BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

AVISTA Corporation dba Avista Utilities	)	DOCKET NO. UE-24_____
	)	
In the Matter of Avista's Energy and Emissions Intensity Report in Compliance with WAC 480-109-300	)	COMPLIANCE REPORT OF AVISTA CORPORATION

In compliance with WAC 480-109-300, Avista Corporation (hereinafter Avista or Company) respectfully submits its 2023 Energy and Emissions Intensity (EEI) report.

I. EXECUTIVE SUMMARY

Table No. 1 below summarizes the data collected and calculated for the Energy and Emissions Intensity Report (Report) for the Washington share of Avista's customers in 2023. The following sections show the prior 10-year annual metrics for all generating resources serving Washington customers, the trend analysis narrative and graphics, and a list of the appendices that are included in this filing.

Table No. 1: 2023 Summary Energy and Emissions Intensity Report

Utility:	Avista	
Reporting for year:	2023	**MWh per Capita**
Population Served:	585,253	**9.94**

Energy Intensity Metrics

	MWh at Meter	MWh Proportion	Customer Count	**MWH per Customer**
Residential Customers	2,733,819	47.0%	241,043	**11.3**
Commercial Customers	2,155,248	37.0%	26,367	**81.7**
Industrial Customers	929,876	16.0%		
Total Load Served	5,818,943			

Emissions Intensity Metrics

	Busbar MWh	Percent of Total Load	**Metric Tons CO_2e**	
Known Resources Serving WA - EPA	7,678,375	116.6%	2,408,046	
Unknown Resources Serving WA	**(1,092,002)**	**-16.6%**	**(149)**	**% of 1990 CO_2**
	2023 Metric Tons CO2e		**2,407,897**	**234.5%**
			1990 Metric Tons CO_2	1,026,905

Table No. 1 reports the amount of load served to residential, commercial, and industrial customers in the Energy Intensity Metrics section. The Busbar MWh of the Emissions Intensity Metrics section shows the MWh measured at the generator, losses from the generators to the eventual load are not included in this report. Also, irrigation and street lighting loads are not included in the load measurements. The emissions measurements in Table No. 1 are based on the EPA calculation methodology using the Acid Rain Report CO_2 emissions data with adjustments made for methane (CH_4) and nitrous oxide (N_2O) to calculate the CO_2e for each thermal resource where available. Smaller Avista thermal facilities that do not submit data to the Acid Rain Program are based on the data shown on the "Known Resources" tab in the annual spreadsheets in Appendix A. These facilities include Boulder Park, the Northeast Combustion Turbine, and the Kettle Falls Combustion Turbine.

II. PRIOR 10-YEAR ANNUAL METRICS

WAC 480-109-300 requires reporting of ten years of annual metrics for all generating resources serving Washington customers as part of the annual Report. Required data includes:

- Greenhouse gas content calculation in accordance with rules enacted under the Department of Ecology consistent with RCW 19.405.020(22).

- Average megawatt-hours per residential customer.
- Average megawatt-hours per commercial customer.
- Megawatt-hours per capita.
- Million metric tons of CO_2e emissions.
- Comparison of annual CO_{2e} emissions to 1990 emissions.
- Unspecified electricity including:
    - Metric tons CO_2e from unknown generation sources,
    - Megawatt-hours delivered to its retail customers from unknown generation sources, and
    - Percentage of total load represented by an unknown generation source.
- Narrative text and graphics describing trends and an analysis of the likely causes of changes, or lack of changes, in the metrics.

The first and second annual metrics cover the average megawatt-hours per residential and commercial customer over the past 10 years. The results are shown in Table No. 2 below. The annual values for both residential and commercial customers remain reasonably consistent from year-to-year, with a rebound in residential and commercial use-per-customer after a noticeably larger decrease in 2020 commercial use due to the COVID-19 restrictions at the time. The average use per customer is expected to continue to increase as energy and tax policies drive the electrification of transportation and water and space conditioning. Trends are discussed in more detail and shown in graphic representations in section III of this report.

Table No. 2: Average MWh per Residential and Commercial Customer 2014 – 2023

	Average MWh per Residential Customer	**Average MWh per Commercial Customer**
2014	11.6	92.3
2015	11.3	91.9
2016	10.7	88.2
2017	11.7	89.0
2018	10.9	86.9
2019	11.1	86.0
2020	10.9	79.2
2021	11.3	82.6
2022	11.5	82.7
2023	11.3	81.7

The third annual EEI metric covers the megawatt-hours per capita over the past decade. The population of Avista's service territory was estimated by applying the Spokane County household size to all Washington residential customers. Additional details about the methodology used for the population calculation are available in Appendix B. The megawatt-hours per capita numbers are shown for 2014 through 2023 in Table No. 3, and the results are discussed in Section III and shown in Chart No. 2, below. The trend continues to show relatively stable megawatt-hours per capita. The 2020-2021 decreasing levels of average MWh per capita were most likely a result of the significant economic disruptions due to the COVID-19 stay at home orders and subsequent closure of businesses. The use per capita numbers are consistently back to pre-pandemic levels. The energy use changes due to remote work at home on a hybrid or full-time basis appear to have stabilized. The continued policies for electrification of transportation and buildings are also expected to continue to drive the use per capita trend higher into the future with policy and building code changes.

Table No. 3: MWh per Capita 2014 – 2023

Year	MWh per Capita
2014	10.84
2015	10.85
2016	10.26
2017	10.64
2018	10.17
2019	10.10
2020	9.59
2021	9.99
2022	10.09
2023	9.94

The last two annual EEI metrics show the amount of Avista's annual CO_{2e} emissions from 2014 through 2023 compared to Avista's 1990 CO_2 emissions, and as a percentage of the 1990

CO_2 emissions. Table No. 4 shows Avista's annual emissions results and comparisons to 1990 CO_2 emissions levels identified in Docket No. UE-131723 converted to metric tons, but not updated to include adjustments for methane and nitrous oxide. The unassigned CO_2 numbers in this report use the default 0.437 metric tons per MWh number for the annual calculations.

Table No. 4: Annual CO_2e Emissions in Metric Tons 1990 and 2014 – 2023

	Annual Emissions	1990 Emissions	% of 1990 Emissions
2014	1,672,750	1,026,905	163%
2015	2,015,386	1,026,905	196%
2016	1,770,825	1,026,905	172%
2017	1,740,403	1,026,905	170%
2018	1,768,569	1,026,905	172%
2019	2,006,762	1,026,905	195%
2020	1,725,232	1,026,905	168%
2021	1,890,797	1,026,905	184%
2022	1,988,787	1,026,905	194%
2023	2,407,897	1,026,905	235%

The sharp increase in 2023 CO_2e emissions totals and as a percentage of 1990 emissions are a result of decreased hydro generation and increased natural gas-fired generation. More discussion of this increase is included in Section III.

The calculations and data for the annual energy and emissions for 2014 through 2023 are included in the workpapers filed with this report in Appendix A. The workpapers include the annual CO_2e emissions in metric tons from unknown generation sources, the annual MWh delivered to retail customers from unknown generation sources, and a calculation of the percentage of load served by unknown generation sources. The adjustments made to the data for this report are described below.

Known generation resources include Avista's owned generation and contracts from known sources, such as purchases from specified Mid-Columbia hydro projects, the power purchase

agreement for the Lancaster combined cycle combustion turbine, and the Palouse Wind and Rattlesnake Flat Wind contracts. The other category of known resources includes PURPA hydro and biomass generation from specified resources, identified in the "Known Resources" tab in parentheses after the name of the projects. The annual spreadsheets in Appendix A identify the known resources and type of resource supplying the generation. Emissions from the EPA Acid Rain Report were used where available and the emissions from the World Resource Institute (WRI) protocol completed annually by Avista were used for smaller known thermal sources that are not participating in the Acid Rain Program as in previous EEI reports, as well as the calculations made for the adjustments for methane and nitrous oxide emissions. Applicable Avista owned or controlled plants in the Acid Rain Program include Colstrip, Coyote Springs 2, Lancaster and Rathdrum. The CO_2e emissions from unknown resources have been assigned using the net-by-counterparty approach refined over the first few years of this report. Purchases and sales from the Bonneville Power Administration (BPA) are treated as unknown resources and assigned the appropriate regional or Avista emission factor based on net sales per year making them a net export or import counterparty with Avista.

Resources specifically assigned to only serve Idaho customer load were excluded from the emissions calculations. Total sales to non-Avista customers were netted from the emissions calculation on the "Unknown Resources" tab of the workpapers following each "Annual Summary" tab. The busbar MWh and short tons of CO_2 in the 2023 Energy and Emissions Annual Report spreadsheet was multiplied by 65.54% to only show the current Washington share of Avista's customers. The 2014 through 2022 spreadsheets were multiplied by 65% representing the earlier adjustment between Washington and Idaho.

This report uses the net-by-counterparty approach for unknown resources that applies the 0.437 metric tons CO2e per MWh Department of Ecology default factor for transaction partners where the Company is a net purchaser with and applies the Avista fleet-wide emission intensity factor for transaction partners the Company is a net seller. Please refer to Table No. 5 for a comparison of metric tons of CO_2e/MWh between Avista's generation fleet and the Washington Department of Ecology default metric tons of CO_2e/MWh emission factor numbers for 2014 through 2023.

Table No. 5: Default Ecology and Avista Emissions Factors (Metric Tons CO_2e per MWh)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Avista	0.250	0.290	0.259	0.256	0.251	0.278	0.240	0.260	0.262	0.314
Ecology Default	0.437	0.437	0.437	0.437	0.437	0.437	0.437	0.437	0.437	0.437

Table No. 6 shows the annual metrics from 2014 through 2023 for unknown resources, associated greenhouse gas emissions, and the percentage of load served for Washington customers. Details about the unknown resource transactions by year are available in Appendix A. Most of the numbers in Table No. 6 are negative since Avista has been a net seller into the wholesale market and emissions calculations were calculated based on the net-by-counterparty method described earlier.

Table No. 6: Annual Metrics for Unknown Resources

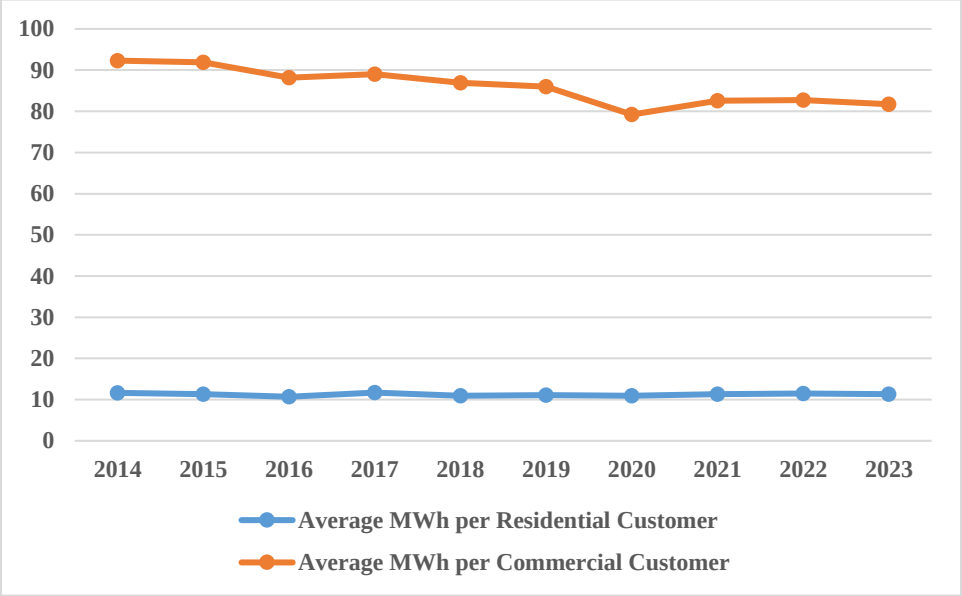
	Megawatt Hours	CO2e (Metric Tons)	Load Served (%)
2014	(521,660)	50	-8.5%
2015	(863,615)	(86)	-14.2%
2016	(779,448)	(55)	-12.9%
2017	(82,213)	96	-1.2%
2018	(955,929)	(50)	-15.7%
2019	(883,767)	(93)	-13.9%

2020	(993,493)	(93)	-16.1%
2021	(961,384)	(109)	-15.2%
2022	(1,068,691)	(114)	-16.4%
2023	(1,092,002)	(149)	-16.6%

III. TREND ANALYSIS NARRATIVE AND GRAPHICS

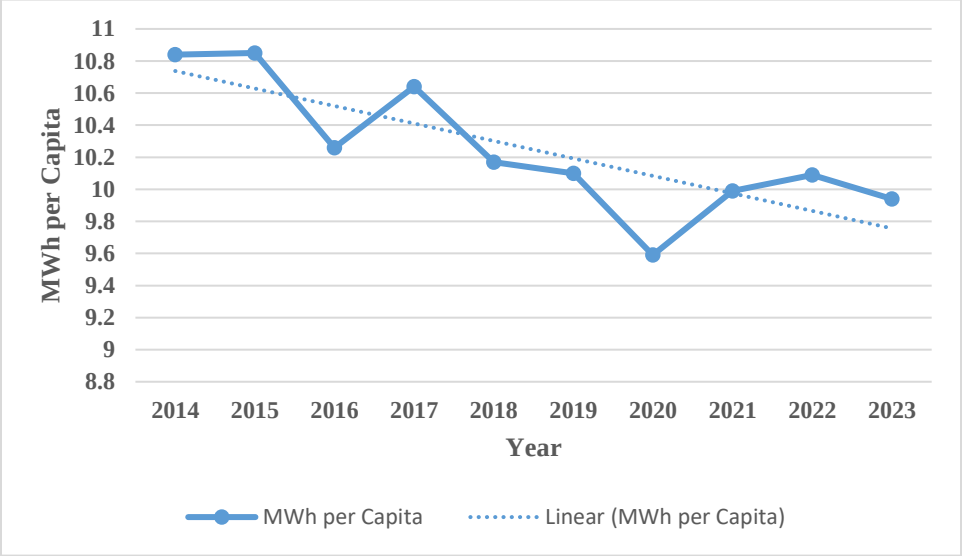
The average MWh use per customer has experienced relatively minor annual variations. Commercial customers exhibited gradual decreases with a more significant drop seen in 2020 due to the economic recession caused by COVID-19 and the subsequent restrictions and business closures caused by the pandemic. Please refer to Chart No. 1 for the average use per commercial and residential customers. Avista's own energy efficiency efforts combined with regional efforts, improved energy efficiency technologies, and more stringent codes and standards are expected to continue driving these decreases after the full rebound and any permanent resetting of energy use patterns after the COVID-19 induced issues due to the apparent shift to some level of hybrid work environment where more workers are performing more work at home. The scope of commercial customers is wide enough to make any detailed analysis difficult, if not impossible, to identify any other specific causes for any other general fluctuations. This analysis is based on actual load data and is not normalized for weather. Building and transportation electrification policies and building codes are expected to drive higher levels of MWh use per customer as new buildings are constructed, older buildings are renovated, or failed equipment is replaced, and a higher percentage of electric transportation enters the region. Some of this expected increase may be mitigated by the adoption of behind-the-meter solar installations. The amount of new energy efficiency is expected to have less of a future impact as codes and standards continue to strengthen. Avista will continue to analyze the net impact of these trends.

Chart No. 1: Average MWh per Commercial and Residential Customers 2014 – 2023



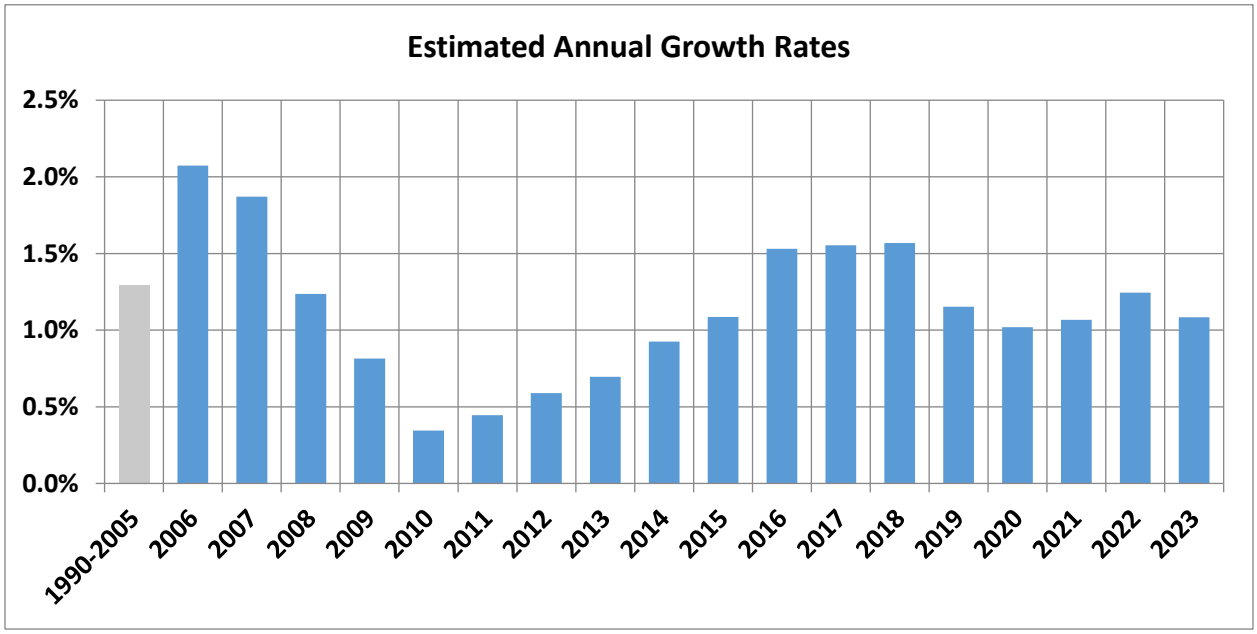
The next metric covers the MWh per capita from 2014 through 2023. The specifics underlying the population calculation for Avista's service territory are in Appendix B – Population Methodology. The trend line shows a pronounced decreasing MWh per capita trend, with significant decreases from 2015 to 2016, and again from 2017 to 2020 with a post-pandemic increase back to more normal levels as shown in Chart No. 2. This is still a relatively short trend which makes it difficult, if not impossible, to determine the ultimate root cause. Avista's load forecaster suspects that some of the more recent upward trends are most likely due to a stabilization of a new level or working from home and hybrid working schedules, as well as an increasing rate of electrification for transportation and building stock, net of gains from behind the meter solar installations.

Chart No. 2: MWh per Capita 2014 – 2023



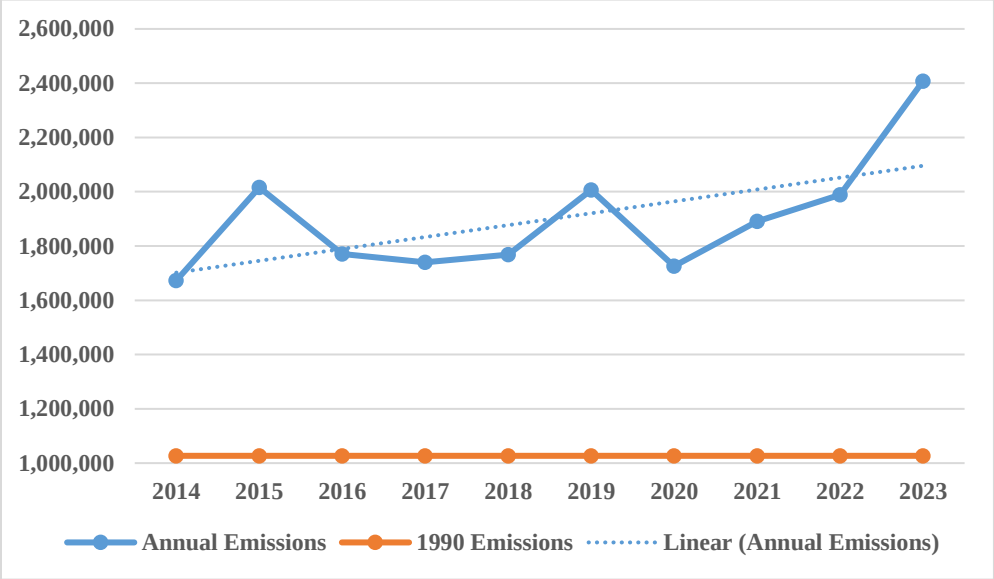
The estimated annual population growth rate is trending upwards again at levels last seen before the Great Recession. Please see Chart No. 3 for annual details for 2006 through 2023 compared to the 1990-2005 estimated average annual population growth rate.

Chart No. 3: Estimated Annual Population Growth Rates



The final two EEI report metrics include the annual CO_2e emissions in metric tons from 2014 through 2023 along with a comparison of those emissions to the 1990 emissions data. Chart No. 4 below, reflects this emissions data. The overall emissions trend has been increasing back to pre-pandemic levels. 2023 showed a marked increase in CO_2e emissions with almost 1.2 million MWhs of decreased hydro generation even with the addition of more Mid-Columbia and Columbia Basin Hydro resources against an increase of over 1.1 million MWhs of additional natural gas-fired generation. Annual CO_2e emissions spikes generally coincide with poor hydro years that require heavier use of more thermal resources to balance system needs. Based on the ongoing analysis in the Company's Integrated Resources Plan (IRP), Avista expects emissions will decrease as a higher percentage of zero emitting resources and energy storage is added to Avista's system in conjunction with the Clean Energy Transformation Act (CETA), the Climate Commitment Act (CCA), and its own corporate clean energy goals. A very large drop in CO_2e emissions will occur after Avista transfers ownership of Colstrip Units 3 and 4 to NorthWestern at the end of 2025. The regional energy mix is also expected to become cleaner as prices for clean generation resources continue to decrease, as more of the remaining regional thermal plants retire, and state-level clean energy goals continue to increase.

Chart No. 4: Annual Metric Tons CO_2e Emissions 2014 – 2023



The implementation of CETA and the CCA will certainly drive CO_2e emissions lower as an increasing number of emissions free resources begin serving Washington loads as the system reaches carbon neutrality by 2030 and aims to be emissions free by 2045. Near-term regional emissions will still be affected by the variable amount of hydroelectric, wind and solar generation in any given year. The impact of this variability should be mitigated as renewables, energy storage, and demand response programs are added across the region. The projections for these increases are being seen in Avista's, and others, integrated resource plans.

IV. APPENDICES

The following appendices provide further details about Avista's 2023 EEI Report.

Appendix A: Summary Energy and Emissions Intensity Reports for 2014 – 2023
Appendix B: Population Calculation Methodology

RESPECTFULLY SUBMITTED this 29th day of May 2024.

AVISTA CORPORATION

By: /s/Shawn Bonfield

Shawn Bonfield
Sr. Manager of Regulatory Policy & Strategy