



The emergence of climate resilience as a core climate strategy



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Climate change is a disruptive risk for the power and utilities industry in developed countries, and its significance and impact has been steadily increasing over the past decade. Much of the grid in countries such as the United States or Japan that is used today was designed and constructed many decades ago when climate change was not a concern. Additionally, many of the operations and maintenance activities to support the grid are based on principles set before the rise of climate change. As a result, utilities are beginning to bear the full consequences of climate change due to aging infrastructure and processes not designed to mitigate the risk. This is evidenced, for example, by utilities being linked to deadly and destructive wildfires in California, customers experiencing extended power outages during the hurricane season in the southeastern U.S. or after heavy thunderstorms that hit the central eastern area of Japan, and more severe snowstorms in the northern parts of the U.S.

Because the physical risks and their consequences linked to climate change are often ambiguous and complex and may be difficult to identify, assessing and responding to these risks requires a more strategic approach to enhancing certain capabilities within an organization. We call this the need to become resilient.

Resilience, at its core, is the ability to reduce the likelihood and impact of “extreme” events. These “extreme” events represent a “disruptive risk,” which is a risk so severe that it threatens the long-term survivability of the business. Events that turn into disruptive risks are typically initially identified as high-consequence risks, but the expected low probability of the risk occurring does not usually precipitate the necessary business planning required for deploying appropriate mitigations. However, as forces drive the probability of these events higher, a business lacking planning for the extreme event is potentially exposed to the full consequence of the risk. Thus, this results in disruptive risk for the business.

Becoming resilient to the physical risks linked to climate change requires a fundamental shift in how utilities operate. Utilities typically operate on a compliance-based system, which means that utilities build and operate their system according to the established state and federal regulations—regulations that were designed several years ago that likely do not account for climate change over the same period. However, to become resilient, utilities must operate on a risk-based approach that prioritizes operations and planning for activities to mitigate the physical impacts of climate change and exceed the requirements of the regulations. This move to a risk-based approach requires the utility to better understand the physical impacts of climate risk at a granular level throughout the organization and develop formal decision-making structures to develop resilience strategies.

In the U.S. power and utility industry, KPMG professionals see that organizations faced with this physical climate change risk are aligning their organizations to make these risk-informed decisions. This often manifests as a multifaceted approach to align the functions at the asset, operational, and corporate levels to develop appropriate mitigations. At the asset level, utilities are beginning to reconceptualize how to design and construct their assets to a different standard to appropriately operate in extreme weather.

Operationally, utilities are augmenting their asset inspection and maintenance programs to proactively mitigate high-risk assets during extreme weather conditions. And finally, at a corporate level, utilities are reprioritizing capital plans to support activities that replace or enhance infrastructure to withstand this climate change risk. In total, utilities are on a path to becoming resilient but must remain vigilant to this physical threat as climate change continues on its course.

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