

inadvertently missing the filing deadline

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

AVISTA Corporation dba Avista Utilities)) In the Matter of Avista’s Energy and) Emissions Intensity Report in) Compliance with WAC 480-109-300) _____)	DOCKET NO. UE-21 _____ COMPLIANCE REPORT OF AVISTA CORPORATION
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In compliance with WAC 480-109-300, Avista Corporation (hereinafter Avista or Company) respectfully submits its 2020 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 2020. 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 included in this filing.

Table No. 1: 2020 Summary Energy and Emissions Intensity Report

Utility:	Avista	
Reporting for year:	2020	MWh per Capita
Population Served:	565,818	9.59

Energy Intensity Metrics

	MWh at Meter	MWh Proportion	Customer Count	MWH per Customer
Residential Customers	2,533,874	46.7%	232,274	10.9
Commercial Customers	2,019,190	37.2%	25,501	79.2
Industrial Customers	873,474	16.1%		

Total Load Served	5,426,538
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Emissions Intensity Metrics

	Busbar MWh	Percent of Total Load	Metric Tons CO ₂ e	
Known Resources Serving WA - EPA	7,180,316	116.1%	1,725,325	
Unknown Resources Serving WA	(993,493)	-16.1%	(93)	% of 1990 CO₂
	2020 Metric	Tons CO ₂ e	1,725,232	168.0%

1990 Metric Tons CO ₂	1,026,905
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Table No. 1 above 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 CO₂ emissions data with adjustments made for CH₄ and N₂O to calculate the CO₂e for each thermal resource. Smaller Avista thermal facilities that do not submit data to the Acid Rain Program are based on the data shown in the annual spreadsheets in Appendix A. These facilities include Boulder Park, Northeast CT and the Kettle Falls CT.

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; and
- 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 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 MWh 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 slightly downward trend in commercial use-per-customer with a noticeably larger decrease in 2020 most likely due to the COVID-19 restrictions that are discussed later in this report. The trends are discussed in more detail and graphic representations of the trends are in section III of this report.

Table No. 2: Average MWh per Residential and Commercial Customer 2011 – 2020

	Average MWh per Residential Customer	Average MWh per Commercial Customer
2011	12.0	92.6
2012	11.6	92.8
2013	12.0	92.0
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
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The third annual metric covers the MWh per capita over the past 10 years. The population of the Avista 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 in Appendix B. The results are shown in Table No. 3 below, and the results are discussed in Section III and shown in Chart No. 2. The trend shows relatively stable to slightly decreasing MWh per capita. The 2020 decreasing levels of average MWh per residential and commercial customers are likely not a result of increased levels of energy efficiency programs, but are likely a result of the significant economic disruptions due to the COVID-19 pandemic and subsequent stay at home orders and temporary and permanent closures of businesses. This trend will need to be revisited as the economy rebounds and solidifies any new trajectories for energy use per customer with any permanent structural changes due to increasing numbers of employees continuing to work at home on a partial to full-time basis.

Table No. 3: MWh per Capita 2011 – 2020

Year	MWh per Capita
2011	10.93
2012	10.68
2013	10.95
2014	10.84
2015	10.85
2016	10.26
2017	10.64
2018	10.17
2019	10.10
2020	9.59

The last two annual metrics show the amount of Avista’s annual CO_{2e} emissions from 2011 through 2020 compared to Avista’s 1990 CO₂ emissions, and as a percentage of the 1990 CO₂

emissions. Table No. 4 shows the annual emissions results and comparisons to 1990 CO₂ emissions levels identified in Docket No. UE-131723 converted to metric tons, but not updated to include adjustments for methane and nitrous oxide. The 1990 CO₂ numbers in this report have been converted to metric tons to coincide with the updated default 0.437 metric tons per MWh number now being used for the annual calculations. The prior annual spreadsheets in Appendix A have been updated with the new default emissions rate as well as the addition of the methane and nitrous oxide emissions converted to CO₂e equivalents and discussed above.

Table No. 4: Annual CO₂e Emissions in Metric Tons 1990 and 2011 – 2020

	Annual Emissions	1990 Emissions	% of 1990 Emissions
2011	1,369,199	1,026,905	133%
2012	1,600,155	1,026,905	156%
2013	1,710,984	1,026,905	167%
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%

The calculations for energy and emissions for each year are included in the workpapers filed with this report in Appendix A. The workpapers for each year includes the annual CO₂e 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 all of 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 specific 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 were used for known thermal sources that are not part of the Acid Rain Program as in previous 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 CO₂e emissions from unknown resources have been assigned using the net-by-counterparty approach. 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.

Resources specifically assigned to serve Idaho customer load were excluded from the emissions calculations. Total sales to non-Avista customers were netted from the emissions calculation in the unknown resources section of the workpapers. The busbar MWh and short tons of CO₂ of the Energy and Emissions Annual Report spreadsheets were multiplied by 65 percent to only show the Washington share of Avista's customers.

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 the Company is a net purchaser with and applies the fleet-wide emission intensity factor for transaction partners the Company is a net seller. Please refer to Table No. 5 for the Avista's

generation fleet and the Washington Department of Ecology default metric tons of CO_{2e}/MWh emission factor numbers for 2011 through 2020.

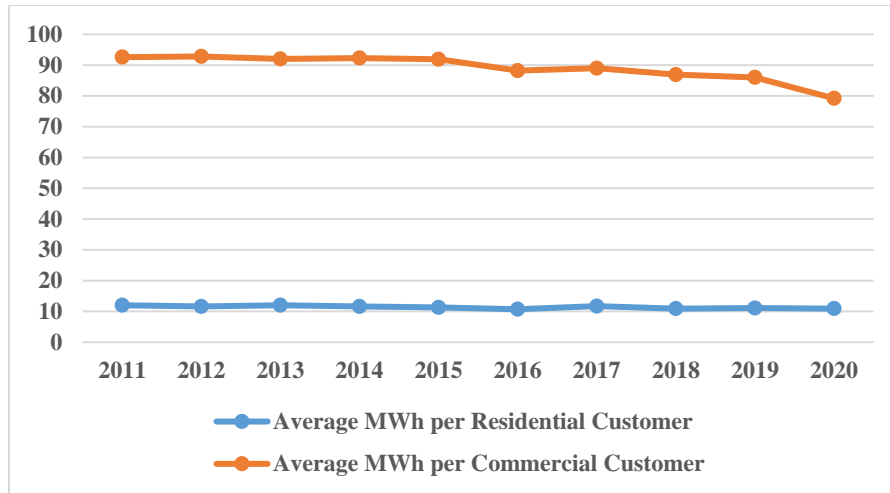
Table No. 5: Default Ecology and Avista Emissions Factors (Metric Tons CO_{2e} per MWh)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Avista	0.224	0.257	0.252	0.250	0.290	0.259	0.256	0.251	0.278	0.240
Ecology Default	0.437	0.437	0.437	0.437	0.437	0.437	0.437	0.437	0.437	0.437

III. TREND ANALYSIS NARRATIVE AND GRAPHICS

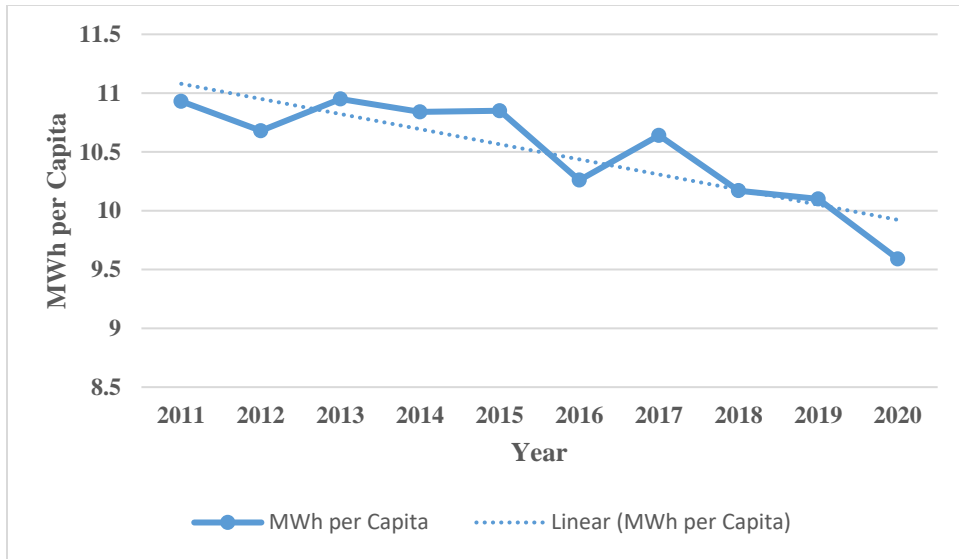
The average MWh use per customer has experienced relatively minor variations from year-to-year. Commercial customers exhibited gradual decreases with a more significant drop in 2020 most likely due to economic recession caused by COVID-19 and the subsequent restrictions caused by the pandemic. Please 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 be driving these decreases outside of the decline from COVID-19 issues. The scope of commercial customers is wide enough to make detailed analysis difficult, if not impossible to identify any other specific causes for the other general fluctuations. This analysis is based on actual load data and is not normalized for weather.

Chart No. 1: Average MWh per Commercial and Residential Customers 2011 – 2020



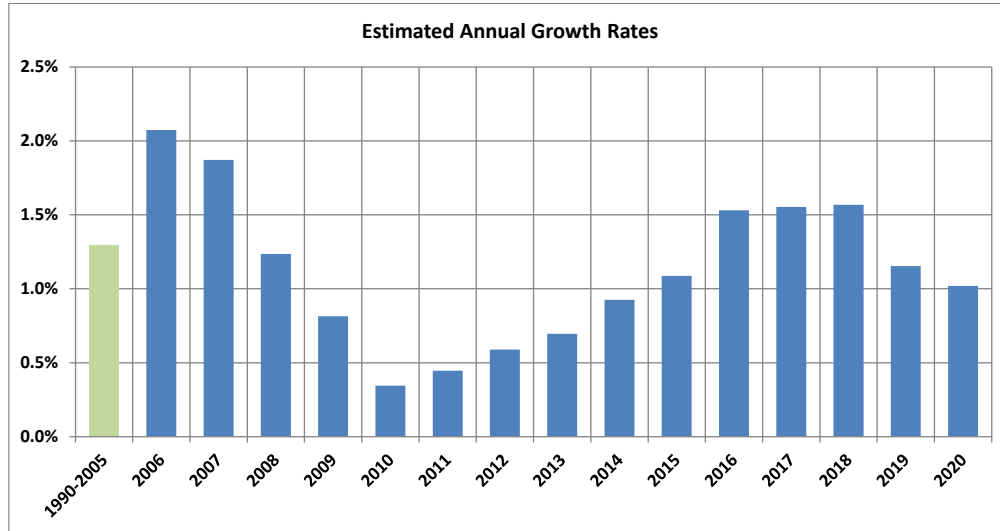
The next metric covers the amount of MWh/capita from 2011 through 2020. The specifics underlying the population calculation for Avista’s service territory are in Appendix B – Population Methodology. The trend line shows a pronounced decreasing MWh per capita trend, with significant decreases from 2015 to 2016, and again from 2017 to 2020, pulling the overall trend downwards as shown in Chart No. 2. This remains a short enough trend to make it difficult, if not impossible, to determine the ultimate root cause, but the continuation of the downward trend is encouraging considering the local and regional funding, and programs devoted towards energy efficiency programs, efficiency education, and the ongoing improvements to codes and standards.

Chart No. 2: MWh per Capita 2011 – 2020



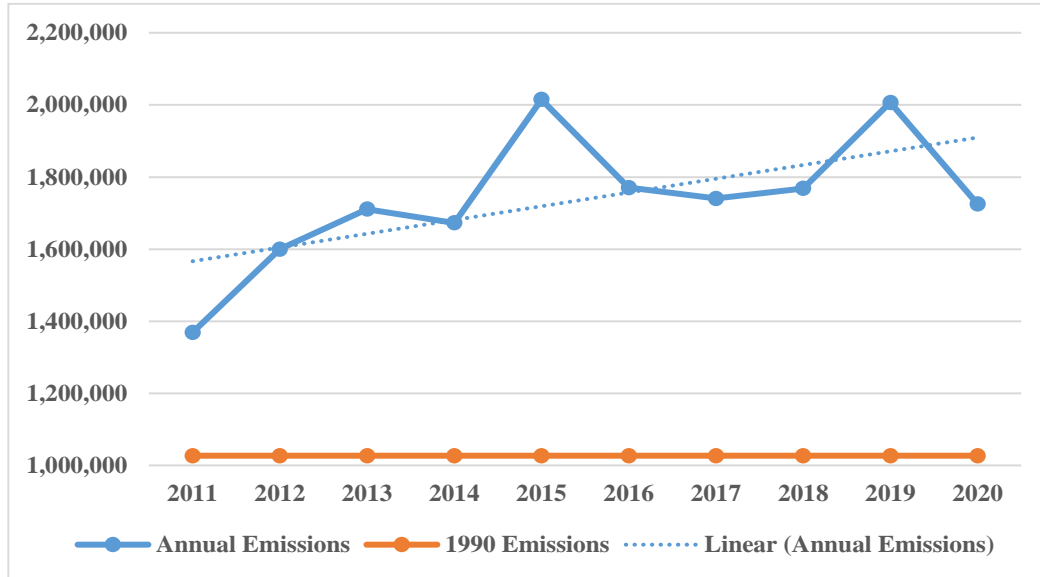
The estimated annual population growth rate was trending upwards towards previous levels seen prior to the Great Recession but has recently trended downwards again. Please see Chart No. 3 for details. A better understanding of these trends should become more apparent as the economy comes out of the COVID-19 driven recession and gets back to a more stable growth pattern.

Chart No. 3: Estimated Annual Population Growth Rates



The last two metrics include the annual CO₂e emissions in metric tons, from 2011 through 2020, and a comparison of those emissions with the 1990 emissions data. Chart No. 4 shows this emissions data. The overall emissions trend has been increasing for Avista over the last decade with the addition of the Lancaster CCCT PPA partially offset by the addition of the Palouse Wind PPA and more contracts for Mid-C hydro. Annual spikes with emissions generally track with poor hydro years that require the use of more thermal resources to balance system needs. There is an expectation that emissions will decrease over time as a higher percentage of zero emitting resources are added to Avista’s system in conjunction with its requirements under CETA and to work towards its corporate clean energy goals. 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 coal plants retire, and state-level clean energy goals increase.

Chart No. 4: Annual Metric Tons CO₂e Emissions 2011 – 2020



The implementation of the Clean Energy Transformation Act (CETA) will inevitably drive CO₂e emissions down further as the amount of emissions free resources serving Washington loads increase as the system reaches carbon neutrality by 2030 and becomes totally emissions free by 2045. Near-term regional emissions will still be affected by the variable amount of hydroelectric, wind and increasingly solar generation in any given year. The impact of this variability should be mitigated as more renewables, energy storage, and demand response programs are initiated across the region.

IV. APPENDICES

The following appendices provide further details about Avista’s 2020 Energy and Emissions Intensity Report. The spreadsheets with the “raw data” are included as workpapers in support of this filing.

Appendix A: Summary Energy and Emissions Intensity Reports for 2011 – 2020

Appendix B: Population Calculation Methodology

RESPECTFULLY SUBMITTED this 7TH day of June 2021.

AVISTA CORPORATION

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