

# Resiliency & Microgrids Working Group

Value of Resiliency – 4 Pillar Methodology:

Pillar 4 Resiliency Response Assessment and

presentation by Nevada County – Local Government Resilience Planning

Resiliency and Microgrids Team, Energy Division

July 1, 2021



California Public  
Utilities Commission

# WebEx and Call-In Information

## Join by Computer:

<https://cpuc.webex.com/cpuc/onstage/g.php?MTID=ebd3667525d63c6211abae5b5a3600885>

Event Password: RMWG (case sensitive)

Meeting Number: 187 632 7653

## Join by Phone:

- Please register using WebEx link to view phone number.

(Staff recommends using your computer's audio if possible.)

## Notes:

- Today's presentations are available in the meeting invite (follow link above) and will be available shortly after the meeting on <https://www.cpuc.ca.gov/resiliencyandmicrogrids>.
- The meeting presentations by Nevada County will be recorded. There will not be meeting minutes.

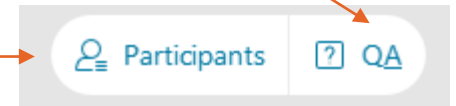
# WebEx Logistics

- All attendees are muted on entry by default.
- Questions can be asked verbally during Q&A segments using the “raise hand” function.
  - The host will unmute you during Q&A portions [and you will have a maximum of 2 minutes to ask your question].
  - Please lower your hand after you’ve asked your question by clicking on the “raise hand” again.
  - If you have another question, please “re-raise your hand” by clicking on the “raise hand” button twice.
- Questions can also be written in the Q&A box and will be answered verbally during Q&A segments.

## WebEx Tip

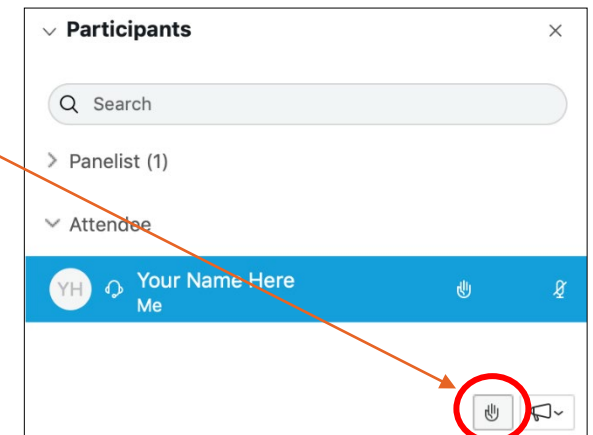
**1. Click here to access the attendee list to raise and lower your hand.**

**Access the written Q&A panel here**

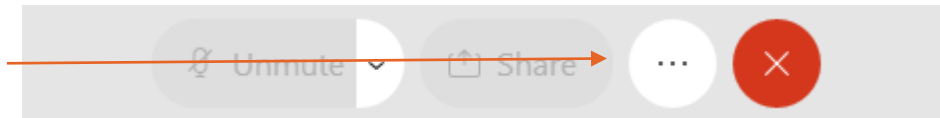


**2. Raise your hand by clicking the hand icon.**

**3. Lower it by clicking again.**



**Access your meeting audio settings here**



# WebEx Event Materials

## Event Information: Resiliency and Microgrids Working Group Meeting

Registration is required to join this event. If you have not registered, please do so now.


[English](#) : [San Francisco Time](#)

**Event status:** Not started ([Register](#))

**Date and time:** Tuesday, March 2, 2021 9:30 am  
Pacific Standard Time (San Francisco, GMT-08:00)  
[Change time zone](#)

**Duration:** 1 hour

**Description:**



**Event material:** [RMWG Meeting Material\\_EXAMPLE.docx](#) (31.7 KB)

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# Preliminary Resiliency & Microgrids Working Group Schedule

Month	Resiliency and Microgrids Working Group Topics			
February	Standby Charges	Multi-Property Microgrid Tariff		
March				
April				
May				
June			Value of Resiliency	
July				
August				Microgrid Interconnection
September				
October				
November				
December	Customer-Facing Microgrid Tariff Revisit			
January				
February				

**Value of Resiliency:** Working group participants to discuss resiliency valuation through an all-hazard approach to disruptions and mitigations by examining metrics, methodologies, and policy applications.

# Agenda

- |   |  |
|---|--|
| <b>I. Introduction</b> <i>(CPUC Staff)</i> <ul style="list-style-type: none"><li>• WebEx logistics, agenda review</li></ul>   | <b>2:00p – 2:05p</b>                         |
| <b>II. Value of Resiliency – Pillar 4 – Resiliency Response Assessment</b> <ul style="list-style-type: none"><li>• <b>Q &amp; A and Discussion</b></li></ul>  | <b>2:05p – 2:35p</b><br><b>2:35p – 2:45p</b> |
| <b>III. Nevada County Resilience Planning</b> <ul style="list-style-type: none"><li>• Paul Cummings, Nevada County<br/>Program Manager Office of Emergency Services</li><li>• <b>Q&amp;A and Discussion</b></li></ul> | <b>2:45p – 3:30p</b><br><b>3:30p – 3:45p</b> |
| <b>IV. Additional Q&amp;A and Discussion</b>  | <b>3:45p – 3:55p</b>                         |
| <b>V. Closing Remarks, Adjourn</b> <ul style="list-style-type: none"><li>• Provide information on the next meeting</li></ul>  | <b>3:55p – 4:00p</b>                         |

# The Problem to Solve: How can we optimize grid investments to maximize resiliency?

## 4 Pillars of Resiliency Valuation

### I. Baseline Assessment

- I. What do we want to protect and where is it?
- II. What threatens it?
- III. How well are we doing now to protect it?

### II. Mitigation Measure Assessment

- II. What protection options do we have?
- III. What does the best job at protecting the most?
- IV. What does it cost?

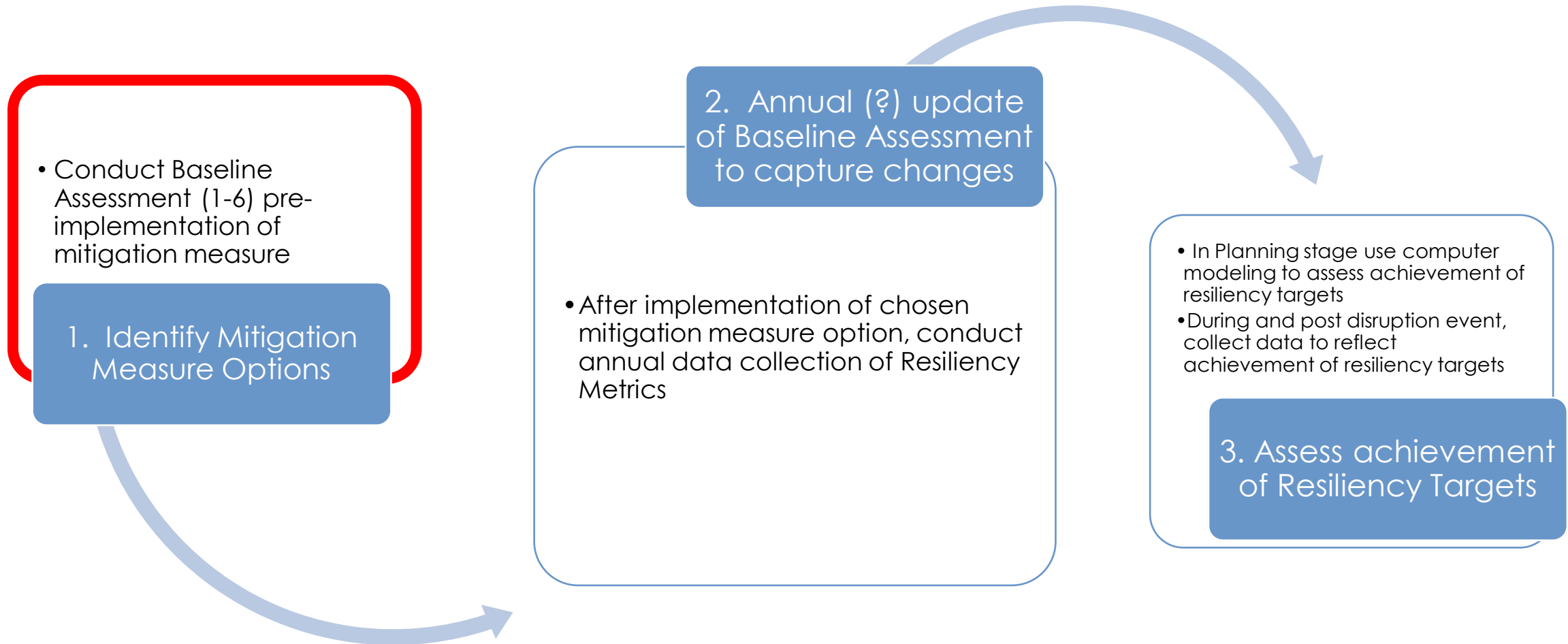
### III. Resiliency Scorecard – scoring resiliency configuration characteristics

### IV. Resiliency Response Assessment (post-disruption or modeling) –

- II. How well did the investments do in reaching resiliency targets?
- III. Did the investments reduce impacts on the community?

# Resiliency Valuation Methodology

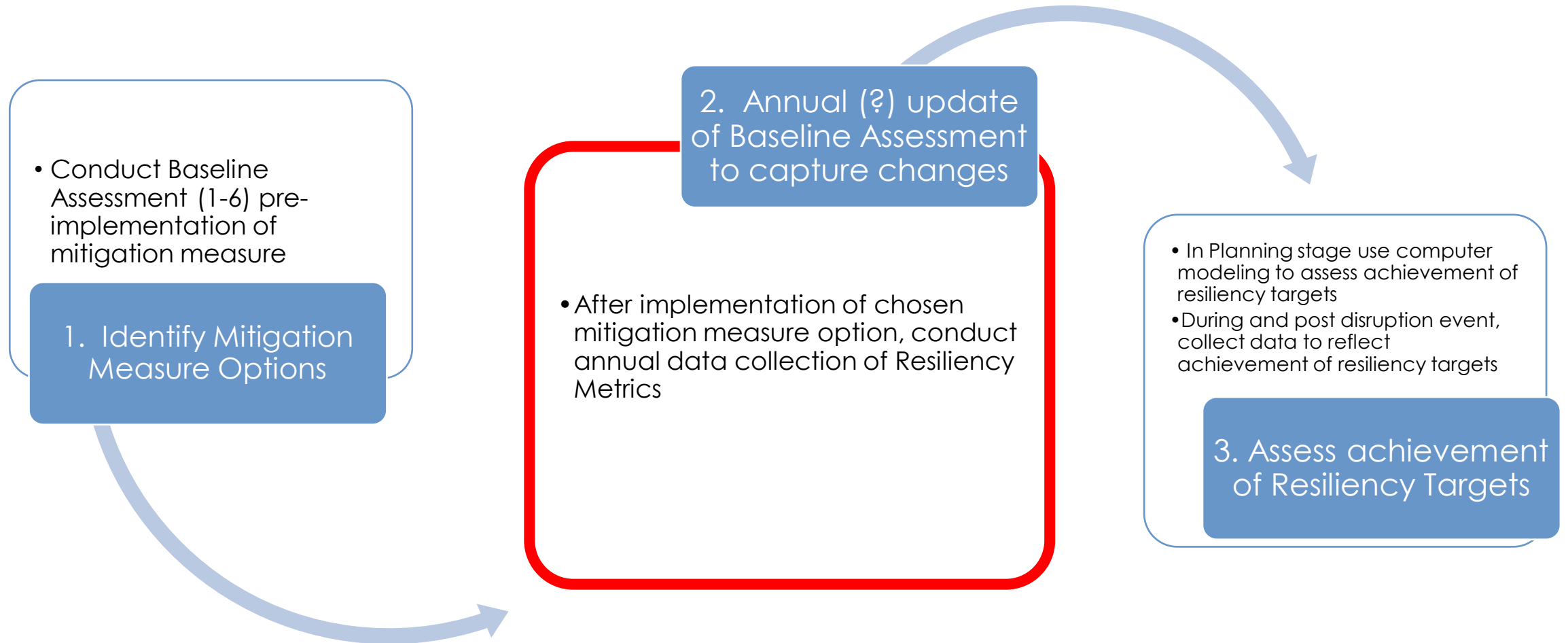
## IV. Resiliency Response Assessment





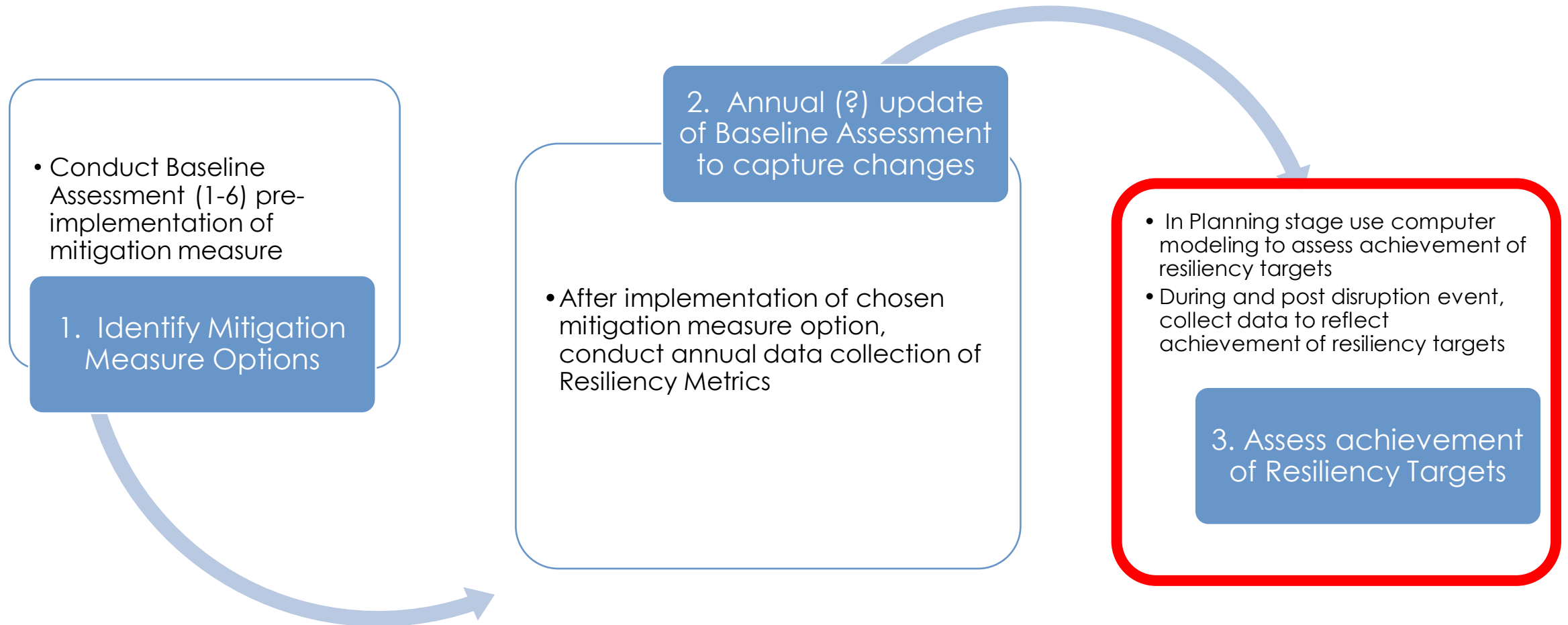
# Resiliency Valuation Methodology

## IV. Resiliency Response Assessment



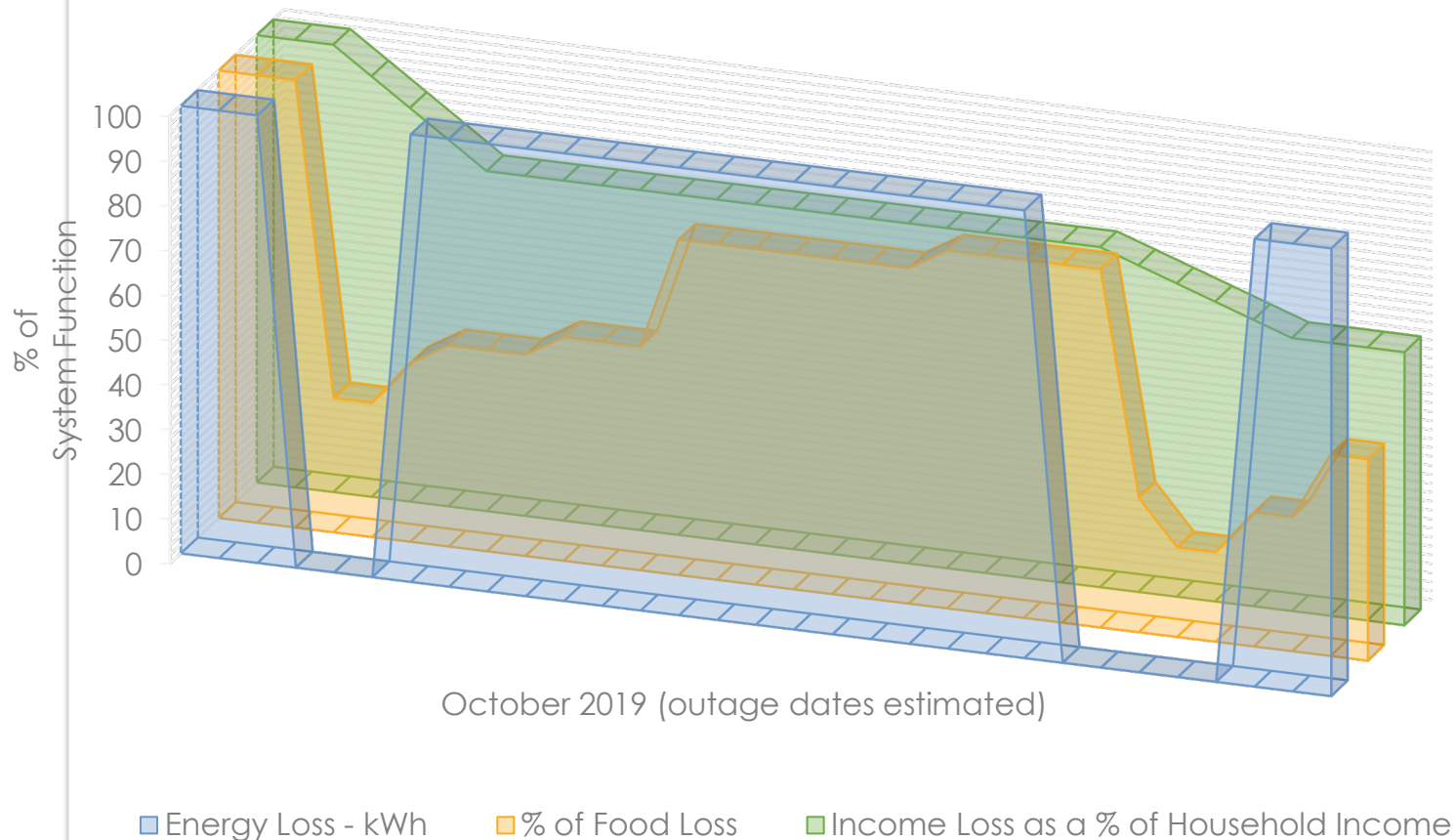
# Resiliency Valuation Methodology

## IV. Resiliency Response Assessment



# Resiliency Measures to Reflect Accumulated Impacts

## Energy loss/Food Loss/Income Loss

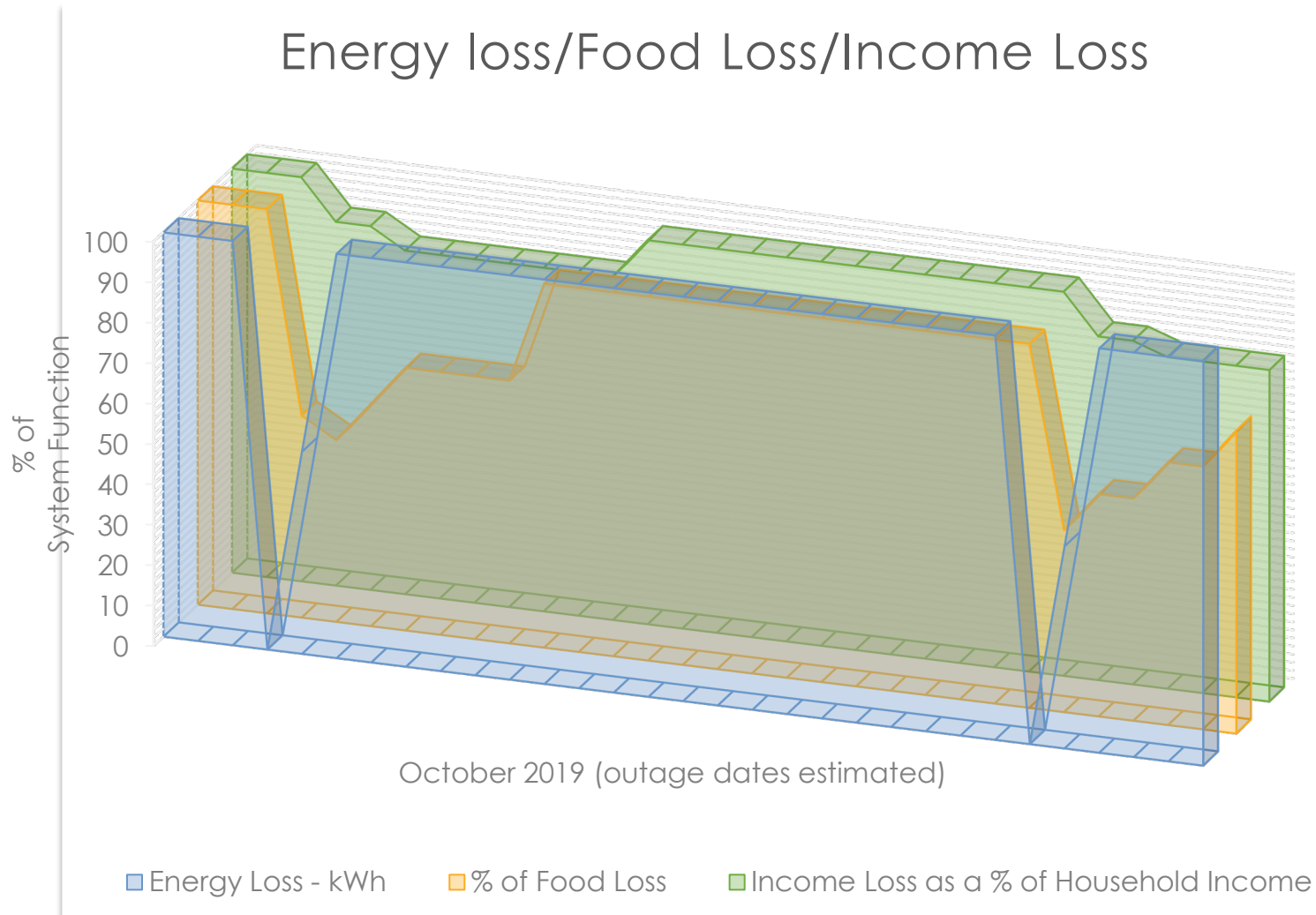


### Case study:

- PG&E turned off power to Ana Patricia Rios' neighborhood in Sonoma County for eight days in October -- **three at the beginning of the month and five near the end.**
- She threw out at least **\$500** worth of meat, fruit, vegetables, salsas and other food that would have supplied her family with months of meals.
- Similar losses occurred throughout Rios' wooded, hilly neighborhood, which is mostly home to Hispanic families. Many are **vineyard and hospitality workers, and sometimes several families share a house.**
- Rios family brings in about **\$3,500 each month** -- \$1,000 above the federal poverty level for a family of five.
- Rios **missed eight days of work due to the outages.**
- Her husband **lost four days of work** because of the smoke from the Kincade Fire 40 miles north
- Rios family has **relied heavily on food bank distributions to feed the family since.**

Jackie Botts, CalMatters, <https://www.davisenterprise.com/news/local/state-government/we-need-the-food-that-we-lost/>

# Resiliency Measures to Reflect Accumulated Impacts



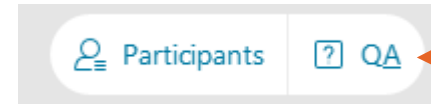
## AFTER Mitigation Measures:

- PG&E implemented Resilience Mitigation Measures that **reduced the duration of the power outage** in their neighborhood and **allowed nearby grocery stores to provide ice** for the community.
- While Ana Patricia Rios' neighborhood still lost power, **it was restored more quickly after 1 ½ days**
- Ana Patricia Rios' **workplace was able to stay powered**, allowing her and her husband to **maintain their income** during the outage.
- While still having to throw out at least **\$250** worth of food, maintaining their income meant they could replace their food losses more quickly.
- **A second outage** at the end of the month resulted in again losing some food supplies, but again they were able to **recoup their losses more quickly** because they did not lose work and nearby ice supplies were again available.

# Discussion and Q&A

## WebEx Tip

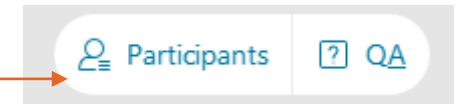
Option 1:



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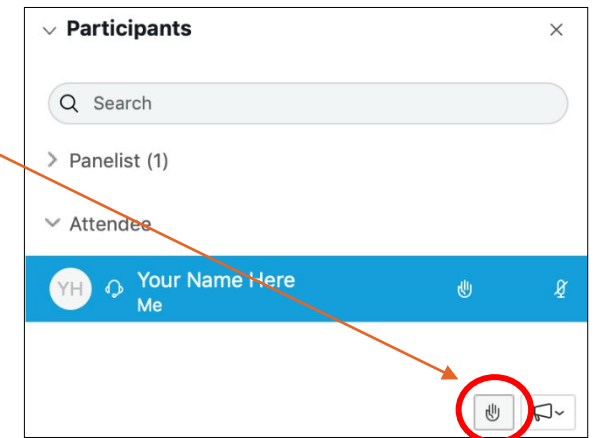
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# PSPS Effects on Nevada County

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OFFICE OF EMERGENCY SERVICES PROGRAM MANAGER PAUL CUMMINGS

**July 1, 2021**

# 2020 Board Wildfire & PSPS Objectives



**2020 BOS Wildfire Objective:** Reduce the loss of life during a wildfire by improving evacuation routes and early warning systems; creating more defensible space around private properties and driveways, building a network of maintained fuel breaks, engaging residents in emergency preparedness and fire-safe stewardship, and enhancing critical infrastructure.

**2020 BOS PSPS Objective:** Provide community leadership to prepare for and minimize the impacts of Public Safety Power Shutoff (PSPS) events on residents and local businesses by providing timely and accurate public information, prioritizing and advocating for the hardening of critical public safety and telecommunications infrastructure, and assisting people with disabilities and older adults.

# Major Nevada County Utilities



## Western Nevada County:

- Pacific Gas & Electric (PG&E)



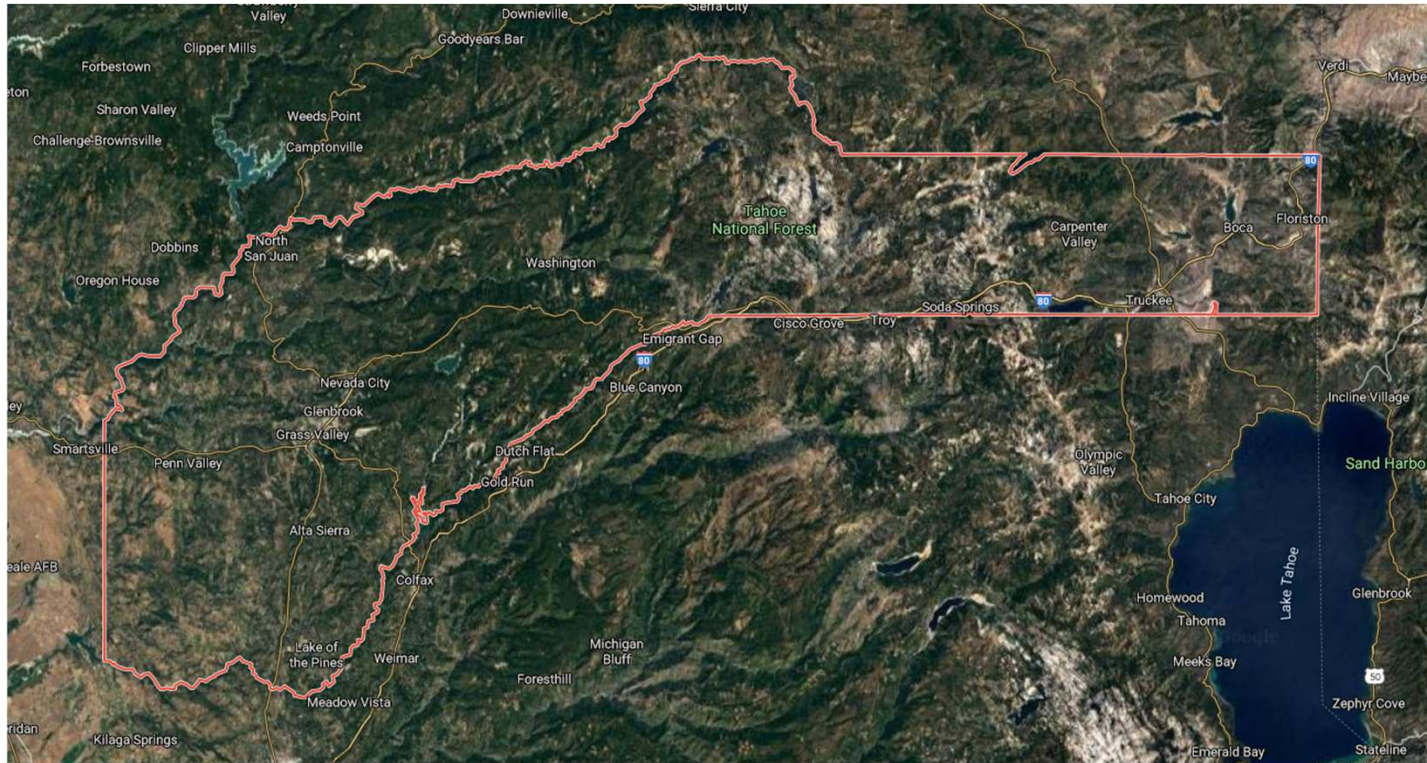
## Eastern Nevada County:

- NV Energy (Nevada)
- Liberty Utility
- Truckee Donner

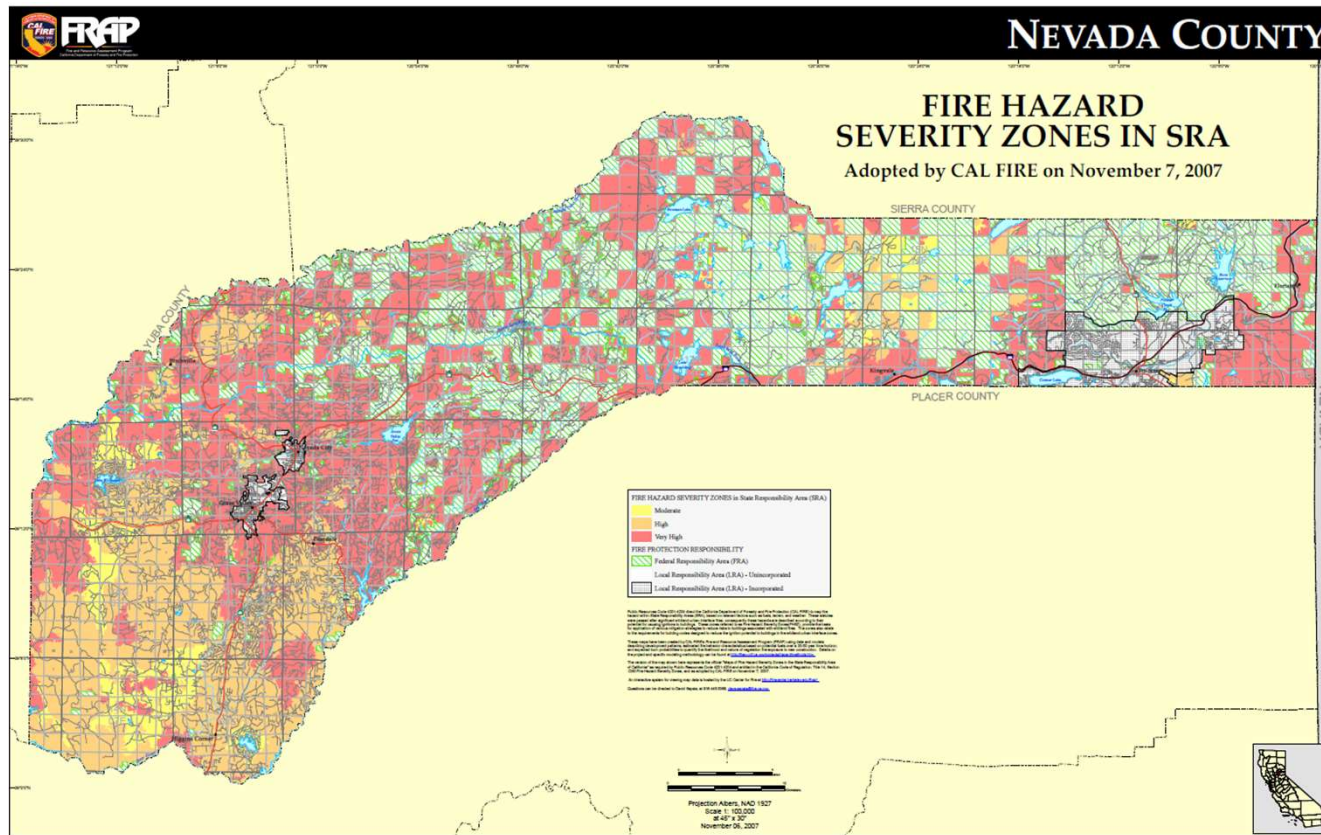




# Nevada County Map



# Nevada County Fire Risk Map





# Major Threats to Nevada County Residents

- Wildfire
- Heat Events
- PSPS
- Flood (Numerous Rivers, lakes and Dams)





Photo by The Union



Photo by The Union



Photo by The Union



Photo by The Union



Photo by The Union



Photo by The Union



Photo by The Union





## 2020 OES PSPS Initiatives

- Provide Nevada County with timely and accurate Public Safety Power Shutoff Information.
- Build resilience amongst residents and infrastructure in the face of recurring Public Safety Power Shutoffs.



# Summary of Challenges



- # of events; how many will we face? What criteria are the utilities using?
- Timing; when does the PSPS season start and when will it end?
- Customer count; difficult to forecast how many customers may potentially be affected by a multi-day outage, this makes planning hard.
- Telecoms; already a challenge in Nevada County. Need to have clear dialogue with telecommunication providers around PSPS.

# Summary of Challenges continued



- Resource scarcity; multiple utilities need a cooperative plan that deconflicts the demand for resources like helicopters for reenergization, generators for micro-grids, line inspectors etc.
- Re-energization; depending on utility target timeframe for re-energization once given the all clear can change.
- CRC's; utilities should be responsible for identifying, opening and maintaining Community Resource Centers (CRC's). The County occasionally needs to augment with its own CRC's. These centers are critical nodes for information, device charging and durable medical equipment charging. Consider location, hours, accessibility.



## Summary of Challenges continued

- Micro Grids; How and which utilities will be responsible for providing micro-grids and critical infrastructure generation?
- People with disabilities and older adults; how will these populations be considered during these events? (Transportation, housing, Durable Medical equipment) These populations bear the brunt of most disasters including long duration power outages.
- Public Messaging; we must follow the utilities lead. This can be hampered by the outage

# 2019 PSPS Events



Date	Customers Impacted	Medical Baseline Customers	EOC Activated	Length of Outage
9/24/2019	48,000	--	Yes	36 hours
10/9/2019	43,217	1,816	Yes	--
10/23/2019	37,000	1,630	Yes	--
10/29/2019	28,210	1,217	Yes	--

# 2020 PSPS Events



Date	Customers Impacted	Medical Baseline Customers	EOC Activated	Length of Outage
9/8/2020	23,312	1,224	Yes	48 hours
9/27/2020	2,887	166	Yes	26 hours
10/14/2020	224	6	No	48 hours
10/25/2020	40,246	581	Yes	~70 hours



# Major Accomplishments

- Most of Grass Valley & Nevada City remained energized during the 2020 PSPS Season
- Board, CEO and OES worked with PG&E to increase hazardous vegetation reduction and system hardening
- Partnered with non-profits like FREED to mitigate impacts on vulnerable residents



## Major Accomplishments (cont)

- Drew in County telecom providers like Verizon, AT&T and Comcast, encouraging them to harden their infrastructure against PSPS
- OES advocated to California's Joint Legislative Committee on Emergency Management around PSPS and its impact on rural communities
- \$500,000 in Rule 20A credits transferred to Nevada City, allowing the \$1.2 million undergrounding project to proceed



## Major Accomplishments (cont)

- County of Nevada in the process of installing generators at ERAC with CAL OES PSPS grant
- OES partnered with Briar Patch to create a “No Power Pantry” preparedness video
- OES led stakeholders in advocating for Nevada County during three PG&E “Listening Sessions”



# Questions?

[Paul.Cummings@Co.Nevada.CA.US](mailto:Paul.Cummings@Co.Nevada.CA.US)



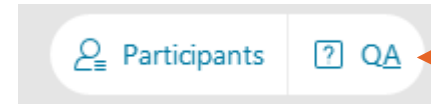
# Next Steps: Applying the Methodology to Evaluate Resiliency

- Application --
  - ❖ What tools currently exist or are in development that can be applied?
  - ❖ Should the Commission undertake an initiative to apply this methodology to processes?
- Equity --
  - ❖ How can we ensure these metrics are not biased and are focused on equity?
  - ❖ How can metrics like median income and percentage of median income be used to more realistically inform understanding of the accumulations of risk and impacts?
  - ❖ How can we use data and metrics to ensure we are focusing on communities in need and valuing resiliency measures in a way that promotes them in DAC?
- Policy --
  - ❖ Are public, ratepayer benefits accrued when providing backup to customers when the grid is de-energized?
  - ❖ Who should get to make the decision on what to pay on behalf of whom?
  - ❖ Who is exercising that subjective value judgment? CPUC? Individual households? Local governments?

# Discussion and Q&A

## WebEx Tip

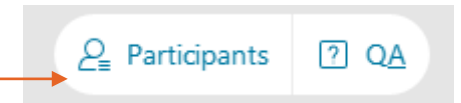
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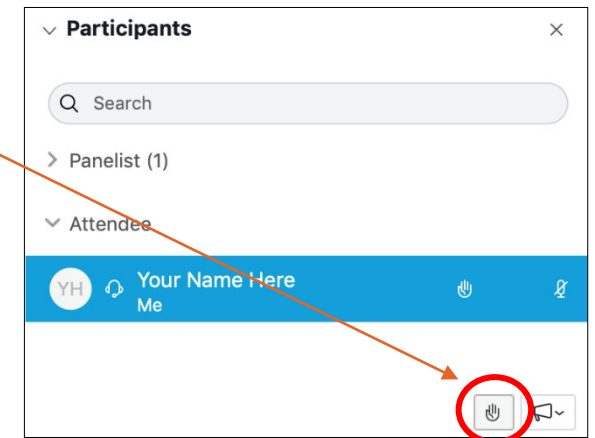
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# Upcoming Meetings

- **Thursday, July 15, 2021, 2-4PM**  
Topic: Value of Resiliency – Tribal Resiliency Planning Perspective;  
additional presentations TBD
- **Thursday, July 29, 2021, 2-4PM**  
Topic: Value of Resiliency – Where do we go from here?;  
additional presentations TBD



# California Public Utilities Commission

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<https://www.cpuc.ca.gov/resiliencyandmicrogrids/>