

## Resiliency, Risk, and Electrification

An increase in electricity demand will require a resilient power system that can withstand outages from cyberattacks and natural disasters.

*“Electrifying everything at once without looking at resilience and strategies to minimize risks and mitigate outages is potentially increasing our vulnerability.”*

—Commissioner Maria Bocanegra, Illinois Commerce Commission from Electrification and Resiliency—July 22, 2022. [Listen to the discussion](#)

Resiliency is the ability to restore power after an unexpected disruption. Those disruptions may come in the form of cyberattacks or other criminal incidents, accidents, or naturally occurring weather events such as severe storms, wildfires, and earthquakes. As more energy-consuming devices are electrified, the impact of power outages could be even greater. Losing power will likely impact access to clean water and telecommunication services as well as transportation, food supplies, and the ability to heat or cool buildings.

Pairing electrification with resilience enhancing technologies like battery systems, microgrids, and managed charging and non-technical enhancements, such as weatherization in homes, will help communities avoid weather-related and prolonged power outages and ensure that critical services are available when needed. For example, California utilities are exploring the use of microgrids to supply power during public power shutoff events where wildfires are threatening the power supply.

*“I think one of the things we've recognized is that as we move to increase electrification, it's important to keep resilience in mind both where you may have, for example, wildfires and making sure that we can get the power shut off, and then finding ways to create that electricity during those power shutoffs.”*

—Sharon Tompkins, San Diego Gas & Electric from Electrification and Resiliency—July 22, 2022. [Listen to the discussion](#).

## Balancing Electrification and Resiliency



Holy Cross Energy in Colorado is balancing electrification and resiliency with a diversified power supply that includes solar, battery storage, wind, hydropower, biomass, coal mine methane capture, coal, and natural gas in its fuel mix. Holy Cross Energy also has programs to involve customers in supporting resiliency. One such program offers customers a free EV charger through one of 4 approved vendors and incentivizes customers to reduce their demand during peak times in exchange for allowing the utility to control the batteries when needed ([see program details on the Holy Cross website](#)). This dual usage provides grid services under normal operating conditions (blue sky days) and resiliency services during a disruption (black sky days). Several cities are looking at using the batteries in electric school buses in a similar manner.

## Water-Energy Nexus



When discussing risk and resilience, the water-energy nexus is an emerging topic. In the context of electrification, water scarcity poses a threat to electricity supply where power plants use water for cooling systems or for generation itself (hydropower). Taking a cross-sector approach to resiliency planning that includes electricity, gas, water, and transportation is needed to identify and mitigate risk especially when critical services such as police, fire, communications, and hospitals are electrified. Unfortunately, utilities are often excluded from community resiliency planning, but they need to be part of the discussions from the start.

## Resilience and Equity



Electrification and resiliency must be planned together and be specific to the customers and communities they serve. The impact of an outage may be greater in vulnerable communities with insubstantial housing, elderly or immobile residents, and inadequate resources for backup power, or even the ability to leave an impacted area. Resiliency, like electrification, does not have a one-size-fits-all solution. And we cannot electrify without considering resiliency through the lens of equity.