

Report on Resilience Investments

1 Programs and Funding Implemented Over Prior 3 years

As Xcel Energy continues to implement its clean energy transition strategy and reduce its emissions, we also invest in our infrastructure to improve the resiliency and strengthen our system. Our clean energy transition could stall if service reliability and resilience suffer, or costs are unreasonable for our customers. All of the components of our entire asset base – the plants, power lines and natural gas system – are critical to serving our customers with clean, reliable, and affordable energy.

Grid Resiliency

Resilience and wildfire mitigation, the focus of our application, is not a new area of capital spending for Xcel Energy. Over the last three years, Xcel Energy has invested increasing annual amounts in distribution and transmission resiliency projects in Colorado alone. Total resilience spending has increased from \$673 million to \$878 million annually (see table below).

Previous funding by application eligible funding breaks down as follows:

Resiliency Spend Category	2019	2020	2021
Distribution Xcel Energy utility pole management (wildfire zones)	\$ (b) (4)		
Hazard tree clearing, wildfire zone			
Transmission Resiliency-related spend	\$		
(A) weatherization technologies and equipment	\$		
(C) monitoring and control technologies	\$		
(D) the undergrounding of electrical equipment	\$		
(E) utility pole management	\$		
(F) Powerline relocation or reconductoring	\$		
(J) advanced modeling technologies	\$		
(K) Grid hardening	\$		
Non-categorized resiliency spends	\$		
Totals	\$		

To help improve our mitigation responses and monitor risks across our system , we have created risk models to establish Wildfire Risk Zones. Our model currently relies on periodic updates from the Colorado Wildfire Risk Assessment Portal through the Colorado State Forest Service, which is updated every few years based on the availability of updates to the vegetation surface fuels mapping across our service areas. This original model has assisted with

determining the key areas of where to invest to strengthen system resiliency. However, more advanced risk modeling as requested in this application can further improve this risk-adjusted targeting of asset hardening and resiliency efforts. Figure 1 is a map produced by our existing risk model in Colorado that highlights those key areas of our electric distribution and transmission lines that are at greater risk for wildfire and assists with identifying areas to focus our wildfire mitigation efforts. The areas are commonly referred to as Wildfire Risk Zones (WRZs).

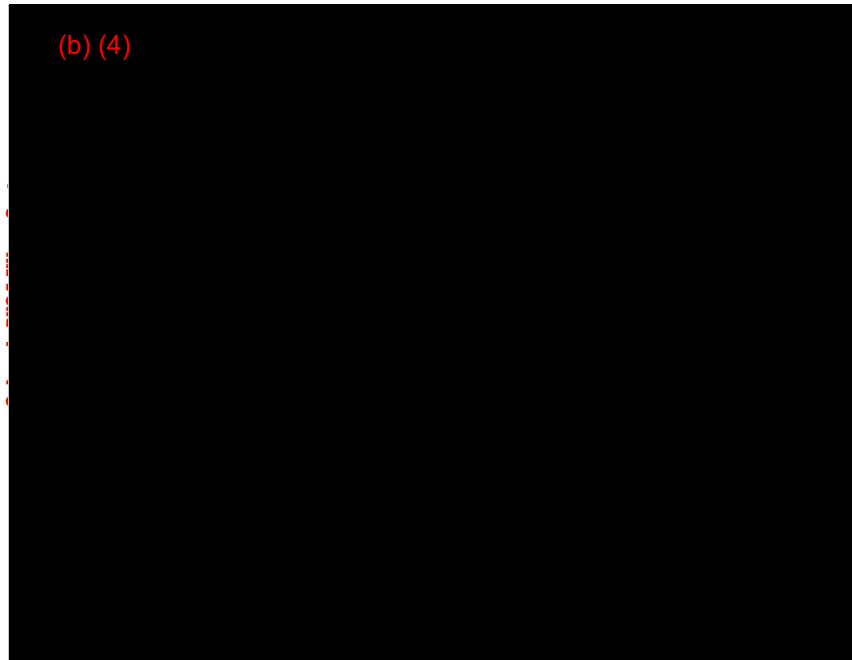


Figure 1 – Wildfire Risk Zones Map of Colorado Service Area

In addition, our Wildfire Mitigation Plan (WMP) further outlines the various mitigation strategies being employed and periodically provides updates to our regulators on the progress made towards wildfire mitigation. Each year, Public Service Company of Colorado (PSCo) provides a Wildfire Mitigation Plan update to the Public Utilities Commission of Colorado that summarizes expenditures, key performance indicators, and other key metrics. Examples of some of the metrics include, but are not limited to:

- A. Number of ignitions associated with electric overhead power lines within the WRZ;
- B. Number of downed transmission and distribution wires within the WRZ;
- C. Number of Red Flag Warning Days in Colorado;
- D. Communities or areas which experienced Red Flag Warnings and the dates they occurred;
- E. Total number of wildfires in the Company's service territory;
- F. Annual budgeted and planned distribution and transmission expenditures by WMP program

- G. Company's progress on executing equipment upgrades, major line rebuilds, small conductor replacement, covered conductor installation, and overhead line rebuilds
- H. Percentage of on-cycle vegetation management activities for transmission and distribution assets in WRZ.

Expenditures for wildfire mitigation are one category of resilience investment we continue to make, we also invest in general distribution grid resilience for extreme weather events and other operational risks. This includes pole management as illustrated below as well as transmission system hardening, particularly around substations:

Operating Company- Pole Replacements	2019	2020	2021
NSPW	\$(b) (4)		
NSPM	\$		
PSCo	\$		
SPS	\$		
TOTAL	\$		
Grid Hardening- Physical, Cyber Security	2019	2020	2021
NSPW	\$		
NSPM	\$		
PSCo	\$		
SPS	\$		
TOTAL	\$		

While not a comprehensive list of all resilience supportive investments these important activities illustrate our commitment to these types of investments. They total \$(b) (4) and have averaged \$(b) (4) over the past three years.

Additional Resiliency Project Examples

Across Xcel Energy, recent examples of distribution and transmission resiliency projects include Xcel Energy's participation in CapX2020, a joint initiative to upgrade and expand the transmission grid in the Upper Midwest. The CapX2020 utilities collaborated to build more than 800 miles of new high voltage transmission infrastructure. Xcel Energy's portion of this project was over (b) (4) in capital and over 200 miles of 345kV transmission lines. Also, Xcel Energy's Colorado Power Pathway (CPP) is an active, (b) (4) project to build a series of transmission lines that will form the backbone of a system that will tap into renewable resources and increase overall system resilience for all Colorado customers.

Additionally, in 2021, the Company has committed (b) (4) to Energize Ventures, a leading investment manager that is accelerating digital innovation in energy and sustainability. Energize actively partners with entrepreneurs to drive impact across four key software themes:

accelerating renewable deployment, advancing electrification, enabling infrastructure resilience, and powering sustainable business.

2 Current and Future Efforts Planned Over the Next 3 Years

Over the next five years, Xcel Energy has a total capital investment plan of over \$ (b) (4) that will invest in projects across the company's 8-state service territory to increase and strengthen grid reliability and resiliency in order to meet stakeholder and customer expectations and reduce risks to long-term operations and maintenance. Over 60% of this capital spending plan is focused on improvements to electric distribution and transmission infrastructure.

With respect to this application, there are targeted investments to reduce wildfire risk and improve resiliency. These specific projects will involve installation and protection of existing pole structures, targeted distribution power line undergrounding, transmission and distribution capacity reinforcement on lines and substations, and the installation of automated line switching and power restoration devices.

Through the Advanced Grid Initiative, as an example, we plan to transform the power grid into an integrated network that securely, efficiently, reliably, and safely integrates distributed energy resources. The initiative aims to increase power grid reliability, transparency, efficiency and access while providing a better customer experience and saving customers money. These technologies are intended to work together to support improved distribution technology, a stronger economy, customer choice and improved energy management and savings.

Additionally, Xcel Energy will continue to offer customers the opportunity to invest in grid resiliency. For example, Xcel Energy launched the Empower Resiliency program in Wisconsin, which provides backup generation and microgrid solutions for customers. With Empower Resiliency, each behind-the-meter solution is tailored to a customer's needs and allows customers to pay for resiliency equipment over time through their energy bills.

We also continue to engage with industry partners in resiliency pursuits, including the Electric Power Research Institute and the Edison Electric Institute. Through these continued collaborations and partnerships, Xcel Energy continues to learn and lead in its understanding of industry best practices, benchmarking, and emerging resiliency technologies and solutions.

In Colorado, our Community Resiliency Initiative will support critical infrastructure during a disaster by using energy storage systems to deliver backup power. Our community resiliency microgrids will provide backup power to a resiliency center by incorporating on-site renewable generation such as rooftop PV, traditional backup generators and battery storage systems. Customer-owned generation will be combined with Xcel Energy-owned energy storage systems.

The Colorado Public Utility Commission (CPUC) approved our request in November 2020 to develop microgrids at six sites across our Colorado service area. The sites range from rural locations to mountain communities, and within the Denver metro area. The microgrid sites include a variety of facilities, such as community centers, event centers, and transportation hubs.

BIL: Grid Resilience and Innovation Partnerships (GRIP)
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TA1-103-E

Ensuring end point customer reliability and resilience lies with our distribution operations. They estimate around 50% of their budget supports resilience activities. Across our service territory our distribution operations team oversees a budget of greater than (b) (4) per year.

	2023	2024	2025	2026	2027
Resiliency Expenditures by Distribution Operations	\$(b) (4)				

Future funding for transmission is also critical. Transmission operations resilience expenditures grow over time due to the ramp up of several large regional electric transmission expansion projects, notably the Minnesota Electric Connection and the Colorado Power Pathway Projects.

Resiliency Spend	2023	2024	2025	2026	2027
Forecast	\$(b) (4)				