



825 NE Multnomah, Suite 2000  
Portland, Oregon 97232

December 31, 2009

***VIA ELECTRONIC FILING  
AND OVERNIGHT DELIVERY***

Public Utility Commission of Oregon  
550 Capitol Street NE, Suite 215  
Salem, OR 97301-2551

Attention: Filing Center

**RE: PacifiCorp's Renewable Portfolio Standard Implementation Plan 2011-2015  
OAR 860-083-0400 Compliance Filing**

In compliance with OAR 860-083-0400, please find enclosed PacifiCorp's Oregon Renewable Portfolio Standard (RPS) Implementation Plan, for the compliance years 2011-2015. Confidential and public versions of the Implementation Plan are included in this submission. The confidential information is included pursuant to OAR 860-011-0080. Also enclosed is a compact disk containing confidential work papers associated with this filing.

It is respectfully requested that all formal data requests to the Company regarding this filing be addressed to the following:

By e-mail (preferred): [datarequest@pacificorp.com](mailto:datarequest@pacificorp.com)

By regular mail: Data Request Response Center  
PacifiCorp  
825 NE Multnomah, Suite 2000  
Portland, OR 97232

Formal communications concerning this proceeding should be addressed to the following. Please note that PacifiCorp waives paper service in this docket.

Pacific Power Oregon Dockets  
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Oregon Public Utility Commission

December 31, 2009

Page 2

Please direct any informal inquiries to Joelle Steward, Regulatory Manager, at (503) 813-5542.

Sincerely,

A handwritten signature in black ink that reads "Andrea L. Kelly" followed by a stylized monogram or flourish.

Andrea L. Kelly

Vice President, Regulation

*Leaning Juniper 1*



*Goodnoe Hills*



*Campbell Hill-Three Buttes*



# **PacifiCorp**

## **Renewable Portfolio Standard Oregon Implementation Plan 2011-2015**

**January 1, 2010**

**PacifiCorp  
Renewable Portfolio Standard  
Oregon Implementation Plan  
2011 through 2015**

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Pursuant to ORS 469A.075 and OAR 860-083-0400, PacifiCorp, d.b.a. Pacific Power (the Company), respectfully submits this 2011-2015<sup>1</sup> implementation plan for meeting the requirements of the renewable portfolio standards (RPS). This implementation plan was prepared with information consistent with the Company’s most recently filed integrated resource plan—the 2008 Integrated Resource Plan (2008 IRP)<sup>2</sup>. The Company’s IRP process and its filed documentation are based on the best available information at the time of preparation. The Company’s IRP action plan represents a road-map for implementation of the preferred portfolio. The current economic and regulatory environments are continually changing and may require changes to the resource plan as specific events, legislation and regulations evolve and could materially impact resource acquisitions and the timing of those acquisitions. As such, in preparing this implementation plan, the Company has only included renewable resources that have been acquired, contracted or are in construction. As the plan shows, these resources will allow the Company to meet the 2011-2015 RPS targets.

This implementation plan shows that the Company intends to meet the RPS targets during the report period with bundled renewable energy certificates (RECs). This implementation plan further shows that using the methodology established by the rules adopted by the Commission, the Company intends to meet the targets in the report period without triggering the cost limit under ORS 469A.100.

The format for this implementation plan is to provide responses following the citation of each element of the rule, OAR 860-083-0400.

**Implementation Plan Requirements**

<b>OAR 860-083-0400(2)(a)</b>
<i>The annual megawatt-hour target for compliance with the applicable renewable portfolio standard based on the forecast of electricity sales to its Oregon retail electricity customers.</i>

**Response:** **Table 1** below provides the annual megawatt-hour (MWh) target for compliance, consistent with the Company’s 2008 IRP.

**Table 1**

	2011	2012	2013	2014	2015
Applicable RPS Standard as Percent of Electricity Sold	5%	5%	5%	5%	15%
PacifiCorp Oregon RPS Target <sup>3</sup> (MWh)	700,568	707,702	719,983	732,453	2,228,292

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<sup>1</sup> This implementation plan is based on the compliance years January 1, 2011 through December 31, 2015.

<sup>2</sup> The Company’s 2008 IRP was filed with the Public Utility Commission of Oregon on May 29, 2009, Docket LC 47.

<sup>3</sup> Source: PacifiCorp 2008 IRP - Appendix A - Detail Capacity Expansion Results, page 103.

**PacifiCorp  
Renewable Portfolio Standard  
Oregon Implementation Plan  
2011 through 2015**

**OAR 860-083-0400(2)(b)**

*An accounting of the planned method to comply with the applicable renewable portfolio standard, including number of banked RECs by year of issuance, the numbers of other bundled and unbundled renewable energy certificates, and alternative compliance payments.*

**Response:** For the 2011 through 2015 compliance years, the Company expects to comply with the applicable RPS using bundled RECs. **Attachment A** provides an accounting of the RECs applicable to the RPS.

**OAR 860-083-0400(2)(c)**

*Identification of generating facilities, either owned by the company or under contract, that are expected to provide renewable energy certificates for compliance with renewable portfolio standard. Information on each generating facility must include: (A) the renewable energy source; (B) the year the facility or contract became operational or is expected to become operational; (C) the state where the facility is located or is planned to be located; and (D) expected annual megawatt-hour output for compliance from the facility for the compliance years covered by the implementation plan.*

**Response:** **Table 2** below shows the generating facilities, either owned by the Company or under contract, that are expected to provide RECs for compliance with the RPS during the report period, along with the year the facility or contract became or is expected to become operational and the state where the facility is located. **Attachment B** provides the expected annual MWh output for each resource for compliance.

**Table 2**

Resource	Energy Source	Commercial Operation Date (Year)	State
Blundell II	Geothermal	2007	Utah
Campbell Hill-Three Buttes	Wind	2009	Wyoming
Chevron Casper Wind Farm	Wind	2009	Wyoming
Combine Hills	Wind	2003	Oregon
Dunlap I	Wind	2010	Wyoming
Foote Creek I	Wind	1999	Wyoming
Glenrock I	Wind	2008	Wyoming
Glenrock III	Wind	2009	Wyoming
Goodnoe Hills	Wind	2008	Oregon
High Plains	Wind	2009	Wyoming
Hill Air Force Base	Biogas	2005	Utah
Leaning Juniper I	Wind	2006	Oregon
Marengo	Wind	2007	Wyoming
Marengo II	Wind	2008	Wyoming
McFadden Ridge	Wind	2009	Wyoming
Mountain Wind Power	Wind	2008	Wyoming
Mountain Wind Power II	Wind	2008	Wyoming
Rock River I	Wind	2001	Wyoming
Seven Mile Hill I	Wind	2008	Wyoming

**PacifiCorp  
Renewable Portfolio Standard  
Oregon Implementation Plan  
2011 through 2015**

Resource	Energy Source	Commercial Operation Date (Year)	State
Seven Mile Hill II	Wind	2008	Wyoming
Top of the World	Wind	2010	Wyoming
Wolverine Creek	Wind	2005	Idaho

**OAR 860-083-0400(2)(d)**

*A forecast of the expected incremental costs of new qualifying electricity for facilities or contracts planned for first operation in the compliance year, consistent with the methodology in OAR 860-083-0100.*

**Response: Confidential Attachment C** provides an explanation of the key assumptions that the Company is using to forecast incremental costs of renewable resources from 2011 through 2015, pursuant to OAR 860-083-0100.

**Table 3** below shows the forecast of the expected incremental costs, on an Oregon-allocated basis, for the qualifying electricity for facilities or contracts that have gone into service or are expected to go into service after June 6, 2007. Qualifying facilities that went into service prior to this date are deemed to have zero incremental costs, pursuant to OAR 860-083-0100(1)(h). This incremental cost calculation applies to each year in the report period. The Oregon allocation is based on the forecasted system generation (SG) factor for 2011. **Table 3** also demonstrates that the incremental costs for the qualifying electricity are negative, which means that the costs of a proxy plant of non-qualifying electricity exceed the costs of the qualifying electricity (using the methodology established by the rules adopted by the Commission). **Confidential Attachment D** provides additional detail on the calculation of the expected incremental costs, consistent with the methodology in OAR 860-083-0100, and PacifiCorp's 2008 IRP.

**Table 3**

<b>2011-2015 Summary – Oregon Allocated Incremental Costs<sup>4</sup></b>	
<b>Resource</b>	<b>Levelized Incremental Cost (\$000s)</b>
Blundell II	(2,017)
Campbell Hill-Three Buttes	(2,879)
Chevron Casper Wind Farm	(397)
Dunlap I	(3,523)
Glenrock I	(4,348)
Glenrock III	(1,575)
Goodnoe Hills	(3,043)
High Plains	(3,340)
Marengo	(5,182)

<sup>4</sup> The incremental cost analysis assumptions include (1) \$8 carbon dioxide (CO<sub>2</sub>), (2) October 2008 Price Curve, (3) Discount Rate from 2008 IRP of 7.40%, (4) and Oregon SG allocation factor of 25.50% for 2011.

**PacifiCorp  
Renewable Portfolio Standard  
Oregon Implementation Plan  
2011 through 2015**

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<b>2011-2015 Summary – Oregon Allocated Incremental Costs<sup>4</sup></b>	
<b>Resource</b>	<b>Levelized Incremental Cost (\$000s)</b>
Marengo II	(2,235)
McFadden Ridge	(1,101)
Mountain Wind Power	(1,822)
Mountain Wind Power II	(2,139)
Seven Mile Hill I	(5,252)
Seven Mile Hill II	(990)
Top of the World	(5,773)

***OAR 860-083-0400(2)(e)***

*A forecast of the expected incremental cost of compliance, the costs of using unbundled renewable energy certificates and alternative compliance payments for compliance, compared to annual revenue requirements, consistent with the methodologies in OAR 860-083-0100 and 860-083-0200, absent consideration of the cost limit in OAR 860-083-0300.*

**Response:** As previously stated and demonstrated in **Attachment A**, the Company expects to meet the RPS during the 2011 through 2015 compliance period using bundled RECs. **Table 3** above demonstrates that there are no incremental costs for the qualifying electricity during the compliance years. As a result, this requirement is not applicable at this time since there are no costs.

***OAR 860-083-0400(2)(f)***

*A forecast of the number and cost of bundled renewable energy certificates issued, consistent with the methodology in OAR 860-083-0100.*

**Response:** **Attachment A** provides the forecasted number of bundled RECs. Consistent with the definition for the “cost of bundled RECs” in OAR 860-083-0010(12), and the analysis provided in response to OAR 860-083-0400(2)(d) above, there are no levelized incremental costs for the renewable resources included in this implementation plan.

**PacifiCorp  
Renewable Portfolio Standard  
Oregon Implementation Plan  
2011 through 2015**

---

***OAR 860-083-0400(4)***

*If there are material differences in the planned actions in [OAR 860-083-0400(2)] of this rule from the action plan in the most recently filed or updated integrated resource plan by the electric company, or if conditions have materially changed from the conditions assumed in such filing, the company must provide sufficient documentation to demonstrate how the implementation plan appropriately balances risks and expected costs as required by the integrated resource planning guidelines in 1.b and c. of Commission Order No. 07-047 and subsequent guidelines related to implementation plans set forth by the Commission. Unless provided in the most recently filed or updated integrated resource plan, an implementation plan for an electric company subject to ORS 469A.052 must include the following information: (a) At least two forecasts for subsections (2)(d), (e), and (f) of this rule: one forecast assuming existing government incentives continue beyond their current expiration date and another forecast assuming existing government incentives do not continue beyond their current expiration date; (b) A reasonable range of estimates for the forecasts in subsections (2)(d), (e), and (f) of this rule, consistent with subsection (4)(a) of this rule and the analyses or methodologies in the company's most recently filed or updated integrated resource plan.*

**Response:** The Company relied on its actual acquired renewable resources to-date in preparing this implementation plan, all of which have been acquired consistent with the 2008 IRP action plan. The Company did not include additional projected IRP proxy resources in the IRP preferred portfolio since additional resources were not required to meet the plan requirements through 2015. The Company remains committed to acquiring cost-effective renewable resources. The 2008 IRP and the IRP action plan is based upon the most current available information at the time the portfolio study analysis is conducted. The Company is aware that this information reflects a snapshot view of the future that accounts for a wide range of uncertainties. The current economic and regulatory environments are continually changing and may require changes to the resource plan as specific events, legislation and regulations evolve and could materially impact resource acquisitions and the timing of those acquisitions. The company utilized information for the incremental cost calculations in this implementation plan for the proxy resource and forward price curve scenarios fully consistent with its 2008 IRP.

- (a) **Confidential Attachment C** assumes that the existing government incentives continue in accordance with their current expiration date. A separate forecast assuming existing government incentives do not continue beyond their current expiration date is not applicable as there are no applicable resources included in the Company's implementation plan during 2012 through 2015. Accordingly, the Company's incremental cost analysis, whether or not existing government incentives continue beyond their current expiration date would be identical.
- (b) A range of forecasts for incremental costs consistent with the 2008 IRP are included in **Confidential Attachment D**.

**PacifiCorp  
Renewable Portfolio Standard  
Oregon Implementation Plan  
2011 through 2015**

---

**OAR 860-083-0400(5)**

*Under the following circumstances, the electric company must, for the applicable compliance year, provide sufficient documentation or citations to demonstrate how the implementation plan appropriately balances risks and expected costs as required by the integrated resource planning guidelines in 1.b. and c. of Commission Order No. 07-047 and subsequent guidelines related to implementation plans set forth by the Commission.*

- (a) The sum of costs in subsection (2)(e) of this rule is expected to be four percent or more of the annual revenue requirement in subsection (2)(e) of this rule for any compliance year covered by the implementation plan,*
- (b) The company plans, for reasons other than to meet unanticipated contingencies that arise during a compliance year, to use any of the following compliance methods: (A) Unbundled renewable energy certificates; (B) Bundled renewable energy certificates issued between January 1 through March 31 of the year following the compliance year; or (C) Alternative compliance payments, or*
- (c) The company plans to sell any bundled renewable energy certificates included in the rates of Oregon retail electricity consumers.*

**Response:** The Company provides the following responses:

- (a) This requirement is not applicable at this time since there are no costs applicable to subsection (2)(e) at this time.
- (b) The Company plans to comply with the RPS using bundled RECs during the report period, and does not plan to use (A) unbundled renewable energy certificates; (B) bundled renewable energy certificates issued between January 1 through March 31 of the year following the compliance year; or (C) alternative compliance payments. Therefore, this requirement is not applicable at this time because the Company does not plan to use any of the listed compliance methods.
- (c) This requirement is not applicable at this time because the Company's plan does not include the sale of bundled RECs included in the rates of Oregon customers.

**OAR 860-083-0400(6)**

*An implementation plan must provide a detailed explanation of how the implementation plan complies, or does not comply, with any conditions specified in a Commission acknowledgement order on the previous implementation plan and any relevant conditions specified in the most recent acknowledgement order on an integrated resource plan filed or updated by the electric company.*

**Response:** Since this document represents the Company's initial implementation plan pursuant to ORS 469A.075 and OAR 860-083-0400, this requirement is not applicable at this time.

**PacifiCorp  
Renewable Portfolio Standard  
Oregon Implementation Plan  
2011 through 2015**

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***OAR 860-083-0400(7)***

*If there are funds in holding accounts under ORS 469A.180(4) and if the electric company has not filed a proposal for expending such funds for the purposes allowed under ORS 469A.180(5), the implementation plan must include the electric company's plans for expending or holding such funds. If the plan is to hold such funds, the plan should indicate under what conditions such funds should be expended.*

**Response:** The Company has no funds in any holding accounts authorized pursuant to ORS 469A.180(4). Accordingly, this requirement is not applicable at this time.

**PacifiCorp  
Renewable Portfolio Standard Oregon  
Implementation Plan  
2011-2015**

**Attachment A**

	MWh								
	2007 Actual	2008 Actual	2009 Forecast	2010 Forecast	2011 Forecast	2012 Forecast	2013 Forecast	2014 <sup>(4)</sup> Forecast	2015 <sup>(5)</sup> Forecast
<b><u>Oregon Renewable Portfolio Standard Requirement</u></b> <sup>(1)</sup>	-	-	-	-	700,568	707,702	719,983	732,453	2,228,292
<b><u>Planned Compliance Method</u></b>									
RECs by year of issuance <sup>(2)</sup>	339,250	547,509	791,700	1,048,847	1,261,408	1,230,423	1,214,852	1,235,333	1,224,674
Cumulative Banked RECs minus RPS requirement by year of compliance <sup>(3)</sup>	339,250	886,759	1,678,460	2,727,306	3,288,146	3,810,867	4,305,735	4,808,615	3,804,997
Alternative compliance payments					-	-	-	-	-
Number of (un)bundled RECs					-	-	-	-	-

**Notes**

(1) PacifiCorp 2008 IRP - Appendix A - Detail Capacity Expansion Results, page 103 page 2

(2) 2011-2015 Implementation Plan - Attachment B - Oregon's Share Per Allocation Factors - Renewable Portfolio Standard Renewable Energy Credits (MWh), page 2

(3) Oldest RECs retired first for RPS compliance in year of compliance

(4) At this time, there is no forecast for 2014. For the purposes of this implementation plan, the data shown for 2014 is a 3-year rolling average of 2011, 2012 and 2013 data.

(5) At this time, there is no forecast for 2015. For the purposes of this implementation plan, the data shown for 2015 is a 3-year rolling average of 2012, 2013 and 2014 data.

**PacifiCorp  
Renewable Portfolio Standard Oregon  
Implementation Plan  
2011-2015**

**Attachment B**

Total Company Generated Renewable Energy Credits (MWh)												
	State	COD <sup>(1)</sup>	2007	2008	2009	2010	2011	2012	2013	2014 <sup>(2)</sup>	2015 <sup>(3)</sup>	
			Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	
<b>BIOGAS</b>	Hill Air Force Base	UT	2005	8,432	7,710	11,200	11,200	11,200	11,200	11,200	11,200	11,200
<b>GEOTHERMAL</b>	Blundell II	UT	2007	3,830	66,777	82,492	70,484	70,488	64,667	70,757	68,637	68,020
<b>WIND</b>	Campbell Hill-Three Buttes	WY	2009			1,225	325,141	325,141	326,040	325,141	325,441	325,541
	Chevron Casper Wind Farm	WY	2009			1,764	9,192	9,192	9,192	9,192	8,426	
	Combine Hills	OR	2003	117,181	114,458	108,285	106,505	106,505	106,742	106,505	106,584	106,610
	Dunlap I	WY	2010				79,584	353,612	354,942	353,612	354,055	354,203
	Foote Creek I	WY	1999	57,092	64,184	52,510	61,645	61,645	61,870	61,645	61,720	61,745
	Glenrock I	WY	2008			253,361	323,803	323,803	324,801	323,803	324,136	324,247
	Glenrock III	WY	2009			87,381	124,411	124,411	124,794	124,411	124,539	124,581
	Goodnoe Hills	WA	2008		147,308	244,958	266,881	266,881	267,531	266,881	267,098	267,170
	High Plains	WY	2009			75,300	309,375	309,375	310,338	309,375	309,696	309,803
	Leaning Juniper I	OR	2006	289,452	312,614	270,936	305,462	305,462	306,086	305,462	305,670	305,739
	Marengo	WA	2007	160,636	400,244	332,806	393,131	393,131	394,333	393,131	393,532	393,665
	Marengo II	WA	2008		78,457	162,130	187,223	187,223	187,888	187,223	187,445	187,519
	McFadden Ridge	WY	2009			20,089	86,063	86,063	86,345	86,063	86,157	86,188
	Mountain Wind Power	WY	2008		77,659	129,928	155,786	155,786	156,269	155,786	155,947	156,001
	Mountain Wind Power II	WY	2008		54,225	204,605	198,161	198,161	198,775	198,161	198,366	198,434
	Rock River I	WY	2001	140,904	156,957	133,362	142,104	142,104	142,593	142,104	142,267	142,321
	Seven Mile Hill I	WY	2008			307,323	349,601	349,601	350,692	349,601	349,965	350,086
	Seven Mile Hill II	WY	2008			62,002	68,863	68,863	69,078	68,863	68,935	68,959
	Top of the World	WY	2010				2,720	609,786	611,946	609,786	610,506	610,746
	Wolverine Creek	ID	2005	148,933	170,270	154,244	176,881	176,881	177,250	176,881	177,004	177,045
	<b>Total Wind</b>			<b>914,198</b>	<b>1,576,376</b>	<b>2,602,209</b>	<b>3,672,532</b>	<b>4,553,626</b>	<b>4,567,505</b>	<b>4,553,626</b>	<b>4,557,486</b>	<b>4,550,602</b>
<b>Total</b>				<b>926,460</b>	<b>1,650,863</b>	<b>2,695,901</b>	<b>3,754,216</b>	<b>4,635,314</b>	<b>4,643,372</b>	<b>4,635,583</b>	<b>4,637,324</b>	<b>4,629,823</b>

(1) COD means commercial operation date (year).

(2) At this time, there is no forecast for 2014. For the purposes of this implementation plan, the data shown for 2014 is a 3-year rolling average of 2011, 2012 and 2013 data.

(3) At this time, there is no forecast for 2015. For the purposes of this implementation plan, the data shown for 2015 is a 3-year rolling average of 2012, 2013 and 2014 data.

**Oregon's Share Per Allocation Factors<sup>(4)</sup> - Renewable Portfolio Standard Renewable Energy Credits (MWh)**

		State	COD <sup>(1)</sup>	2007	2008	2009	2010	2011	2012	2013	2014 <sup>(2)</sup>	2015 <sup>(3)</sup>
				Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast
<b>BIOGAS</b>	Hill Air Force Base	UT	2005	2,314	2,173	2,958	2,958	2,958	2,958	2,958	2,958	2,958
<b>GEOTHERMAL</b>	Blundell II	UT	2007	1,051	18,822	21,787	18,207	17,974	16,015	17,312	17,100	16,809
<b>WIND</b>	Campbell Hill-Three Buttes	WY	2009			324	83,990	82,908	80,744	79,552	81,068	80,455
	Chevron Casper Wind Farm	WY	2009			466	2,374	2,344	2,276	2,249	2,062	
	Combine Hills	OR	2003	117,181	114,458	108,285	106,505	106,505	106,742	106,505	106,584	106,610
	Dunlap I	WY	2010				20,558	90,168	87,901	86,518	88,196	87,538
	Foote Creek I	WY	1999	15,666	18,091	13,868	15,924	15,719	15,322	15,083	15,375	15,260
	Glenrock I	WY	2008			66,915	83,645	82,567	80,437	79,225	80,743	80,135
	Glenrock III	WY	2009			23,078	32,138	31,724	30,905	30,440	31,023	30,789
	Goodnoe Hills	WA	2008		41,520	64,696	68,941	68,052	66,254	65,298	66,535	66,029
	High Plains	WY	2009			19,887	79,918	78,888	76,855	75,695	77,146	76,565
	Leaning Juniper I	OR	2006	79,427	88,113	71,557	78,907	77,890	75,802	74,737	76,143	75,561
	Marengo	WA	2007	44,079	112,813	87,897	101,554	100,244	97,657	96,187	98,029	97,291
	Marengo II	WA	2008		22,114	42,820	48,363	47,740	46,530	45,808	46,693	46,344
	McFadden Ridge	WY	2009			5,306	22,232	21,945	21,383	21,057	21,462	21,301
	Mountain Wind Power	WY	2008		21,889	34,315	40,243	39,724	38,700	38,116	38,847	38,554
	Mountain Wind Power II	WY	2008		15,284	54,038	51,189	50,529	49,227	48,484	49,413	49,041
	Rock River I	WY	2001	38,665	44,240	35,222	36,708	36,235	35,313	34,769	35,439	35,174
	Seven Mile Hill I	WY	2008			81,167	90,309	89,145	86,849	85,537	87,177	86,521
	Seven Mile Hill II	WY	2008			16,375	17,789	17,559	17,107	16,849	17,172	17,043
	Top of the World	WY	2010				703	155,489	151,548	149,196	152,078	150,941
	Wolverine Creek	ID	2005	40,868	47,992	40,737	45,692	45,103	43,896	43,277	44,092	43,755
	<b>Total Wind</b>			<b>335,885</b>	<b>526,514</b>	<b>766,955</b>	<b>1,027,681</b>	<b>1,240,476</b>	<b>1,211,450</b>	<b>1,194,582</b>	<b>1,215,275</b>	<b>1,204,907</b>
<b>Total</b>				<b>339,250</b>	<b>547,509</b>	<b>791,700</b>	<b>1,048,847</b>	<b>1,261,408</b>	<b>1,230,423</b>	<b>1,214,852</b>	<b>1,235,333</b>	<b>1,224,674</b>

<b>Oregon's Share Based on SG Allocation Factors<sup>(4)</sup></b>	<b>27.44%</b>	<b>28.19%</b>	<b>26.41%</b>	<b>25.83%</b>	<b>25.50%</b>	<b>24.77%</b>	<b>24.47%</b>	<b>24.91%</b>	<b>24.71%</b>
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(1) COD means commercial operation date (year).

(2) At this time, there is no forecast for 2014. For the purposes of this implementation plan, the data shown for 2014 is a 3-year rolling average of 2011, 2012 and 2013 data.

(3) At this time, there is no forecast for 2015. For the purposes of this implementation plan, the data shown for 2015 is a 3-year rolling average of 2012, 2013 and 2014 data.

(4) Oregon's share based on system generation (SG) allocation factors of March 2009.

**PacifiCorp  
Renewable Portfolio Standard Oregon  
Implementation Plan  
2011-2015**

**Attachment C**

**(Redacted Version)**

**PacifiCorp  
Renewable Portfolio Standard  
Oregon Implementation Plan  
2011-2015**

**Key Assumptions – Incremental Cost Calculation**

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**Background**

As part of its compliance with ORS 469A, PacifiCorp is required to file an implementation plan by January 1, 2010, that provides, among other things, a forecast of incremental costs of renewable resources from 2011 through 2015. The incremental cost calculation compares the levelized cost of a renewable resource against the levelized cost of a proxy resource, a combined cycle combustion turbine. The proxy combined cycle combustion turbine used in this analysis reflects the characteristics of a wet-cooled, “F” style 2x1 with duct firing at the Lake Side II plant location. The annual incremental cost calculation for 2011 through 2015 is the difference between the levelized cost of the renewable resource and the levelized cost of the proxy resource.

**Methodology**

The levelized costs have been developed using the same approach as was used to create the Supply Side tables in Chapter 6 of the 2008 Integrated Resource Plan (IRP). For renewable resources currently in service, the capital investment values have been updated to the values in the 2009 Oregon Renewable Adjustment Clause filing, while operation and maintenance costs have been based on current forecasts. Data for renewable resources acquired through a Power Purchase Agreement (PPA) are from the Company’s Request for Proposal (RFP) analysis and reflect the associated contract terms. The cost for wind integration is based on the 2008 IRP (\$9.96 per megawatt hour).

Renewable resources under 20 megawatts have been included in the analysis where the total renewable additions for the year exceed a 20 megawatts threshold.

As with the Supply Side tables, capital costs have been stated on a real levelized basis with the effects of inflation removed. A discount rate of 7.4 percent has been used in this analysis, which is consistent with the discount rate used in the 2008 IRP.

Inflation has been generally modeled as 1.9 percent per year. For the proxy resource from 2009 to 2012 a weighted rate composed of forecast capital and O&M escalations have been used. The escalation rate for capital investments on the proxy resource has been modeled as 5 percent in 2009, 2010, and 2011, then 1.9 percent thereafter. Annual O&M escalation has been modeled at 1.9 percent.

**PacifiCorp  
Renewable Portfolio Standard  
Oregon Implementation Plan  
2011-2015**

**Key Assumptions – Incremental Cost Calculation**

*Renewable Resources*

**Table 1** provides the renewable resources that are included in the incremental cost calculation of this implementation plan:

**Table 1 (Redacted)**

Resource	Capacity Factor (Percent)	In-Service Year	Average Capacity (MW)	Design Plant Life / Contract Term (Years)
Blundell II		2007	11.0	26
Campbell Hill-Three Buttes		2010	99.0	20
Chevron Casper Wind Farm		2010	16.5	5
Dunlap I		2010	111.0	25
Glenrock I		2008	99.0	25
Glenrock III		2009	39.0	25
Goodnoe Hills		2008	94.0	25
High Plains		2009	99.0	25
Marengo		2007	140.4	25
Marengo II		2008	70.2	25
McFadden Ridge		2009	28.5	25
Mountain Wind Power		2008	60.9	20
Mountain Wind Power II		2008	79.8	25
Seven Mile Hill I		2008	99.0	25
Seven Mile Hill II		2008	19.5	25
Top of the World		2011	200.2	20

**PacifiCorp  
Renewable Portfolio Standard  
Oregon Implementation Plan  
2011-2015**

**Key Assumptions – Incremental Cost Calculation**

**Table 2** provides the PPA nominal prices, which are based on bid evaluation in the applicable RFP. The nominal prices do not include the cost of wind integration, which are added as adjustments to this implementation plan.

**Table 2 (Redacted)**

Resource	Contract Term (Years)	Average Capacity (MW)	PPA Contract Price (\$/MWh)
Campbell Hill-Three Buttes	20.6	99.0	
Chevron Casper Wind Farm	5	16.5	
Mountain Wind Power	20	60.9	
Mountain Wind Power II	25	79.8	
Top of the World	20	200.2	

PacifiCorp receives Production Tax Credits (PTC) associated with owned wind projects, whereas it does not from PPAs. PTC values have been adjusted by inflation to correspond to the in-service year of each resource.

The wind integration costs (\$ 9.96 per megawatt hour in 2009 dollars) are from Appendix F of the 2008 IRP and have been adjusted by inflation to correspond to the in-service year of each resource.

Capacity factors for the renewable resources correspond to the capacity factors indicative of what would be used in setting Oregon rates, subject to then-applicable Commission orders.

Bonneville Power Administration (BPA) transmission and integration costs have been included in the incremental cost calculation for Goodnoe Hills, which is located in BPA's control area.

The Rolling Hills wind project has been excluded from this analysis.

*Proxy Resource*

The proxy combined cycle combustion turbine resource, representative of Lake Side II, is the Utah wet-cooled, "F" style 2x1 with duct firing in the 2008 Integrated Resource Plan. The natural gas fuel prices have been updated to reflect the Lakeside location.

**PacifiCorp  
Renewable Portfolio Standard  
Oregon Implementation Plan  
2011-2015**

**Key Assumptions – Incremental Cost Calculation**

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IRP scenarios in the analysis include:

- \$8 CO<sub>2</sub> Business Plan October 2008 Price Curve
- \$45 CO<sub>2</sub> October 2008 Price Curve
- \$45 CO<sub>2</sub> Low Gas October 2008 Price Curve
- \$45 CO<sub>2</sub> High Gas October 2008 Price Curve
- \$100 CO<sub>2</sub> October 2008 Price Curve

Signed hedging agreement costs have been included in the gas price curves. Company policy allows hedging for a 48-month period. No forecast of hedging costs beyond this period has been included.

**Levelized Calculation**

The levelized calculation is based on the year that the renewable resource is placed into service. The levelized cost per megawatt hour from the supply side table feeds into a separate worksheet created for each renewable resource. Costs per megawatt hour are escalated over the economic life of the resource. The annual cost per megawatt hour is multiplied by the expected annual generation to develop the dollar cost in each year. Once the annual costs are calculated, the data are summed and discounted over the resource life. An annual levelized payment is then calculated from the discounted sum.

A similar methodology has been applied to the proxy resource. The calculations have accounted for the different resource lives/contract terms and start dates.

For ease and clarity, several simplifying assumptions have been made. For example, generation has been included for the full year in the renewable resource's start year. Economic life of resource has been rounded to a full year. In annual megawatt hour calculations, leap year effects have been ignored.

**Allocation Factor**

The analysis uses the 2011 forecasted system generation (SG) allocation factor from March 2009 to calculate Oregon's share of each levelized incremental cost. For the purposes of this implementation, the SG allocation factor used is 25.50%.

**PacifiCorp  
Renewable Portfolio Standard  
Oregon Implementation Plan  
2011-2015**

**Key Assumptions – Incremental Cost Calculation**

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**Incremental Cost**

The analysis has been completed for each of the five 2008 IRP scenarios mentioned in the above discussion of the proxy resource.

The annual calculated levelized cost of the renewable resource has been compared to the annual calculated levelized cost of the proxy resource. The difference between these values is the annual incremental levelized cost.

**PacifiCorp  
Renewable Portfolio Standard Oregon  
Implementation Plan  
2011-2015**

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