

2021 Electric Integrated Resource Plan

Washington Clean Energy Action Plan Update



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Washington Clean Energy Action Plan

On May 7, 2019, the Clean Energy Transformation Act (CETA) was signed into law committing Washington to an electricity supply free of greenhouse gas emissions by 2045. Consequently, each utility must incorporate the social cost of greenhouse gas emissions as a cost adder for all relevant inputs when developing IRPs and Clean Energy Action Plans (CEAP). RCW 19.280.030 states that for an Investor-Owned Utility, the CEAP must (a) identify and be informed by the utility's ten-year cost-effective conservation potential assessment; (b) if applicable, establish a resource adequacy requirement; (c) identify the potential cost-effective demand response and load management programs that may be acquired; (d) identify renewable resources, non-emitting electric generation and distributed energy resources that may be acquired and evaluate how each identified resource may be expected to contribute to meeting the utility's resource adequacy requirement; (e) identify any need to develop new, or expand or upgrade existing bulk transmission and distribution facilities; and (f) identify the nature and possible extent to which the utility may need to rely on alternative compliance options, if appropriate.

Avista's updated 10-year CEAP is a lowest reasonable cost plan of resource acquisition given societal costs, clean energy and reliability requirements after incorporating the successful completion of its 2020 renewable RFP. Avista developed this CEAP in conjunction with its Technical Advisory Committee to meet the capacity, energy and clean energy needs of both Idaho and Washington. The resources described in this CEAP are specific to the Washington portion of Avista's system needs for compliance with CETA. The discussion of the plan below describes the key considerations required by the WUTC. Details regarding the methodology and assumptions for this plan are included in the 2021 IRP and the 2021 IRP Update. This CEAP is the basis for the upcoming 2021 Clean Energy Implementation Plan (CEIP).

Table 1 illustrates annual capacity additions of all planned resources, including demand response and energy efficiency, for 2022 through 2031.

Energy Efficiency Savings

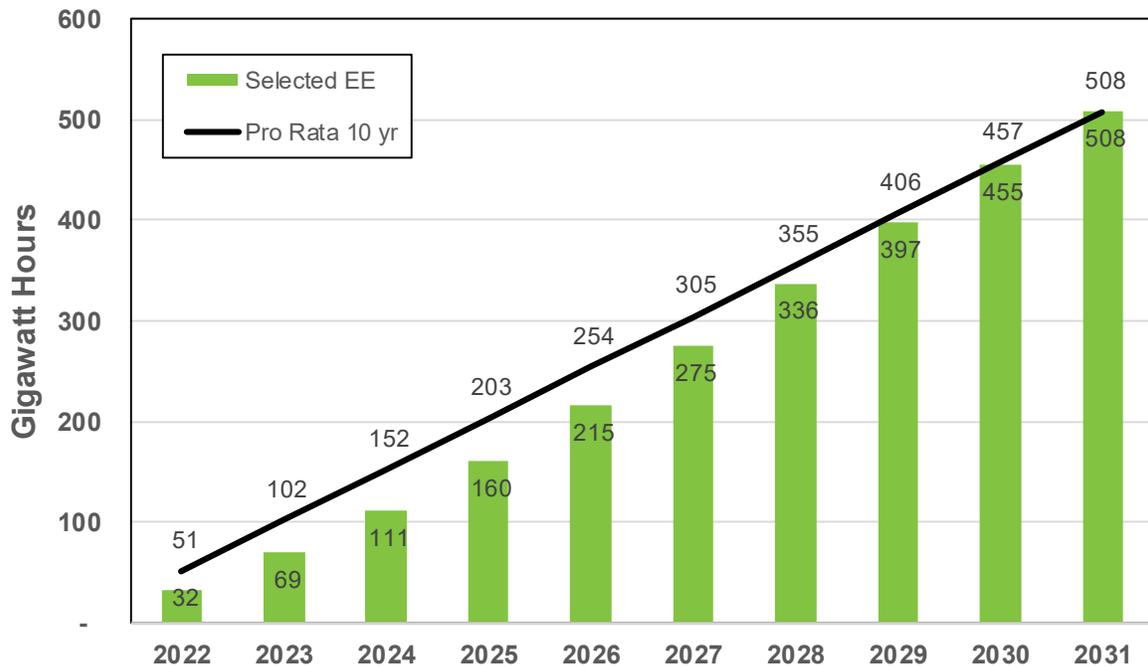
Avista plans to acquire 508 GWh of cumulative energy efficiency over the next 10 years based on this IRP analysis. This represents 61.3 aMW when accounting for transmission and distribution line losses over the 10-year period. These programs reduce winter peak loads by 64.3 MW and summer peak loads by 69.5 MW. Information on energy efficiency targets, and detailed results, are available in IRP chapters 5 and 11, Energy Efficiency and the Preferred Resource Strategy respectively. Figure 1 illustrates the energy efficiency selected for the 2021 PRS as well as the 10-year pro rata share of both annual and cumulative efficiency¹. For more information on the biennial conservation target and the EIA penalty threshold see Table 5.2 in Chapter 5.

¹ For 2022 and 2023, Avista's Biennial Conservation target is higher reflecting Distribution and Street Light programs, decoupling adjustments and modifications for NEEA.

Table 1: Washington Annual Capacity by Resource Type

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Supply Resources (MW)										
Wind	-	-	-	100.0	-	-	100.0	-	-	-
Kettle Falls GS upgrade	-	-	-	-	7.9	-	-	-	-	-
Natural Gas CT	-	-	-	-	-	84.0	-	-	-	-
NW Hydro Slice	-	-	-	-	-	-	-	-	-	75.0
Total Resources	-	-	-	100.0	7.9	84.0	100.0	-	-	75.0
Demand Response (MW)										
Variable Peak Pricing	-	-	-	1.0	2.1	4.2	1.3	0.7	-0.1	-0.1
Time of Use Rates	-	-	-	-	-	-	-	-	-	0.3
Large C&I	-	-	-	-	-	25.0	-	-	-	-
Total Demand Response	-	-	-	1.0	2.1	29.2	1.3	0.7	-0.1	0.2
Energy Efficiency										
Energy Savings (GWh) ²	33.5	39.6	43.9	52.1	58.3	62.9	65.5	64.0	61.2	56.1
Winter Peak Reduction	3.6	4.4	5.1	6.1	7.0	7.8	8.1	8.0	7.5	6.6
Summer Peak Reduction	4.5	5.3	5.9	7.0	7.5	8.1	8.3	8.1	8.1	6.8
Total MW³	3.6	4.4	5.1	107.1	17.0	121.0	109.4	8.7	7.4	81.8

Figure 1: Washington 10-year Energy Efficiency Target



² Includes estimated line losses.

³ Uses winter peak savings for energy efficiency.

Resource Adequacy

Avista must ensure its resources are adequate to serve its customers. Because of the benefits of regional coordination, Avista is participating in the development of a regional resource adequacy program. The Company's participation in regional resource adequacy efforts is important because the choices of other utilities can affect the amount of resources that must be constructed. Avista currently targets a 16 percent planning margin to meet winter peaks and a 7 percent planning margin for summer peaks. This is in addition to meeting operating reserves and regulation requirements. Avista estimates participation in a regional resource adequacy program may reduce its need for new capacity by up to 70 MW in 2031 based on the current draft program design. These savings could allow the utility to require fewer new resources while maintaining the same level of reliability if the program is successfully implemented.

Avista's 2021 IRP calls for 84 MW of natural gas-fired capacity for Washington customers by November 1, 2026 to replace the Lancaster PPA and meet reliability targets for Washington customers during peak load hours. However, a total of 168 MW is needed for all Avista's customers. While a future RFP may identify a lower cost clean resource to meet this reliability shortfall, the current IRP modeling results selected a natural gas-fired resource in 2026 to ensure reliable load service.

Demand Response and Load Management Programs

Avista does not have any demand response or load management programs today, but this CEAP identifies new programs with the potential to reduce peak load by 34.4 MW by 2031. Load management programs are projected to begin in 2025 with variable peak pricing opt-in programs. Savings are estimated to be 9.1 MW by 2031. A 25 MW large commercial customer program option is selected before the Lancaster PPA ends in 2026. Time-of-use rates become cost effective in 2031, but only contribute 0.3 MW in its first year of program ramping. Future all-source RFPs may find additional opportunities from demand response aggregators or other sources.

Table 2: Demand Response and Load Management Programs

Program	2031 Savings (MW)	Year
Variable Peak Pricing	9.1	2025
Large C&I Program	25.0	2027
Time of Use Rates	0.3	2031
Total	34.4	

Planned Clean Energy Acquisitions

Avista developed CEAP targets to ensure 100 percent of Washington retail sales by 2030 are served with clean energy options including up to 20 percent from offsets such as renewable energy credits (RECs). Table 3 outlines the requirements and projected new resources to meet the 2030 goal along with clean energy acquisition targets beginning in 2022. The 2021 IRP identified a need for 132 aMW of clean energy by 2031⁴ along with 59 aMW of clean energy purchases from Avista's Idaho customers and 17 aMW of RECs from Idaho customers under median hydro conditions in 2031. Depending on the WUTC's decision regarding compliance with the 100 percent goal, Avista may need additional clean energy and/or RECs if renewable and non-emitting energy must be delivered to customers simultaneously. Chapter 12 – Portfolio Scenarios of the 2021 IRP outlines the cost and energy acquisition impacts of this scenario.

The new resources identified to meet CETA include 200 MW (96 aMW) of Montana wind, 5 aMW from Washington's share of a 12 MW upgrade to the Kettle Falls Generating Station in 2026 and 31 aMW from renewing a 75 MW long-term hydro purchase power agreement in 2031. Avista's Washington customers may need to rely on the purchase of additional Idaho-shares of hydro in years with low hydro or wind output.

Avista does not include transformational energy projects in this CEAP due to the uncertainty regarding application to the clean energy requirements, although, Avista is actively pursuing transportation electrification. The inclusion of these projects in the CEAP will be included in future resource plans. Figure 2 summarizes the annual clean energy serving Washington customers each year and by resource type in gigawatt-hours. The 10-year cumulative summary of clean energy in gigawatt-hours is split by resource type in Figure 3.

Washington customers benefit from Avista's clean energy portfolio by optimizing or selling RECs and specified energy sales to other markets. These sales benefit Washington customers by \$5 to \$8 million each year. Avista is considering creating a separate goal for the CEIP to lower the targeted amount of "retired" or "not sold" clean energy to align with customer affordability and to lessen customer rate impacts between 2022 and 2029. Avista plans to discuss this target through its CEIP public participation outreach prior to finalizing specific goals for the CEIP. This proposal does not change any planned clean energy acquisitions, but rather the amount retired for compliance and/or purchased from Idaho customers in a given year through 2029.

⁴ The owned hydro energy forecast includes Washington customers' share of additional energy from an upgrade to the Post Falls hydro facility.

Table 3: 2022-2031 Washington Clean Energy Targets (aMW)

	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Retail Sales	647	650	651	655	657	658	658	661	662	663
PURPA	22	22	22	22	22	22	22	22	22	22
Solar Select	6	6	6	6	6	6	0	0	0	0
Net Requirement	619	623	624	628	629	631	636	640	641	642
Target Clean Acquisition %	80	80	85	85	90	90	95	95	100	100
Clean Energy Goal	496	498	530	534	567	568	604	608	641	642
Owned Hydro	292	288	288	285	292	289	292	289	291	291
Contract Hydro ⁵	96	95	99	100	99	97	97	92	93	57
Kettle Falls	24	23	23	21	23	21	22	20	21	19
Palouse Wind	24	24	24	24	24	24	24	24	24	24
Rattlesnake Flat Wind	36	36	36	36	36	36	36	36	36	36
Adams Neilson Solar	0	0	0	0	0	0	6	6	6	6
Available Resources	473	466	470	465	473	468	475	467	470	433
Total Clean Energy Need	23	33	60	69	93	100	129	141	170	208
Resource Forecast										
Montana Wind	0	0	0	48	48	48	96	96	96	96
Kettle Falls Upgrade	0	0	0	0	0	6	6	6	5	5
Regional Hydro	0	0	0	0	0	0	0	0	0	31
ID AVA Clean Purchase	23	33	60	21	45	47	28	39	60	59
ID AVA Hydro Purchase	0	0	0	0	0	0	0	0	9	17
Total Energy/RECs	23	33	60	69	93	100	129	141	170	208
Net Position	0									

⁵ Includes the new Chelan contract.

Figure 2: Washington Annual Clean Energy Acquisition (GWh)

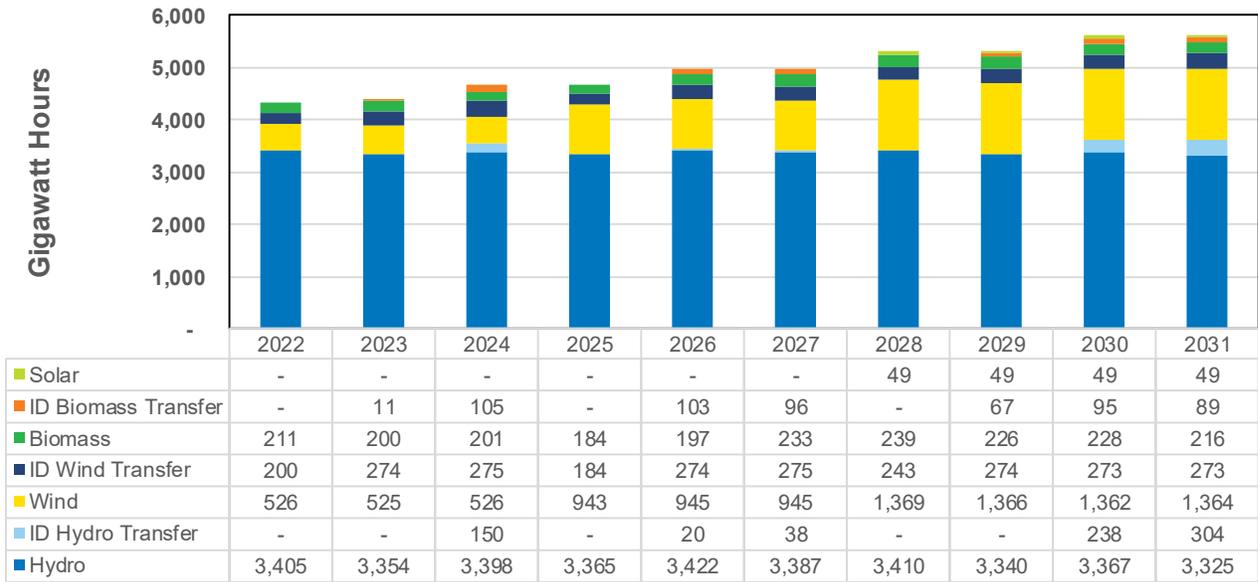
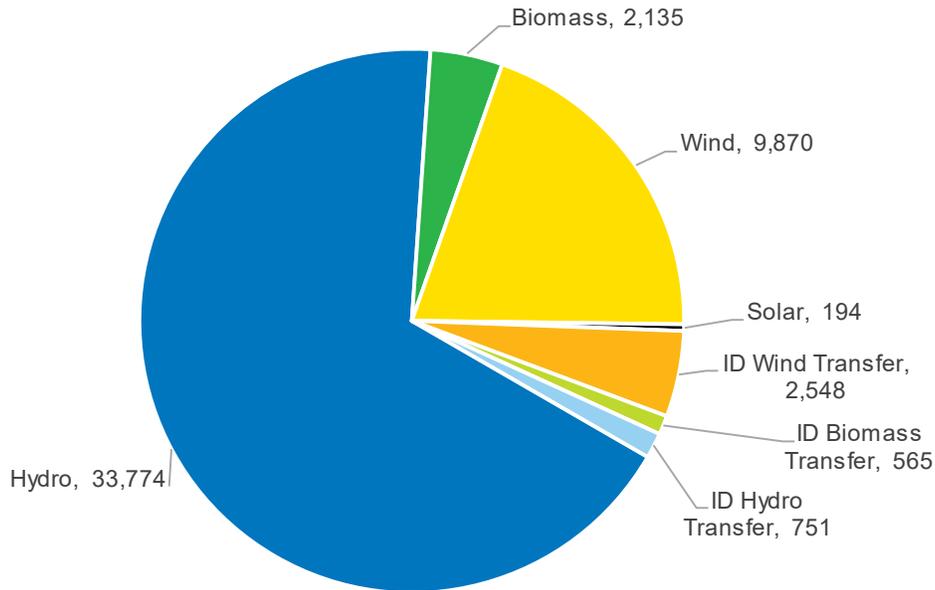


Figure 3: Cumulative 10-year Clean Energy Acquisitions for Washington (GWh)



Transmission & Distribution Improvements

Avista's resource acquisition plan does not include significant resource related transmission or distribution improvements as acquired resources are likely to be off system or utilize existing transmission assets with minimal new transmission investment. Avista plans future transmission and distribution investments following its 10-year plan described in Appendix G.

This IRP resulted in two interconnection requests for Avista's Transmission department to evaluate future resource opportunities. The first request is for up to 200 MW in the Rathdrum, Idaho area and the second is to integrate the additional capacity at Kettle Falls. The Kettle Falls interconnection request does not require any significant improvements at this time. Rathdrum area results will not be available until late 2021 after the publication of this IRP in April.

Avista continues to upgrade its distribution system as customer load grows. Avista conducted a review of potential resource acquisitions that could defer distribution investments, but none were selected in this IRP based on economic analysis of the available alternatives. Avista plans to develop a public process for distribution planning in 2021.

Energy Equity

Avista is currently developing a plan to ensure an equitable distribution of benefits and reduced burdens on highly impacted communities and vulnerable populations through the IRP process. Washington recently provided areas identified as Highly Impacted Communities which will be a discussion topic of Avista's Equity Advisory Group (EAG). The EAG will guide the determination of these communities as well as assist in designing the outreach and engagement that will be used to distinguish and prioritize customer benefit indicators and solutions as well as measuring results. Avista recently committed to an energy efficiency program pilot focused on vulnerable populations starting in 2021. Options on how to design and implement a program to meet this commitment while identifying barriers or missing data to ensure that these groups are receiving their fair share of energy and non-energy benefits under CETA continue to be assessed.

This IRP includes analytical enhancements to its energy efficiency cost effectiveness tests to include non-energy impacts. These enhancements should benefit vulnerable communities. Avista also includes provisions in its energy acquisition process to prioritize projects that may improve resiliency and increase energy security in these communities. The priority evaluation also includes preference to renewable projects located in vulnerable population areas to develop these economies. This plan does not include new generation facilities in Washington⁶ except for an upgrade to the Kettle Falls wood-fired facility⁷.

⁶ A future request for proposals of renewable energy may yield Washington based resources more beneficial than those identified in this plan.

⁷ Due to its location near tribal lands, the Kettle Falls plant is in a state identified Highly Impacted Community, regardless of not meeting proposed criteria to be identified as a vulnerable populated area.

Cost Analysis

The 2021 IRP includes an analysis comparing the cost of the PRS to a baseline portfolio without CETA's clean energy requirements. This analysis (Table 4 and Table 5) does not include the recent acquisition of the Chelan PUD 5 percent hydro slice in the baseline. This modeling exercise determines whether alternative compliance mechanisms such as the 2 percent cost cap will be required. For the first two of the four-year compliance periods under CETA, Avista expects to be under the cap by \$89 and \$62 million, respectively, absent any future equity-related program costs. The final two years of the 10-year plan are not shown as they are part of a four-year period extending beyond this CEAP timeline which are also expected to remain under the cost cap. Avista will utilize the methodology used in this CEAP to develop a more detailed cost cap analysis for the CEIP.

Table 4: 2022-2025 Washington Cost Cap Analysis (millions \$)

	2021	2022	2023	2024	2025	Total
Revenue Requirement w/ SCC	651	651	659	685	704	
Baseline		650	657	672	678	
Annual Delta		1	2	13	26	42
Percent Change		0.18%	0.29%	1.93%	3.83%	1.6%
Four Year Max Spending		33	33	33	33	132
Comparison vs Annualized Cost Cap		(32)	(31)	(20)	(7)	(89)

Table 5: 2026-2029 Washington Cost Cap Analysis (millions \$)

	2025	2026	2027	2028	2029	Total
Revenue Requirement w/ SCC	704	712	718	744	755	
Baseline		688	709	721	731	
Annual Delta		24	9	23	24	81
Percent Change		3.51%	1.34%	3.22%	3.27%	2.8%
Four Year Max Spending		36	36	36	36	143
Comparison vs Annualized Cost Cap		(11)	(26)	(12)	(12)	(62)