



e-FILING REPORT COVER SHEET

COMPANY NAME: Pacific Power

DOES REPORT CONTAIN CONFIDENTIAL INFORMATION? No Yes If yes, submit a redacted public version (or a cover letter) by email. Submit the confidential information as directed in OAR 860-001-0070 or the terms of an applicable protective order.

Select report type: RE (Electric) RG (Gas) RW (Water) RT (Telecommunications)
 RO (Other, for example, industry safety information)

Did you previously file a similar report? No Yes, report docket number: RE 84

Report is required by: OAR 860-085-0050

Statute

Order

Note: A one-time submission required by an order is a compliance filing and not a report (file compliance in the applicable docket)

Other

(For example, federal regulations, or requested by Staff)

Is this report associated with a specific docket/case? No Yes, docket number: RE 84

List Key Words for this report. We use these to improve search results.

Biennial Greenhouse Gas Emissions Rate Impact Report; Greenhouse Gas Emissions Rate Impact Report

Send the completed Cover Sheet and the Report in an email addressed to PUC.FilingCenter@state.or.us

Send confidential information, voluminous reports, or energy utility Results of Operations Reports to PUC Filing Center, PO Box 1088, Salem, OR 97308-1088 or by delivery service to 201 High Street SE Suite 100, Salem, OR 97301.



825 NE Multnomah, Suite 2000
Portland, Oregon 97232

June 30, 2020

VIA ELECTRONIC FILING

Public Utility Commission of Oregon
Attn: Filing Center
201 High Street SE, Suite 100
Salem, OR 97301-1166

Re: RE 84 – Biennial Greenhouse Gas Emissions Rate Impact Report

Pursuant to OAR 860-085-0050, PacifiCorp d/b/a Pacific Power hereby submits the attached Biennial Greenhouse Gas Emissions Rate Impact Report.

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

By email (preferred): datarequest@pacificorp.com

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

Informal inquiries regarding this filing may be directed to Cathie Allen at (503) 813-5934.

Sincerely,

Michael Wilding
Director, Net Power Costs & Regulatory Policy

Enclosure

Rate Impacts of Meeting Oregon Senate Bill 101 Carbon Dioxide Emission Goals

June 29, 2020

STUDY DESIGN

PacifiCorp conducted its analysis of Oregon Senate Bill (SB) 101 using its capacity expansion optimization model, System Optimizer (SO), to develop a base resource portfolio. To develop the base resource portfolio, PacifiCorp used its' 2019 IRP preferred portfolio. The base resource portfolio reports reductions of CO₂ emissions that are at least 10 percent below 1990 levels by 2020 and 15 percent below 2005 levels by 2020. Since the base resource portfolio meets the emission goals without needing to add further emission constraints, the estimated rate impacts associated with achieving the targeted CO₂ emission reductions is zero, and thus no further studies are required.

ASSUMPTIONS

Table 1 - Study Assumptions

Assumption	Base Case	Hard Cap Scenarios	Comments
Revenue requirement forecast	2020	4,785.2	General Business Revenues (millions of dollars) from the Oregon Rebuttal testimony in the GRC, Docket UE 374, filed June 25, 2020.
Oregon customer forecast	2020	601,815	2019 IRP forecast of Oregon customers.
CO ₂ : 1990 baseline emissions	N/A	<ul style="list-style-type: none"> Emissions from owned generation per actual 1990 CO₂ emissions from fossil units. Emissions from 1990 market purchases are estimated assuming a CO₂ emission rate of 900 lbs/MWh. 	The 1990 CO ₂ emissions baseline accounts for the sale of Centralia and changes in other ownership positions. The emission rate for market purchases reflects study preparation guidelines from the Oregon Commission staff.
CO ₂ : 2005 baseline emissions	N/A	<ul style="list-style-type: none"> Emissions for owned generation and purchases per 2005 California Climate Action Registry (CCAR) filing. CO₂ emissions from market purchases are estimated assuming a CO₂ emission rate of 900 lbs/MWh. 	The emission rate for market purchases reflects study preparation guidelines from the Oregon Commission staff.

Assumption	Base Case	Hard Cap Scenarios	Comments						
CO ₂ : yearly emissions targets	N/A	Annual emission limits starting 2020. Annual Emission Limits (thousands of tons) <table border="1" data-bbox="961 354 1394 461"> <thead> <tr> <th data-bbox="961 354 1066 418">Year</th> <th data-bbox="1066 354 1247 418">Scenario 1 (1990)</th> <th data-bbox="1247 354 1394 418">Scenario 2 (2005)</th> </tr> </thead> <tbody> <tr> <td data-bbox="961 418 1066 461">2020</td> <td data-bbox="1066 418 1247 461">44,890</td> <td data-bbox="1247 418 1394 461">51,800</td> </tr> </tbody> </table>	Year	Scenario 1 (1990)	Scenario 2 (2005)	2020	44,890	51,800	Yearly targets represent the 2020 target. <ul style="list-style-type: none"> • Scenario 1 is based on Oregon HB 3543 emission level targets (10 percent below 1990 levels). • Scenario 2 reflects Western Climate Initiative (WCI) emission targets (15 percent below 2005 levels).
Year	Scenario 1 (1990)	Scenario 2 (2005)							
2020	44,890	51,800							
Existing and expansion resources	Existing and expansion resources have CO ₂ emission assumptions specific to the particular technology of each resource.								
Market sales and purchases	Market purchases have a CO ₂ emission rate of 900 lbs/MWh.								

STUDY RESULTS

Estimated Revenue Requirement Impacts

Table 2 presents the estimated customer impact for the study period of 2020, on a total and average annual basis for the two scenarios. There is no predicted customer impact because the 2019 IRP preferred portfolio meets the targets for both: Scenario 1 (10 percent below 1990 levels by 2020), and Scenario 2 (15 percent below 2005 levels by 2020).

Table 2 – Customer Impact of Scenarios 1 and 2

		Scenario 1 (1990)	Scenario 2 (2005)
Customer Impact (%)	2020	0.00%	0.00%
	Average Annual	0.00%	0.00%
Customer Impact (\$/customer)	2020	\$0.00	\$0.00
	Average Annual	\$0.00	\$0.00

Portfolio Resource Selection and Utilization

Table 3 reports the resources in the base resource portfolio over the one-year study period. Model results show that the CO₂ emission reduction goals for Scenarios 1 and 2 are met largely through the dispatch of existing and expansion resources along with incremental acquisition of demand-side management (DSM) resources. Table 4 shows simple average annual capacity factors for coal resources and Combined Cycle Combustion (CCCT) resources.

Table 3 - Base Resource Portfolio (MW)

	Resource	2020
East	Existing Plant Retirements and PPA Termination	
	Naughton 3 (Coal Early Retirement/Conversions)	(280)
	Expire - Wind PPA	(27)
	Coal Ret_WY - Gas RePower	247
	Expansion Resources	
	Energy Efficiency, ID	6
	Energy Efficiency, UT	67
	Energy Efficiency, WY	10
	Energy Efficiency Total	83
West	Existing Plant Retirements and PPA Termination	
	Retire - Hydro	(1)
	Expansion Resources	
	Energy Efficiency, CA	2
	Energy Efficiency, OR	37
	Energy Efficiency, WA	10
	Energy Efficiency Total	49
	FOT West - Summer	719
FOT West - Winter	131	
	Existing Plant Retirements/Conversions	(61)
	Annual Additions, Long Term Resources	132
	Annual Additions, Short Term Resources	850
	Total Annual Additions	982
	1/ Front office transaction amounts reflect one-year transaction periods, are not additive, and are reported as a 10/20-year annual average.	

Table 4 - Average Annual Capacity Factors for Coal and Gas Resources (%)

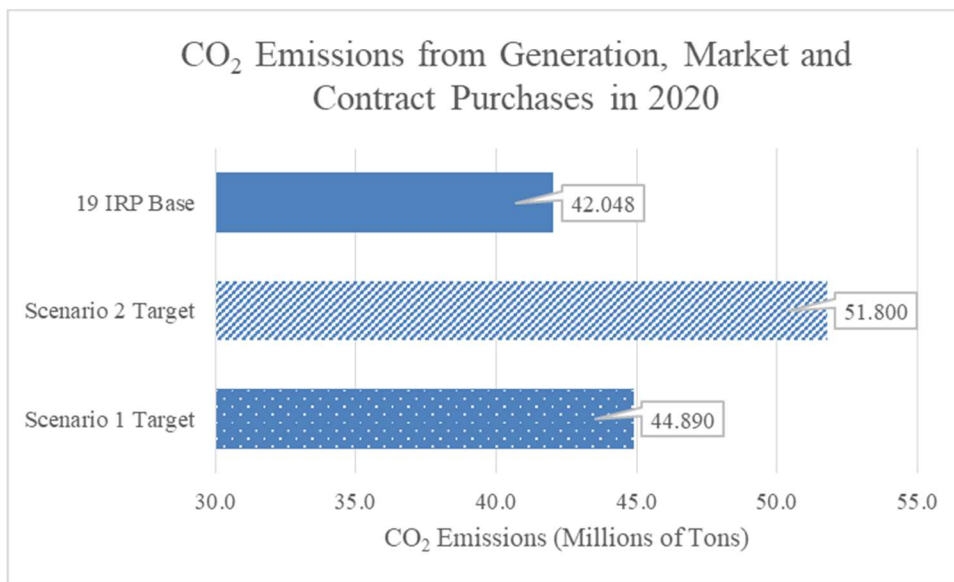
Coal Resources	2020
Base	54.9
Scenario 1	n/a
Scenario 2	n/a

Gas CCCT	2020
Base	93.6
Scenario 1	n/a
Scenario 2	n/a

Carbon Dioxide Emissions

For the base resource portfolio, annual emission levels serve as the upper-bound on the sum of emissions from owned generation and purchased power, and the forecasted emission levels are below the CO₂ emissions target levels by 2020. Figure 1 shows the CO₂ emission levels for the base resource portfolio and the CO₂ emissions target scenarios; credits from wholesale sales are not included.

Figure 1 - CO₂ Emissions



Appendix A

Scenario PVRR Costs (System Optimizer Model Output)

Cost Components (millions)	Base
Existing Station Fuel Costs	\$ 688
Existing Station Variable O&M Costs	\$ 271
Existing Station Emission Costs	\$ -
Existing Station Dispatch Adder Costs	\$ -
Existing Price Station Contract Costs	\$ 1
Existing Station Fixed Costs	\$ 466
Existing Station Demand Charges	\$ -
Existing Station Decomm. Costs	\$ -
Proposed Station Fuel Costs	\$ 23
Proposed Station Variable O&M Costs	\$ 1
Proposed Station Emission Costs	\$ -
Proposed Station Dispatch Adder Costs	\$ -
Proposed Price Station Contract Costs	\$ -
Proposed Station Fixed Costs	\$ 85
Proposed Station Demand Charges	\$ -
Proposed Station Capital Costs	\$ 1
Station Total Costs	\$ 1,536
Existing Transmission Variable Costs	\$ -
Existing Transmission Fixed Costs	\$ -
Proposed Transmission Variable Costs	\$ -
Proposed Transmission Fixed Costs	\$ -
Proposed Transmission Capital Costs	\$ -
Transmission Total Costs	\$ -
Existing DSM Program Energy Costs	\$ -
Existing DSM Program Payback Energy Costs	\$ 0
Existing DSM Program Capacity Costs	\$ -
Proposed DSM Program Energy Costs	\$ 18
Proposed DSM Program Payback Energy Costs	\$ 0
Proposed DSM Program Capacity Costs	\$ (0)
Proposed DSM Program Capital Costs	\$ -
DSM Program Total Costs	\$ 19
Existing Contract Energy Costs	\$ 77
Existing Contract Capacity Costs	\$ -
Existing Contract Premium Costs	\$ -
Proposed Contract Energy Costs	\$ -
Proposed Contract Capacity Costs	\$ -
Proposed Contract Premium Costs	\$ -
Contract Total Costs	\$ 77
Spot Mkt Purchase Costs	\$ 104
Spot Mkt Sale Revenues	\$ 352
Spot Net Purchase Costs	\$ (248)
Unserviced Energy Costs	\$ -
Unserviced Capacity Costs	\$ -
Unserviced Total Costs	\$ -
Total Costs	\$ 1,488