



**AGENDA  
BENTON COUNTY PUBLIC UTILITY DISTRICT NO. 1  
SPECIAL COMMISSION MEETING**

**November 9, 2021 - 8:30 a.m.**


**Clean Energy Implementation Plan**

1. Open Public Meeting and Pledge of Allegiance/President Lori Sanders
2. Welcome and Introductions/President Lori Sanders
3. 2022 CEIP Overview/Kevin White & Paul Durham
4. Commission Question and Discussions
5. Open Public Comments/President Lori Sanders
6. Close Public Comments/President Lori Sanders
7. Resolution No. 2585 Adoption of Benton PUD's 2022 Clean Energy Implementation Plan and Establishing 2022-2025 Interim Period Specific Targets
8. Adjournment/President Lori Sanders



X	Business Agenda
	Second Reading
	Consent Agenda
	Info Only/Possible Action
	Info Only

**SPECIAL COMMISSION MEETING AGENDA ITEM**

Subject:	2022 Clean Energy Implementation Plan – Resolution 2585	
Agenda Item No:		
Meeting Date:	November 9, 2021	
Presented by:	Kevin White / Paul Durham	<i>Staff Presenting Item</i>
Approved by (dept):	Kevin White	<i>Director/Manager</i>
Approved for Commission review:	Rick Dunn 	<i>General Manager/Asst GM</i>

**Motion for Commission Consideration:**

Motion approving Resolution No. 2585 Adopting the District’s 2022 Clean Energy Implementation Plan and Establishing 2022-2025 Interim Period Specific Targets.

**Recommendation/Background**

The Clean Energy Transformation Act (CETA) under RCW 19.405 requires that sales of electricity to retail electric customers be greenhouse gas neutral by 2030 and one hundred percent carbon free by 2045. In compliance with CETA, staff has completed a draft of the District’s 2022 CEIP which outlines the District’s targets and actions over the interim period (2022-2025) in meeting these requirements. The CEIP identifies interim targets for the percentage of retail load to be served using renewable and non-emitting resources during the interim period. In addition, it sets specific targets for energy efficiency, demand response resources, and renewable energy.

The CETA statute also specifies utilities to consider actions and benefits for named populations, highly impacted communities and vulnerable populations as defined under the law. Utilities are instructed to consider both energy and non-energy benefits of specific actions within the CEIP. These actions and consideration should be consistent with and informed by the utility’s Integrated Resource Plan (IRP) and Clean Energy Action Plan (CEAP).

As utilities pursue the goals to achieve clean energy standards set for in RCW 19.405, utilities should consider the importance of resource adequacy and resource contributions in the planning. Measures of adequacy, peak load probability, loss of load probability standards and methods of measurement are all part of ensuring the continued service capability and reliability of the grid.

<b>Requirement</b>	<b>Status/Target/Indicator</b>
<b>2030 – GHG Neutral</b>	All retail sales of electricity must be 100% Greenhouse Gas (GHG) Neutral for each multi-year compliance period – <b>Forecast to be greater than 100% for the interim period</b>
<b>2045 – 100% Carbon-Free</b>	All retail sales must be supplied by 100% from renewable/non-emitting resources – <b>Forecast to be less than 100% by 2045</b>
<b>Energy Efficiency</b>	2022-2025 Target – <b>31,448 MWh (3.59 aMW)</b>
<b>Demand Response</b>	2022-2025 Target – <b>0 MW</b>
<b>Renewable Energy</b>	2022-2025 Target – <b>6,849,892 MWh (195.4 aMW)</b>
<b>Equitable Transition</b>	2022-2025 Equity Area – <b>Energy Burden</b> Indicators <ul style="list-style-type: none"> <li>• <b>Total # energy burdened customers assisted</b></li> <li>• <b>Total \$ toward energy burdened customers</b></li> </ul>

Staff recommends approval of Resolution 2585 adopting the District’s 2022 Clean Energy Implementation Plan.

**Summary**

Approval of the 2022 CEIP is required in order to transmit a copy of the plan to the Washington State Department of Commerce prior to the January 1<sup>st</sup> deadline identified in RCW 19.405.050(1).

**Fiscal Impact**

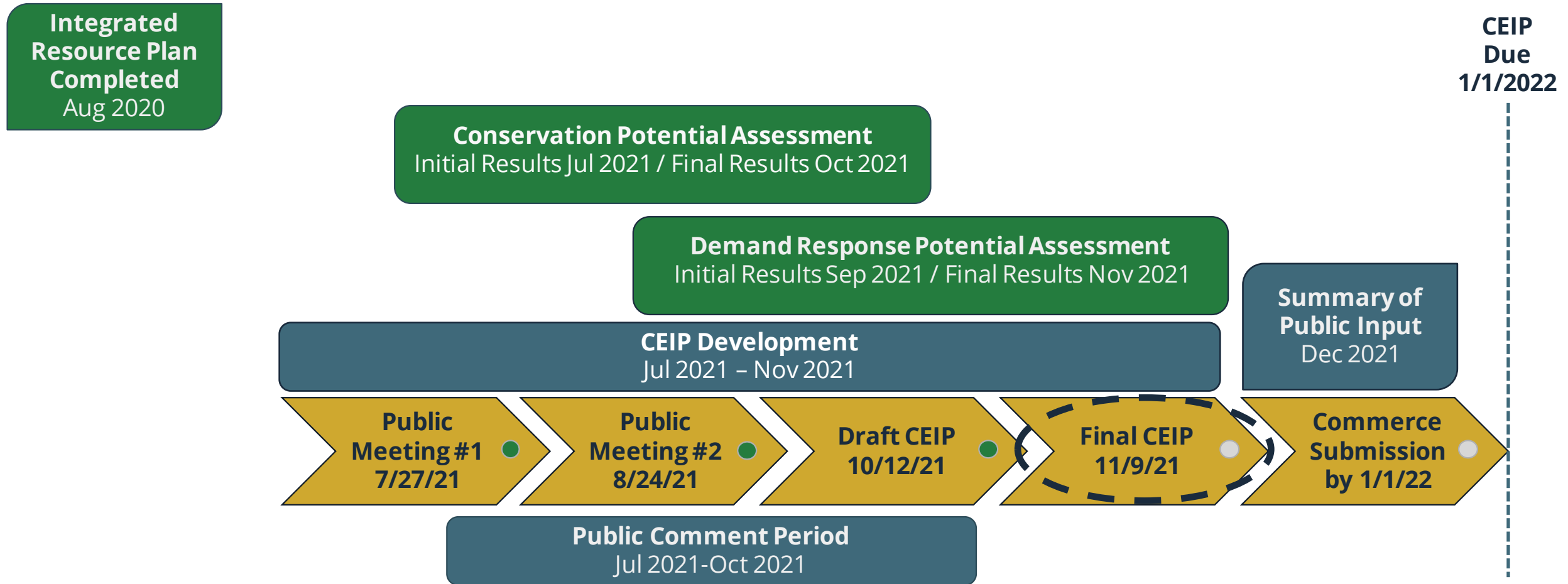
Costs associated with the 2022 CEIP were included in the 2021 Power Management budget.



November 9, 2021

# Clean Energy Implementation Plan

# Clean Energy Implementation Plan Timeline



● Completed

○ Incomplete

# CEIP Plan Targets

Requirement	Status/Target/Indicator
2030 – GHG Neutral	All retail sales of electricity must be 100% Greenhouse Gas (GHG) Neutral for each multi-year compliance period – <b>Forecast to be greater than 100% for the interim period</b>
2045 – Carbon Free	All retail sales must be supplied by 100% from renewable/non-emitting resources – <b>Forecast to be less than 100% by 2045</b>
Energy Efficiency	2022-2025 Target – <b>31,448 MWh (3.59 aMW)</b>
Demand Response	2022-2025 Target – <b>0 MW</b>
Renewable Energy	2022-2025 Target – <b>6,849,892 MWh (195.4 aMW)</b>
Equitable Transition	2022-2025 Equity Area – <b>Energy Burden</b> Indicators: <ul style="list-style-type: none"> <li>• <b>Total # energy burdened customers assisted</b></li> <li>• <b>Total \$ toward energy burdened customers</b></li> </ul>

# Questions or Comments?

Visit

<https://www.bentonpud.org/About/Planning-Performance/Integrated-Resources-Plan>  
for more information.



RESOLUTION NO. 2585

November 9, 2021

A RESOLUTION OF THE COMMISSION OF  
PUBLIC UTILITY DISTRICT NO. 1 OF BENTON COUNTY, WASHINGTON  
ADOPTING THE DISTRICT'S 2022 CLEAN ENERGY IMPLEMENTATION PLAN AND  
ESTABLISHING THE 2022-2025 INTERIM PERIOD SPECIFIC TARGETS

WHEREAS, Washington State Clean Energy Transformation Act (CETA), RCW 19.405, requires that all Washington electric utilities must eliminate coal-fired resources from its allocation of electricity by the end of 2025, transition to greenhouse gas (GHG) neutral by 2030, and transition to one hundred percent carbon-free by 2045; AND

WHEREAS, CETA requires each utility develop and adopt a Clean Energy Implementation Plan (CEIP) every four years beginning with the first CEIP due January 1, 2022; AND

WHEREAS, The Commission wishes to assert its authority under Title 54 of the Revised Code of Washington in its implementation of CETA; AND

WHEREAS, Washington Administrative Code (WAC) provisions, adopted by the Department of Commerce, recognize that the individual public utility has the authority to establish specific actions and targets that meet the requirements of the State's statute; AND

WHEREAS, WAC 194-40-200 (1) states, "Each utility must identify in each CEIP the specific actions the utility will take during the next interim performance period or GHG neutral compliance period to demonstrate progress toward meeting the standards under RCW 19.405.040(1) and 19.405.050(1) and the interim targets under subsection (2) of this section and the specific targets under subsection (3) of this section."; AND

WHEREAS, WAC 194-40-200 (2) states, "The CEIP must establish an interim target for the percentage of retail load to be served using renewable and non-emitting resources during the period covered by the CEIP. The interim target must demonstrate progress toward meeting the standards under RCW 19.405.040(1) and 19.405.050(1), if the utility is not already meeting the relevant standard."; AND

WHEREAS, WAC 194-40-200 (3a-3c) states, "The CEIP must establish specific targets, for the interim performance period or GHG neutral compliance period covered by the CEIP" and includes targets for Energy Efficiency, Demand Response, and Renewable Energy; AND

WHEREAS, WAC 194-40-200 (4) establishes minimum requirements for the CEIP to ensure an equitable transition to clean energy including identifying Highly Impacted Communities, Vulnerable Populations, Indicators associated with an equitable transition, and actions aligned and informed by the utility's longer-term strategies based on the analysis in RCW 19.280.030 (1)(k) and clean energy action plan in RCW 19.280.030 (1)(l) from its most recent integrated resource plan; AND



WHEREAS, The District held two public meetings in July and August to provide information about the CEIP requirements and gather input from the Commission and the public; AND

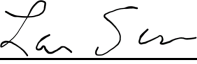
WHEREAS, District staff presented the draft CEIP to the Commission on October 12, 2021 at a regularly scheduled Commission meeting open to the public; AND

WHEREAS, Due notice was given of a public meeting to be held November 9, 2021 to make public the District's final draft 2022 Clean Energy Implementation Plan; AND

WHEREAS, Said public meeting was held to gain public comment concerning the targets, indicators, and specific actions in the CEIP.

NOW, THEREFORE BE IT RESOLVED by the Commission of Public Utility District No. 1 of Benton County, that the District's 2022 Clean Energy Implementation Plan be adopted in compliance with requirements of the Clean Energy Transformation Act and establish the 2022-2025 interim period specific targets.

APPROVED AND ADOPTED by the Commission of Public Utility District No. 1 of Benton County at an open meeting, with notice of such meeting being given as required by law, this 9th day of November 2021.

DocuSigned by:  
  
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Lori Kays Sanders, President

ATTEST:

DocuSigned by:  
  
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Barry A. Bush, Vice-President

# 2022 Clean Energy Implementation Plan



**Public Utility District No. 1 of Benton County**



### **Project Lead & Contributor**

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<b>Paul Durham</b>	Power and Energy Programs Analyst II	Benton PUD
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### **Contributors**

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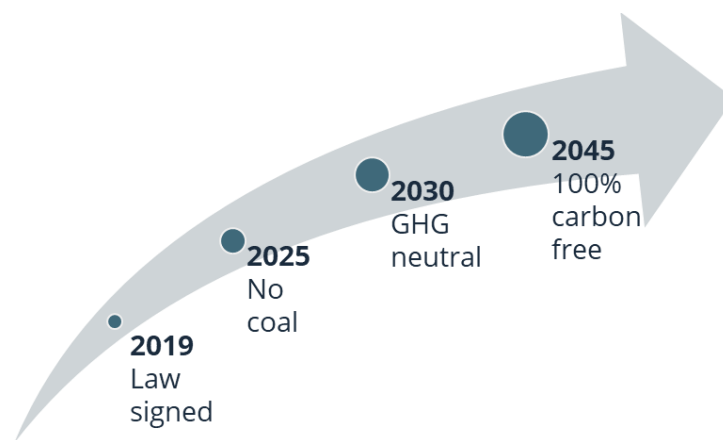
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# Executive Summary

## Overview

The 2022 Clean Energy Implementation (CEIP) provides an overview of Benton PUD’s (District) plan for meeting the requirements for both 2030 and 2045 clean energy requirements as set forth by the Clean Energy Transformation Act (CETA). The CEIP is a planning document that identifies interim and clean energy targets, specific actions demonstrating progress towards meeting the requirements and expected customer benefits by moving towards and maintaining a clean energy portfolio.

CETA, a law enacted in 2019, requires Washington State electric utilities to have 100 percent carbon free electricity used to meet its customers retail electric load by 2045. As shown in **Figure 1** below, several key requirements will occur over the next 25 years to ensure the long-term goal of CETA can be reached.



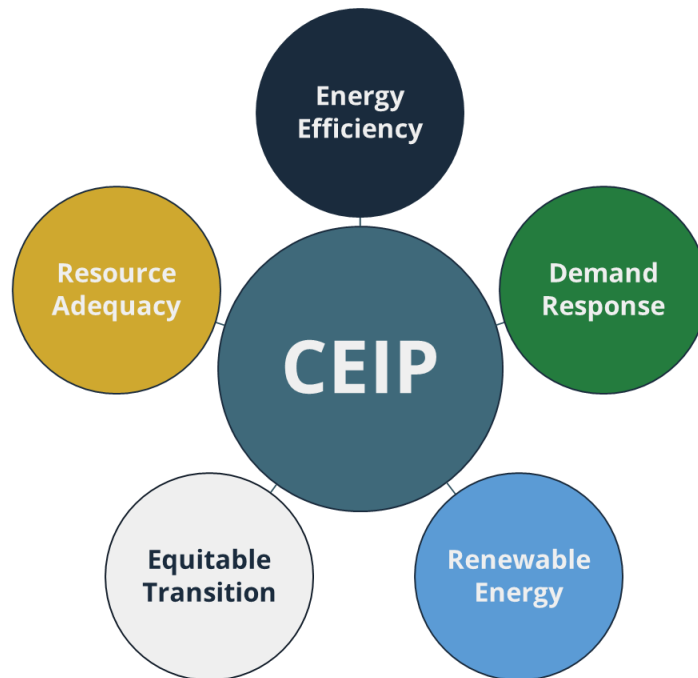
*Figure 1: CETA Requirements*

Meeting a 100 percent carbon free standard will require utilities to add renewable or non-emitting resources to their portfolios by 2045. Renewable resources under CETA can include water, wind, solar, geothermal, renewable natural gas or hydrogen, or biomass. Non-emitting resources are non-renewable resources that do not produce greenhouse gas (GHG) emissions during generation, which includes nuclear generating resources.

The CEIP must not only show progress towards meeting the requirements of CETA but must also identify specific targets or metrics in the areas of Energy Efficiency, Demand Response, Renewable Energy, Equitable Transition as defined by WAC 194-40-200<sup>1</sup>, and Resource Adequacy.

<sup>1</sup> <https://apps.leg.wa.gov/wac/default.aspx?cite=194-40&full=true#194-40-200>





*Figure 2: CEIP Specific Target and Focus Areas*

As shown above in **Figure 2**, there are five main sub-areas of content within the CEIP document. These industry topics should be familiar to utilities, as many come from existing regulatory requirements and planning frameworks. The Energy Efficiency section of the CEIP will mirror the requirements of the Energy Independence Act<sup>2</sup> (EIA) as CETA instructs utilities to continue to “Pursue all cost effective, reliable, and feasible conservation and efficiency resources . . .” Likewise, Resource Adequacy is a widely discussed topic in many regional forums as well as a requirement of many utilities in their Integrated Resource Plan (IRP).

Equitable Transition, more thoroughly discussed later in the CEIP, is a new addition to a utility’s planning requirements created under CETA. Emphasizing consideration for vulnerable populations and highly impacted communities, CETA instructs utilities to consider both energy and non-energy benefits when making resource decisions.

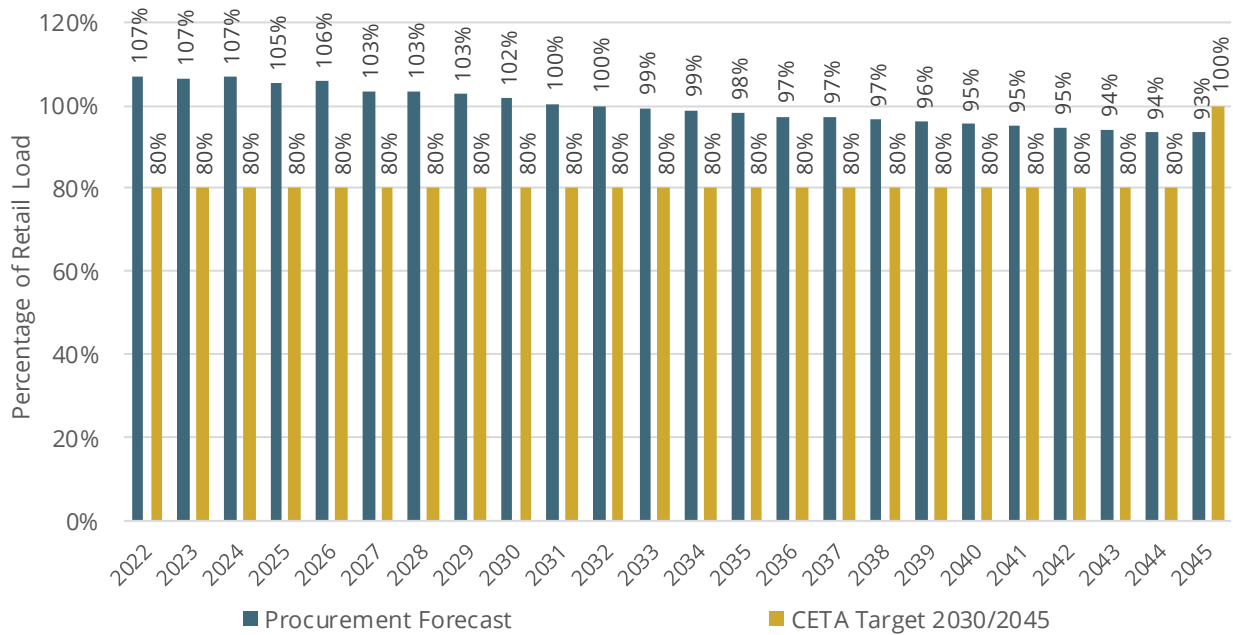
<sup>2</sup> <https://app.leg.wa.gov/RCW/default.aspx?cite=19.285>

## Clean Energy Implementation Plan Targets

Provided in **Table 1** below, is a summary of all targets and indicators the District has included in its first CEIP for the interim period 2022-2025. **Figure 3** shows the CEIP interim targets and forecasted compliance from 2022-2045 in meeting the 2030 and 2045 requirements. Each subsequent section provides in more detail the methodology and public processes that were involved in development of these targets.

**Table 1: CEIP Targets**

Requirement	Status/Target/Indicator
<b>2030 - GHG Neutral</b>	All retail sales of electricity must be 100% Greenhouse Gas (GHG) Neutral for each multi-year compliance period - <b>Forecast to be greater than 100% for the interim period</b>
<b>2045 - 100% Carbon-Free</b>	All retail sales must be supplied by 100% from renewable/non-emitting resources - <b>Forecast to be less than 100% by 2045</b>
<b>Energy Efficiency</b>	2022-2025 Target - <b>31,448 MWh (3.59 aMW)</b>
<b>Demand Response</b>	2022-2025 Target - <b>0 MW</b>
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<b>Equitable Transition</b>	2022-2025 Equity Area - <b>Energy Burden</b> Indicators: <ul style="list-style-type: none"> <li>• <b>Total # energy burdened customers assisted</b></li> <li>• <b>Total \$ toward energy burdened customers</b></li> </ul>



**Figure 3: CETA Compliance 2022-2045**

## Interim and Specific Targets

### Overview

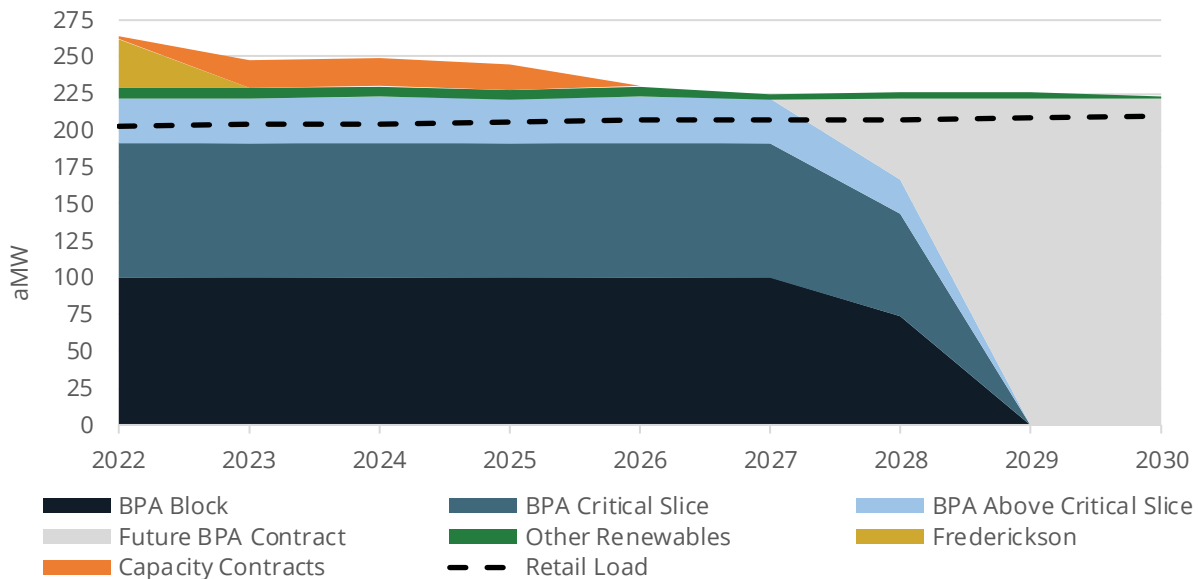
The District must propose targets focused on demonstrating progress towards meeting the 2030 GHG neutral standard and the 2045 100 percent carbon-free standard. These targets are being set according to expected performance under median water conditions of hydro power as well as average operating conditions for wind resources. These targets reflect the District's commitment to meeting the objectives of CETA while also providing continued, reliable electric service to its customers.

According to the requirements of RCW 19.405.060(2), a consumer-owned utility must develop and submit a four-year clean energy implementation plan for the standards established under RCW 19.405.040 and 19.405.050 that:

- a. Proposes interim targets for meeting the standard under RCW 19.405.040(1) during the years prior to 2030 and between 2030 and 2045
- b. Proposes specific targets for energy efficiency, demand response, and renewable energy
- c. Is informed by the consumer-owned utility's clean energy action plan or other ten-year plan under RCW 19.280.030
- d. Identifies specific actions to be taken by the consumer-owned utility over the next four years, consistent with the long-range resource plan and resource adequacy requirements
- e. Ensures all customers are benefitting from the continued transition to clean energy
- f. Is made available to the public and be adopted by its governing body

### Interim Targets 2022-2030

The District, a consumer-owned utility located in eastern Washington, sources most of its power supply requirements through purchases from the Bonneville Power Administration (BPA) with the remainder being sourced from non-federal resources. The District's generation mix is primarily made up of hydroelectric, nuclear, wind and natural gas generation resources. In addition to its long-term power purchase agreements, the District makes physical purchases of power from the wholesale power market when it needs additional power to meet its load obligation.



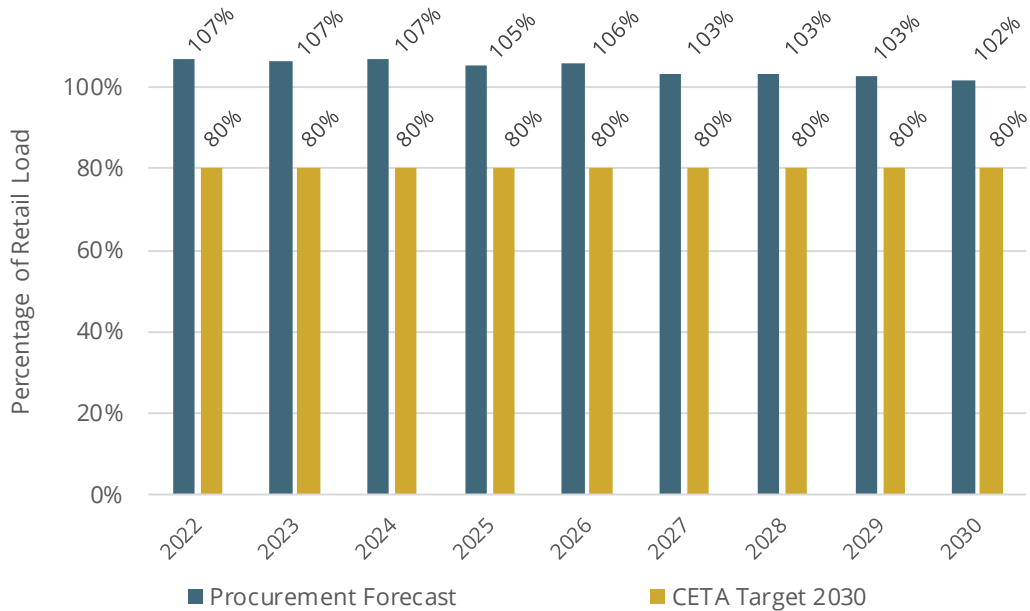
**Figure 4: Retail Load and Total Resources**

Shown in **Figure 4** above, the District has sufficiently contracted renewable and non-emitting resources to cover its retail electric load through 2030 on an average annual basis. As mentioned previously, BPA resources make up the primary source of this power supply and according to BPA's most recent fuel mix<sup>3</sup>, 95 percent comes from hydro and nuclear resources which count as renewable and non-emitting respectively. Combined with the District's contracted non-federal renewables, the District is in a good position for maintaining CETA compliance in the near term. CETA compliance states in RCW 19.405.040(1a) that an electric utility must demonstrate its compliance with this standard using a combination of renewable and non-emitting electric generation in amount equal to 100 percent of a utility's retail electric load over each multi-year compliance starting in 2030. Although compliance does not begin until 2030, utilities are expected to take actions to make progress toward meeting the standard in the interim periods. Primary compliance must be a minimum of 80 percent of retail electric load with alternative compliance options that can satisfy up to 20 percent of the remaining compliance obligation. CETA allows alternative compliance in years 2030-2044 prior to the 2045 100 percent carbon-free standard and can include any combination of the following:

- a. Making an alternative compliance payment under RCW 19.405.090
- b. Using unbundled renewable energy credits (RECs) and represents electricity generated in the compliance period
- c. Investments in clean energy transformation projects

<sup>3</sup> <https://www.bpa.gov/p/Generation/Fuel-Mix/FuelMix/BPA-Official-Fuel-Mix-2020.pdf>

Both **Figure 5** and **Table 2** below show the District currently has enough procured renewable and non-emitting generation to meet the 2030 standard of compliance. Considering the renewable and non-emitting portions of BPA, Nine Canyon, White Creek, and Packwood resources the District maintains above 100 percent in both the current interim period (2022-2025) and the subsequent interim period (2026-2029).



**Figure 5: Interim Clean Energy Targets**

**Table 2: Interim Clean Energy Summary**

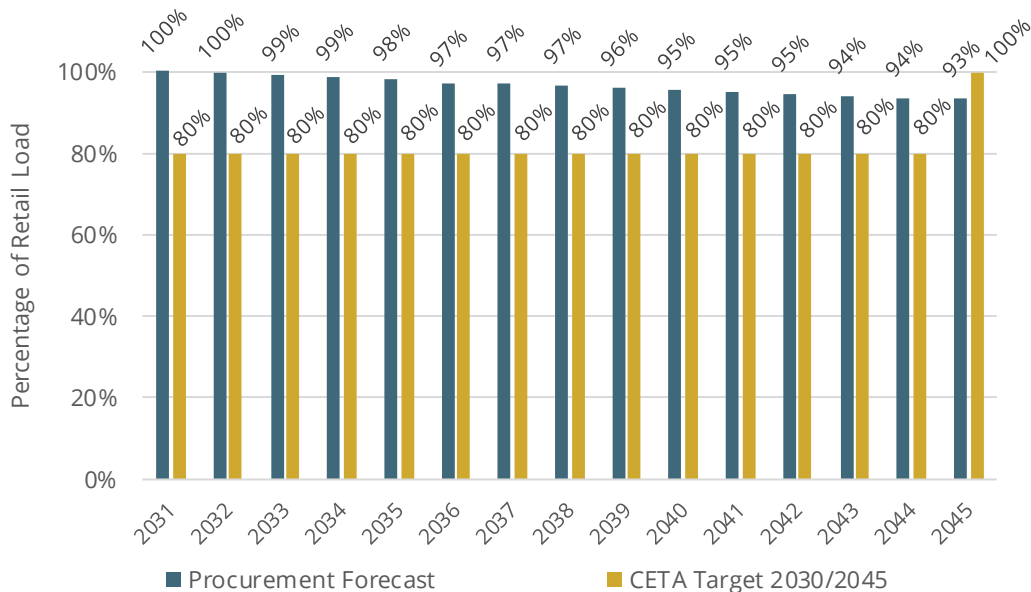
Year	Total Clean Resources (MWh)	Retail Load (MWh)	Procurement Forecast	2030 Requirement
2022	1,903,665	1,777,507	107%	80%
2023	1,904,485	1,787,688	107%	80%
2024	1,920,732	1,798,801	107%	80%
2025	1,899,240	1,805,467	105%	80%
2026	1,915,435	1,810,401	106%	80%
2027	1,875,158	1,813,839	103%	80%
2028	1,888,789	1,825,941	103%	80%
2029	1,876,609	1,828,486	103%	80%
2030	1,866,796	1,837,830	102%	80%

The District’s clean energy percentage of retail load decreases from 107 percent to 102 percent over time due to expected retail load growth over the two interim periods. The expected load growth is net of the District’s investment in all cost-effective, reliable, and feasible conservation.

## Clean Energy Targets 2031-2045

CETA requires in 2045 that utilities will demonstrate compliance using a combination of renewable and non-emitting electric generation equal to 100 percent of its retail electric load without an alternative compliance option. In 2045, utilities are additionally required to move from a 4-year compliance period to an annual compliance period. As the District's load grows, it will likely need to procure additional renewable or non-emitting resources to meet the 100 percent carbon-free standard on an annual basis.

**Figure 6** and **Table 3** below show an extended clean energy percent of retail load status through 2045 if the District renewed its existing BPA resource contract. Notice that through 2032 the District continues to be at 100 percent carbon free procurement but drops below 100 percent starting in 2033 and will need to utilize alternative compliance or pursue procurement of additional renewable or non-emitting resources to meet the requirements of CETA. As the District hits 2045, retail load grows to the extent that the District will be roughly 7 percent below its compliance obligation and CETA no longer allows the use of alternative compliance to meet the requirements in the law.



**Figure 6: 2031-2045 Forecasted Compliance Status**

**Table 3: Forecasted Compliance Period 2031-2045 Summary**

<b>Year</b>	<b>Total Clean Resources (MWh)<sup>4</sup></b>	<b>Retail Load (MWh)</b>	<b>Procurement Forecast</b>	<b>2030/2045 Requirements</b>
2031	1,866,796	1,858,228	100%	80%
2032	1,866,796	1,868,321	100%	80%
2033	1,866,796	1,877,146	99%	80%
2034	1,866,796	1,888,218	99%	80%
2035	1,866,796	1,902,124	98%	80%
2036	1,866,796	1,916,295	97%	80%
2037	1,866,796	1,918,515	97%	80%
2038	1,866,796	1,931,430	97%	80%
2039	1,866,796	1,942,191	96%	80%
2040	1,866,796	1,956,319	95%	80%
2041	1,866,796	1,960,380	95%	80%
2042	1,866,796	1,970,161	95%	80%
2043	1,866,796	1,980,918	94%	80%
2044	1,866,796	1,996,170	94%	80%
2045	1,866,796	1,999,027	93%	100%

With 2045 compliance being nearly 25 years away, there is a lot of uncertainty in both retail load growth and available renewable and non-emitting generation technology that would directly impact positions seen above. Current regulatory frameworks aimed at reducing GHG emissions by increasing vehicle electrification and updating requirements for building codes will likely impact the trajectory of retail load. Expiring power contracts, changing conditions around hydro availability and capacity, new regulatory action, and technological advancements will impact the generation resources used for compliance in the future. The District will look to maintain its current position for CETA compliance and update action plans in the future to ensure compliance.

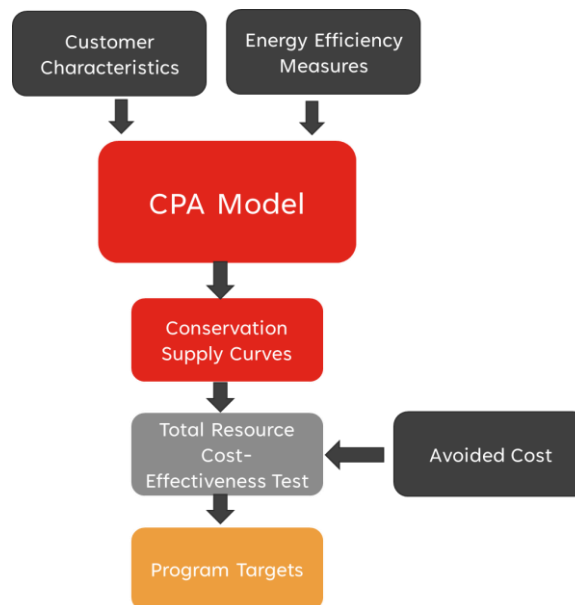
<sup>4</sup> Assumed to be the same forecasted amount of contracted generation as 2030 moving forward without action

# Energy Efficiency

## Overview

The District provides electricity service to over 56,000 customers located in Washington and under Washington State’s Energy Independence Act (EIA) must pursue all cost-effective conservation resources and meet conservation targets set forth by its bi-annual conservation potential assessment (CPA). The EIA sets specific requirements for setting and pursuing conservation efforts. The District uses a methodology consistent with the Northwest Power and Conservation Council’s most current Power Plan to sets its own conservation targets for each biennium.

Under CETA direction, utilities must comply with new clean energy standards set forth in 2030 and 2045, but are directed to pursue all-cost effective, reliable, and feasible conservation resources using the prescribed methodology already established in the EIA. This alignment between CETA and EIA provides utilities direction on their conservation strategy going forward. When pursuing cost-effective conservation many factors must be considered such as the current building stock assessments, saturation of local environment, social cost of carbon, regional market prices, cost of weatherization, lighting, and heating, and market barriers such as technology or adoption rates. **Figure 7** below illustrates the current modeling process in its recently conducted 2021 CPA.

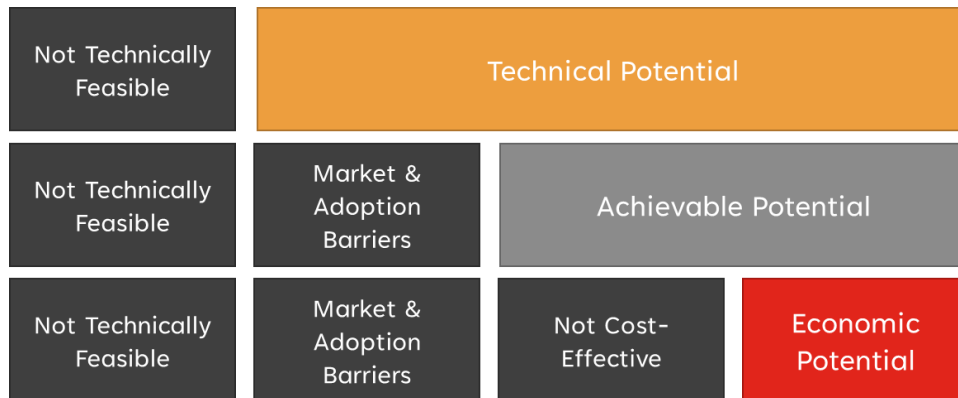


**Figure 7: Conservation Potential Assessment Modeling**

After considering both customer characteristics and energy efficiency measures, the model provides conservation supply curves that must be further evaluated. Final program targets are set from the CPA’s conservation measures that pass several tests including the variables listed above and whether they are cost-effective. **Figure 8** below shows the step-

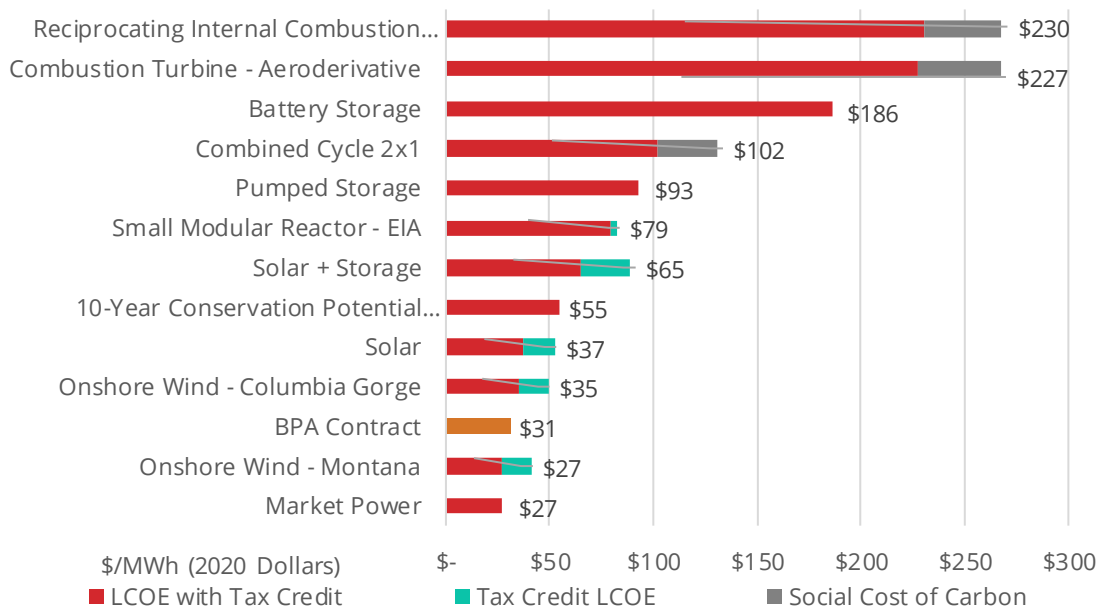


by-step process adding components to eliminate measures that are considered infeasible, hard to adopt, or not cost-effective.



**Figure 8: Types of Energy Efficiency Potential**

Conservation is widely considered one of the more cost-effective resources in a utility's portfolio. **Figure 9** below shows the Levelized Cost of Energy (LCOE) comparison of conservation potential to other resources from the District's 2020 IRP. As can be seen, the 10-year conservation potential (from 2019 CPA) includes conservation measures up to \$55 MWh and is less expensive than purchasing many of the alternative generation resources.



**Figure 9: Levelized Cost of Energy (LCOE) of Resource Alternatives**

The recently conducted 2021 CPA includes updated results and provides estimates of energy savings by sector for the period 2022 through 2041. Conservation is achieved through the District's own utility programs and through its share of the Northwest Energy

Efficiency Alliance (NEEA) accomplishments. **Figure 10** below shows the CPA cost-effective potential results for the 2, 4, 10, and 20-year time periods derived from the methodology above.

Table ES-1 Cost Effective Potential (aMW)				
	2-Year	4-Year	10-Year	20-Year
Residential	0.30	0.77	3.01	6.30
Commercial	0.85	2.06	6.90	14.96
Industrial	0.31	0.59	1.21	1.52
Distribution Efficiency	0.03	0.10	0.44	1.24
Agricultural	0.04	0.08	0.16	0.18
<b>Total</b>	<b>1.52</b>	<b>3.59</b>	<b>11.72</b>	<b>24.20</b>

*Figure 10: Cost-Effective Conservation Potential*

## Targets

Based on the requirements outlined in WAC 194-40-200(3A), the District has calculated its energy efficiency target for the four-year interim period 2022-2025 at 31,448 MWh. **Table 4** below shows the calculated target for the 4-year period. The final value is derived from the 4-year CPA cost-effective potential (based on the first-year savings) and multiplied by the number of hours in a year.

**Table 4: Energy Efficiency 2022-2025 Target**

Resource	Average Megawatts (aMW)	Megawatt Hours (MWh)
<b>Energy Efficiency</b>	3.59	<b>31,448</b>

## Benefits

As mentioned previously, energy efficiency is one of the more cost-effective resources in the District's portfolio. Lower energy use contributes to the reduction of, delay, or elimination of additional generation resources or other infrastructure. Energy efficiency efforts can reduce monthly energy bills for customers that participate in such programs and those customers continue to receive benefits from their investment. The District plans to measure and track these savings both for the requirements of EIA and CETA.

Energy efficiency also provides many non-energy benefits such as added comfort, extended temperature control within a home during power outages, reduced road noise, or potential increases in home value. These non-energy benefits are harder to quantify, but many energy efficiency measures provide these additional benefits for customers who choose to participate in the District's energy efficiency programs.

# Demand Response

## Overview

Utilities and load-serving entities evaluate different resources to help meet their customer load. Although it is not a traditional generation resource, Demand Response (DR) offers an additional alternative by customers voluntarily or temporarily reducing their electricity consumption. The District has no DR programs currently implemented; however, it began investigating DR as a capacity resource starting in 2019, consistent with new CETA requirements. Early learnings about DR were incorporated into the District's 2020 IRP<sup>5</sup> and the following DR related action items were an output from the IRP process:

- 2020 IRP Action Plan<sup>6</sup>
  6. *Complete resource/market related analyses and studies to enhance the 2022 IRP process, inputs, and resource acquisition evaluations including the following:*
    - c. *Explore how to and consider developing a **demand response** potential assessment and supply curves that could be implemented in synergy with the District's smart meters as a potential resource for meeting hourly peak loads.*
  
- 2020 IRP Clean Energy Action Plan<sup>7</sup>
  3. *RCW 19.405.050 – 100% carbon free by 1/1/2045*
    - d. *The District plans to explore developing a **demand response** potential assessment to better understand what cost-effective **demand response** could be deployed in our service territory that would contribute toward meeting our peak capacity needs.*

The District expects to complete its first ever demand response potential assessment (DRPA) in the Fall of 2021. The District plans to utilize the DRPA results and subsequent analysis as an input to its next full IRP update in 2024. After first determining the potential DR measures that are both cost-effective and achievable, the District would then require time to plan for implementation and customer engagement. Final development of any DR programs that are cost-effective, reliable, and feasible are unlikely to occur until the end of the interim period at the earliest. It is expected that DR resources will be further assessed in the next interim performance period 2026-2029 as the District continues researching DR programs.

<sup>5</sup> 2020 IRP, Chapter 7 (Pages 76-77)

<sup>6</sup> 2020 IRP, Chapter 10 (Page 114, Item 6c)

<sup>7</sup> 2020 IRP, Chapter 10 (Page 116, Item 3b)

## Targets

Per WAC 194-40-200(3b), the District setting its demand response resource target for the four-year interim period 2022-2025 at 0 MW as shown in **Table 5**.

**Table 5: Demand Response 2022-2025 Target**

Resource	Target (MW)
Demand Response	0 MW

## Benefits

The District believes that DR or similar load management resources may help to reduce overall energy costs to the District during peak timeframes or high market-priced excursions of wholesale power. Future resource additions could be postponed where demand response programs might be more cost-effective than alternative resource options. It is expected further analysis in the District's 2024 IRP will help guide the implementation of any future demand response program.

# Renewable Energy

## Overview

Under the Clean Energy Transformation Act (CETA), utilities are required to pursue a path towards a clean energy supply in meeting the required standards in both 2030 and 2045. Renewable resources are those that create energy by means of water, wind, solar energy, geothermal, renewable natural gas (RNG), and biomass. While the law does not preclude the District from considering carbon-emitting resources prior to these standards, making progress towards integrating additional renewables and non-emitting resources in the future will be important for future compliance.

Based on the District's fuel-mix data, 94.2 percent of the District's resources serving customers comes from renewable or non-emitting generation based on the most recent 4-year average (2017-2020)<sup>8</sup>. As mentioned earlier the District has already concluded that through the procurement of its current power purchase agreements, it has sufficient resources to meet the 2030 requirements of CETA. The District will likely need to acquire additional resources to meet compliance for CETA prior to 2045 to continue meeting the required compliance standards.

## Resources

### **Bonneville Power Administration**

Renewable resources make up the majority of the District's current power supply primarily due to its Bonneville Power Administration (BPA) contract. BPA's portfolio mix is predominantly made up of hydro power from the Federal Columbia River Power System (FCRPS) and has an aggregated generation capacity of 22,060 MW. The hydroelectric dams provide clean energy, but generation can fluctuate year to year due to variability in water supply conditions. BPA water years, which begin in October and end in September, are measured by total water runoff in million acre-feet (MAF) at The Dalles Dam between January and July. Hydrological conditions at The Dalles Dam have been recorded since 1929. Variability in runoff can be seen from year to year (1949 -2019) in **Figure 11** below.

<sup>8</sup> <https://www.bentonpud.org/About/Your-PUD/Overview/Energy-Mix>

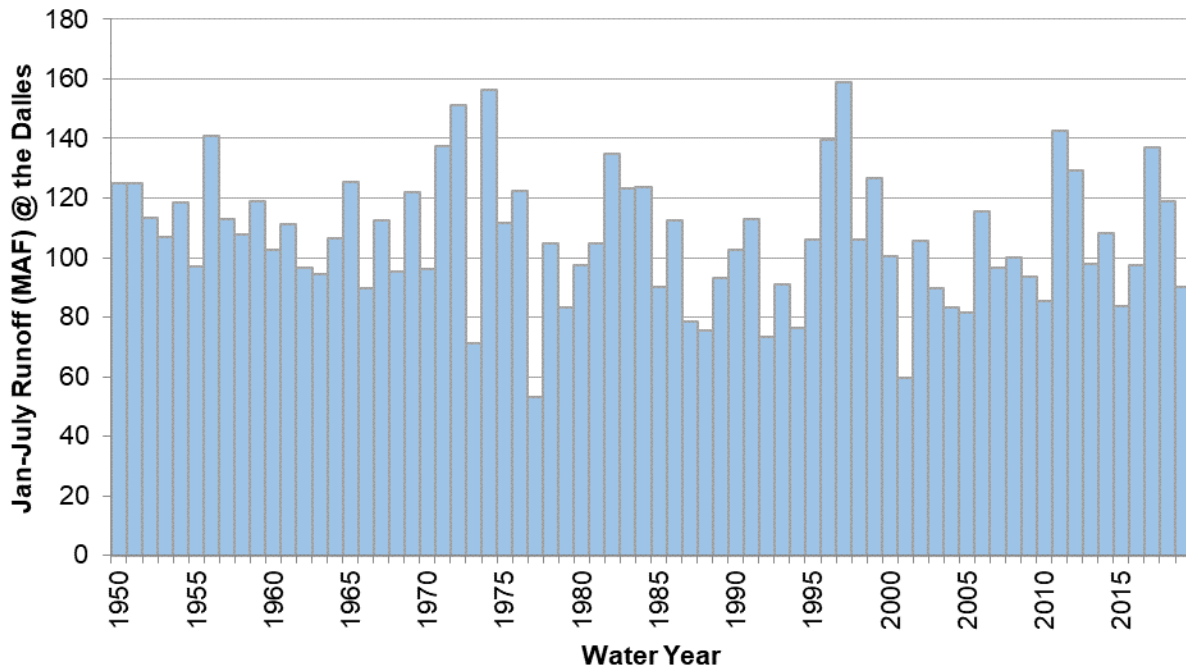


Figure 11: Historical Water Years (1949-2019)

The District currently purchases a Block/Slice product under its agreement with BPA and receives a two-part allocation of power. The Block portion is a guaranteed amount of power the District will receive irrespective of hydro conditions. The Slice portion is an allocated amount of power the District will receive based on available generation considering water conditions, fish migration and flood control. Based on an 80-year historical mean of hydrological conditions from above, the expected average system output is 8,920 aMW. This provides roughly 228 aMW of energy in an average water year for the District but varies seasonally based on the current water conditions. While most of the power from BPA comes from hydro capacity, BPA's system mix also includes generation from Columbia Generating Station (non-emitting nuclear power) and wind. BPA makes market purchases (unspecified power) when they do not have sufficient generation to meet their contractual obligations. The District plans to utilize BPA's fuel-mix allocation and projected median-water conditions to calculate what portion of its contracted power is coming from renewable and non-emitting resources. This portion of power from BPA counts as clean and meets the requirements of CETA.

### Packwood Hydroelectric Project

The District has contracted for a small amount of power from Energy Northwest's Packwood Hydroelectric Project on Lake Creek in Lewis County, WA. Roughly a 26.125 MW facility, the District has signed an agreement for 14% of the total project (3.7 MW capacity) or an output of roughly 1.4 aMW of energy annually under average water conditions to assist in serving load.

## Nine Canyon Wind Project

The District also serves its retail load through power purchase agreements with Energy Northwest for 9 MW of total capacity between both Phase I and Phase III of the Nine Canyon Wind project. Nine Canyon generation is an eligible resource that assists the District with meeting the renewable portfolio standards (RPS) as required by the Washington State’s EIA. Based on a recent average generation (2016-2020), the District receives approximately 2.5 aMW of energy annually from the Nine Canyon Wind Project.

## White Creek Wind Project

In 2008, the District began purchasing renewable energy from the 205 MW White Creek Wind Project near Goldendale, WA. The District has signed two long-term purchase agreements for approximately 9.1 MW capacity or 2.8 aMW energy output from the White Creek project. White Creek generation is also eligible in meeting the RPS as required by Washington State’s EIA.

## Community Solar Projects

Lastly, the District developed a Solar Connections program in early 2015 that provides information and support to the District’s retail customers who want to pursue installing their own solar power equipment or those who would like to participate in a community solar project. The program currently includes two community solar projects (Kennewick’s 75 kW capacity and Prosser’s 25 kW capacity) that provides monthly bill credits based to those customers who participated in the projects based on their share of the energy output. Both projects are anticipated to continue operating through 2035.

## Targets

In accordance with WAC 194-40-200(3c), the District’s renewable energy target for the four-year interim period 2022-2025 is 6,849,832 MWh. **Table 6** below illustrates the components of the calculated target for the four-year period. Hydro resources reflect median water conditions and wind resources reflect annual average generation from each facility based on 2016-2020 actual generation. The leap year is also factored into the calculation which increases the generation for 2024. **Table 7** below sets the target for the four-year interim period.

**Table 6: Renewable Energy Resource Summary**

Resource (MWh)	2022	2023	2024	2025	Total
BPA Hydro	1,650,766	1,651,499	1,665,892	1,646,806	<b>6,614,963</b>
Packwood Hydro	12,264	12,264	12,298	12,264	<b>49,090</b>
Nine Canyon Wind	21,900	21,900	21,960	21,900	<b>87,660</b>
White Creek Wind	24,528	24,528	24,595	24,528	<b>98,179</b>
<b>Total</b>	<b>1,709,458</b>	<b>1,710,191</b>	<b>1,724,745</b>	<b>1,705,498</b>	<b>6,849,892</b>

**Table 7: Renewable Energy 2022-2025 Target**

<b>Resource</b>	<b>Target (MWh)</b>
Total Renewable Generation	<b>6,849,892 MWh</b>

## Benefits

Based on the renewable energy target set above, the District's residents will continue to see the benefits from large amounts of clean, renewable and non-emitting resources. Given these contracts and associated resources continue through the interim period, the energy provided by these renewable, non-emitting resources provide both energy and environmental benefits to customers.



# Equitable Transition

## Overview

The Clean Energy Transformation Act (CETA) brought about a renewed focus that stresses the importance of providing clean energy and benefits to all customers as Washington state pursues a cleaner energy future. As discussed in previous sections the District is already making substantial progress towards both 2030 and 2045 requirements under the law. The District's historical approach has focused on providing clean, reliable, low-cost electricity to all District ratepayers and additional aid for those meeting eligibility requirements. The importance of refining our existing programs will assist us in meeting the requirements of CETA, providing continued energy and non-energy benefits for all District communities in the future.

## Public Involvement and Opportunity

RCW 19.405.040(8) specifically calls out the importance for utilities to evaluate and ensure that all customers are benefitting from the transition to clean energy. This strikes an importance of hearing and receiving input from different communities and populations within the District's service territory to ensure multiple voices and opinions are heard and considered when making future decisions. CETA provides a different lens by which both Investor-Owned Utilities (IOUs) and Consumer-Owned Utilities (COUs) should obtain diverse perspectives from customers in their service territories to meet more than just the energy needs of their customers.

The District is overseen by a three-member Commission elected by the citizens of Benton County. As a representative for the local public, each commissioner not only considers the interests of the customers but acts as a delegate for the District in various business organizations and groups within the community. District staff maintains a transparent relationship with the Commission and customers and takes into consideration the customers' interests when providing recommendations to the Commission for approving actions.

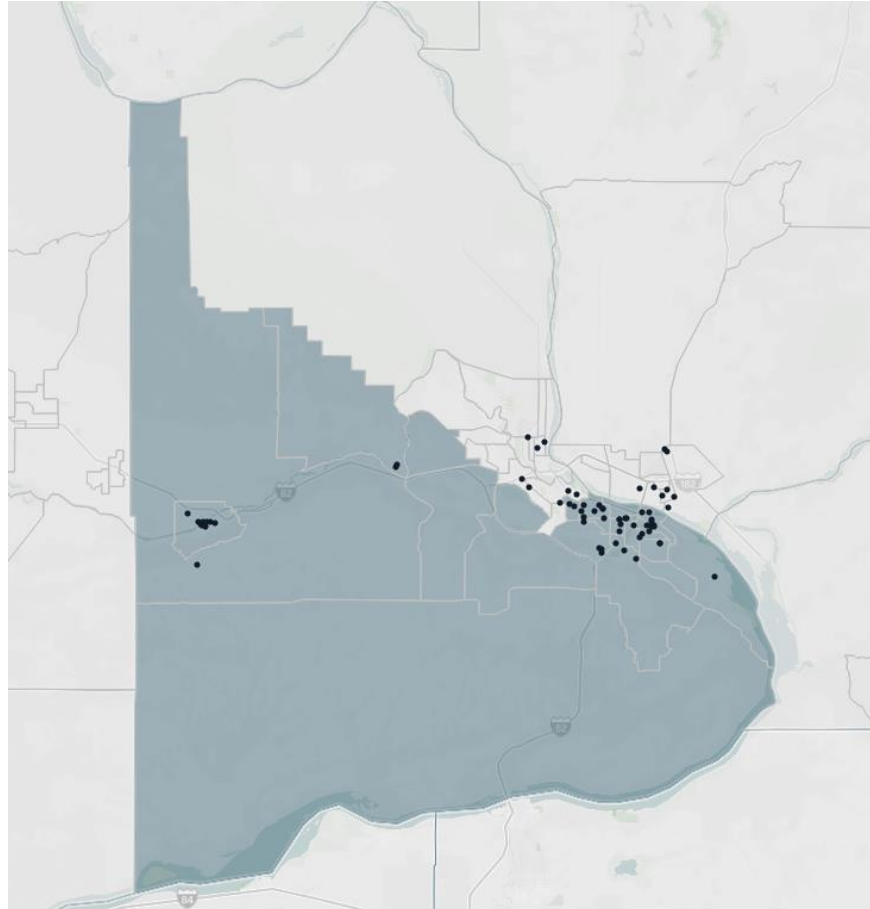
CETA recognizes that there are additional voices in the community from individuals and organizations on the front lines providing access or information related to income-assistance, food and shelter, healthcare, and other social services. As a part of the public process, the District included multiple opportunities for individuals and businesses to address concerns, provide comments, or supply feedback to the District with regards to the District's CEIP and the CETA requirements. **Figure 12** below shows the timeline where stakeholders were provided regularly scheduled opportunities for engagement, including two public meetings highlighting different components and requirements of the CEIP. Moreover, a longstanding public comment period was open from the initial public meeting in July through late October to provide sufficient time for questions and review. The District

utilized these two public meetings to request feedback on indicators and recommended targets required in the CEIP.



*Figure 12: Public Process Timeline*

As a part of the public process development, the District assessed the importance of soliciting feedback from targeted organizations in the community. The District's cross-functional team including staff from customer service, communications, and power management workgroups identified 74 different organizations/businesses within its community that provide some of amount social services or direct assistance to local residents. These organizations received two formal invitations to participate in the District's two public meetings in July and August. **Figure 13** below is a map of these targeted organizations paired with the shaded census tract areas currently served by the District. It should be noted that the District does not serve all of Benton County alone, but rather it is split between three COU's: the District, City of Richland, and Benton REA. These targeted organizations likely do not differentiate across utility boundaries due to social dynamics in the greater Tri-City area. There are also organizations that support residents throughout the Tri-cities region but are not located within the District's service territory; therefore, as the District developed its list, even businesses and organizations that might be located outside the District's census tracts were invited to participate in the District's public process.



*Figure 13: Benton PUD Census Tracts & Community Organizations*

As stated in WAC 194-40-220, utilities must provide reasonable opportunity for its customers in providing input in the development of the CEIP and consider barriers of public participation. Since in-person access was limited and large group participation mostly prohibited due to the COVID-19 pandemic, public meetings were conducted using video conferencing technology platforms and other forms of physical and electronic communication. Additionally, the District formulated and utilized strategies to combat several barriers in the hope of encouraging public participation and receiving feedback. **Table 8** below shows the additional restrictions considered and strategies to mitigate those restrictions.

**Table 8: Public Barriers**

Barrier/Restrictions	Strategy/Benefits
Language	<ul style="list-style-type: none"> <li>• Invitation/marketing materials in two languages</li> <li>• District website is provided in two languages</li> </ul>
Technological	<ul style="list-style-type: none"> <li>• Provide physical meeting materials (upon request) for those without technology</li> <li>• Presentation materials are posted to the website for public review and comment</li> <li>• Invitation materials provided in multiple forms --- bill-insert, District website, local newspapers, radio stations, and social media postings</li> <li>• Comment form available on District website for entire duration of comment period</li> <li>• Leverage technology software due to COVID-19 state mandates</li> </ul>
Timing	<ul style="list-style-type: none"> <li>• Meeting times were scheduled during work week</li> <li>• Notice of each meeting was provided over four weeks in advance</li> <li>• Public comment period was open for over four months</li> </ul>
Economic	<ul style="list-style-type: none"> <li>• No travel costs required, meetings held online and over-the-phone</li> </ul>

## Highly Impacted Communities and Vulnerable Populations

As the District continues planning for meeting the CETA requirements, it is important to consider the communities most impacted by climate change and socioeconomic conditions when it comes to resource selection and associated benefits. CETA legislation defines two specific populations<sup>9</sup> in statute that need to be identified to ensure both energy and non-energy benefits go to all customers, especially those that need it most:

- **Highly Impacted Community** *"means a community designated by the Washington Department of Health based on cumulative impact analyses in section 24 of the act or a community located in census tracts that are fully or partially on "Indian country" as defined in 18 U.S.C. Sec. 1151.12."*
- **Vulnerable Populations** *"means communities that experience a disproportionate cumulative risk from environmental burdens due to:*
  - *Adverse socioeconomic factors, including unemployment, high housing and transportation costs relative to income, access to food and health care, and linguistic isolation; and*

<sup>9</sup> <https://app.leg.wa.gov/RCW/default.aspx?cite=19.405.020>

- *Sensitivity factors, such as low birth weight and higher rates of hospitalization”*

The District has historically used *U.S. Census Bureau American Community Survey (ACS)* data and information to inform its existing customer service assistance programs about the current conditions and demographics of Benton County. In 2018, the District’s customer service workgroup found data in the 2016 American Community Survey showing a significant portion of the population in Benton County is comprised of seniors, military veterans, low income, and individuals with a disability. **Table 9** below shows the populations of each of those groups and their percentage share of the total population.

**Table 9: 2016 American Community Survey (ACS) Benton County Demographics**

<b>Group</b>	<b>Population</b>	<b>Percentage Share</b>
Seniors (age 65 or older)	24,776	13.2%
Individuals with Disability	24,375	13.0%
Veterans	13,088	7.0%
Low Income (125% of FPL <sup>10</sup> )	32,720	17.4%
Total Population	187,519	100.0%

The District has historically focused on groups defined as Vulnerable Populations when developing its assistance programs and believes that many of these groups may experience some portion of these risks on a more consistent basis than the rest of the population. These groups currently offered assistance by the District are also aligned with an analysis performed by Washington State’s Department of Health later in this document that looks at risks for different communities.

After identifying these Vulnerable Populations (VPs), the District further evaluated each invited organization from the public process and whether they may serve one or more of the groups listed above. For any organization to serve a particular group, they need to meet one of the criteria shown in **Table 10** below. An organization or business can be identified as serving multiple groups if it meets one or more of the criteria.

<sup>10</sup> FPL – Federal Poverty Level

**Table 10: District Vulnerable Populations**

Vulnerable Populations/Group	Description/Criteria
Low-Income	<ul style="list-style-type: none"> <li>• Assists with income verification with District programs</li> <li>• Provides income-based programs</li> </ul>
Language/Linguistic	<ul style="list-style-type: none"> <li>• Provides language resources or assistance programs</li> <li>• Offers family or social assistance</li> </ul>
Seniors (62+)	<ul style="list-style-type: none"> <li>• Aids senior age communities</li> <li>• Offers programs for senior age communities</li> </ul>
Health Disabilities/Disabled	<ul style="list-style-type: none"> <li>• Assists with disability verification with District programs</li> <li>• Offers family or social assistance</li> </ul>
Veterans/Active Military	<ul style="list-style-type: none"> <li>• Assists with veteran or active military verification with District programs</li> </ul>

Hearing and receiving input from these organizations for future CEIPs is important to create opportunities and a voice for VPs in the local community.

Additionally, as provided by direction in the statute, RCW 19.405.140 states that the Washington State Department of Health (WA-DOH) will develop and provide a Cumulative Impact Analysis (CIA) to designate communities highly impacted by fossil fuel pollution and climate change. The purpose and goal of this analysis is to understand who, where, and what communities are currently experiencing a “...disproportionate share of environmental risk factors and that must, according to CETA, benefit equitably from the transition to a clean energy economy.”<sup>11</sup>

The WA-DOH opted to use what is called the Environmental Health Disparities (EHD) map to provide a visual showing the findings from their cumulative impact analysis. The map ranks the risks various communities face from environmental burdens and other vulnerabilities by census tract and is currently being used in other state processes to help guide and inform environmental decisions. In **Figure 14** below, the EHD map compiles both threats and vulnerability data as inputs to an equation for risk. The District’s assessment is that these combinations of threats and vulnerabilities mean that certain communities have greater risk within the different census tracts across the state.

<sup>11</sup><https://www.doh.wa.gov/DataandStatisticalReports/WashingtonTrackingNetworkWTN/ClimateProjections/CleanEnergyTransformationAct>

# Threat x Vulnerability = Risk

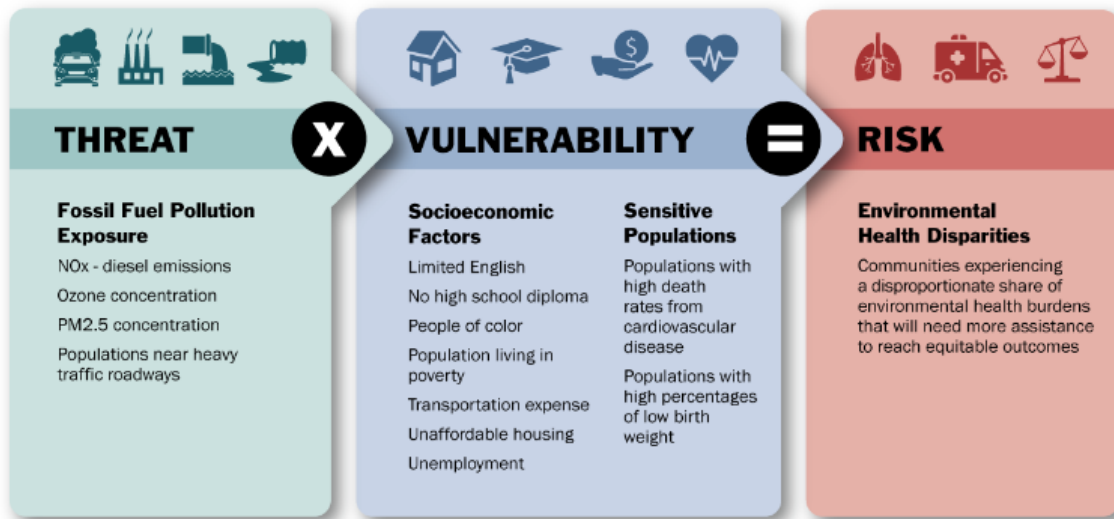


Figure 14: EHD Conceptual Formula

District staff reviewed the analysis and concluded there are several census tract areas within Benton County that are directly affected by these combinations of risk and can be identified as a Highly Impacted Community (HIC). It is important to recognize through the EHD analysis that the District’s service territory does not encompass all of Benton County for planning of the public process. Since Benton County is served by multiple utilities it was important to focus on only the distinct census tracts within our service territory and those areas the District may serve a majority of the residents. **Figure 15** on the left below shows a map of Benton County and **Figure 16** to the right shows the same map with the District’s service territory included. As shown, the District’s territory spans across the county, but only a serves a fraction of the total land area.

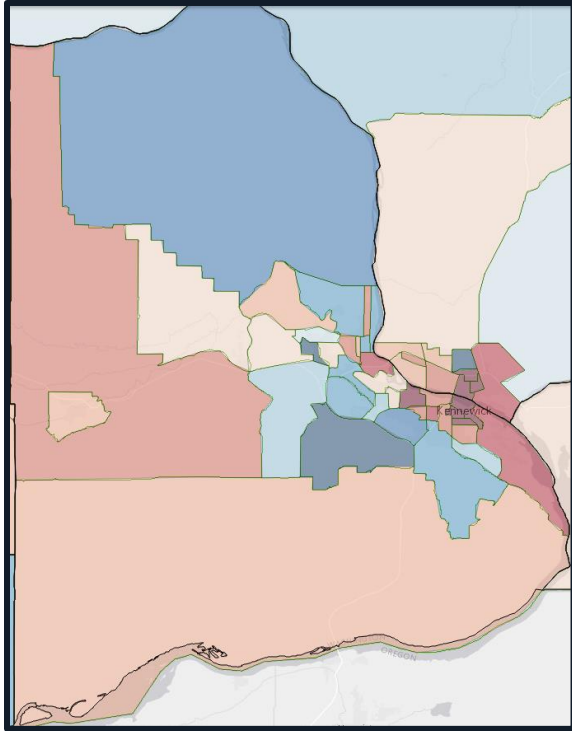


Figure 15: Benton County

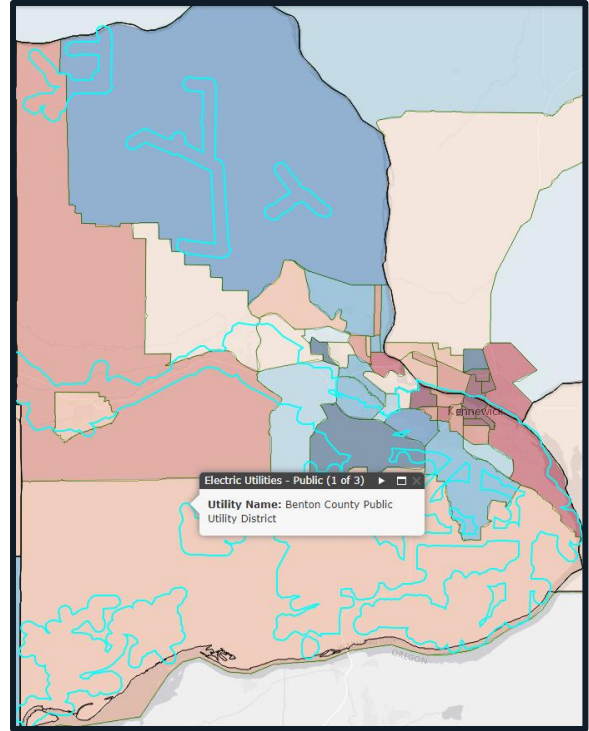


Figure 16: Benton PUD Service Territory

The EHD map also provides a color-coded scale that highlights census tract areas impacted most and least by different threats and vulnerabilities. Those census tract areas identified in red are areas most impacted and those in blue are areas least impacted. Rankings help compare health and social factors that may contribute to disparities within a community or between communities. These rankings should not be taken to be an absolute value but rather as a measure of relative risk factors in comparison to other census tract areas around the state. As shown in **Figure 17** below, if a community has a rank of 9 for an indicator, for example, it means there are about 10 percent of other communities in the state with the same rank, 10 percent of communities have a higher percentage, and 80 percent of communities have a lower percentage within their census tract area.<sup>12</sup>



Figure 17: EHD Map Scale

<sup>12</sup> [https://deohs.washington.edu/sites/default/files/images/Washington\\_Environmental\\_Health\\_Disparities\\_Map.pdf](https://deohs.washington.edu/sites/default/files/images/Washington_Environmental_Health_Disparities_Map.pdf)



Furthermore, WA-DOH designates that a HIC should be identified as any census tract with a 9 or 10 overall rank or any census tract with tribal lands on the EHD map. The District identified that within its county and service territory there are a total of 6 census tracts that have an overall rank 9 or 10. **Figure 18** below shows a list of each of the census tract numbers as well as a list of significant threats and vulnerabilities those tract areas currently face.



*Figure 18: Census Tracts and Health Disparities*

Evaluation of these census tracts and their associated impacts led the District to arrive at a couple of conclusions. First, the District has a clean portfolio of generation resources with no local carbon-emitting resources directly impacting the community. All identified “local resources” within the county come from BPA (hydro, nuclear) or wind projects (Nine Canyon) and do not add additional emissions to the local environment. Second, the District has limited ability to directly affect heavy ozone areas, particulate-matter, or proximity to Risk Management Facilities (RMFs) within the county. The District has little impact on busy highways with heavy trucking and businesses that carry or use toxic, flammable, or explosive materials and are unlikely to stop operations or get organizations to move to a new location. Most important, many of the impacts listed relate to poorer economic outcomes due to education or employment statuses or unaffordable housing. The District presently offers customer assistance programs and believes they can be enhanced to reduce the energy burden of low-income residents. The District suggested Energy Burden as an equity area during its first public meeting in July and requested feedback from the public on the related indicators. The District plans on focusing its efforts on reducing the Energy Burden in its local community.

### Indicators

**Table 11** below shows the two indicators developed from the public process and through District staff and Commission discussions.

**Table 11: Customer Benefit Indicators**

Equity Area	Indicator(s)	Category
Energy Burden	Total # of Energy Burdened customers assisted	Reduction of Burdens
Energy Burden	Total \$ spent towards Energy Burdened customers	Reduction of Burdens

## Benefits

It is expected that enhancement of existing assistance programs as well as dedicated conservation programs will reduce the burden and energy costs for energy burdened customers.

## Specific Actions and Expected Outcomes

To meet the requirements of WAC 194-40-200(4), the District has identified several actions that reduce risk and provide benefits to the District's ratepayers over the four-year interim period. The implementation of these actions is consistent with the requirements of WAC 194-40-200(6 and 7) and are shown in **Table 12** below.

**Table 12: CEIP Actions/Benefit Areas**

Actions	Benefit Area(s) Category
1. Maintain existing renewable and non-emitting contracts	Energy Security
2. Execute energy efficiency programs	Reduction in Cost
3. Purchase new REC contracts to replace existing contracts set to expire 2024	Energy Security
4. Properly evaluate and consider DR programs in the District's 2022 IRP	Resiliency
5. Monitor and consider RA metrics evolving from Western Resource Adequacy Program	Energy Security
6. Maintain low-cost, reliable energy for customers	Energy Benefit
7. Enhance customer assistance and energy efficiency programs focused on energy burdened customers	Reduction of Burdens

The summaries below provide a qualitative review of the benefits expected to come from these actions. The District expresses that these are "anticipated" outcomes and actual outcomes may differ in future results.

Energy Security: The District is currently in a good position with regards to its current renewable and non-emitting contracts. Maintaining these contracts, especially the BPA contract, will be essential during the current interim and future compliance periods as the BPA contract provides most of the clean power serving the District. In addition, as new developments and metrics from the Western Resource Adequacy Program become available, the District can consider options for measuring and assessing the resource adequacy of its power supply portfolio. These additional benefits should provide energy security to all the District's customers.

Reduction in Cost: The District recognizes many customers who participate in energy efficiency programs will have cost reductions due to less energy use over time. Additionally, these incremental efforts reduce overall load growth and delay need for new generating resources or reduce the need to buy from the wholesale power market. Individual customers, especially VPs and HICs, will see additional non-energy benefits from participation in these programs. Added comfort and potentially higher home values are just some of the non-energy benefits.

Resiliency: The District believes demand response programs could assist with more than a reduction in peak demand. DR may offer reduced equipment stress on the local distribution system, prevent equipment from nearing capacity, and provide overall system reliability. These benefits would continue to be seen by all District customers.

Reduction of Burdens: RCW 19.405.120 calls on the importance of making energy assistance available to low-income households under CETA. Reducing the energy burden of VPs and HICs members will be improve as the District enhances its existing programs and adds additional opportunities focused on these communities. Overall costs can be mitigated over the long-term if more reductions come from energy efficiency programs and will be a direct benefit to VPs and HICs specifically, with additional benefits for all customers.

# Resource Adequacy

## Overview

Resource Adequacy can be defined as ensuring there will be sufficient resources available to meet customers' electricity needs. Currently in Washington State, for utilities located within Bonneville's Balancing Authority Area (BAA), there are no requirements to demonstrate resource adequacy (RA) on a forecasted basis. The only current requirement is for utilities to enter the operational hour of delivery with scheduled resources sufficient to meet forecasted load. Regional RA discussions have become increasingly urgent due to the increased development of intermittent renewable energy resources (primarily wind and solar) and the diminishing supply of dispatchable resources due to regulatory policies requiring coal plant retirements and limiting natural gas generation. This has created significant uncertainty on the amount of firm capacity that will be available to the region in the future.

Under CETA, utilities are directed to show progress toward meeting both the 2030 and 2045 compliance standards, but CETA acknowledges that as utilities transition or add intermittent renewable energy resources, they need to consider the impacts on resource adequacy and the reliable operation and balancing of the electric system. WAC 194-40-200 requires, *"The CEIP must identify the resource adequacy standard and measurement metrics adopted by the utility under WAC 194-40-210 and used in establishing the targets in its CEIP."*

Furthermore, WAC 194-40-210 requires, *"The resource adequacy standard must be consistent with prudent utility practice and relevant regulatory requirements and must include reasonable and nondiscriminatory:*

- a. Measures of adequacy, such as peak load standards and loss of load probability or loss of load expectation;*
- b. Methods of measurement, such as probabilistic assessments of resource adequacy; and*
- c. Measures of resource contribution to resource adequacy, such as effective load carrying capability applicable to all resources available to the utility including, but not limited to, renewable, storage, hybrid, and demand response resources."*

The District conducts an analysis in each Integrated Resource Plan (IRP) that compares and evaluates monthly and seasonal net positions (resources minus load). A summary of the District's load and resource analysis from the 2020 IRP is shown below.

## District's Approach to Peak Load Determination

1. Used a statistical method to examine winter (December-February) and summer (July-August) actual single-hour daily peak loads and aHLH from Dec 2011 through Feb 2020 and determined the load associated with a given percentile.
2. Establish this value as the expected summer and winter hourly and aHLH peak planning load for the 1<sup>st</sup> year of the IRP (2021).
3. Use the annual growth rate to increase load for future years.

As shown below in **Figure 19** using a P99 historical load results in higher peak planning loads than using a P50 (expected) load plus a 12% planning reserve margin (PRM).

Peak Load (aMW)			
	Load 50th	Load 50th * 1.12	Load 99th
Winter Average HLH	195	219	303
Winter Peak	218	244	333
Summer Average HLH	298	334	376
Summer Peak	339	380	423
2030 Peak Load (aMW)			
10 Year AARG	0.17%	0.17%	0.17%
Winter Average HLH	199	222	309
Winter Peak	222	249	339
Summer Average HLH	303	340	382
Summer Peak	345	386	430

*Figure 19: Peak Load Scenarios*

**Figure 19** also displays the District's peak load scenarios for both summer and winter. The 50<sup>th</sup>, 50<sup>th</sup> with a 12 percent PRM, and 99<sup>th</sup> percentiles of load are being utilized. The 2030 load values were derived by escalating the 2020 values by 0.17 percent per year, which is the District's 10-year annual energy growth rate from the 2020 load forecast.

Additionally, the District's 2020 IRP analysis also evaluated its peaking energy resources in its current power supply portfolio that would contribute during peak events or heavy load events in the summer and winter seasons. The District has a small amount of intermittent, renewable wind resources in its portfolio, but their generation is likely to have a minimal contribution during heavy load hour or peak load timeframes. **Figure 20** below represents the expected forecasted peaking resources and their generation during both average and peak timeframes. The BPA Slice generation values were determined by *The Energy Authority (TEA)* hydro planning and operations staff who assisted the District in the 2020 IRP analysis.

Expected Resources				
	Slice	Block	Frederickson	Total Resource
Winter Peak 2021	144	108	50	302
Summer Peak 2021	144	154	50	348
Winter HLH Average 2021	123	108	50	281
Summer HLH Average 2021	123	154	50	327
	Slice	Block	Call Option	Total Resource
Winter Peak 2025	144	108	25	277
Summer Peak 2025	144	154	75	373
Winter HLH Average 2025	123	108	25	256
Summer HLH Average 2025	123	154	75	352

**Figure 20: Forecasted Peaking Resources**

The District then evaluates its forecasted peak net position by comparing historical P99 aHLH load to the current peaking resources for the winter and summer seasons.

### Evolution of Resource Adequacy

In response to regional resource adequacy concerns mentioned at the beginning of this section, the Northwest Power Pool (NWPP) has formed a collective of utilities and balancing authorities working towards creating a voluntary resource adequacy program. As show in **Figure 21** below, this program is still under development with the final design and a fully operational program unlikely until 2024. The District has yet to make a confirmed decision on its engagement in either the non-binding or binding phases of the program. The District plans to consider metrics stemming from the NWPP's Western Resource Adequacy Program in future development of its IRPs, CEIPs, and other planning documents.



**Figure 21: NWPP RA Development Timeline**

## Resource Adequacy Standard

Per WAC 194-40-210, each utility must identify by January 1, 2022, the resource adequacy standard and measurement metrics adopted by the utility and used in establishing the targets in its CEIP. **Table 13** below shows the resource adequacy standard adopted by the District.

**Table 13: Resource Adequacy Standard and Metrics**

WAC 194-40-210 Requirement	
Resource Adequacy Standard <sup>13</sup>	Evaluation of net position—resources minus load—and consideration of the risk of relying on market purchases, as informed by monitoring the NWPCC’s Resource Adequacy Assessment (5% Loss of Load Probability metric). <sup>14</sup>
Measurements and Metrics	<p>Deterministic evaluation of net position for summer and winter monthly peaks and on an annual basis over a 10-year planning horizon for each season, based on the season’s peak month, considering existing and future resources.<sup>15</sup></p> <p>Load metric is the peak month’s 99<sup>th</sup> percentile of historical maximum daily average heavy load hour demand adjusted for the load forecast growth rate.</p> <p>Resource capacity is estimated based on contract amounts, excluding wind resources, and estimates of the District’s share of BPA’s hydro generation capacity during peak events.</p>

<sup>13</sup> The resource adequacy standard and measurement metrics are as documented within Chapter 7 of the District’s 2020 IRP.

<sup>14</sup> Refer to the 2020 IRP, Chapter 7, Pages 67-75 for details on market risk.

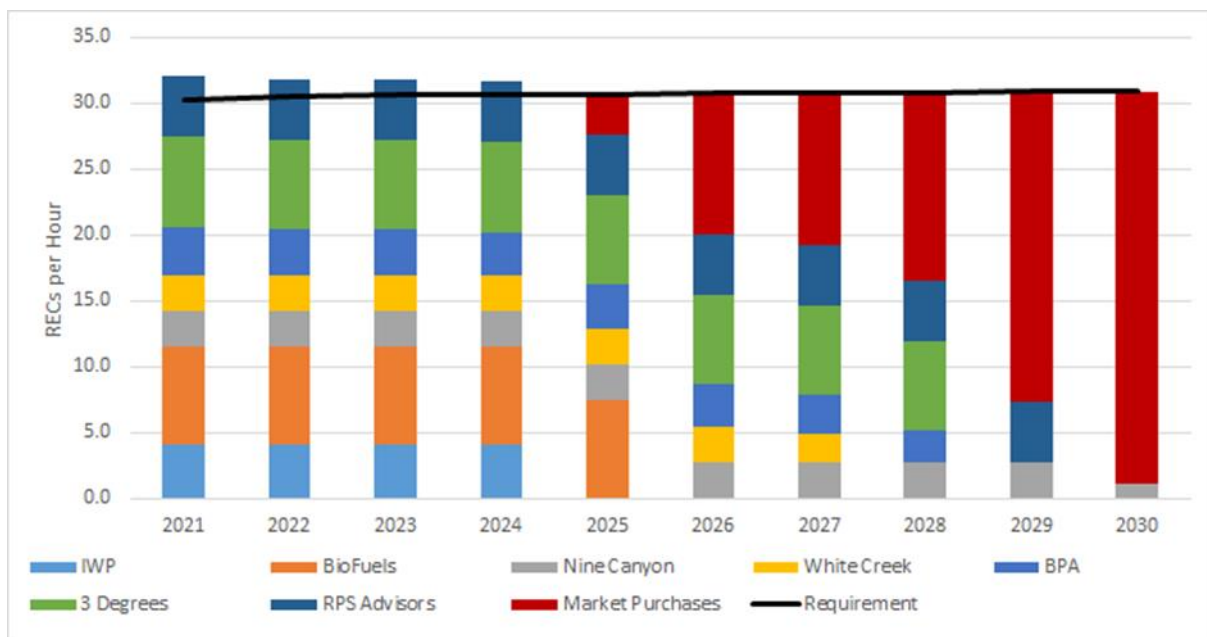
<sup>15</sup> Refer to the 2020 IRP, Chapter 7, Pages 50-63 for details on net position measurement metrics.

# Alternative Compliance Options

## Renewable Energy Credits

As electric utilities continue to pursue a future portfolio that complies with the requirements of CETA, the District may utilize allowed alternate forms of compliance in the earlier compliance periods (2030-2044) to meet the requirements of the law. Renewable Energy Credits (REC) are one of the alternative options that may satisfy up to 20% of a utility's obligation, designating that 80% must be met by the use of renewable or non-emitting resources. While this does not change the District's required compliance of the 2030 or 2045 standards, RECs provide the District flexibility for compliance.

Along with fulfilling its obligations of the Renewable Portfolio Standard (RPS) requirements under EIA, the District will continue utilizing RECs from both its current contracted power and potential future purchases to fulfill its compliance requirements under CETA. The District in its most recent IRP identified its current and future REC position through 2030 compared to its RPS requirement as shown in **Figure 22** below.



**Figure 22: Annual RPS Net Position from 2021-2030**

The District has sufficient RECs to meet the RPS requirements through 2024. As these REC/Renewable contracts begin to expire, starting in 2025, the District will continue to look for opportunities for additional contracts to fulfill both EIA and CETA requirements. With current and future REC contracts, the District is better positioned to account for variability in wind, solar, and hydro supply resources in meeting its regulatory requirements. It is not expected that utilities need to retire RECs for CETA until the first four-year compliance period (2030-2033).



# Appendix

## CEIP – Target and Requirements Matrix

WAC Rule	Requirement	Status/Target/Section
194-40-200 (1)	<b>Specific actions.</b> Each utility must identify in each CEIP the specific actions the utility will take during the next interim performance period or GHG neutral compliance period to demonstrate progress toward meeting the standards under RCW 19.405.040(1) and 19.405.050(1) and the interim targets proposed under subsections (2) and (3) of this section. Specific actions must be consistent with the requirements of RCW 19.405.060 (2)(a)(iv).	<p><b>Section</b> Interim and Specific Targets</p> <p><b>Status</b> Currently project to be over 100% of retail load for procured renewables and non-emitting resources through 2032.</p> <p>2033 to 2044: utilize RECs for alternative compliance and/or procure additional resources to meet projected shortfall.</p> <p>2045: procure additional renewable or non-emitting resources to serve load.</p>
194-40-200 (2)	<b>Interim target.</b> The CEIP must establish an interim target for the percentage of retail load to be served using renewable and non-emitting resources during the period covered by the CEIP. The interim target must demonstrate progress toward meeting the standards under RCW 19.405.040(1) and 19.405.050(1), if the utility is not already meeting the relevant standard.	<p><b>Section</b> Interim and Specific Targets</p> <p><b>Status</b> Maintains 100% procured renewables and non-emitting serving retail load in the interim period under average water conditions.</p>
194-40-200 (3a)	<b>Specific targets.</b> The CEIP must establish specific targets, for the interim performance period or GHG neutral compliance period covered by the CEIP, for each of the following categories of resources: <b>(a) Energy efficiency</b> (i) The CEIP must establish a target for the amount, expressed in megawatt-hours of first-year savings, of energy efficiency resources expected to be acquired during the period	<p><b>Section</b> Energy Efficiency</p> <p><b>Target</b> Utilize <b>31,448 MWh</b> target in the interim period.</p>
194-40-200 (3b)	<b>Specific targets.</b> The CEIP must establish specific targets, for the interim performance period or GHG neutral compliance period covered by the CEIP, for each of the following categories of resources: <b>(b) Demand response resources</b> The CEIP must specify a target for the amount, expressed in megawatts, of demand response resources to be acquired during the period.	<p><b>Section</b> Demand Response</p> <p><b>Target</b> Utilize <b>0 MW</b> target in the interim period.</p>

<p><b>194-40-200 (3c)</b></p>	<p><b>Specific targets.</b> The CEIP must establish specific targets, for the interim performance period or GHG neutral compliance period covered by the CEIP, for each of the following categories of resources: <b>(c) Renewable energy</b> The utility's target for renewable energy must identify the quantity in megawatt-hours of renewable electricity to be used in the period.</p>	<p><b>Section</b> Renewable Energy</p> <p><b>Target</b> Utilize <b>6,849,892 MWh</b> target in the interim period.</p>
<p><b>194-40-200 (4a)</b></p>	<p><b>(a) Identify each highly impacted community,</b> as defined in RCW 19.405.020(23), and its designation as either: (i) A community designated by the department of health based on cumulative impact analyses; or (ii) A community located in census tracts that are at least partially on Indian country.</p>	<p><b>Section</b> Equitable Transition</p> <p><b>HICs</b> <b>Census Tracts</b></p> <ul style="list-style-type: none"> <li>• 53005010901</li> <li>• 53005011300</li> <li>• 53005011401</li> <li>• 53005011501</li> <li>• 53005011200</li> <li>• 53005011002</li> </ul> <p><b>Partially Indian Country</b> Not applicable</p>
<p><b>194-40-200 (4b)</b></p>	<p><b>(b) Identify vulnerable populations</b> based on the adverse socioeconomic factors and sensitivity factors developed through a public process established by the utility and describe and explain any changes from the utility's previous CEIP, if any;</p>	<p><b>Section</b> Equitable Transition</p> <p><b>VPs</b></p> <ul style="list-style-type: none"> <li>• Low-Income</li> <li>• Limited English Speaking</li> <li>• Disabled</li> <li>• Seniors</li> <li>• Veterans/Active Military</li> </ul>
<p><b>194-40-200 (4c)</b></p>	<p><b>(c) Report the forecasted distribution of energy and nonenergy costs and benefits</b> for the utility's portfolio of specific actions, including impacts resulting from achievement of the specific targets established under subsection (3) of this section. The report must: (i) Include one or more indicators applicable to the utility's service area and associated with energy benefits, nonenergy benefits, reduction of burdens, public health, environment, reduction in cost, energy security, or resiliency developed through a public process as part of the utility's long-term planning, for the provisions in RCW 19.405.040(8); (ii) Identify the expected effect of specific actions on highly impacted communities and vulnerable populations and the general location, if applicable, timing, and estimated cost of each specific action. If applicable, identify whether any resource will be located in highly impacted communities or will be governed by, serve, or</p>	<p><b>Section</b> Equitable Transition</p> <p><b>Indicators</b></p> <ul style="list-style-type: none"> <li>• Total # of Energy Burdened customers assisted</li> <li>• Total \$ spent towards Energy Burdened customers</li> </ul>

	otherwise benefit highly impacted communities or vulnerable populations in part or in whole; and (iii) Describe how the specific actions in the CEIP are consistent with, and informed by, the utility's longer-term strategies based on the analysis in RCW 19.280.030 (1)(k) and clean energy action plan in RCW 19.280.030 (1)(l) from its most recent integrated resource plan, if applicable.	
<b>194-40-200 (4d)</b>	(d) Describe how the utility intends to reduce risks to highly impacted communities and vulnerable populations associated with the transition to clean energy.	<b>Section</b> Equitable Transition
<b>194-40-200 (5)</b>	<b>Use of alternative compliance options.</b> The CEIP must identify any planned use during the period of alternative compliance options, as provided for in RCW 19.405.040 (1)(b).	<b>Section</b> Alternative Compliance Options
<b>194-40-200 (6)</b>	The CEIP must be consistent with the most recent <b>integrated resource plan</b> or resource plan, as applicable, prepared by the utility under RCW 19.280.030.	<b>Section</b> Demand Response Renewable Energy Resource Adequacy Alternative Compliance Options
<b>194-40-200 (7)</b>	The CEIP must be consistent with the utility's <b>clean energy action plan</b> developed under RCW 19.280.030(1) or other ten-year plan developed under RCW 19.280.030(5)	<b>Section</b> Equitable Transition Resource Adequacy
<b>194-40-200 (8)</b>	The CEIP must <b>identify the resource adequacy standard</b> and measurement metrics adopted by the utility under WAC 194-40-210 and used in establishing the targets in its CEIP	<b>Section</b> Resource Adequacy  See <b>Table 13: Resource Adequacy Standard and Metrics</b>
<b>194-40-200 (9)</b>	If the utility intends to comply using the two percent incremental cost approach specified in WAC 194-40-230, the CEIP must include the information required in WAC 194-40-230(3) and, if applicable, the demonstration required in WAC 194-40-350(2).	<b>Not Applicable</b>
<b>194-40-200 (10)</b>	Any utility that is not subject to RCW 19.280.030(1) may meet the requirements of this section through a simplified reporting form provided by commerce	<b>Not Applicable</b>