

Appendix H

Avoided Cost

2023 OR IRP

Appendix H – Introduction

The purpose of this document is to present the inputs into Cascade’s avoided cost calculation, as well as the sources for these inputs. The format of this appendix has been modified for the 2023 OR IRP to align with the OPUC UM 1893 filing template.

The elements of the Company’s avoided cost calculation comply with UM 1893. The data itself is sourced from a number of processes integral to the 2023 IRP, specifically the resource integration and distribution system planning sections.

Once calculated, these figures are sent to the Energy Trust of Oregon (ETO), where they are used to generate Cascade’s Conservation Potential Assessment (CPA). The Company appreciates its partnership with ETO, as the CPA is a vital element to forecasting energy efficiency savings over the 28-year planning horizon. Additionally, if acknowledged, this data will be used complete Cascade’s 2023 filing for the UM 1893 docket.

Energy Efficiency Avoided Cost Submission Template - Natural Gas

Utility Name: **CNG**

Submission Date: **9/15/2022**

Instructions and Definitions

<> Please fill out this workbook as completely as possible and per the instructions

<> Inputs will be reviewed and approved by the OPUC before being sent to the Energy Trust of Oregon for use in Avoided Cost development

<> **Provide as much detail as possible when sourcing** data inputs, including the link to the source (if available), page number and table or graph number

This will increase the efficiency of this process and require less iteration during the OPUC review period

1) Global Inputs - IRP

<> 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.

<> In

addition to the standard economic assumptions, 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.

<> 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.

<> **Ensure that the dollar years of the data inputs match the source** - Energy Trust will inflate to the proper year

<> Please provide the values in the most recently acknowledged IRP

2) Commodity and Transport - IRP

<> Provide Commodity and Transport price forecast by month

<> **Indicate if the forecast is in nominal or real dollars (if real, dollar value will populate headers from Global Inputs tab)**

<> Please provide the values in the most recently acknowledged IRP

3) Environmental Compliance - IRP

<> Provide the \$/Metric Ton of CO2 assumed for each year of the forecast

<> Provide the metric ton of CO2/dekatherm assumed for each year of the forecast

<> Column 'F' is a calculated field, which multiplies the \$/metric ton of CO2 by the CO2/dekatherm

<> Please provide the values in the most recently acknowledged IRP

4) Infrastructure Capacity - IRP

<> Provide the Supply Infrastructure Capacity Cost in a \$/Dth/Day format for each year available of the forecast period

<> Provide the Distribution Infrastructure Capacity Cost in a \$/Dth/Day and \$/Dth/Hour format for each year available of the forecast period

<> Please provide the values in the most recently acknowledged IRP

<> 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.

5) Risk Reduction - IRP

<> Provide the Risk Reduction value in a \$/Dth format if available for each year available of the forecast period

<> 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.

<> Please provide the values in the most recently acknowledged IRP

6) End Use Profiles - IRP

<> Provide the Monthly share of annual load for the utility's system by end use, if available.

<> Provide the peak day/annual load and peak hour/annual load ratios by end use, if available.

<> Please provide the values in the most recently acknowledged IRP

<> End-use profiles are meant to represent the timing of savings, these can be derived from either savings profiles or load profiles.

1a, 2a, 3a, 4a, 5a, 6a) Alternative Submissions

<> These worksheets provide a location for the utility to present alternative values to the most recently acknowledged IRP values for OPUC review.

<> **Submissions in these tabs are not required.**

<> Provide a rationale for submitting the alternative values in the box provided at the top of each alternative worksheet.

<> 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.

Alternative Submissions			Rationale for alternative submission: Provide an overall rationale for providing alternative values - use the 'Source Notes/Rationale' column to provide more detailed rationale for individual inputs.				
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	7.27%	2021 Results of Operations and Orders in place on December 31, 2021				
Inflation Rate - 2023	Percent	2.50%	Woods & Poole 2021 Projections				To be used in 2023 OR IRP
Inflation Rate - 2024	Percent	2.65%	Woods & Poole 2021 Projections				To be used in 2023 OR IRP
Inflation Rate - 2025	Percent	2.80%	Woods & Poole 2021 Projections				To be used in 2023 OR IRP
Inflation Rate - 2026	Percent	2.93%	Woods & Poole 2021 Projections				To be used in 2023 OR IRP
Inflation Rate - 2027	Percent	3.05%	Woods & Poole 2021 Projections				To be used in 2023 OR IRP
Inflation Rate - 2028	Percent	3.13%	Woods & Poole 2021 Projections				To be used in 2023 OR IRP
Inflation Rate - 2029	Percent	3.21%	Woods & Poole 2021 Projections				To be used in 2023 OR IRP
Inflation Rate - 2030	Percent	3.27%	Woods & Poole 2021 Projections				To be used in 2023 OR IRP
Inflation Rate - 2031	Percent	3.30%	Woods & Poole 2021 Projections				To be used in 2023 OR IRP
Inflation Rate - 2032	Percent	3.33%	Woods & Poole 2021 Projections				To be used in 2023 OR IRP
Inflation Rate - 2033	Percent	3.35%	Woods & Poole 2021 Projections				To be used in 2023 OR IRP
Inflation Rate - 2034	Percent	3.36%	Woods & Poole 2021 Projections				To be used in 2023 OR IRP
Inflation Rate - 2035	Percent	3.37%	Woods & Poole 2021 Projections				To be used in 2023 OR IRP
Inflation Rate - 2036	Percent	3.38%	Woods & Poole 2021 Projections				To be used in 2023 OR IRP
Inflation Rate - 2037	Percent	3.40%	Woods & Poole 2021 Projections				To be used in 2023 OR IRP
Inflation Rate - 2038	Percent	3.40%	Woods & Poole 2021 Projections				To be used in 2023 OR IRP
Inflation Rate - 2039	Percent	3.40%	Woods & Poole 2021 Projections				To be used in 2023 OR IRP
Inflation Rate - 2040	Percent	3.41%	Woods & Poole 2021 Projections				To be used in 2023 OR IRP
Inflation Rate - 2041	Percent	3.42%	Woods & Poole 2021 Projections				To be used in 2023 OR IRP
Inflation Rate - 2042	Percent	3.41%	Woods & Poole 2021 Projections				To be used in 2023 OR IRP
Inflation Rate - 2043	Percent	3.42%	Woods & Poole 2021 Projections				To be used in 2023 OR IRP
Inflation Rate - 2044	Percent	3.42%	Woods & Poole 2021 Projections				To be used in 2023 OR IRP
Inflation Rate - 2045	Percent	3.42%	Woods & Poole 2021 Projections				To be used in 2023 OR IRP
Inflation Rate - 2046	Percent	3.43%	Woods & Poole 2021 Projections				To be used in 2023 OR IRP
Inflation Rate - 2047	Percent	3.42%	Woods & Poole 2021 Projections				To be used in 2023 OR IRP
Inflation Rate - 2048	Percent	3.42%	Woods & Poole 2021 Projections				To be used in 2023 OR IRP
Inflation Rate - 2049	Percent	3.43%	Woods & Poole 2021 Projections				To be used in 2023 OR IRP
Inflation Rate - 2050	Percent	3.42%	Woods & Poole 2021 Projections				To be used in 2023 OR IRP
Regional Act Credit	Percent	10.00%	N/A				
Forecast Period Calendar Start Year	Year	2023	N/A				
Real Dollar Base Year	Year	2021					Real values are expressed in 2021\$
System Peak Definition	Calendar Month/Day/Hour	Day					
System Peak Coincident Day Factor (if needed)	Peak Day/Annual Load Ratio	0.0086					
System Peak Coincident Hour Factor (if needed)	Peak Hour/Annual Load Ratio	0.0005					

Alternative Submissions	Rationale for alternative submission: <i>Provide an overall rationale for providing alternative values using this box : Reflects updated pricing since 2020 IRP</i>
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Commodity Price Inputs

Real or Nominal?	Real
Source and Pg #:	
Source Link or File Name:	
Source Notes:	CNGC Price Forecast as of 5-23-22 to be used in 2023 IRP CONFIDENTIAL.xlsx

Gas Commodity and Transportation/Storage Costs (Real 2021\$/Dth)

Year #	Calendar Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2023	\$10.11	\$9.61	\$6.80	\$4.40	\$4.02	\$4.16	\$4.39	\$4.38	\$4.27	\$4.26	\$5.00	\$5.79
2	2024	\$5.67	\$5.31	\$4.39	\$3.27	\$3.13	\$3.23	\$3.39	\$3.37	\$3.35	\$3.43	\$4.04	\$4.45
3	2025	\$4.40	\$4.17	\$3.67	\$2.95	\$2.91	\$2.99	\$3.07	\$3.07	\$3.07	\$3.10	\$3.54	\$3.85
4	2026	\$3.82	\$3.61	\$3.38	\$2.85	\$2.83	\$2.90	\$2.92	\$2.90	\$2.91	\$2.96	\$3.24	\$3.47
5	2027	\$3.43	\$3.24	\$3.07	\$2.76	\$2.67	\$2.72	\$2.74	\$2.73	\$2.76	\$2.78	\$3.09	\$3.30
6	2028	\$3.30	\$3.16	\$3.07	\$2.74	\$2.75	\$2.79	\$2.79	\$2.78	\$2.82	\$2.86	\$3.11	\$3.35
7	2029	\$3.40	\$3.27	\$3.15	\$2.78	\$2.79	\$2.85	\$2.83	\$2.83	\$2.86	\$2.90	\$3.14	\$3.39
8	2030	\$3.44	\$3.22	\$3.25	\$3.07	\$3.10	\$3.08	\$3.00	\$2.89	\$2.91	\$2.93	\$3.08	\$3.29
9	2031	\$3.31	\$3.17	\$3.22	\$3.09	\$3.13	\$3.11	\$3.03	\$2.92	\$2.93	\$2.95	\$3.09	\$3.29
10	2032	\$3.36	\$3.26	\$3.29	\$3.17	\$3.21	\$3.20	\$3.12	\$3.01	\$3.03	\$3.05	\$3.18	\$3.38
11	2033	\$3.44	\$3.42	\$3.46	\$3.22	\$3.28	\$3.27	\$3.18	\$3.08	\$3.10	\$3.12	\$3.24	\$3.45
12	2034	\$3.43	\$3.38	\$3.41	\$3.23	\$3.27	\$3.26	\$3.18	\$3.07	\$3.10	\$3.11	\$3.24	\$3.45
13	2035	\$3.50	\$3.52	\$3.55	\$3.28	\$3.33	\$3.33	\$3.25	\$3.13	\$3.16	\$3.17	\$3.30	\$3.50
14	2036	\$3.57	\$3.53	\$3.57	\$3.33	\$3.38	\$3.37	\$3.30	\$3.20	\$3.22	\$3.20	\$3.31	\$3.42
15	2037	\$3.45	\$3.34	\$3.41	\$3.31	\$3.39	\$3.35	\$3.31	\$3.21	\$3.22	\$3.21	\$3.31	\$3.37
16	2038	\$3.46	\$3.39	\$3.46	\$3.39	\$3.45	\$3.44	\$3.38	\$3.30	\$3.30	\$3.27	\$3.44	\$3.50
17	2039	\$3.58	\$3.47	\$3.52	\$3.43	\$3.52	\$3.49	\$3.45	\$3.35	\$3.37	\$3.32	\$3.49	\$3.54
18	2040	\$3.59	\$3.54	\$3.58	\$3.49	\$3.58	\$3.58	\$3.49	\$3.40	\$3.44	\$3.39	\$3.53	\$3.47
19	2041	\$3.55	\$3.49	\$3.58	\$3.59	\$3.67	\$3.67	\$3.63	\$3.54	\$3.53	\$3.52	\$3.65	\$3.72
20	2042	\$3.80	\$3.75	\$3.79	\$3.67	\$3.76	\$3.78	\$3.70	\$3.63	\$3.64	\$3.63	\$3.72	\$3.81
21	2043	\$3.85	\$3.71	\$3.79	\$3.63	\$3.71	\$3.71	\$3.66	\$3.55	\$3.57	\$3.58	\$3.68	\$3.77
22	2044	\$3.81	\$3.73	\$3.87	\$3.63	\$3.72	\$3.74	\$3.67	\$3.56	\$3.58	\$3.57	\$3.70	\$3.80
23	2045	\$3.86	\$3.82	\$3.86	\$3.67	\$3.75	\$3.79	\$3.73	\$3.62	\$3.66	\$3.62	\$3.72	\$3.83
24	2046	\$3.86	\$3.81	\$3.84	\$3.65	\$3.75	\$3.77	\$3.71	\$3.60	\$3.62	\$3.60	\$3.71	\$3.84
25	2047	\$3.88	\$3.90	\$3.95	\$3.73	\$3.79	\$3.81	\$3.75	\$3.68	\$3.70	\$3.68	\$3.76	\$3.97
26	2048	\$4.06	\$4.01	\$4.09	\$3.78	\$3.85	\$3.87	\$3.79	\$3.73	\$3.74	\$3.73	\$3.82	\$3.99
27	2049	\$4.02	\$4.05	\$4.12	\$3.79	\$3.85	\$3.88	\$3.82	\$3.74	\$3.75	\$3.73	\$3.82	\$4.11
28	2050	\$4.16	\$4.18	\$4.22	\$3.83	\$3.89	\$3.93	\$3.85	\$3.77	\$3.79	\$3.79	\$3.89	\$4.22
29	2051	\$4.20	\$4.22	\$4.27	\$3.87	\$3.93	\$3.96	\$3.89	\$3.81	\$3.83	\$3.83	\$3.93	\$4.27
30	2052	\$4.25	\$4.27	\$4.31	\$3.91	\$3.97	\$4.00	\$3.93	\$3.85	\$3.87	\$3.87	\$3.97	\$4.31
31	2053	\$4.29	\$4.31	\$4.35	\$3.95	\$4.01	\$4.04	\$3.97	\$3.88	\$3.91	\$3.91	\$4.01	\$4.35
32	2054	\$4.33	\$4.35	\$4.39	\$3.99	\$4.05	\$4.09	\$4.00	\$3.92	\$3.95	\$3.95	\$4.05	\$4.40
33	2055	\$4.38	\$4.40	\$4.44	\$4.03	\$4.09	\$4.13	\$4.04	\$3.96	\$3.99	\$3.99	\$4.09	\$4.44
34	2056	\$4.42	\$4.44	\$4.48	\$4.07	\$4.13	\$4.17	\$4.09	\$4.00	\$4.03	\$4.03	\$4.13	\$4.48
35	2057	\$4.46	\$4.48	\$4.53	\$4.11	\$4.17	\$4.21	\$4.13	\$4.04	\$4.07	\$4.07	\$4.17	\$4.53
36	2058	\$4.51	\$4.53	\$4.57	\$4.15	\$4.21	\$4.25	\$4.17	\$4.08	\$4.11	\$4.11	\$4.21	\$4.57
37	2059	\$4.55	\$4.57	\$4.62	\$4.19	\$4.25	\$4.29	\$4.21	\$4.12	\$4.15	\$4.15	\$4.25	\$4.62
38	2060	\$4.60	\$4.62	\$4.66	\$4.23	\$4.30	\$4.34	\$4.25	\$4.16	\$4.19	\$4.19	\$4.29	\$4.67
39	2061	\$4.64	\$4.67	\$4.71	\$4.27	\$4.34	\$4.38	\$4.29	\$4.21	\$4.23	\$4.23	\$4.34	\$4.71
40	2062	\$4.69	\$4.71	\$4.76	\$4.32	\$4.38	\$4.42	\$4.34	\$4.25	\$4.27	\$4.28	\$4.38	\$4.76
41	2063	\$4.74	\$4.76	\$4.81	\$4.36	\$4.43	\$4.47	\$4.38	\$4.29	\$4.32	\$4.32	\$4.42	\$4.81
42	2064	\$4.79	\$4.81	\$4.85	\$4.40	\$4.47	\$4.51	\$4.42	\$4.33	\$4.36	\$4.36	\$4.47	\$4.86
43	2065	\$4.83	\$4.86	\$4.90	\$4.45	\$4.51	\$4.56	\$4.47	\$4.38	\$4.40	\$4.41	\$4.51	\$4.90
44	2066	\$4.88	\$4.90	\$4.95	\$4.49	\$4.56	\$4.60	\$4.51	\$4.42	\$4.45	\$4.45	\$4.56	\$4.95
45	2067	\$4.93	\$4.95	\$5.00	\$4.54	\$4.61	\$4.65	\$4.56	\$4.47	\$4.49	\$4.49	\$4.60	\$5.00

Alternative Submissions	Rationale for alternative submission:
	<i>Provide an overall rationale for providing alternative values using this box : Reflects updated pricing since 2020 IRP</i>

Commodity Price Inputs

Real or Nominal?	Real
Source and Pg #:	
Source Link or File Name:	
Source Notes:	CNGC High Commodity Price Forecast as of 5-23-22 to be used in 2023 IRP

Gas Commodity and Transportation/Storage Costs (Real 2021\$/Dth)

Year #	Calendar Year	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	2023	\$13.50	\$13.50	\$13.50	\$13.50	\$13.50	\$13.50	\$13.50	\$13.50	\$13.50	\$13.50	\$13.50	\$13.50
2	2024	\$13.50	\$13.50	\$13.50	\$13.50	\$13.50	\$13.50	\$13.50	\$13.50	\$13.50	\$13.50	\$13.50	\$13.50
3	2025	\$13.50	\$13.50	\$13.50	\$13.50	\$13.50	\$13.50	\$13.50	\$13.50	\$13.50	\$13.50	\$13.50	\$13.50
4	2026	\$14.82	\$14.80	\$13.50	\$13.50	\$13.50	\$13.50	\$13.50	\$13.50	\$13.50	\$13.72	\$13.50	\$13.50
5	2027	\$14.13	\$14.13	\$13.87	\$13.90	\$13.50	\$13.50	\$13.50	\$13.50	\$13.50	\$13.69	\$14.12	\$14.13
6	2028	\$13.66	\$13.66	\$13.63	\$13.66	\$13.66	\$13.66	\$13.64	\$13.66	\$13.66	\$13.66	\$13.66	\$13.66
7	2029	\$17.54	\$17.54	\$17.40	\$17.33	\$14.07	\$16.37	\$17.55	\$17.55	\$17.54	\$17.54	\$17.50	\$17.54
8	2030	\$17.39	\$17.39	\$17.39	\$17.39	\$17.38	\$17.38	\$17.39	\$17.39	\$17.38	\$17.38	\$17.39	\$17.39
9	2031	\$17.47	\$17.47	\$17.47	\$17.47	\$17.47	\$17.47	\$17.47	\$17.47	\$17.47	\$17.47	\$17.47	\$17.47
10	2032	\$17.56	\$17.56	\$17.56	\$17.56	\$17.56	\$17.56	\$17.56	\$17.56	\$17.56	\$17.56	\$17.56	\$17.56
11	2033	\$17.67	\$17.67	\$17.67	\$17.67	\$17.67	\$17.67	\$17.67	\$17.67	\$17.67	\$17.67	\$17.67	\$17.67
12	2034	\$17.73	\$17.73	\$17.73	\$17.73	\$17.73	\$17.73	\$17.73	\$17.73	\$17.73	\$17.73	\$17.73	\$17.73
13	2035	\$17.72	\$17.72	\$17.72	\$17.72	\$17.72	\$17.72	\$17.72	\$17.72	\$17.72	\$17.72	\$17.72	\$17.72
14	2036	\$17.75	\$17.75	\$17.75	\$17.75	\$17.75	\$17.75	\$17.75	\$17.75	\$17.75	\$17.75	\$17.75	\$17.75
15	2037	\$17.79	\$17.79	\$17.79	\$17.79	\$17.79	\$17.79	\$17.79	\$17.79	\$17.79	\$17.79	\$17.79	\$17.79
16	2038	\$17.78	\$17.78	\$17.78	\$17.78	\$17.78	\$17.78	\$17.78	\$17.78	\$17.78	\$17.78	\$17.78	\$17.78
17	2039	\$17.76	\$17.76	\$17.76	\$17.76	\$17.76	\$17.76	\$17.76	\$17.76	\$17.76	\$17.76	\$17.76	\$17.76
18	2040	\$17.73	\$17.73	\$17.73	\$17.73	\$17.73	\$17.73	\$17.73	\$17.73	\$17.73	\$17.73	\$17.73	\$17.73
19	2041	\$17.69	\$17.69	\$17.69	\$17.69	\$17.69	\$17.69	\$17.69	\$17.69	\$17.69	\$17.69	\$17.69	\$17.69
20	2042	\$17.64	\$17.64	\$17.64	\$17.64	\$17.64	\$17.64	\$17.64	\$17.64	\$17.64	\$17.64	\$17.64	\$17.64
21	2043	\$17.59	\$17.59	\$17.59	\$17.59	\$17.59	\$17.59	\$17.59	\$17.59	\$17.59	\$17.59	\$17.59	\$17.59
22	2044	\$17.55	\$17.55	\$17.55	\$17.55	\$17.55	\$17.55	\$17.55	\$17.55	\$17.55	\$17.55	\$17.55	\$17.55
23	2045	\$17.50	\$17.50	\$17.50	\$17.50	\$17.50	\$17.50	\$17.50	\$17.50	\$17.50	\$17.50	\$17.50	\$17.50
24	2046	\$17.45	\$17.45	\$17.45	\$17.45	\$17.45	\$17.45	\$17.45	\$17.45	\$17.45	\$17.45	\$17.45	\$17.45
25	2047	\$17.40	\$17.40	\$17.40	\$17.40	\$17.40	\$17.40	\$17.40	\$17.40	\$17.40	\$17.40	\$17.40	\$17.40
26	2048	\$17.35	\$17.35	\$17.35	\$17.35	\$17.35	\$17.35	\$17.35	\$17.35	\$17.35	\$17.08	\$17.35	\$17.35
27	2049	\$17.30	\$17.30	\$17.30	\$17.30	\$17.30	\$17.30	\$17.30	\$17.30	\$17.30	\$16.95	\$17.30	\$17.30
28	2050	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.18	\$16.42	\$15.73
29	2051	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.18	\$16.42	\$15.73
30	2052	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.18	\$16.42	\$15.73
31	2053	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.18	\$16.42	\$15.73
32	2054	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.18	\$16.42	\$15.73
33	2055	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.18	\$16.42	\$15.73
34	2056	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.18	\$16.42	\$15.73
35	2057	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.18	\$16.42	\$15.73
36	2058	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.18	\$16.42	\$15.73
37	2059	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.18	\$16.42	\$15.73
38	2060	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.18	\$16.42	\$15.73
39	2061	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.18	\$16.42	\$15.73
40	2062	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.18	\$16.42	\$15.73
41	2063	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.18	\$16.42	\$15.73
42	2064	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.18	\$16.42	\$15.73
43	2065	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.18	\$16.42	\$15.73
44	2066	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.18	\$16.42	\$15.73
45	2067	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.18	\$16.42	\$15.73

Alternative Submissions	Rationale for alternative submission: <i>Provide an overall rationale for providing alternative values using this box : SCC Updated to Real \$2021 Dollars</i>
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Environmental Compliance Cost Inputs

Real or Nominal?	Real
Source and Pg #:	
Source Link or File Name:	BEA Table 1.1.4 GDP
Source Notes:	Updated to Real \$2021

Environmental Compliance Cost

Year #	Calendar Year	Environmental Compliance Cost (Real 2021\$/MTCO ₂ e)	Carbon Intesity (MTCO ₂ e/Dth)	Environmental Compliance Cost (Real 2021\$/Dth)
1	2023	\$83.13	0.0578	\$4.801
2	2024	\$84.40	0.0578	\$4.875
3	2025	\$86.96	0.0578	\$5.023
4	2026	\$88.24	0.0578	\$5.097
5	2027	\$89.52	0.0578	\$5.170
6	2028	\$90.80	0.0578	\$5.244
7	2029	\$92.08	0.0578	\$5.318
8	2030	\$93.36	0.0578	\$5.392
9	2031	\$94.64	0.0578	\$5.466
10	2032	\$95.91	0.0578	\$5.540
11	2033	\$97.19	0.0578	\$5.614
12	2034	\$98.47	0.0578	\$5.687
13	2035	\$99.75	0.0578	\$5.761
14	2036	\$101.03	0.0578	\$5.835
15	2037	\$103.59	0.0578	\$5.983
16	2038	\$104.87	0.0578	\$6.057
17	2039	\$106.15	0.0578	\$6.131
18	2040	\$107.42	0.0578	\$6.204
19	2041	\$108.70	0.0578	\$6.278
20	2042	\$109.98	0.0578	\$6.352
21	2043	\$111.26	0.0578	\$6.426
22	2044	\$112.54	0.0578	\$6.500
23	2045	\$113.82	0.0578	\$6.574
24	2046	\$115.10	0.0578	\$6.648
25	2047	\$117.65	0.0578	\$6.795
26	2048	\$118.93	0.0578	\$6.869
27	2049	\$120.21	0.0578	\$6.943
28	2050	\$121.49	0.0578	\$7.017
29	2051	\$122.77	0.0578	\$7.091
30	2052	\$124.05	0.0578	\$7.165
31	2053	\$125.33	0.0578	\$7.239
32	2054	\$126.61	0.0578	\$7.312
33	2055	\$127.89	0.0578	\$7.386
34	2056	\$129.16	0.0578	\$7.460
35	2057	\$130.44	0.0578	\$7.534
36	2058	\$131.72	0.0578	\$7.608
37	2059	\$133.00	0.0578	\$7.682
38	2060	\$134.28	0.0578	\$7.756
39	2061	\$135.56	0.0578	\$7.829
40	2062	\$136.84	0.0578	\$7.903
41	2063	\$138.12	0.0578	\$7.977
42	2064	\$139.40	0.0578	\$8.051
43	2065	\$140.67	0.0578	\$8.125
44	2066	\$142.08	0.0578	\$8.206
45	2067	\$143.50	0.0578	\$8.288

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

Real or Nominal?	Real
Source and Pg #:	
Source Link or File Name:	Distribution Cost Model - CONFIDENTIAL.xlsx
Source Notes:	Updated methodology using the deferral value per therm of expected avoidable distributon system enhancements

Infrastructure Capacity Costs

Year #	Calendar Year	Infrastructure Capacity Costs		
		Supply (Real 2021\$/Dth/Day)	Distribution Peak DAY (Real 2021\$/Dth/Day)	Distribution Peak HOUR (Real 2021\$/Dth/Hour)
1	2023	\$0.000	\$2.017	\$0.084
2	2024	\$0.000	\$6.176	\$0.257
3	2025	\$0.000	\$1.409	\$0.059
4	2026	\$0.000	\$1.966	\$0.082
5	2027	\$0.000	\$1.363	\$0.057
6	2028	\$0.000	\$0.984	\$0.041
7	2029	\$0.000	\$0.881	\$0.037
8	2030	\$0.000	\$1.009	\$0.042
9	2031	\$0.000	\$1.266	\$0.053
10	2032	\$0.000	\$1.155	\$0.048
11	2033	\$0.000	\$0.734	\$0.031
12	2034	\$0.000	\$0.520	\$0.022
13	2035	\$0.000	\$0.468	\$0.019
14	2036	\$0.000	\$0.545	\$0.023
15	2037	\$0.000	\$0.711	\$0.030
16	2038	\$0.000	\$0.438	\$0.018
17	2039	\$0.000	\$0.398	\$0.017
18	2040	\$0.000	\$0.274	\$0.011
19	2041	\$0.000	\$0.325	\$0.014
20	2042	\$0.000	\$0.443	\$0.018
21	2043	\$0.000	\$0.400	\$0.017
22	2044	\$0.000	\$0.240	\$0.010
23	2045	\$0.000	\$0.160	\$0.007
24	2046	\$0.000	\$0.144	\$0.006
25	2047	\$0.000	\$0.173	\$0.007
26	2048	\$0.000	\$0.249	\$0.010
27	2049	\$0.000	\$0.142	\$0.006
28	2050	\$0.000	\$0.127	\$0.005
29	2051	\$0.000	\$0.084	\$0.004
30	2052	\$0.000	\$0.063	\$0.003
31	2053	\$0.000	\$0.173	\$0.007
32	2054	\$0.000	\$0.249	\$0.010
33	2055	\$0.000	\$0.142	\$0.006
34	2056	\$0.000	\$0.127	\$0.005
35	2057	\$0.000	\$0.084	\$0.004
36	2058	\$0.000	\$0.063	\$0.003
37	2059	\$0.000	\$0.173	\$0.007
38	2060	\$0.000	\$0.249	\$0.010
39	2061	\$0.000	\$0.142	\$0.006
40	2062	\$0.000	\$0.127	\$0.005
41	2063	\$0.000	\$0.084	\$0.004
42	2064	\$0.000	\$0.063	\$0.003
43	2065	\$0.000	\$0.173	\$0.007
44	2066	\$0.000	\$0.249	\$0.010
45	2067	\$0.000	\$0.142	\$0.006

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

Real or Nominal?	Real
Source and Pg #:	
Source Link or File Name:	Risk Premium Workbook - CONFIDENTIAL.xlsx
Source Notes:	Updated methodology to include a stochastically calculated risk adjusted risk premium

Risk Reduction Value**\$0.09****= Levelized Risk Reduction Value**

Year #	Calendar Year	Risk Reduction Value (Real 0.0321150911865147\$/Dth)
1	2023	-\$0.010
2	2024	-\$0.011
3	2025	-\$0.018
4	2026	-\$0.013
5	2027	\$0.001
6	2028	\$0.014
7	2029	\$0.046
8	2030	\$0.077
9	2031	\$0.175
10	2032	\$0.239
11	2033	\$0.204
12	2034	\$0.146
13	2035	\$0.125
14	2036	\$0.256
15	2037	\$0.235
16	2038	\$0.168
17	2039	\$0.225
18	2040	\$0.263
19	2041	\$0.296
20	2042	\$0.296

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 #:	Updated monthly shares for the 2023 IRP
Source Link or File Name:	
Source Notes:	

[illegible]

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.