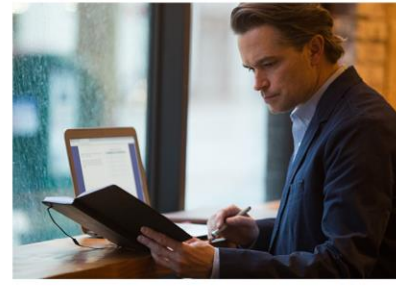


# Community Benefits & Impacts Advisory Group

## Resilience and Wildfire

Eighteenth CBIAG Meeting  
April 18, 2024



## For a Better Meeting Experience



- Let us know who is in the room by adding your organization (if applicable)
- Click “Participants” and select the “Rename” option
- Use Gallery View (icon at top right) when in group discussion



- Navigate to "Interpretation" at the bottom of Zoom
- Select "ASL" under Watch or "Spanish" under Audio
- If the interpretation icon is missing, try the "More" icon
- For technical support, chat “Tag G-D/ E Source” as recipient, and send your message



- Questions are welcome at any time
- Please mute until speaking
- Speak by clicking the "Raise Hand" in the tool bar

# Resilience and Wildfire

April 18, 2024, 1:00 - 4:00 p.m. PT

## Agenda

TIMING	TOPIC
1:00pm	Objectives & Presenters
1:10pm	Check In
1:30pm	CBIs   Resilience
1:45pm	CBRE Intersectionality
2:00pm	Break
2:45pm	Wildfire Mitigation
3:00pm	Public Comment and Closing

# Collaborators



**Christina Medina**  
Stakeholder Policy &  
Engagement Manager



**Ryan Harvey**  
Community Renewables  
Program Manager



**Kevin Benson**  
PacifiCorp Director of  
Risk Assessment



**Lee Elder**  
Load Forecasting  
Manager, Load &  
Revenue Forecasting



**Tyler Averyt**  
Emergency Management  
Program Manager



 **E Source**  
**Jeffrey Daigle**  
E Source Facilitator



 **E Source**  
**Morgan Westberry**  
E Source Facilitator

# Community Benefits & Impacts Advisory Group (CBIAG)

## Purpose:

Focus on equity and a clean  
energy future in Oregon in  
accordance with HB 2021

## Today's Objectives

1. Provide an update on the feedback from March's meeting
2. Introduce Resilience as the core Community Benefit Indicator for April
3. Discuss Community Based Renewable Energy Intersectionality
4. Learn about wildfire risks and safety practices

What is one area that you or your organization needs the most support with right now?

# Reflecting on the March Meeting

## Our goals:

1. Review the Health and Community Well-being CBI and discuss how they will appear in the Biennial Report.
2. Learn more about a potential CBRE Pilot and provide feedback on what members would like to see included
3. Learn about the Oregon Low Income Bill Discount and provide feedback on proposed actions Pacific Power is taking to increase enrollment

CBIAG Attendees	
Cassidy Attleson	ACCESS
Christina Zamora	KCLAS
Erubiel Valladares	Rural Development Initiative (RDI)
Jennifer Gustafson	AllCare Health
Shaun Pritchard	United Community Action Network
Sherrie Villmark	Community Energy Project
Tim Lynch	Multnomah County

## Main Themes:

- Resurfacing key items of importance as indicated by the CBIAG. A recurring concern has been energy management: wildfire preparation & emergency shutoffs
- Reviewing the information included in the Clean Energy Plan biennial report, specifically outlining the 4 steps CBI development workflow
- Discussing the disconnection policies and moratoriums in comparison to pre-COVID 19, COVID-19 and post-COVID 19
- Low-Income Bill Discount Program survey updates
- Introducing CBRE Pilot, CBRE-RH, focused on solar and storage for critical emergency facilities identified by communities

# Meeting Structure

In 2024, we will be following a similar agenda each month as we collaborate on the CBIAG Biennial Report.

Act 1

Welcome,  
introductions, and  
Regional Lenses

CBIAG Biennial Report  
Topic

Act 2

Pacific Power Updates

Public comment and  
next steps

# ACT 1



# CBIs | Resilience

# Interim Resilience Community Benefit Indicator Definition

Community Benefit Indicators (CBIs) are the desired outcome that utility actions could either incentivize, influence, or cause. Each CBI identifies a desired outcome, while metrics allow for PacifiCorp to monitor progress at achieving these outcomes.

## **Interim Resilience Community Benefit Indicators:**

- Improve Resiliency of Vulnerable Communities During Energy Outages
- Reduce Frequency and Duration of Energy Outages

## **Resilience Metrics:**

- SAIDI, SAIFI, CAIDI at area level including major events
- Energy Not Served (ENS) for IRP portfolios are included as an output from portfolio development

# Resilience

# What are Resilience & Reliability?

They mean keeping the power on day-to-day and during extreme events

## **Resilience**

*the capacity to withstand or to recover quickly from difficulties; toughness.*

Resilience in energy:  
preparedness of the system  
and its ability to cope with  
various hazards that can  
disrupt electricity.

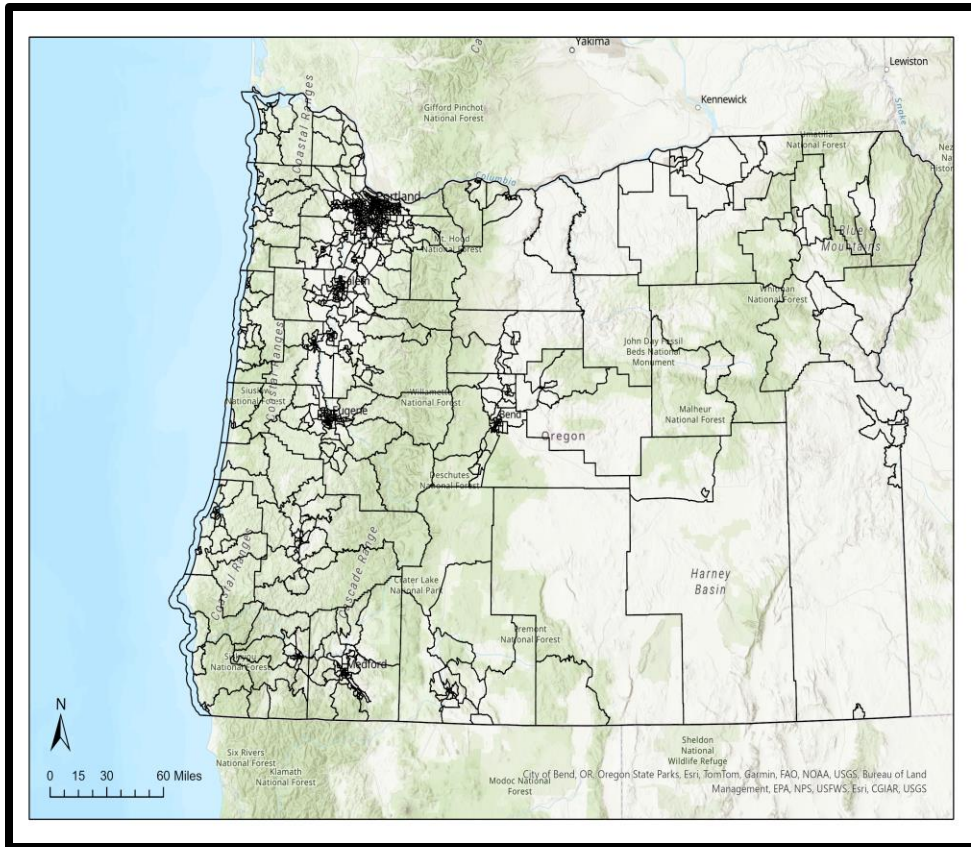
## **Reliability**

*the quality of being trustworthy or  
of performing consistently well*

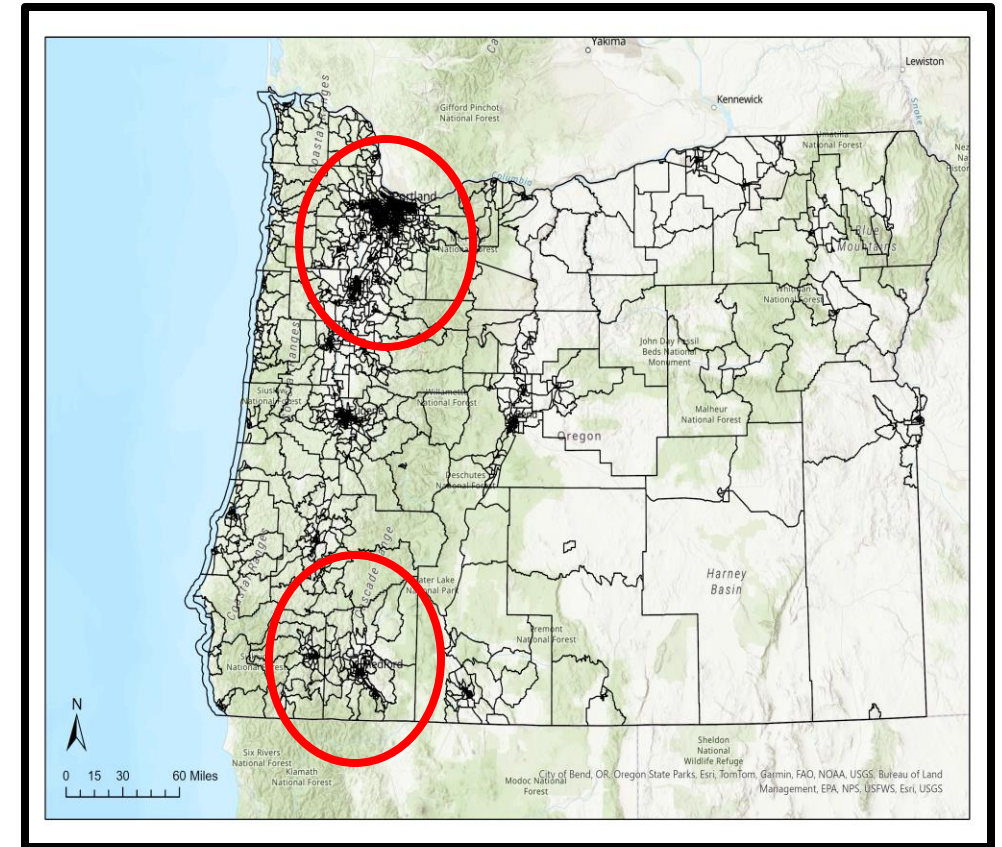
Reliability in energy:  
availability of the electric  
system when it is needed.

# Score Spatial Scale – Census Block Groups

2020 Census Tracts – 1,001



2020 Census Blocks – 2,970



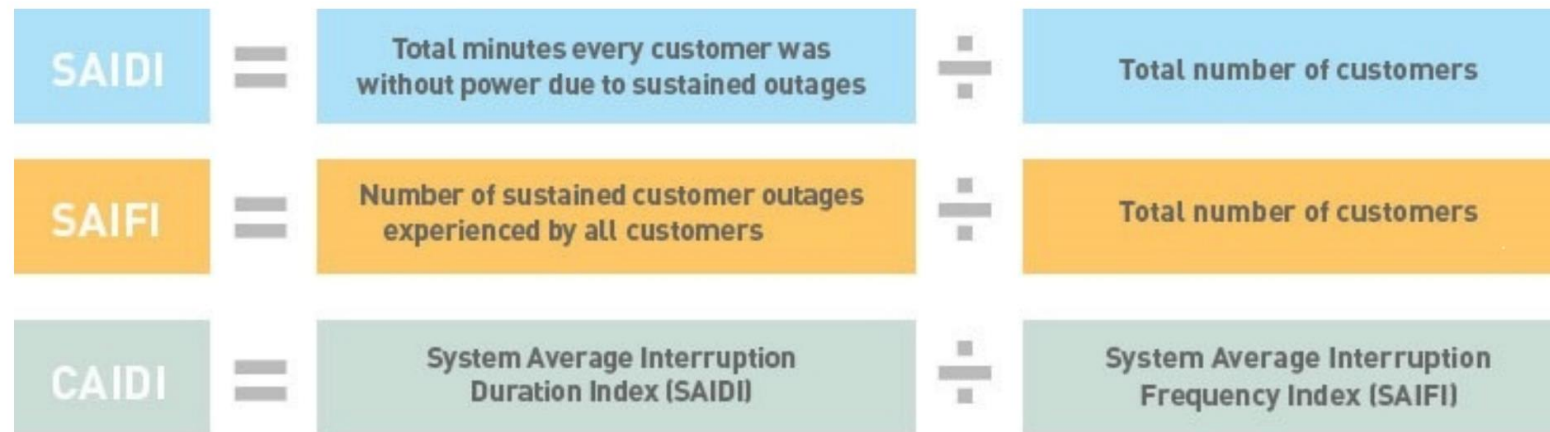
Census Block Groups are the **smallest** geographic unit provided by the Census Bureau.

# Utility-Specific Data per Census Block Group

**Overview:** Review reliability metrics used in the analysis

## □ Reliability Data (all-inclusive – MEDs and no MEDs):

- **CAIDI** = Customer Average Interruption Duration Index
- **SAIDI** = System Average Interruption Duration Index
- **SAIFI** = System Average Interruption Frequency Index



\* Note: MED = Major Event Day.

# Socioeconomic Data per Census Block Group

Public - Socioeconomic

**Objective:** Review the utility-driven resiliency scores calculated for Oregon by Asset Risk (*e.g.* variables, weights, and so on).

- This analysis is *high-level* only and the results do not indicate causation at this point. The results only show patterns in the state of Oregon.

## Socioeconomic Data (not all-inclusive – full list available on next slide):

- Age Breakdown
- Not in Labor Force (Unemployed)
- Households with at least 1 Disability
- Households with Limited English
- Households with No Vehicle



# Utility-Community Resilience Scoring

Utility-Data - Reliability

Public - Socioeconomic

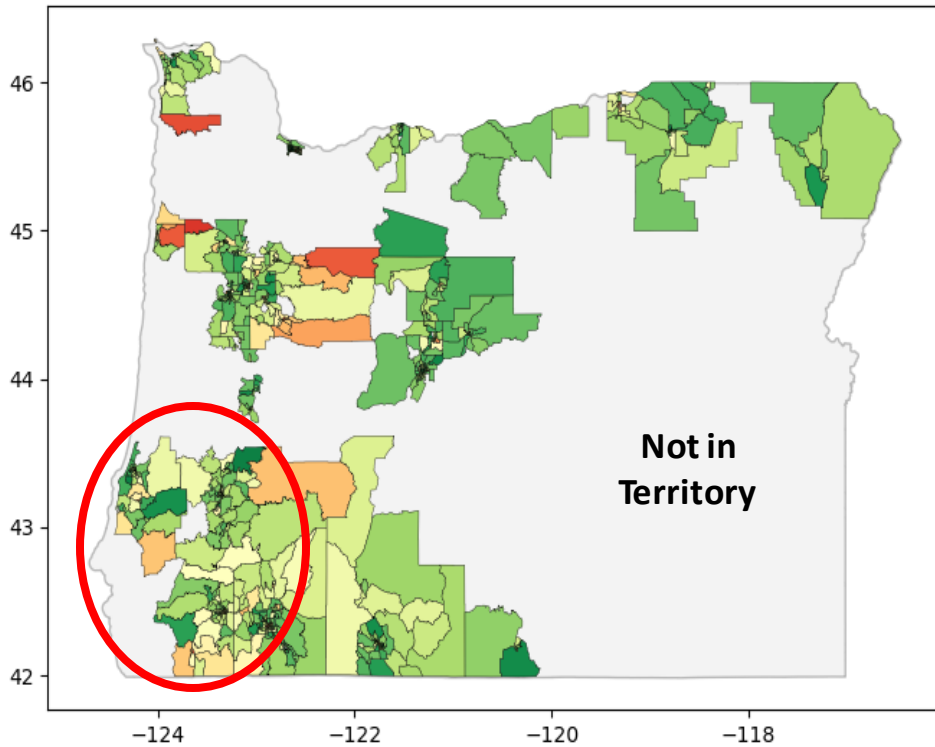
**Objective:** Review all variables used in the scoring.

Column Name:	Geographic Unit:	Unit:	Description:	Category:	Weight:
CAIDI (with/without MEDs)	2020 Census Block Group	Minutes	Customer Average Interruption Duration Index	Utility-Specific - Reliability	10.0%
SAIDI (with/without MEDs)	2020 Census Block Group	Minutes	System Average Interruption Duration Index	Utility-Specific - Reliability	10.0%
SAIFI (with/without MEDs)	2020 Census Block Group	Frequency	System Average Interruption Frequency Index	Utility-Specific - Reliability	10.0%
Critical Customers	2020 Census Block Group	Count	Number of Critical Customers per Census Block	Utility-Specific - Criticality	10.0%
Critical Facilities*	2020 Census Block Group	Count	Number of Critical Facilities per Census Block	Utility-Specific - Criticality	10.0%
B01001_003E	2020 Census Block Group	Estimated Total	Males Under 5 Years Old	Public - Age	3.0%
B01001_027E	2020 Census Block Group	Estimated Total	Females Under 5 Years Old	Public - Age	3.0%
Combination of Columns	2020 Census Block Group	Estimated Total	Males Over 65 Years Old	Public - Age	3.0%
Combination of Columns	2020 Census Block Group	Estimated Total	Females Over 65 Years Old	Public - Age	3.0%
B17010_002E	2020 Census Block Group	Estimated Total	Households With Income Below Poverty Line Past 12 Months	Public - Poverty	5.0%
B23025_007E	2020 Census Block Group	Estimated Total	Not in Labor Force (Unemployed)	Public - Employment	5.0%
B22010_002EA	2020 Census Block Group	Estimated Total	Households Receive Food Stamps/SNAP Past 12 Months	Public - Food/Disability	5.0%
B22010_003E	2020 Census Block Group	Estimated Total	Households With 1 Or More Persons With a Disability	Public - Food/Disability	5.0%
Combination of Columns	2020 Census Block Group	Estimated Total	No Health Insurance Coverage	Public - Health Insurance	5.0%
C16002_004E	2020 Census Block Group	Estimated Total	Limited English Speaking Household	Public - Communication	5.0%
B25044_003E	2020 Census Block Group	Estimated Total	Households With No Vehicle Available	Public - Transportation	5.0%
B25047_003E	2020 Census Block Group	Estimated Total	Households Lacking Complete Plumbing Facilities	Public - Living	3.0%
<b>Total Weight:</b>					<b>100.0%</b>

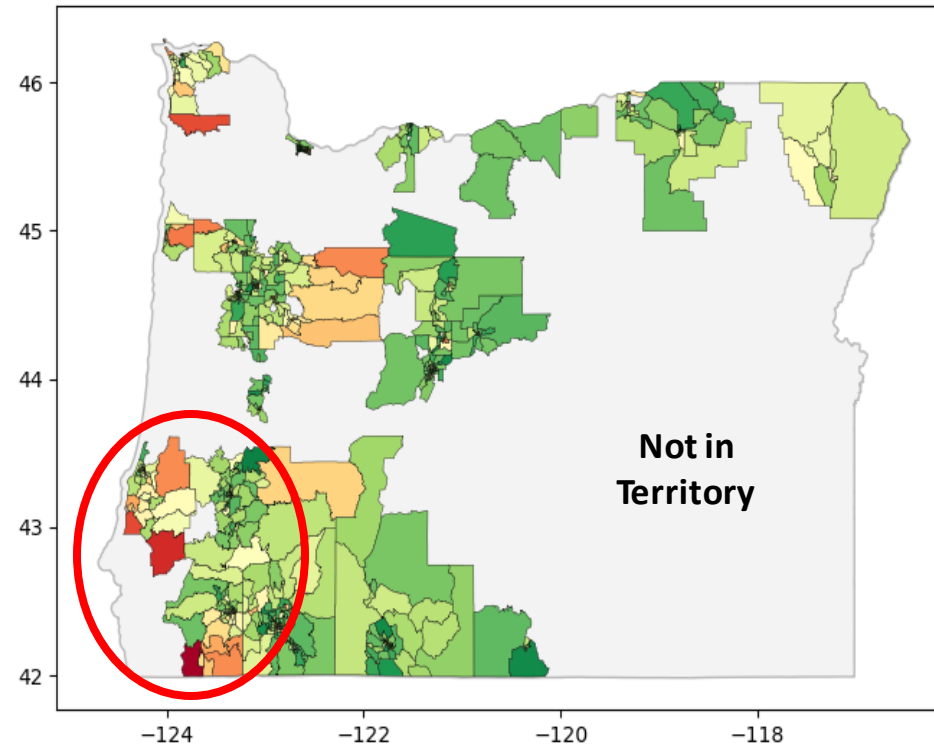


# Scores in Oregon – Updated Methodology

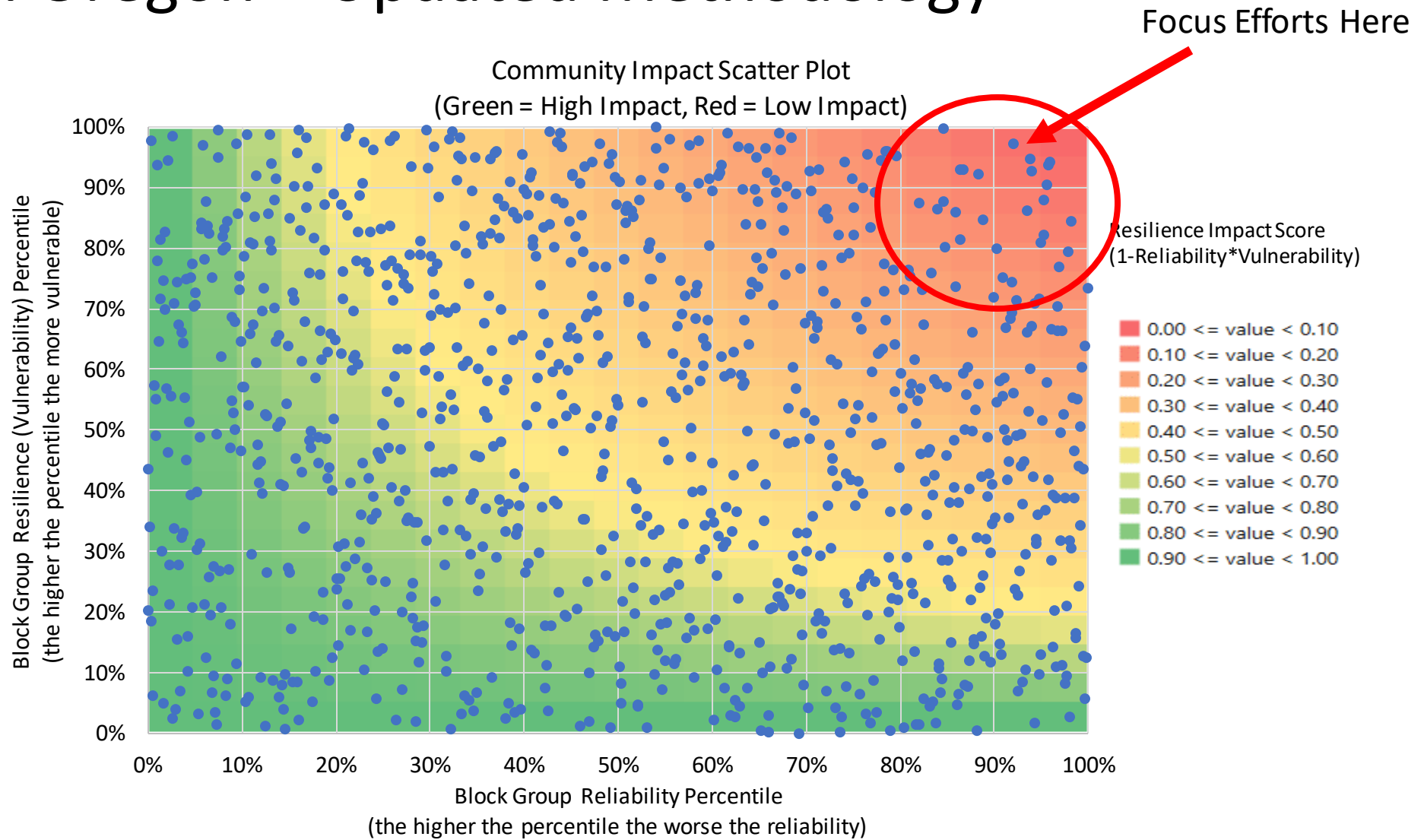
Original with No-MEDs Resilience Score



Original with MEDs Resilience Score



# Scores in Oregon – Updated Methodology



# Resilience Summary



## Findings

- Census block group level outputs better support project and programs for resilience improvement
- Comparison of results with and without major events provides meaningful insight
- Additional sensitivity analysis for socioeconomic factors needed



## Expected Next Steps

- Calculate resilience scores for all census-block groups and map to utility assets
- Evaluate other resilience measures compared to Pacific Power scoring
- Continue major event root cause and trend analysis in areas with highest impact
- Pilot using resilience analysis for project planning and prioritization with CBRE-RH

# CBRE Intersectionality

# CBRE-RH Pilot Intersectionality

Interim CBI Related to Community-Based Renewable Energy Projects:

**Improve the Resiliency of Vulnerable Communities During Energy Outages**

From the ODOE Study (2022): Unique (Potential) Attribute of Community-Based Renewable Energy Projects:

**“The key unique benefit for small-scale or community-based projects is local resilience.”**

**CBRE-Resilience Hub (HB) Pilot**

ODOE Study on Small-Scale and Community-Based Renewable Energy Projects (Sept. 2022) (available <https://www.oregon.gov/energy/Data-and-Reports/Documents/2022-Small-Scale-Community-Renewable-Projects-Study.pdf>).

# CBRE-RH Pilot Components

- 1. TECHNICAL ASSESSMENTS:** Continue to provide feasibility studies (begun in 2020) to communities interested in better understanding the costs and requirements of solar and battery energy storage systems at critical community facilities
- 2. ONGOING PROJECT SUPPORT:** Leverage expertise and provide supplemental funding to support the planning for, and installation of, the battery storage component of planned and existing resilience projects to provide grid-enabled system-wide benefits and learning outcomes (capping the investment as part of the Pilot)
- 3. GRANT MATCHING:** Establish a mechanism to provide matching funds for communities seeking external grant awards for resilience projects at critical facilities



Provide a mechanism of support for communities that have yet to begin CBRE development



Aid in the interconnection of funded, in-flight resilience projects with grid-enabled storage to capture takeaways & learnings with:

- 2a) Design Support
- 2b) Incentive Offering
- 2c) Ongoing Data Collection



Assist communities as they take advantage of existing funding opportunities

BREAK

# Act II



# Wildfire Mitigation

# Overview

## General Stats

- Pacific Power provides electricity to approximately **642,000+ Oregon customers** via about **200 substations**, **19,800+ miles** of distribution lines, and about **3,000+ miles** of transmission lines across nearly **21,000+ square miles**

## System-Wide Initiatives

- Situational awareness
- Weather station network
- Operational practices
- Community education and outreach

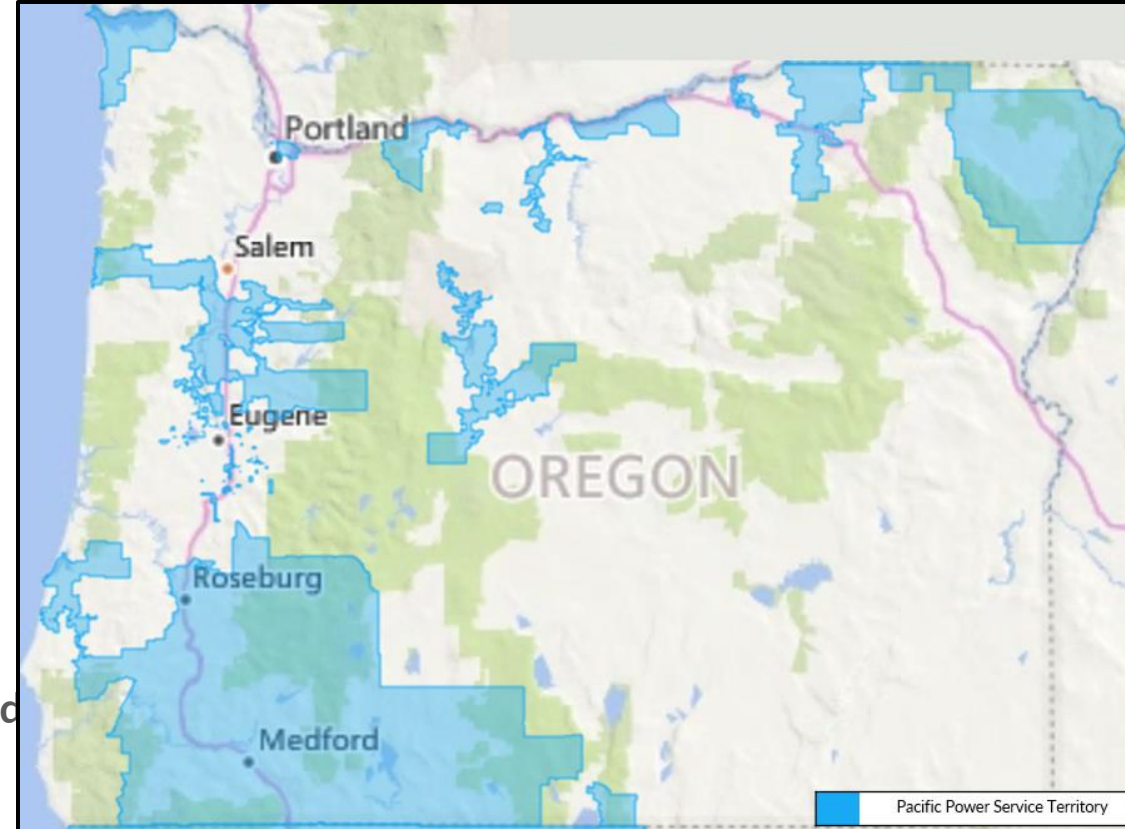
## Program Improvements

- **Increased** frequency of asset inspections
- **Enhanced** vegetation management
- Covered conductor Installation
- **Advanced** protection and control
- Expulsion fuse **replacements**

## 2023 Accomplishments

- **Replaced 100+ miles** of bare conductor with **insulated** covered conductor
- Upgraded **75+ reclosers, relays, and circuit breakers** for enhanced protection and control
- **Installed 7,900+ expulsion fuses**

## Oregon Service Territory



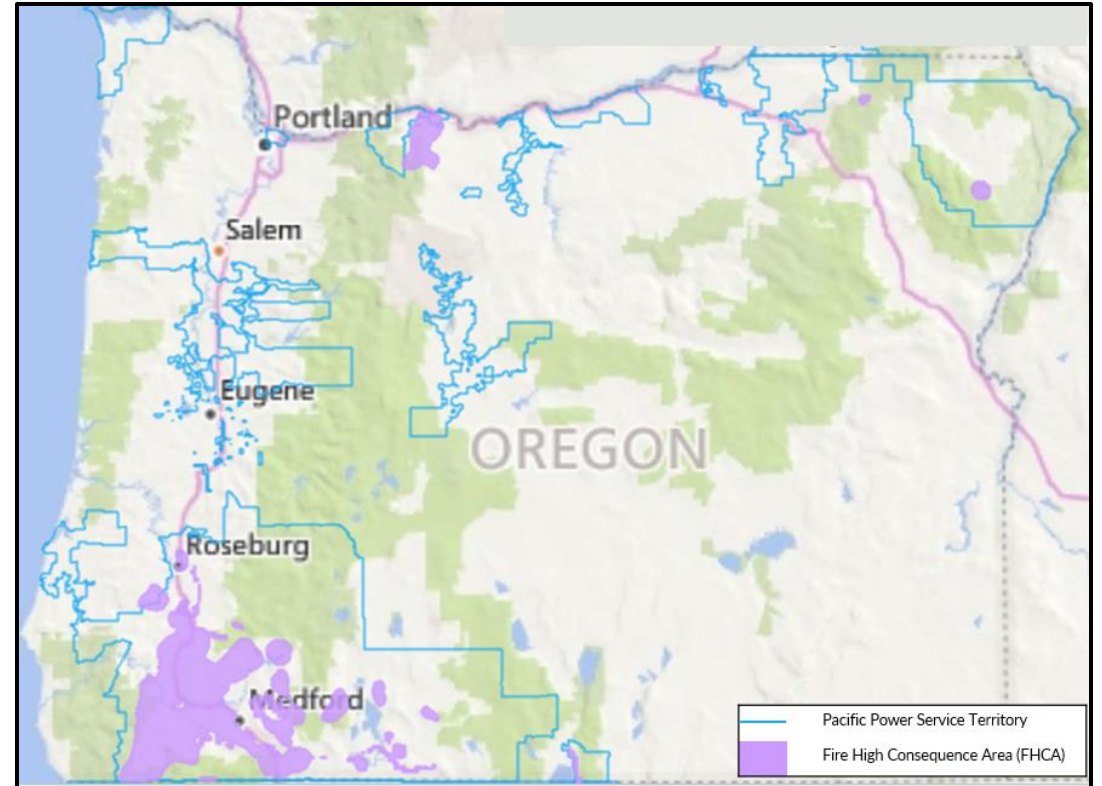
# Areas of Heightened Risk of Wildfire

## Fire High Consequence Area

- Pacific Power has updated its baseline risk analysis and identified new **Fire High Consequence Area (FHCA)**. The new FHCA encompass approximately 3,655 overhead line miles and 21% of Pacific Power's service territory in Oregon.

	Total State	Historic FHCA	% of Service Territory	2024 Additions	% of Service Territory	Total New FHCA	% of Service Territory
Overhead Transmission Miles	3,074	413	2%	229	1%	643	4%
Overhead Distribution Miles	14,070	2,274	13%	737	4%	3,012	18%
Total	17,144	2,688	16%	967	6%	3,655	21%

## Oregon Fire High Consequence Area



# Situational Awareness

## Expanded Weather Station Network

- Expanded to **153 weather stations** in OR in 2023
- 203 operational stations by 2027
  - Update **every ten minutes** to support real-time operations

## Experienced Meteorology Team

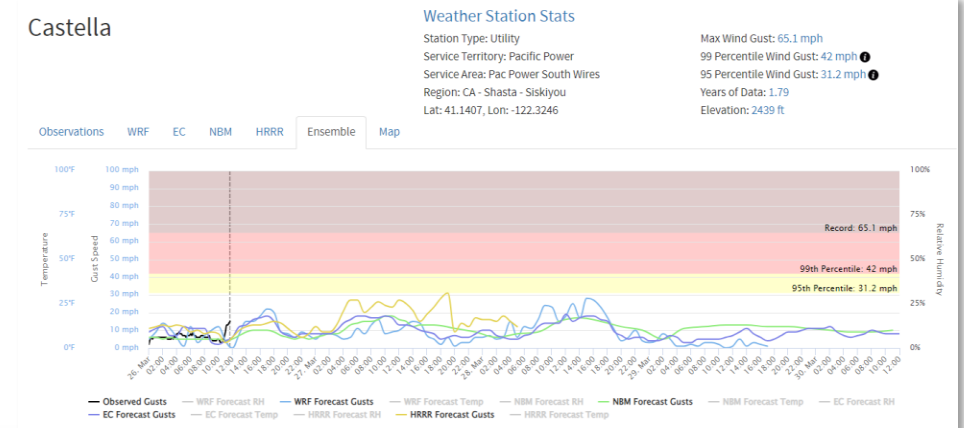
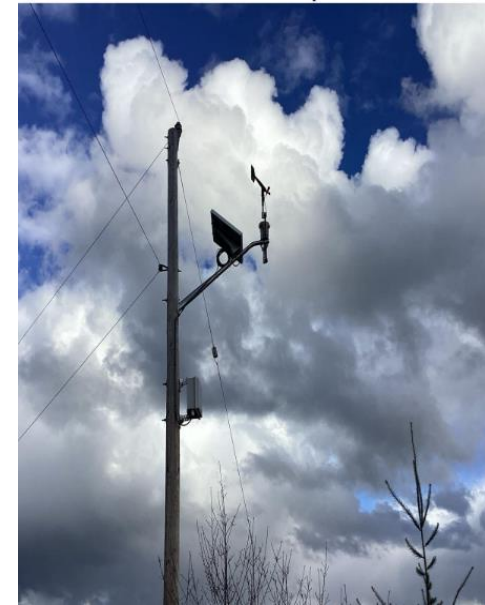
- **Six full-time meteorologists** provide **24/7/365 support**
- Supports the company's Emergency Operations Center for all hazards including fire weather and PSPS

## Wildfire Detection Cameras

- **5 camera stations** with AI smoke detection installed by 2025

## Situational Awareness Websites

- Integrate real-time observations from weather stations with forecast data to monitor real-time weather trends on the web
  - Available to the public at <https://pacificpowerweather.com/>



# Operational Practices – Service Territory Wide

## Enhanced Safety Settings

- In 2023, **52% of all overhead distribution circuits** within Oregon were placed in enhanced safety settings
- Enhanced safety settings are **enabled across the service territory**; well in advance of weather conditions that have historically been related to catastrophic fires

## Encroachment Strategy

- Fires within a specified distance of assets (based on voltage and material) results in emergency de-energization

## Fire Season is a condition... not a date

Modeling is completed daily through the entire year to determine conditions of risk

### Enhanced Safety Settings Enabled in high fire risk areas

- Modified Hot-Dry-Windy Index above the 60<sup>th</sup> percentile
- Windy weather relative to normal above 60<sup>th</sup> percentile (~20 to 30 mph gusts)
- Slightly dry vegetation, dead fuel moisture 14-16%
- Vegetation grasslands curing

### Enhanced Safety Settings Enabled on all Circuits

- Modified Hot-Dry-Windy Index above the 80<sup>th</sup> percentile
- Abnormally windy relative to normal above 80<sup>th</sup> percentile (~30 to 35mph gusts)
- Dry vegetation, dead fuel moisture 12-14%

### PSPS Potential

- Modified Hot-Dry-Windy Index above the 95<sup>th</sup> percentile
- Very strong winds relative to normal above 95<sup>th</sup> percentile (> 40 mph gusts)
- Very dry vegetation, dead fuel moisture lower than 10%

Probability of Catastrophic Wildfires



# Strategic Programs and System Hardening

## Asset Inspections

- Increased frequency of inspections in the FHCA

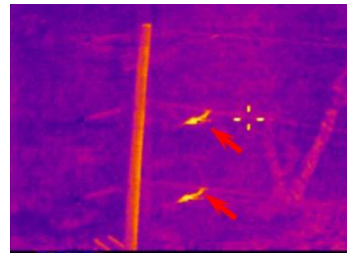
Inspection Type	Cycle
Detail	5 year
Patrol	1 year



Patrol Inspection

- Accelerated correction of Energy Release Risk

Priority Type	Location	Correction Time
Priority A	FHCA	30 days
Priority B	FHCA	180 days



230kV Jumper Connection

- Annual infrared inspection of transmission lines interconnected with FHCA
- Biennial infrared inspection of transmission lines outside of FHCA

## Vegetation Management

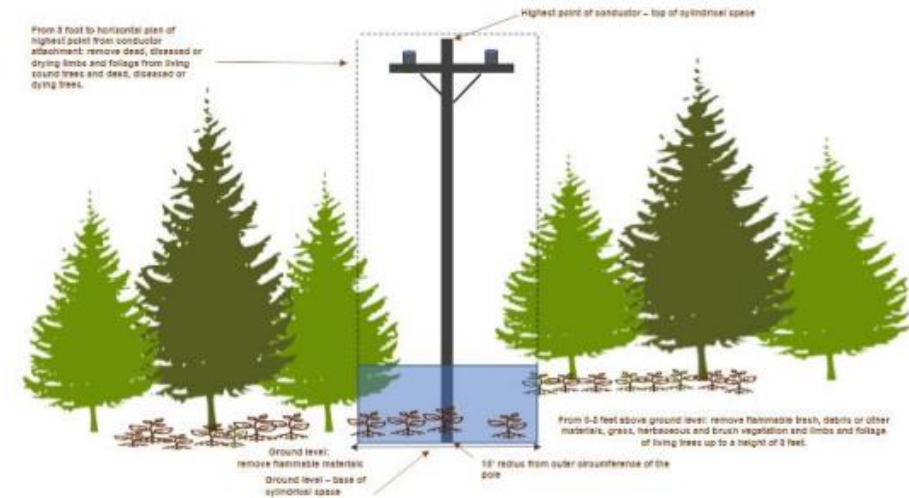
- Regular review of best practices
- Annual inspection in the FHCA
- Annual clearing of power poles with equipment.

### FHCA Readiness Patrols

1,670-line miles inspected  
for maintenance

### Pole Clearing

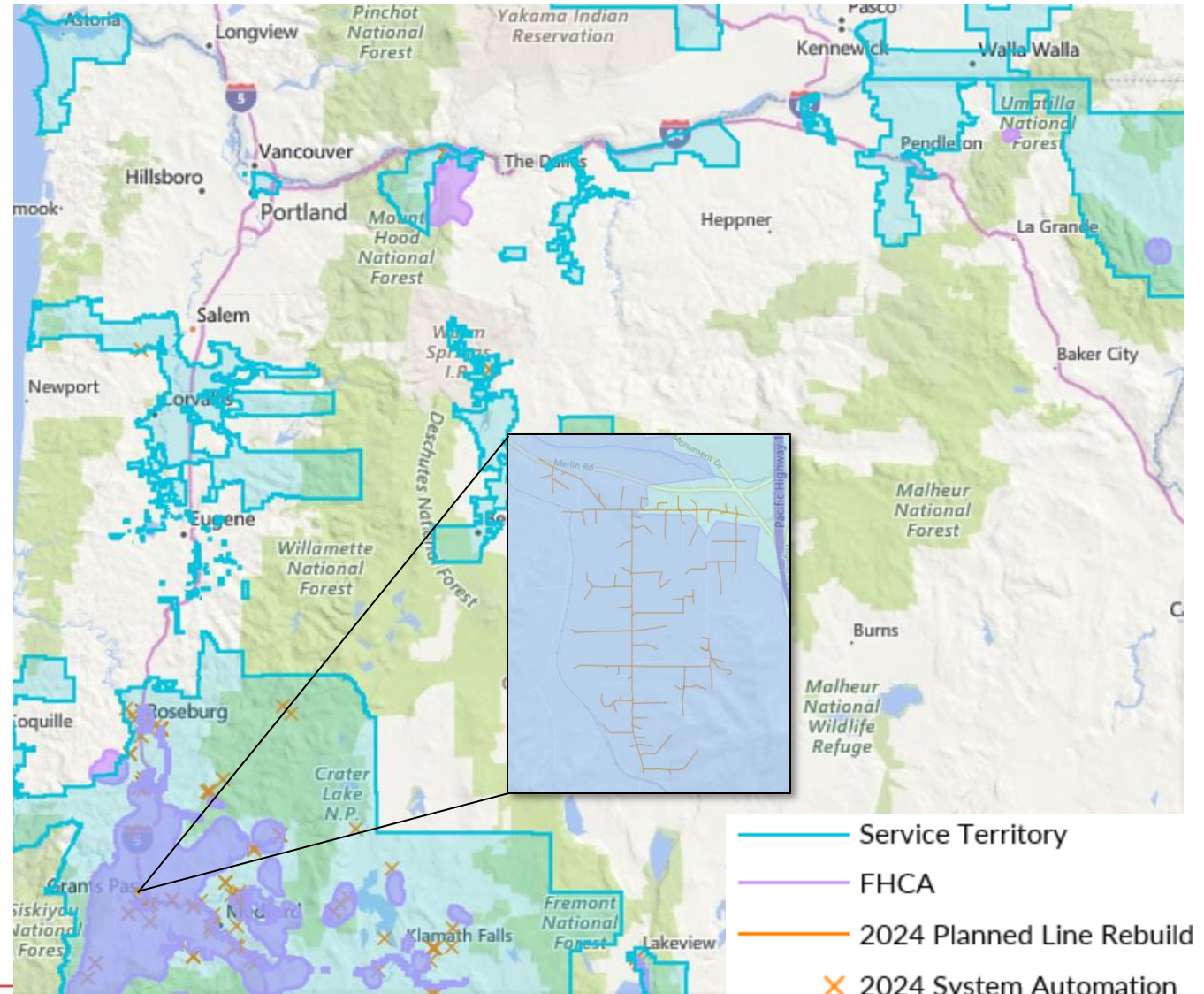
24,000+ equipment poles  
cleared



# Strategic Programs and System Hardening

## System Hardening

- Over \$160+ million of investment planned for 2024
- Line rebuild program
- Advanced protection and control
- Expulsion fuse replacement



# Public Safety Power Shutoff (PSPS) Program

## 2024 Schedule of Events

- 9 public wildfire forums
- 1 tabletop exercise
- 4 presentations
- 1 community outreach event
- 1 town hall
- 1 workshop
- 1 functional exercise

PSPS Communication Protocol	
48-72 hours prior	De-energization warning
24-48 hours prior	De-energization warning
1-4 hours prior	De-energization imminent / begins
Re-energization begins	Re-energization begins
Re-energization completed	Re-energization completed
Cancellation of event	De-energization event canceled
Status updates	As needed (24 hours)

## Community Resource Centers

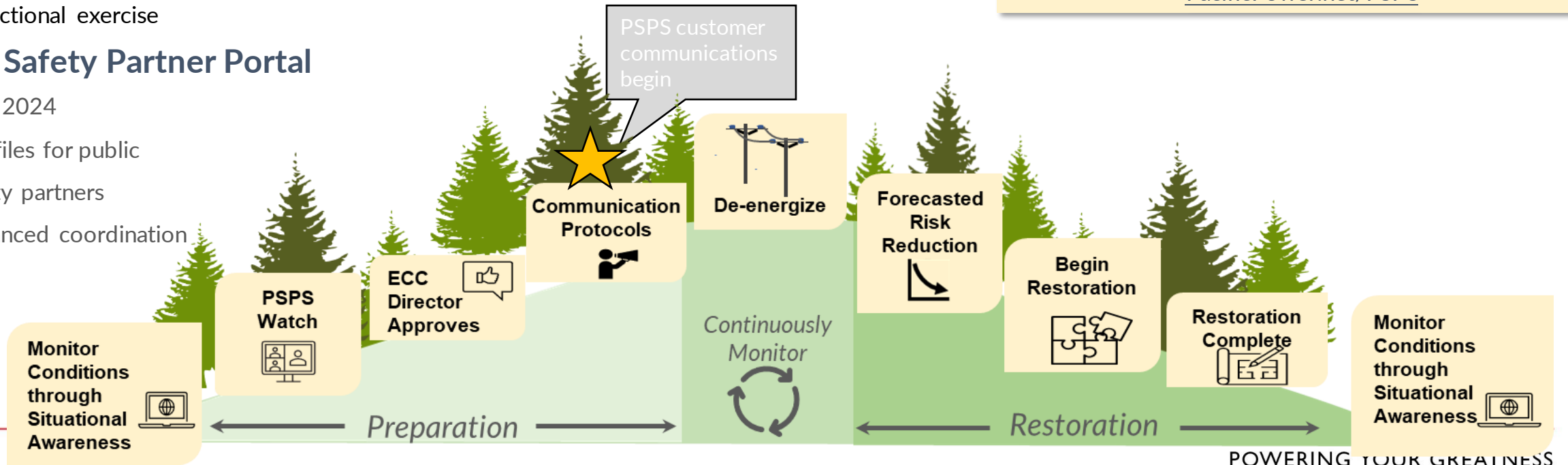
- Onsite medical support
- Air conditioning
- Refrigeration for baby/ medical needs
- Communications (phone, internet)
- Charging stations for electronic devices

To view active event details including open CRCs, visit [PacificPower.net/PSPS](https://PacificPower.net/PSPS)

## Public Safety Partner Portal

New for 2024

- GIS files for public safety partners
- Enhanced coordination tool





# Acknowledging the difficulty in today's conversation

Pacific Power is hosting [Wildfire Customer Forums](#) across the state of Oregon

## [Oregon Wildfire Mitigation Webinar](#)

Thursday, May 2, 2024, 2-3p PDT

**Medford, Oregon | Tuesday, May 7, 2024, 5:30p PDT**

Join us for a free meal at The Expo

**Coos Bay, Oregon | Wednesday, May 8, 2024, 5:30p PDT**

Join us for a free meal at The Mill Casino

**Pendleton, Oregon | Tuesday, May 14, 2024, 5:30p PDT**

Join us for a free meal at Hamley's Downtown

**Wasco, Oregon | Wednesday, May 15, 2024, 5:30p PDT**

Join us for a free meal at the Wasco School Events Center

**Hood River, Oregon | Thursday, May 16, 2024, 5:30p PDT**

Join us for a free meal at Hood River Hotel

**Bend, Oregon | Tuesday, June 4, 2024, 5:30p PDT**

Join us for a free meal at Worthy Brewing

**Lincoln City, Oregon | Tuesday, June 11, 2024, 5:30p PDT**

Join us for a free meal at Chinook Winds Casino

**Astoria, Oregon | Wednesday, June 12, 2024, 5:30p PDT**

Join us for a free meal at Fort George Brewery

# Public Comment

What was your biggest takeaway from today's conversation?

## CBIAG Calendar

May 16th (Online) 1pm – 4pm

Link: <https://esource.zoom.us/j/83988526493?pwd=SCIHQZMixpvENGRnPKkfBYucnbDBje.1>

June 20th (Hybrid) 1pm - 4pm

<https://esource.zoom.us/j/86305353201?pwd=gICiqelAEWQQMXJnMnJMQjucb1TeYp.1>

Link: <https://www.pacificorp.com/energy/oregon-community-benefits-and-impacts.html>

For more information:

[Oregon Clean Energy Plan Updated Engagement Strategy](#)

## Additional Engagement Opportunities

### **Oregon Clean Energy Plan Engagement Series Public Meeting**

When: May 21, 2024

Time: 9 am – 12 pm

Online: [CEP Zoom Registration](#)

For more information:

[Oregon Clean Energy Plan Updated Engagement Strategy](#)

Email comments to:

[ORCBIAG@pacificorp.com](mailto:ORCBIAG@pacificorp.com)

# Community Benefits and Impacts Advisory Group Post-Meeting Survey

Link: <https://forms.office.com/r/h2cBXgmJMT>



# Proposed Topics by Month

January	Biennial report planning Rate Case Updates	May	CBI- Environmental Impacts Clean Energy Plan and IRP Updates	September	Draft Review
February	Overview of filing and outline Integrated Resource Planning	June	CBI- Energy Equity Customer Satisfaction	October	Draft Review (continued)
March	CBI- Health and Community Wellbeing Low-income assistance program	July	CBI- Economic Impacts Equity in Contracting	November	Filing complete, no meeting
April	CBI- Resilience Wildfire	August	Parking lot items	December	2025 Planning