

Exhibit to Agenda Item #1

Board Strategic Development Committee and Special SMUD Board of Directors Meeting

Tuesday, May 11, 2021, scheduled to begin at 5:30 p.m.

Customer Service Center, Rubicon Room

Agenda

- CAISO Summer 2020 Events and Related Changes
- Level Set
- SMUD Summer 2021 Setup
- Market Outlook for remainder of year
- Questions

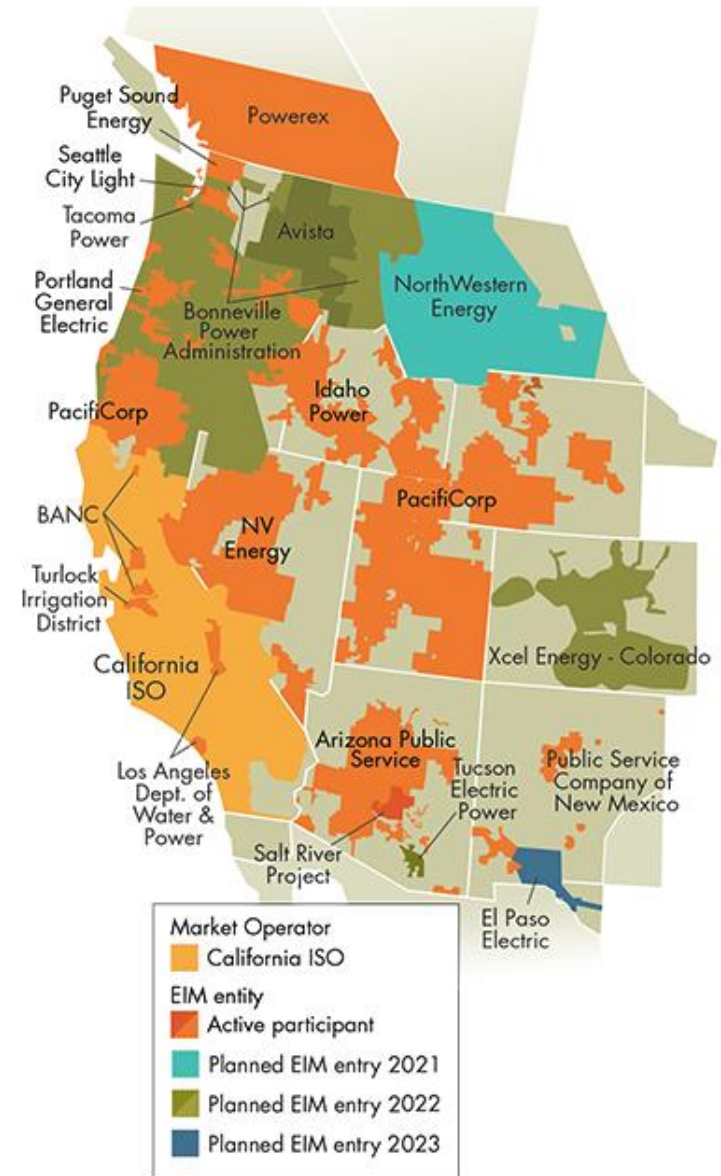
CAISO Summer 2020 Events & Related Issues

- *The events of August 2020 changed everything in the West.*
- CAISO made some emergency changes to Business Practices in Sep 2020.
- In addition to its own root cause analysis, CAISO initiated a stakeholder process to evaluate and recommend changes to make a better market.
- This was a long, and at times, contentious endeavor.
- SMUD & BANC participated in numerous formal sessions as well as bi-lateral talks directly with CAISO staff.
- A big “Thank You!” to CAISO staff for the open and productive engagement – it made a difference for SMUD & BANC.

What is SMUD's Market Footprint?

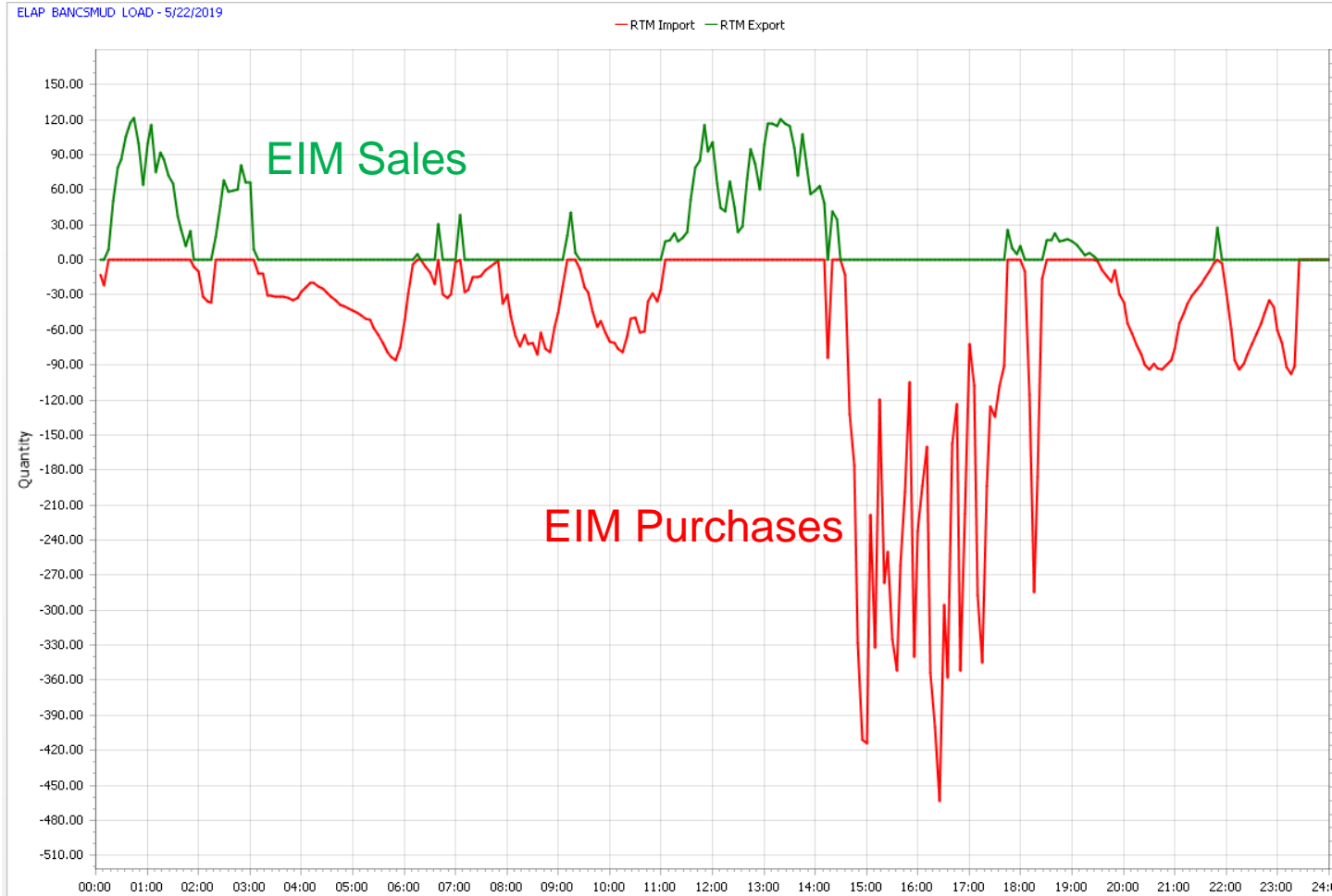
- Bi-Lateral Market** – SMUD participates in energy markets in the Western Interconnect - from the Rocky Mountains west including parts of Canada and Mexico. Transactions from next hour to years' long complex Power Purchase Agreements (PPAs).
- CAISO Energy Imbalance Market (EIM)** - The EIM's advanced 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 BANC joining in April of 2021.

Active and pending participants



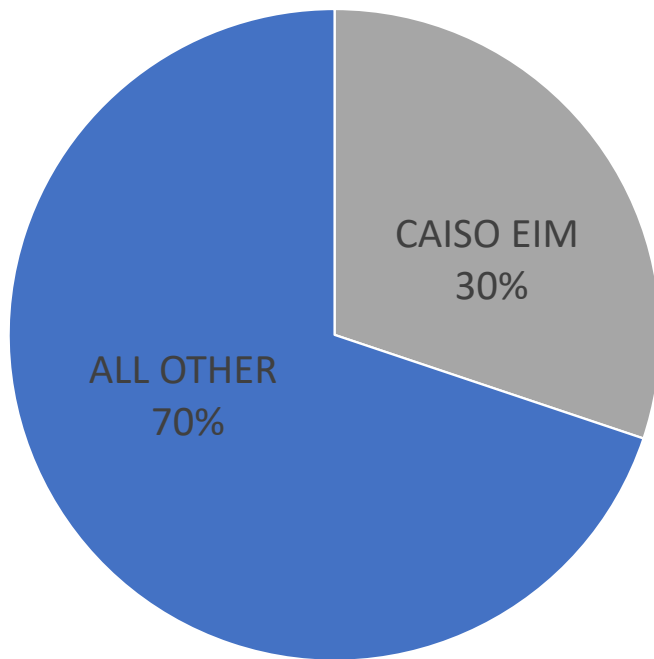
How does EIM dispatch?

Every 5 minutes Automatic Dispatch System (ADS) signals are delivered to resources and energy moves across Balancing Authorities (BAs)

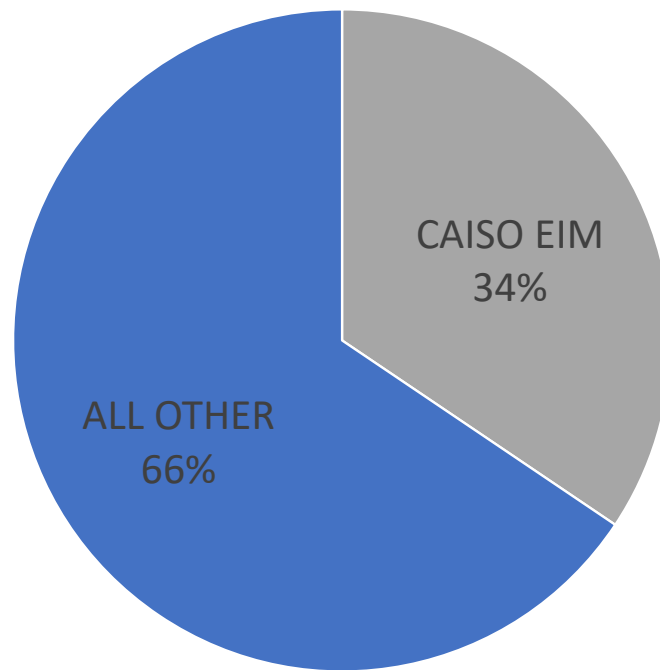


How significant is EIM in SMUD's portfolio?

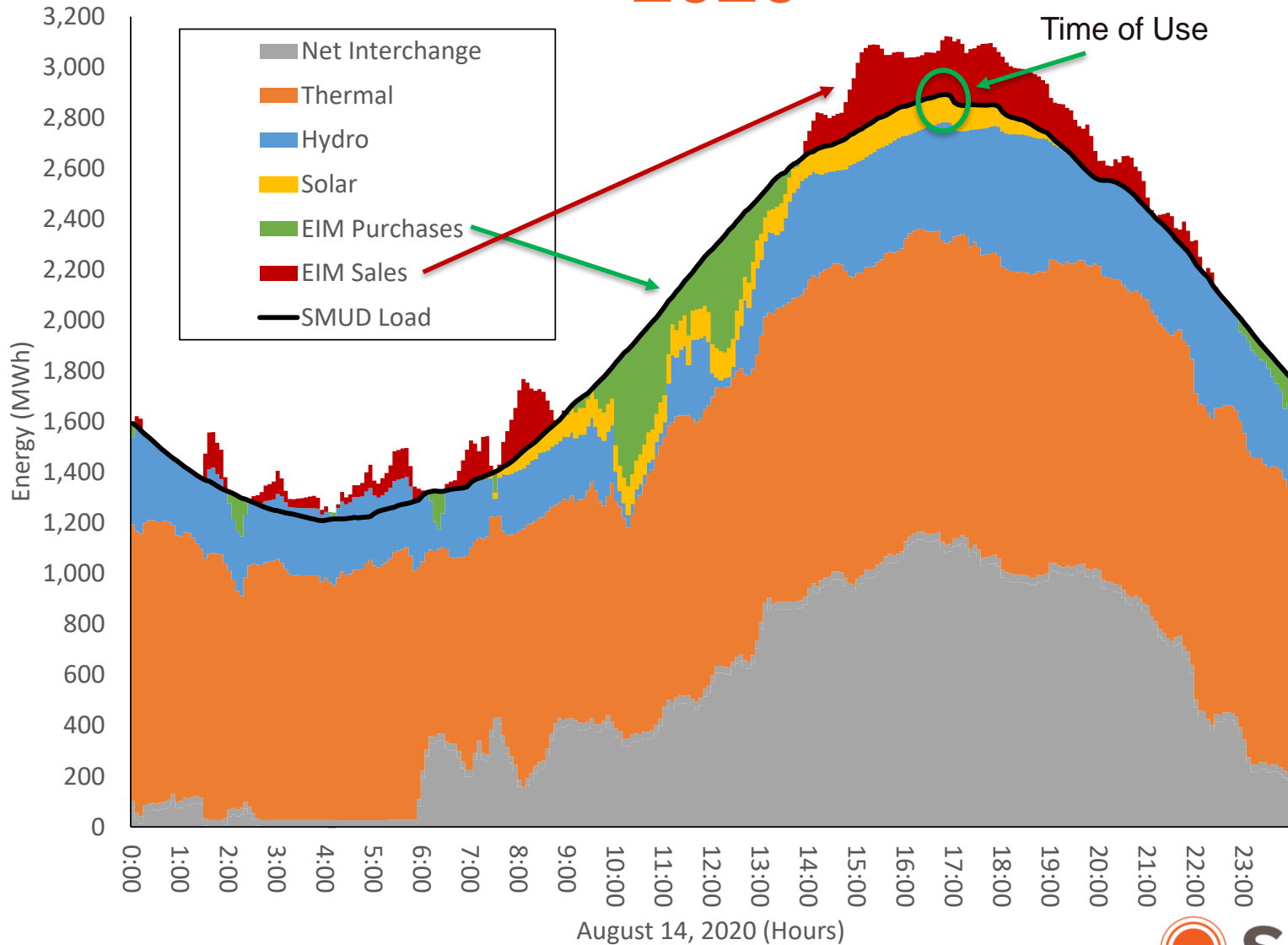
2020 Purchases by Market



2020 Sales by Market




SMUD Load & Resources on August 14, 2020




Changes in Resource Adequacy (RA) Plan from 2020 to 2021

	Jul-20	% of Portfolio	Jul-21	% of Portfolio	Change 2020-2021
Load	2,807		2,870		63
RA Obligation	3,177		3,249		72
Resource Locations					
SMUD/BANC	2,142	66.3%	2,256	69.8%	114
SMUD Gen	1,884	58.3%	1,998	61.9%	114
Sutter	258	8.0%	258	8.0%	0
CAISO	390	12.1%	440	13.6%	50
Energy (RPS)	190	5.9%	190	5.9%	0
Non-RA	200	6.2%	250	7.7%	50
Western Area Power Admin	389	12.1%	320	9.9%	(70)
Pacific Northwest	212	6.6%	154	4.8%	(58)
Desert Southwest	97	3.0%	92	2.9%	(4)
Total Resources	3,230		3,261		31

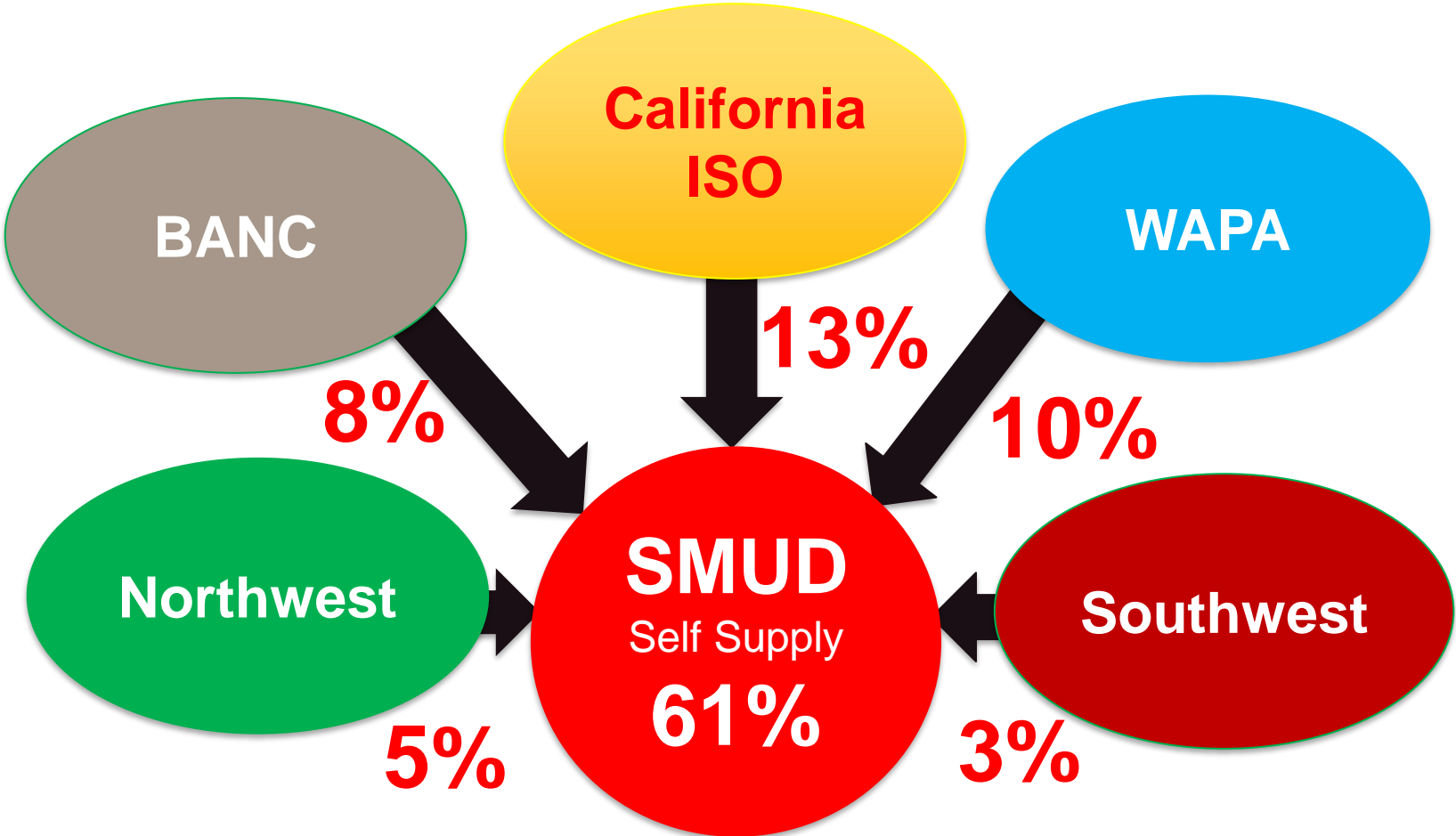


 Additions



 Subtractions

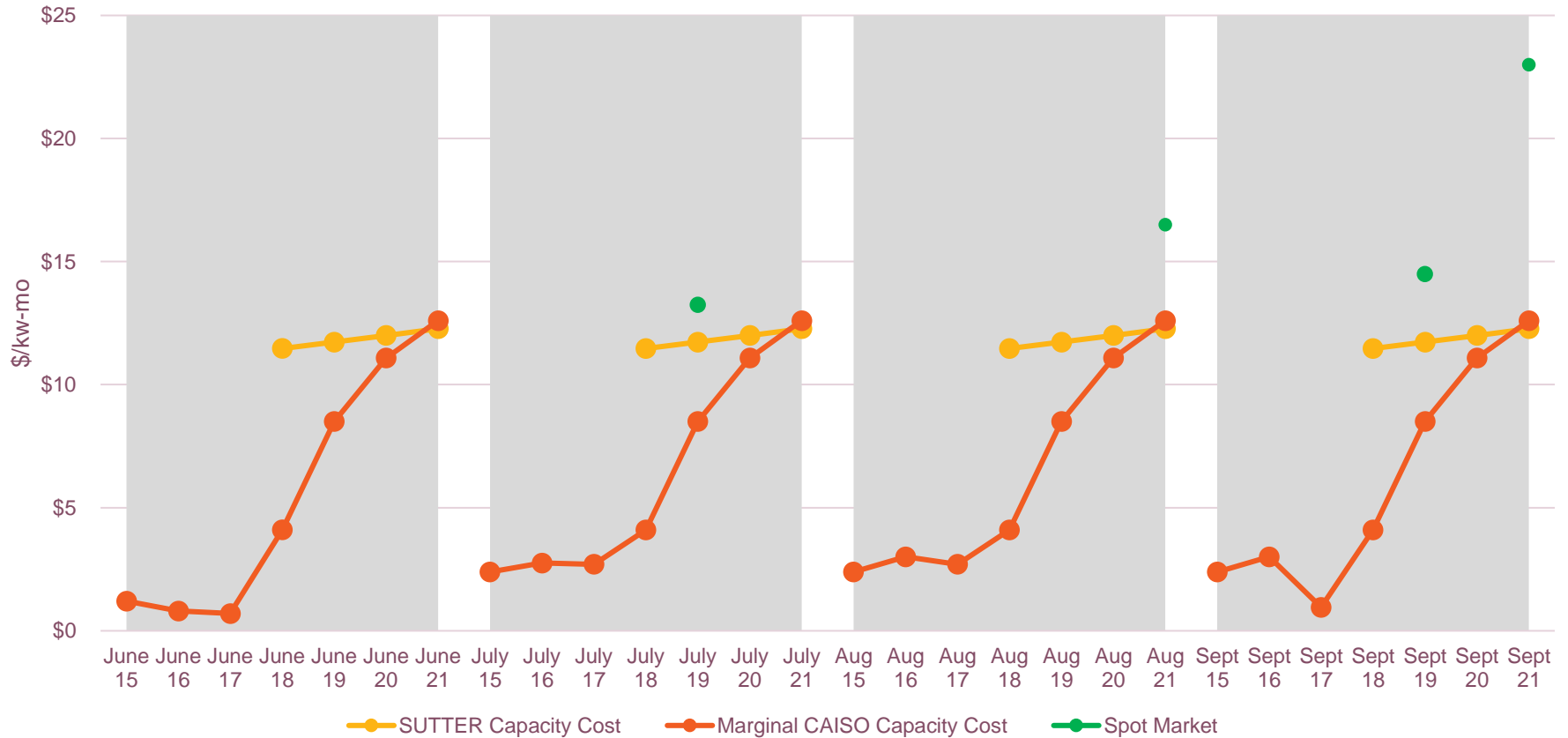
Geographic diversity of 2021 RA Plan



Market Outlook Summer 2021

- BANC/SMUD Summer Readiness – Cautiously optimistic
- RA Market pricing continues to be at historic highs
 - September 2021 RA sold @ \$23.00 KW/month
- Market uncertainty is reflected in elevated energy prices
 - Northwest Heavy Load for July 2021 traded @ \$129.00 (July 2020 @ \$41.50)
 - Northwest Heavy Load for August 2021 traded @ \$172.50 (Aug 2020 @ \$46.90)
 - Prices in Desert Southwest, as well as internal CAISO pricing hubs, are also at significantly higher prices as compared to 2020 prices
 - While Natural Gas prices are higher for 2021 as compared to 2020, they are not main cause behind elevated energy prices
- Required Actions
 - Small RA need for August 2021, fully supplied for all other months

RA Prices



- RAPrices continue to trend higher
- Spot Market highly volatile

Market Outlook Summer 2021 - continued









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	Precipitation as snowpack (% of normal)	Precipitation as rain (% of normal)
UARP	65	65
CVP	75	55
PNW	100	85

- All regions are expected to have less hydro generation than normal

Additional Pressure on Supply/Demand

	Pressure on Prices
Thermal Plant Retirements	
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 build out	
Post COVID-19	



Questions

