



Fast Trip and Public Safety Power Shutoffs

Customer Impacts and Implications

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Customer Impacts: Fast Trip vs Public Safety Power Shutoffs (PSPS)

Pros

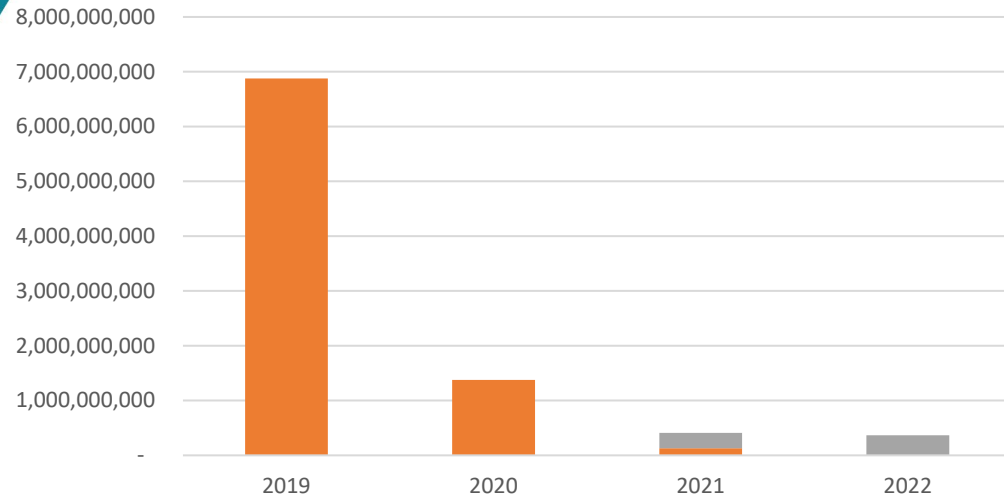
- Fast Trip outages are generally shorter than PSPS outages
- Fast Trip outages only occur when a fault is detected, leaving customers' power on until a problem occurs

Cons

- Some Fast Trip outages can still be very long, causing food loss and other hardship to customers
- Lack of notification of Fast Trip causes significant disruption
- Inability to prepare for a forecast outage as in a properly executed PSPS event

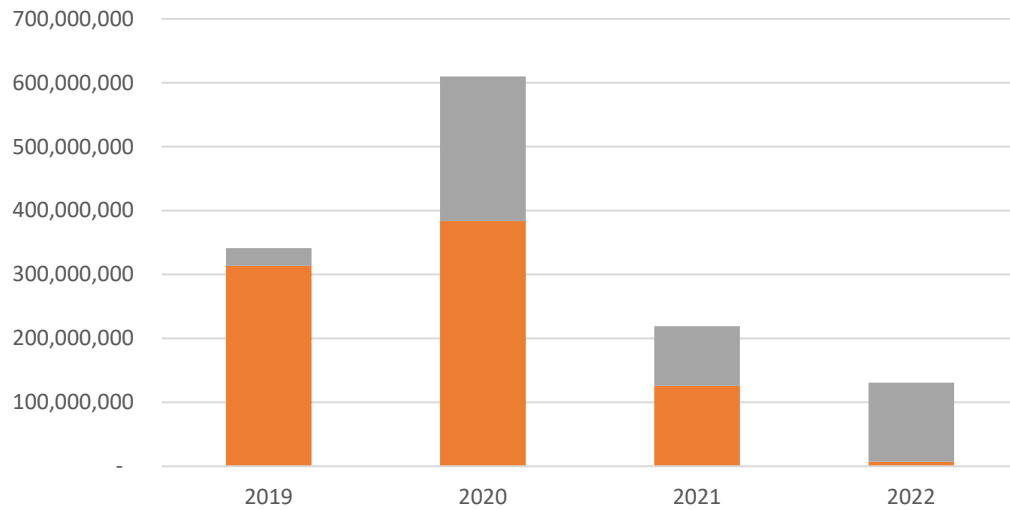
Customer Minutes Interrupted are Decreasing but...

PG&E CMI

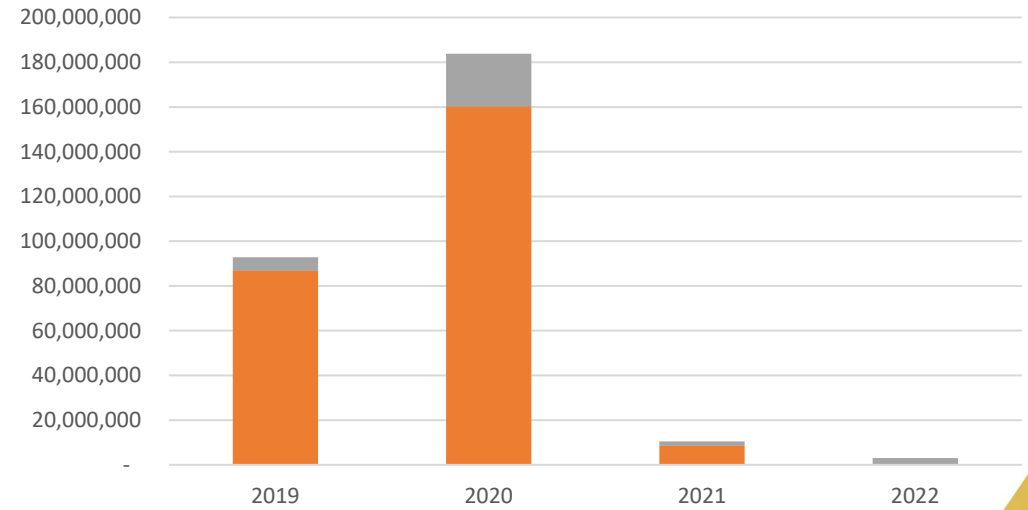


- Customer Minutes Interrupted by PSPS Outages
- Customer Minutes Interrupted by Fast Trip Outages

SCE CMI

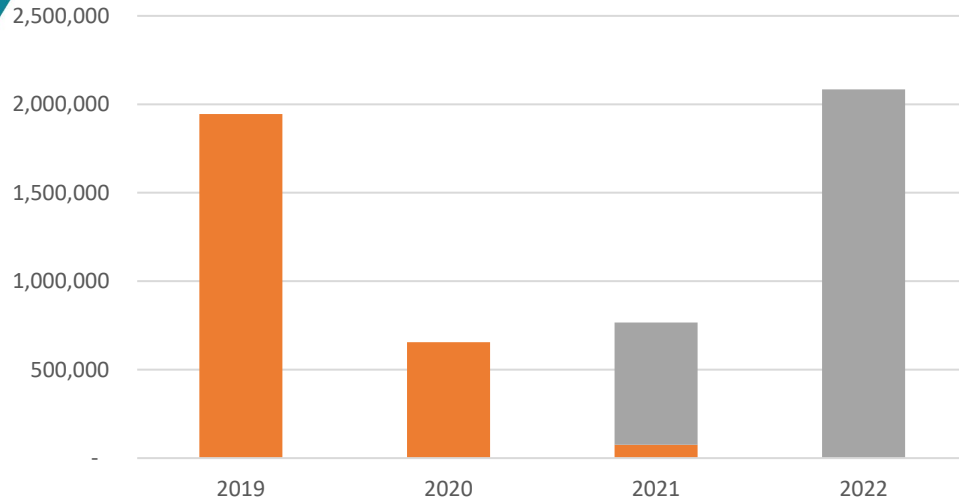




SDG&E CMI



PG&E and SCE Customers are Experiencing More Outages...

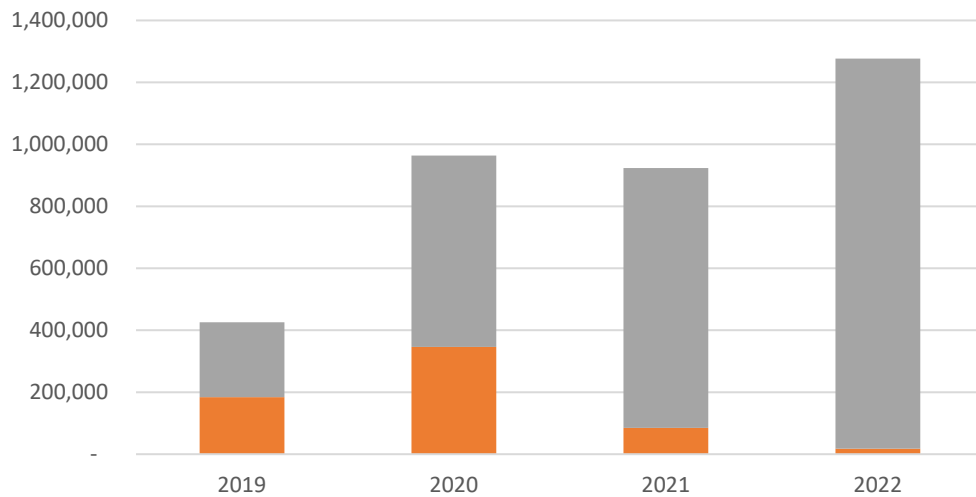
PG&E Customer Account Outages



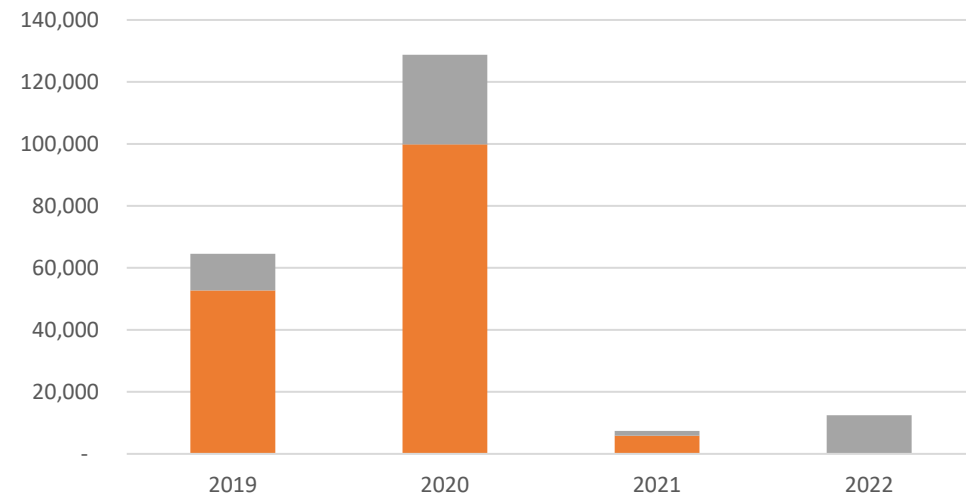
-  Customer Accounts affected by PPS outages*
-  Customer Accounts affected by Fast Trip outages*

*Tallied by all instances of loss of power due to PPS and Fast Trip. For example, if one customer account experienced two PPS events, this would count as two outages in the below graphs.

SCE Customer Account Outages

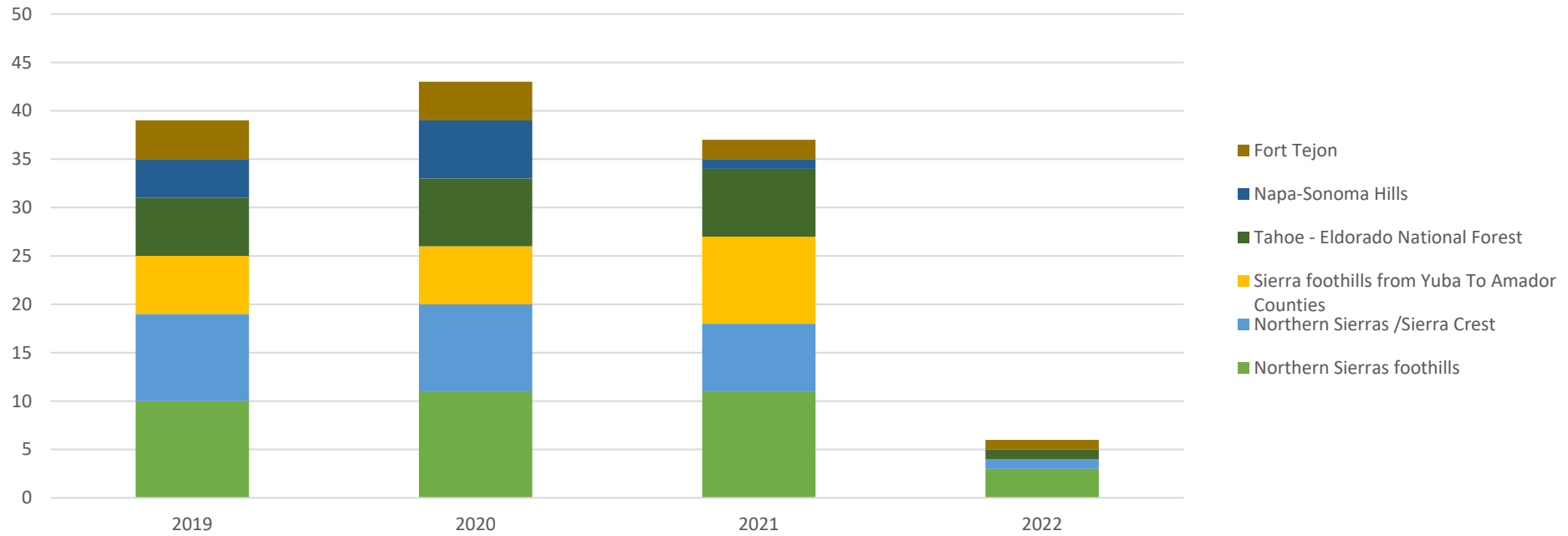


SDG&E Customer Account Outages

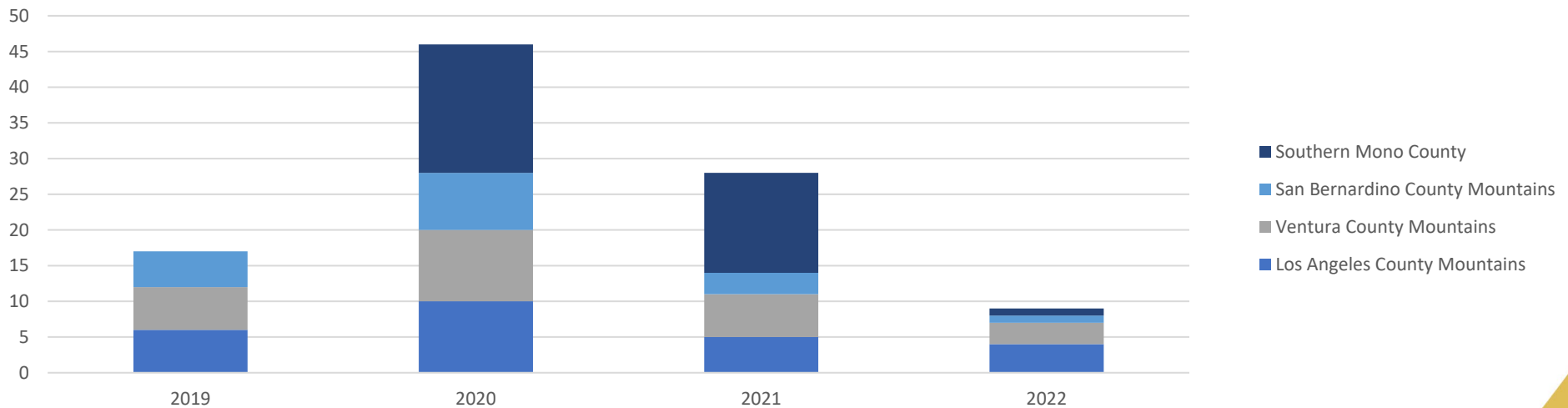


... Despite Fewer Red Flag Warnings in 2022

PG&E Red Flag Warnings



SCE Red Flag Warnings



Fewer ignitions come with greater reliability risks

Lower Ignitions Trend...



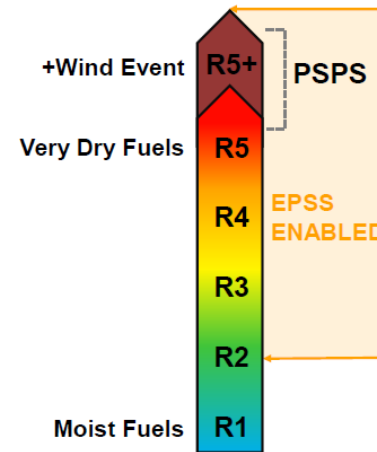
WILDFIRE RISK

31% more days with elevated wildfire risk in 2022 relative to 2018-2020³

WILDFIRE RISK REDUCTION

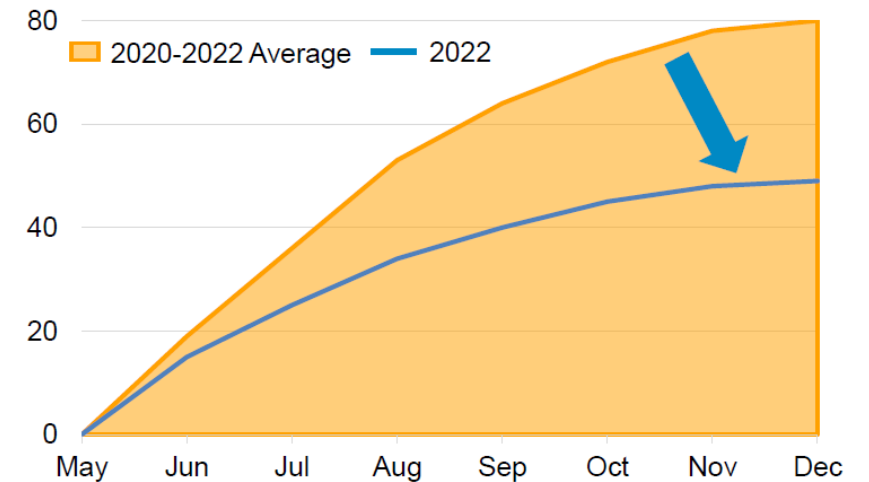
99% reduction in acres impacted in 2022 relative to 2018-2020³

Fire Potential Index¹



In 2012-2020, 95% of acres burned and 100% of structures burned occurred under R3 or greater conditions

2020-2022 Cumulative CPUC-Reportable² Ignitions in HFTD + HFRA



Presentation endnotes are included in Appendix 8.

...Shows EPSS Is Working

Restoration Time of Fast Trip Outages Remains an Issue for the Public

- A significant portion of customers experienced Fast Trip outages lasting over 4 hours, which causes food safety hazards according to the Center for Disease Control (CDC)

Utility	Total # of Fast Trip Outages	% of Fast Trip Outages Averaging >4 hours
PG&E	3,002 (2021-2022)	32%
SCE	2,072 (2018-2022)	18%
SDG&E	102 (2017-2022)	61%

Eat Safe Food after a Power Outage

Refrigerated or frozen foods may not be safe to eat after the loss of power. Find out what you can do to keep food safe during a power outage, and when you need to throw away food that could make you sick.

Before

Keep appliance thermometers in your refrigerator and freezer. The refrigerator should be at 40°F or below. The freezer should be at 0°F or below.

Prepare for emergencies or natural disasters

- Freeze containers of water and gel packs to help keep your food at 40°F or below.
- Have a cooler handy.
- Buy dry ice or block ice to keep food cold in the refrigerator if the power might be out for a long time.

During

KEEP Refrigerator & Freezer Doors CLOSED

- 4 Hours in a Refrigerator
- 48 Hours in a FULL Freezer
- 24 Hours in a HALF-FULL Freezer

After 4 hours without power, put refrigerated perishable foods in a cooler. Add ice or another cold source to keep them at 40°F or below.

After

Never taste food to determine if it is safe to eat. **When in doubt, throw it out.**

- Throw out perishable food in your refrigerator (meat, fish, cut fruits and vegetables, eggs, milk, and leftovers) after 4 hours without power or a cold source.
- Throw out any food with an unusual odor, color, or texture.
- Check temperatures of food kept in coolers or your refrigerator with a cold source. Throw out food above 40°F.
- If you have an appliance thermometer in your freezer, check to see if it is still at 40 °F or below.
- You can safely refreeze or cook thawed frozen food that still contains ice crystals or is at 40 °F or below.

www.cdc.gov/foodsafety

Key Issue: Lack of Communication and Notification

- PSPS Events (when conducted in compliance with Commission regulation) include multiple notifications informing customers of when an outage is likely to occur, giving time to prepare
- Fast Trip outages, while still Wildfire Prevention related shutoffs, are sudden by nature and do not allow time for customers to prepare
- SCE Received 643 complaints about its PSPS program in 2022: Of these complaints, 93% were categorized as “general dissatisfaction...including hardships such as food loss”
- It is clear from post-season PSPS surveys that customers acknowledge that the utility may shut off power in the interest of public safety. However, the ability to prepare is critical to the wellbeing of the public during an outage, especially Medical Baseline Customers.

Initial Policy Recommendations

- Immediate short term: Improve information sharing with customers in real time: "You may be more likely to experience a wildfire safety outage during the incoming weather event"
- The Commission should open a rulemaking or track within R.18-12-005 to examine how Fast Trip settings are deployed and how customer communications and outreach should be managed
- Fast Trip is approaching PSPS levels of customer impacts and should be subject to common sense regulation such as standardized Fast Trip outage reporting to the Commission (PG&E already submits monthly reports)
- If the IOUs are unable to restore power from a Fast Trip outage in 4 hours or less, they should be required to explain why (e.g., damaged conductor)

Further Questions to Explore

- How can impacts of more frequent outages be mitigated for Medical Baseline and Critical Care customers? Further, how can existing PSPS programs be used to help customers during Fast Trip outages?
- Where is the balance point between reliability and safety? How does that translate into Fast Trip settings?
- What grid hardening or other distribution grid technologies are available to limit the reliability impacts of Fast Trip? When and where will they be deployed?
- How are modeling and forecasting tools used to determine when and where fast trip settings are deployed? How are those models validated?
- Fast Trip deployment thresholds can be much lower than PSPS, but still result in customers experiencing a sudden outage: Are current settings too sensitive for the significant reliability impacts on customers?

Thank You!