

Portland General Electric Transmission System

OPUC Transmission Workshop
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Shaun Foster
*Senior Transmission & Market
Services Analyst*



Who We Are

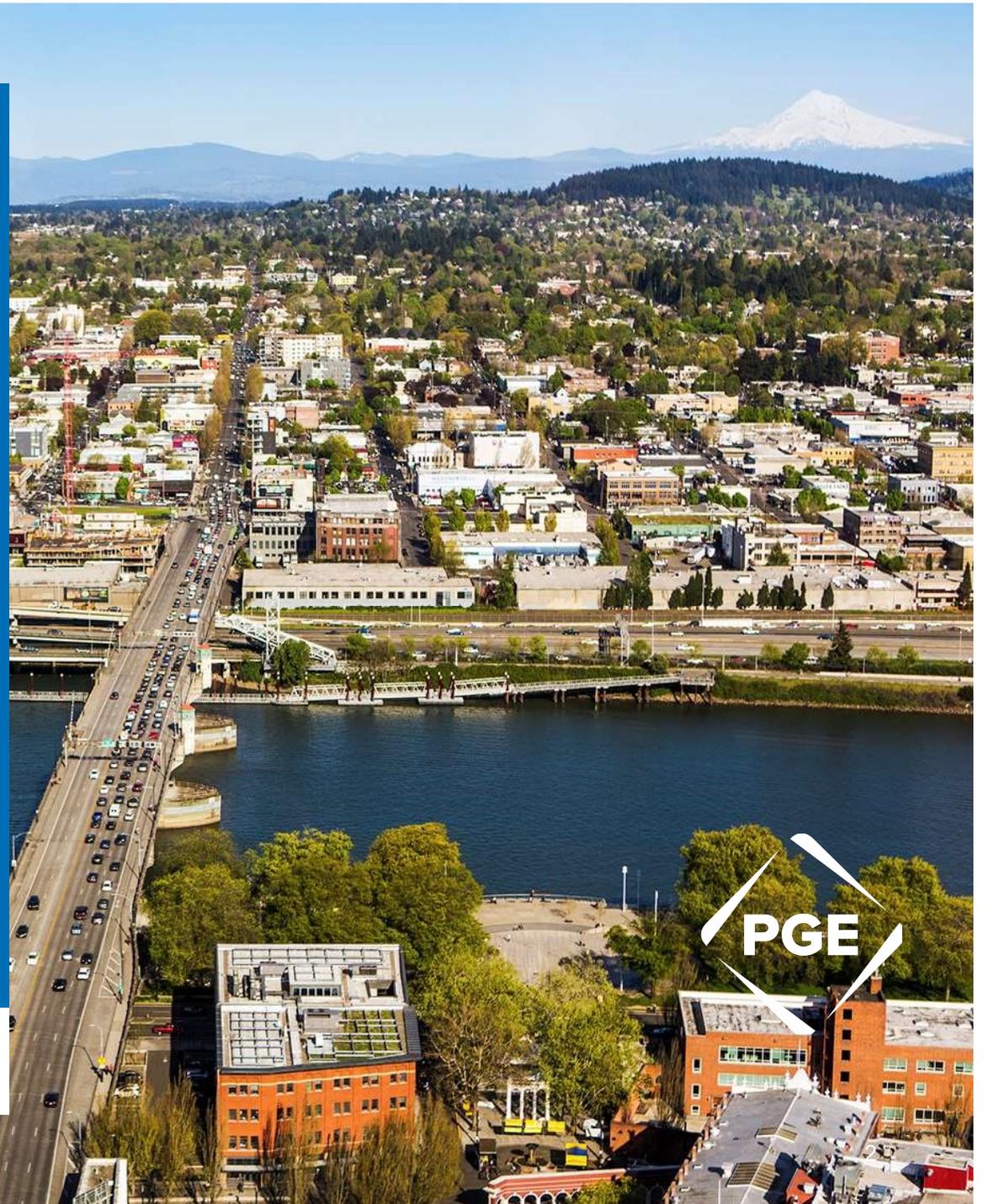
Oregon's Largest Utility

Sixth Largest Publicly Traded
Company in Oregon

Serve ~875,000 Retail Customers
with ~20 million MWh/year

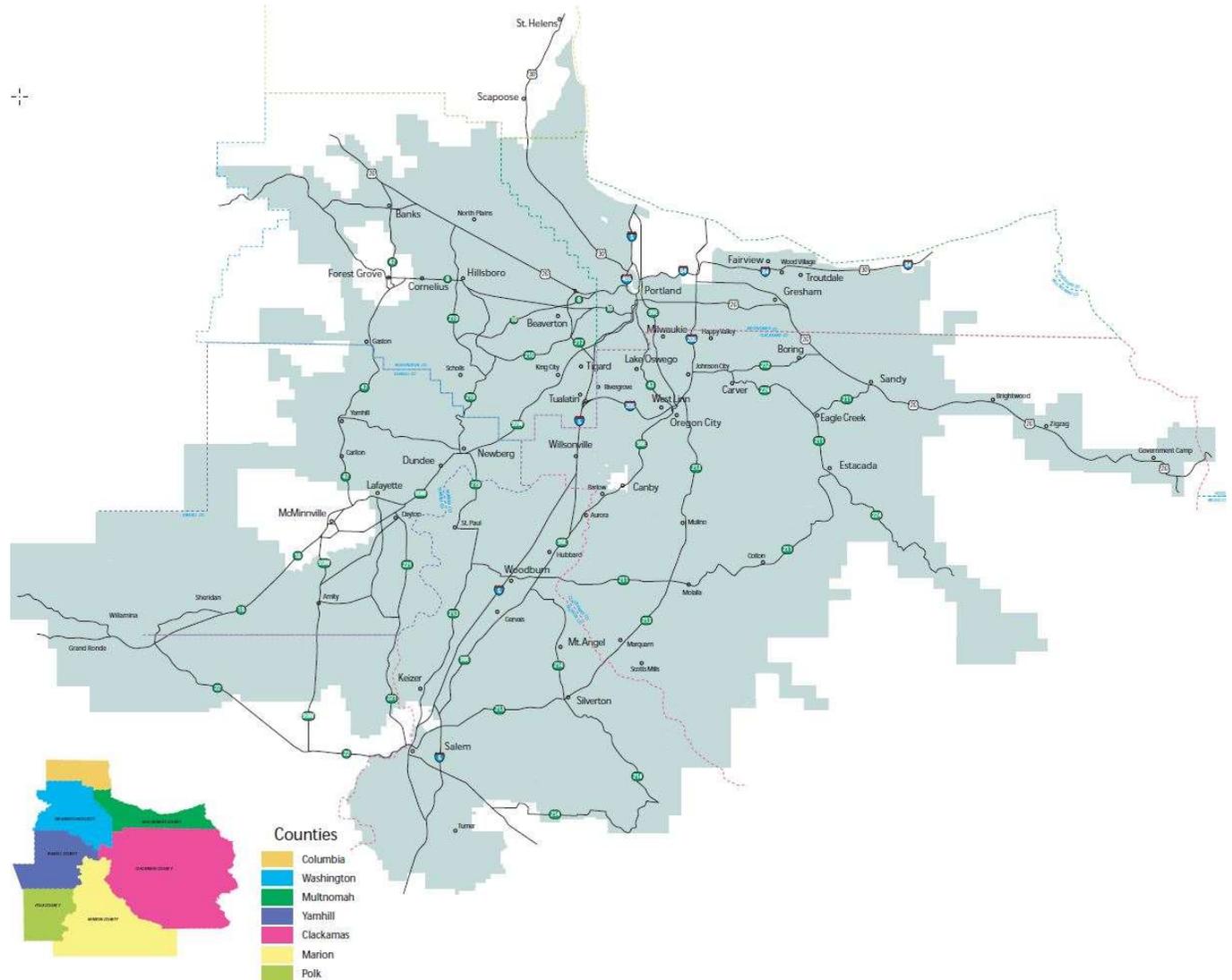
~40 percent of load served from
Carbon Free sources

Targeting 80% Carbon Free by
2050



Service Territory

- Population of ~ 1.9 Million
- ~ 4,000 Square Miles
- 3,976 MW 2017 Peak Load
- 27,457 Distribution Circuit Miles
- 1,250 Transmission Circuit Miles

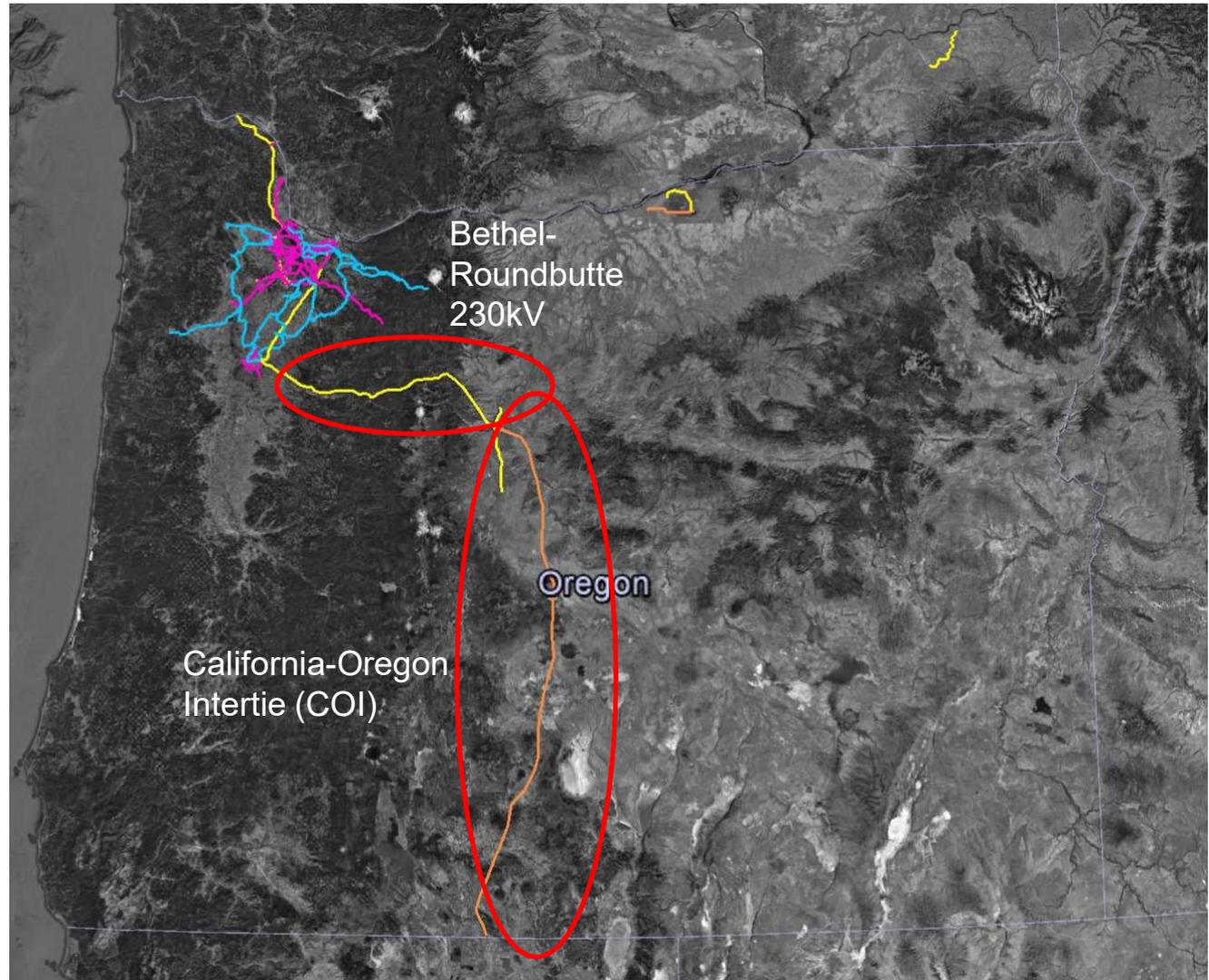


Transmission Planning

- Conducted for reliability and FERC compliance purposes
- Ability to meet the needs and obligations as required by PGE's Open Access Transmission Tariff (OATT)
 - Network Transmission Service
 - Point-to-Point Transmission service
 - FERC and NERC standards
- Reliability and Compliance Studies completed annually – 1, 5, 10 year horizons
- Local and regional planning conducted in open and transparent process
- Bi-annual regional transmission plan – 10 year horizon
- Bi-annual local transmission plan – 10 year horizon
- All to reliably meet PGE Control Area aggregate demand of all customers, including non-PGE customers

PGE Transmission System

- System largely concentrated between Portland and Salem
- New resources generally located outside of PGE's service territory
- Limited transfer capability to east side of Cascades



Transmission and IRP

Current State

- PGE has traditionally conducted transmission planning for core network reliability purposes
- Site-specific large-scale transmission projects, for the purposes of accessing new resources, not included in recent IRPs
 - Could limit the number and diversity of sites participating in an RFP
- Since Cascade Crossing, PGE has not identified a planned transmission project that rose to the level of inclusion in the IRP – for the purposes of accessing new resources

Transmission and IRP

Future State

- PGE is working to improve the treatment of transmission in future planning cycles
 - How might transmission constraints impact resource adequacy and capacity contribution?
 - How much transmission constraints impact resource performance?
 - Challenge will be to derive meaningful insights from transmission-related analysis (i.e., not falsely precise and not overly prescriptive)
- IRP planning horizon fairly consistent with time required to plan, permit, design and construct large-scale transmission project that would be necessary to access new resources.
- New large-scale transmission projects could offer both economic and reliability benefits
- Given the compact nature of PGE's system, a new large-scale project for the purposes accessing new resources would likely involve a new, long high voltage line extending east from PGE's existing system.

Questions?

