

## A Climate Change Adaptation Strategy for Canada

Canada is ill-prepared for a warming world, and is currently viewed by the international community as the least prepared of all OECD countries.<sup>1</sup> Although the federal government initiated a Federal Adaptation Policy Framework in 2011, there is an urgent need for a comprehensive national strategy developed in collaboration with provincial, territorial and municipal governments that supports adaptation to the new climate reality. A national strategy will help inform Canadians of the wide-ranging impacts of climate change in order to prepare for the unprecedented risks and challenges it presents.

### The Science

A 2012 report by the Institute for Catastrophic Loss Reduction (ICLR) at Western University in London Ontario reported that Canada temperatures warmed by more than 1.3°C on average between 1948 and 2007, a rate of warming about twice the global average. Canada has also become wetter during the past half century. On average, Canada now experiences 20 more days of rain compared with the 1950s. These changes to the climate are likely responsible, at least in part, for the rising frequency and severity of extreme weather events in Canada, such as floods, storms and droughts, because warmer temperatures tend to produce more violent weather patterns. Storms that used to occur once every forty years are now occurring once every six years in some parts of the country.<sup>2</sup>

### Canada in a Global Economy

The Centre for Global Development in Washington places Canada last out of 27 Organization for Economic Cooperation and Development (OECD) countries when it comes to climate change remediation. This is due to our withdrawal from the Kyoto Accord, our high per-capita fossil fuel consumption, our cold climate and large land area, as well as continually rising carbon emissions largely due to oil sands development.

Canada will likely face increased pressure from its largest trading partner, the USA, to take a more aggressive stance on climate change. The Obama Administration released its *National Climate Assessment* report in April 2014.<sup>3</sup> This report emphasizes the importance of responding to climate change with a combination of adaptation and mitigation actions. Not only is inaction on climate change costing Canada our reputation internationally, it is starting to have a tremendous impact on our domestic economy, our environment and human health.

### Human and Economic Impacts

Severe weather events (ice storms, severe rainstorms, high winds) can destroy homes, cause injury and death, and disrupt businesses. The Alberta Floods of June 2013 caused 4 deaths and displaced more than 100,000 people. Total losses were estimated at \$6 billion, with insured losses at \$1.7 billion. The Toronto rain event of summer 2013 was Ontario's most costly natural disaster with \$1.2 billion in estimated total losses and \$850 million in insured losses.<sup>4</sup> As a result of these disasters, Canada's Public Safety Emergency Preparedness program incurred a spending increase of 280% in the first six months of 2013 -14. These expenditures are funded by tax-payers, and in this world of fiscal constraints will undoubtedly lead to cut-backs in other government services or increases in taxes.

Clearly, the economic impact of this changing climate is staggering. The National Round Table on the Environment and the Economy estimated the long-term financial impact of natural catastrophes on Canada is expected to reach \$5 billion per year by 2020, and \$21 – 43 billion per year by 2050.<sup>5</sup>

### The Opportunities

A Special Report by TD Economics published April 14, 2014<sup>6</sup> confirmed that businesses and policy-makers need to start thinking of the long-term implications, and place greater emphasis on abating potential catastrophes when

<sup>1</sup> Center for Global Development, Washington, <http://www.cgdev.org>

<sup>2</sup> Institute for Catastrophic Loss Reduction, "Telling the weather story," June 2012. [http://www.ibr.ca/en/natural\\_disasters/documents/mcbean\\_report.pdf](http://www.ibr.ca/en/natural_disasters/documents/mcbean_report.pdf)

<sup>3</sup> U.S. National Climate Assessment, 2014, <http://nca2014.globalchange.gov/report>

<sup>4</sup> Gordon McBean, Institute for Catastrophic Loss Reduction, in a presentation to McMaster University April 7<sup>th</sup>, 2014.

<sup>5</sup> National Round Table on the Environment and the Economy, Report 05 "Climate Prosperity: A Canadian Initiative," 2012

<sup>6</sup> Craig Alexander, SVP and Chief Economist and Connor McDonald, Economist, TD Economics Special Report "Natural Catastrophes: A Canadian Economic Perspective" April 14, 2014.

making investment decisions. “Governments need to take a close look at their inventory of infrastructure to identify vulnerabilities and areas where proactive adaptation can prevent future damages, loss of life, or economic disruptions. Awareness and preparation is the first step toward ensuring the safety of people, property, and prosperity for Canada’s future.” The NTREE report claimed that every dollar spent now on adaptation to climate change will yield \$9 to \$38 worth of avoided damages in the future.<sup>7</sup>

According to the TD Economics Report, companies in Canada are also starting to exploit commercial opportunities of climate change adaptation. For example, Bombardier is anticipating increased demand for fire-fighting aircraft to respond to more frequent and severe wildfires. Banks and insurance companies are creating special products and services to profit from businesses adapting to the physical impacts of climate change over the long term. These companies are anticipating revenue-generating opportunities based on their knowledge of the changes at hand: information to which Canadian governments at all levels, businesses and individuals need more access.

### **Recommendations**

That the federal government:

1. Develop and implement a national strategy on climate change adaptation in collaboration with provincial, territorial and municipal governments that is based on sound scientific and socio-economic research and drives measureable action. This strategy should consider legislation, regulation and incentives to ensure long-term health and safety of Canada’s people and property, its economic prosperity and environmental resilience.
2. Provide incentives for academic institutions and businesses to create and market adaptation measures, technologies and processes as a means of creating economic resilience while addressing urgent world climate change issues.

<sup>7</sup> National Round Table on the Environment and the Economy, Report 05 “Climate Prosperity: A Canadian Initiative,” 2012