

Exhibit to Agenda Item #1

Provide the Board presentations by external and internal experts regarding Resource Adequacy and Summer 2024 Readiness followed by a discussion on the topic.

Board Strategic Development Committee and Special SMUD Board of Directors Meeting

Tuesday, May 7, 2024, scheduled to begin at 6:00 p.m.

SMUD Headquarters Building, Auditorium

Agenda

- Summer 2023 Recap
- SMUD Summer 2024 Setup
- Market Outlook for Remainder of Year
- Questions

What is SMUD's Market Footprint?

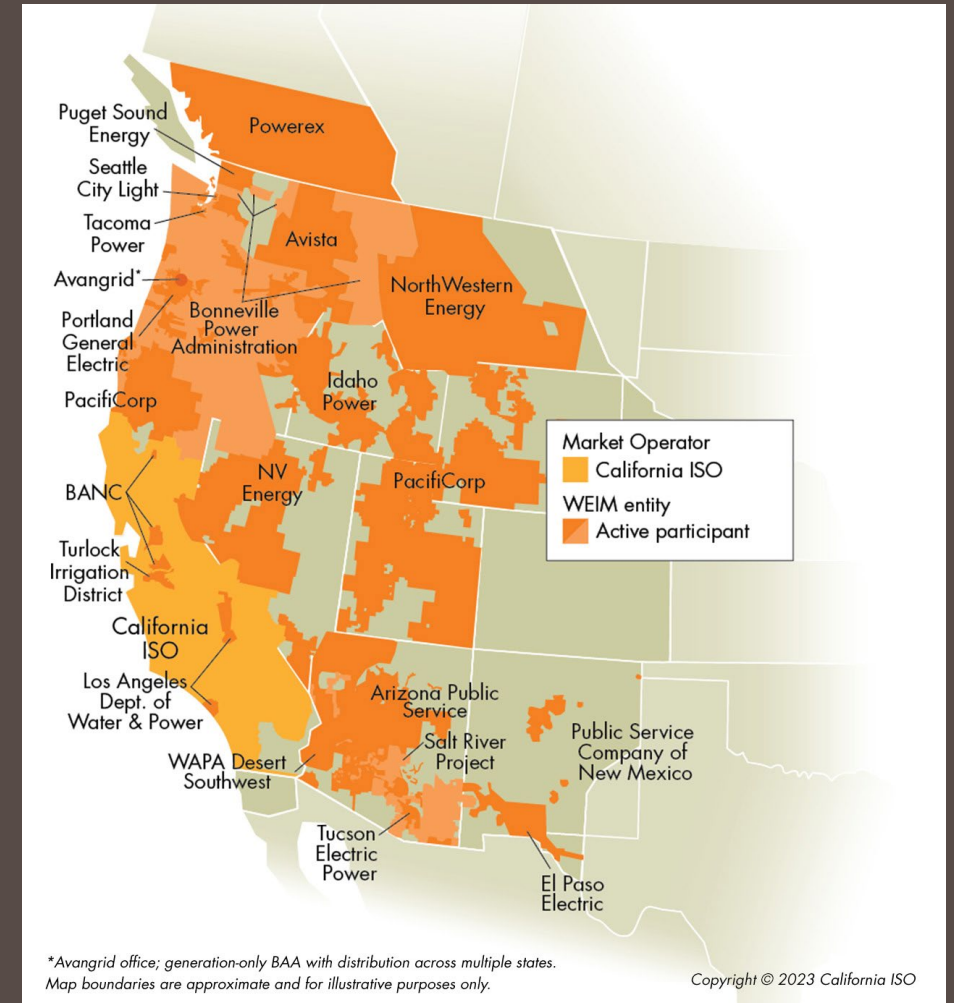
Bi-Lateral Market

SMUD participates in energy markets in the Western Interconnect - from the Rocky Mountains west including parts of Canada and Mexico. Transactions from next hour to years' long complex Power Purchase Agreements (PPAs).

CAISO Energy Imbalance Market (EIM)

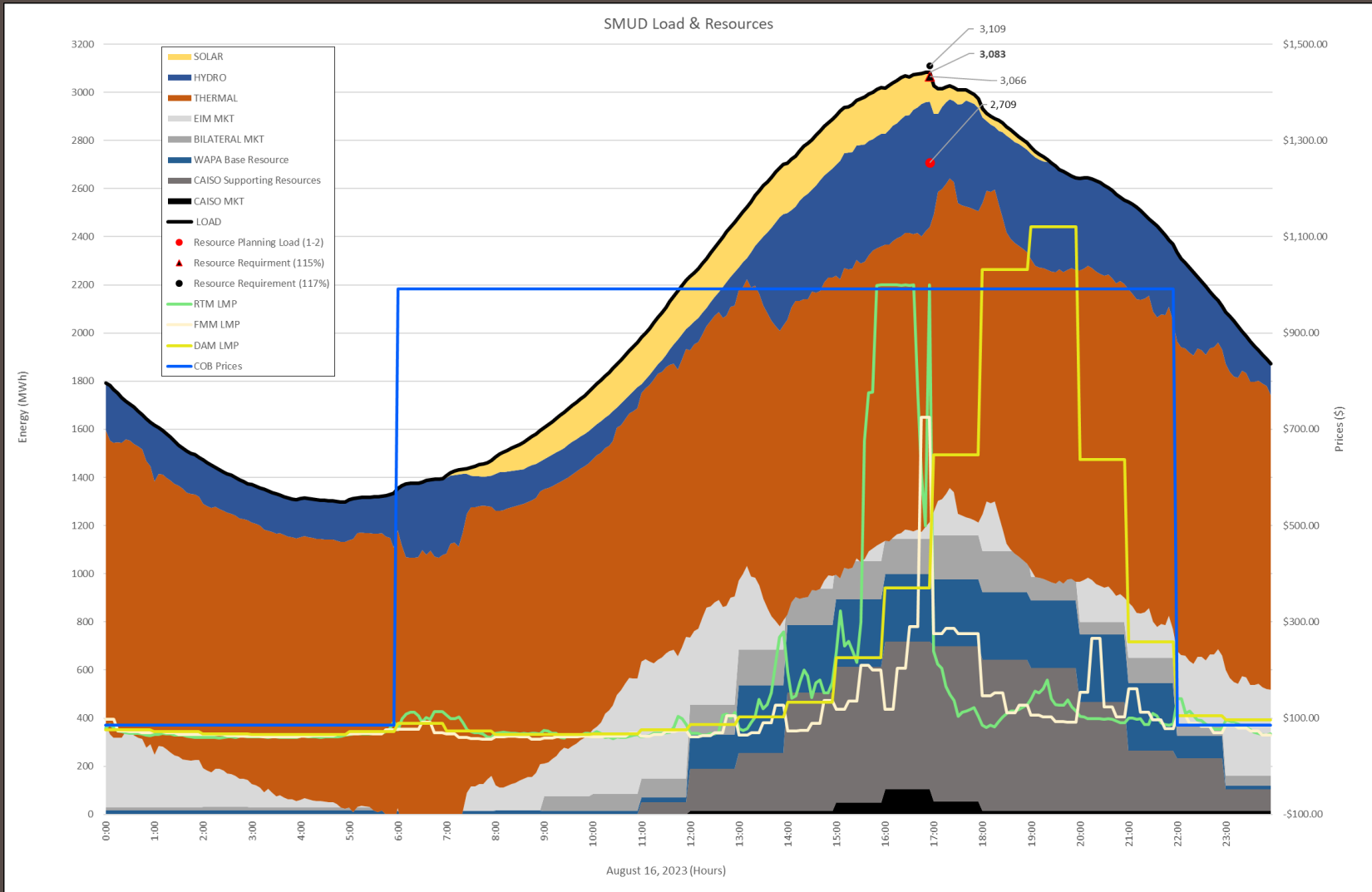
The EIM's advanced market system automatically finds low-cost energy to serve real-time consumer demand across the west. Since its launch in 2014, the EIM has enhanced grid reliability and generated cost savings for its participants. Besides its economic advantages, the EIM improves the integration of renewable energy, which leads to a cleaner, greener grid.

The EIM serves as SMUD's primary Realtime Energy Market. SMUD went live in April of 2019 with the remainder of Balancing Authority of Northern California (BANC) joining in March of 2021.

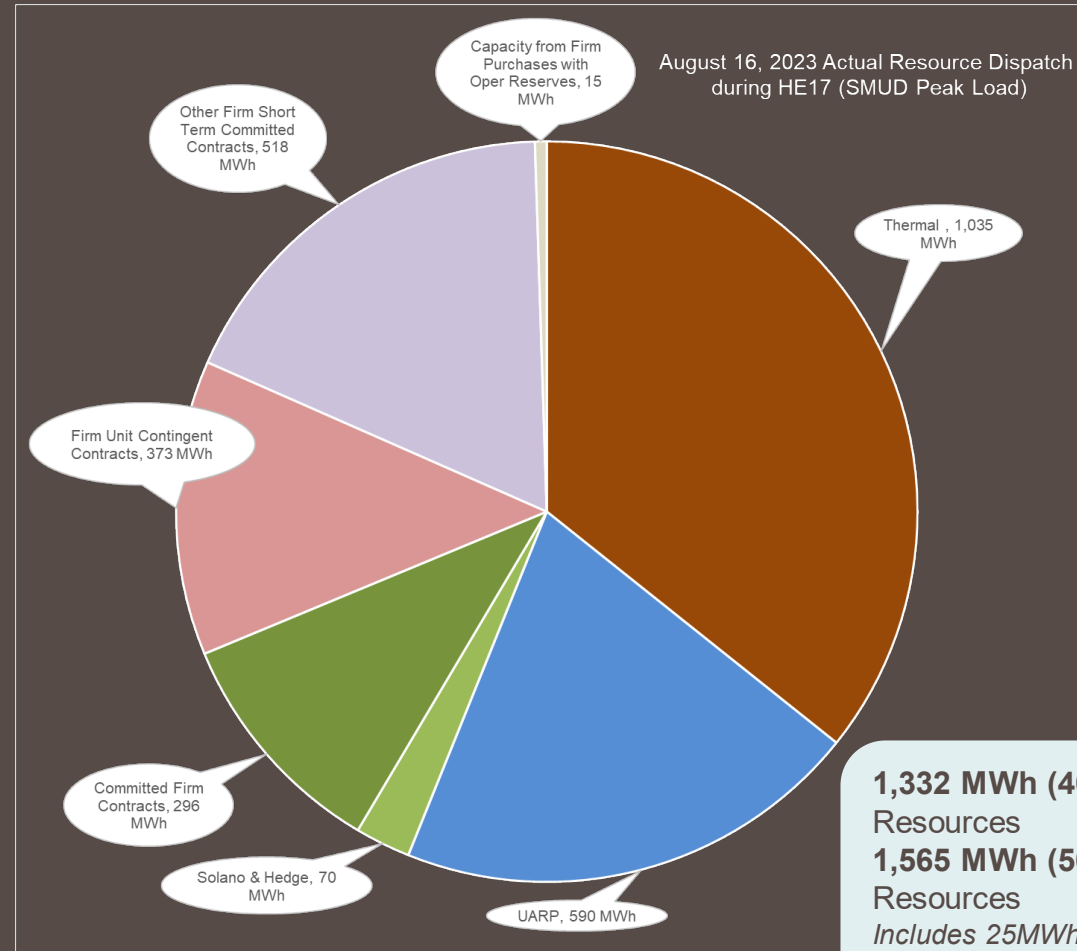
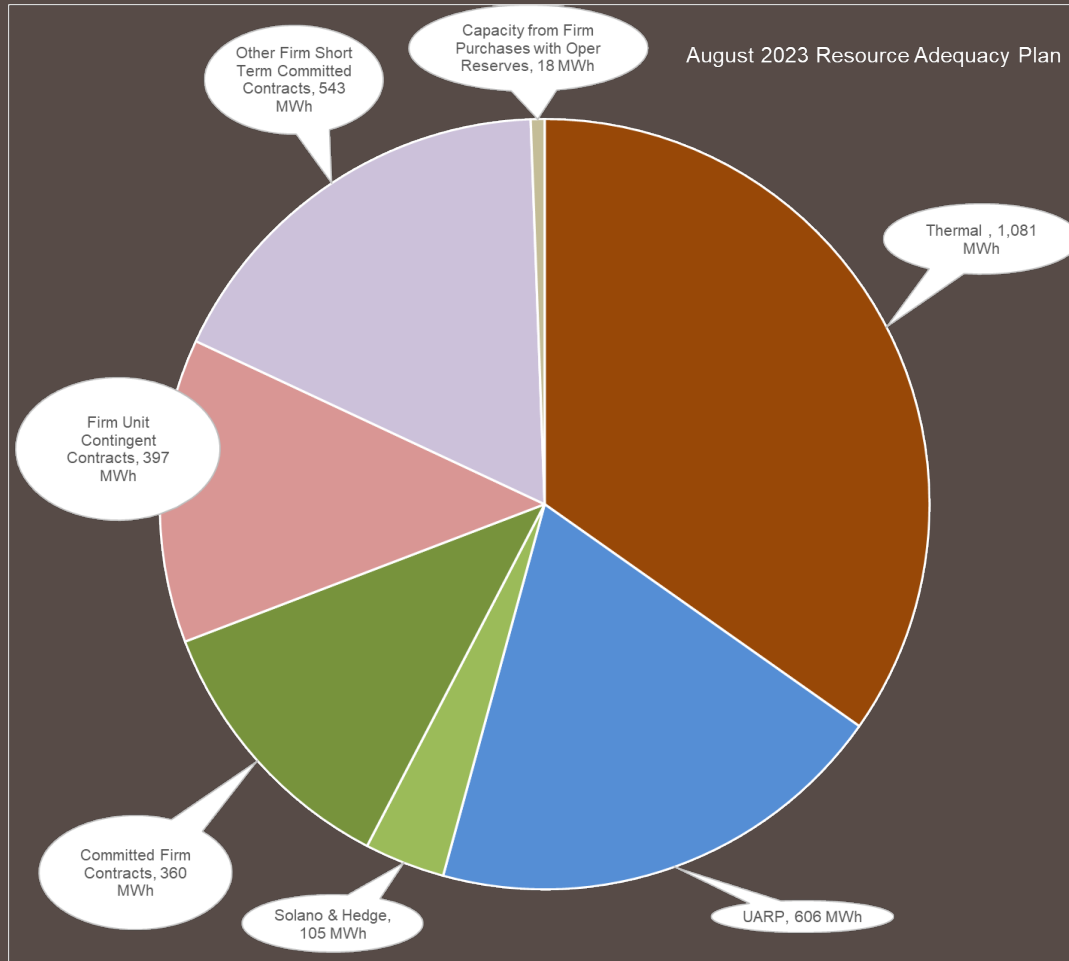


2023 Summer Recap

- Few extreme operating days compared to recent years.
- SMUD Peak Load was 3,059 MWs on August 16, 2023.
- Generation fleet and transmission system healthy. No significant forced outages during the summer period.
- British Columbia had a below normal water year (2022-23) which kept Pacific Northwest (PNW) prices strong going into and during summer period.
- Above average precipitation led to an abundant snowpack in the Upper American River Project (UARP) watershed producing 2,375 GWhs vs budget of 1,598 GWhs of energy for SMUD's system, approximately 23.5% of retail sales.



August Resource Plan



1,332 MWh (46%) Non-Emitting Resources
1,565 MWh (56%) Emitting Resources
Includes 25MWh Unspecified Source Contract

Changes in Resource Adequacy (RA) Plan from 2023 to 2024

	Jul-23	% of Portfolio	Jul-24	% of Portfolio	Change 2023-2024
Load	2,764		2,934		170
RA Obligation	3,178		3,447		269
Resource Locations					
SMUD/BANC	2,135	66.7%	2,169	62.9%	34
<i>SMUD Gen</i>	1,877	58.7%	1,911	55.4%	34
<i>Sutter</i>	258	8.1%	258	7.5%	0
CAISO	565	17.7%	333	9.7%	(232)
<i>Energy (Renewable Portfolio Standard)</i>	315	9.8%	333	9.7%	18
<i>Non-RA</i>	250	7.8%	0	0.0%	(250)
Western Area Power Admin	399	12.5%	358	10.4%	(41)
Pacific Northwest	37	1.2%	417	12.1%	380
Desert Southwest	60	1.9%	50	1.5%	(10)
Diversity Benefit	4	0.0%	120	3.5%	116
Total Resources	3,200		3,447		247

Additions

Reductions

Resource Adequacy (RA) Plan vs. Actual 2023

	Jul-23 Plan	% of Portfolio	Jul-23 Actual	% of Portfolio	Change
Load	2,764		2,764		0
RA Obligation	3,178		3,178		0
Resource Locations					
SMUD/BANC	2,135	66.7%	2,066	64.9%	(69)
<i>SMUD Gen</i>	1,877	58.7%	1,808	56.8%	(69)
<i>Sutter</i>	258	8.1%	258	8.1%	0
CAISO	565	17.7%	565	17.8%	0
<i>Energy (Renewable Portfolio Standard)</i>	315	9.8%	315	9.9%	0
<i>Non-RA</i>	250	7.8%	250	7.9%	0
Western Area Power Admin	399	12.5%	376	11.8%	(23)
Pacific Northwest	37	1.2%	112	3.5%	75
Desert Southwest	60	1.9%	60	1.9%	0
Diversity Benefit	4	0.0%	4	0.0%	0
Total Resources	3,200		3,183		(17)

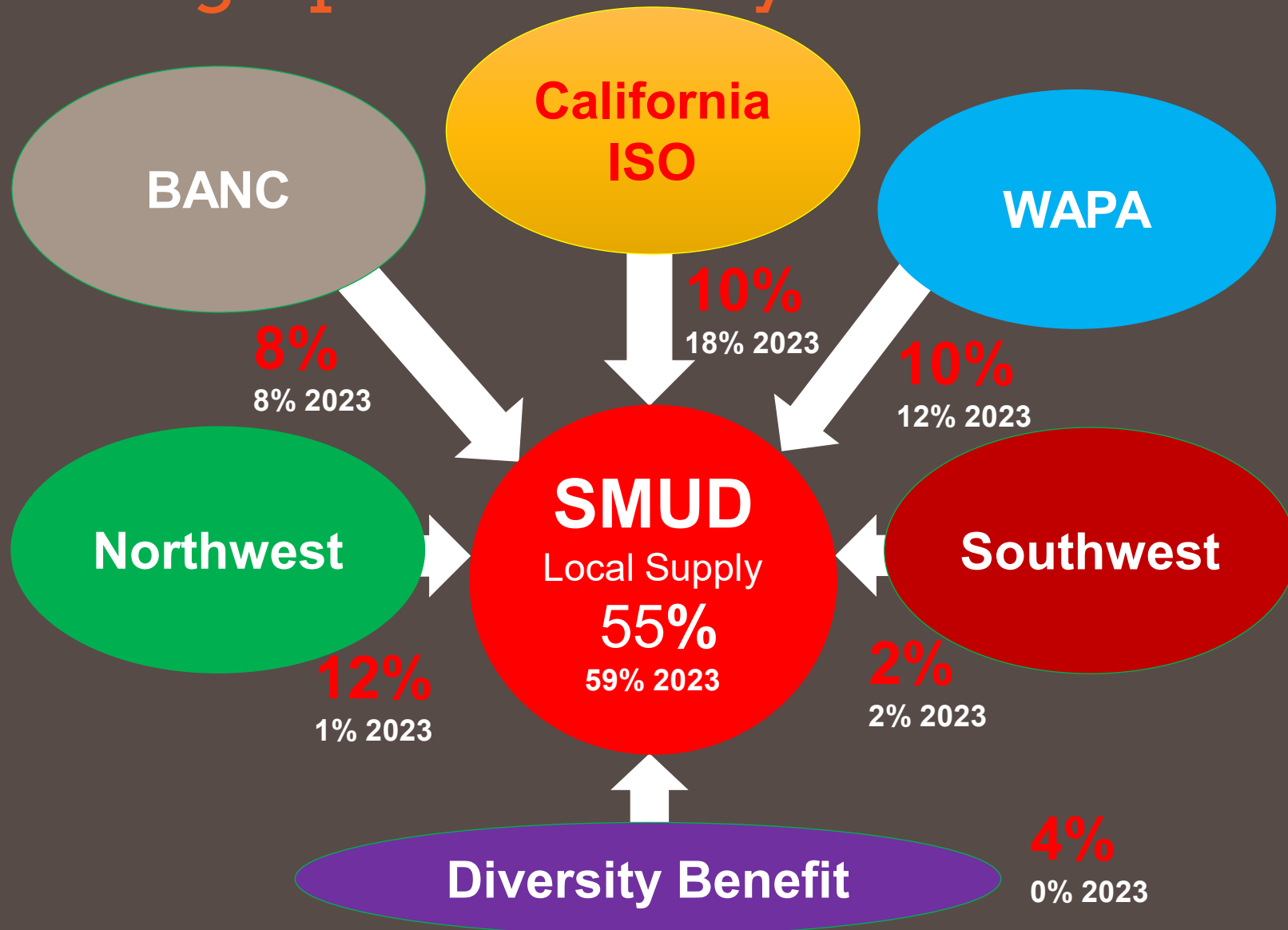
Reductions

Additions

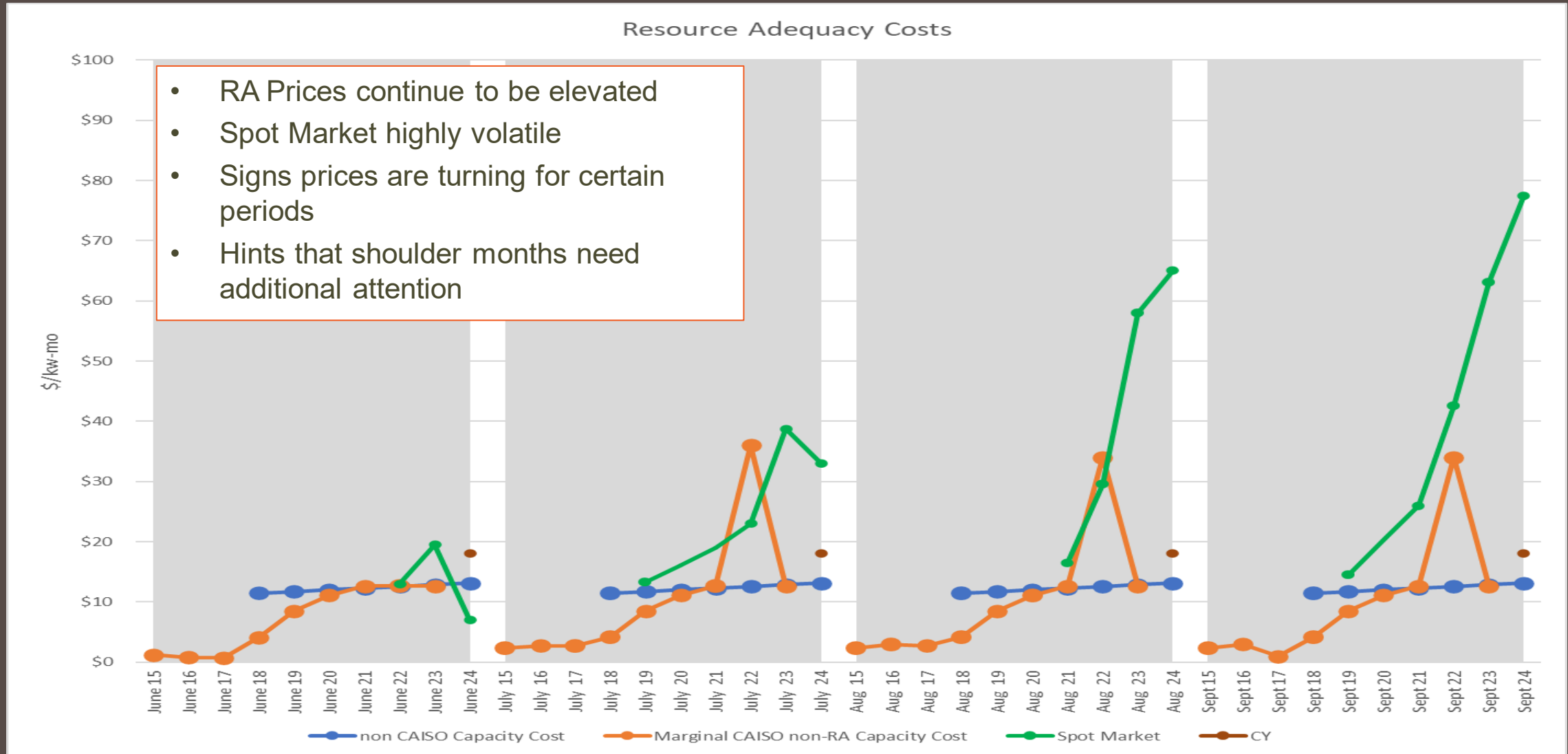
Resource Adequacy 2H 2024

	24-Jul	24-Aug	24-Sep	24-Oct	24-Nov	24-Dec
Load	2,934	2,662	2,583	1,723	1,407	1,585
RA Obligation	3,447	3,128	3,035	2,024	1,653	1,862
SMUD/BANC						
	2,169	2,159	2,142	1,924	1,678	1,979
<i>SMUD Gen</i>	1,911	1,901	1,884	1,666	1,678	1,721
<i>Sutter</i>	258	258	258	258	0	258
CAISO	333	339	275	220	145	154
<i>Energy (Renewable Portfolio Standard)</i>	333	339	275	220	145	154
<i>Non-RA</i>	0	0	0	0	0	0
Western Area Power Admin	358	359	266	268	238	247
Pacific Northwest	417	166	218	19	19	19
Desert Southwest	50	50	51	73	108	93
Diversity Benefit	120	84	122	62	-90	-78
Total Resources	3,447	3,157	3,074	2,566	2,098	2,414

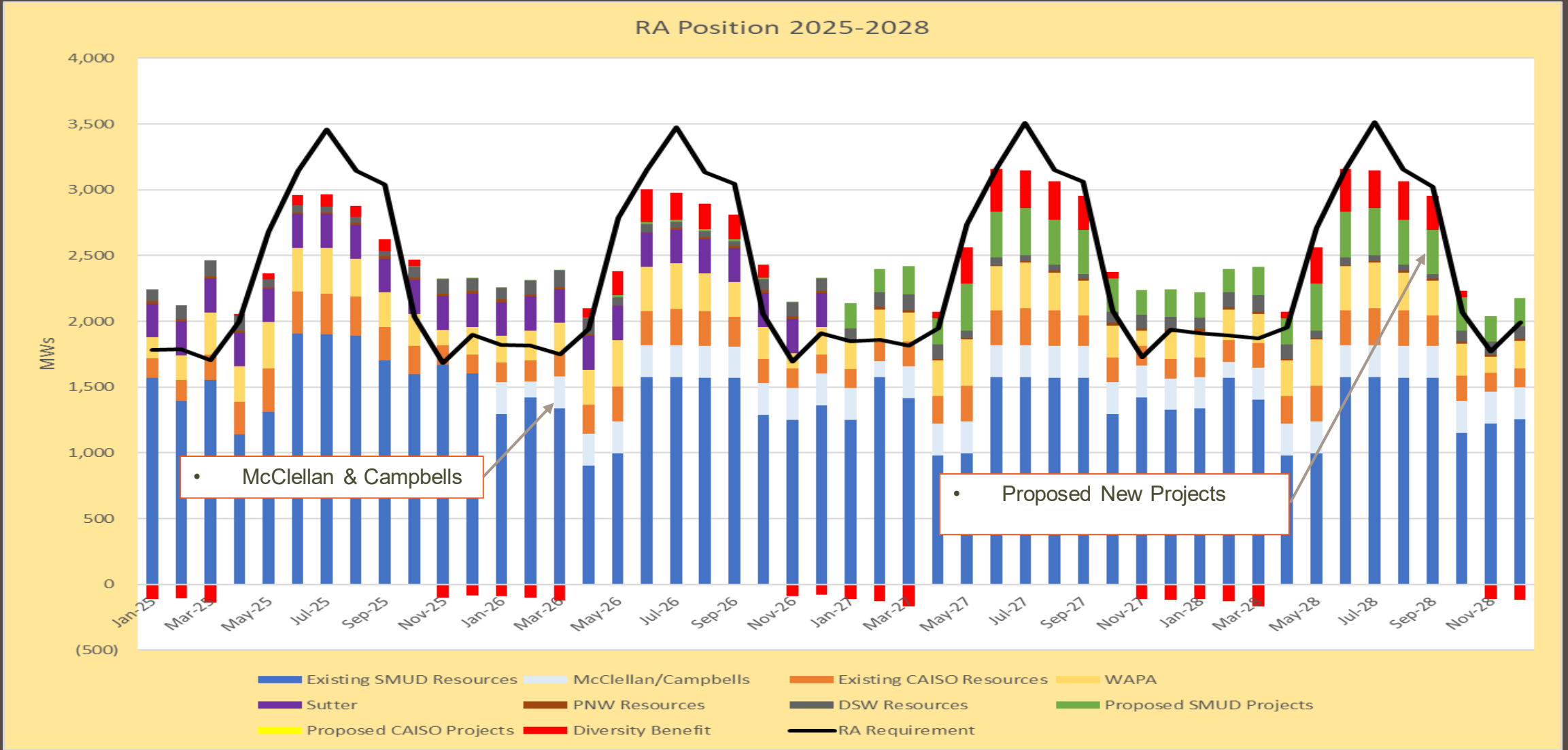
Geographic diversity of 2024 RA Plan



RA Prices



Resource Adequacy 2025-2028



Market Outlook Summer 2024

- BANC/SMUD Summer Readiness – Cautiously Optimistic
- RA Market pricing continues to be elevated, but easing
 - September 2024 RA broker quote @ \$77.50 KW/month
- Market uncertainty reflected in elevated energy prices, but easing
 - Northwest Heavy Load for July 2024 currently @ \$135.94 (July 2023 @ \$147.00)
 - Northwest Heavy Load for August 2024 currently @ \$199.75 (Aug 2023 @ \$235.00)
 - Natural Gas prices are lower for 2024 easing some pressure on power prices (July 2024 \$3.32, July 2023 \$5.87)
- Required Actions
 - Procure 30MWs for July, all other months compliant. Will utilize financial hedges to address forward looking energy imbalances to provide price protection.

Market Outlook Summer 2024 (cont.)

There are three important regions to consider for hydrological conditions:

- Upper American River Project (UARP) – SMUD-owned hydro generation
- Western Area Power Administration (WAPA) Central Valley Project (CVP) – hydro generation contracted with WAPA from across California
- Pacific Northwest (PNW) - hydro generation in Oregon, Washington and British Columbia

Area (as of 4/11/2024)	Precipitation as snowpack (% of normal)	Precipitation as rain (% of normal)
UARP	136	90
CVP	132	101
PNW	87	94

Though the year started slowly for California snowpack, several storms brought Snow Water Equivalent and Precipitation close to 100% of average. The Pacific Northwest struggled this year, coming just short of average.

Energy Prices

COB HL					
	2022	2023	2024	2025	2026
Jul	\$115.83	\$147.00	\$135.94	\$146.69	\$142.25
Aug	\$202.48	\$235.10	\$199.75	\$192.25	\$192.19
Sep	\$141.53	\$187.70	\$152.75	\$158.56	\$142.38
Q3	\$153.28	\$189.93	\$162.81	\$165.83	\$158.94

NP HL					
	2022	2023	2024	2025	2026
Jul	\$120.80	\$112.20	\$55.70	\$71.85	\$78.10
Aug	\$159.18	\$142.60	\$79.90	\$89.45	\$96.15
Sep	\$135.35	\$135.45	\$69.90	\$77.50	\$80.00
Q3	\$138.44	\$130.08	\$68.50	\$79.60	\$84.75

- 2022- 2024 are of as April of each year
- 2025 – 2026 are as of April 2024

Additional Pressure on Supply/Demand

	2023	2024
Thermal Plant Requirements		
Higher CPUC RA Requirements		
Revised Effective Load Carrying Capabilities (ELCC) and Net Qualifying Capacity (NQC)		
Market Rule Changes		
Northwest RA program		
Community Choice Aggregator Maturity		
Battery Storage Build Out		
State Initiatives		
Distributed Energy Resources (DERs)		

Questions

