

Intelligence MEMOS



From: Glen Hodgson
To: Canada's risk managers
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Re: **CLIMATE CHANGE DEMANDS BETTER RISK MANAGEMENT**

A few weeks ago, the Bank of Canada added climate change to the list of risks it intends to analyze as part of its oversight responsibilities for the stability of the Canadian financial system and the overall performance of the economy.

It joins the Bank of England, the G20, and other foundational institutions in identifying climate change as a major risk to the economy, business and consumers – one that indisputably requires better risk management in many forms.

There are two broad types of economic impacts arising from climate change: the direct impact of climate change itself, and the impact of the long-term transformation now underway, to a low greenhouse gas economy.

Let's consider each type.

A warmer climate will lead to more intense extreme weather events, outlined in detail by a recent federal [report](#). In Canada, these events include more frequent and severe floods and forest fires, and extreme precipitation and winds (e.g. tornados in various locations).

Droughts, rising sea levels and more severe hurricanes (such as in the southeast US and Caribbean) should be added to the list. Longer-term global impacts such as forced migration, public health risks, political instability and even threats to national security are being anticipated by organizations like the US Department of Defense.

Personal and commercial property and structures are exposed to severe weather events. Not surprisingly, the property insurance industry, on the front lines, has sounded the alarm on the financial and economic consequences of extreme weather events. Flood and fire insurance claims are on a clear upward path in Canada (and everywhere), reaching \$1.9 billion in 2018, a year without a prominent widescale flood.

Climate change is also creating immediate and rising costs to governments for flood and disaster assistance. Important risk management questions are being raised for Canadian policymakers in all levels of government – questions like whether there should be restrictions on new construction on flood plains, mandatory buyouts of uninsured structures, whether overland flood coverage should be expanded or even made mandatory, and how best to manage the high premiums for insuring properties with elevated flood and forest fire risk.

In addition, aging public infrastructure is often not resilient enough to cope with severe weather events. This inadequate infrastructure includes dams, levees, bridges, culverts, sewers, potable and wastewater systems, and fire roads. Improving climate risk management means significant public investment in sustainable infrastructure, beyond the necessary catch-up in public investment already required in Canada.

Beyond the direct impacts of climate change itself, there will be long-term risks for business and government to manage in the transition toward low-carbon energy. Canada has been blessed with plentiful sources of energy that have helped provide us with high living standards; but the low-carbon energy transformation means that sectors with high GHG emissions – many of which are dependent on international trade – will be pressed to undergo structural changes.

Energy transformation is taking place in a competitive global marketplace. Global oil demand continues to rise, driven by demand in emerging markets. Natural gas is supplanting coal in the US and elsewhere as a feedstock for thermal power generation, driven by market forces; global coal demand is likely near its peak. Renewable sources of electricity such as solar cells and wind are quickly becoming more commercially attractive, and related storage capacity is improving. Carbon capture and sequestration is conceptually attractive for conventional energy producers, but still at a very early stage of demonstrating its technical and commercial viability.

The risks and challenges of energy transformation are obviously most acute for firms in the fossil fuels supply chain, as well as energy-intensive sectors like petrochemicals and cement, which have high GHG emissions. Firms in these sectors are at different stages of recognizing and adapting to the coming transformation, and not all will succeed. The business calculus for these firms, their investors and financiers will need to better incorporate the impacts and risks of low-carbon energy transformation – a point underscored by the just-released [expert panel report](#) on sustainable finance.

Climate change is creating an array of business and social risks that require better identification and management, using more thorough risk assessment, more sophisticated financial and policy instruments, and enhanced public infrastructure investment. Successful management of these risks could help to re-focus the business conversation on how best to seize low-carbon growth opportunities.

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