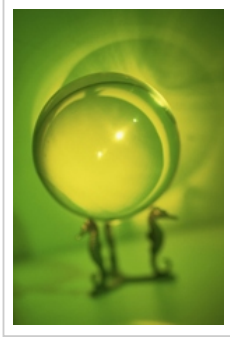


Preparing for the Unpredictable: Lessons on Adapting to Climate Change



With managers across industries under pressure to develop sophisticated views about how climate change will impact their company, it might seem natural to look to the insurance industry for guidance on how to act and communicate about risks and opportunities.

After all, with climate change threatening to increase the severity of weather-related disasters (which, in the last half century, have cost more than a trillion dollars and killed more than 800,000 people), humanitarian crises, and economic disruptions, the insurance sector is being called on to play a special role in helping society adapt to climate change.

Unfortunately, even the insurance industry lacks the coveted crystal ball that would preview exactly how climate change will impact us. That's partly because prediction works by projecting future events based on past experiences, for example, by showing what the average distribution of the next thousand hurricanes in the Gulf of Mexico might look like. Climate change variables can be factored in, but what to include and how much to adjust them remains largely guesswork.

And even if we had the parameters to guarantee more statistical accuracy, we would still be at the mercy of what matters most: low-probability, high-consequence events that happen once in a generation, like this summer's heat wave in Russia and floods in Pakistan. Such outliers are hard to pinpoint in advance, yet these are precisely what the Intergovernmental Panel on Climate Change (IPCC) says business should be most worried about.

As a result, while climate science provides evidence of general trends, we are still a long way from being able to predict specific climate events. In lieu of precise predictions, a key to effectively managing the physical effects of climate change is preparedness—which can be achieved through developing literacy, identifying plausible impacts, evaluating priorities, and building resilience.

Developing Literacy

For business, developing literacy means understanding how to manage uncertainty, and understanding the mechanics by which climate change is likely to affect your company. In that sense, while climate change is expected to produce negative effects overall, there will be important new societal needs related to climate change's direct effects on water, food, health, ecosystems, and coastal areas that business can focus on. These impacts can be thought of as both risks (your workforce becoming increasingly susceptible to disease) and opportunities (the chance to develop and distribute health-improving solutions).

Future climate impacts are a function of three things: impacts from today's climate (which may pose real risks, such as windstorms or floods, even if they haven't materialized), the potential effects of climate change (which could multiply those threats), and, finally, development paths that put more people and assets in harm's way. To develop expectations about total future impacts, business can use various techniques for characterizing the future, such as scenarios, storylines, analogues, qualitative projections, sensitivity analysis, and artificial experiments like thought exercises. These all offer different tools. For example, analogues use past events to anticipate how communities will respond in the future, and storylines create narratives about how the company might logically evolve in response to climate-related economic trends.

Identifying Impacts

Given the most plausible physical effects of climate change mentioned above—which impact virtually all industries and regions—the next step is to identify where and how they might affect the company the most.

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Feedback

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The answer depends on a range of geographic, market, and sociopolitical factors. As a starting point, the IPCC suggests that the most intense business impacts are likely to result from extreme weather, especially in coastal and flood-plain regions, in areas where subsistence is at the margin of viability, and near boundaries between major ecological zones.

With respect to business operations, impacts are most likely when there is dependence on longer-lived capital assets (such as energy), fixed resources (such as mining), extended supply chains (such as retail and distribution), and climate-sensitive resources (including agricultural and forest products, surface and groundwater resources, tourism, and risk financing).

Finally, impacts are most likely in sociopolitical environments where substantial key stakeholder groups are based in poor communities, especially in areas of high urbanization. (For more details, review the IPCC's report on "[Impacts, Adaptation, and Vulnerability](#).")

Evaluating Priorities

Once a set of potential impacts has been identified, they can be used to evaluate the relative areas of concern. One way to structure this assessment is to evaluate the following conditions independently: the intensity of likely climate change hazards, your company's and its stakeholders' vulnerability to those hazards, and the values—both financial and human—at stake. You can combine these to form probabilistic values for each potential impact, and then compare these impacts against each other to provide a picture of the most important expected effects across the organization.

Such a study is accessible to most companies. For example, a combination of desktop research, interviews with experts, and a facilitated discussion with management could provide a good estimate of the conditions mentioned above. This, in turn, can form an appropriate initial assessment for coverage in an annual report or in your company's reporting to the CDP in May. To make the conclusions actionable, aim less for an abstract list of calculations and more for judgments that yield a rank-order priority set.

Building Resilience

A final step in preparing for climate change is to build resilience, which involves two steps. The first is to make "if-then" decisions. For instance, if energy prices quadruple, a drought occurs near a water-intensive plant, or a key ingredient is listed as endangered, what would your company do? This assessment should include both traditional disaster planning as well as defining contingencies for sudden changes in market needs or necessary supplies.

By extension, this is the time to consider how your company should react to plausible changes that could impact the whole enterprise, such as breakthroughs in energy information technology or aggressive climate policies in China's next five-year plan. Of course, this should also include a review schedule: what to watch for and when. In sum, managers should be ready for anything—or at least what's plausible.

The second step is taking proactive measures now—or, if not now, then timed with and integrated into new capital investments. These measures include ensuring that new buildings and infrastructure meet codes to withstand extreme events; improving land-use planning, such as by limiting development in at-risk areas; and preserving wetlands, forests, and other natural ecosystems that provide cost-effective natural protection against storms and erosion.

When investing in these measures, combine adaptation with mitigation efforts wherever possible—such as by building green—and be wary of paths that are increasingly energy and water intensive, because such resources will likely be under increasing strain. It's also important to pay special attention to people in poor communities and developing countries, as they are likely to be most affected by climate change, and therefore have growing needs for companies to fulfill.

More Information

For information about how the finance sector is becoming more sophisticated in incorporating expectations about climate change into investing and insurance—and rewarding companies that are responsive—attend the BSR Conference 2010 session "Financial Perspectives on Sustainable Climate Change Adaptation." At this one-hour conversation, you will hear professional finance perspectives about climate adaptation that can inform companies' sustainability strategies.

