

DOCKETED

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Renewable Energy Outlook

Washington, Oregon, Idaho, and Montana

Prepared for RETI Western Outreach Effort

Our Mission

Renewable Northwest's mission is to promote the expansion of environmentally responsible renewable energy resources in the Northwest (Oregon, Washington, Idaho, and Montana.)



Q#1: Renewable Demand

RPS Requirements:

- Oregon - 50% by 2040
~4,000 MW
- Washington RPS - 15% by 2020
~400 aMW additional need (2021)
~Carbon Policies
~If IOUs 50% ~ 3,500 additional MW
- Montana RPS – 15% x 2015
-Largely Satisfied (45 MW Community)
- Idaho: No RPS;
~400 MW of PURPA Solar

Coal Plant Retirement:

- Boardman 2020
- Centralia 1 (2020), and 2 (2025)
- Colstrip 1 and 2 (2022)
- Total = 2,777 MW

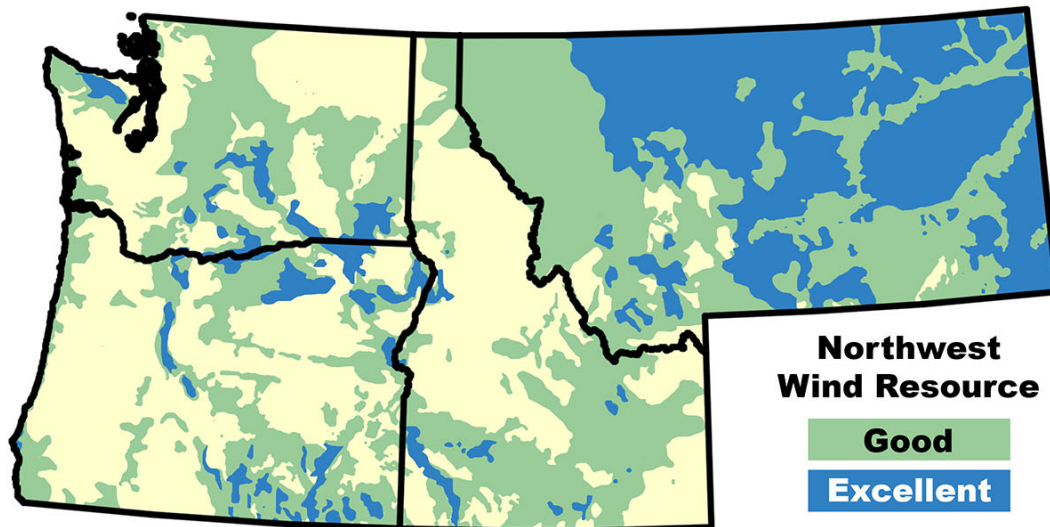
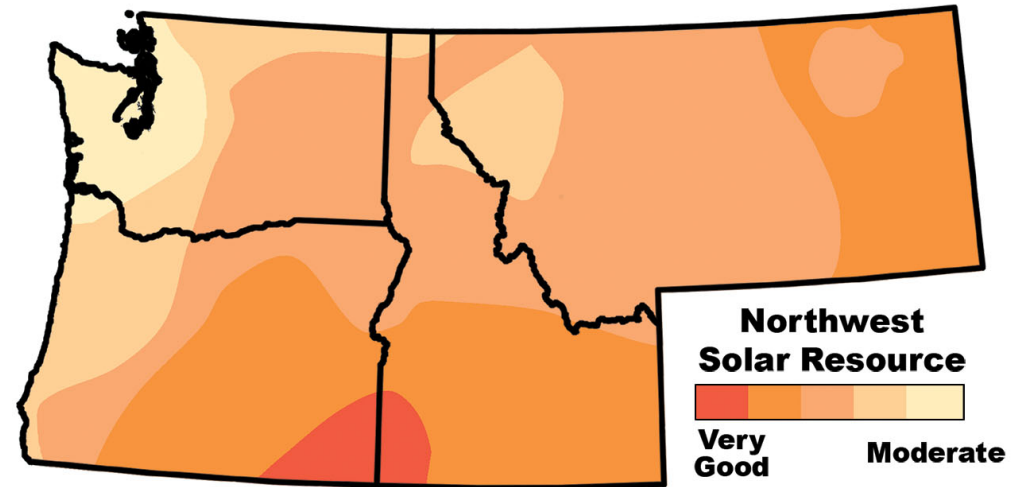
Clean Power Plan:

- WA, OR, ID—Surplus
- MT— 1,105 MW

Other:

- Distributed/Community Solar
- Large Customers
- Electric Vehicles
- Indoor Horticulture

Q#2: Renewable Supply



Renewable Projects Today

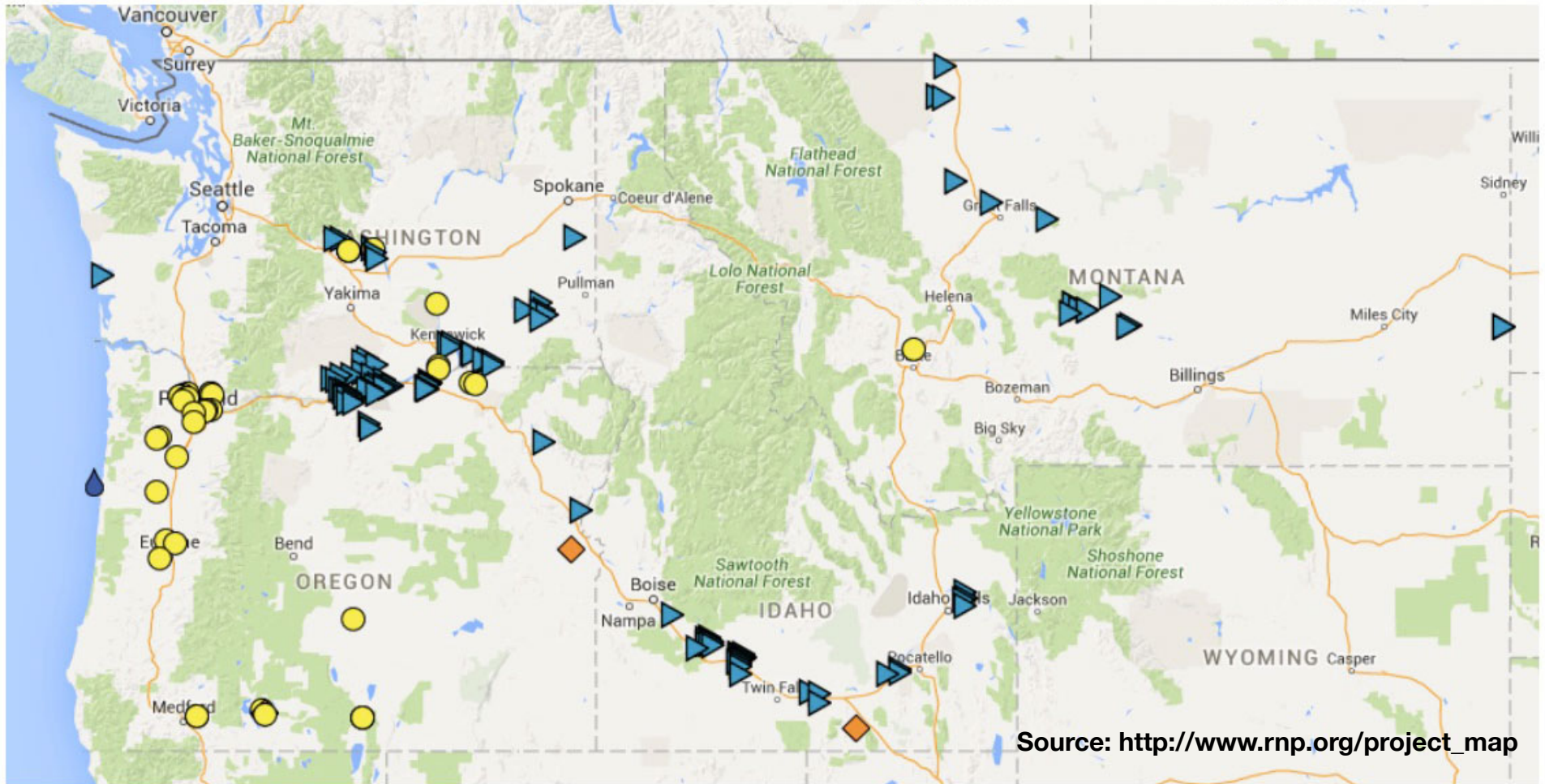
Map Legend

◆ Geothermal Operational

● Solar Operational

💧 Wave Operational

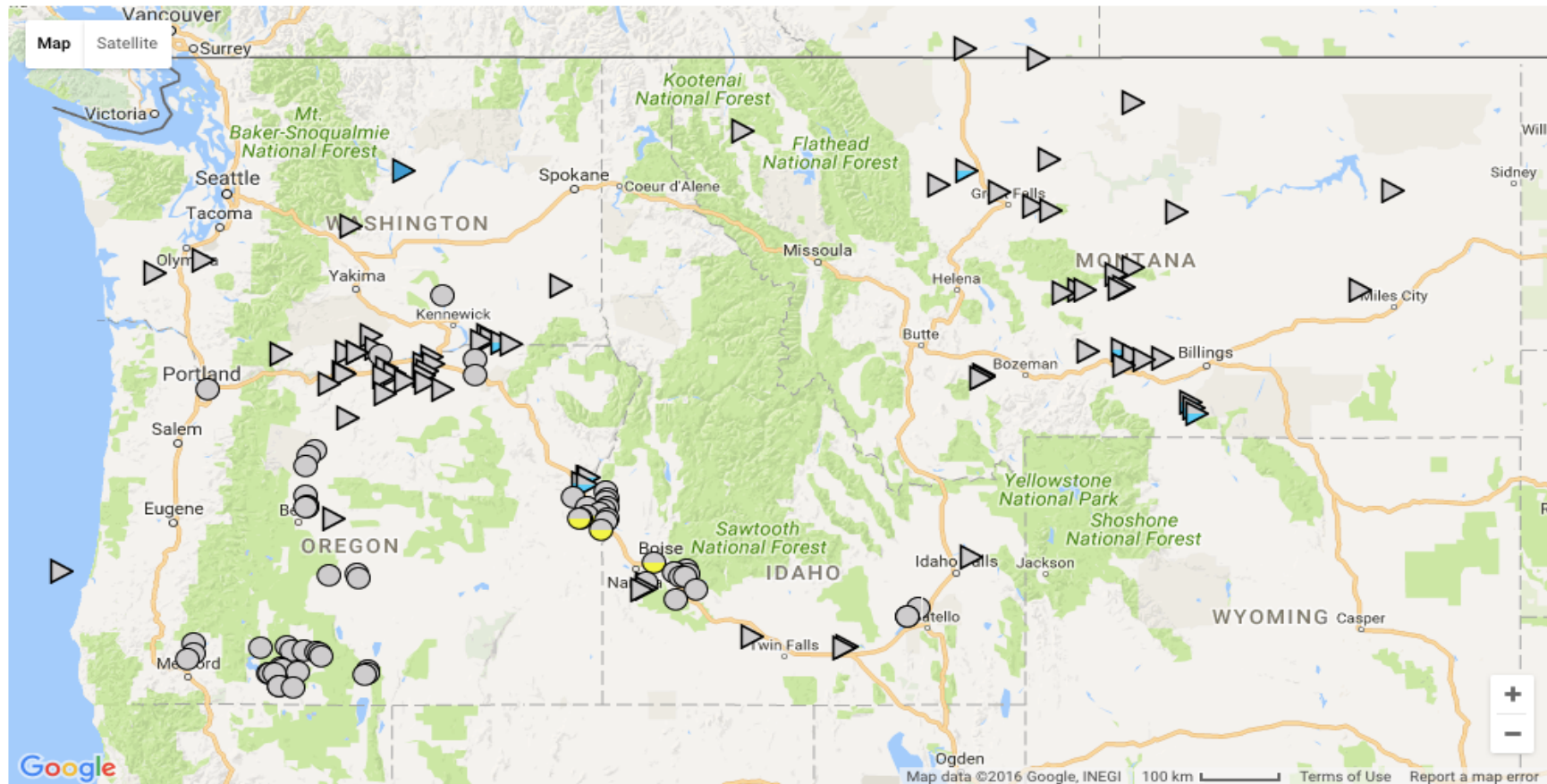
▶ Wind Operational



Renewable Projects Tomorrow?

Map Legend

- | | | | |
|-------------------------------|--------------------------|-------------------------|-------------------------|
| Geothermal Operational | Solar Operational | Wave Operational | Wind Operational |
| Geothermal Under Construction | Solar Under Construction | Wave Under Construction | Wind Under Construction |
| Geothermal In Development | Solar In Development | Wave In Development | Wind In Development |



Q#2: Renewable Supply

- **Diversity:**
 - Increasing Solar in NW
 - BPA queue (2,600 MW solar and 5,900 MW of wind active)
- **Montana, Montana, Montana:**
 - NWPPC Analysis; 48% Winter CF:
 - <https://www.nwcouncil.org/media/7150484/3.pdf>
 - Energy Strategies Analysis (forthcoming)
- **Transmission:**
 - Colstrip ATC
 - BPA Montana to Washington Upgrade
 - MSTI (w/SWIP North and South)
 - MATL
 - Boardman to Hemmingway
 - Dynamic Scheduling
 - Conditional Firm (LLH)

Q#3: Patterns of Trade

- *“With evolved markets, opportunities abound.”*
- Renewable energy diversity and regional swaps are essential.
- Regional cooperation leads to least cost solutions.
- Focus: CO2 pricing, econ dispatch, TX utilization & diversity value.

- Import Areas and Balancing Partners:
 - Northwest and BC hydro
 - Alberta w/ expanded TX

- Wish List:
 - CA diversity benefits analysis.
 - Regional dynamic scheduling and stability analysis
 - NTTG Study

THANK YOU



Cameron Yourkowski
Renewable Northwest
503-223-4544
cameron@renewableNW.org