CPA CHARTERED PROFESSIONAL ACCOUNTANTS CANADA

BRIEF #1

A Primer on Climate Change Mitigation and Adaptation

MARCH 2016

Organizations of all types and sizes have two primary options in addressing climate change: mitigation and adaptation. This primer describes why both are necessary responses, and showcases two forward-looking organizations.

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**.

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Canadian Organizations are Reducing Their Impact on Climate Change

Many Canadian organizations are doing exemplary work in reducing their emissions of the greenhouse gases that contribute to climate change. They are setting ambitious targets: for example, MEC seeks to achieve a 35% reduction in emissions from energy use by 2017.[1] Reducing these carbon emissions is good not only for the environment but also for the bottom line. Saving energy means saving money.

> **Mitigation** involves taking action to slow climate change by reducing greenhouse gas emissions. For organizations, this means taking actions to reduce the greenhouse gas emissions attributable to operations, products and services.
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> ***Adapted from:*** Julie Desjardins and Alan Willis, *Executive Briefing: Climate Change and Related Disclosures* (Toronto: Chartered Professional Accountants of Canada (CPA Canada), 2008)

Less well known is the policy term for this approach to climate change: **mitigation**. Broadly speaking, mitigation covers any activity that is designed to slow the rate at which the climate is changing…which, unfortunately, brings us to some bad news.

Organizations Still Face Climate Change Impacts

Canadian organizations are incurring costs *right now* because of climate change. Climate change is expected to have long-term financial impacts that are projected to cost Canadians $5 billion per year by 2020, increasing to an estimated $21 billion to $43 billion per year by 2050.[2]

In other words, the climate *is* already changing—nationally and globally. Organizations are already suffering the effects of increased extreme weather. Extreme rainfall, flooding, drought, storms and forest fires are all predicted to increase.[3] These events can translate into office closures and absent employees, increased or unpredictable energy costs, disrupted construction or logistics and unavailable resources or raw materials. Some of the most significant impacts of climate change to organizations

> **Adaptation** involves taking action to respond to the effects of changes in climate. For organizations, this means taking actions to minimize and respond to the effects of climate change on the organization.
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> ***Adapted from:*** Julie Desjardins and Alan Willis, *Executive Briefing: Climate Change and Related Disclosures* (Toronto: CPA Canada, 2008)

1 MEC, *2014 Annual Report* (**www.mec.ca/media/Images/pdf/annualreport/MEC_2014_Annual_Report_v2_m56577569836365900.pdf**, 2015)

2 National Round Table on the Environment and the Economy, *Paying the Price: The Economic Impacts of Climate Change for Canada* (**http://collectionscanada.gc.ca/webarchives2/20130322143132/http:/nrtee-trnee.ca/wp-content/uploads/2011/09/paying-the-price.pdf**, 2011)

3 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)

will result indirectly from climate change impacts to individuals and communities—e.g. individuals in flooded communities will lack the time and resources to consume the goods and services that they normally access. *(See Brief #2 for details on impacts to organizations.)*

Organizational efforts at reducing greenhouse gas emissions are not a waste of time or money. Mitigation can bring cost savings and innovation—and helps reduce the rate of climate change. However, mitigation is not the only strategy organizations should adopt with respect to climate change.

Organizations Can Adapt: Two Case Studies

Some Canadian organizations are already taking action to adapt to the current or imminent effects of climate change.

One Monday morning in fall 2014, the media reported that the sea ice on Hudson Bay would form a few days later than in 2013—continuing a 30-year trend. This news may not seem particularly relevant to the accountancy profession. However, Jennifer Ash, CPA, CMA, is vice president of finance and operations for Frontiers North Adventures (FNA), a small specialist tourism firm whose flagship product is polar bear–spotting excursions. For Ash, the calculation is simple. No sea ice equals no polar bears equals no customers. So Ash found herself involved in the scenario planning for a potential new offering: FNA's Churchill Summer Explorer—an adventure featuring coastal hikes, Beluga Zodiac tours and a tundra buggy excursion.

Find out more about FNA's adaptation experiences in a case study available at **cpacanada.ca/climatechange**.

The late-forming sea ice was not the first time that climate change has impacted Ash's work, as she explains: "Transfer of material through railroads was disrupted for five to six weeks recently because the permafrost was not staying frozen. We needed to figure out other mechanisms to maintain our supply chain." She is responsible for running cost-benefit analyses to evaluate the alternatives.

Tourism in Canada's North is a niche business, but the kind of pragmatism that Ash describes can apply to any company in any industry. Donna Chao, CPA, CA, director of corporate finance for Vancouver-based transport authority TransLink, must take an even longer view. "We build our infrastructure to last 100 years," she says. "So when we are planning, we must include climate change risk. It's about making sure we can foresee risks like flooding." In other words, TransLink, like FNA, is learning to live with the effects of climate change. A major difference is that a transportation authority needs to adopt a longer-term strategy, as well as serve the public interest.

Find out more about TransLink's adaptation experiences in a case study available at **cpacanada.ca/climatechange**.

Long-term or short-term, pro-active or re-active, this kind of approach to climate change is known as **adaptation**—and it's a term familiar to business professionals.

Adaptation can have its upsides. Take agriculture, for instance. According to Statistics Canada, corn production in the Prairie provinces grew by 78% between 2002 and 2012, in part due to warmer conditions.[4] A longer growing season and more farmable land could make Canada the world's breadbasket,[5] provided there is sufficient water and we are able to take advantage of the changes through adaptation.

Adapting to and planning for the early effects of climate change are increasingly important to organizations in Canada and worldwide. Over the next decade, adaptation could become a major source of competitive advantage. As Albert Einstein said, "The measure of intelligence is the ability to change."

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

4 Alan Bjerga, "Canada's Corn Belt Attracts the Hot Money," *Bloomberg* (**www.bloomberg.com/bw/articles/2012-11-08/canadas-corn-belt-attracts-the-hot-money**, November 8, 2012)

5 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)

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