to ensure salts and contaminants from melting snow are managed to reduce adverse effects to the surrounding environment.

Community outcomes

This proactive approach to snow management would not only mitigate environmental impacts such as pollutant runoff and ecosystem service decline, but would also significantly enhance the municipality’s capability to manage snow effectively as large-scale snow events are expected to increase due to climate change. In turn, this would ensure the well-being of both the community and the environment. The project would also reduce costs associated with snow removal services, business interruptions, and increase the resilience of the community and city operations during severe winter storms.

Intended beneficiaries

Municipality, critical infrastructure including hospitals and emergency services, residents and property owners in neighbourhoods surrounding the existing snow storage site, and the broader community.

Climate hazards addressed

Winter storms

Possible sources of cash flows

Service fees for private contractors using the site, development charges for future development near the site, and traditional grant funding or operating funds.
Climate-Resilient Housing and Fire Station

Project summary

This project would involve constructing affordable housing units designed with climate resilience at the forefront. The architectural approach used would embrace the principles of passive house design featuring robust insulation, well-planned window orientation, thoughtfully landscaping for shade and efficient stormwater management, and the integration of heat pumps for cooling. The municipality could also bundle this initiative with a fire station project by co-locating the two projects. The same approach could be used to incorporate climate resilience benefits in the design and construction of both buildings. In addition, locating the fire station with affordable housing and other organizations would support densification and maximize use of city land. The project would primarily focus on structural elements while incorporating functional natural features.

Community outcomes

This project would increase the availability of affordable housing in the municipality while providing climate-resilient housing that addresses expected hazards of extreme heat, air quality, flooding, and severe storms. It would also demonstrate climate-resilient building practices for housing and municipal buildings. Moreover, the project would increase community safety by improving the ability of emergency services to continue to function during and after extreme weather events.

Intended beneficiaries

Municipality, underhoused populations, neighbourhoods which will see shortened response times for emergency services, and community organizations and nonprofits co-located within the facility, and the broader community.

Possible sources of cash flows

Development levies could be implemented to prepare services for each site. The municipality could also explore large onsite rainwater storage, as well as tax increment financing at a larger scale (legislation would need to be enacted).

Climate hazards addressed

- Coastal flooding
- Extreme weather
- Extreme heat
- Wildfires
- Extreme temperature
- Heavy rainfall
- Overland flooding
- Wildfire smoke
Innovation Park Development

Project summary

This project would involve developing a resilient innovation eco-district in order to take advantage of the strategic location and exceptional assets of a municipal site. This site would be adapted to the urban realities of the 21st century through mixed-use development with a low carbon footprint. Companies, research groups, start-ups, and local service providers would share the space with high-density residential buildings. The development would be structured around a vast regional park and a network of pedestrian-friendly public spaces that would place humans and nature at the heart of the design approach. The municipality would also use a smart energy grid.

Community outcomes

Addressing the urban heat island phenomenon with natural infrastructure would reduce the local population's sensitivity and vulnerability to climate events such as heat waves. The stormwater management aspect would reduce risk of urban flooding, protect the community's natural water assets from contamination, and also protect commercial and residential properties. Development of green infrastructure would improve air quality, increase resilience of natural habitats, improve the quality of life for residents, workers, and visitors, and provide public health benefits. This project would also increase land value and revenues for the municipality, create socioeconomic innovation, and showcase innovation of onsite research and development.

Intended beneficiaries

Municipality, surrounding residents and workers, visitors, citizens of the downtown area, citizens of the region.

Possible sources of cash flows

Leasing revenue and revenue from the implementation of the smart energy grid.

Climate hazards addressed

- Extreme heat
- Heavy rainfall
- Overland flooding
- Urban and pluvial flooding
- Urban heat island
Water and Wastewater Systems Resilience

Flood Protection of Wastewater Treatment Plant

Project summary
Wastewater Treatment Plants (WWTP) are critical for community wastewater services. The primary objective of this project would be to construct a protective berm around the municipal WWTP by elevating the access road encircling both the WWTP and the waste management centre. This would address heightened flood risks due to climate change and intensifying weather extremes and the threat of erosion from the river encroaching upon the facility.

Community outcomes
Protecting the WWTP is paramount for ensuring consistent community services, preserving ecological health, and safeguarding the municipality’s economic interests particularly for residents and businesses. In doing so, this project would increase resiliency of critical infrastructure during a river flood, and/or a creek flood, minimize risk of flooding in part of the municipality, minimize risk of wastewater service disruption during and after flood events, and minimize risk of riverbank erosion during high flow events.

Intended beneficiaries
Municipality, community members relying on the WWTP for essential sanitation services, local businesses, tourists and visitors to the Town, neighbouring municipalities that also rely on this WWTP and the surrounding ecosystems.

Possible sources of cash flows
Municipal taxes, grant funding, and utility fee opportunities. A resilience surcharge could also possibly be added to the water utility bill and private sector cash flow opportunities can be researched.

Climate hazards addressed
- Coastal flooding
- Riverine/Fluvial flooding
- Heavy rainfall
- Urban and Pluvial flooding
- Overland flooding
Water and Wastewater Systems Resilience

Lake Dam Stabilization and Spillway

Project summary

This project would stabilize a drinking water reservoir dam and spillway. Dams that were designed to be stable for historic climate and related weather events may be inadequate for the more frequent and intense storm events caused by climate change. Potential dam instability can pose a risk not only to municipal drinking water supply but also to residents, ecosystems, and infrastructure on the downstream side of the dam in the event of a failure. To allow water levels to be managed in the event of a large volume single rain event, rapid snow melt, or a series of closely spaced rainfall events, the spillway of the dam would be redesigned and rebuilt. A hydro turbine could also be incorporated into this redesign to capture the energy potential from water exiting the reservoir through the spillway.

Community outcomes

Once the dam is stabilized and the spillway redesigned, the potential threat of a catastrophic dam failure, ecosystem degradation, and public safety hazards would be significantly reduced. By enhancing the dam’s resilience, the project would also ensure consistent water supply. Potential dam failure or disruption in water supply could lead to significant economic losses, ranging from business disruptions to potential loss in property values. With the dam’s stabilization, these potential economic pitfalls would effectively be negated. Electrical generation could be used to offset the impacts of electrical consumption, GHG emissions, and expenses of the project.

Intended beneficiaries

Municipality, residents, those who depend on the reservoir lake as their drinking water source, industrial users, local ecosystems, and the regional power grid.

Possible sources of cash flows

Sales of energy from hydropower turbines, user fees from water sales, and Municipal General funds.

Climate hazards addressed

- Riverine/fluvi form flooding
- Extreme weather
Wildfire Resilience

Fire-Resistant Metal Roofs

Project summary

This project would involve collaborating with the province to encourage smarter reconstruction efforts following wildfires within the municipality which recently destroyed over 100 homes. This would include initiatives such as the widespread adoption of metal roofing systems to safeguard against fires, the establishment of a buyout program designed to facilitate managed retreats in high-risk wildfire regions and floodplains, and the active promotion of guidelines inspired by FireSmart principles. Ideally, this project should be completed in advance of future wildfires and while rebuilding is taking place as opposed to installing a metal roof as a retrofit in a few years, which would be more expensive.

Community outcomes

Incorporating protective measures in line with the recommendations put forth by FireSmart Canada would significantly enhance the survivability and resilience of various structures. Incorporating metal roofing systems in reconstruction would lessen the spread of wildfires, decrease the destruction of infrastructure and buildings, and improve the health and safety of vulnerable populations. FireSmart would also help residents learn about ways to reduce the impact of a wildfire on their home and a buyout program would facilitate managed retreats in high-risk wildfire regions and floodplains to further reduce impacts on infrastructure, health, and essential services. As a whole, this project would improve the resilience of the municipality and mitigate GHG emissions through preventable means.

Intended beneficiaries

Municipality, local residents and neighbourhoods, emergency management operations, and emergency services.

Possible sources of cash flows

Local Improvement Charges (LICs), insurance premium reductions for local residents, and a climate action tax.

Climate hazards addressed

- Wildfires
- Wildfire smoke
Wildfire Resilience

Fortification of Critical Buildings

Project summary
The project would enhance community resilience against wildfire risk by fortifying critical buildings through FireSmart measures, establishing backup power for two recreation centres and five pump stations, as well as launching a community incentive program to promote FireSmart implementation on private properties. Through these proactive initiatives, the municipality would become a safer and more resilient community in the face of wildfire threats.

Community outcomes
The results of this project would allow residents to implement FireSmart measures on their properties, making them more resilient to wildfire risks. The program would empower residents to “help themselves” in the case of a wildfire. This project would also ensure the municipality has the backup power supply needed to house residents and provide water as well as fire suppression services during emergencies. Fortifying critical municipal infrastructure would support the community by providing them with a safe place to shelter and access to water and would lessen cleanup costs in the case of a catastrophic wildfire. Having fortified critical infrastructure would also help the community bounce back quicker after emergencies.

Intended beneficiaries
The entire community, the municipal operations and the community’s residents, local businesses, tourists and visitors, insurers, neighbouring communities, and ecosystems that are protected from potential wildfire damage.

Climate hazards addressed
Wildfires
Wildfire smoke

Possible sources of cash flows
Municipal taxes and traditional grant funding where possible.
Wildfire Resilience

Wildfire Interface Resiliency Treatment

Project summary

This project would create a climate resilient wildland urban interface area to help mitigate climate risks using a low carbon resiliency approach. It would also support the goals of the municipality’s recently adopted Urban Forest Management Strategy and the implementation of the municipality’s existing Community Wildfire Protection Plan by implementing fuel treatment. The scope of this project would involve the removal of some trees and excess woody debris identified as high fuel loads. It would also address hazard trees and areas of potential windthrow, transforming these into resilient interface zones characterized by healthy urban forests, high biodiversity, and enhanced wildfire resiliency. The primary focus would be on reducing wildfire risk in urban and natural forest stands adjacent to urban neighbourhoods and implementing stand conversions, invasive plant management, and natural restoration plantings to create a more robust and climate resilient forest ecosystem.

Community outcomes

This project would preserve the natural ecosystems and biodiversity values as well as protect public safety and infrastructure against climate change impacts with a focus on wildfire hazard. The project would have additional benefits associated with increasing economic resilience of the community (particularly for homes and businesses) and reducing the chance of residential property damage. This project would mitigate wildlife risk, increase slope and bank stability for post-fire recovery, and decrease erosion potential.

Intended beneficiaries

Municipality, residents, First Nations, businesses, private industry, regional transportation connections, regional parks and government, emergency services, and visitors.

Climate hazards addressed

Wildfires

Possible sources of cash flows

Wood fiber sales, insurance premium reductions, and avoided costs through proactive forest management.
Recommended Citation

Getting Ready to Finance: Examples of Resilient Infrastructure Projects was developed by ICLEI Canada and Co-operators as part of the Getting Ready to Finance Toolkit.

Getting Ready to Finance Toolkit

Connect with us online to find more resources and follow our work.

Co-operators Website
Contact Co-operators
Follow Co-operators on LinkedIn

ICLEI Canada Website
Email ICLEI Canada
Follow ICLEI Canada on LinkedIn