

# PacifiCorp Transportation Electrification Plan

*February 25, 2020*



# Agenda



## Overview

- Development of plan
- Ability to reach all Oregon customers

## Electric Transportation Market & Barriers

- Adoption and Forecast
- Distribution Planning
- Supporting Data

## Programs and Future Interventions

- Market Barriers
- Current Programs and Data
- Rates and Pricing



# Development of Plan

Informed by state policies and Pacific Power's commitment to be responsive to customer needs for sustainable, reliable, and affordable provision of essential energy services, Pacific Power's role in Transportation Electrification (TE) transformation is guided by three objectives:



- 1 Accelerate consumer adoption of TE by increasing customer awareness and understanding of TE alternatives and supporting equitable access to charging infrastructure



- 2 Efficiently, prudently, and safely integrate and manage new loads from TE on the Pacific Power system to the benefit of all customers



- 3 Integrate renewables on the system to reduce carbon intensity and lower the cost to serve new loads from TE

# Ability to Reach All Oregon Customers

Pacific Power's service area is unique and diverse, covering:

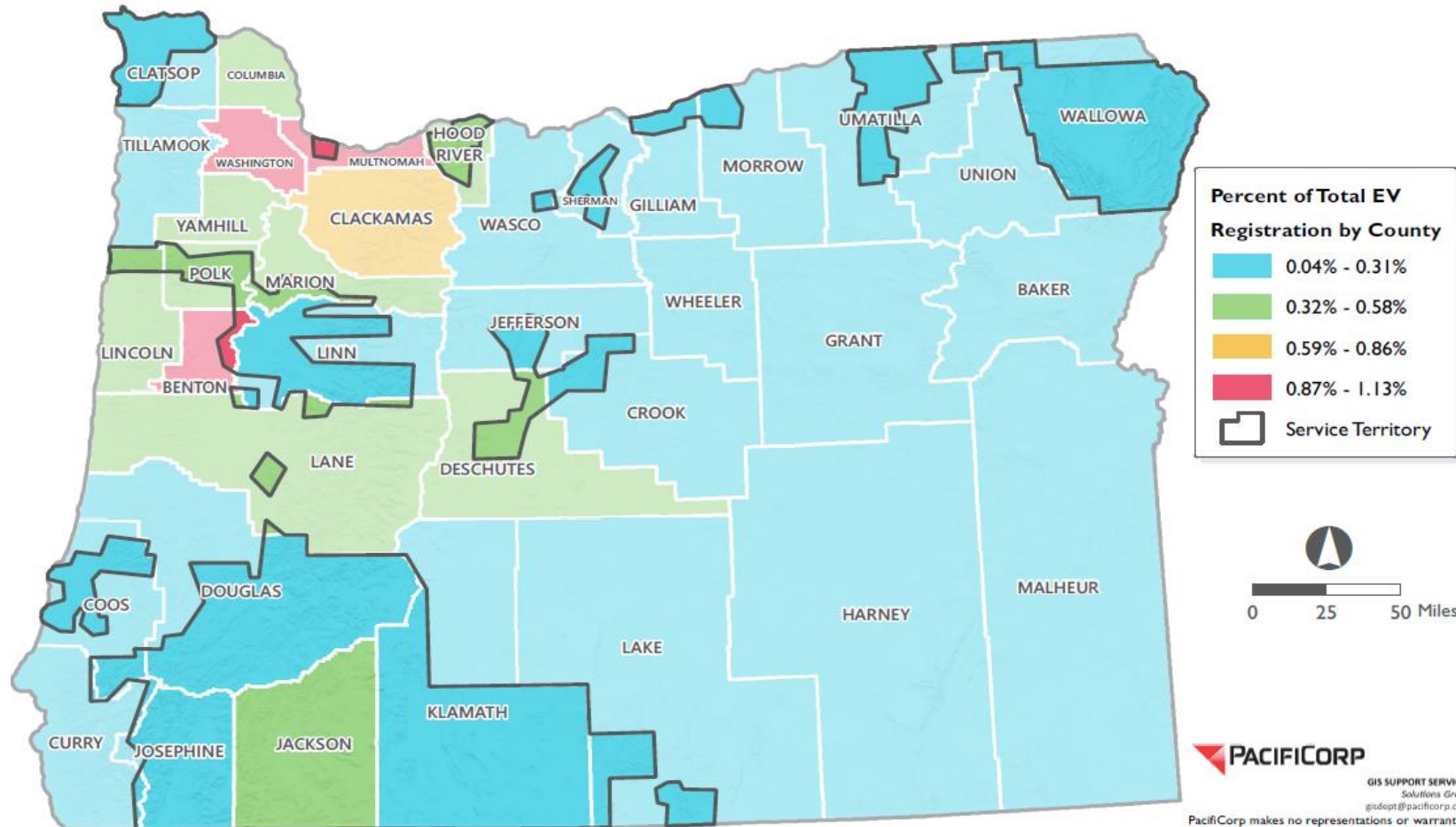
- Highway corridors (primary and secondary)
- Popular travel destinations
- Rural communities



# Electric Transportation Market- Adoption

**27,796**  
electric  
vehicles (EV)  
in Oregon

**5,018 EVs\*** in  
Pacific  
Power's  
service area  
(18%)

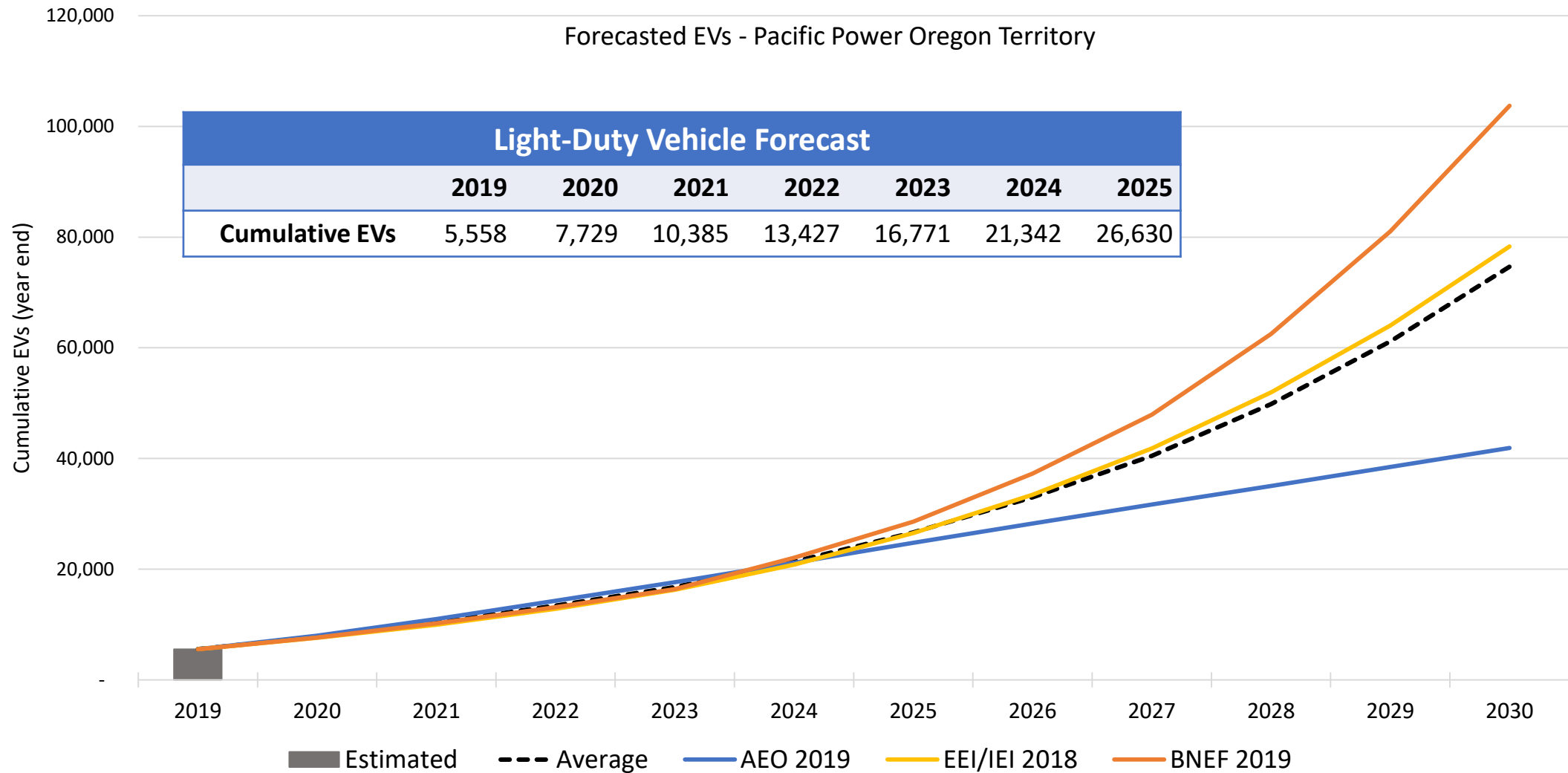


Data estimated from Oregon DEQ  
<https://www.oregon.gov/deq/aq/programs/Pages/Clean-Fuels-Data.aspx>

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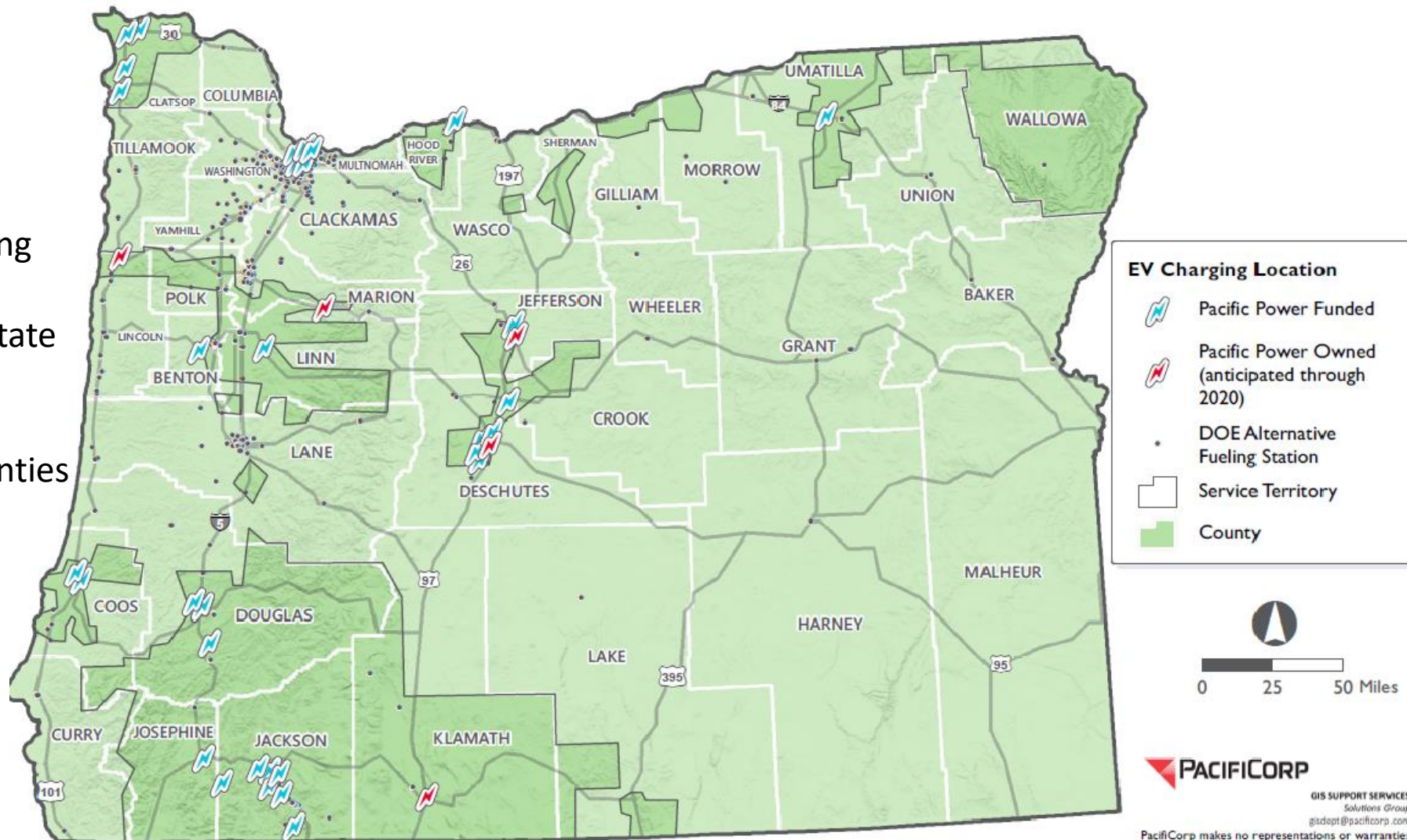


# Transportation Electrification Plan Forecast

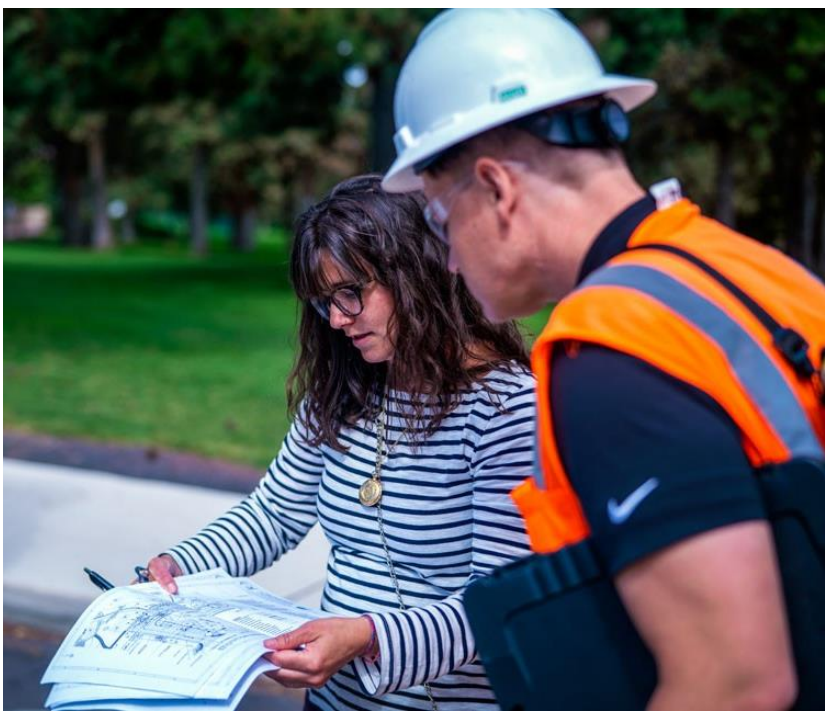


# Charging Stations in Oregon

- Pacific Power programs are increasing charging infrastructure throughout the state
- Connecting underserved counties and secondary corridors



Data estimated from US DOE  
<https://afdc.energy.gov/>  
as of January 8, 2020



# System Impacts

- ◊ Limited system impacts in the next 3-5 years from light-duty vehicles
- ◊ Will need ongoing evaluation
- ◊ Medium- and heavy-duty vehicles will require impact studies and close coordination with customers

## Incremental Impacts Of Light-Duty Vehicles

	2019	2020	2021	2022	2023	2024	2025	Total
<b>Cumulative EVs</b>	5,558	7,729	10,385	13,427	16,771	21,342	26,630	
<b><i>Incremental EV Impacts</i></b>								
<b>Vehicles</b>		2,171	2,656	3,043	3,344	4,571	5,288	21,072
<b>MWh</b>	3,177	6,734	8,240	9,440	10,375	14,181	16,405	65,376
<b>average MW</b>	0.36	0.77	0.94	1.08	1.18	1.62	1.87	7



# Market Barriers

Utility approach to programing and ability to influence barriers:

Barrier categories	Pacific Power's Level of influence	
	Less	More
Awareness barriers		X
Decision-making barriers		X
Economic barriers		X
Technical/ Infrastructure barriers		X
Policy/ Regulatory barriers	X	
Supply chain barriers	X	



# Oregon Transportation Electrification Portfolio

## Pilot Programs

## Clean Fuel Credit Programs

## Other Key Initiatives

### Public Charging Stations

**Pacific Power Stations**  
 Developing fast charging stations in: Bend, Klamath Falls, Madras, Mill City, and Otis



### Infrastructure Grant

**Competitive EVSE grants**  
 Funding awarded for non-residential customers (through Q1 2020)

More than \$1 Million awarded through 2019 to 32 projects in 20 Oregon communities



### Outreach and Education

#### **Wattplan Online Tool**

#### **Ride and Drives**

Independence, Corvallis, Lincoln City, Coos Bay

#### **Beacon Deployment**

Bend, Medford, Coos Bay

#### **Technical Assistance**

*Technical assistance available*  
 Provided to:  
 41 organizations in 23 communities through 2019

### Outreach and Activation

#### **Communication and Enhanced Technical Support in 2020**

Engage and educate residential customers on the benefits of electric vehicles

- Ride and drive activity at the auto show
- EV event sponsorship
- Partner in Statewide EV campaign
- Design build challenge
- Enhanced technical support for communities
- Transit agency workshop

### Electric Mobility Grant

#### **Competitive EV partnership grants** **\$1.3 Million in 2020**

to support projects that advance electric transportation in underserved areas

#### **Matching Funds** **\$500,000 in 2020**

to organizations and communities applying for external grants:

CRuSE, Hood River rural carsharing project awarded with matching funds support (\$100k)

### Rate Design

#### **Demand charge transitional rate**

Support deployment of fast charges across the service area

### Regional Coordination

#### **Oregon Electric Vehicle Collaborative**

#### **EVS 33 Planning Committees**

### Planning Studies

#### **Distribution System Impact Study**

#### **West Coast Clean Transit Corridor Initiative**







Grant Funded Charger Grand Opening



Coos Bay Ride & Drive



Lincoln City Ride & Drive



Technical Assistance Site Visit



Grant Funded Workplace Charger

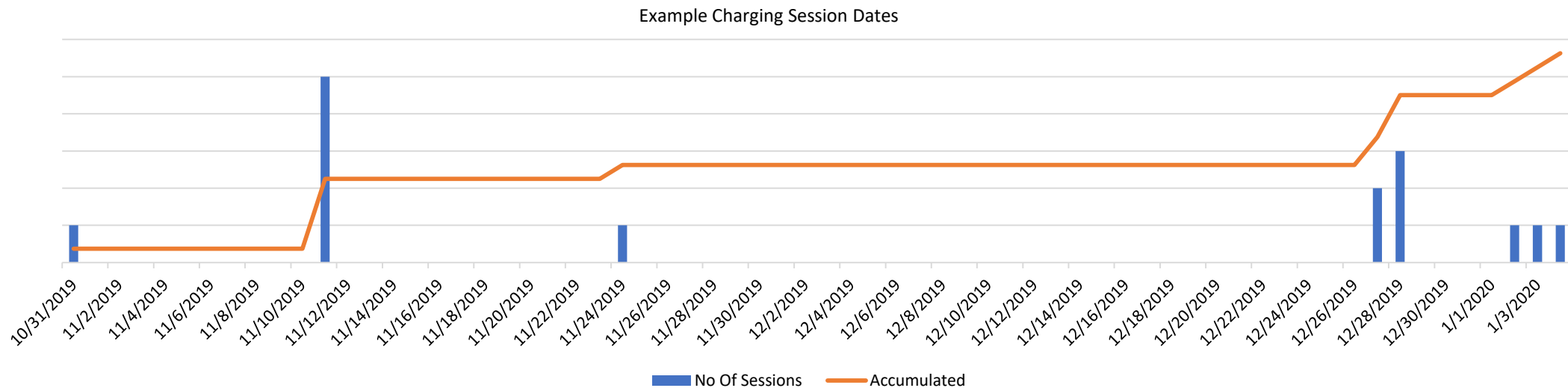
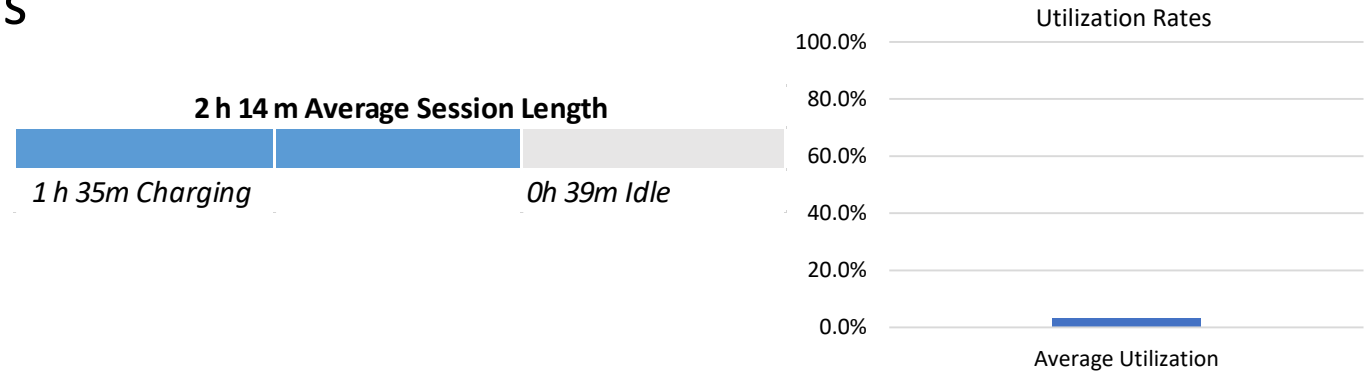


Chargeway Beacon in TC Chevy Medford Ashland

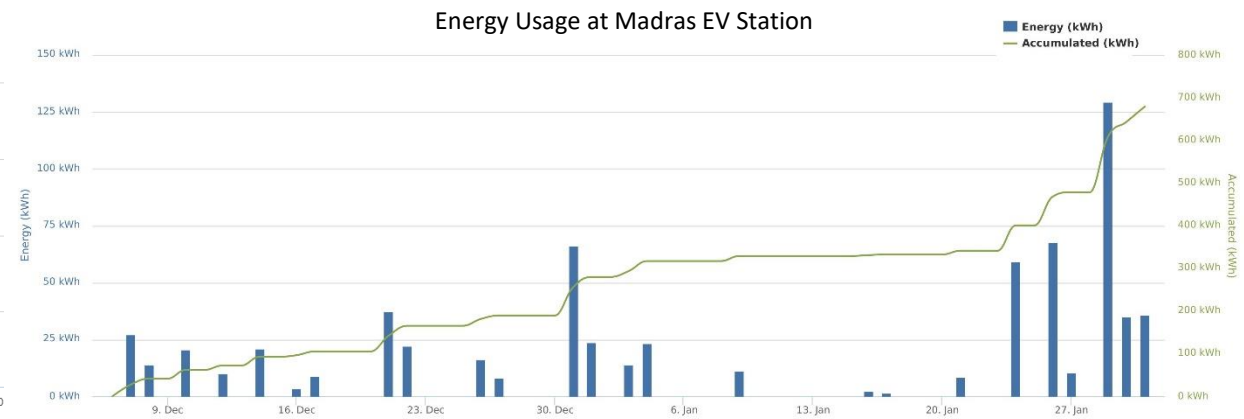
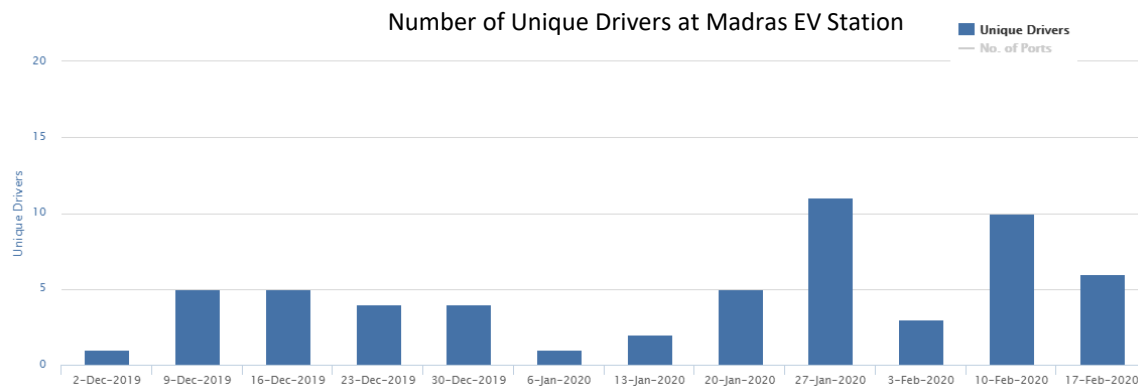
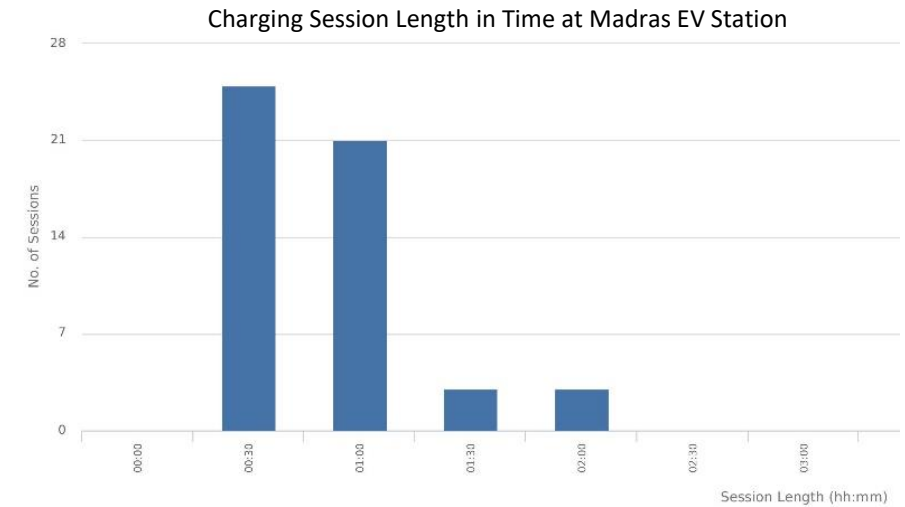


# Emerging Data pt.1

Ongoing data collection through  
Company-owned public stations  
and customer owned grant  
funded charging stations



# Emerging Data pt. 2



# Future Program Considerations

Category	Potential Intervention Strategies	Timing
<b>Reducing Costs of EV Ownership</b>	Efficient rate structures and pricing programs	Short/ Medium-term
<b>Sending Long-term Signal to Market</b>	Develop EV Market Potential & Planning Studies	Short-term
	Broaden EV Adoption Target for Pacific Power's Own Fleet	Medium-term
<b>Improving Access and Economic Viability of Charging</b>	Updated Non Residential Line Extension Allowance	Short-term
	Develop a Residential EVSE Infrastructure Incentive Program	Short-term
	Expand the Grant Program for Non-profits and Public Entities (expansion of existing programs)	Short-term
	Develop a Commercial EVSE Infrastructure Incentive Program (includes Multifamily)	Short-term
	Assess public charging station program	Medium-term
	Develop a Fleet EVSE Make-Ready Incentive Program	Medium-term

Category	Potential Intervention Strategies	Timing
<b>Increasing Awareness and Education</b>	Expand Technical Assistance	Short-term
	Provide Customers with High Quality EV Experiences (expansion of existing programs)	Short-term
	Develop and grow EV adoption strategies through broad stakeholder engagement (expansion of existing initiatives)	Short-term
	Provide Shared Use and/or Pooled EV Opportunities	Medium-term
	Support Workforce Training	Medium-term
<b>Improving EV and EVSE Planning</b>	Assess Transit Fleet Potential	Short-term
	Encourage EV-Ready New Construction for Residential Buildings	Short-term

Note: This plan does not seek Commission approval of Pacific Power's current or future programs, investments, or initiatives nor is this list inclusive of all concepts that may be considered before the next plan is due. Pacific Power plans to continue to engage Commission Staff and external stakeholders as part of determining priorities for future program efforts and initiatives.



# Rates & Pricing

Rate Schedule / Action	TE Application
Residential Time of Use (TOU)	Encourages off-peak EV charging
Residential Tiers	Addresses affordability of incremental energy
Nonresidential TOU	Reduces bill impact of demand charges on low load factor customers (e.g., DCFCs, fleets); Encourages off-peak EV charging
Line Extension Allowance	Considering greater line extension allowance for nonresidential TE



# Committed to Transportation Electrification

1

***Continue existing programs and actions***, which are in early stages of implementation but show promising results, to inform future actions.

2

***Consider expansion of awareness, education and decision making actions*** aimed to connect the dots for customers where the Company is best suited to assist.

4

***Signal a long term commitment to transforming the market*** through supporting infrastructure planning efforts and participating in regional planning work and studies.

3

***Couple awareness and decision actions with programs to address first and ongoing costs of ownership*** which are designed to generate benefits for and be accessible to all of the Company's Oregon customers.

