

# THE IMPACT OF CLIMATE CHANGE ON YOUR PORTFOLIO

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The Principles for Responsible Investment (PRI) state that it's increasingly important for investors to incorporate emerging mega risks such as climate change into their view of the future. CIBC Asset Management's (CAM) Task Force for Climate-Related Financial Disclosures<sup>1</sup> identified the need to expand on CAM's 2019 stress test for climate change risks and developed our approach and assumptions for the 2020 stress test.

- We want to estimate how various climate change events could impact securities valuation through damages, costs, and stranded assets.
- We're looking to identify various risks and opportunities related to climate change. These could be physical and transitional.
- We want to identify the potential impact, timeline and probability of each change and determine when and if it should be included in a stress test.

## Deciding what's important

The working group started by identifying risks and opportunities, both physical and transitional, related to climate change. We debated the potential impact, timeline and probability of each of these changes for potential inclusion in a stress test. There were varying opinions about the likelihood that climate change would influence material financial factors and how those events would impact securities valuation through damages, costs,

and stranded assets. We ultimately arrived at a scenario that encompasses the most impactful consequences that we believe accurately reflect the costs that will be borne by investors.

## Our assumptions

- Governments will target a limit of 1.5 degrees warming by 2050, aligned with the Paris Agreement.
- To achieve the Paris goals by 2030, a carbon tax of approximately \$100 per ton of emissions would have to be instituted globally by 2030. It's reasonable to assume that companies will bear the costs of their scope 1 and 2 emissions.
- Rising sea levels will be limited to the 1.5 degree warming scenario. Even this limited warming will have cost implications for impacted real estate.
- Carbon price (i.e. carbon tax) will lead to a decreased global demand for oil of about 30%. This will impact investors in energy through stranded assets and lower toll revenues.<sup>2</sup>

## Energy Sector

Based on our 2019 analysis and assuming a carbon tax of \$100, we forecast global energy demand will shrink by 30% under a 1.5 degree warming scenario. Stranded assets in the energy sector, particularly for companies in the exploration and production subsector, warrant particular consideration for

both equity and debt holders. Under this scenario, a reasonable estimate for a long-term sustainable oil price would be approximately \$40 a barrel. Using that price as a guide, any assets that cost more than \$40/barrel to produce will become stranded assets. Pipeline volume will be reduced due to both stranded assets and a reduction in global demand.

## Real estate sector

Coastal flooding represents the biggest physical risk (approximately 75% of the total risk) under a 1.5 degree warming scenario. The Canadian coast will likely be less impacted than other global regions, but there will still be both transition and physical risks in affected Canadian regions. The largest implication of a rising coastal sea level is increased operating costs for coastal real estate. Our analysis considered the percentage of properties closest to the coast and evaluated the impact of these added costs on valuations.

## How is a rise in sea level related to climate change?

A warming climate can cause seawater to expand and ice over land to melt, both of which can cause a rise in sea level.<sup>3</sup>

## Conclusion

Using the assumptions outlined above, CAM's risk team stress tested portfolios as at December 31, 2020. The result indicated a modest decline in the value of our assets under management (AUM), driven primarily by the cost of carbon emissions (i.e. carbon tax) levied on portfolio constituents. Results were presented to the Responsible Investing Committee, composed of senior leaders of CAM, for further discussion.

In 2020, we also fully integrated ESG risk analysis into our global sovereign and currency strategies. We'll include scenario analysis and stress testing on those assets in future reviews.

In 2021, we continue expanding our review of climate change risk to our portfolios by increasing our understanding of how climate risk leads to investment risk. This could include considerations of additional extreme weather events, increasingly robust methods for accurately assessing stranded asset risk, and updated emissions costs as data and disclosures are updated. We'll attempt to quantify and integrate scope 3 emissions into our analysis as the data becomes more robust. We'll also attempt to identify companies that could benefit from climate change so we better understand opportunities alongside risk.

## ESG—some background

### The Paris Agreement

The Paris Agreement is often referred to as the Paris Accords or the Paris Climate Accords. It's an international treaty on climate change, adopted in 2015, that covers climate change mitigation, adaptation, and finance. The Agreement was negotiated by 196 parties at the 2015 United Nations Climate Change Conference near Paris, France.<sup>4</sup>

### Carbon tax

A carbon tax is paid by businesses and industries that produce carbon dioxide through their operations. The tax is imposed with the goal of environmental protection and designed to reduce the output of greenhouse gases and carbon dioxide into the atmosphere.<sup>5</sup>

### Scope 1, 2 and 3 emissions

Scope 1 emissions are direct greenhouse (GHG) emissions that occur from sources that are controlled or owned by an organization (e.g. emissions associated with fuel combustion in boilers, furnaces, vehicles).<sup>6</sup>

Scope 2 emissions are indirect GHG emissions associated with the purchase of electricity, steam, heat, or cooling. Although scope 2 emissions physically occur at the facility where they are generated, they are accounted for in an organization's GHG inventory because they are a result of the organization's energy use.<sup>7</sup>

Scope 3 includes all other indirect emissions that occur in a company's value chain. Examples include purchased goods and services, employee commuting, business travel and waste disposal.<sup>8</sup>

### Stranded assets

A stranded asset is something (e.g. a piece of equipment or a resource) that once had value or produced income but no longer does. This is usually due to some kind of external change, including changes in technology, markets and societal habits.

For example, when electricity started replacing oil lamps for illuminating homes, lighting businesses suddenly found their oil lamp inventory devalued, and the whaling industry lost a key market for whale oil, leaving entire fleets idle. Those unneeded lamps and ships became stranded assets.<sup>9</sup>

<sup>1</sup>A multidisciplinary group of equity and fixed income analysts on the CAM Investment Management Team

<sup>2</sup>A toll is the price charged by a pipeline company for transportation and other services.

<sup>3</sup><https://oceanservice.noaa.gov/facts/sealevelclimate.html>

<sup>4</sup>[https://en.wikipedia.org/wiki/Paris\\_Agreement](https://en.wikipedia.org/wiki/Paris_Agreement)

<sup>5</sup><https://www.taxpolicycenter.org/briefing-book/what-carbon-tax>

<sup>6</sup><https://www.epa.gov/climateleadership/scope-1-and-scope-2-inventory-guidance>

<sup>7</sup><https://www.epa.gov/climateleadership/scope-1-and-scope-2-inventory-guidance>

<sup>8</sup><https://www.carbontrust.com/resources/briefing-what-are-scope-3-emissions>

<sup>9</sup><https://www.greenbiz.com/article/growing-concern-over-stranded-assets>

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