



## e-FILING REPORT COVER SHEET

COMPANY NAME:

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:

Report is required by: OAR  
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:

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

Send the completed Cover Sheet and the Report in an email addressed to [PUC.FilingCenter@state.or.us](mailto: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.

<b>Energy Efficiency Avoided Cost Submission Template - Natural Gas</b>	
<b>Utility Name:</b>	<b>CNG</b>
<b>Submission Date:</b>	<b>10/15/2020</b>
<b>Instructions and Definitions</b>	
<p>&lt;&gt; Please fill out this workbook as completely as possible and per the instructions.</p> <p>&lt;&gt; Inputs will be reviewed and approved by the OPUC before being sent to the Energy Trust of Oregon for use in Avoided Cost development.</p> <p>&lt;&gt; <b>Provide as much detail as possible when sourcing</b> data inputs, including the link to the source (if available), page number and table or graph number.  <i>This will increase the efficiency of this process and require less iteration during the OPUC review period.</i></p> <p><i>For worksheets 1,2,3,4,5,6 refer to data presented in the most recently acknowledged IRP, IRP Update, or General Rate Case unless otherwise noted.</i></p>	
<b>1) Global Inputs - IRP</b>	
<p>&lt;&gt; Standard economic assumptions of the avoided costs are input into this tab, including inflation and discount rates, as well as real dollar year and forecast start year.</p> <p>&lt;&gt; If supply or distribution capacity values were proportioned using a system peak coincident factor, please provide the system peak definition of the utility (calendar Month/Day/Hour) and the peak-day/annual load and peak-hour/Annual Load Ratios for the utility system.</p> <p>&lt;&gt; Note that in tabs 2-6, calendar start year and input table titles are calculated fields that pull from the global input tab, so these must be populated.</p> <p>&lt;&gt; <b>Ensure that the dollar years of the data inputs match the source</b> - Energy Trust will inflate to the proper year.</p>	
<b>2) Commodity and Transport - IRP</b>	
<p>&lt;&gt; Provide Commodity and Transport price forecast by month.</p> <p>&lt;&gt; <b>Indicate if the forecast is in nominal or real dollars (if real, dollar value will populate headers from Global Inputs tab).</b></p>	
<b>3) Environmental Compliance - IRP</b>	
<p>&lt;&gt; Provide the \$/Metric Ton of CO2 assumed for each year of the forecast.</p> <p>&lt;&gt; Provide the metric ton of CO2/dekatherm assumed for each year of the forecast.</p> <p>&lt;&gt; Column 'F' is a calculated field, which multiplies the \$/metric ton of CO2 by the CO2/dekatherm.</p>	
<b>4) Infrastructure Capacity - IRP</b>	
<p>&lt;&gt; Provide the Supply Infrastructure Capacity Cost in a \$/Dth/Day format for each year available of the forecast period.</p> <p>&lt;&gt; Provide the Distribution Infrastructure Capacity Cost in a \$/Dth/Day and \$/Dth/Hour format for each year available of the forecast period.</p> <p>&lt;&gt; If supply or distribution capacity values were proportioned using a system peak coincident factor, please provide the corresponding system peak coincident factor in "Global Inputs - IRP" tab on rows 17 and 19.</p>	
<b>5) Risk Reduction - IRP</b>	
<p>&lt;&gt; Provide the Risk Reduction value in a \$/Dth format if available for each year available of the forecast period.</p> <p>&lt;&gt; The box in cell C7 calculates the levelized net present value of all years of the forecast period. This is used when negative values occur in any year of the forecast period. If the levelized risk reduction value is negative, zero will be assigned as the final value. This is due to the premise that the risk reduction value is meant to be a benefit.</p>	
<b>6) End Use Profiles - IRP</b>	
<p>&lt;&gt; Provide the Monthly share of annual load for the utility's system by end use, if available.</p> <p>&lt;&gt; Provide the peak day/annual load and peak hour/annual load ratios by end use, if available.</p> <p>&lt;&gt; End-use profiles are meant to represent the timing of savings, these can be derived from either savings profiles or load profiles.</p>	
<b>1a, 2a, 3a, 4a, 5a, 6a) Alternative Submissions</b>	
<p>&lt;&gt; These worksheets provide a location for the utility to present alternative values to those found in the most recently acknowledged IRP, IRP Update, or General Rate Case.</p> <p>&lt;&gt; <b>Submissions in these tabs are not required.</b></p> <p>&lt;&gt; Provide a rationale for submitting the alternative values in the box provided at the top of each alternative worksheet.</p> <p>&lt;&gt; If a second set of alternative values is submitted, simply copy the alt tabs necessary and rename to 1b, alt 2 in the tab name. However, note that in tabs 2-6, calendar start year and input table titles are calculated fields that pull from the global input tab. Either update these formulas or override them.</p>	

Global Assumptions Inputs			SOURCING				
Provide as much detail as possible with sourcing including a link. Ensure that dollar years listed here are the same as the source.							
Avoided Cost Element	Units	Value	Source	Source Page #	Table # (if applicable)	Source Link or File Name	Source Notes
Discount Rate (Company's Real after-tax weighted average cost of capital (WACC))	Percent	6.35%	2018 OR IRP, Appendix H	Tab "System Wide" Cell E49	N/A	2018 OR IRP - Appendix H.xlsx	
Inflation Rate	Percent	3.60%	2018 OR IRP, Appendix H	Tab "CPI"	N/A	2018 OR IRP - Appendix H.xlsx	Simple average of all inflation values
Regional Act Credit	Percent	10.00%	N/A				
Forecast Period Calendar Start Year	Year	2020	N/A				
Real Dollar Base Year	Year	2017	2018 OR IRP, Appendix H	Tab "System Wide"		2018 OR IRP - Appendix H.xlsx	Real values are converted to 2017\$
System Peak Definition	Calendar Month/Day/Hour	Day	2018 OR IRP, Section 3	3-10	N/A	<a href="https://www.cngc.com/rates-services/rates-tariffs/oregon-integrated-resource-plan/">https://www.cngc.com/rates-services/rates-tariffs/oregon-integrated-resource-plan/</a>	
System Peak Coincident Day Factor (if needed)	Peak Day/Annual Load Ratio	Peak Day	2018 OR IRP, Section 3	3-10	N/A	<a href="https://www.cngc.com/rates-services/rates-tariffs/oregon-integrated-resource-plan/">https://www.cngc.com/rates-services/rates-tariffs/oregon-integrated-resource-plan/</a>	
System Peak Coincident Hour Factor (if needed)	Peak Hour/Annual Load Ratio	N/A					This was not a part of CNGC 2018 IRP

### Commodity Price Inputs

Real or Nominal?	Real
Source and Pg #:	IRP LT Price Forecast 2017-08-04 Used In 2018 OR IRP CONFIDENTIAL - Forecast for Conservation Tab
Source Link or File Name:	IRP LT Price Forecast 2017-08-04 Used In 2018 OR IRP CONFIDENTIAL
Source Notes:	

### Gas Commodity and Transportation/Storage Costs (Real 2017\$/Dth)

Year #	Calendar Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2020	\$2.79	\$2.79	\$2.79	\$2.79	\$2.79	\$2.79	\$2.79	\$2.79	\$2.79	\$2.79	\$2.79	\$2.79
2	2021	\$2.80	\$2.80	\$2.80	\$2.80	\$2.80	\$2.80	\$2.80	\$2.80	\$2.80	\$2.80	\$2.80	\$2.80
3	2022	\$2.76	\$2.76	\$2.76	\$2.76	\$2.76	\$2.76	\$2.76	\$2.76	\$2.76	\$2.76	\$2.76	\$2.76
4	2023	\$2.78	\$2.78	\$2.78	\$2.78	\$2.78	\$2.78	\$2.78	\$2.78	\$2.78	\$2.78	\$2.78	\$2.78
5	2024	\$2.83	\$2.83	\$2.83	\$2.83	\$2.83	\$2.83	\$2.83	\$2.83	\$2.83	\$2.83	\$2.83	\$2.83
6	2025	\$2.82	\$2.82	\$2.82	\$2.82	\$2.82	\$2.82	\$2.82	\$2.82	\$2.82	\$2.82	\$2.82	\$2.82
7	2026	\$2.83	\$2.83	\$2.83	\$2.83	\$2.83	\$2.83	\$2.83	\$2.83	\$2.83	\$2.83	\$2.83	\$2.83
8	2027	\$2.84	\$2.84	\$2.84	\$2.84	\$2.84	\$2.84	\$2.84	\$2.84	\$2.84	\$2.84	\$2.84	\$2.84
9	2028	\$2.82	\$2.82	\$2.82	\$2.82	\$2.82	\$2.82	\$2.82	\$2.82	\$2.82	\$2.82	\$2.82	\$2.82
10	2029	\$2.84	\$2.84	\$2.84	\$2.84	\$2.84	\$2.84	\$2.84	\$2.84	\$2.84	\$2.84	\$2.84	\$2.84
11	2030	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88
12	2031	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88
13	2032	\$2.86	\$2.86	\$2.86	\$2.86	\$2.86	\$2.86	\$2.86	\$2.86	\$2.86	\$2.86	\$2.86	\$2.86
14	2033	\$2.84	\$2.84	\$2.84	\$2.84	\$2.84	\$2.84	\$2.84	\$2.84	\$2.84	\$2.84	\$2.84	\$2.84
15	2034	\$2.81	\$2.81	\$2.81	\$2.81	\$2.81	\$2.81	\$2.81	\$2.81	\$2.81	\$2.81	\$2.81	\$2.81
16	2035	\$2.80	\$2.80	\$2.80	\$2.80	\$2.80	\$2.80	\$2.80	\$2.80	\$2.80	\$2.80	\$2.80	\$2.80
17	2036	\$2.78	\$2.78	\$2.78	\$2.78	\$2.78	\$2.78	\$2.78	\$2.78	\$2.78	\$2.78	\$2.78	\$2.78
18	2037	\$2.77	\$2.77	\$2.77	\$2.77	\$2.77	\$2.77	\$2.77	\$2.77	\$2.77	\$2.77	\$2.77	\$2.77
19	2038												
20	2039												
21	2040												
22	2041												
23	2042												
24	2043												
25	2044												
26	2045												
27	2046												
28	2047												
29	2048												
30	2049												
31	2050												
32	2051												
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34	2053												
35	2054												
36	2055												
37	2056												
38	2057												
39	2058												
40	2059												
41	2060												
42	2061												
43	2062												
44	2063												
45	2064												

### Environmental Compliance Cost Inputs

Real or Nominal?	Real
Source and Pg #:	2018 OR IRP Appendix H
Source Link or File Name:	2018 OR IRP - Appendix H.xlsx
Source Notes:	

### Environmental Compliance Cost

Year #	Calendar Year	Environmental Compliance Cost (Real 2017\$/MTCO2e)	Carbon Intesity (MTCO2e/Dth)	Environmental Compliance Cost (Real 2017\$/Dth)
1	2020	\$0.00	0.0583	\$0.000
2	2021	\$19.23	0.0583	\$1.122
3	2022	\$21.54	0.0583	\$1.256
4	2023	\$24.12	0.0583	\$1.407
5	2024	\$27.00	0.0583	\$1.575
6	2025	\$30.23	0.0583	\$1.763
7	2026	\$33.85	0.0583	\$1.974
8	2027	\$37.89	0.0583	\$2.210
9	2028	\$42.41	0.0583	\$2.474
10	2029	\$47.47	0.0583	\$2.769
11	2030	\$53.16	0.0583	\$3.100
12	2031	\$55.13	0.0583	\$3.215
13	2032	\$57.20	0.0583	\$3.336
14	2033	\$59.37	0.0583	\$3.463
15	2034	\$61.63	0.0583	\$3.594
16	2035	\$63.98	0.0583	\$3.732
17	2036	\$66.43	0.0583	\$3.875
18	2037	\$68.98	0.0583	\$4.023
19	2038	\$71.63	0.0583	\$4.178
20	2039	\$74.38	0.0583	\$4.338
21	2040	\$77.23	0.0583	\$4.505
22	2041	\$80.20	0.0583	\$4.677
23	2042	\$83.28	0.0583	\$4.857
24	2043	\$86.47	0.0583	\$5.043
25	2044	\$89.79	0.0583	\$5.237
26	2045	\$93.24	0.0583	\$5.438
27	2046	\$96.82	0.0583	\$5.647
28	2047	\$100.53	0.0583	\$5.863
29	2048	\$104.39	0.0583	\$6.089
30	2049	\$108.40	0.0583	\$6.322
31	2050	\$112.56	0.0583	\$6.565
32	2051	\$116.88	0.0583	\$6.817
33	2052	\$121.37	0.0583	\$7.078
34	2053	\$126.02	0.0583	\$7.350
35	2054	\$130.86	0.0583	\$7.632
36	2055	\$135.88	0.0583	\$7.925
37	2056	\$141.10	0.0583	\$8.229
38	2057	\$146.52	0.0583	\$8.545
39	2058	\$152.14	0.0583	\$8.873
40	2059	\$157.98	0.0583	\$9.214
41	2060	\$164.04	0.0583	\$9.567
42	2061	\$170.34	0.0583	\$9.935
43	2062	\$176.88	0.0583	\$10.316
44	2063	\$183.67	0.0583	\$10.712
45	2064	\$190.71	0.0583	\$11.123

**Infrastructure Capacity Cost Inputs**

<b>Real or Nominal?</b>	Real
<b>Source and Pg #:</b>	2018 OR IRP, Appendix H, "System Wide" Tab
<b>Source Link or File Name:</b>	2018 OR IRP - Appendix H.xlsx
<b>Source Notes:</b>	CNGC Defines supply is defined as the incremental fixed and variable transportation costs from additional upstream capacity, which is B3-B2 + C3-C2. CNGC did not include distribution costs in its 2018 IRP. Alternative values are provided in 4a)

**Infrastructure Capacity Costs**

Year #	Calendar Year	Infrastructure Capacity Costs		
		Supply (Real 2017\$/Dth/Day)	Distribution Peak DAY (Real 2017\$/Dth/Day)	Distribution Peak HOUR (Real 2017\$/Dth/Hour)
1	2020	\$1.072	\$0.000	\$0.000
2	2021	\$1.072	\$0.000	\$0.000
3	2022	\$1.072	\$0.000	\$0.000
4	2023	\$1.072	\$0.000	\$0.000
5	2024	\$1.072	\$0.000	\$0.000
6	2025	\$1.072	\$0.000	\$0.000
7	2026	\$1.072	\$0.000	\$0.000
8	2027	\$1.072	\$0.000	\$0.000
9	2028	\$1.072	\$0.000	\$0.000
10	2029	\$1.072	\$0.000	\$0.000
11	2030	\$1.072	\$0.000	\$0.000
12	2031	\$1.072	\$0.000	\$0.000
13	2032	\$1.072	\$0.000	\$0.000
14	2033	\$1.072	\$0.000	\$0.000
15	2034	\$1.072	\$0.000	\$0.000
16	2035	\$1.072	\$0.000	\$0.000
17	2036	\$1.072	\$0.000	\$0.000
18	2037	\$1.072	\$0.000	\$0.000
19	2038	\$1.072	\$0.000	\$0.000
20	2039	\$1.072	\$0.000	\$0.000
21	2040	\$1.072	\$0.000	\$0.000
22	2041	\$1.072	\$0.000	\$0.000
23	2042	\$1.072	\$0.000	\$0.000
24	2043	\$1.072	\$0.000	\$0.000
25	2044	\$1.072	\$0.000	\$0.000
26	2045	\$1.072	\$0.000	\$0.000
27	2046	\$1.072	\$0.000	\$0.000
28	2047	\$1.072	\$0.000	\$0.000
29	2048	\$1.072	\$0.000	\$0.000
30	2049	\$1.072	\$0.000	\$0.000
31	2050	\$1.072	\$0.000	\$0.000
32	2051	\$1.072	\$0.000	\$0.000
33	2052	\$1.072	\$0.000	\$0.000
34	2053	\$1.072	\$0.000	\$0.000
35	2054	\$1.072	\$0.000	\$0.000
36	2055	\$1.072	\$0.000	\$0.000
37	2056	\$1.072	\$0.000	\$0.000
38	2057	\$1.072	\$0.000	\$0.000
39	2058	\$1.072	\$0.000	\$0.000
40	2059	\$1.072	\$0.000	\$0.000
41	2060	\$1.072	\$0.000	\$0.000
42	2061	\$1.072	\$0.000	\$0.000
43	2062	\$1.072	\$0.000	\$0.000
44	2063	\$1.072	\$0.000	\$0.000
45	2064	\$1.072	\$0.000	\$0.000

**Risk Reduction Value Inputs**

Real or Nominal?	
Source and Pg #:	N/A
Source Link or File Name:	
Source Notes:	CNGC did not include risk reduction costs in its 2018 IRP. Alternative values are provided in 5a)

**Risk Reduction Value**

\$0.00
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= Levelized Risk Reduction Value (for use when negative values occur in any years of the forecast period). If this value is negative, then zero will be assigned as the final value.

Year #	Calendar Year	Risk Reduction Value (\$/Dth)
1	2020	\$0.000
2	2021	\$0.000
3	2022	\$0.000
4	2023	\$0.000
5	2024	\$0.000
6	2025	\$0.000
7	2026	\$0.000
8	2027	\$0.000
9	2028	\$0.000
10	2029	\$0.000
11	2030	\$0.000
12	2031	\$0.000
13	2032	\$0.000
14	2033	\$0.000
15	2034	\$0.000
16	2035	\$0.000
17	2036	\$0.000
18	2037	\$0.000
19	2038	\$0.000
20	2039	\$0.000

**End Use Profiles & Peak Day/Hour Ratios**

<b>Source and Pg # and/or Table #:</b>	Load Shape Support Document, "Load Shape" Tag
<b>Source Link or File Name:</b>	Load Shape Support Document
<b>Source Notes:</b>	Cascade did not calculate Peak Hour in its 2018 IRP.

End Use Profiles	Monthly Share of Normal Weather Annual Load												Peak to Annual Normal Weather Usage Ratios	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Peak Day	Peak Hour
All	0.154178	0.126423	0.107155	0.072351	0.04992	0.035601	0.030266	0.031202	0.041425	0.070827	0.119081	0.16157	0.0097	N/A

Notes: Energy  
 Trust will work with Utility and OPUC Staff to determine the most appropriate load or savings profiles and peak factors to use, whether that is utility specific values or Northwest Power and Conservation Council proxies. In order for utility-specific values to be used, utility staff must review the methodology they used to develop the values with OPUC Staff.



<b>Alternative Submissions</b>	<b>Rationale for alternative submission:</b> <i>Provide an overall rationale for providing alternative values - use the 'Source Notes/Rationale' column to provide more detailed rationale for individual inputs.</i>
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Global Assumptions Inputs			SOURCING				
<i>Provide as much detail as possible with sourcing including a link. Ensure that dollar years listed here are the same as the source.</i>							
Avoided Cost Element	Units	Value	Source	Source Page #	Table # (if applicable)	Source Link or File Name	Source Notes
<b>Discount Rate</b> (Company's Real after-tax weighted average cost of capital (WACC))	Percent	7.33%	CNGC Spring Earnings Review	13	Interest Coordination Adjustment	WACC Support Document.pdf	Used in 2020 OR IRP
<b>Inflation Rate - 2020</b>	Percent	2.48%	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2021</b>	Percent	2.66%	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2022</b>	Percent	2.86%	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2023</b>	Percent	3.01%	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2024</b>	Percent	3.18%	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2025</b>	Percent	3.32%	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2026</b>	Percent	3.45%	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2027</b>	Percent	3.56%	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2028</b>	Percent	3.65%	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2029</b>	Percent	3.73%	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2030</b>	Percent	3.79%	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2031</b>	Percent	3.83%	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2032</b>	Percent	3.85%	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2033</b>	Percent	3.86%	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP

<b>Inflation Rate - 2034</b>	Percent	<b>3.88%</b>	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2035</b>	Percent	<b>3.89%</b>	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2036</b>	Percent	<b>3.90%</b>	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2037</b>	Percent	<b>3.91%</b>	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2038</b>	Percent	<b>3.92%</b>	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2039</b>	Percent	<b>3.92%</b>	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2040</b>	Percent	<b>3.93%</b>	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2041</b>	Percent	<b>3.93%</b>	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2042</b>	Percent	<b>3.94%</b>	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2043</b>	Percent	<b>3.94%</b>	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2044</b>	Percent	<b>3.94%</b>	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2045</b>	Percent	<b>3.94%</b>	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2046</b>	Percent	<b>3.94%</b>	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2047</b>	Percent	<b>3.94%</b>	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2048</b>	Percent	<b>3.95%</b>	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2049</b>	Percent	<b>3.94%</b>	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Inflation Rate - 2050</b>	Percent	<b>3.95%</b>	Woods & Poole 2019 Projections	36	4	Raw Inflation Data.xlsx	Used in 2020 OR IRP
<b>Regional Act Credit</b>	Percent	10.00%	N/A				
<b>Forecast Period Calendar Start Year</b>	Year	2020					
<b>Real Dollar Base Year</b>	Year	2019					

<b>Alternative Submissions</b>	<b>Rationale for alternative submission:</b> <i>Provide an overall rationale for providing alternative values using this box</i>
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**Commodity Price Inputs**

<b>Real or Nominal?</b>	Real
<b>Source and Pg #:</b>	2020 OR IRP - Appendix H
<b>Source Link or File Name:</b>	<a href="https://www.cngc.com/rates-services/rates-tariffs/oregon-integrated-resource-plan/">https://www.cngc.com/rates-services/rates-tariffs/oregon-integrated-resource-plan/</a>
<b>Source Notes:</b>	Tab "2) Commodity & Transport - IRP" from the 2020 IRP currently being reviewed by OPUC

**Gas Commodity and Transportation/Storage Costs (Real 2019\$/Dth)**

Year #	Calendar Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2020	\$2.99	\$2.65	\$2.09	\$1.86	\$1.46	\$1.48	\$2.05	\$2.35	\$2.56	\$2.16	\$2.18	\$2.51
2	2021	\$2.66	\$2.47	\$2.05	\$1.71	\$1.57	\$1.57	\$1.86	\$1.90	\$1.92	\$1.91	\$2.12	\$2.41
3	2022	\$2.53	\$2.44	\$2.05	\$1.77	\$1.66	\$1.68	\$1.93	\$1.96	\$1.97	\$2.02	\$2.21	\$2.47
4	2023	\$2.54	\$2.48	\$2.11	\$1.86	\$1.74	\$1.71	\$2.02	\$2.06	\$2.08	\$2.13	\$2.28	\$2.50
5	2024	\$2.57	\$2.48	\$2.17	\$1.93	\$1.79	\$1.89	\$2.10	\$2.14	\$2.13	\$2.27	\$2.43	\$2.76
6	2025	\$2.76	\$2.68	\$2.37	\$2.17	\$2.08	\$2.12	\$2.41	\$2.49	\$2.45	\$2.41	\$2.59	\$2.95
7	2026	\$2.92	\$2.85	\$2.51	\$2.30	\$2.19	\$2.22	\$2.52	\$2.60	\$2.58	\$2.53	\$2.69	\$3.07
8	2027	\$3.00	\$2.92	\$2.57	\$2.36	\$2.26	\$2.28	\$2.58	\$2.67	\$2.65	\$2.58	\$2.73	\$3.09
9	2028	\$3.01	\$2.92	\$2.62	\$2.40	\$2.29	\$2.31	\$2.61	\$2.73	\$2.69	\$2.60	\$2.77	\$3.13
10	2029	\$3.07	\$3.00	\$2.71	\$2.46	\$2.37	\$2.41	\$2.76	\$2.88	\$2.82	\$2.75	\$2.95	\$3.28
11	2030	\$3.28	\$3.19	\$2.89	\$2.60	\$2.50	\$2.60	\$2.90	\$3.02	\$2.96	\$2.89	\$3.13	\$3.39
12	2031	\$3.47	\$3.31	\$2.98	\$2.70	\$2.61	\$2.68	\$2.97	\$3.08	\$3.03	\$2.95	\$3.17	\$3.42
13	2032	\$3.50	\$3.31	\$2.99	\$2.71	\$2.62	\$2.70	\$3.00	\$3.10	\$3.05	\$2.97	\$3.21	\$3.46
14	2033	\$3.54	\$3.38	\$3.05	\$2.75	\$2.67	\$2.76	\$3.06	\$3.16	\$3.10	\$3.03	\$3.28	\$3.55
15	2034	\$3.61	\$3.44	\$3.09	\$2.80	\$2.71	\$2.79	\$3.11	\$3.21	\$3.15	\$3.07	\$3.34	\$3.62
16	2035	\$3.65	\$3.48	\$3.13	\$2.84	\$2.75	\$2.84	\$3.14	\$3.25	\$3.19	\$3.11	\$3.38	\$3.65
17	2036	\$3.70	\$3.52	\$3.15	\$2.87	\$2.78	\$2.87	\$3.18	\$3.28	\$3.23	\$3.14	\$3.43	\$3.70
18	2037	\$3.77	\$3.59	\$3.23	\$2.95	\$2.83	\$2.91	\$3.27	\$3.36	\$3.30	\$3.26	\$3.55	\$3.84
19	2038	\$4.18	\$3.88	\$3.44	\$3.03	\$3.03	\$3.14	\$3.68	\$3.80	\$3.70	\$3.50	\$3.87	\$4.31
20	2039	\$4.27	\$3.96	\$3.50	\$3.15	\$3.18	\$3.24	\$3.75	\$3.86	\$3.80	\$3.59	\$3.96	\$4.35
21	2040	\$4.34	\$4.01	\$3.55	\$3.50	\$3.26	\$3.27	\$3.95	\$4.21	\$4.44	\$3.92	\$3.89	\$4.26
22	2041	\$4.38	\$4.05	\$3.58	\$3.53	\$3.29	\$3.30	\$3.99	\$4.25	\$4.48	\$3.96	\$3.93	\$4.31
23	2042	\$4.42	\$4.09	\$3.62	\$3.57	\$3.33	\$3.33	\$4.03	\$4.29	\$4.53	\$4.00	\$3.97	\$4.35
24	2043	\$4.47	\$4.13	\$3.66	\$3.60	\$3.36	\$3.37	\$4.07	\$4.34	\$4.57	\$4.04	\$4.01	\$4.39
25	2044	\$4.51	\$4.18	\$3.69	\$3.64	\$3.39	\$3.40	\$4.11	\$4.38	\$4.62	\$4.08	\$4.05	\$4.44
26	2045	\$4.56	\$4.22	\$3.73	\$3.68	\$3.43	\$3.43	\$4.15	\$4.42	\$4.66	\$4.12	\$4.09	\$4.48
27	2046	\$4.60	\$4.26	\$3.77	\$3.71	\$3.46	\$3.47	\$4.19	\$4.47	\$4.71	\$4.16	\$4.13	\$4.53
28	2047	\$4.65	\$4.30	\$3.81	\$3.75	\$3.50	\$3.50	\$4.23	\$4.51	\$4.76	\$4.20	\$4.17	\$4.57
29	2048	\$4.70	\$4.35	\$3.84	\$3.79	\$3.53	\$3.54	\$4.27	\$4.56	\$4.80	\$4.24	\$4.21	\$4.62
30	2049	\$4.74	\$4.39	\$3.88	\$3.83	\$3.57	\$3.57	\$4.32	\$4.60	\$4.85	\$4.29	\$4.26	\$4.66
31	2050	\$4.79	\$4.43	\$3.92	\$3.86	\$3.60	\$3.61	\$4.36	\$4.65	\$4.90	\$4.33	\$4.30	\$4.71
32	2051	\$4.84	\$4.48	\$3.96	\$3.90	\$3.64	\$3.64	\$4.40	\$4.69	\$4.95	\$4.37	\$4.34	\$4.76
33	2052	\$4.89	\$4.52	\$4.00	\$3.94	\$3.68	\$3.68	\$4.45	\$4.74	\$5.00	\$4.42	\$4.38	\$4.81
34	2053	\$4.94	\$4.57	\$4.04	\$3.98	\$3.71	\$3.72	\$4.49	\$4.79	\$5.05	\$4.46	\$4.43	\$4.85
35	2054	\$4.98	\$4.61	\$4.08	\$4.02	\$3.75	\$3.75	\$4.54	\$4.84	\$5.10	\$4.50	\$4.47	\$4.90
36	2055	\$5.03	\$4.66	\$4.12	\$4.06	\$3.79	\$3.79	\$4.58	\$4.89	\$5.15	\$4.55	\$4.52	\$4.95
37	2056	\$5.08	\$4.71	\$4.16	\$4.10	\$3.82	\$3.83	\$4.63	\$4.93	\$5.20	\$4.59	\$4.56	\$5.00
38	2057	\$5.14	\$4.75	\$4.20	\$4.14	\$3.86	\$3.87	\$4.68	\$4.98	\$5.25	\$4.64	\$4.61	\$5.05
39	2058	\$5.19	\$4.80	\$4.25	\$4.18	\$3.90	\$3.91	\$4.72	\$5.03	\$5.31	\$4.69	\$4.65	\$5.10
40	2059	\$5.24	\$4.85	\$4.29	\$4.23	\$3.94	\$3.95	\$4.77	\$5.08	\$5.36	\$4.73	\$4.70	\$5.15
41	2060	\$5.29	\$4.90	\$4.33	\$4.27	\$3.98	\$3.99	\$4.82	\$5.13	\$5.41	\$4.78	\$4.75	\$5.20
42	2061	\$5.34	\$4.95	\$4.37	\$4.31	\$4.02	\$4.03	\$4.87	\$5.19	\$5.47	\$4.83	\$4.80	\$5.26
43	2062	\$5.40	\$5.00	\$4.42	\$4.35	\$4.06	\$4.07	\$4.91	\$5.24	\$5.52	\$4.88	\$4.84	\$5.31
44	2063	\$5.45	\$5.05	\$4.46	\$4.40	\$4.10	\$4.11	\$4.96	\$5.29	\$5.58	\$4.93	\$4.89	\$5.36
45	2064	\$5.51	\$5.10	\$4.51	\$4.44	\$4.14	\$4.15	\$5.01	\$5.34	\$5.63	\$4.98	\$4.94	\$5.41

<b>Alternative Submissions</b>	<b>Rationale for alternative submission:</b> <i>Provide an overall rationale for providing alternative values using this box</i>
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**Environmental Compliance Cost Inputs**

Real or Nominal?	Real
Source and Pg #:	2019 CEC Carbon Pricing - Carbon Price Mid Price
Source Link or File Name:	
Source Notes:	

**Environmental Compliance Cost**

Year #	Calendar Year	Environmental Compliance Cost (Real 2019\$/MTCO2e)	Carbon Intesity (MTCO2e/Dth)	Environmental Compliance Cost (Real 2019\$/Dth)
1	2020	\$0.00	0.0583	\$0.000
2	2021	\$21.13	0.0583	\$1.233
3	2022	\$26.16	0.0583	\$1.526
4	2023	\$26.77	0.0583	\$1.562
5	2024	\$30.14	0.0583	\$1.758
6	2025	\$33.95	0.0583	\$1.980
7	2026	\$38.24	0.0583	\$2.230
8	2027	\$43.06	0.0583	\$2.512
9	2028	\$48.50	0.0583	\$2.829
10	2029	\$54.61	0.0583	\$3.185
11	2030	\$61.50	0.0583	\$3.587
12	2031	\$61.50	0.0583	\$3.587
13	2032	\$61.50	0.0583	\$3.587
14	2033	\$61.50	0.0583	\$3.587
15	2034	\$61.50	0.0583	\$3.587
16	2035	\$61.50	0.0583	\$3.587
17	2036	\$61.50	0.0583	\$3.587
18	2037	\$61.50	0.0583	\$3.587
19	2038	\$61.50	0.0583	\$3.587
20	2039	\$61.50	0.0583	\$3.587
21	2040	\$61.50	0.0583	\$3.587
22	2041	\$61.50	0.0583	\$3.587
23	2042	\$61.50	0.0583	\$3.587
24	2043	\$61.50	0.0583	\$3.587
25	2044	\$61.50	0.0583	\$3.587
26	2045	\$61.50	0.0583	\$3.587
27	2046	\$61.50	0.0583	\$3.587
28	2047	\$61.50	0.0583	\$3.587
29	2048	\$61.50	0.0583	\$3.587
30	2049	\$61.50	0.0583	\$3.587
31	2050	\$61.50	0.0583	\$3.587
32	2051	\$61.50	0.0583	\$3.587
33	2052	\$61.50	0.0583	\$3.587
34	2053	\$61.50	0.0583	\$3.587
35	2054	\$61.50	0.0583	\$3.587
36	2055	\$61.50	0.0583	\$3.587
37	2056	\$61.50	0.0583	\$3.587
38	2057	\$61.50	0.0583	\$3.587
39	2058	\$61.50	0.0583	\$3.587
40	2059	\$61.50	0.0583	\$3.587
41	2060	\$61.50	0.0583	\$3.587
42	2061	\$61.50	0.0583	\$3.587
43	2062	\$61.50	0.0583	\$3.587
44	2063	\$61.50	0.0583	\$3.587
45	2064	\$61.50	0.0583	\$3.587

<b>Alternative Submissions</b>	<b>Rationale for alternative submission:</b> <i>Provide an overall rationale for providing alternative values using this box</i>
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**Infrastructure Capacity Cost Inputs**

<b>Real or Nominal?</b>	Real
<b>Source and Pg #:</b>	2020 OR IRP - Appendix H
<b>Source Link or File Name:</b>	<a href="https://www.cngc.com/rates-services/rates-tariffs/oregon-integrated-resource-plan/">https://www.cngc.com/rates-services/rates-tariffs/oregon-integrated-resource-plan/</a>
<b>Source Notes:</b>	

**Infrastructure Capacity Costs**

Year #	Calendar Year	Infrastructure Capacity Costs		
		Supply (Real 2019\$/Dth/Day)	Distribution Peak DAY (Real 2019\$/Dth/Day)	Distribution Peak HOUR (Real 2019\$/Dth/Hour)
1	2020	\$0.000	\$0.119	\$0.006
2	2021	\$0.000	\$0.127	\$0.007
3	2022	\$0.000	\$0.130	\$0.007
4	2023	\$0.000	\$0.121	\$0.006
5	2024	\$0.000	\$0.141	\$0.007
6	2025	\$0.000	\$0.126	\$0.006
7	2026	\$0.000	\$0.126	\$0.006
8	2027	\$0.000	\$0.128	\$0.007
9	2028	\$0.000	\$0.128	\$0.007
10	2029	\$0.000	\$0.129	\$0.007
11	2030	\$0.000	\$0.129	\$0.007
12	2031	\$0.000	\$0.128	\$0.007
13	2032	\$0.226	\$0.128	\$0.007
14	2033	\$0.226	\$0.130	\$0.007
15	2034	\$0.226	\$0.130	\$0.007
16	2035	\$0.226	\$0.131	\$0.007
17	2036	\$0.226	\$0.131	\$0.007
18	2037	\$0.226	\$0.129	\$0.007
19	2038	\$0.226	\$0.131	\$0.007
20	2039	\$0.226	\$0.132	\$0.007
21	2040			
22	2041			
23	2042			
24	2043			
25	2044			
26	2045			
27	2046			
28	2047			
29	2048			
30	2049			
31	2050			
32	2051			
33	2052			
34	2053			
35	2054			
36	2055			
37	2056			
38	2057			
39	2058			
40	2059			
41	2060			
42	2061			
43	2062			
44	2063			
45	2064			

<b>Alternative Submissions</b>	<b>Rationale for alternative submission:</b> <i>Provide an overall rationale for providing alternative values using this box</i>
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**Risk Reduction Value Inputs**

<b>Real or Nominal?</b>	
<b>Source and Pg #:</b>	
<b>Source Link or File Name:</b>	
<b>Source Notes:</b>	

No Data Entered

= Levelized Risk Reduction Value (for use when negative values occur in any years of the forecast period). If this value is negative, then zero will be assigned as the final value.

**Risk Reduction Value**

Year #	Calendar Year	Risk Reduction Value (\$/Dth)
1	2020	
2	2021	
3	2022	
4	2023	
5	2024	
6	2025	
7	2026	
8	2027	
9	2028	
10	2029	
11	2030	
12	2031	
13	2032	
14	2033	
15	2034	
16	2035	
17	2036	
18	2037	
19	2038	
20	2039	

**Alternative Submissions**

**Rationale for alternative submission:**  
*Provide an overall rationale for providing alternative values using this box*

**End Use Profiles & Peak Day/Hour Ratios**

Source and Pg # and/or Table #:	GC 2020 OR IRP - Appendi
Source Link or File Name:	services/rates-tariffs/oreg
Source Notes:	

End Use Profiles	Monthly Share of Normal Weather Annual Load												Peak to Annual Normal Weather Usage Ratios	
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Peak Day	Peak Hour
All	0.154178	0.126423	0.107155	0.072351	0.04992	0.035601	0.030266	0.031202	0.041425	0.070827	0.119081	0.16157		

Notes: Energy  
 Trust will work with Utility and OPUC Staff to determine the most appropriate load or savings profiles and peak factors to use, whether that is utility specific values or Northwest Power and Conservation Council proxies. In order for utility-specific values to be used, utility staff must review the methodology they used to develop the values with OPUC Staff.