

# Transportation Electrification Update

Aaron Milano, Portfolio Manager – Transportation Electrification

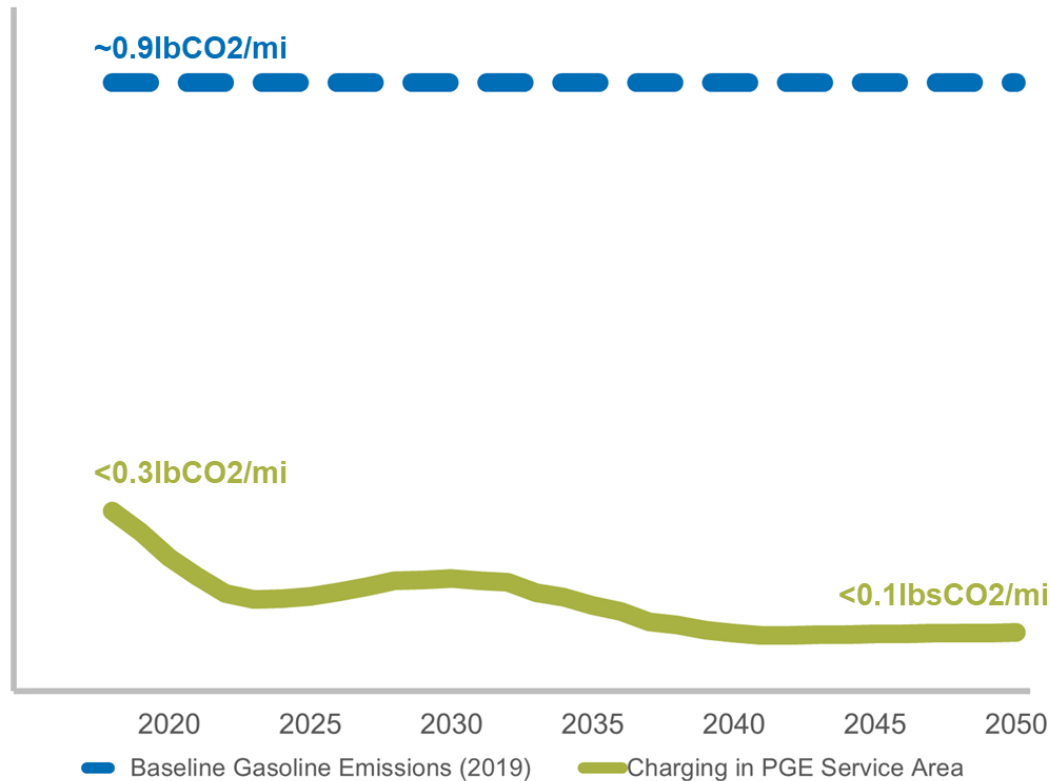
Portland General Electric

October 2019

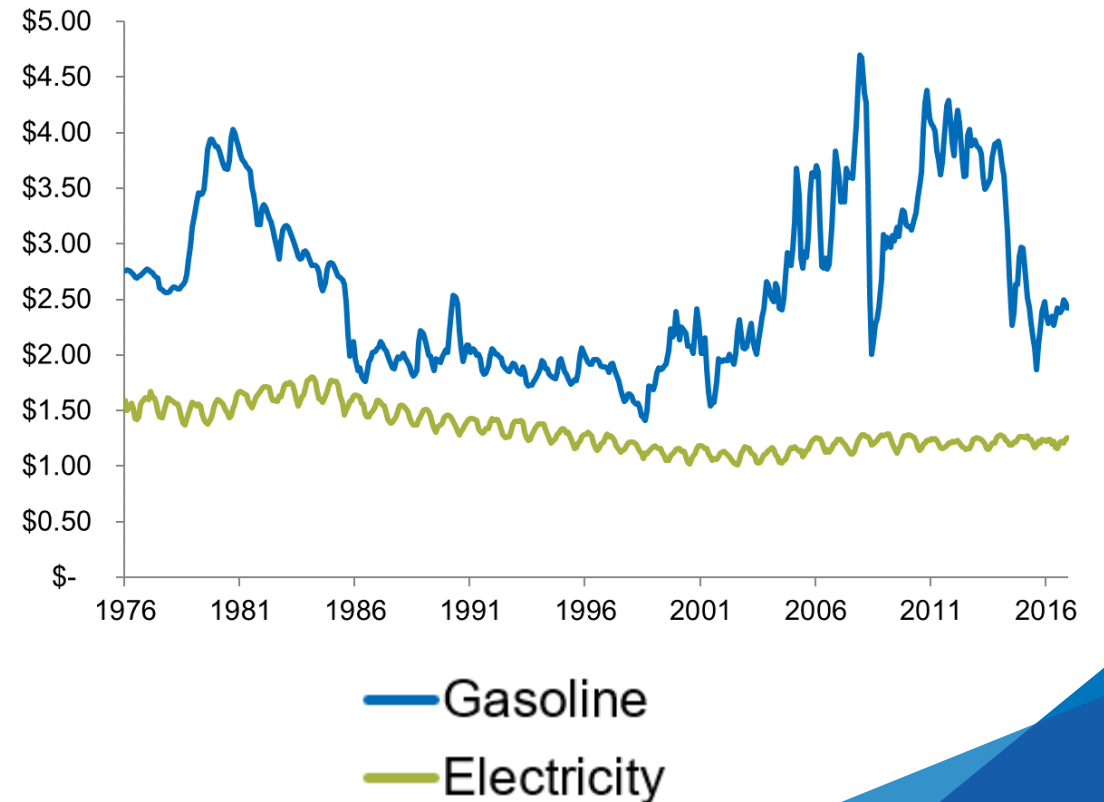


# Electricity is Clean, Affordable, Local

Carbon Intensity of new gas vehicle vs. EV



Monthly Motor Gasoline Retail Prices vs. Electricity Prices in \$/gal-equivalent



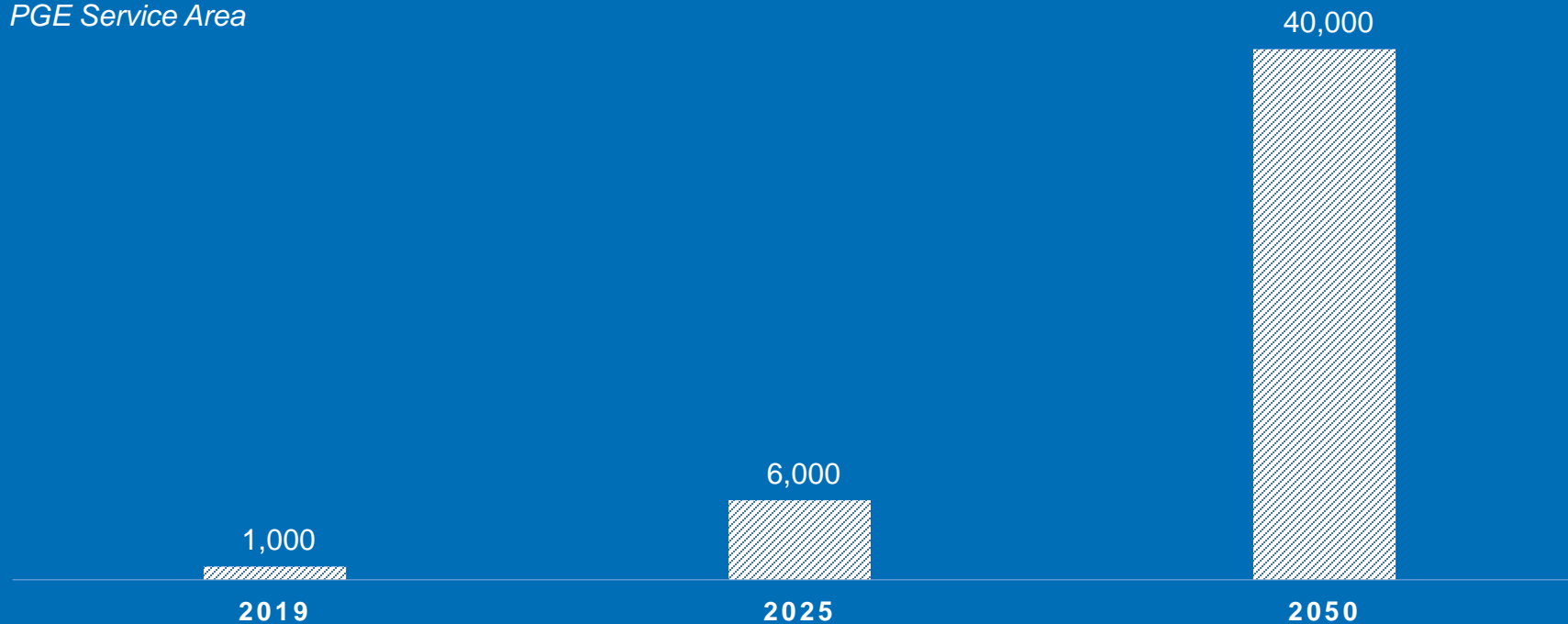




**EVs are creating  
value across Oregon**

# Planning for New EV Loads

*Number of Public EV Ports Required,  
PGE Service Area*





# Partnership is Driving Change



## Transit Electrification

- TriMet: 5 e-bus operational
- SMART: 2 e-bus operational
- Planning for 10-20 buses in 2020
- PGE to own/operate chargers



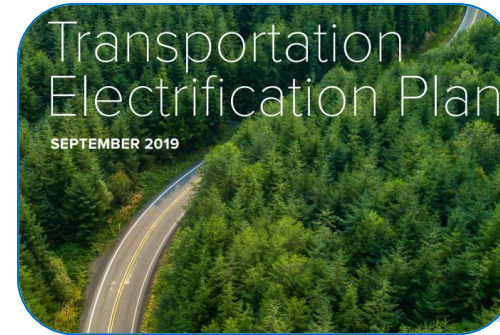
## EVS33 Event & Ecosystem

- Position Oregon as a leader in decarbonization
- Elevate profile of TE across the state



## Fleet Electrification

- Daimler demonstration partnership
- Technical assistance and training
- Fleet electrification studies for PGE and our customers



## TE Plan

- Charging needs assessment: 5k ports by 2025; 40k by 2050
- Behind the meter investment & smart charging programs



## Clean Fuels Program

- Drive Change (\$2M grant fund)
- 4+ electric school buses
- Community awareness campaign
- Innovative e-mobility hub



## Expanding Charging Access

- 6 new Electric Avenue sites
- Charging make-ready offering
- Residential smart charging rebates

# Policy Opportunities

## Planning & Utility Investment

- planning studies to ensure communities are in front of charging needs
- utilities role in accelerating deployment of fueling infrastructure

## Workforce Development

- create jobs, ensure equipment reliability, reduce long-term operation costs
- reduce long-term operation costs

## Codes and Standards

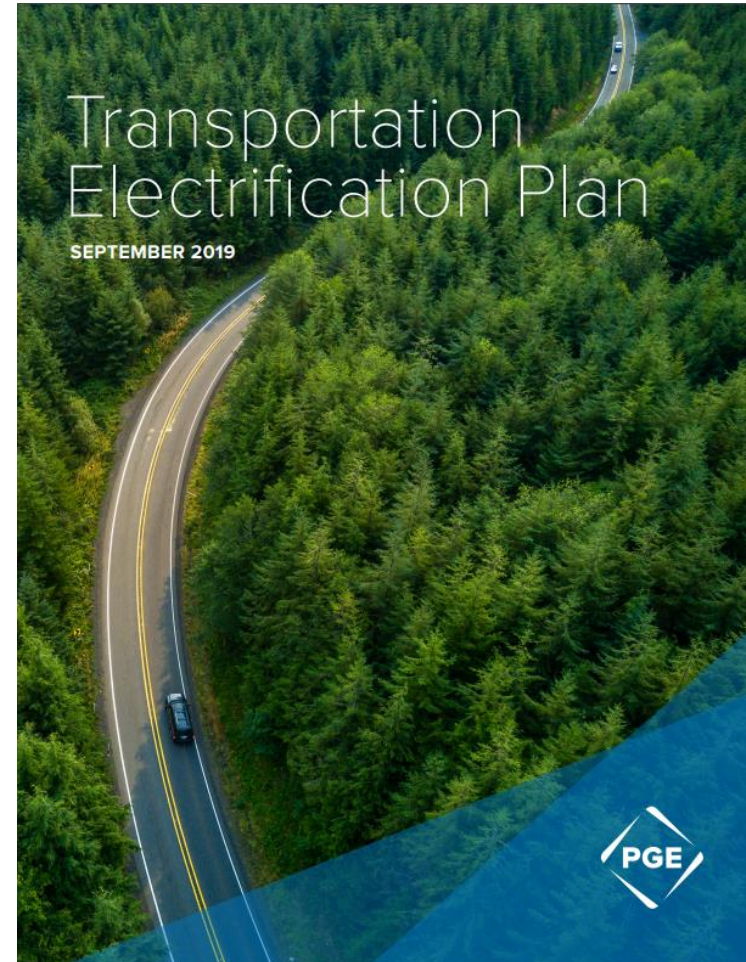
- vehicle and charging standards
- building codes to reduce infrastructure costs

# Thank you!

Aaron Milano

Aaron.Milano@pgn.com

503-464-7547



<https://www.portlandgeneral.com/-/media/public/our-company/documents/pge-2019-transportation-electrification-plan>

