U.S. Department of Energy - Power Outage Analysis

Trend Overview

This report provides an analysis in the trends of power outages in the US from 2002-2023, highlighting high risk areas and trend overviews to help prepare for future power outages.

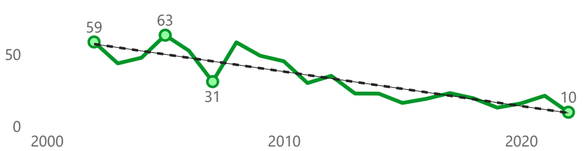
- The number of reported outages have increased heavily from 23 in 2002 to 389 in 2022. Over the period the number of affected customers and the duration per event has decreased by 88.34% and 88.1% respectively.
- Texas, California and Nevada are the top three states in total customers affected over the period. However, the

Number of Outages Reported

^ 1591.3% increase from 2002 - 2022

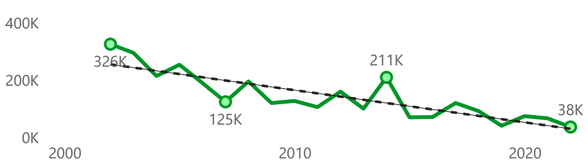
avg Event Duration in Hours

^ 83.1% decrease from 2002 - 2022



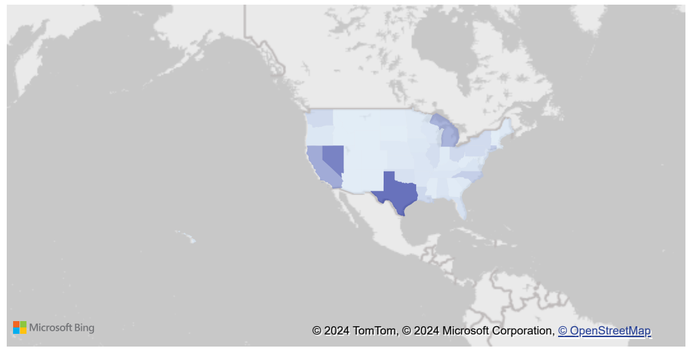
avg Number of Customers Affected

^ 88.34% decrease from 2002 - 2022

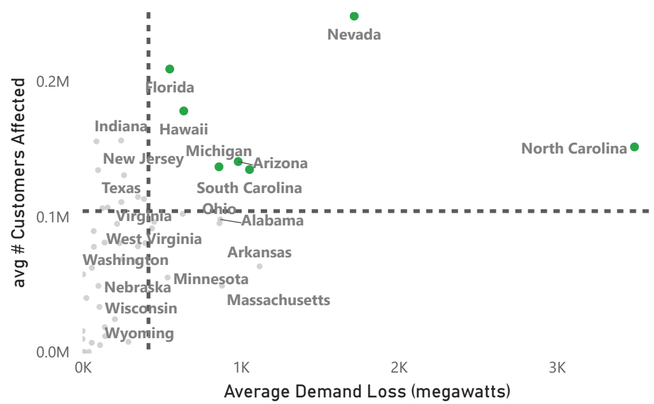


Regional Analysis

Total Customers Affected by State



avg Demand Loss VS avg # Customers Affected by State

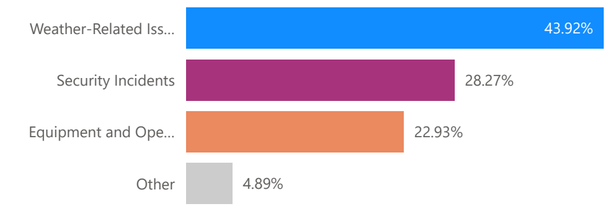


The upper right quadrant shows the states that are on average most affected based on customers and demand loss. **North Carolina, Nevada, Florida, Hawaii, Michigan, Arizona and South Carolina**, are the most affected states. With the exception of Nevada , weather-related issues are the main driver in all these most affected states.

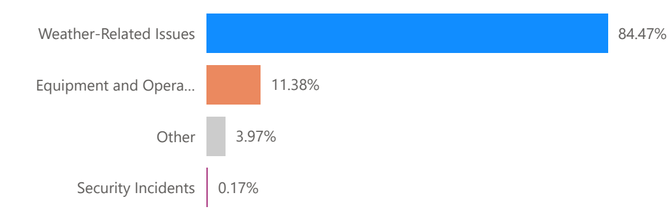
Event Cause Analysis

Weather-related issues make up **43.92%** of the total reported events and are the cause of **84.92%** of the total customers affected. Furthermore, power outages as a result of weather-related issues take substantially longer, averaging on **45 hours** per event compared to **15 hours** per event for the second longest event cause.

Top 3 Event Causes



Total Customers Affected by Disturbance Category



Average of duration_hours by Disturbance Category