

# Understanding climate-related physical risks

## Investors and regulators are driving companies to manage and report the impact of both physical and transition climate risk to their organizations

By Katie Dunphy

The pandemic has played a starring role in the disruptions we're seeing across worldwide supply chains but it may pale in comparison to the chaos climate change will cause.

Take, for example, the microchip shortage that's impacting everything from automobiles to consumer electronics. Ideally, chip manufacturers would expand their capacity to meet pent-up demand, but more than half of the world's microchips are manufactured in Taiwan using a process that requires large amounts of fresh water—and Taiwan is experiencing one of its worst droughts in history. Taiwan's largest chip manufacturer says it uses 156,000 tons of water per day to produce its chips, the equivalent of about 60 Olympic-size swimming pools.<sup>1</sup>

Taiwanese chip manufacturers are hesitant to take on the risk of building more production lines because they might not be able to use them due to a lack of water. So, climate change, which is contributing to increases in the frequency and severity of droughts in some parts of the world, including Taiwan, is exacerbating and prolonging the global microchip shortage and impacting businesses across sectors.

### Climate risk is complex

This situation highlights the complexity of risk companies face from climate change, which poses both transition and physical risks. Transition risk arises in consideration of the transition to a low-carbon economy, including reducing a business' reliance on carbon. Physical risks, exacerbated by global mean temperature rise, may result in both direct and indirect impacts on facilities, suppliers, employees, customers, or other parts of the value chain.



**Audit committees will need to ensure a company's enterprise risk framework considers the full spectrum of climate risks, both physical and transition, on the company and its broader value chain.**

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<sup>1</sup> Cheung, Eric, June 10, 2021 *The chipmaking factory of the world is battling Covid and the climate crisis*, CNN Business

Transition risk has historically been a focal point in considering the impacts of climate change. However, due to the acceleration of the climate crisis and intensification of extreme weather events exacerbated by the Earth's continued warming trajectory, further consideration of a broad range of physical risks and related disclosures is required.

One of the difficulties for companies attempting to identify physical risk is that these risks come in different forms and could affect different parts of the value chain. Drought is an example of a chronic physical risk. These risks are longer-term and pervasive. Acute physical risks from climate change are shorter-duration events, such as storm surges and floods. The traditional view of climate risk would focus on the direct impacts of acute and chronic factors, however, there are equally important indirect considerations of climate change that companies are now focusing on. These include upstream disruption of critical inputs (e.g. agricultural products due to drought conditions) to downstream disruption which could impact logistics providers, access to markets or consumer behaviour.

Indirect physical risks from climate change can be significant, and most organizations are still early in the journey of fully understanding the implications.

## What should audit committees be asking?

What measures are in place to enhance management's ability to foresee and respond to emerging risks from physical climate change?

How is management building resilience to physical climate change risks into their operations?

How is physical climate change risk information being collected and what controls are in place to ensure its quality and consistency?

What does good physical climate risk disclosure look like?

## Physical risk is often undermanaged and underreported

Companies need to incorporate the consideration of physical risks across the enterprise risk framework and audit committees will need to ask questions about how this is being done. That means asking management how they're identifying and quantifying these risks, how they're mitigating them and in what ways they're directing capital and operational expenditures toward enhancing resilience.

Company disclosures related to climate change and the related financial risks and opportunities are increasingly gaining traction in corporate disclosures. The investment community is looking for better and more qualitative and quantitative information about organizations' exposure to physical climate change risks, how resilient their strategies are and what adaptation measures they're taking to ensure they can succeed and deliver on their strategy.

## Investors are asking questions

In 2018, the Investor Leadership Network (ILN) was launched at that year's G7 meeting. It's a CEO-led group composed of 14 global institutional investors representative of all continents and asset classes, with more than \$9 trillion<sup>2</sup> in assets under management. ILN provides resources to help investors incorporate direct and indirect physical risks into their investment decisions and identify more climate-resilient assets. These resources can help audit committees and management better understand the financial implications of these physical climate risks on their organizations, including their access to capital.



Interview with Amy Hepburn, CEO of the Investor Leadership Network for KPMG's Voices for a Sustainable Future.

## Regulators are taking note

Regulators, too, are turning their attention to the reporting of climate risks. In 2015, the Financial Stability Board (FSB) established the Task Force on

Climate-related Financial Disclosures (TCFD) to address the lack of reporting and to help avoid another financial crisis—this time caused by climate change. The TCFD created recommendations covering governance, risk, strategy and metrics, and recommended that organizations use these recommendations to create TCFD-aligned reporting, covering both transition and physical risks.

There has been a tremendous amount of support for the TCFD. Many jurisdictions, including the EU, UK and Japan, are moving toward mandatory TCFD-aligned disclosures and the SEC is expected to announce climate disclosure rules this year. On October 18, 2021, the Canadian Securities Administrators launched a consultation period on proposed climate disclosure requirements which largely align with the TCFD recommendations and are anticipated to come into effect in 2023. In parallel, investor support of climate-related financial disclosures is clear, with a number of major Canadian pension funds having endorsed TCFD aligned reporting. Further, the newly launched International Sustainability Standards Board is expected to initially focus on TCFD-based climate standards. With such strong support from regulators and investors, audit committees will want to be sure that management is getting ready for the changes ahead as such reporting moves from voluntary to mandatory.

## The data and information challenge

Preparers of reports will require data and information (both qualitative and quantitative) on physical climate change risks. Companies will need to buy data or build internal systems to collect this information. Internal controls will need to be put in place to ensure the

<sup>2</sup> <https://investorleadershipnetwork.org/en/about/>

veracity and consistency of the information and, to capture indirect risks, the scope of information required can extend beyond operational boundaries across the entire value chain. Audit committees will want to ask management about how this information is being collected and what internal controls are being put in place to ensure its quality.

It's important not to lose sight of the fact that, despite the resources that will be needed to produce these disclosures, they will have value to companies beyond reporting. As one example, an assessment

of a company's supply chain might not only lead to usable information for disclosure but could also lead to diversifying suppliers according to physical climate risks and protect the company from costly shocks and disruption.

Physical climate risk is an important and growing risk to companies. Beyond the pressure for better reporting being exerted by stakeholders, companies looking to ensure resiliency in the face of these changes will need to incorporate consideration of physical risk across business operations.

## Contact

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