PG&E’s Bay Area Blackout and the Need to Reconsider the Modern Power Grid System

On October 9, 2019, California’s largest electric utility preemptively shut off power to [more than 800,000 customers](https://www.sfchronicle.com/california-wildfires/article/PG-E-power-shut-off-257-000-Bay-Area-residents-14500945.php) in the San Francisco Bay Area. Some parts of the area may not see power restored for close to a week. This massive forced blackout is in part a result of the outdated power grid system in California, and much of the United States.

**Why PG&E Turned Off the Power on the Bay Area**

High winds in the Bay Area foothills triggered the power shutdown. PG&E had been warning customers that the high winds predicted my meteorologists could force it to shut off the power to large swaths of the state.

The utility is worried that high winds could result in its powerline sparking a massive wildfire, similar to what happened in 2017 and 2018 with the North Bay and Camp wildfires.

Each of these two massive wildfires were started by PG&E powerlines that were damaged in windy conditions.

PG&E filed for bankruptcy protection earlier this year to protect itself from over $30 billion in potential liabilities. Plaintiffs in many of the civil suits filed against PG&E allege the utility failed to properly upgrade and maintain its power grid infrastructure, given the known risk of massive wildfires.

**Latest Issue with the Standard Model Power Grid**

Wildfire risks are just the latest issue to come to light with the aging standard power grid model used throughout North America. This hub-and-spoke model was designed for a world where large power generating facilities were the sole source of electricity. Dams, coal plants, and natural gas power plants still generate the majority of the electricity in the United States.

Other recent issues with the current power grid include:

* Questions over [how secure the power grid](https://woodstockpower.com/blog/us-power-grid-problemsu-s-power-grid-problems-rise/) is from cyberattacks
* Overloaded power grids leading to large blackouts in heavily-populated urban areas
* Outdated infrastructure not able to withstand natural disasters such as hurricanes
* Vulnerability to terrorist attacks

The problem with the standard power grid model is not only is it challenging to maintain and protect, but that it is not designed for the way power will be generated in the future.

**Alternative Power Grid Models**

Large power grids were initially built to take advantage of the efficiencies of scale. They were built for a world of larger power plants.

However, that is not the world of the future. Smaller, decentralized power grids are being built all over the world, including in the United States. These smaller power grids can take advantage of smaller power generating facilities, such as solar power plants, and efficiently route this sustainable electricity to homes and businesses.

Smaller grids are less vulnerable to large scale outages. There is no single Achilles heel that can bring down an entire region.

Smaller grids are cheaper and easier to maintain and upgrade. As new technologies come online for power storage and transmission, they can immediately be adopted by smaller power grids.

**The Role of Solar in Securing Electricity** **Infrastructure**

Solar power is critical for securing the electricity infrastructure throughout the United States. This clean technology not only helps protect the environment, but it also increases the stability of electricity generation.

A network of smaller solar power generation stations, linked to a smaller grid with buried powerlines, and protected by the latest power grid construction technologies are less vulnerable to disasters like hurricanes and wildfires.

This network would also be harder for terrorists or cybercriminals to sabotage.

Solar power is critical to the long-term security of North American infrastructure.

**Short-Term Steps, Long-Term Vision**

The long-term vision for solar power and the electrical grid is to reimagine what the electrical grid looks like. The hub-and-spoke model will be replaced everywhere by smaller, smarter grids that rely heavily on solar power generation.

However, before this long-term vision can be realized, short-term steps need to be undertaken. This includes the expansion of existing small, solar power grids, construction of smaller solar power stations, and continued research and development into cost-effective ways to store unneeded solar power for a later date.

While parts of California are now facing unprecedented forced blackouts, it’s time to reconsider the best way to deliver electricity to every community. It’s time to continue taking the small steps today that will lead us to a better power grid in the future.

Meta Title:

Bay Area Blackout Demonstrates Need for More Secure Power Grid

Meta Description:

PG&E's unprecedented blackout in California to prevent blackouts highlights the role solar power needs to play in the building of a more secure power grid

Social Media Teasers:

What does PG&E’s California Blackout Tell Us About the Future of Solar Power and the Electrical Grid? [insert link]

The challenge facing our aging electrical infrastructure are at play in the PG&E blackouts [insert link]

Are smaller power grids with solar power stations the solution to massive preventative blackouts? [insert link]

Image:

