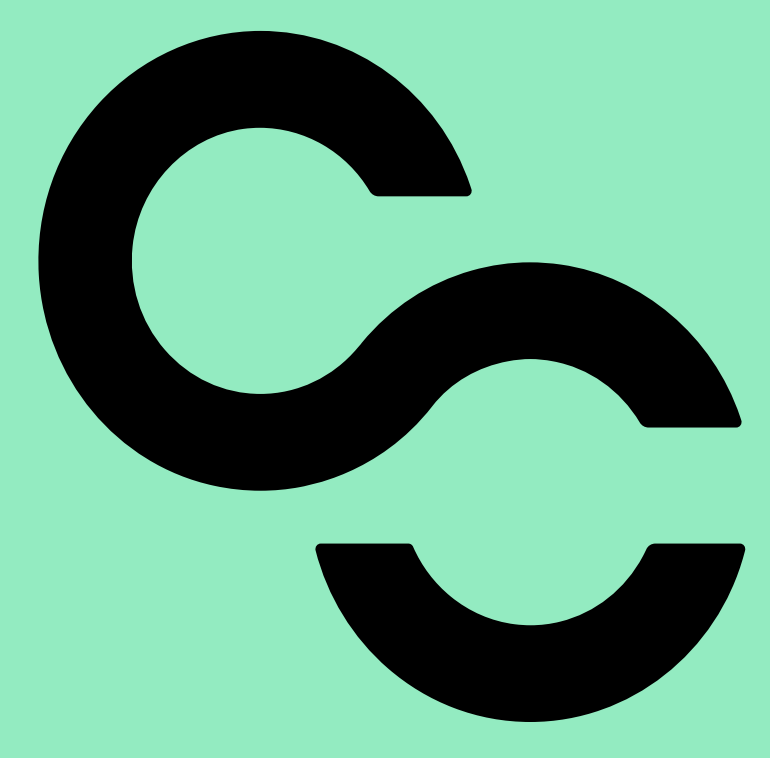




September 2026



Climate Caucus

Climate Costs

How Investing In
Municipal Climate Resilience
Saves Money

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Introduction

75 percent, of Canadians are concerned about climate change (Re.Climate, 2026). A concern the overlapping challenges of economic instability, housing unaffordability, a tariff war, and rising inflation. We know that local elected leaders need to increasingly demonstrate **how action on climate is good for job-creation and our economy.**

More than 60% of Canadians have been impacted by climate change in 2026 (Elbows Up for Climate, 2026). From east to west, communities across Canada have faced evacuations, dangerous smoke, damaged homes and disrupted livelihoods, and have been left uncertain about what comes next as recovery costs mount for residents and municipalities. **As annual emergency management and recovery costs climb, it is clear that investing in climate resilience is not only essential for public health and safety, but also for fiscal responsibility.**

This toolkit makes the economic case for climate adaptation policies at the municipal level. Designed as a high-level reference tool for local elected leaders, it outlines the costs of inaction and the savings that can result from adaptation investments across different climate impacts. It also highlights real-world examples of how investments in resilience have saved taxpayer dollars from small, medium and large communities across Canada.

1. Climate-Resilient Infrastructure

The Costs of Climate Change on Infrastructure

- Municipalities own and maintain more than **60% of Canada's public infrastructure**, while collecting **10% of government tax revenue** (Slack & Taylor, 2024; Statistics Canada, 2023).
- This funding challenge has caused years of deferred maintenance, leaving approximately **14% of Canada's core public infrastructure in poor or very poor condition**, and an estimated **\$294 billion required to restore these assets** to a state of good repair (Ness et al., 2026; Statistics Canada, 2025).
- Aging infrastructure is less resilient to climate impacts, increasing the risk of costly failures and emergency repairs during floods, heat waves, storms, and freeze-thaw cycles (Ness et al., 2026).
- Without additional adaptation, climate impacts are projected to add **\$8.8 billion annually to infrastructure costs** across Canada, increasing to \$19.4 billion annually by 2100 (Ness et al., 2026).
- **Municipalities are expected to absorb 72% of these costs**, or about \$10.9 billion annually, under a no-adaptation scenario, because of their responsibility for local infrastructure and services (Ness et al., 2026).

Example: Climate-Resilient Roads

Using climate-resilient materials when maintaining and replacing roads can **reduce climate-related damage costs by 98%**, generating up to \$13 billion in annual savings by the end of the century (Canadian Climate Institute, 2021).

Lawrencetown, NS - Climate-resilient Road Reconstruction

A section of a highway was relocated and rebuilt farther from the coast to withstand storm surge and sea-level rise. The project is expected to keep the road open during storms and reduce the need for costly future repairs.

The Savings from Climate-Resilient Infrastructure

- Every **\$1 invested in climate adaptation generates approximately \$13–\$15** in direct and indirect economic benefits (Sawyer et al., 2022).
- Investing **\$4.1 billion annually in infrastructure adaptation could generate up to \$8.6 billion** in annual savings due to reducing infrastructure failures and emergency repairs, and increasing longevity of critical systems (Ness et al., 2026).

Coquitlam, BC - Flood-resilient Road and Drainage Upgrades

Coquitlam raised a road and improved drainage to reduce flooding during heavy rainfall, helping prevent road closures, service disruptions and future flood-related repair costs.

2. Flooding

The Costs of Flooding

- Flooding is **Canada's most frequent and costly natural disaster**, damaging homes, businesses, roads, bridges, and critical infrastructure (Government of Canada, 2026).
- Flood-related damage to buildings is projected to increase from approximately **\$60 million annually today to up to \$300 million annually by mid-century**, potentially reaching \$13.6 billion annually by the end of the century (Ness et al., 2021).

The Savings from Flood Resilience

- Relocating homes away from high-risk coastal areas could **reduce the costs of coastal flooding by up to 90% by 2100**, equivalent to approximately \$1 billion in savings every year (Ness et al., 2021).
- A US study found that building one foot above the 100-year flood elevation can generate **US\$6 in savings for every US\$1 invested** (Flood Resilience Coalition).



Merritt, BC 2021

Nature-Based Solutions

Nature-based solutions such as wetland restoration and protection can save millions in flood damage. Wetlands in Canada reduce the financial costs of flooding by nearly 40% (University of Waterloo, 2017).

Surrey, BC - Stormwater Savings

Surrey saved \$4.8M per year on stormwater management costs by preserving its urban forests.

Riverview, NB - Natural Assets and Stormwater Management

Riverview found that protecting their wetlands provides \$1.07–\$2.73 million in stormwater services savings.

Toronto, ON - Shoreline and Urban Forest Resilience

Investment in Toronto's shoreline and urban forest resilience is projected to save more than \$6 in avoided recovery and replacement costs for every \$1 invested.

Cost-Savings in Communities: Nature-Based Solutions

Grand Forks, BC- Natural Floodplain Protection

Following severe flooding in 2017, Grand Forks assessed the flood-mitigation value of the Kettle River floodplain, finding that maintaining an intact floodplain provides between \$500 to \$3,500 per hectare in flood-damage reduction for downtown buildings during high-flow events.

Courtenay, BC- Natural Flood Protection

The City of Courtenay modelled different approaches to using natural assets to reduce flood risk and found that natural-asset improvements could reduce flood damages by approximately \$723,000 to \$2.4 million, while relocating at-risk buildings would cost approximately \$6.8 million.

Cost-Savings in Communities: Grey Infrastructure

Hay River, NT - Road Flood Upgrades

The Town of Hay River is raising an airport road and upgrading drainage infrastructure to reduce recurring flood risks and maintain access to the community's water treatment plant. The \$3.6 million project is expected to generate \$11.78 in avoided flood damages for every \$1 invested over the life of the asset.

Bayham, ON - Stormwater Resilience

The Municipality of Bayham invested \$1.56 million to upgrade stormwater infrastructure using bioswales, overland flow routes and upgraded storm sewers. The project is expected to reduce spending on maintenance and weather-related equipment failures by 64% and reduce weather-related equipment failures by 83%, while protecting more than 340 homes and 1,000 residents.

Port Burwell, ON - Resilient Stormwater Management

Port Burwell's stormwater system was upgraded to reduce flooding and weather-related infrastructure failures. The \$1.56-million project is expected to produce a 64% reduction in spending for maintenance and weather-related equipment failures, an 83% reduction in weather-related equipment failures, and protect more than 340 dwellings.

Winnipeg, MB - Red River Floodway

Originally constructed in 1968 for \$63 million and expanded in 2014 at a cost of \$627 million, the Red River Floodway has prevented more than \$40 billion in flood-related damages for the City of Winnipeg since its construction.

3. Wildfires

The Costs of Wildfires

- During the 2023–24 wildfire season, **BC spent approximately \$1.1 billion on fighting wildfires**, approximately \$401 million more than budgeted (Government of BC, 2024).
- Federally, **the annual cost of fighting wildland fires now exceeds \$1 billion**, with an additional estimated \$500 million per year in indirect losses (Baxter, 2025).
- The 2024 Jasper wildfire resulted in **an estimated \$1.23 billion in insured damages** and destroyed one-third of the town's structures, making it one of Canada's costliest wildfire events (Insurance Bureau of Canada, 2025).
- The 2016 Fort McMurray wildfire caused **\$4 billion of insured losses**, destroyed 2,400 buildings, and led to over 80,000 people being evacuated (Sawyer et al., 2020).
- Between 2014 and 2025, **wildfire smoke generated an estimated \$5.3 billion in acute health damages**, including healthcare costs, lost wages and reduced work activity, while long-term health impacts and premature mortality accounted for about \$226 billion in economic costs, an average of \$19 billion per year (Natural Resources Canada, 2022).

The Savings of Wildfire Resilience

- The Government of Canada analysis estimates that implementing new flooding and wildfire guidelines and standards for new construction could save Canada approximately **\$4.7 billion annually, equivalent to nearly \$12 in savings for every \$1 invested** (Natural Resources Canada, 2023).
- FireSmart measures, can help reduce wildfire risk at both the community and property level by making homes and surrounding areas more resistant to wildfire; **basic FireSmart retrofits generate financial benefits up to nine times the initial cost** (FireSmart BC, 2021; Weeber, 2026).



Upper Tantallon NS, 2023

Cost-Savings in Communities

Squamish, BC - FireSmart Investments

Following the 2020 wildfire, interviews with first responders, homeowners, and community leaders found that homes that survived close wildfire encounters often had implemented FireSmart measures. First responders emphasized that these measures can make homes more defensible and help crews prioritize properties that are more likely to withstand fire .

Princeton, BC - FireSmart Investments

The municipality has combined homeowner rebates, property assessments, debris removal, structure-protection equipment and landscape-level fuel treatments as part of a comprehensive wildfire resilience strategy.

Logan Lake, BC - FireSmart Investments

When the Tremont Creek wildfire threatened Logan Lake in 2021, the community's FireSmart measures, including rooftop sprinkler systems, helped protect homes from flying embers. The sprinklers cost approximately \$45 each at the time, illustrating how relatively low-cost preventative measures can help reduce wildfire risk.



Mayor Robin Smith
Logan Lake

“I really do think we would have lost structures if we did not have that system already in place.”

Wadin Bay, SK - Wildfire Preparedness Investments

Wadin Bay invested in firefighting resources, vegetation management and wildfire preparedness before a major wildfire threatened the area in 2015. Studies report that these investments largely contributed to the community experiencing only small losses.

West Kelowna, BC - FireSmart Investments

During the 2023 McDougall Creek wildfire, FireSmart measures helped some homes in West Kelowna survive despite intense fire conditions, demonstrating how investments in property-level wildfire resilience can help reduce losses.

Jason Brolund
West Kelowna Fire Chief

“The fact that this house survived wasn't because there was a fire truck parked in front of it. It survived because of the FireSmart principles.”

4. Extreme Heat

The Costs of Extreme Heat

- Extreme heat is increasing pressure on municipal services and budgets due to growing investment required for cooling centres, staff overtime, transportation, water distribution, outreach and other emergency measures during heat events (Castanet, 2024).
- Extreme heat creates significant health and economic costs. **The 2021 BC heat wave generated an estimated \$12 million in additional healthcare costs**, while premature deaths resulted in approximately \$5.5 billion in societal costs (Beugin et al., 2023).
- Heat—alongside heavier rainfall—will also **add a projected \$9.8 billion per year in damage to roads**, bridges, tunnels, and public transit between 2025 and 2100 (UBCM, 2022).
- Heat also reduces productivity. **By 2050, Canada’s manufacturing sector could face \$1–\$2 billion in annual losses**, as heat waves reduce worker productivity (Clark et al., 2021).

The Savings from Extreme Heat Resilience

- Adaptation strategies such as expanding green roofs and tree cover, and installing indoor cooling systems such as heat pumps or air conditioning, can help reduce the health impacts of extreme heat as well as the economic impacts (Beugin et al., 2023).
- Doubling the projected rate of mechanical cooling adoption in BC could reduce heat-related hospitalization by approximately 40% in the 2030s, **saving about \$20 million annually in healthcare costs**, while generating \$4.60–\$6.90 in benefits for every \$1 invested (Beugin et al., 2023).
- Heat adaptation can also protect long-term economic productivity. Installing shading technologies across 50% of Canada’s manufacturing facilities by 2080 could **prevent approximately 15 million lost labour hours** associated with heat-related health impacts and reduced productivity (Clark et al., 2021).
- Further, when electricity transmission and distribution infrastructure is being maintained, replacing components with climate-resilient alternatives designed to withstand future increases in heat and rainfall could **reduce damage costs by up to 80% by the end of the century, equivalent to savings of as much as \$3.1 billion annually** (Ness et al., 2021).



Cost-Savings in Communities: Nature-Based Solutions

Nanaimo, BC - Tree Planting

Nanaimo's urban tree canopy provides an estimated \$13.7 million in annual economic benefits by delivering services such as stormwater management, air purification, carbon sequestration, and climate resilience that would otherwise require municipal spending.

Toronto, ON — Green Roofs

Between 2010 to 2017, the city's program diverted nearly 11 million litres of stormwater, saving around \$1 million, and reduced an average 1000 megawatts hours/per year from reduced need for air conditioning.

Chilliwack, BC - Urban Forestry

Chilliwack's urban canopy of over 10,000 trees, covering 27% of the community, is valued at over \$38 million in assets and provides over \$3.9 million worth of ecological services to residents every year through benefits such as energy savings in shading buildings.

York Region, ON - Urban Forest Restoration and Enhancement

This project used trees and natural infrastructure to increase drainage capacity during heavy rainfall, while also reducing extreme heat. It is expected to save \$23.61 for every \$1 invested in long-term recovery and replacement costs.

Cost-Savings in Communities: Energy-Efficiency Retrofits

Cape Breton, NS - Energy-Efficiency Upgrades

Energy-efficiency upgrades and high-efficiency heat pumps at an affordable-housing community reduced household utility bills by approximately \$200 per month, or \$2,500 annually: a reduction of about 78%.

Abbotsford, BC — Heat Recovery and Resilient Municipal Buildings

Abbotsford retrofitted facilities at its recreation centre so they can share thermal energy. The project is expected to generate \$75,000 in annual operational savings while reducing energy use by 41%.

Vancouver, BC - Municipal buildings energy upgrades

Energy-efficiency and HVAC upgrades at City facilities, such as new boilers, water conservation, automation systems, and new lighting, have generated annual operating savings of:

- City Hall - \$132,829 .
- Library Square - \$51,170
- Vanier Park - \$138,000

5. Household Energy and Insurance Costs

The Costs to Households

- Climate-related damages **cost the average Canadian household approximately \$700 per year** (Ness, 2023).
 - These costs are reflected in higher insurance premium and taxes to fund disaster recovery and infrastructure repairs, as well as higher grocery bills due to supply-chain disruptions (Ness, 2023).
- Households that rely on fossil fuels are also increasingly exposed to volatile fossil fuel prices.
 - Over the past decade, **gasoline prices have been more than three times as volatile as electricity prices**, while furnace oil prices have been 6.5 times more volatile (Gibson & Alers-Hankey, 2023).
 - The 2026 oil-price shock could cost consumers **an additional \$50 billion over a 12-month period** (Stanford, 2026).

The Savings for Households

- In 2013, **residential energy efficiency upgrades saved Canadians a combined \$12 billion**, working out to roughly \$869 per household on average (Government of Canada, 2016).
- Transitioning to clean electricity is projected to **reduce Canadian household energy costs by approximately 12%**, while reducing exposure to fossil fuel price volatility (Harland & Dion, 2023).
- Low carbon technology like heat pumps are **two to five times more efficient than gas furnaces**, and can provide long-term savings on home heating costs (Harland & Dion, 2023).

Example: Home Energy Loan Programs

Energy efficiency programs are highly cost-effective, returning \$3 to \$5 in savings for every government dollar spent on programs (Government of Canada, 2016).

Saskatoon, SK

Saskatoon's residential retrofit program provided financing and rebates for energy upgrades such as insulation, high-efficiency furnaces, windows and doors. Completed projects generated over \$20,000 in annual utility-cost savings for participating homeowners.

Toronto, ON

Toronto's program finances home energy retrofits through low-interest loans, allowing homeowners to repay costs over time while benefiting from lower energy bills. Participating homes achieved an estimated 25 to 28% reduction in energy use, while the program's financing model was designed to be cost-neutral to municipal taxpayers.

Cost-Savings in Communities: Solar Financing

Halifax, NS - Solar City

Halifax's Solar City program helps residents finance residential solar installations. Participating homeowners are estimated to save an average of \$1,990 on utility bills in the first year and approximately \$70,000 per family over 25 years.

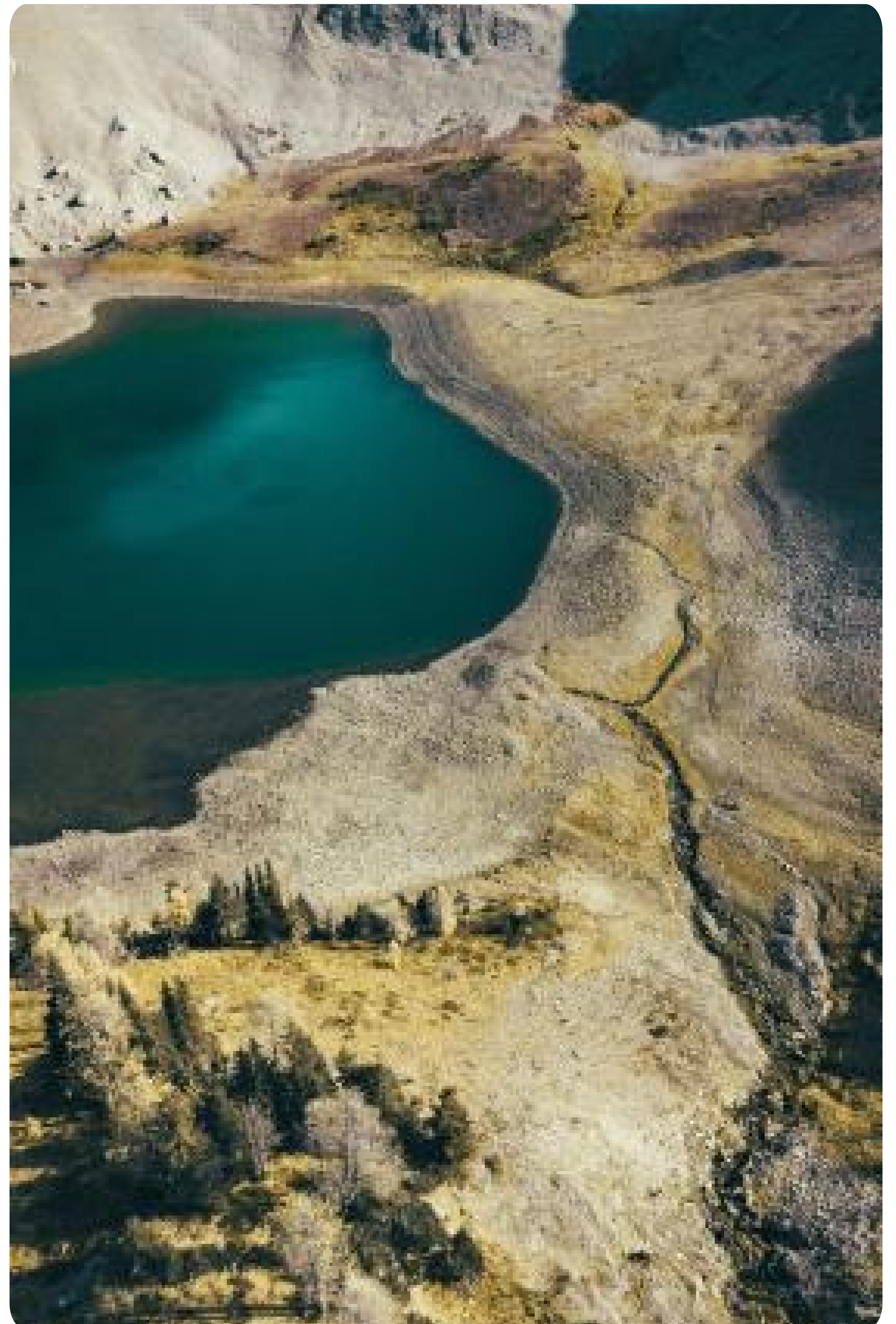
Colwood, BC - Solar Colwood

A municipal clean-energy program provided incentives for solar hot water, heat pumps, solar PV and other energy-efficiency upgrades, generating an estimated \$525,552 in annual energy-cost savings in total for participating residents.

Conclusion

Climate adaptation costs money, but Canadian research and case studies consistently demonstrate that investment in climate adaptation more than pays for itself over the long term. There is a clear business case for climate change adaptation initiatives of all kinds. In order to advocate for proactive adaptation measures, local elected officials can utilize this tool to show the savings that can result from investments in resilience.

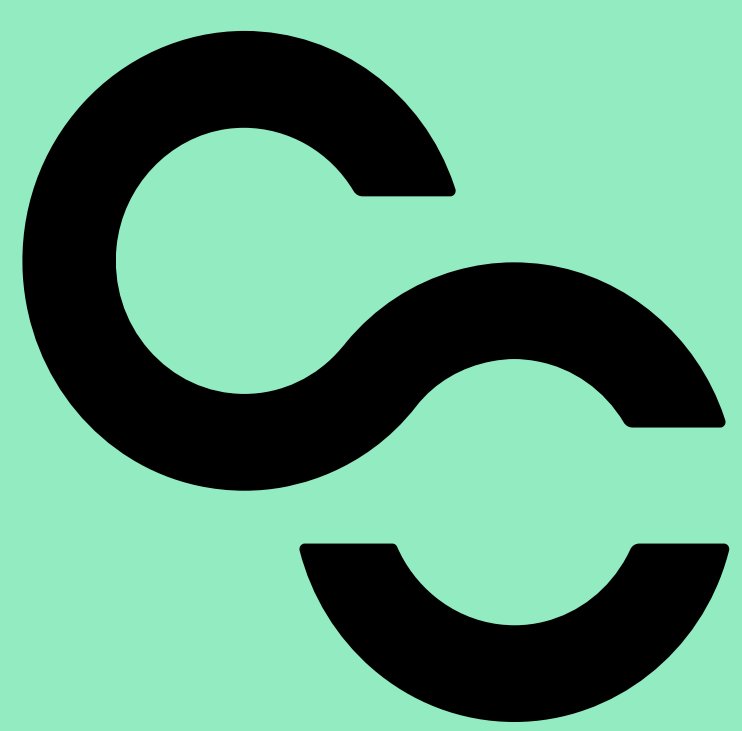
If you need further support, don't hesitate to contact the Climate Caucus team at:
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