

6th Forum on the Climate-Energy Security Nexus: Emerging Best Practices and Lessons for North America

Investing in Resilience Infrastructure

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CPA Canada ... Who Are We?

- National professional accounting body in Canada
- Over 200,000 members
- 5th largest in the world
- Canadian CPA ... globally respected **business and accounting** designation
- CPA Members are in:
 - Business and industry
 - Professional services
 - Public sector
 - Academia



Climate Change: A Strategic Priority

- 15+ years of Climate Change efforts
- Member of Canada's Climate Change Adaptation Platform Plenary (NRCan)
- Member of Accounting Bodies Network and A4S (Accounting for Sustainability)
- Member of International Integrated Reporting Council (IIRC)
- Numerous publications and resources



Source: <https://www.weforum.org/reports/the-global-risks-report-2016>

Costs of Inaction

Cost of doing nothing on climate change could be up to **\$44 trillion worldwide by the year 2060**

Source: <http://act-adapt.org/cost-of-inaction-on-climate-change-44-trillion/>



Expect **\$902 million in claims** for flooding and severe weather over the **next five years**

Source: <http://www.pbodpb.gc.ca/en/blog/news/DFAA>

OFFICE OF
THE PARLIAMENTARY BUDGET OFFICER



BUREAU DU
DIRECTEUR PARLEMENTAIRE DU BUDGET

Global Infrastructure Investment Gaps

**\$1 trillion annual spending
shortfall towards a \$4 trillion
global demand in
infrastructure**



Source: <https://www.weforum.org/global-challenges/long-term-investing-infrastructure-and-development/>

**Keeping pace with projected global
GDP growth will require an
estimated \$57 trillion in
infrastructure investment between
now and 2030**

McKinsey&Company

Source: <http://www.mckinsey.com/industries/infrastructure/our-insights/infrastructure-productivity>

Canadian Infrastructure Investment Gaps

Replacement value of \$141 billion for national infrastructure assets in “very poor” or “poor” condition



Source: http://www.canadainfrastructure.ca/downloads/Canadian_Infrastructure_Report_2016.pdf

Canada has fallen behind in infrastructure spending ... by \$123 billion since the 1950s.



Source:

7 [https://www.fcm.ca/Documents/reports/Danger Ahead The coming collapse of Canada's municipal infrastructure EN.pdf](https://www.fcm.ca/Documents/reports/Danger_Ahead_The_coming_collapse_of_Canada_s_municipal_infrastructure_EN.pdf)



Climate Change Adaptation Project



Natural Resources
Canada

Ressources naturelles
Canada

Canada



Network for
Business Sustainability
Business. Thinking. Ahead.



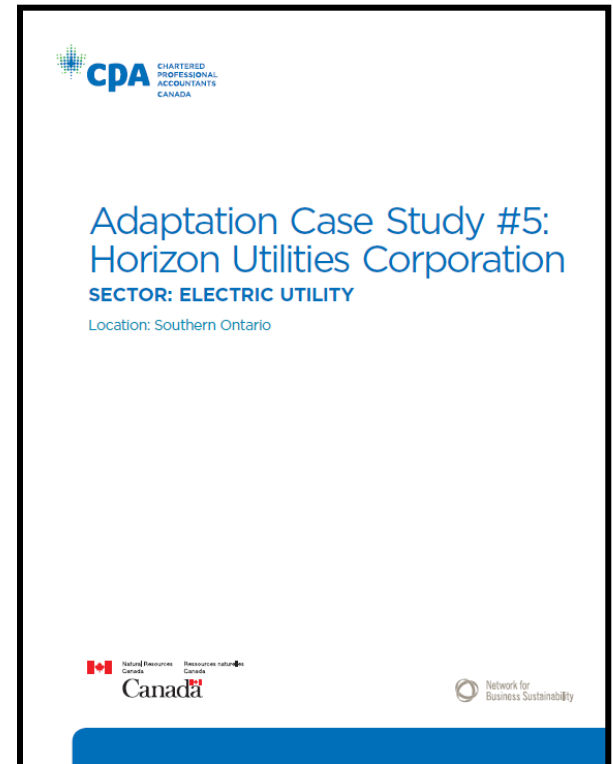
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Case Study: Horizon Utilities

- One of the largest municipally owned electricity distribution companies in Ontario
- **242,000 residential, commercial and industrial customers** – Hamilton and St. Catharines
- **\$582 million in total assets**
- First company in Canada to earn Sustainable Electricity Company designation from CEA
- Physical risks of climate change:
 - Temperature shifts
 - More intense storms



Case Study: Horizon Utilities

- Recognized early sustainable development is **good for customers and business**
- 2008: Enterprise Risk Management system
- 2012: Vulnerability Assessment and Initial Adaptation Strategy
- 2014: Adaptation Plan
- CPAs Roles:
 - Leadership in risk management
 - Capital budgeting and maintenance planning
 - Data accuracy and quality



How the Physical Impacts of Climate Change Influence Horizon

Horizon Utilities sees increasing impacts from climate change. In its operating area, climate change means temperature shifts, more intense storms and increased precipitation (see box).

- **Temperature shifts.** Ontario has been experiencing erratic temperature shifts over recent years, significantly affecting Horizon Utilities' revenues as a result of electricity consumption (for heat in the winter and air-conditioning in the summer). Peter Vallieres, CPA, CA, director, Financial Reporting and Accounting, explained that "because the summer of 2014 was significantly cooler as compared to previous years, our revenue was negatively impacted."

Climate Change Impacts in the Hamilton Area

Over the next 50 years, the Hamilton area can expect:

- warmer temperatures
- more extreme weather events: heavy precipitation in a short time
- more total annual precipitation

Source: Hamilton Conservation Authority and City of Hamilton, Environmental and Infrastructure Vulnerabilities from Climate Change—Pilot Project in Hamilton, Ontario (in preparation).

- **More Intense storms.** "There has always been weather," said Vallieres. But Horizon Utilities sees storms occurring more frequently, occasionally causing power outages. Storms damage poles, overhead lines, transformers, substations and other distribution assets, forcing the company to invest in additional labour crews and maintenance programs. Unhappy customers also pose reputational risks.

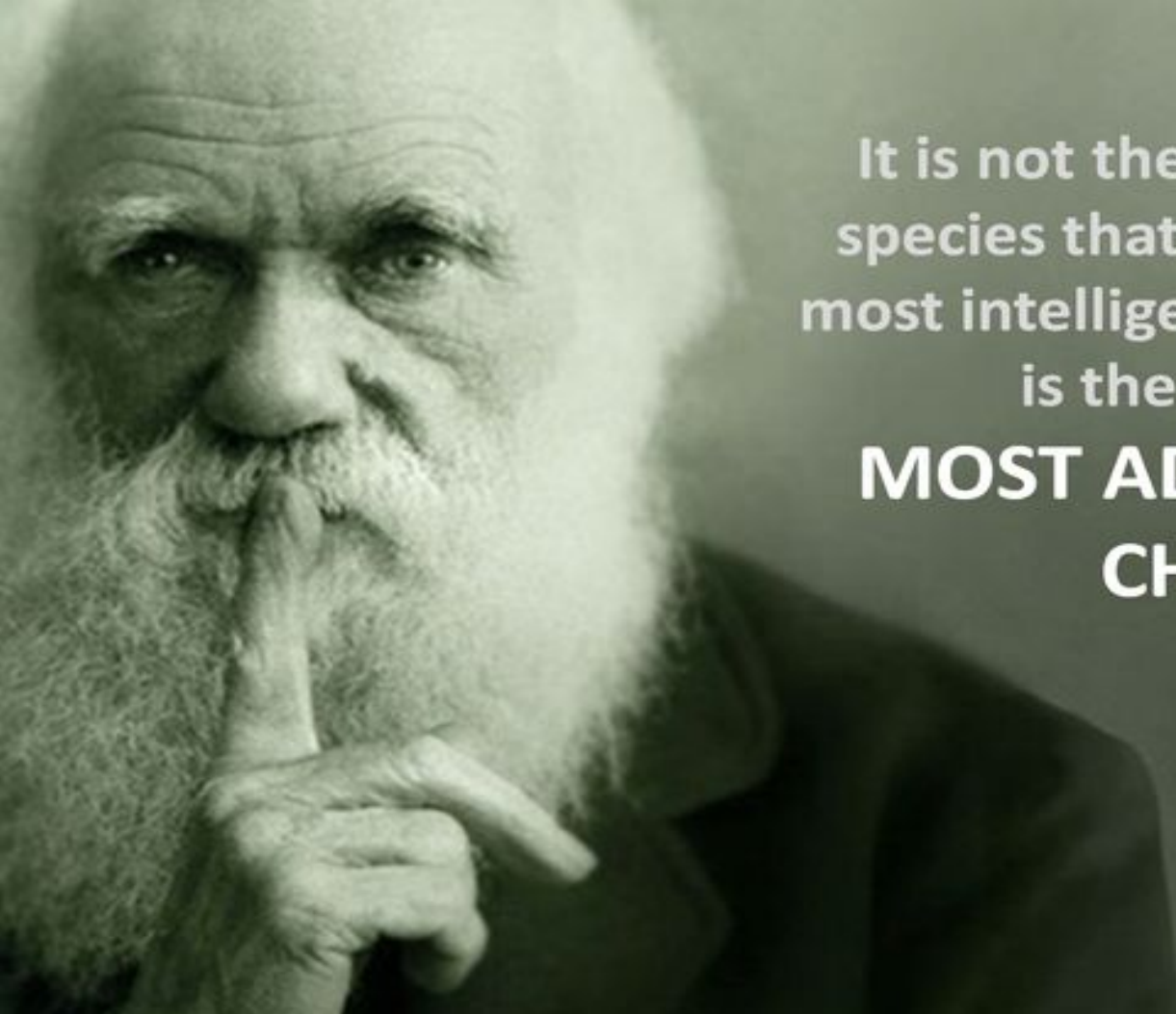
In July 2013, for example, high winds and lightning strikes felled hundreds of trees. Approximately 20,000 Horizon customers lost power at the storm's peak; completely restoring power took several days. "We were in emergency mode for a significant period of time," said Brian Lennie, Horizon Utilities' policy advisor.

"The July 2013 storm was a significant strain on Horizon Utilities' resources," said Lennie. Then the December 2013 ice storm left more than 30,000 customers without power at the storm's peak.

Building the Business Case for Resilience Infrastructure...

- Demonstrate costs of action vs. costs of inaction
 - Investments today generate future value – avoided costs
- Use of innovative financing structures and models
 - PPPs – pension funds, sovereign wealth funds, insurance
 - Green Bonds – corporations, banks, municipalities
- Open dialogue amongst stakeholders
 - Cross-functional teams – collaboration is essential
 - Engage with market participants – raise awareness

The Adaptation Imperative



It is not the strongest of the
species that survives, nor the
most intelligent that survives. It
is the one that is
**MOST ADAPTABLE TO
CHANGE**

@DUIVESTEIN

Thank You!

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