

Policy Opportunity Brief: Public Safety Power Shutoffs

Background

Electrical equipment has been identified as a [major contributing factor](#) to wildfires, with fires sparked by electrical infrastructure tending to be more destructive and harder to contain than other fires. [Public Safety Power Shutoffs](#) (PSPSs) are preemptive measures implemented by utilities to mitigate risk by [de-energizing](#) power lines in vulnerable areas during extreme weather conditions. PSPSs have gained urgency as wildfire risk and the length of wildfire season has increased, especially in the [Western U.S.](#), where dry conditions, high winds, and vulnerable infrastructure can create the perfect conditions for economically damaging wildfires.

Wildfires and power outages are both costly. However, quantifying the costs and benefits of a broader PSPS policy, or even just those of a single emergency shutoff is difficult, presenting a unique issue for policymakers. This is in large part due to the lack of a universally accepted method for evaluating the economic effects of wildfires. While wildfires have occurred for millennia and are a crucial component for healthy ecosystems across the American West, a small number of incredibly large fires have led to the loss of ecosystem services, property, infrastructure, and human lives. Thus, understanding the impacts of *preventing* a wildfire remains an important undertaking in fully evaluating the efficacy of PSPS policies.

Economic and Health Concerns

Power outages have adverse economic effects that ripple across local economies. Outages halt business operations, leading to revenue losses. Furthermore, industries reliant on refrigeration (grocery stores, restaurants, hotels) face additional challenges with food spoilage. This can also affect workers as shutoffs can prevent employees from working, especially in remote or online settings, impacting productivity and household income. Prolonged outages can also burden local governments and emergency services who must expend resources to assist affected individuals.

PSPS shutoff events can adversely affect individuals relying on medical equipment. [Studies](#) have shown that such shutoffs are associated with poorer physical and mental health outcomes, especially among households with medical concerns, young children, older adults, and low-income households. [Research](#) also highlights that low-income individuals bear a heavier burden during PSPS events in terms of income expenditure. The broader consequences of PSPS shutoffs depend on the economic structure of the affected area, meaning the net impact on economic output and household welfare varies across regions, making it necessary to tailor policies to the characteristics of the affected area.

Lack of electricity for cooling systems during heatwaves or heating systems during a cold weather event can exacerbate associated health risks, especially amongst high-risk populations. These negative consequences may be compounded if food and water safety are compromised by the shutoff. These findings are backed by [studies](#) that show that power outages can lead to higher mortality rates during natural disasters.

State Examples

Oregon: In May 2022, Oregon's public utility commission (PUC) adopted [Order 22-159](#), establishing guidelines for PSPS implementation. Key elements include advance warnings to customers (ideally 72 hours in advance), with imminent warnings one to four hours prior to shutoffs, and the use of a wide array of communication methods to warn as many people as possible. Utilities use GIS mapping to identify at-risk areas and conduct post-event evaluations to refine response efficacy.

California: California has some of the oldest PSPS policies in the country, which have been refined over the previous decade. The state [requires](#) that investor-owned utilities (IOUs) create plans, with input from community members, local government officials, and public safety providers, to develop community resource centers to provide power, shelter, and

essential resources during outages. California has adopted an [enforcement mechanism](#) that fines utilities for non-compliance with PSPS protocols. The state's policies have become a model for other states, which they have continued to [refine](#) over time.

Colorado: Colorado's PSPS policy is still in its nascency. In April 2024, Xcel Energy Colorado, in its first ever PSPS, de-energized more than 600 miles of electric transmission and distribution lines along the front range. The resulting outage and additional damages to lines caused by the windstorm that hit the state left [more than 150,000 customers](#) without power for three days, leading to widespread public outcry due, at least in part, to [lack of communication](#) by Xcel. Governor Polis' [response](#) emphasized the urgency of developing robust PSPS guidelines to ensure public safety while addressing economic and health concerns. In June 2024, Xcel [submitted](#) its \$1.9 billion [Wildfire Mitigation Plan](#) to the Colorado PUC.

Best Practices

1. *Establish clear decision-making criteria.*

Develop transparent criteria for when a PSPS is necessary, considering factors like weather, vegetation, and local infrastructure. In general, PSPSs should be an option of last resort due to their negative effects.

2. *Develop requirements for a comprehensive communication plan.*

Require that utilities notify residents early (e.g., 72 hours) and often, using diverse communication channels such as mobile alerts, radio broadcasts, road signs, and door-to-door notifications. Communications should also be distributed in multiple languages, with a particular focus on the most common languages spoken in each geographic area.

3. *Provide for preparedness.*

Direct utilities to establish registries for individuals dependent on medical devices and require that utilities provide timely support for these individuals before and during a PSPS. Create rebates or tax incentives for backup power solutions, including generators or backup battery systems.

4. *Establish community resource centers.*

Require that utilities work with communities, local governments, and public safety officials to set up accessible and responsive community resource centers where residents can shelter, charge devices, access information, and receive basic supplies during outages.

5. *Engage communities.*

Involve diverse groups, including Tribal members, emergency responders, local government officials, and community organizations in policy development. Solicit additional public input to identify policy gaps and community-specific needs.

6. *Require post-event review.*

Direct utilities to conduct after-action reviews of PSPS events to evaluate their effectiveness, improve responsiveness to community needs, and minimize future disruptions.

7. *Consider equity.*

Prioritize support for disadvantaged communities, which often face greater economic and logistical challenges during outages. Assess the distributional impacts of PSPS policies to ensure equitable distribution of costs and benefits.

More information – National Renewable Energy Laboratory (NREL), Power System Wildfire Risks and Potential Solutions: A Literature Review & Proposed Metric: <https://www.nrel.gov/docs/fy23osti/80746.pdf>