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December 3, 2013

MEMORANDUM

TO: Council Members

FROM: Howard Schwartz, Senior Energy Policy Analyst, WA staff
Gillian Charles, Energy Policy Analyst

SUBJECT: Renewable Portfolio Standard Implementation in Washington

At the Council Meeting in Helena in October, staff presented the first in a series of presentations on the state renewable portfolio standards (RPS) enacted in the Pacific Northwest. This high level, top-down overview of the RPS policies in Montana, Oregon, and Washington looked at where the region is currently at in terms of renewable energy acquisition and forecasted the need for future renewable development or renewable energy credit (REC) procurement. Following the overview presentation, the Council heard from a panel on Montana's RPS policy and status. While Idaho does not have a regulatory RPS, at the November meeting in Boise, the Council heard from a panel about Idaho's renewable development and integration issues.

The presentation on December 10 follows in the series and focuses on Washington's RPS. Gillian Charles and Howard Schwartz will discuss the RPS policy in the state of Washington, highlight some developments that have arisen during implementation (in particular the discussion of a cost cap and the calculation of incremental cost), and discuss strategies utilities are employing to comply with the standard.

The Washington RPS was established through ballot Initiative 937 (I-937) in 2006. Seventeen utilities qualify to meet the standard (all electric utilities serving 25,000 customers or more), and together they make up about 84% of Washington's load. The standard states that qualifying utilities must use eligible renewable resources (or acquire RECs) to meet an annual target of 15% of load by 2020. There are interim targets increasing from 2012 (3%) through 2019 (9%).

The essential message of the presentation is that there is a great deal of uncertainty about both how much more renewable energy will be required by the RPS as well as what kind of resources utilities will use to meet their compliance obligations.

Renewable Portfolio Standard: Washington

Howard Schwartz & Gillian Charles
Council Meeting
12/10/13



Reminder

- High level regional overview of Montana, Oregon, and Washington's combined standards – October Council Mtg
 - Region on track to meet 2020 targets with existing resources, REC purchases
- Montana's RPS – October Council Mtg
- Idaho's renewable development – November Council Mtg



Washington RPS

- Passed by ballot Initiative 937 in 2006
- **Who:** all electric utilities serving $\geq 25,000$ customers
 - 17 qualifying utilities, $\sim 84\%$ state load
- **What:** 15% of load to be met with renewables by 2020, and each year thereafter
 - Alternative compliance: 1. 4% Cost cap; 2. 1% cost cap if no load growth for previous 3 years
- **When:** June of each year, utilities must file annual progress reports to Washington UTC and Dept of Commerce



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Washington Compared with Montana and Oregon

	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.

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Renewable Resources in WA

- New renewable development has primarily been wind over the past 10 years
 - One small utility-scale solar PV project in service (Wild Horse)
- But, I-937 allows certain legacy resources to count towards the RPS
 - Efficiency upgrades to existing hydro projects
 - Large biomass resources (e.g., pulp mills) in operation before 1999.
- Estimating new wind depends on what other resources are developed and used.



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2012 Compliance Year

- All 17 qualifying utilities met the 3% target for the 2012 compliance year - <http://www.nwenergy.org/data/937-insert.pdf>
- In 2012, utilities covered by I-937 met 22% of their renewables requirement with hydro upgrades. The rest was almost all wind. <http://www.nwenergy.org/data/937-PSE.pdf>



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Current Developments in Washington

- Utilities on track to meet 2020 compliance
- Many utilities relying on mix of existing resources and planned purchases of RECs to meet 2020 target
- Some utilities are nearing the cost cap
- There is uncertainty over how to calculate incremental cost



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Cost Cap

In Washington, utilities are required to spend no more than 4% of total annual retail revenue on the **incremental cost** of obtaining eligible renewable resources + REC's

- How big an issue this is and how many utilities will hit the cost cap depends on how incremental cost is calculated.



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Incremental Cost Calculation

“The **incremental cost** of an eligible renewable resource is calculated as the difference between the levelized delivered cost of the eligible renewable resource, regardless of ownership, compared to the levelized delivered cost of an equivalent amount of reasonably available substitute resources that do not qualify as eligible renewable resources, where the resources being compared have the same contract length or facility life.” RCW 19.285.040(2)(b)

- Several approaches for calculating the incremental cost have been proposed in Washington based on UTC and Department of Commerce rules.



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Incremental Cost Methodologies I

- PSE IRP Methodology
 - [PSE IRP – Appendix K – pg. 105](#)
- Alternate Resource = Modeled revenue requirement for natural gas peaker
- Incremental Cost (Cost of wind- cost of alternate) \approx \$14.44/MWh



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Incremental Cost Methodologies II

Another Resource Methodology: BPA Tier 1

- Alternate Resource =
BPA (Tier 1) Power \approx \$37/MWh
Assumes a utility's has not used all of its
Tier 1 allocation
- Incremental Cost (Cost of wind- cost of
alternate) \approx
\$58.20/MWh



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Incremental Costs Calculations

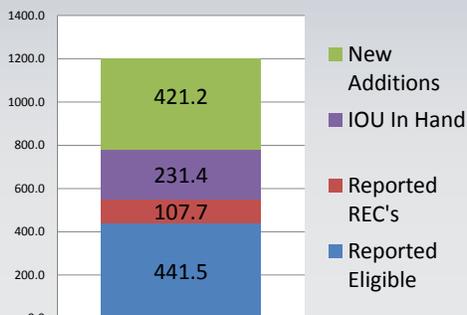
- Difficult to determine the exact levelized cost:
production, integration, and transmission
costs used by the different utilities involved.
 - In General:
- Wind + Integration: \sim \$95/MWh
- Nat. Gas Peaker + Capacity: \sim \$80/MWh
 $\$95 - \$80 = \$15/\text{MWh}$ (PSE)
- BPA Tier 1: \sim \$37/MWh
 $\$95 - \$37 = \$58/\text{MWh}$ (BPA Tier 1)



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Scenario I: All Utilities Use PSE Incremental Cost Methodology

New AMW Needed for 2020
 Assume: .5% Annual Growth, IOU's have all needed Eligibles in hand. All Utilities calculate Cost Cap based on an incremental cost of \$14.44/MWh



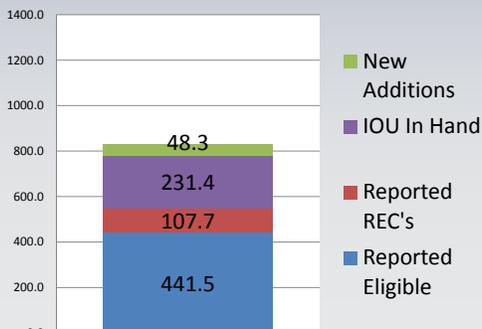
- Assumes all Utilities follow the PSE IRP methodology
- Assumes IOU's have eligible contracts lined up for 2020 but COU's do not (More research needed for actuals)



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Scenario II: BPA Customers Use Alternate Incremental Cost Methodology

New AMW Needed for 2020
 Assume: .5% Annual Growth, IOU's have all needed Eligibles in hand. Chelan, Clark & Grant reach cost cap based on \$14.44/MWh and all other COU's reach a Cost Cap Based on \$58.20/MWh



- Assumes all BPA utility customers have headroom in their Tier 1 allocations, in excess of their eligible requirement, which can be claimed as the alternate.

**372.9 AMW
 Difference in
 New Additions
 Needed**



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A Wide of Range of Uncertainty

Based on this analysis, WA will need between 48 and 421 amw of new renewables between now and 2020.

If wind, this translates to a range of about 150- 1500 mw of capacity.

But there are further uncertainties.



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Further Considerations I

- How much of renewable resources, other than wind, will be available to Washington utilities?
- How will the WA State Auditor apply the rules regarding incremental cost?
- How much of the in-hand (but not being claimed) renewables are being sold to other utilities for them to claim?



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Further Considerations II

- PSE is rolling-over its REC's using the banking provisions in I-937 so they will meet their 2020 requirements with “in-hand” contracts. According to their 5/30/13 IRP, in 2022 they will require an additional 74 amw and 186 amw in 2033.
- For the 7th Power Plan, a post-2020 analysis is needed for all utilities in WA.



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Questions?

(Note: I'd like to acknowledge the assistance of Greg Rock, WA Energy Office, in developing this presentation- HS.)



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