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October 1, 2013

MEMORANDUM

TO: Council Members

FROM: Gillian Charles, Energy Policy Analyst

SUBJECT: Briefing on Renewable Resource Requirements to Meet RPS Needs in 2015-2035

Washington, Oregon, and Montana have all passed renewable portfolio standards (RPS) in which a certain percentage of qualifying utilities' electricity sales are required to be produced from renewable resources. While each state has a unique standard with varying factors (e.g. eligible resources, technology minimums, banking provisions), they all have the same overall intentions that encourage the development and procurement of renewable resources in the Pacific Northwest over the next decade or so.

At the Council Meeting in Helena, staff will present the first in a series of presentations on the RPS. This first presentation will focus on a high-level, top-down view of the RPS policies in the region, looking at where the region currently is in terms of renewable energy acquisition and forecasting the need for future renewable development or renewable energy credit procurement (REC) in order to meet the RPS obligations.

Due to the complex nature of each state's RPS and the variable rules and regulations between them, staff proposes to dissect each state's individual RPS requirements and forecasts and present on them separately at future Council Meetings. Coordinating with Council state staff, this approach will provide the opportunity to delve into the unique circumstances and approaches of each state and potentially bring in guests from utilities or state regulatory commissions who can speak first-hand on the challenges and successes of the RPS.

With the Council Meeting in Helena this month, the first state we will be discussing in greater detail is Montana. The presentation immediately following this regional overview will provide an opportunity for the Council to hear directly from the entity overseeing the RPS in Montana (the Montana Public Service Commission) and the largest utility responsible for meeting the RPS procurement mandates (NorthWestern Energy).

Renewable Portfolio Standard Obligations and Needs: 2015-2035

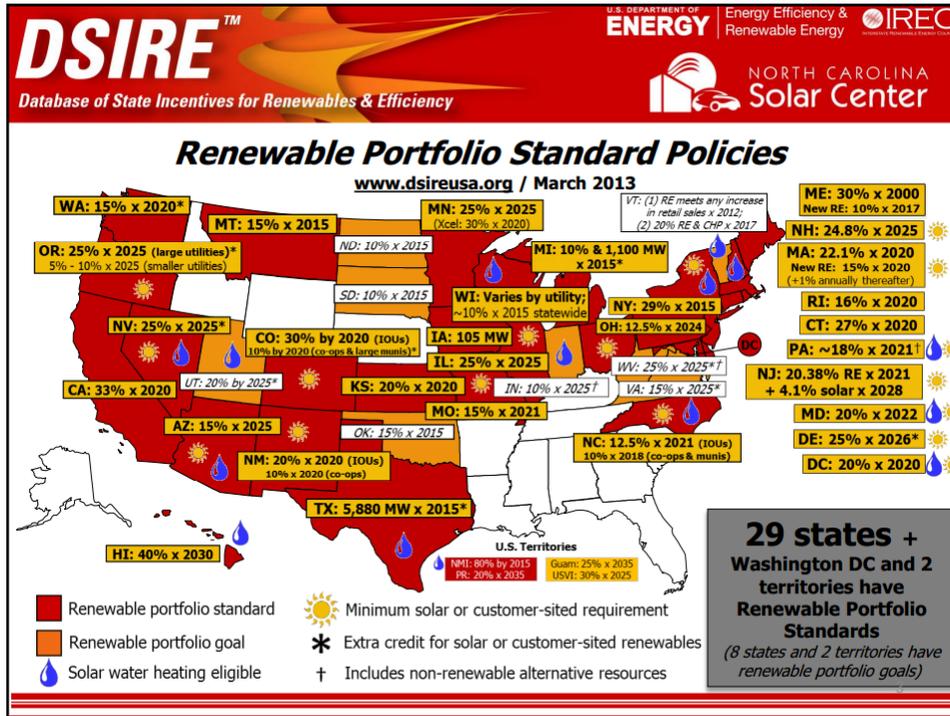
Council Meeting – Helena, Montana
October 8, 2013
Gillian Charles



What Are Renewable Portfolio Standards?

- **Renewable portfolio standards (RPS) are regulatory mandates enacted by individual states to increase the development and generation of *eligible* renewable resources**
 - RPS requires a certain percentage of electricity sales be met with renewable energy resources
- **No Federal RPS in place**





The Standards: Overview*

	Montana	Oregon	Washington
Standard	10% in 2010 15% in 2015	5% in 2011 15% in 2015 20% in 2020 25% in 2025	3% in 2012 9% in 2016 15% in 2020
Date of Adoption	2005 Montana Renewable Power Production and Rural Economic Development Act of	2007 Oregon Renewable Energy Act	2006 Ballot Initiative-937
Sourcing Limits	Located in MT; or deliverable to MT	Located in WECC	Located in PNW; or delivering electricity into WA
Technology Minimums	--	20 MW-AC Solar PV by 2020	--
Banking	2 years	Unlimited	1 year
Credit Trading	Allowed	Allowed	Allowed
Multipliers	--	Solar PV x 2 (developed before 2016)	Distributed Generation x 2; Union apprenticed labor x 1.2



* This table consolidates and simplifies at a high level many of the details, nuances, and unique qualities that make up each state's renewable portfolio standard.

Eligible Resources

	Montana	Oregon	Washington
Anaerobic Digestion	X	X	X
Biodiesel			X
Biomass	X	X	X
Compressed Air Energy Storage	X		
Fuel Cells	X		
Geothermal	X	X	X
Hydroelectric	X	X	X
Hydrogen		X	
Landfill Gas	X	X	X
Municipal Solid Waste		X	
Ocean Thermal		X	X
Solar Photovoltaics	X	X	X
Solar Thermal	X	X	X
Tidal Energy		X	X
Wave Energy		X	X
Wind	X	X	X



* This table consolidates and simplifies at a high level many of the resource requirements for eligibility. E.g. vintage requirements and energy limits.

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What is a Renewable Energy Credit?

- Renewable energy certificates (RECs) represent the “green” attribute of energy produced by a renewable resource.

1 REC = 1 MWh

- Power can be sold with and without RECs
 - “Brown” or “null” power is renewable energy that has been stripped of its RECs
- RECs can be sold and traded through the REC market, overseen by WREGIS
- Once a REC is used for compliance, it is “retired”



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What about Idaho?

- While Idaho does not have an RPS, its Idaho Energy Plan encourages the development of cost-effective local renewable resources
- Significant renewable development in Idaho in recent years
 - ~ 850 MW wind installed in last 8 years
- Where are the RECs going?
 - For PURPA qualifying facilities, REC ownership tends to be 50/50 split developer and utility



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Council RPS Analysis – Part 1

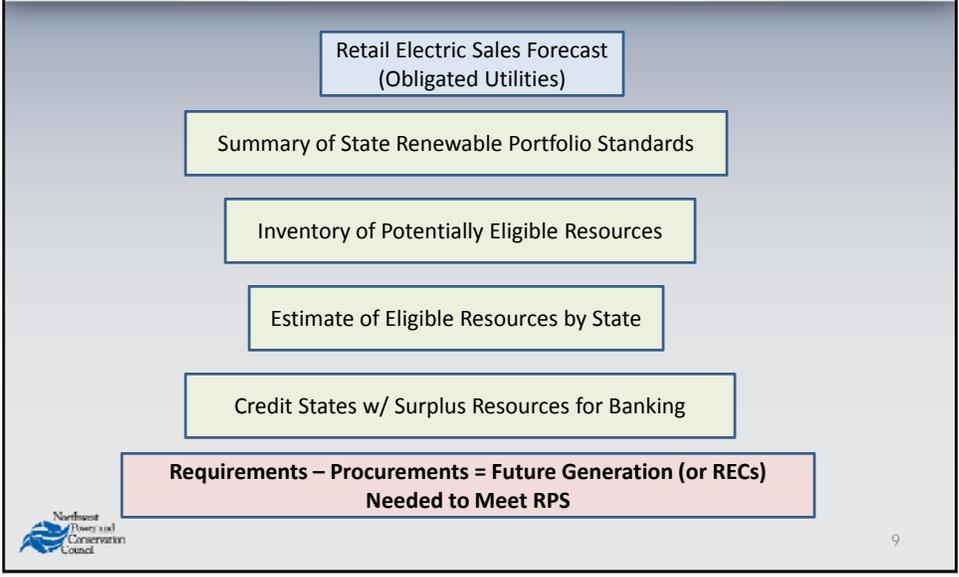
Purpose:

- Provide a high level look at state RPS standards and progress to-date
- Forecast need for future RPS resources
 - AURORAxmp – Wholesale price forecast
 - Regional Portfolio Model – forced-in resources
 - Estimating impact on retail rates



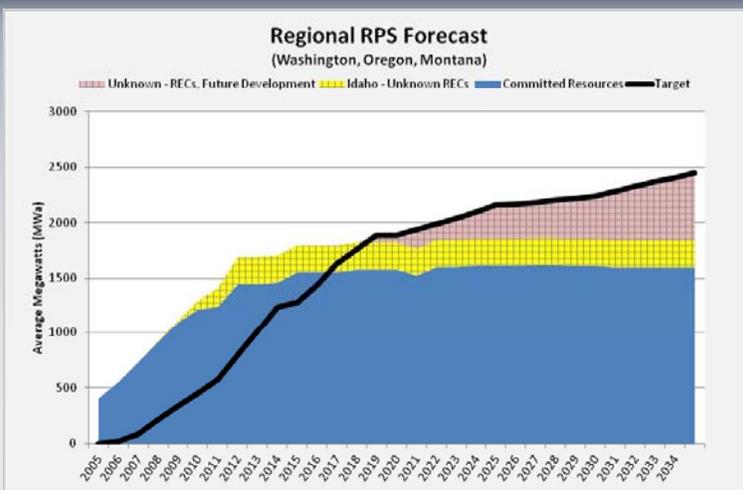
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Council RPS Analysis – Part 2



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How Is The Region Doing? Current and Forecast RPS Needs



* This chart does not take into account the various banking provisions allowed by each state.

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“ What Are Utilities Saying?

- **Utility A: Philosophy is to aim for physical compliance but use RECs when needed to make up any shortfall**
- **Utility B: Short on physical compliance in near term, but long on overall energy → RECs seem to make the most sense for compliance**
- **Utility C: Long on RECs; banking and selling leftover RECs to California and others**
- **Utility D: Relying primarily on wind for physical compliance is a bit “daunting” and poses a potential problem for system reliability**
 - Solar has similar challenges as a variable resource, but looking at it as an opportunity



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Next Steps

- **Central staff to work with state staff to refine individual state RPS forecasts**
- **Updated RPS forecast to be included in 2013 wholesale electricity price forecast**
- **Future presentations at Council Meetings focusing on each state’s individual RPS obligations and future needs**



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Questions?

