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Climate change and Canada's property and casualty insurance industry

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This article is part of *Enterprise Risk Management 2019: The New Wave of Risks*, a collection of articles on enterprise risk management (ERM) from the Canadian Institute of Actuaries (CIA). The articles are written by subject matter experts, both actuaries and non-actuaries, giving us their own professional opinions and experiences, and highlighting new and emerging hot topics taking centre stage in today's world of risk management. **Read all the articles at cia-ica.ca/erm**.

Insurance companies have adapted to the remarkable increase in catastrophic (cat) claims over the past decade. Nevertheless, changes in the climate will introduce significant new risks and opportunities for property and casualty (P&C) insurance companies over the next 10 years and beyond. This includes underwriting, claims, operational, investment, reputational, and regulatory risks and opportunities.

Insurance is the business of managing risk. P&C insurance includes the risk of loss and damage due to catastrophic events like flood, wildfire, severe wind, hail, lightning, winter storms, and other severe weather hazards.

Governments have been pursuing two policy files that include addressing catastrophic risk: climate change and disaster management. A third policy file – financial stability – is opening as a result of the failure to achieve the international policy goals set out for climate change and disaster management.

The policy discussion on climate change was formally launched at the Earth Summit in 1992. The goal – first established 27 years ago and clarified in the 2015 Paris Agreement – is to reduce global greenhouse gas emissions to stabilize the global average temperature. However, global emissions continue to increase, not fall, and the temperature is rising, not stabilizing.

In 1989, Canada and most other countries established the International Decade for Natural Disaster Reduction. In three subsequent international agreements the policy goal over the past 30 years has been to reduce the direct damage resulting from disasters. However, disaster damage increased alarmingly, and the underlying driving factors warn that losses will increase further.

Early in 2019, the World Economic Forum identified the increasing risk of damage from severe weather and failure to achieve the mitigation and adaptation goals of climate change as the two leading global risks over the next 10 years.

Mark Carney, Governor of the Bank of England and past Chair of the Financial Stability Forum, warned that failure to adequately address climate change risks is an emerging threat to the stability of the financial system. He addressed three critical trends that present risk and opportunity for insurance companies, banks, and investors:

- the rising risk of physical damage
- increased climate-related litigation
- investment risk related to the transition to a low-carbon future

Over the past 40 years, cat claims paid by Canada's insurers have doubled every five to 10 years. Large increases in physical damage have also been evident in most other countries. Moreover, a number of factors threaten further increases in the years ahead, including growth in structures located in areas at risk, aging infrastructure, and expectation of increased frequency and severity of extreme weather events as a result of climate change.

Climate-related litigation also increased over this period. In particular, there has been a surge in legal challenges in the United States over the past 10 years addressing an expanding range of issues. Litigation targeting governments and larger emitters introduces uncertainty and presents opportunities for insurers, lenders, and investors.

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driven by changes in technology, shifting consumer expectations, and government regulations/taxes. The transition presents significant opportunities and risks, including investment risk for insurance companies.

The insurance industry in Canada has adapted to the increase in cat claims. In particular, the industry reported a modest overall underwriting profit in 15 of the past 16 years despite the remarkable increase in cat claims paid. This included Canada's most costly flood (Calgary 2013), hurricane (Juan 2013), hailstorm (Airdrie 2014), wildfire (Fort McMurray 2016), tornado (Ottawa 2018), and severe wind event (Ontario 2018). Moreover, the industry expressed its willingness to expand coverage, at a fair premium, to address uninsured or underinsured hazards. This included the introduction of residential flood coverage (2015).

Through 2030 and beyond, severe weather and climate change are expected to introduce significant risks and opportunities for Canada's insur-

ance industry. These will include underwriting, claims, operational, investment, reputational, and regulatory risks and opportunities.

First and foremost, the rising risk of physical damage presents insurance companies with an opportunity for growth. This is accompanied by the need to ensure rate adequacy and appropriate reinsurance cover. Rate regulation disrupts insurer efforts to ensure rate adequacy in the United States, but this interference is not found in the Canadian property markets.

Many factors are expected to contribute to rising damage claims, including aging infrastructure increasingly unable to cope with severe weather events; changes in consumer behaviour, like conversion of basements to living areas; and more frequent intense weather hazards. These concerns will be offset for homes and businesses that invest in climate-resilient construction of new buildings and renovation to existing buildings. Much effort will be required to ensure that insurance pricing appropriately reflects the risk of loss.

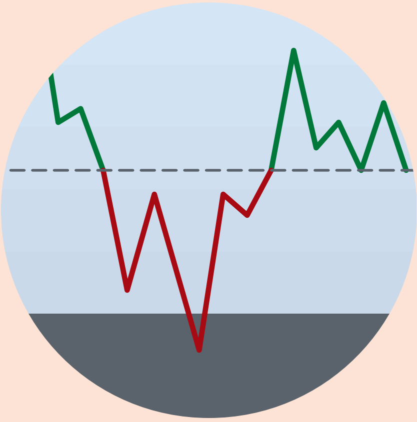
Rising cat claims present increased opportunities and risk for claims management. Cat claims represent a growing share of property damage. Cat events are concentrated across time and geography; several events can come over a short period of time, and there can be an increased risk of total loss claims. Cat claims management will continue to evolve, including development of cat response teams and use of specialized external support.

Insurers need to manage operational risk resulting from more extreme events. Employees may experience personal losses that disrupt their capacity to work, insurance facilities may lose power, and buildings may be damaged. Current business continuity plans may be insufficient for the anticipated future risks.

The transition to a low-carbon economy will introduce investment risk and opportunity for insurers, lenders, and investors. Significant funds are needed to help businesses and homeowners invest in climate resilience measures. Governments seek partners to invest in infrastructure renewal, including projects that will reduce the risk of severe weather damage. However, investors may be subject to regulatory and technological climate risks, with the threat of sudden shifts in asset values and stranded assets.

Climate change introduces reputational risk for companies, including insurance firms, that are not actively managing their environmental impact.

Failure to address climate change is introducing regulatory risk and opportunity



for insurance companies. The Task Force on Climate-related Financial Disclosures is developing international disclosure guidance for insurance companies and seven other industry groups. The Office of the Superintendent of Financial Institutions, the Autorité des marchés financiers, and the Canadian Council of Insurance Regulators are reviewing their supervision of climate risks. In 2019, the Expert Panel on Sustainable finance will report to the federal minister of Finance, and the Bank of Canada launched a climate research program. Concern about financial stability is a foundation of this new regulatory interest in lending, insurance, and investment practices.

Insurance companies in Canada successfully adapted to the increase in cat claims over the past 20 years and will be challenged again by the risks and opportunities introduced over the next 10 years and beyond.