

Power Risk Management



ENHANCING POWER SYSTEM RESILIENCE TO EXTREME WEATHER & CLIMATE CHANGE

A risk-based framework for optimizing electricity infrastructure investments



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Extreme weather is the leading cause of disturbances to the U.S. electric grid, and has grown rapidly over the last two decades. The fraction of all grid disturbances caused by weather-related phenomena has more than tripled from roughly 20 percent in the early 1990s to 65 percent in recent years. Throughout the world, power systems have been severely damaged by hurricanes, storm surge, winter storms, and other extreme events. Climate change is expected to lead to changes in the frequency, intensity, spatial extent, duration, and timing of extreme weather and climate events, and may result in unprecedented extreme weather and climate events.

DNV GL has developed a probabilistic risk-cost-benefit framework, ADAPT-POWER, for analyzing power system investments to mitigate extreme weather and climate change damages.

ADAPT-POWER provides a unique ability to:

- Assess power system exposure and risks associated with extreme weather and climate change
- Evaluate the risk reduction potential of management measures such as adaptations to enhance infrastructure resilience, as well as preparing, responding, and recovering from climatic events