

The CEO's Guide to Withstanding Weather Disruptions

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What's in Play

Extreme weather events are reshaping the landscape of business risk. In 2024 alone, natural disasters caused at least \$320 billion in economic losses across global value chains, with less than half of the damage covered by insurance. This past year has brought continued disruption, with

severe floods in Asia and Africa, substantial droughts in the EU, and costly wildfires in the US. The result is mounting strain on economies, communities, and supply chains across the globe.

The response of most companies, however, is not meeting the moment. While investors, insurers, and regulators are demanding more transparency, most companies remain in the early stages of developing forward-looking physical risk assessments. At the same time, such efforts are typically focused on the asset level, not yet addressing the full impact of potential disruptions across the value chain. And few companies are integrating comprehensive physical risk assessments into core strategic decisions. Those that continue to treat value chain resilience as a “nice-to-have” will be outmaneuvered by competitors that embed it as a strategic priority.

What’s at Stake

Physical shocks can halt production lines, delay shipments, and destroy infrastructure. Knock-on effects, often hidden, make matters worse. A flood in one second-tier supplier’s region may lead to weeks of lost revenue for a manufacturer thousands of miles away. Persistent water scarcity can make a once-reliable input unfeasible, forcing an overhaul of entire sourcing models. Downstream, an extreme weather event can cause customers to lose access to products, while employees face displacement or public service breakdowns (such as public transit system meltdowns or school closures) that prevent them from working.

What the Numbers Say

\$320B

Natural disasters caused profound economic losses in 2024, a 25% increase from 2020

~50%

Share of global population projected to face water shortages by 2035–2049, up from 18% during 1985–1999

10%

ROI

Anticipated climate risk return on investment

Protecting Your Value Chain from Physical Risk

CEOs need a structured approach to ensure the resilience of their organizations. To succeed, they must confront vulnerabilities head on and mobilize the leadership team around concrete actions. Here's how:

Acknowledge the Risk. CEOs must be able to answer fundamental questions about their company's physical-risk exposure. Often companies are not completely aware of how some business disruptions have been directly or indirectly fueled by extreme weather or environmental degradation. This is a major blind spot. And even among those who have identified risks within their own organizations, very few have fully accounted for the effects of extreme weather on their suppliers, partners, and across their value chains.

CEOs can begin the process of creating visibility on physical risk by thinking through potential impacts at the asset, value chain, and system levels. Though they may seem less material, system-level impacts—think global health crisis or widespread drought—can pose serious operational, strategic, and financial risks.

- **Potential First Step:** CEOs should build consensus among senior leadership, the board, and employees on the urgent need to act. Establishing clear evidence of the threat will be crucial. With this goal in mind, the CEO can initiate a thorough review of past disruptions to business operations to determine which were caused by physical risks. These might include a severe drought that disrupted or raised the cost of manufacturing operations, for example, or past surges in energy prices stemming from extreme weather.

Mobilize Executive Action. The impact of mounting physical risk will leave virtually no aspect of a company's operations untouched. On the flip side, an effective response will require action across the ranks of executive leadership. CEOs can orchestrate this coordinated response by adapting risk management to the new challenge and embedding clear executive ownership into strategy, governance, and daily operations.

- **Potential First Step:** Although all senior executives have a role to play, CEOs should start by prioritizing their support for three critical roles.

The chief risk officer (CRO) serves as a central advisor supporting the entire physical risk management process. The CRO can provide methodologies for assessing physical risks, particularly related to critical nodes in the company's value chain. The CRO also leads the design of preventive actions and monitoring KPIs. They help define how much physical risk the company is willing to accept (though the final decision rests with the board) and collaborate with the CFO and business units to assess the financial impacts of these risks.

The chief operating officer (COO) leads the drive to embed physical risk management into the company's day-to-day operations. The COO translates strategic resilience measures into

actionable resilience plans across business units, assigning implementation ownership, aligning timelines, and monitoring effectiveness.

The chief sustainability officer (CSO) can raise organizational awareness of physical risks and their potential evolution over time. This includes sharing scientific insights, scenario projections, and sector-specific factors to inform strategic decisions. Sustainability teams often lead initial forward-looking scenario analysis for physical risks, with AI providing a powerful enhancement to the process.

Develop a Resilience Strategy. Resilience must be treated as a core objective of capital allocation. The CEO should oversee this process, with input from across the organization. The goal is to select the right mix of proactivity and risk-transfer measures to reduce the impact of physical events on critical nodes in the company's value chain.

- **Potential First Step:** CEOs should start by assessing opportunities in the three primary categories of resilience measures. First, they should evaluate what financial resilience tools are available. This includes not only traditional insurance coverage but also hedging and risk-sharing instruments. Second, they should ensure that their company understands the range of operational resilience actions that are possible, including diversifying suppliers, increasing inventory buffers, and optimizing logistics. Third, they can explore long-term solutions, such as redesigning products or investing in innovation, to reduce reliance on weather-sensitive inputs.

Partner Across the Value Chain. Going it alone in the face of value chain threats is not an option. Collaborating closely with suppliers, customers, industry peers, and policymakers can help companies gain a clearer understanding of physical risks, align on effective responses, and share investments in resilience. At the same time, partnerships can also help companies hone strategies for addressing extreme-weather impacts on financial markets, such as insurance.

Few companies are taking a comprehensive approach to coalition-building today, with many relying on procurement teams and existing tier 1 supplier relationships to manage physical risks. (A notable exception: the food and beverage sector in which some companies engage deeply with agricultural producers and smallholder farmers.) Such cross-value chain partnerships will be key to building true resilience.

- **Potential First Step:** To create an effective coalition, companies should start by identifying the right partners. This is not always a straightforward exercise. Often the most important collaborators include players well removed from the company itself, groups with which the company has no direct relationship. With the right people at the table, the coalition can create a common language and objective. And that lays the foundation for identifying and agreeing on a clear set of actions.

A Parting Thought

As CEOs move to create more resilient companies, they will find that the board can be a powerful ally. In a world of escalating physical risks, an engaged board can make all the difference in building organizational resilience.

Directors bring a unique, big-picture perspective on risk and strategy. They can challenge assumptions, ask tough questions, and provide objective oversight to ensure the resilience strategy aligns with the company's long-term vision and risk tolerance. They can also leverage their broader external networks and industry experience, connecting CEOs with insights, resources, or best practices from other companies facing similar risks. CEOs can reinforce the positive impact of the board by providing regular concrete risk assessments, clearly outlining potential financial implications, and setting explicit resilience objectives that the board can review and endorse.

For more on how to turn systemic risk into strategic opportunity, you can read the CEO Handbook for Physical Risk and Resilience in Global Value Chains, from the WBCSD and BCG.

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