

BRIEF #2

How Organizations Can Adapt to Climate Change

MARCH 2016

The Canadian climate is changing.¹ Temperature patterns are shifting. Glaciers and sea ice are retreating and permafrost is thawing. Sea levels are rising. Extreme weather events are more frequent. By planning for these consequences of climate change, organizations of all sizes can save money and increase competitiveness. They can also help Canada's society and economy adjust to a new environment.

This brief is one in a series.

- Brief 1 describes two ways that organizations address climate change: through mitigation and adaptation.
- **Brief 2 describes how climate change will impact organizations.**
- Brief 3 highlights the role of Chartered Professional Accountants (CPAs) in adaptation.

These briefs are intended for CPAs, other professionals and executives.

All briefs are available at cpacanada.ca/climatechange.

¹ Fiona J. Warren and Donald S. Lemmen (Eds.), *Canada in a Changing Climate: Sector Perspectives on Impacts and Adaptation* (Ottawa: Government of Canada, www.nrcan.gc.ca/environment/resources/publications/impacts-adaptation/reports/assessments/2014/16309, 2014)

What do the challenges posed by climate change look like for a typical Canadian organization? Here are some key concerns:

1. Disrupted Construction or Logistics

Most organizations face some kind of financial risk from the climate changes predicted. Heavy rains may delay work on building sites. Thawing permafrost can make Northern travel difficult. And when a storm takes down Internet access, even tech and media companies are affected. If organizations can't deliver products or services, real or virtual, reputations will suffer and clients may go elsewhere.

2. Unavailable Resources or Raw Materials

Dry spells can also be a consequence of climate change, and drought can wreak as much havoc as flooding and storms. If manufacturing processes or crops require water, lack of rain can be catastrophic. Snow is also an important resource—especially for winter tourism and recreation. Meanwhile, on the other side of the world, a failed cotton crop in India can affect product lines at a clothing company in Canada.²

3. Increased or Unpredictable Energy Costs

Climate change means increasingly unpredictable weather and temperature fluctuations. An unexpected cold spell will bring higher heating costs than budgeted, while an unseasonable heat wave will increase cooling costs. On the surface, these scenarios may seem like good news for the company supplying the power; however, unexpectedly heavy demand can stress utilities' generation and distribution systems.

4. Business Closures and Absent Employees and Customers

Increased extreme weather means more frequent and powerful storms. Storms can mean flooding, ice, fallen trees and lightning strikes—cutting off power supplies or shutting the roads that people use to get to work. In the retail trade, not only will employees stay away but so will customers. Whatever the business, extreme weather—influenced by climate change—can mean lost productivity and thus lost revenue.

The solution is to anticipate, plan and, above all, adapt. To make your organization more resilient, consider the following strategies and real-life examples. And when it comes to these adaptation strategies, CPAs are well placed to contribute, as shown in Brief #3.

² Chartered Professional Accountants of Canada (CPA Canada), *Adaptation Case Study #3: MEC* (www.cpacanada.ca/en/business-and-accounting-resources/other-general-business-topics/sustainability/publications/mountain-equipment-coop-adapting-to-climate-change, 2015)

Adaptation Strategies

1. Understand the Source of Your Organization's Vulnerability— and Opportunity

Risk analysis is, as so often, the best place to start. For example, **Tim Hortons** is exploring the effects of climate change on commodity prices and suppliers. After a basic analysis, an organization can model different scenarios and assign costs and benefits to each. **The City of Vancouver** has done just that, using different scenarios to estimate potential flood damages. Sometimes, the outlook is positive. For example, in the medium term, Canadian farmers can expect a longer growing season, which will enable higher-value, warmer-weather crops to be grown farther north.³

2. Target Your Efforts

For some organizations, a broad approach covering several types of risk may be appropriate, perhaps as part of an organization-wide sustainability strategy. But for many organizations, a good place to start is to focus their tactics, whether by project, department or risk factor. **Whistler Blackcomb Holdings Inc.** confronted the reality of milder winters and a shorter skiing season by diversifying into year-round tourism—and found additional revenue sources. **RBC** encourages its clients to build climate resilience into their assets and decisions, and has trained staff to offer advice to small- and medium-sized businesses.⁴

3. Seek the Data You Need to Make Good Decisions

If you don't have all the information you need, find ways to access it. For example, like **MEC**, you can decide to integrate weather-tracking services into your business intelligence tool; weather data can be used in decisions about inventory management and supply chains.⁵ Alternatively, like **BC Hydro**, you can develop tailored research partnerships with universities or specialist institutes. Such partnerships enable BC Hydro to gather needed climatic, physical and socio-economic information, such as forecasts of future stream inflows, to inform operational and resource planning. You can also access publicly available information through Natural Resources Canada⁶ and regional initiatives.⁷

3 Eric Reguly, "The Biggest Threat to the Global Economy? The Weather," *The Globe and Mail* (www.theglobeandmail.com/report-on-business/international-business/the-biggest-threat-to-the-global-economy-the-weather/article14173663, September 6, 2013); Fiona J. Warren and Donald S. Lemmen (Eds.), *Canada in a Changing Climate: Sector Perspectives on Impacts and Adaptation* (Ottawa: Government of Canada, www.nrcan.gc.ca/environment/resources/publications/impacts-adaptation/reports/assessments/2014/16309, 2014), p. 3

4 National Round Table on the Environment and the Economy, *Facing the Elements: Building Business Resilience to Climate Change, Case Studies Report* (<http://collectionsCanada.gc.ca/webarchives2/20130322144348/http://nrtee-trnee.ca/wp-content/uploads/2012/03/cp5-case-studies.pdf>, 2012)

5 CPA Canada, *Adaptation Case Study #3: MEC* (www.cpacanada.ca/en/business-and-accounting-resources/other-general-business-topics/sustainability/publications/mountain-equipment-coop-adapting-to-climate-change, 2015)

6 Natural Resources Canada, *Impacts and Adaptation* (www.nrcan.gc.ca/environment/impacts-adaptation/10761, 2015)

7 Natural Resources Canada, *Regional Initiatives* (www.nrcan.gc.ca/environment/impacts-adaptation/regional-initiatives/10631, no date)

4. Think Long Term

Climate change is not a linear process. Local effects are often extreme and unpredictable. Therefore, improving infrastructure is a key focus, especially given the possibility of extreme weather conditions brought about by climate change. For example, Saint-Laurent (Quebec) opted to use natural drainage through streams and wetlands to buffer against predicted heavy rains and storms, in the development of the Saint-Laurent campus of Technoparc Montreal. This approach, often called “green infrastructure,” is based on a philosophy of increasing resilience by protecting and restoring natural features (e.g. wetlands) that are more flexible and adaptive to climate changes than engineered infrastructure.

Climate change is a very real business issue, as CPA Canada’s *Executive Briefing*⁸ emphasizes. Organizations cannot wait to count the costs when climate change brings damage. CPAs of all backgrounds and roles can use their accounting skills and professional training to get involved.

To find out more about how your organization can adapt to climate change, visit cpacanada.ca/climatechange.

8 Julie Desjardins and Alan Willis, *Executive Briefing: Climate Change and Related Disclosures* (Toronto: CPA Canada, www.cpacanada.ca/en/business-and-accounting-resources/financial-and-non-financial-reporting/sustainability-environmental-and-social-reporting/publications/disclosure-issues-raised-by-climate-change, 2008)

The material in this brief is based primarily on research by Jimena Eyzaguirre, senior climate change specialist, ESSA Technologies; Furqan Asif, PhD candidate, University of Ottawa; Esther Speck, Speck Consulting; and Susan Todd, CPA, CA, Solstice Sustainability Works. Additional quotes come from case studies conducted by S. Jeff Birchall, assistant professor, University of Alberta; and Sakis Kotsantonis, managing partner, KKS Advisors. The material was adapted by Elin Williams. For a complete list of references, contact Davinder Valeri at DValeri@cpacanada.ca

Thank you to the reviewers for the brief: Bob Elton, CPA, CA, chief risk officer, VanCity; Mike Garvey, FCPA, FCA, executive chairman, Kelvin Storage Inc.; Francois Goyette, CPA, CA; Ben Miller, CPA (Oregon), CGMA, senior manager, Climate Change and Sustainability Services, EY; Jamal Nazari, CPA, CMA, CGA, assistant professor, Simon Fraser University; Ryan Ness, manager, Research and Development, Toronto and Region Conservation Authority; Jody Salomon, CPA, CA, associate vice president, Operational Finance and Accounting, TJX Canada; Mark Walsh, FCPA, FCA; Alan Willis, CPA, CA; Elaine Wong, CPA, CA, treasurer, David Suzuki Foundation; and Andrew Yorke, CPA, CA, vice president, Corporate Finance Services, The Co-operators.

DISCLAIMER

This paper was prepared by the Chartered Professional Accountants of Canada (CPA Canada) as non-authoritative guidance. CPA Canada and the authors do not accept any responsibility or liability that might occur directly or indirectly as a consequence of the use, application or reliance on this material.