Ocean Renewable Energy Conference

Portland, Oregon
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OREGON DEPARTMENT OF ENERGY

Western Regional Energy Context

OREGON DEPARTMENT OF ENERGY

Leading Oregon to a safe, equitable, clean, and sustainable energy future.

Our Mission

The Oregon Department of Energy helps Oregonians make informed decisions and maintain a resilient and affordable energy system. We advance solutions to shape an equitable clean energy transition, protect the environment and public health, and responsibly balance energy needs and impacts for current and future generations.

What We Do

On behalf of Oregonians across the state, the Oregon Department of Energy achieves its mission by providing:

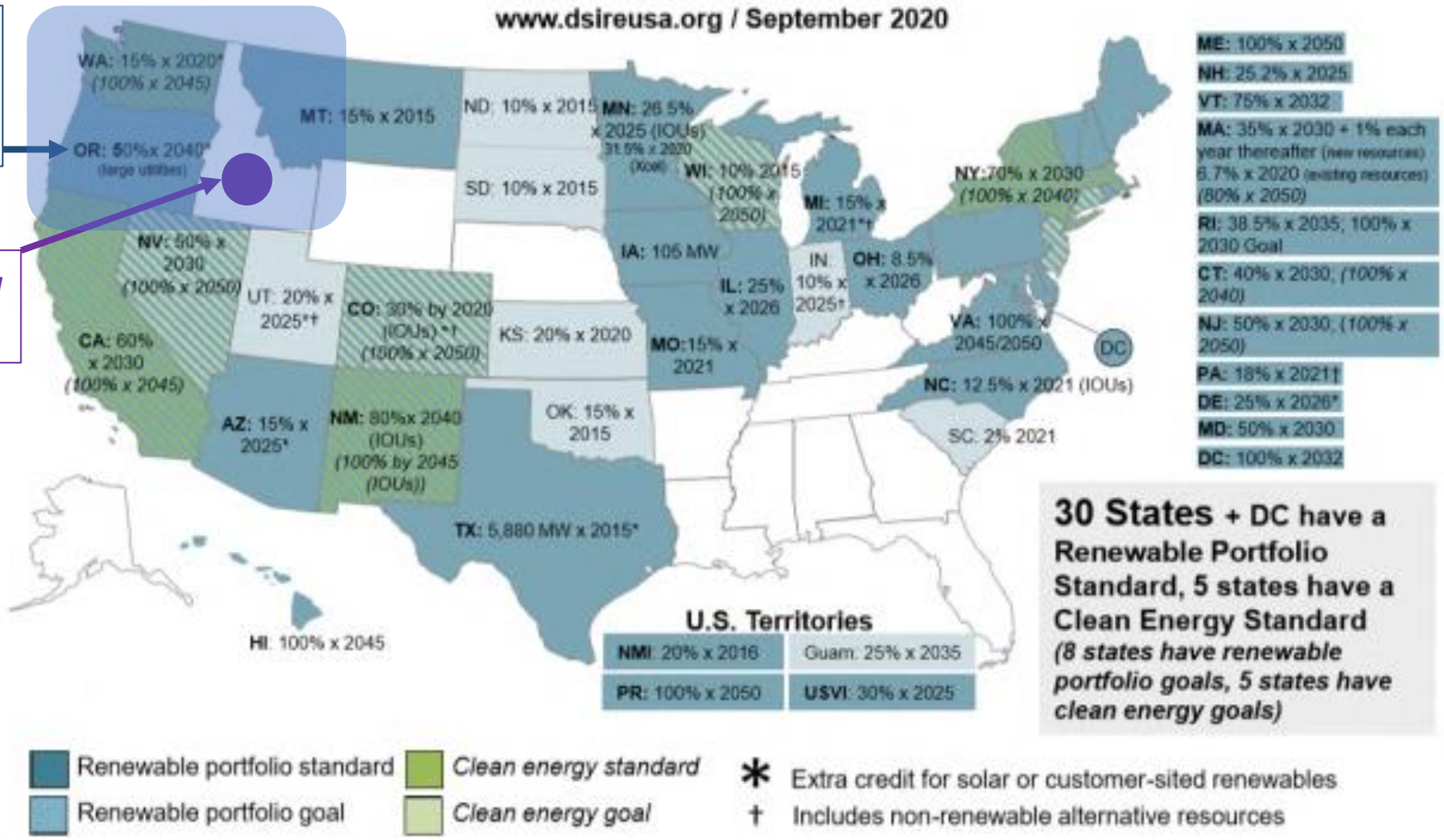
- A Central Repository of Energy Data, Information, and Analysis
- A Venue for Problem-Solving Oregon's Energy Challenges
- Energy Education and Technical Assistance
- Regulation and Oversight
- Energy Programs and Activities

National & Regional Context

Oregon IOUs
100% Clean x 2040
HB 2021 (2021)

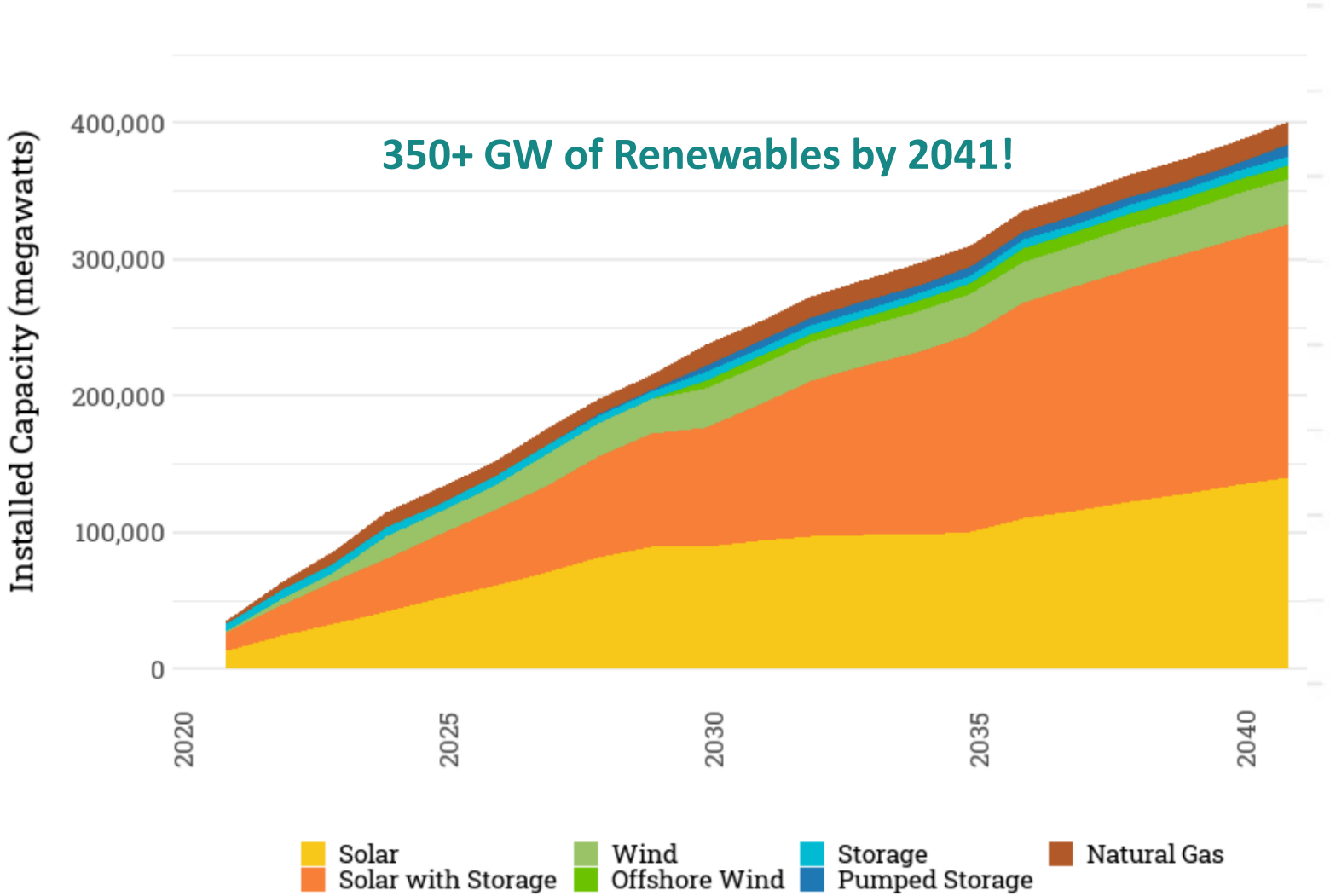
Idaho Power & Avista
100% Clean x 2045

Figure 1: Renewable and Clean Energy Standards in the United States



Oregon & Many States are Looking for Clean Energy!

West-Wide Context



THE 2021 NORTHWEST POWER PLAN
FOR A SECURE & AFFORDABLE ENERGY FUTURE

Source, p. 51

West-wide Projection: Baseline projection for what will be required across western states to meet clean energy targets

Diversity is least cost, least risk.

Can It All Get Built In Time? Where?

Renewables & Transmission

Renewables → Location Matters

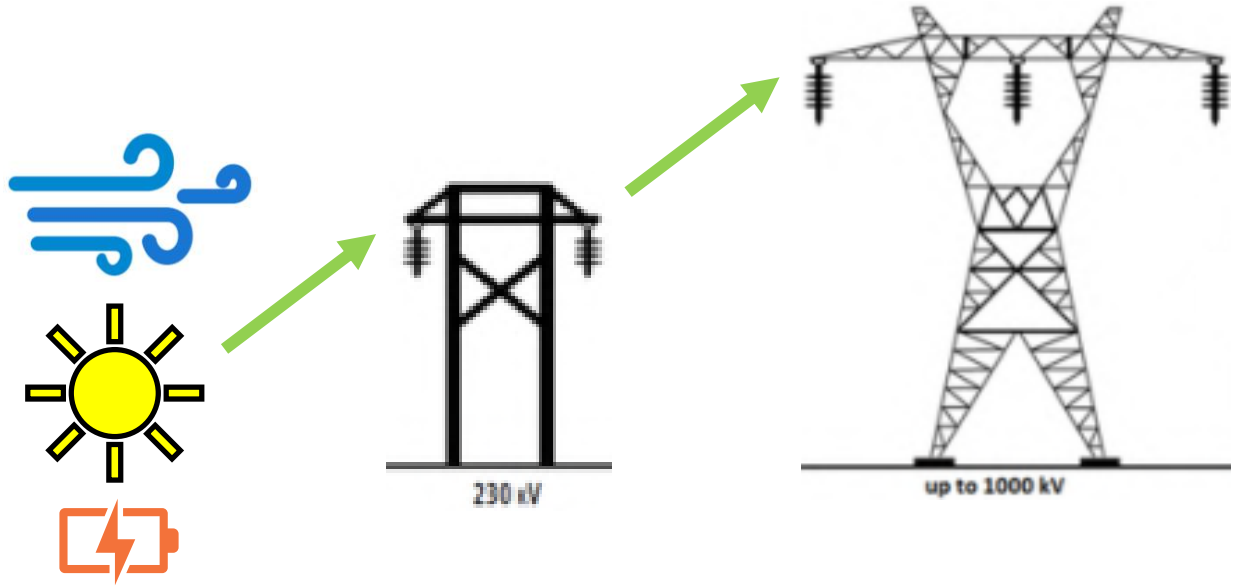
- Sunny/Windy Areas + Transmission

New Renewable Projects

- Available Transfer Capability (ATC)
- Transmission Service Rights
- New Gen-Tie Lines
- Batteries Help Optimize

Two Ways to Increase ATC

1) Optimize Existing Lines
2) Build New Lines

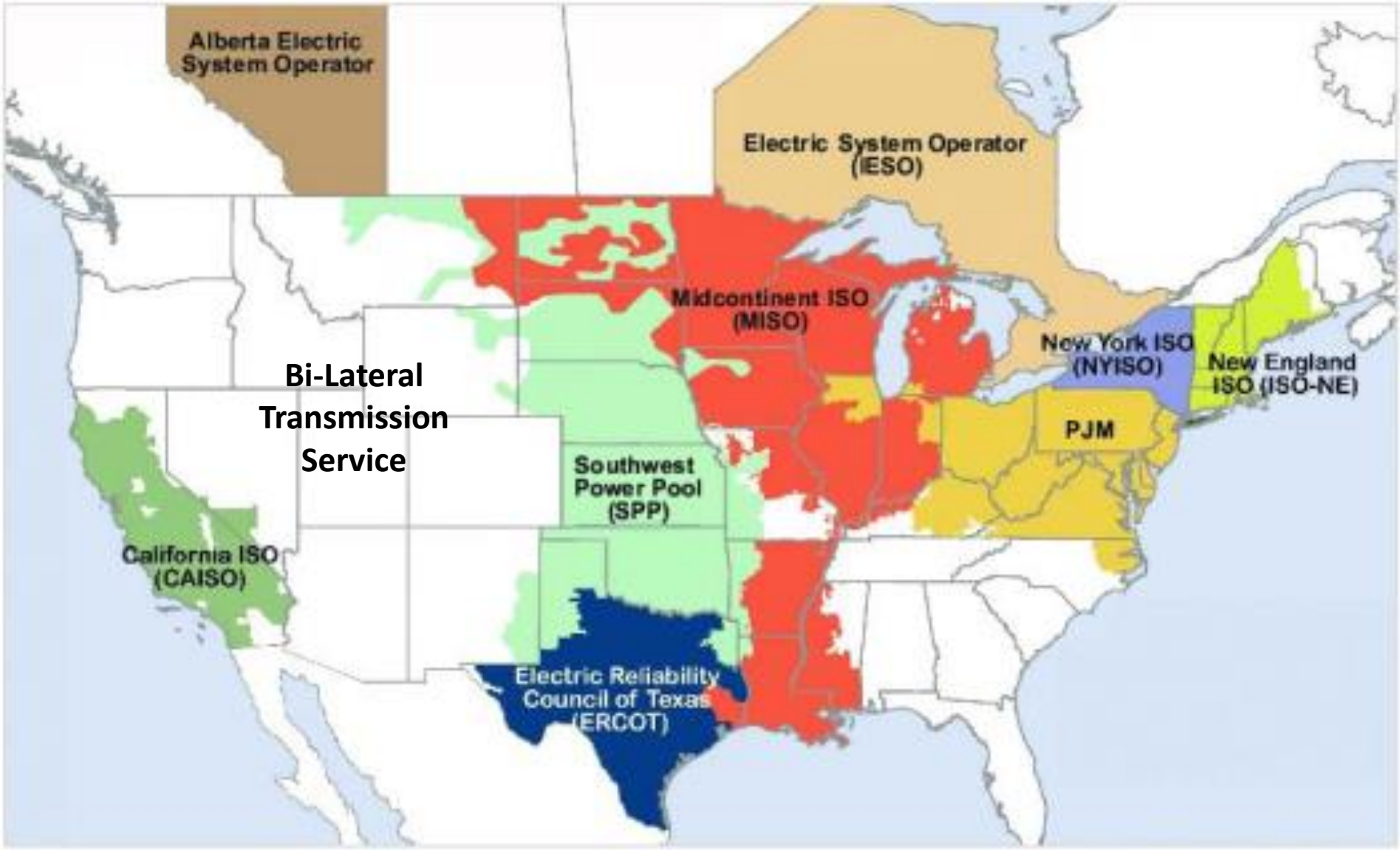


Generation
High Value Areas

Gen-Tie Lines
Paths to Larger Transmission

Transmission Highway
Large Paths to Customers
Requires ATC & Service Rights

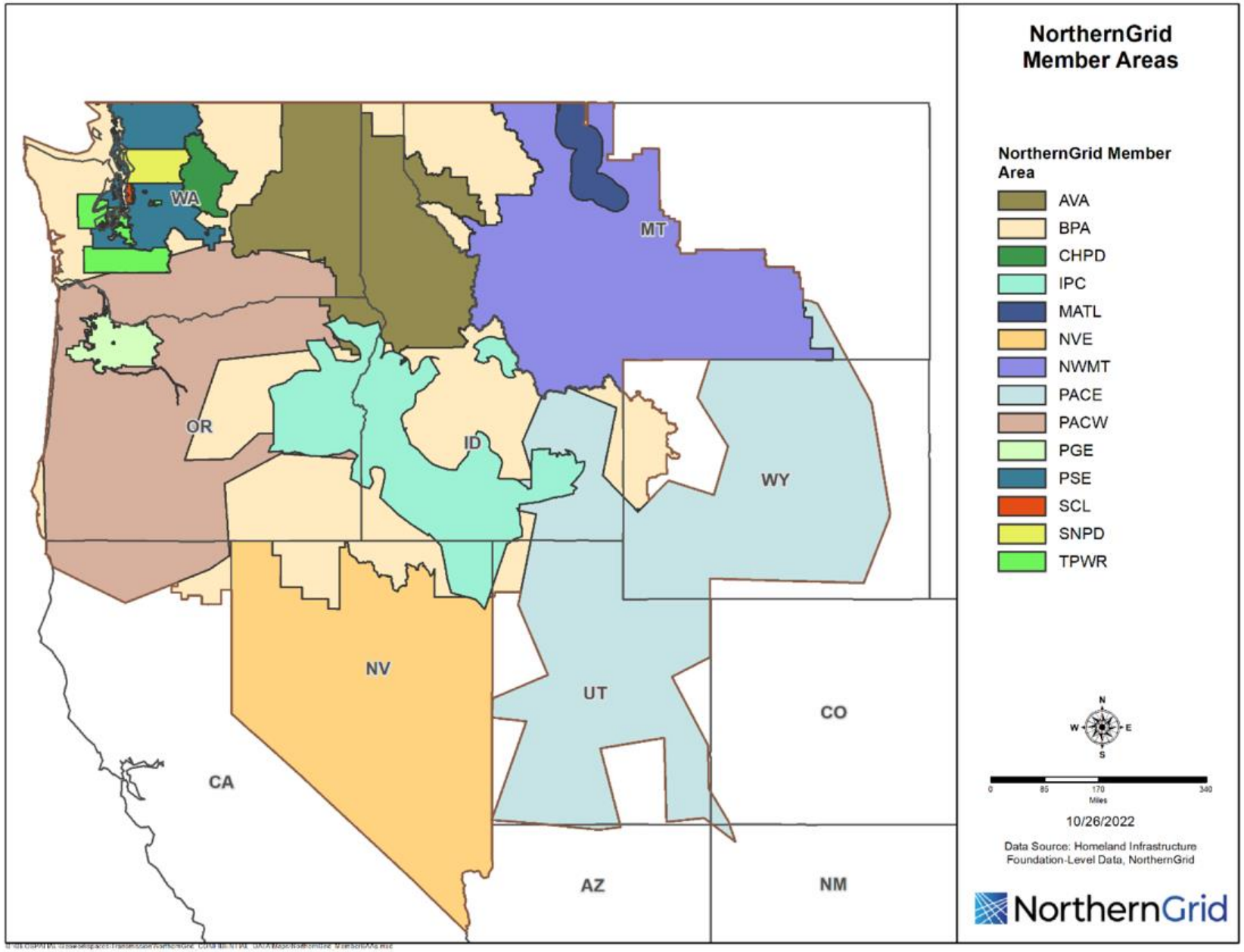
Transmission Service Context



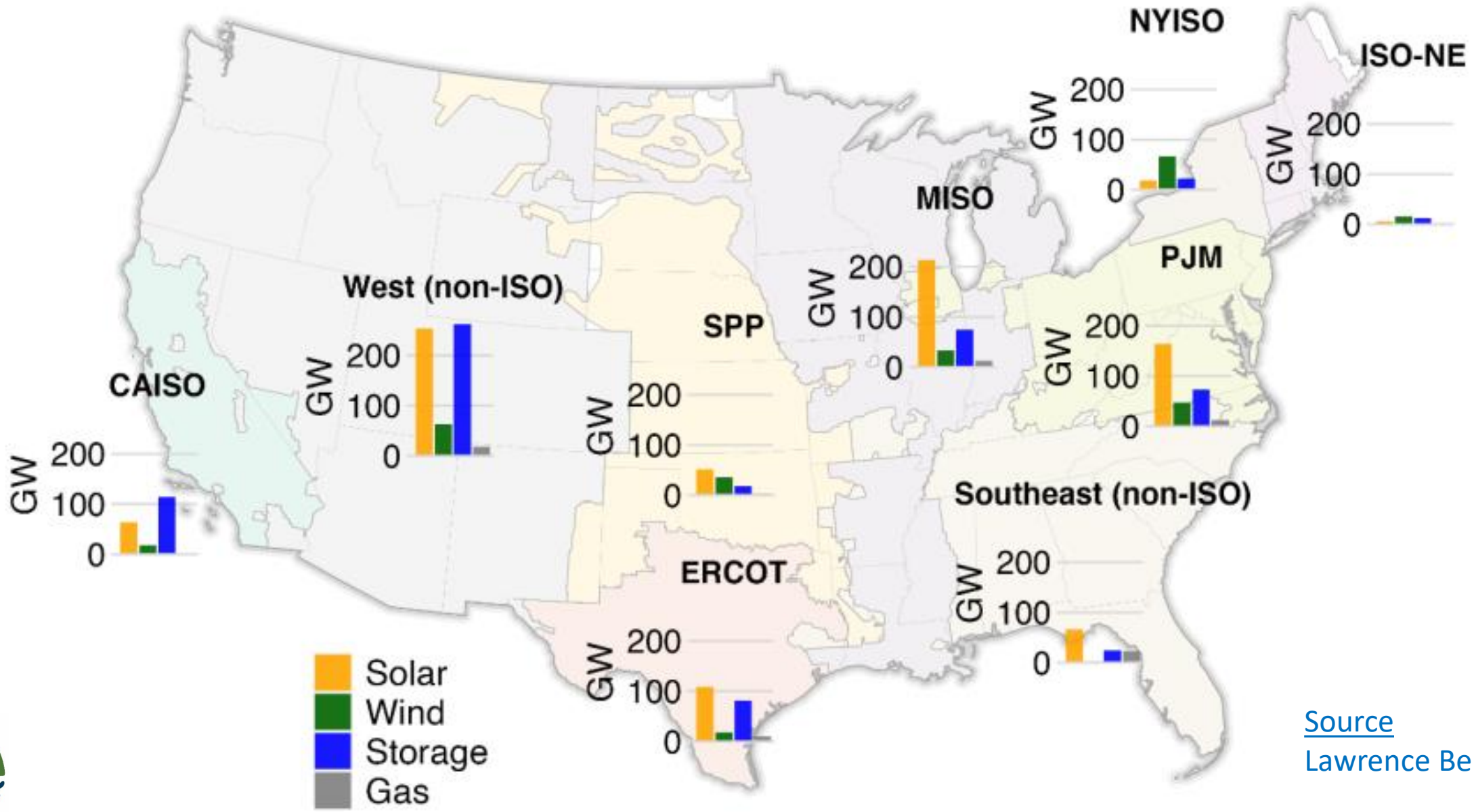
Regional Transmission Planning

NorthernGrid

- Regional Planning Organization
- Not an RTO/ISO
- Facilitates compliance w/ FERC Order 1000

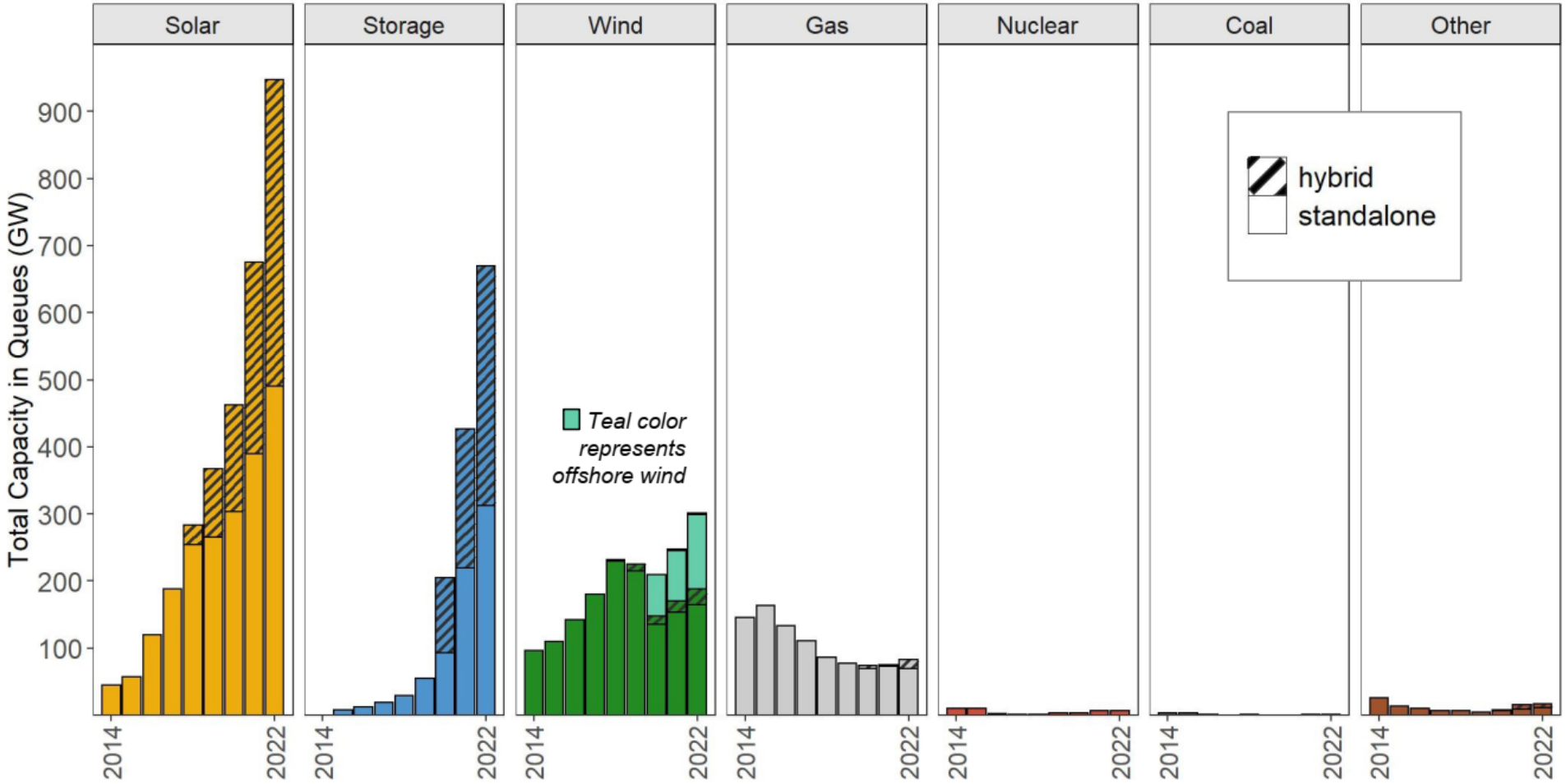


U.S. Interconnection Queues - End of 2022



Source
Lawrence Berkely Lab

U.S. Interconnection Queues - End of 2022



- "**Wind**" includes both onshore and offshore.
- "**Other**" includes
  - Hydropower
  - Geothermal
  - Biomass/biofuel
  - Landfill gas
  - Solar thermal
  - Oil/diesel
- "**Storage**" is primarily (99%) battery, but also includes pumped storage hydro, compressed air, gravity rail, and hydrogen.

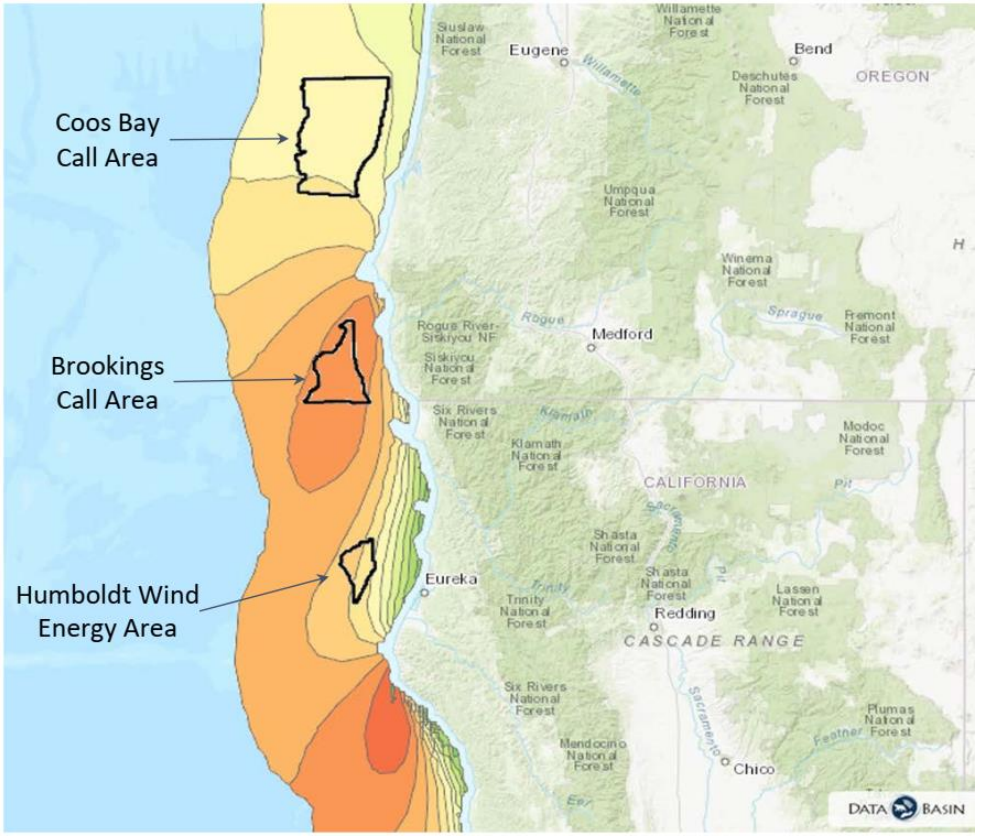
Source
Lawrence Berkely Lab

West Coast Offshore Wind Context

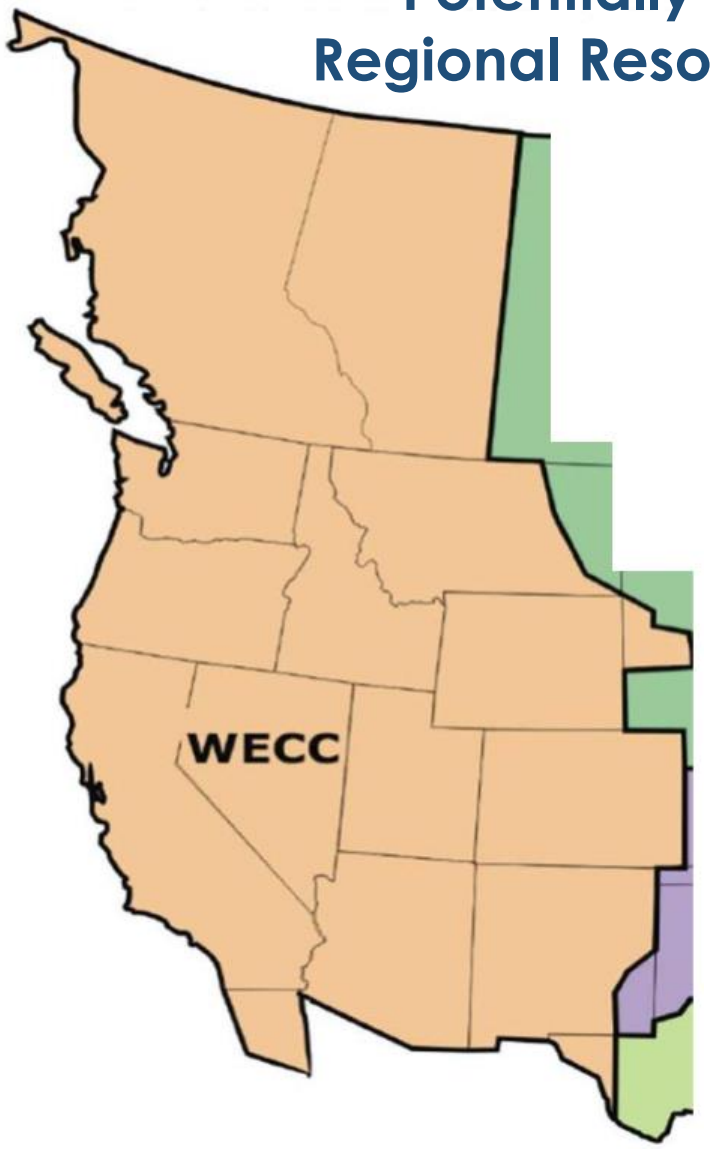
Still Early Days

Potential Oregon Locations TBD

Some Potential California Locations Identified



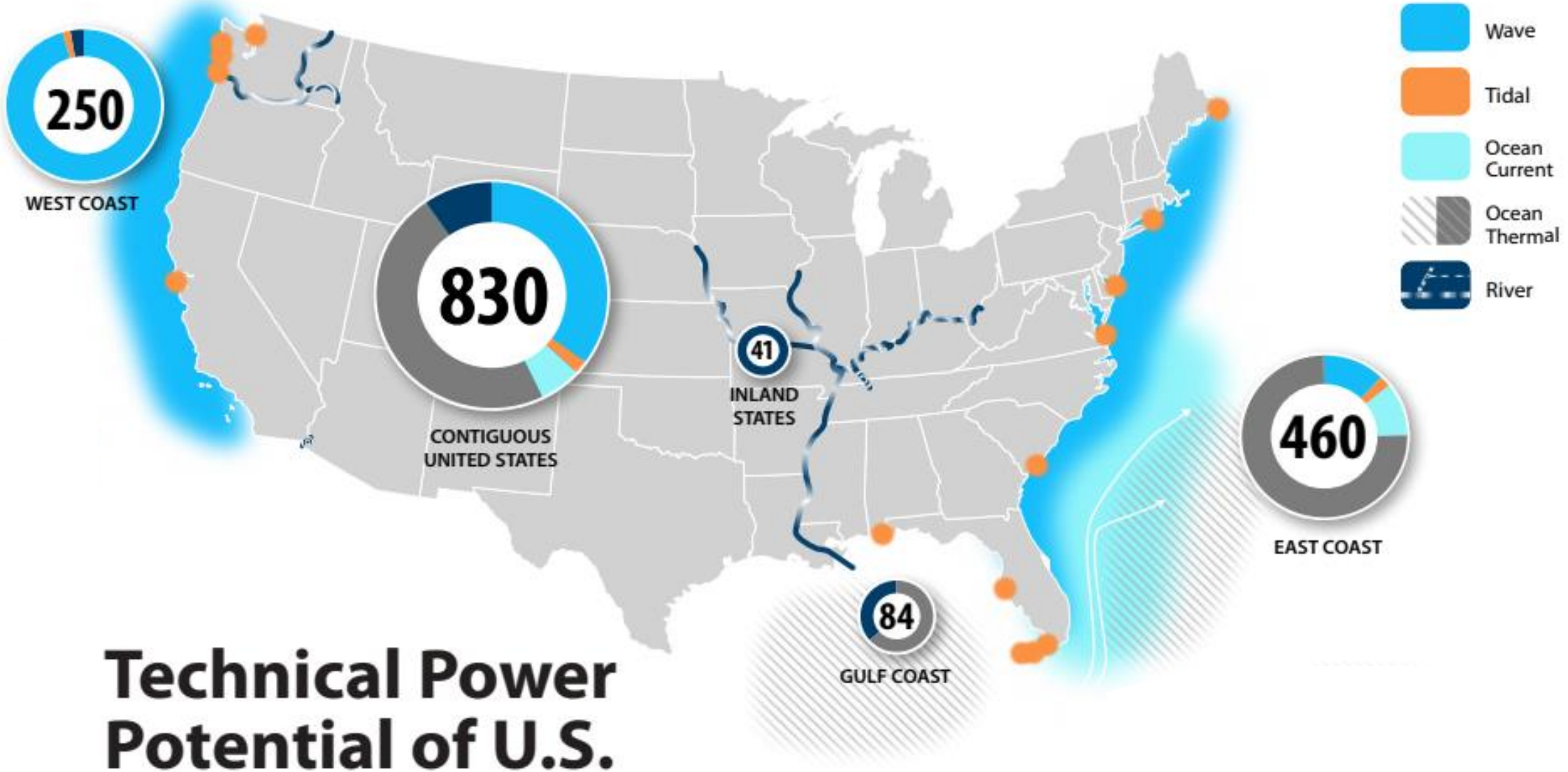
Potentially a Regional Resource



Ocean transmission cables

Onshore transmission expansion

Marine Energy Resources

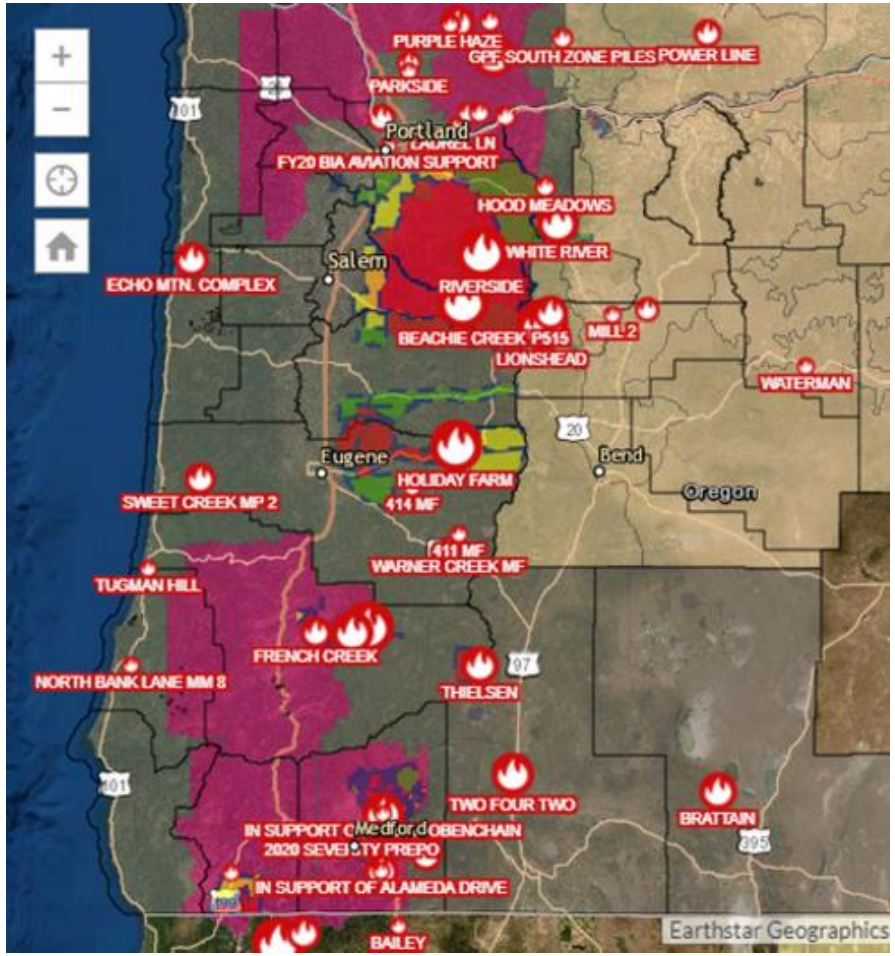


Source
NREL

Coastal Resilience Context

Oregon's predominant power flows

Wildfire Snapshot from [Oregon RAPTOR]
at 7 a.m. Friday, Sept. 11, 2020



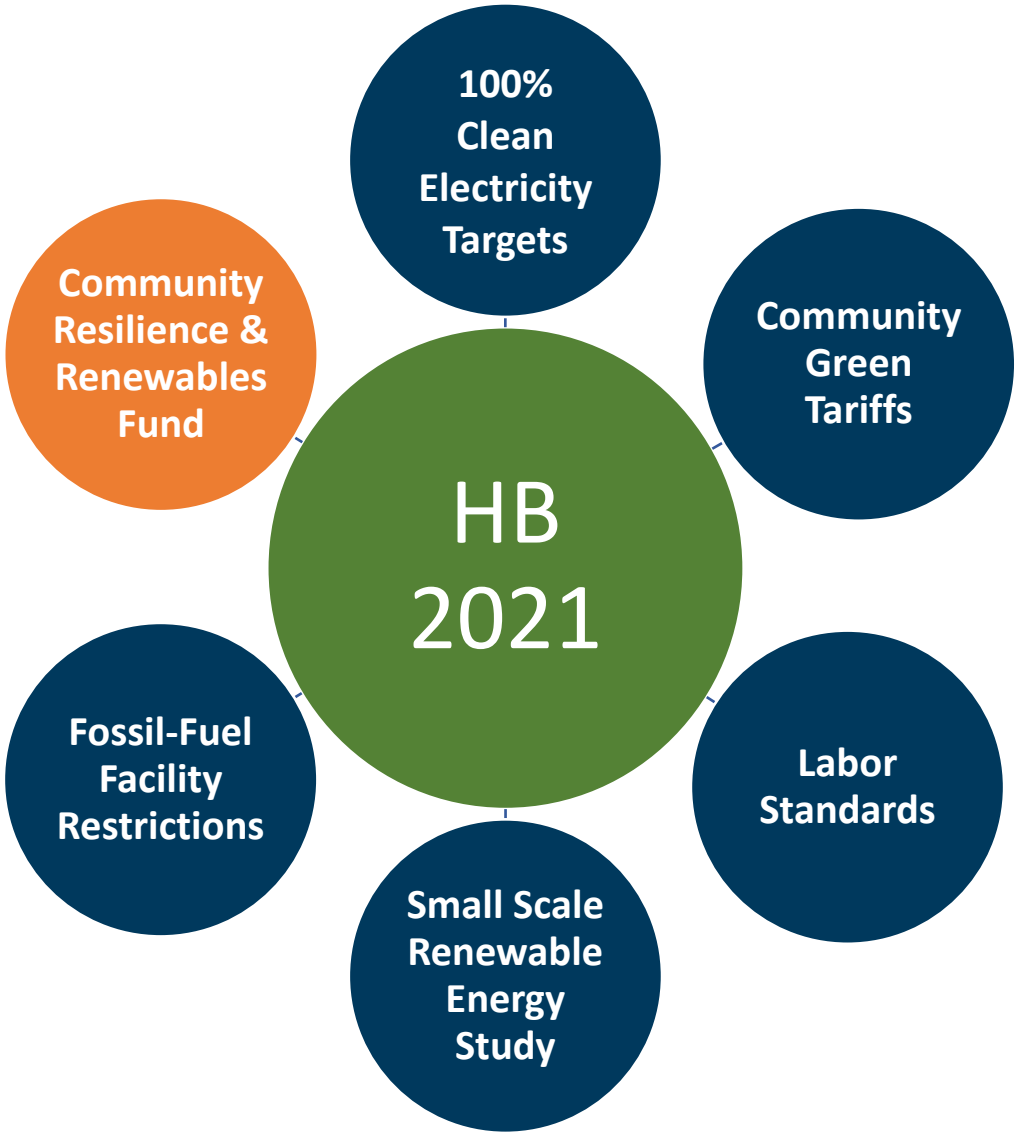
Oregon – HB 2021

100% Clean by 2040

- Applies to Oregon's IOUs and ESSs*

Community Renewable Energy Grant Program

- Community energy resilience & community renewable projects
  - ➢ *Planning or constructing*
- $50 million fund at ODOE
- Link to more info



*IOUs = Investor-Owned Utilities; ESSs = Electricity Service Suppliers.

Thank You!

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