

## The Costs of Climate Change for Canada Introductory Report

### OVERVIEW

The Canadian Institute for Climate Choices is producing a series of reports over the next two years to identify and quantify key effects of a changing climate on prosperity in Canada, and analyze the benefits of making adaptation and resilience a priority for policy and investment.

The first report in the series, *Tip of the Iceberg: Navigating the Known and Unknown Costs of Climate Change for Canada*, will be published in early December 2020. It provides an overview of current estimates of climate-related costs and offers recommendations to reduce the risks associated with the known and unknown dimensions of these costs.

### QUICK FACTS

Over the past five decades, the costs of weather-related disasters like floods, storms and wildfires have risen from tens of millions of dollars to **billions of dollars annually** in Canada.

- From 2010 to 2019, the cost of catastrophic weather events were twice as high as those recorded from 1980 to 2009.
- Weather-related insured catastrophic losses alone totaled over **\$18 billion** between 2010 and 2019.
- The combined losses per weather-related disaster have also ballooned—rising from an average of \$8.3 million per event in the 1970s, to an average of \$112 million in the 2010s, including government and some private costs. **This change represents a staggering 1250 per cent increase.**
- In previous decades, the cost of weather-related disasters was roughly equivalent to 1 per cent of Canada's annual gross domestic product (GDP) growth. From 2010-2019, disaster costs climbed to **between 5-6 per cent of annual GDP growth.**

The examples above offer a snapshot of the ways climate change is threatening economic growth and prosperity across the country today. Yet for everything we know about the current and likely future costs of weather-related disasters in Canada, the risks arising from what we don't yet know—outcomes that depend on too many other variables, or costs we can't fully calculate today—are even more profound.

### 5 KEY FINDINGS

1. **The risk of weather-related disasters in Canada is growing, and climate change is a central force behind increasing damages.** While there have always been weather-related damages and natural disasters, in many locations, storm and disaster damages are growing much faster than the rate of economic or population growth.

2. **A changing climate is impairing prosperity and well-being in Canada through economic, social, and environmental impacts. Yet governments, businesses and communities are overlooking many damages and are not focusing on how to navigate vulnerabilities.** Weather-related disasters and storms are big and visible sources of climate change risk, but the damages from drawn-out impacts—such as sea-level rise, ocean acidification and permafrost thaw—are equally concerning. Numerous and often overlapping climate change hazards present a major challenge for charting a course to prosperity.
3. **Costs that are difficult to quantify in economic terms must not be overlooked.** Not all climate costs are easy or appropriate to measure in economic terms. Nonetheless, emerging risks and costs of climate change will need to be addressed and prioritized for action, even if they cannot yet be assigned a monetary value. Our approach to identifying climate-related risks to prosperity and well-being highlights the broad range of impacts to what people and communities across Canada value, and then seeks to monetize what is feasible and credible. Our ongoing work will also highlight social and environmental costs that cannot always be quantified in monetary terms.
4. **Prevention pays off, and governments, businesses, and communities across Canada need to invest more thoughtfully to reduce future climate change damages.** Even small investments to reduce vulnerability to climate risks can deliver broad-based social, economic, and environmental benefits. Damages from changes in weather extremes and drawn-out climate impacts are reducing asset values, impairing natural and produced wealth, and increasing social vulnerabilities and inequalities. It will pay to ask how well risks to households, businesses, and communities are understood, and whether planning and investment are building resilience at a scope and scale aligned with evolving climate risks.
5. **A successful pathway to climate change resilience requires embracing incomplete information.** It's essential to transition from a state of ad hoc responses to a changing climate and weather-related disasters, to one of building resilience. This requires moving forward with addressing vulnerabilities and investing in adaptation solutions despite imperfect information about the impending climate change impacts and costs. Instead of waiting for more information, we need to act decisively on what we already know, continually learn about what works and what doesn't, and plan for uncertainty.

## RECOMMENDATIONS

Governments, businesses and communities must get serious about putting adaptation policies and practices into place now, while better identifying the physical and social climate risks threatening well-being and future prosperity. The following recommendations provide a starting point:

- **All orders of government should significantly scale up public funding for implementing adaptation.** Addressing climate-related risk and building resilience requires not only dedicated government capacity and expertise on adaptation, but mechanisms to integrate and fund adaptation in existing government programs and public investments, including infrastructure, health care, Indigenous affairs, Northern programs, economic development, energy, public safety, natural resource management, and environmental protection. Government programs and investments should transparently evaluate their effects on current and future climate risks, and the costs and benefits of incorporating adaptation and resilience.

- **The federal government should convene provincial, territorial, Indigenous and municipal governments to co-develop a more coordinated approach to governing adaptation.** While adaptation must be tailored and implemented locally, coordination can reduce overlap, inconsistencies, and gaps. A coordinated, collaborative approach could set adaptation priorities, goals, and measures of progress, establish roles and responsibilities, identify policies that are essential for driving adaptation at all scales, and coordinate and leverage finance.
- **Governments and financial regulators should systematically enhance public disclosure and transparency of the economic and social implications of climate change risks across both the public and private sector.** Transparency about climate change risks is essential for allocating investment away from risk and towards resilience. This extends beyond disclosure rules for large, publicly traded companies; it also includes increased transparency around the climate risks that governments, communities, and individuals face. Whether incorporated into government credit ratings or in real estate home inspections, this information will help governments, firms, and individuals better prepare for a changing climate and shift investments toward resilient solutions, galvanizing a range of adaptation actions.