

GRID MODERNIZATION: Reliability and Efficiency in the Face of Growing Demand

America's electricity power grid is operating closer to the edge than ever before. As our lifestyles become increasingly dependent on electricity, we need to make a major investment in a modernized grid to maintain the existing capacity and reliability of the system and to plan for the future.



A MODERNIZED GRID WILL MEET GROWING DEMAND

Americans are consuming more electricity than ever before and we need to build more transmission to meet this growing demand.

- Per capita consumption of energy has doubled since the 1970s due to population growth, technology, and urban sprawl, yet our nation's electricity grid has stayed largely the same.
- We have lived off of the capacity margins that were originally installed in the transmission system, but this system is becoming less efficient as it becomes outdated and over-utilized.
- The increasing load on the grid is resulting in greater losses and wasted energy. In the last 30 years we have seen losses on the transmission and distribution systems double.
- With the advancement of technology, Americans rely on electricity for more of our day-to-day tasks than ever before and demand is estimated to increase by 25 percent by 2030.

A MODERNIZED GRID WILL BRING RELIEF TO AN AGING INFRASTRUCTURE

New transmission infrastructure will reverse the effects of 30 years of underinvestment that have left our electricity grid unable to meet today's demand and unprepared for the future.

- Our nation now relies on an antiquated infrastructure and uses the system in ways it was never originally constructed to be used.
- Most of the existing transmission system was built more than 30 years ago and has only received incremental investment since.
 - 70% of our transmission lines are 25 years or older
 - 70% of our large power transformers are 25 years or older
 - 60% of our circuit breakers are more than 30 years old
- Underinvestment and the lack of proper maintenance have led to brownouts and blackouts.

A MODERNIZED GRID WILL PREVENT MAJOR ECONOMIC LOSSES AND IMPROVE EFFICIENCY

Our nation faces the ongoing threat of more brownouts and blackouts if we don't overhaul the system.

- Suffering from a lack of maintenance, reduced operating margins, and an increased load, the reliability of the grid needs to be addressed.
- There is strong evidence that underinvestment and poor maintenance led to the 2003 blackout which affected more than 50 million people in the Northeast and Midwest.
- According to the Department of Energy, major power outages and power quality disturbances cost our economy between \$25 and \$180 billion annually.
- The grid's aging condition negatively affects the interconnection process and prevents the introduction of new capacity, resulting in inefficient distribution of our nation's energy.