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April 3, 2018

MEMORANDUM

TO: Council Members

FROM: Gillian Charles

SUBJECT: Remarks from Rachel Shimshak, Executive Director, Renewable Northwest

BACKGROUND:

Presenter: Rachel Shimshak, Executive Director, Renewable Northwest

Summary: Over the past year and a half, the Council has been inviting thought leaders from around the region to share their expertise and insight on the challenges and key issues facing the electric utility industry. At the April Council Meeting, the Council will hear from Rachel Shimshak.

Ms. Shimshak has served as the Executive Director of renewable energy advocacy organization Renewable Northwest since its inception in 1994. Working with energy developers, industry experts, policy makers, public interest groups, and citizens, Ms. Shimshak and Renewable Northwest have helped shape the diverse renewable resource portfolio in operation in the region today. Since the late nineties, the Pacific Northwest has seen the development of around 8,000 megawatts of wind, a few small geothermal projects, and several hundred megawatts of solar pv (with more planned in the next several years).

Ms. Shimshak will be speaking about her experience in the industry over the past 25 years, sharing her perspective on the current state of energy in the region and her thoughts on the future. Ms. Shimshak will be retiring from Renewable Northwest in June.

More Info: From the Renewable Northwest website, <https://renewablenw.org/>

Vision statement: “We envision the Northwest powered by clean, affordable, reliable, renewable energy that protects the climate, strengthens the economy, and preserves our quality of life.”

Mission statement: “We advocate for the expansion of environmentally responsible renewable energy resources in the Northwest through collaboration with government, industry, utilities, customers, and advocacy groups.”



Renewables Are Ready: Council Presentation April, 2018

Introduction

- Overview of Renewable Northwest
- History of Renewables in the Region
 - A Marathon, Not a Sprint
- Common Misconceptions
- Challenges and Opportunities
- Believe We Can Do It

Renewable Northwest

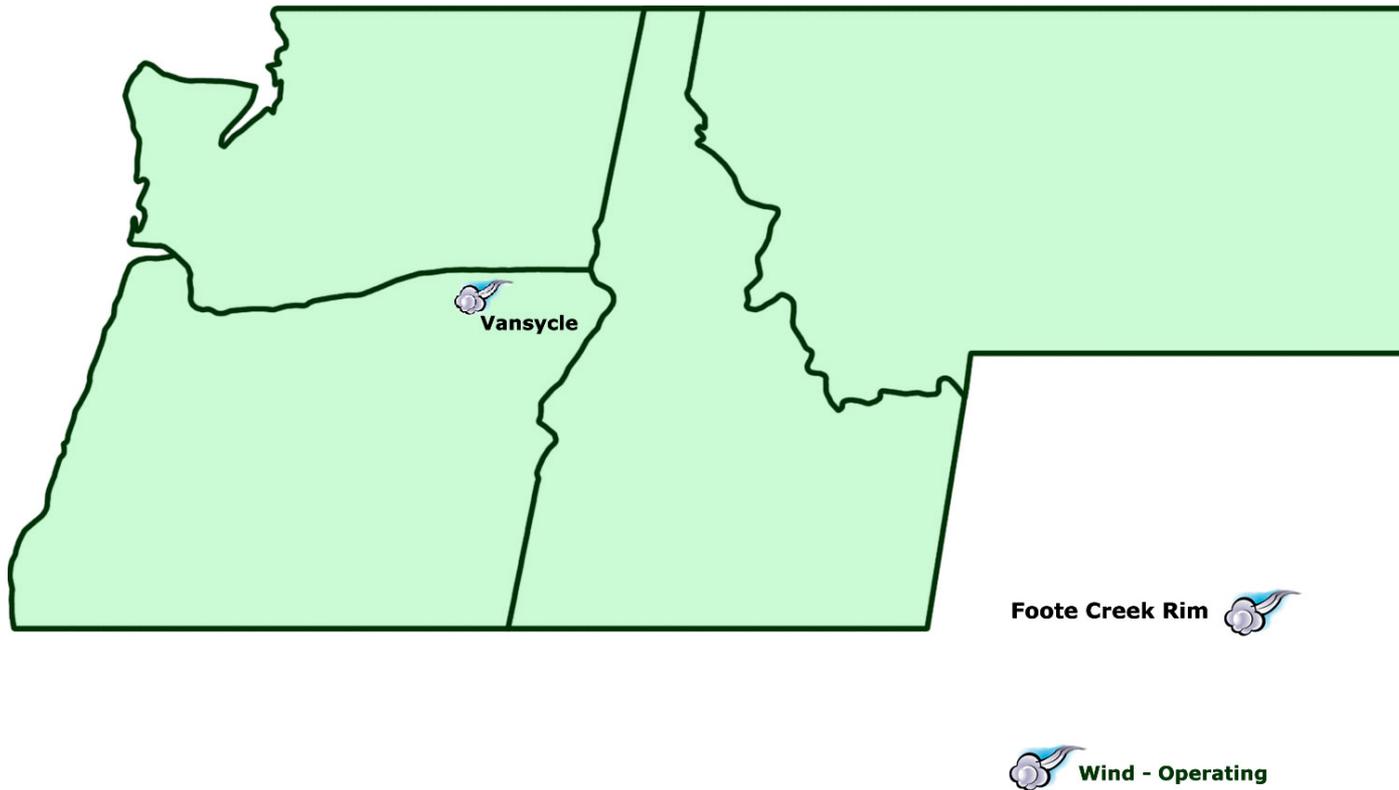
Vision: The Northwest states of Washington, Oregon, Idaho, and Montana powered by clean, affordable, reliable, renewable energy that protects the climate, strengthens the economy, and preserves our quality of life.

Mission: Working with business and non-profit members, advocate for the expansion of environmentally responsible renewable energy resources in the Northwest.



Looking Back

Renewable Energy Projects in the Northwest 1998



Key Renewable Policies

1999: OR SB 1149 established public purpose fund for EE and RE

2005: MT SB 457 established RPS of 15% by 2015

2006: WA I-937 established RPS of 15% by 2020

2007: OR SB 848 established RPS of 25% by 2025 and improved EE

2016: OR SB 1547 established RPS of 50% by 2040, no coal by 2030

Today

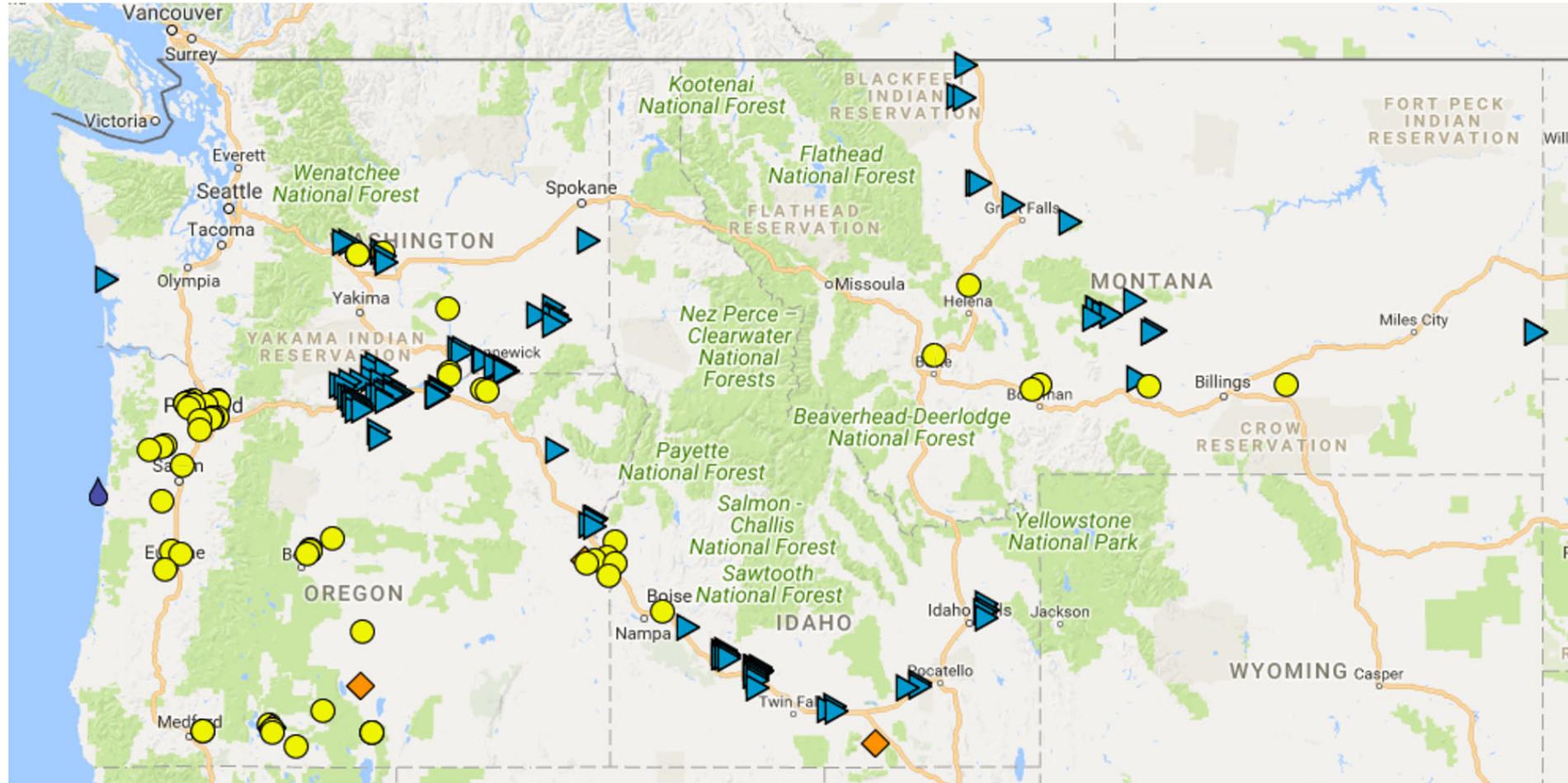
Map Legend

◆ Geothermal Operational

● Solar Operational

💧 Wave Operational

▶ Wind Operational



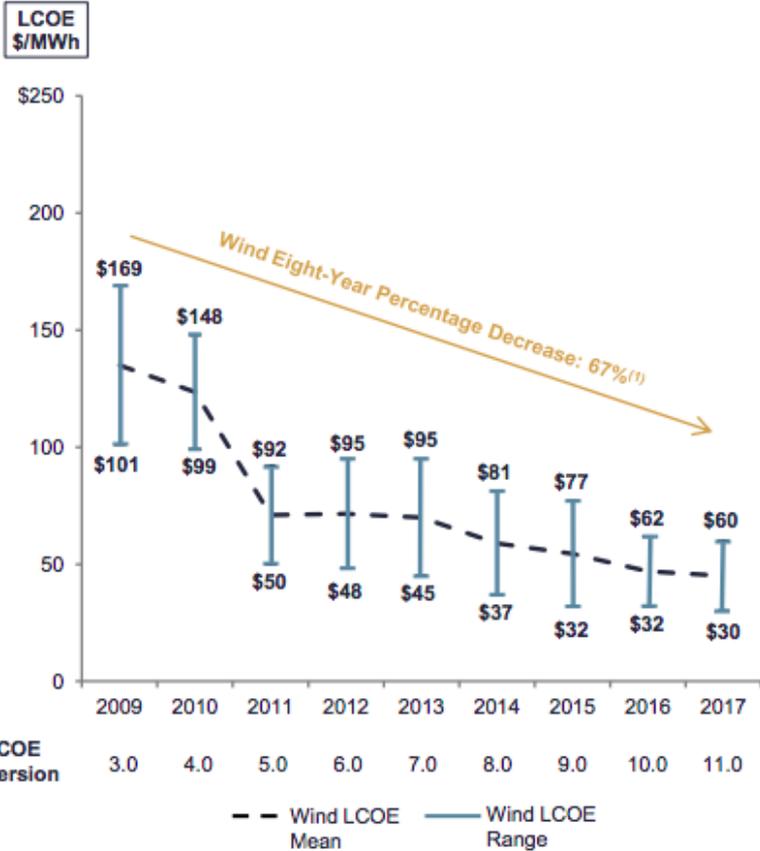
Regional Benefits

- Proven able to integrate renewables into the grid
- Little to no incremental cost
- Limited effect on wildlife and habitat
- Delivered concrete benefits for Region
 - More than 8,000 MW of clean generation
 - More than \$20 billion invested
 - More than \$310 million in public revenue
 - Estimated 12,000 jobs created

Wind and Solar Prices Fall

Unsubsidized Levelized Cost of Energy

Wind LCOE



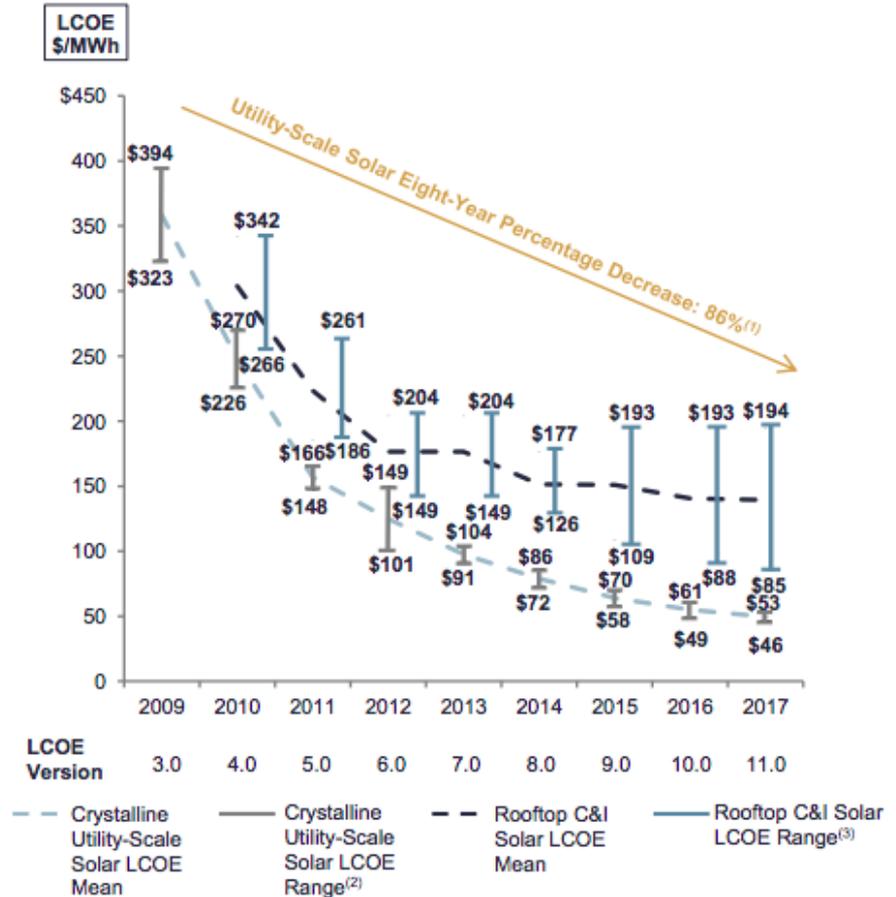
Source: Lazard estimates.

(1) Represents average percentage decrease of high end and low end of LCOE range.

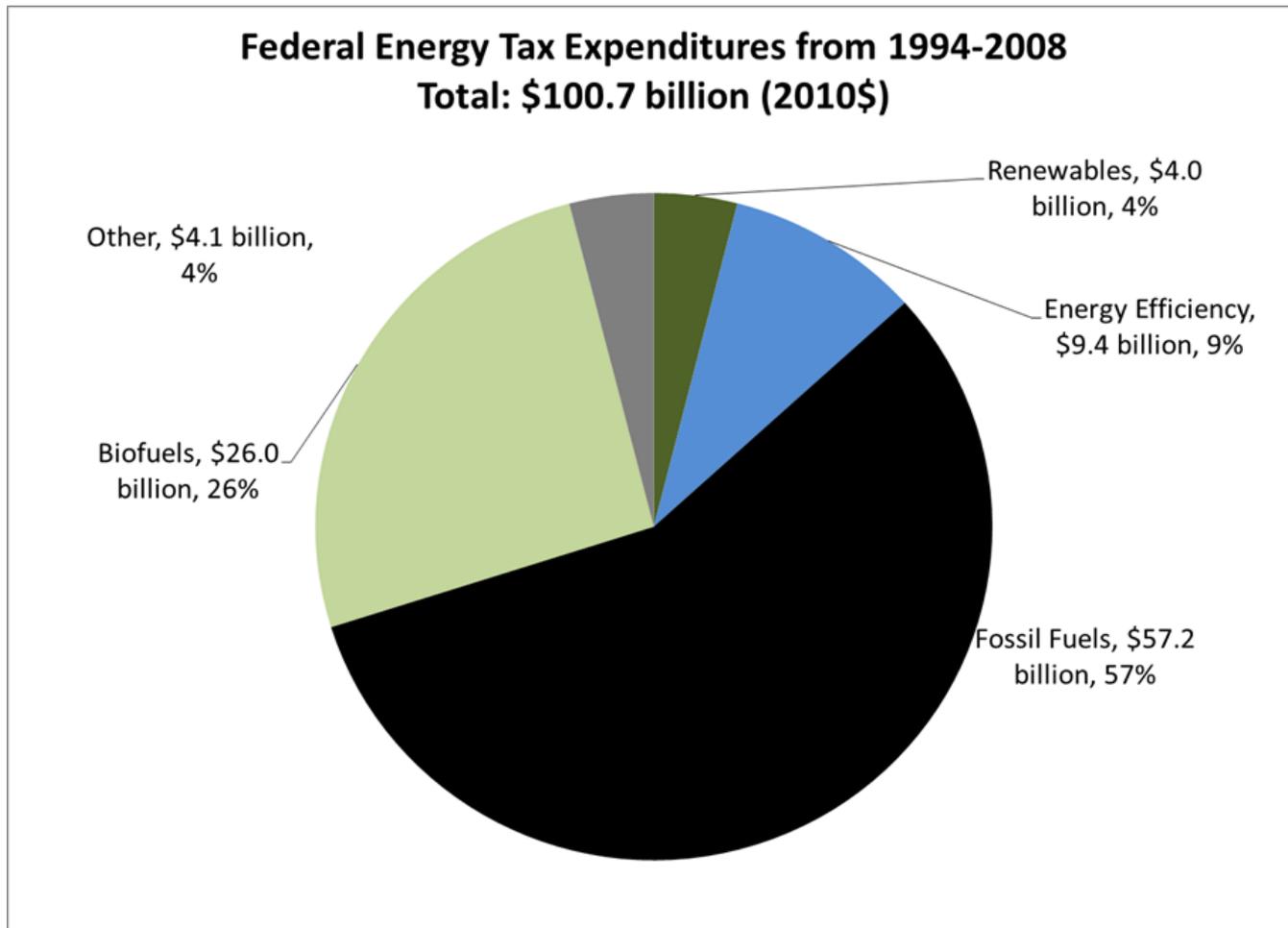
(2) Low end represents crystalline utility-scale solar with single-axis tracking in high insolation jurisdictions (e.g., Southwest U.S.), while high end represents crystalline utility-scale solar with fixed-tilt design.

(3) Lazard's LCOE initiated reporting of rooftop C&I solar in 2010.

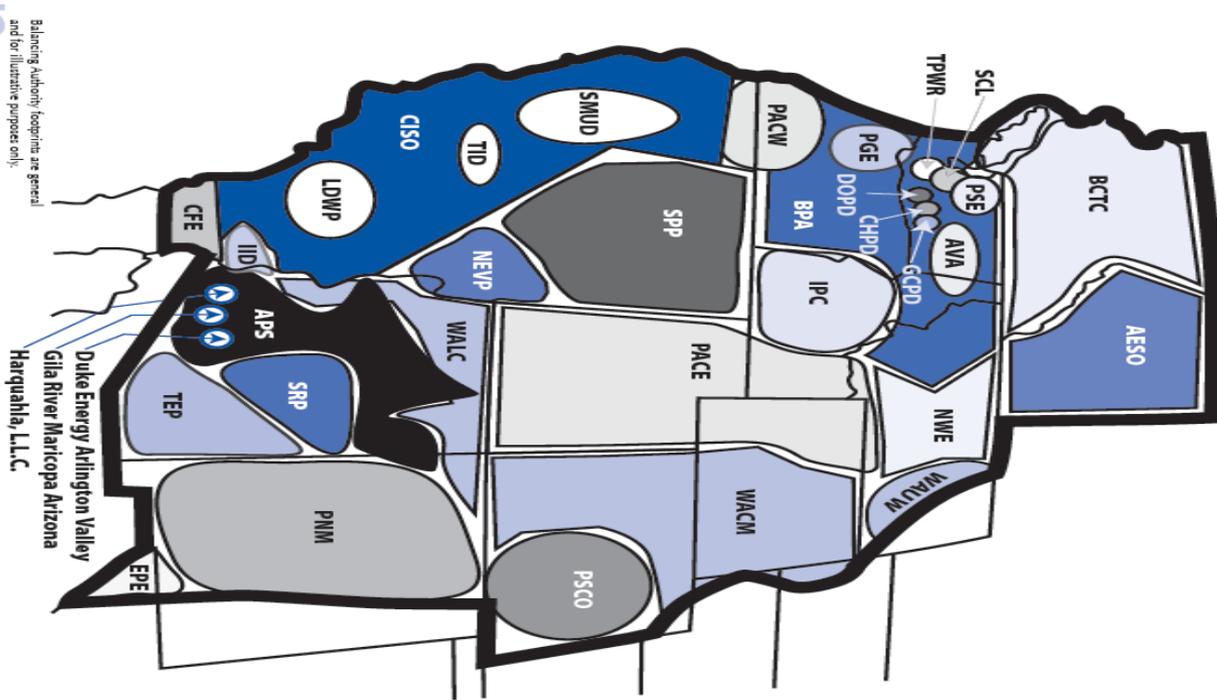
Solar PV LCOE



Federal Subsidies



Balancing Areas in the West



Clean Generation for the next Generation

