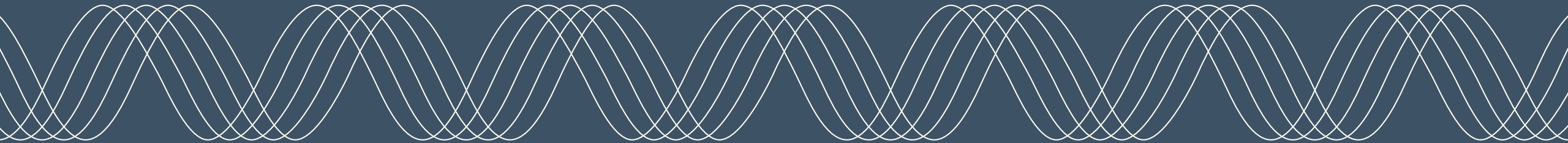


# Secretary of Energy Advisory Board Meeting

Maria Pope

CEO, Portland General Electric

October 25, 2022



# Portland General Electric At-a-Glance

Leading the way to a clean energy future

## Today:

**A decade as the Nations #1  
Clean Energy Program**

**National Renewable Energy Lab (NREL)**

## By 2030:

**80% reduction in greenhouse  
gas emissions**

## By 2040:

**Targeting zero greenhouse gas  
emissions**

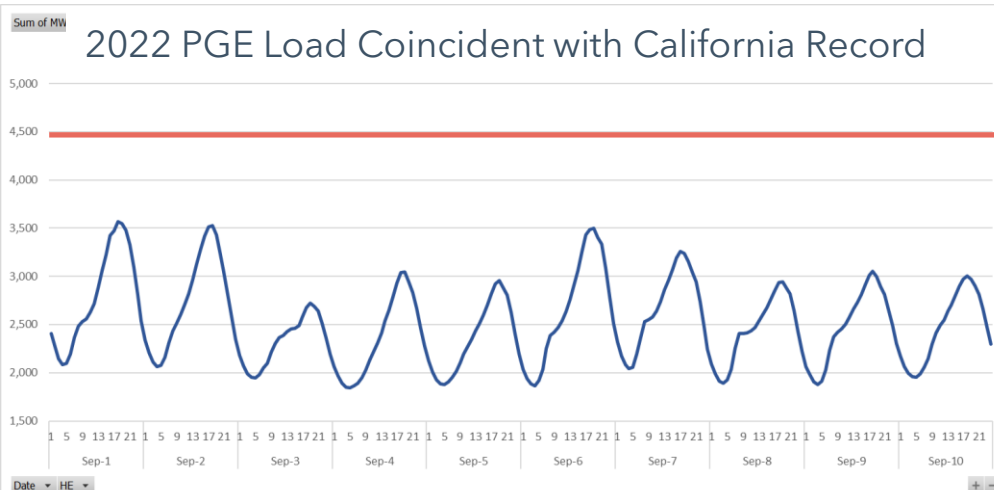
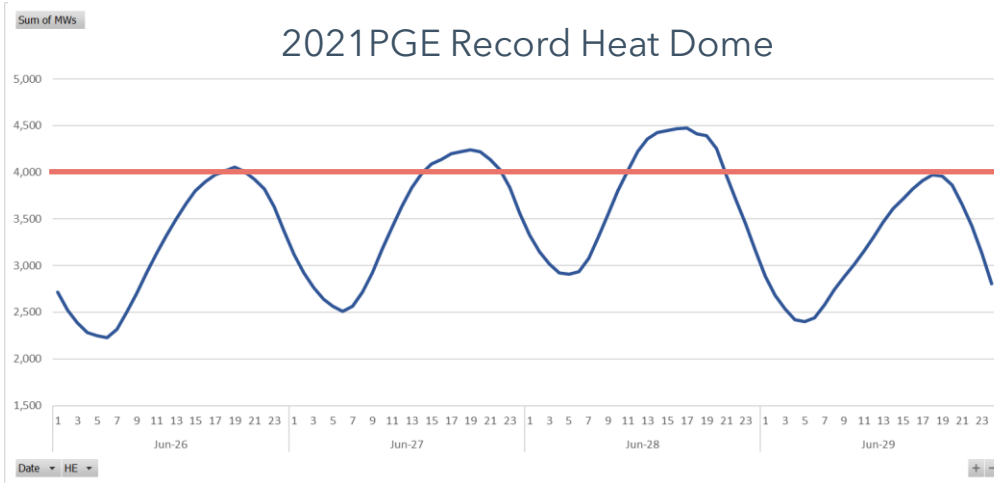
- 
- PGE reflects our customer's values - large semiconductor and digital presence; progressive and environmentally focused communities; highly energy price focused
  - Vertically integrated - encompassing generation, transmission and distribution
    - 16 generation facilities, with market purchases, YTD over 50% renewable energy serving customers
  - Strong tech-led growth and residential in-migration
  - Strong DE&I focus and corporate stewardship



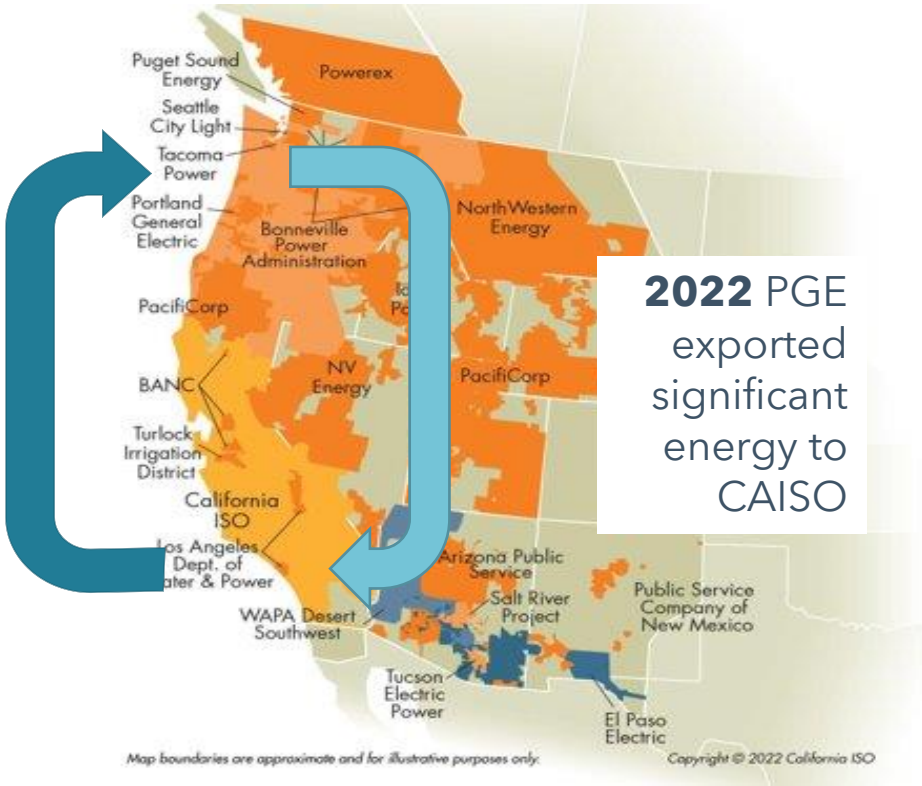
# Western Market Integration is Critical for Reliability, Decarbonization and Affordable Energy Prices

PGE customers over \$120M in benefits since joining EIM in 2017, total West-wide benefits over \$156B

### June 2021 Super Peak Heat Dome vs September 2022 Sustained West Wide Record Heat



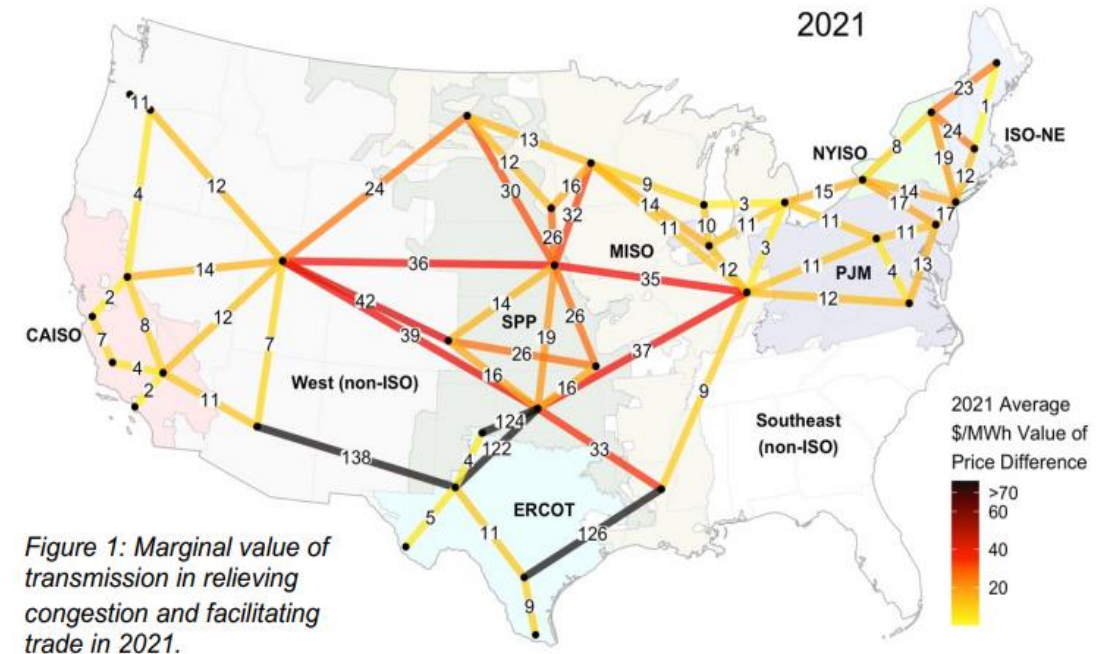
**2021** PGE imported significant energy from CAISO



# What's Next - Regional Market Expansion

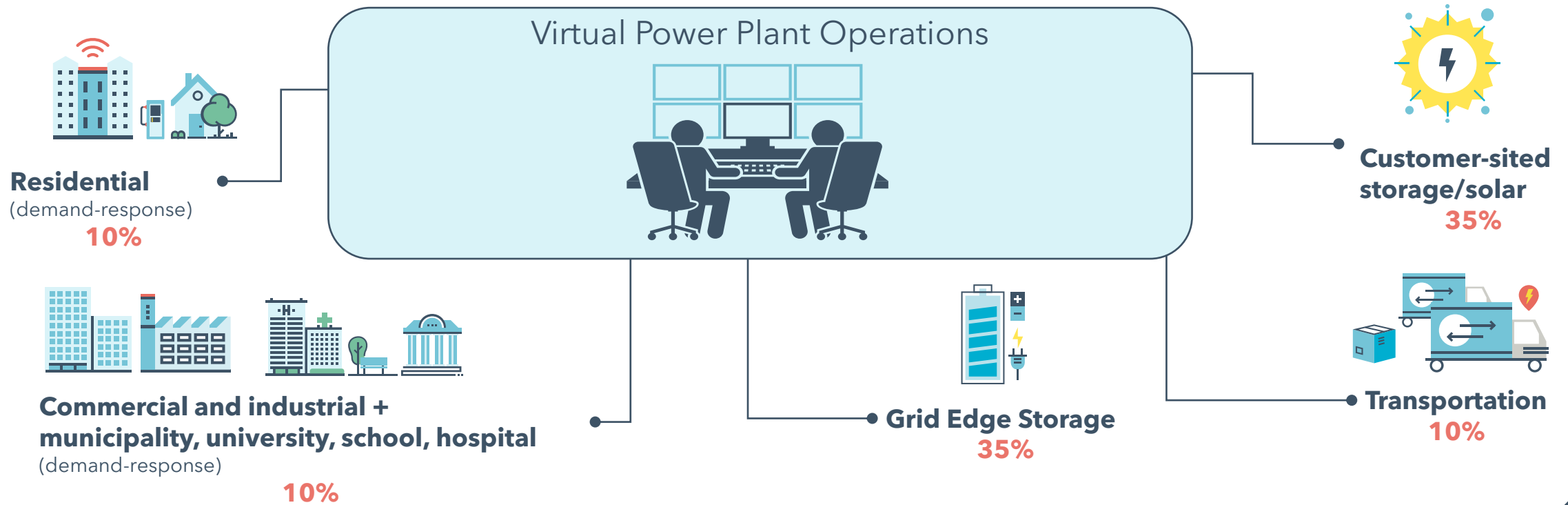
Energy market and transmission evolution are critical to reliability, decarbonization and affordability

- Western Power Pool Resource Adequacy Program (WRAP) covers most of the non-California West - Standards being set, binding in 2025
- Continued market evolution and regional planning
  - CAISO Day-Ahead Market (EDAM)
  - SPP Markets +
  - RTO Discussions and Multi State Legislation
- Northern Grid Transmission Planning within Western Power Pool
- Importance of BPA leadership, with 75% of the transmission in the Pacific NW



# Integration of Distributed System: Energy Resources and Flexible Load Enable a Virtual Power Plant

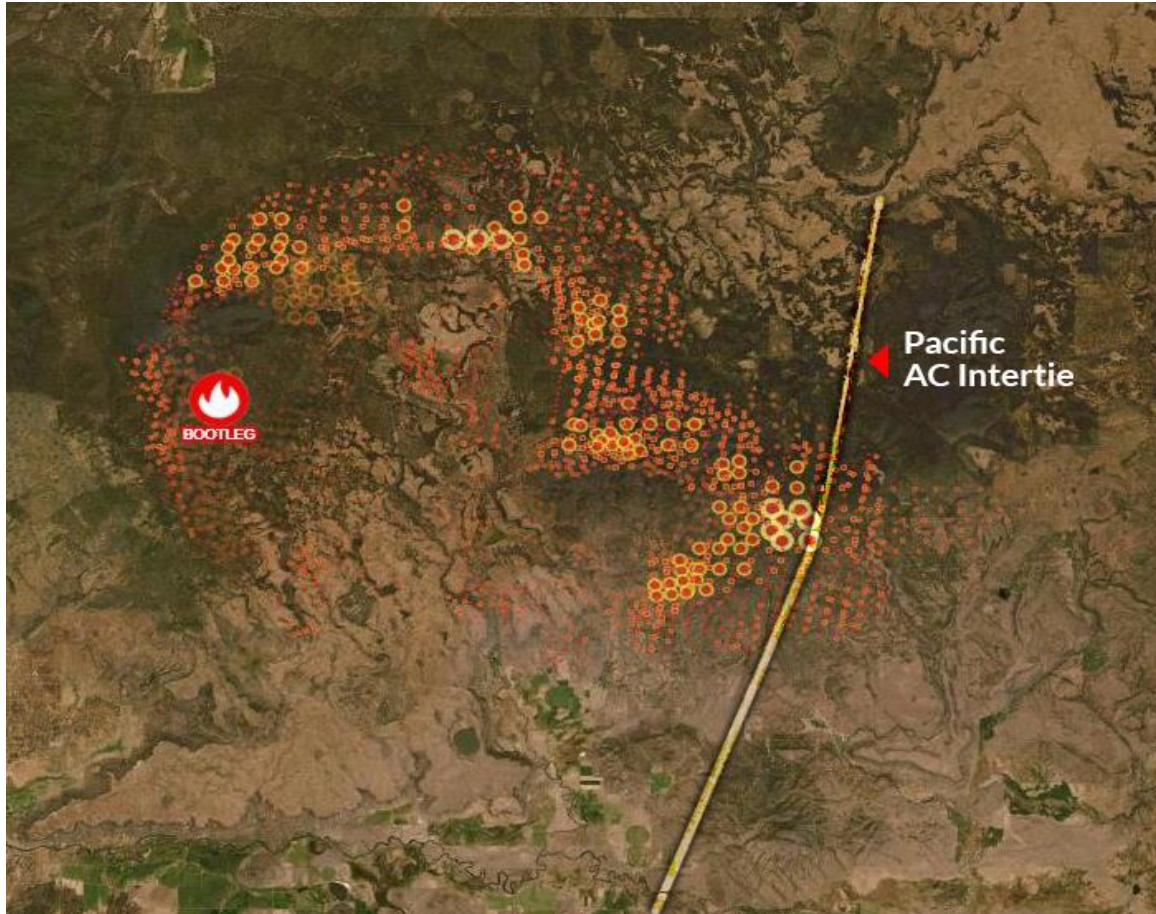
Customers' energy sources and flexible energy use are key to reliability and meeting clean energy targets; Virtual Power Plant expected to generate 25% of energy capacity by 2030



Percentages represent capacity contribution toward future VPP

# DOE's Critical Role in Protecting Electric Infrastructure

Thank you for your leadership in wildfire prevention, mitigation and response



- National Labs Technology Development
  - Grid resilience and intelligent platform
  - Distribution arcing fault detection and signature library
  - Multi-modal autonomous vehicles (MAVNET) and real-time arial sensors
  - Autonomous drones with AI capabilities for vegetation inspection and rapid response
- Strong Voice at the Federal and Executive Level
- Disaster Response and Coordination
  - Example: 2021 Bootleg Fire, 414,000 acres, third-largest fire in Oregon with critical infrastructure threatened. DOE played an important role in getting resources and ensuring transmission lines returned to service, maintaining western grid stability

# Advancing the Clean Energy Transition

DOE, BIL/IIJA, and IRA funding accelerates transformational change and promotes critical partnerships



- DOE leadership and grants have long been instrumental in deploying cutting- edge technology and establishing credibility and local support
- BIL/IIJA Funding:
  - Resiliency for areas prone to wildfire, ice and heat waves
  - Advancements in vehicle charging and vehicle-to-grid technology
  - Technology at the edge of the grid, advancement of 5G and 6G communications, ensuring cybersecurity
- IRA Funding is Game Changing:
  - Advancing distributed energy resources
  - Hydrogen and other technology development
  - Small and large scale nuclear

# Thank you

