

WA Resource Planning



- The District is required to submit a "Utility Resource Plan" every two years
- Our URP was submitted in 2024 – <u>this is a</u> <u>voluntary Refresh</u>
- Informs the Clean Energy Implementation Plan concurrently being developed.

High Level Requirements by plan type:

Utility Resource Plan

Load Forecast

Resource Explanation

Plan to meet CETA

Electric Vehicle Analysis

Integrated Resource Plan

Load Forecast

Conservation Potential Assessment

Commercial Technology Assessment

Lowest Reasonable Cost Evaluation

Renewable Integration Assessment

Transmission Assessment

Resource Adequacy Metric Definition

Distributed Energy Resources

Resource Portfolio Integration Study

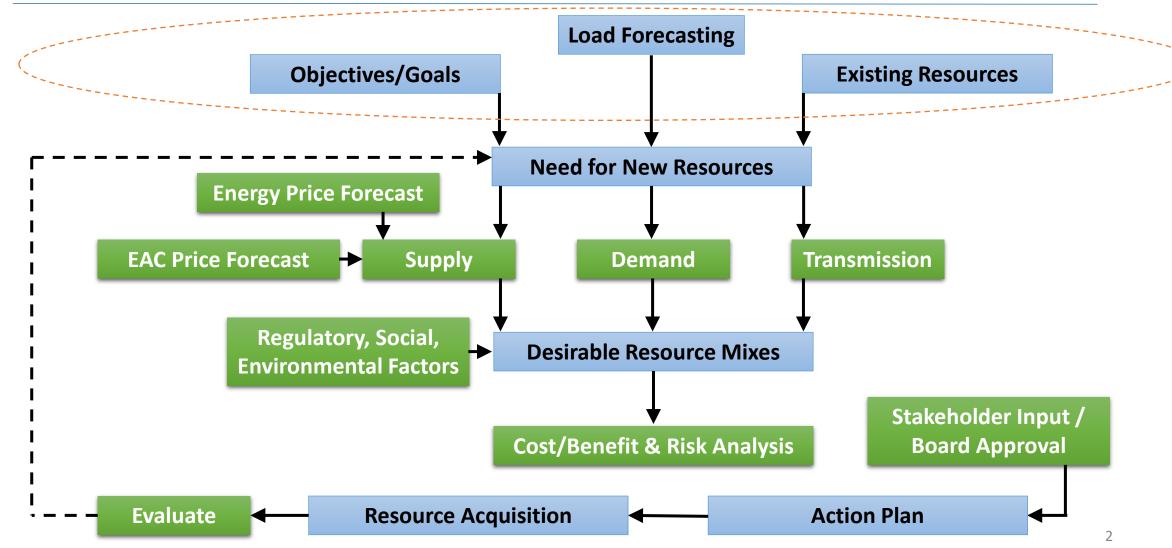
Energy & Nonenergy Benefits Study

Clean Energy Action Plan for CETA

Electric Vehicle Analysis

Process Map





Objectives and Goals



Customer engagement and feedback provide a roadmap for the goals and objective for this process.

Customers indicate support for:

- Hydroelectric power
- Energy Affordability
- Reliability
- Local Energy Independence

Customers did not indicate support for:

- Increased costs resulting from clean energy resources
- Biomass as a potential energy resource technology

Additionally:

 Customers indicated that high energy bills and poorly weatherized homes were a risk for some in the community

Existing Resources



Non-BPA Resources:

- Box Canyon
 - Sold to Shell (through 2025)
 - Sold to Clark (2026 2041)
 - Resource for District load 2041+
- Calispell Powerhouse
- Tailwater Encroachment
 - Ongoing <u>obligation</u> to Albeni Falls
 - Ongoing resource from Boundary
- Boundary
 - Settlement Agreement (through 2029)
 - Reverts to Assignment Agreement (2030 and beyond)

BPA Resources:

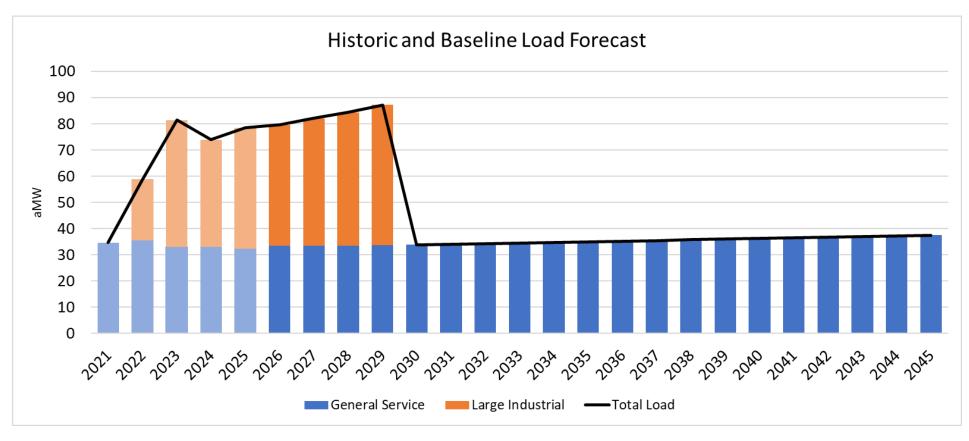
- Regional Dialogue (Power Agreement through September 2028)
- Provider of Choice (October 2028 through September 2044)

Wholesale Trading & Balancing:

- Market-based transactions
 - Term transactions (1–month or longer)
 - Preschedule & Day-ahead (1-day to 1-month)
 - Real-time Transactions
- Balancing Authority and Dynamic
 Services Agreement with Avista

Load Forecasting - Energy

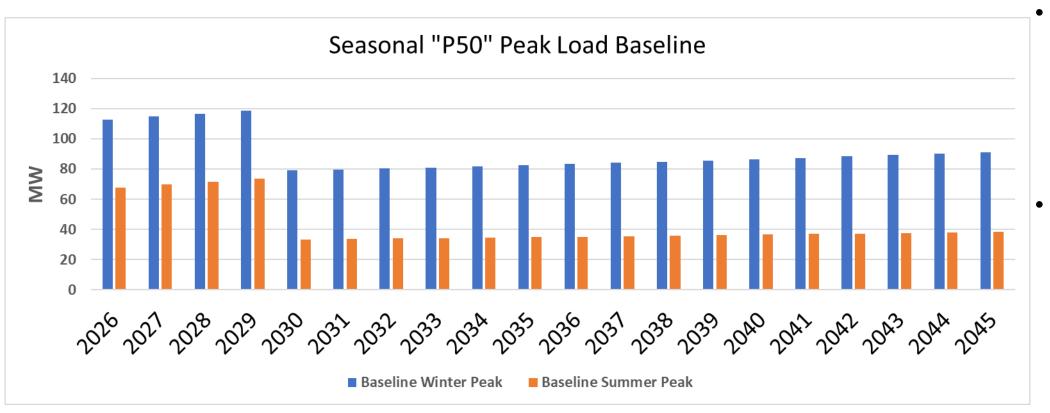




- **Growth Rates:**
- Residential 1%
- Commercial 0.50%
- Industrial expected changes

Load Forecasting – Peak Demand

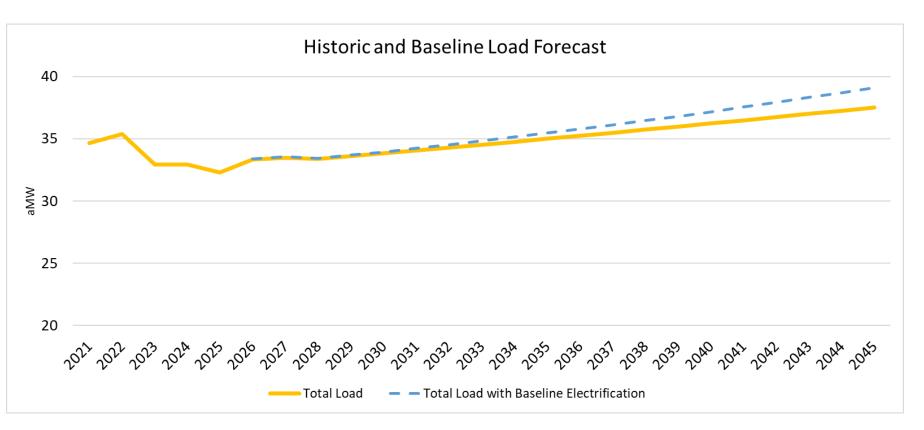




- Forecast follows
 Western Resource
 Adequacy
 Program (WRAP)
 methodology
- Considers
 capacity critical
 hours for both the
 District and
 regionally.

Load Forecasting (with EV Load)





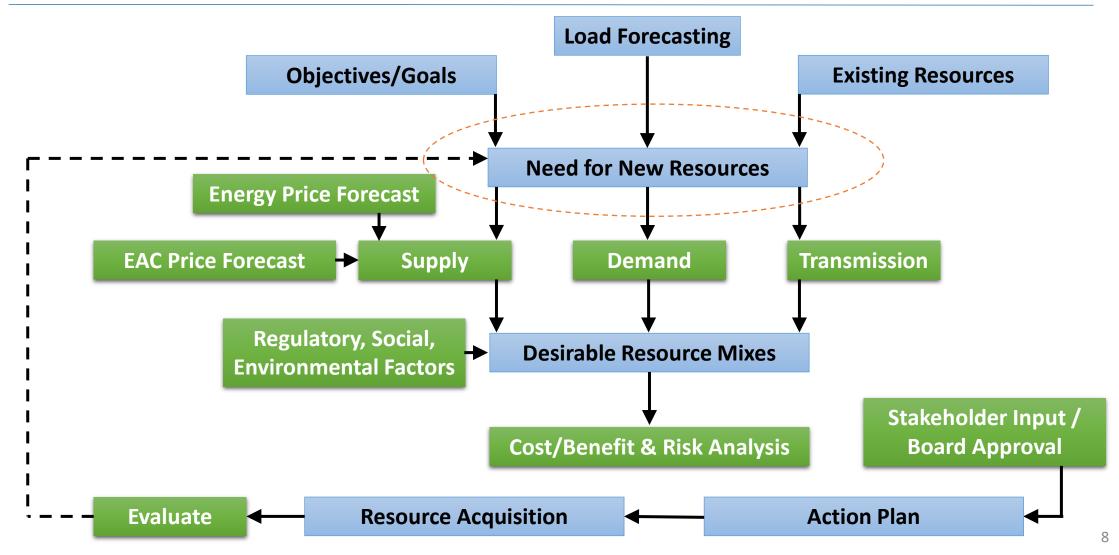
The baseline electrification utilizes an in-house EV forecast methodology.

State forecasts indicate a much higher level of EV load which were used in evaluating risks and costs.

Note: includes only general service load ease of viewing

Process Map





Key Terminology for this plan



Load -> <u>Total</u> electrical power required by the District's customers over a specific timeframe. This is general expressed as average megawatts, or aMW, throughout this section.

Demand (or Peak Demand) -> The <u>maximum</u> power required at any given moment, expressed as megawatts, or MW, throughout this section.

Resource (or Energy Resource) -> A supply of electricity. In this plan, this may be electric generation, power supply purchases/contracts and energy storage.

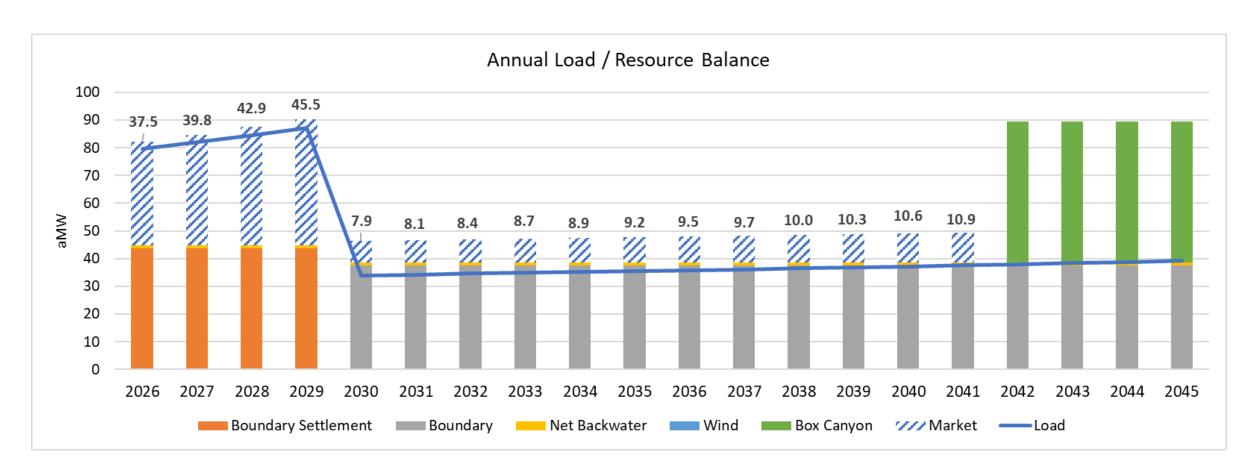
Energy -> The total amount of electricity provided by a **resource** over a period of time. In this plan expressed as average megawatts, or aMW.

Capacity -> The maximum power output a resource can produce at a given moment. In this plan expressed as megawatts, or MW.

The District needs **Energy Resources** sufficient to supply the **energy** needed to meet customer **load**, and having the **capacity** to meet customer **peak demand**.

Current Net Position - Energy





Note: Calispel is included in the data, but hard to view on this chart and therefore removed from the legend.

Resource Adequacy Primer



The District is tasked by the state to determine a Resource Adequacy standard (CETA requirement):

Extremely complex and intensive

The District opted to apply the well-vetted standards laid out in the Western Resource Adequacy Program (WRAP):

- Determines the demand levels to plan to based on P50 peak load calculation
- Determines a resources Qualified Capacity Contribution (QCC) during capacity critical hours.

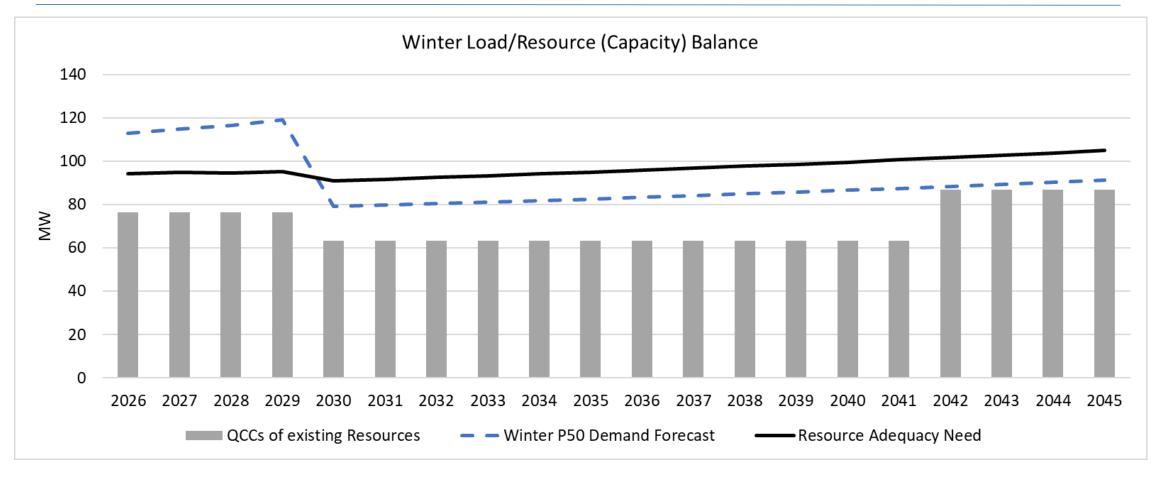
The District is not a direct WRAP participant and has not evaluated participation to-date.

Example QCCs for Various Resources:

	Resource QCC @ 90MW Nameplate								
Month	Box Cayon	Wind	Solar	Energy Storage					
Jan	23.9	7.7	4.6	90.0					
Feb	21.2	12.2	11.8	83.7					
Mar	20.9	18.5	5.6	90.0					
Jun	55.5	13.8	70.7	89.0					
Jul	53.6	14.9	62.2	83.2					
Aug	45.9	13.1	50.8	90.0					
Sep	41.2	11.3	38.7	90.0					
Nov	27.0	13.3	0.5	90.0					
Dec	25.2	8.3	4.2	90.0					

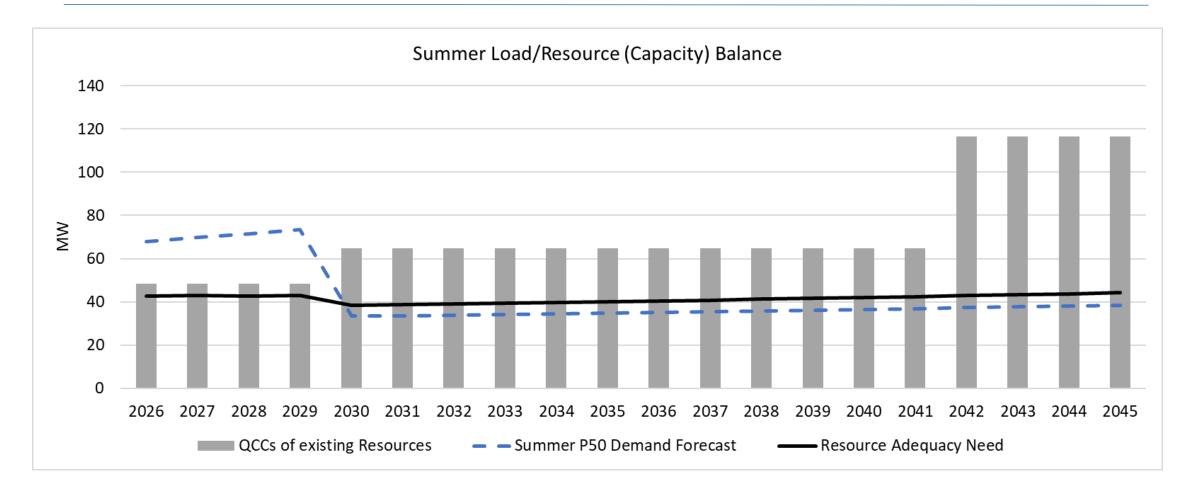
Current Net Position – Winter Capacity





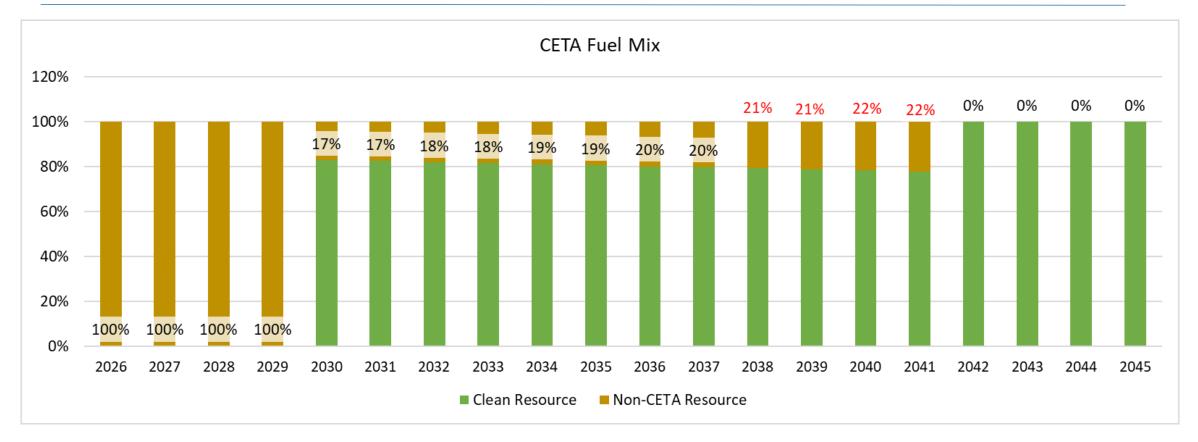
Current Net Position – Summer Capacity





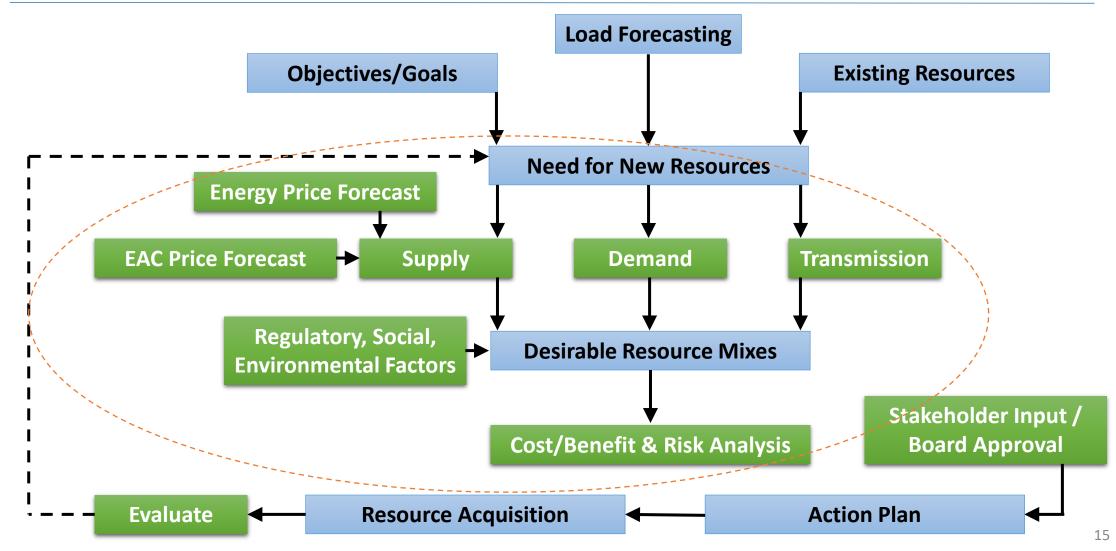
Current Net Position – CETA Compliance





Process Map





Inputs, Prices and Modeling

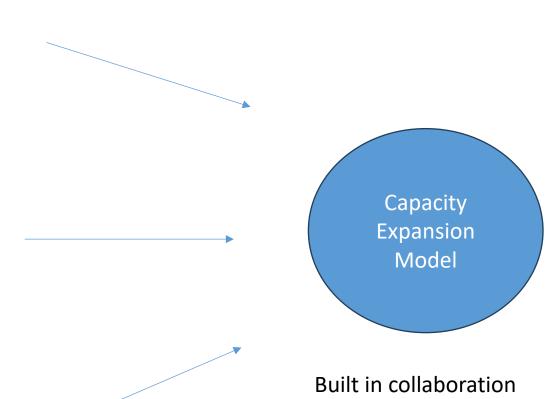


The District worked with an outside consultant, E3, who provided the following inputs:

- Hourly Energy Price Curves
- Environmental Attribute Certificate Price Forecasts
- Carbon Price Forecasts
- Resource technology cost forecasts and generation profiles
- Capacity price forecasts

Additionally

- New resource cost models were sourced from:
 - Lazard's LCOE
 - NREL
 - NWPCC
- Long term PPA and contract structure costs:
 - Market partners



with E3

Regulatory and Industry Conditions



- Clean Energy Transformation Act
- Climate Commitment Act
- WRAP
- Transmission Reform and Constraints
- Structured Markets
 - EDAM
 - Markets+
- Federal Policy
 - DOE/BPA
 - Production Tax Credit (PTC)
 - Investment Tax Credit (ITC)
 - Clean Vehicle Tax Credit
- Resources, including:
 - Wind

Gas CCT

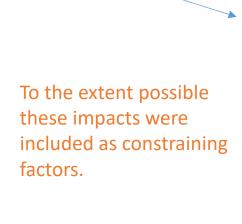
Solar

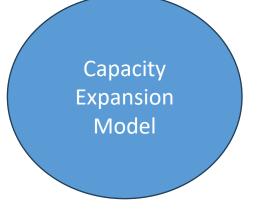
- Storage
- Geothermal
- Market

- Biomass
- Demand Response

Nuclear

Energy Efficiency





Demand Side – Conservation Achievement



	Incremental Achieved Energy Conservation (aMW)								
	2017	2018	2019	2020	2021*	2022	2023	2024	2025*
Residential	0.03	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.12
Commercial	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.11
Industrial	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
Total - Incremental	0.03	0.00	0.01	0.00	0.07	0.00	0.00	0.01	0.25

	Cumulative Achieved Energy Conservation (aMW)								
	2017	2018	2019	2020	2021*	2022	2023	2024	2025*
Residential	0.03	0.04	0.04	0.04	0.11	0.11	0.12	0.12	0.24
Commercial	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.12
Industrial	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03
Total - Cumulative	0.03	0.04	0.04	0.05	0.12	0.12	0.13	0.13	0.38

Notes: CETA places priority on conservation over new resource build



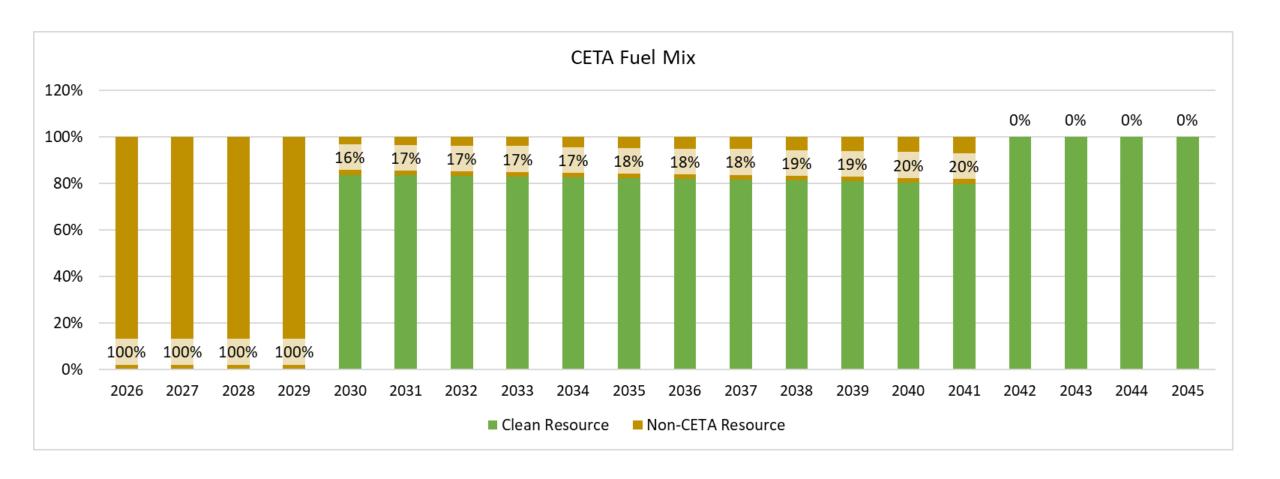


	Incremental Conservation Potential (aMW)								
	2026	2027	2028	2029	2030				
Residential	0.03	0.04	0.05	0.06	0.06				
Commercial	0.05	0.06	0.07	0.07	0.07				
Industrial	0.00	0.00	0.00	0.00	0.00				
Total - Incremental	0.08 0.10 0.12 0.14 0.								

		Cumulative Conservation Potential (aMW)								
	2026	2027	2028	2029	2030	2035	2040			
Residential	0.03	0.07	0.12	0.18	0.24	0.54	0.77			
Commercial	0.05	0.11	0.18	0.25	0.32	0.66	0.92			
Industrial	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
Total - Cumulative	0.08	0.18	0.29	0.43	0.56	1.19	1.69			

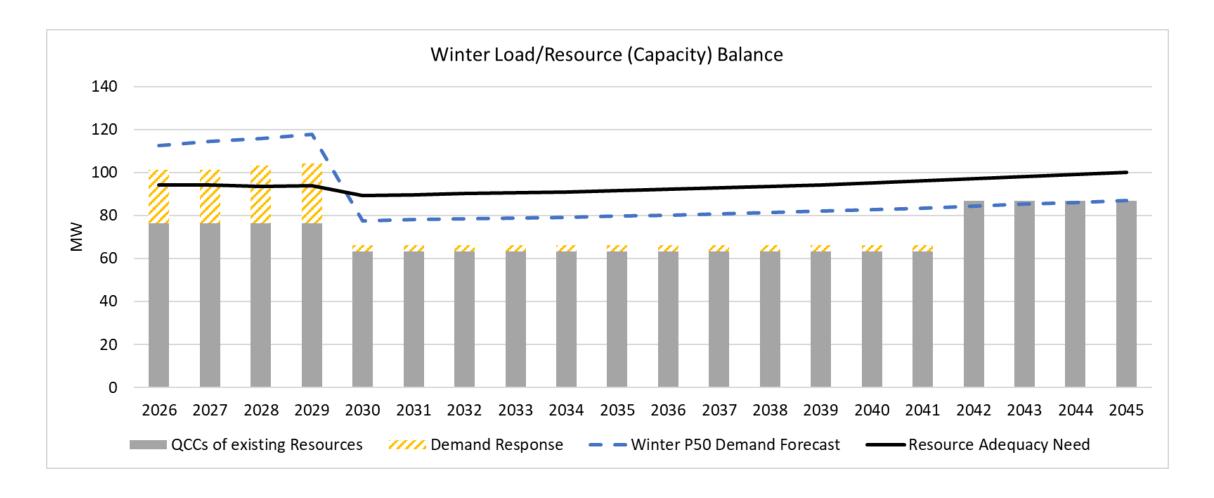
Conservation Potential - Impacts





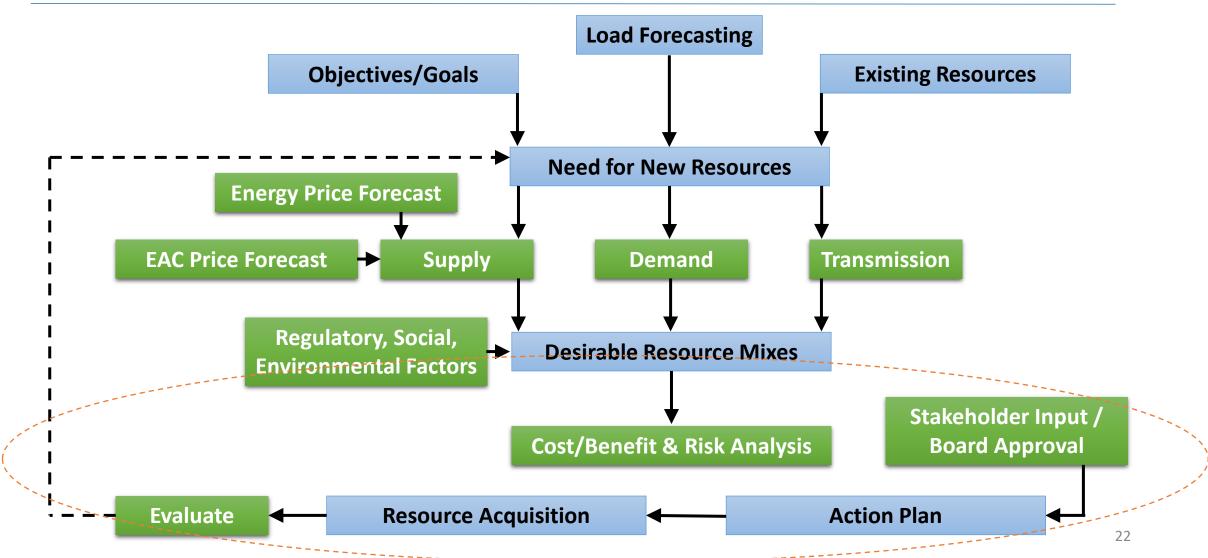
Demand Side – Demand Response Potential





Process Map





Preferred Portfolios



Considering all these inputs, the Capacity Expansion model developed several potential portfolios for the District to pursue:

Portfolio 1:

New Resources:

Resource:	Storage
Nameplate (MW):	25
Start Yr:	2030

Portfolio 2:

New Resources:

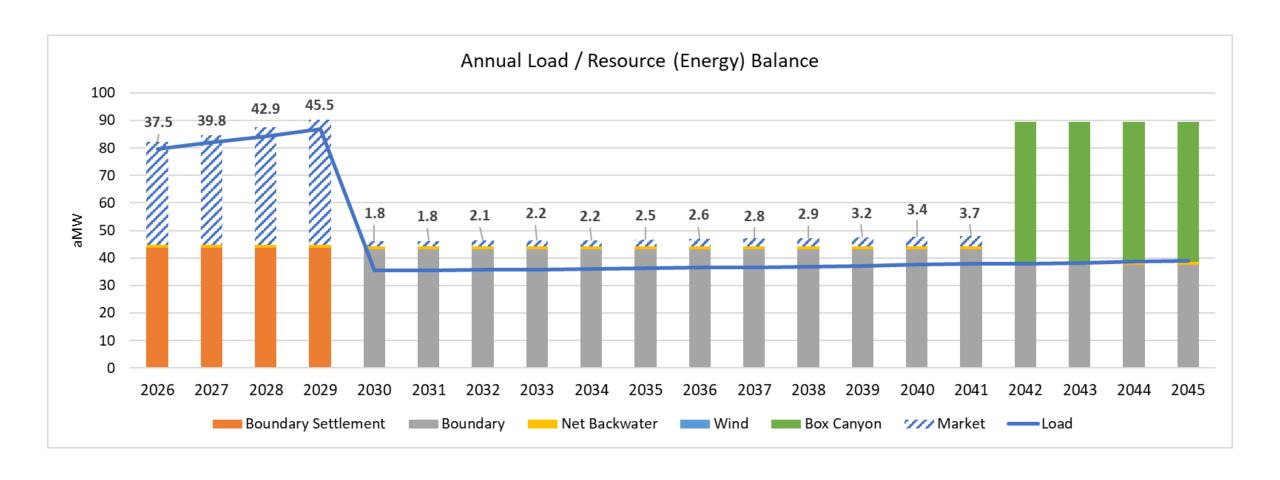
Resource:	Off-System Wind or BPA Tier 2	Storage
Nameplate (MW):	11	17
Start Yr:	2030	2030

Recommendations:

- There is a clear need for the District to obtain <u>dispatchable</u> resources to address capacity/peak load needs.
- Typically, the output of a resource planning process is a very specific road map outlining specific technologies, locations, etc.
- The recommendation here is to conduct a broader "all-source" process to acquire necessary resources

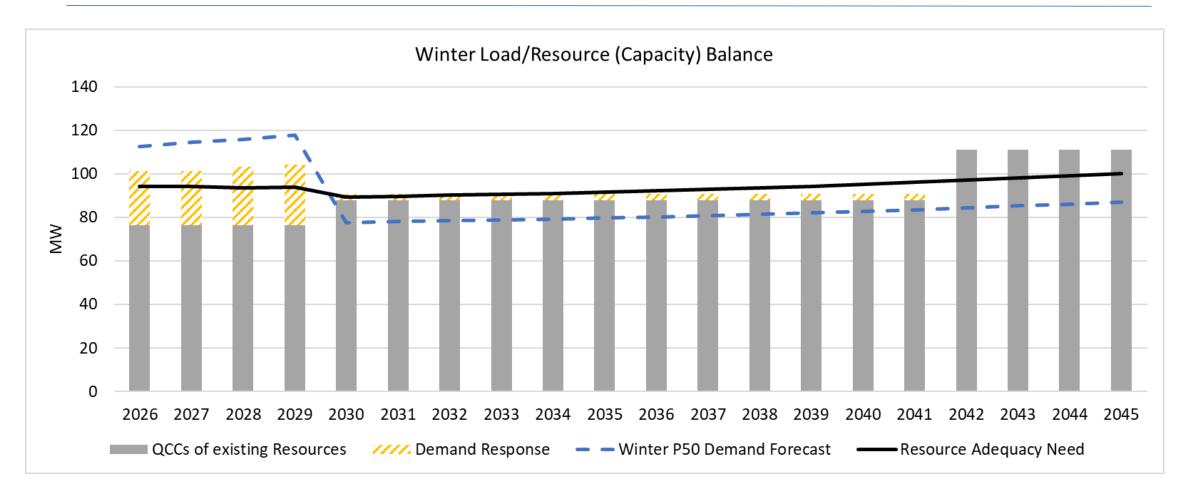
Preferred Portfolio 1 – Expected Position





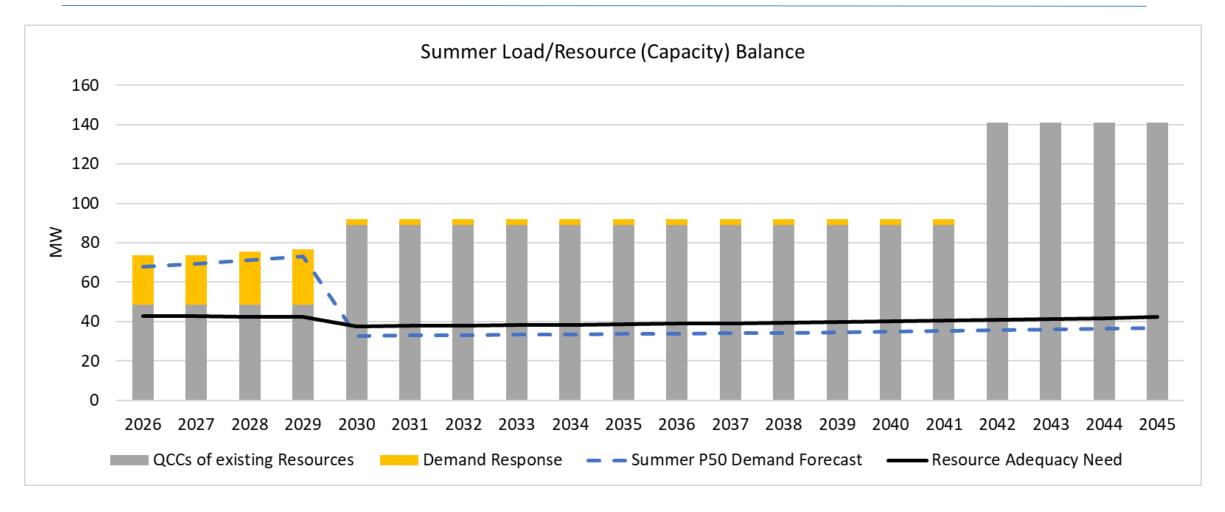
Preferred Portfolio 1 – Winter Capacity





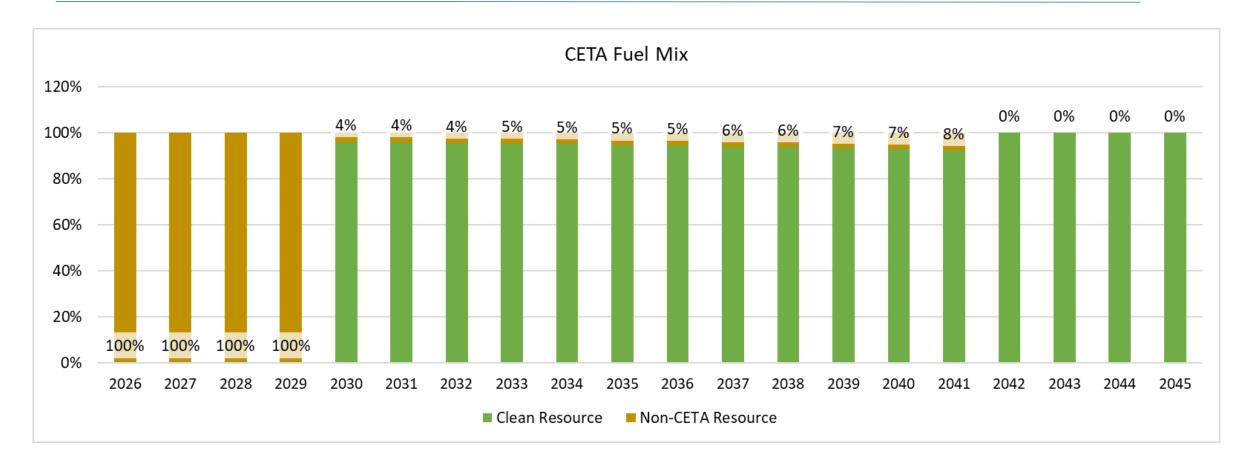
Preferred Portfolio 1 – Summer Capacity





Preferred Portfolio 1 – CETA Position





Action Plan



- Optimize, maintain, and enhance the District's Hydro Resources
 - SCL Contract transition
- Pursue cost effective Energy Conservation and Demand Response resources
 - Interim CEIP goal is low-income weatherization program
- All-source RFP, or similar process, for capacity needs. Target first half of 2026 for sourcing event
- Evaluate opportunities to enhance the District's Transmission portfolio
- Continue to re-visit resource planning process at least every other year

Next Steps



- •Incorporate public feedback through November
- Finalize URP by January 1, 2026
- Submit to the Washington Dept. of Commerce
- Make the final URP available online

