

DOCKETED

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BANC SB100 Update

BANC MEMBER UPDATES

by Jon Olson
Director of Energy Trading & Contracts
Sacramento Municipal Utility District

8/22/23

BALANCING AUTHORITY OF NORTHERN CALIFORNIA

A JOINT POWERS AUTHORITY BETWEEN

Modesto Irrigation District | City of Redding | City of Roseville | Sacramento Municipal Utility District | City of Shasta Lake | Trinity Public Utility District

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Balancing Authority of Northern California (BANC)

What is BANC?

- Joint Powers Agency formed by its members
- Provides Balancing Authority Area (BAA) services to its members and contracted parties and Planning Coordinator (PC) services to members requesting the service
- Serves as the EIM Entity to facilitate CAISO EIM participation for those within the BANC BAA
- ~5000 MW Peak Load BAA
 - 16th largest in West; 3rd largest in CA

Who is BANC

Group of N. CA POU's

- Members
 - Modesto Irrigation District
 - City of Redding
 - City of Roseville
 - Sacramento Municipal Utility District
 - Trinity Public Utilities District
 - City of Shasta Lake
- Contract Relationships
 - WAPA – SNR: 230kV system
 - Transmission Agency of Northern California (TANC): 500kV California-Oregon Transmission Project (COTP)

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BANC Member SB100 Updates

- City of Redding
- Roseville Electric
- Sacramento Municipal Utility District (SMUD)



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CITY OF REDDING PLANS FOR ACHIEVING SB100 COMPLIANCE

August 21, 2023

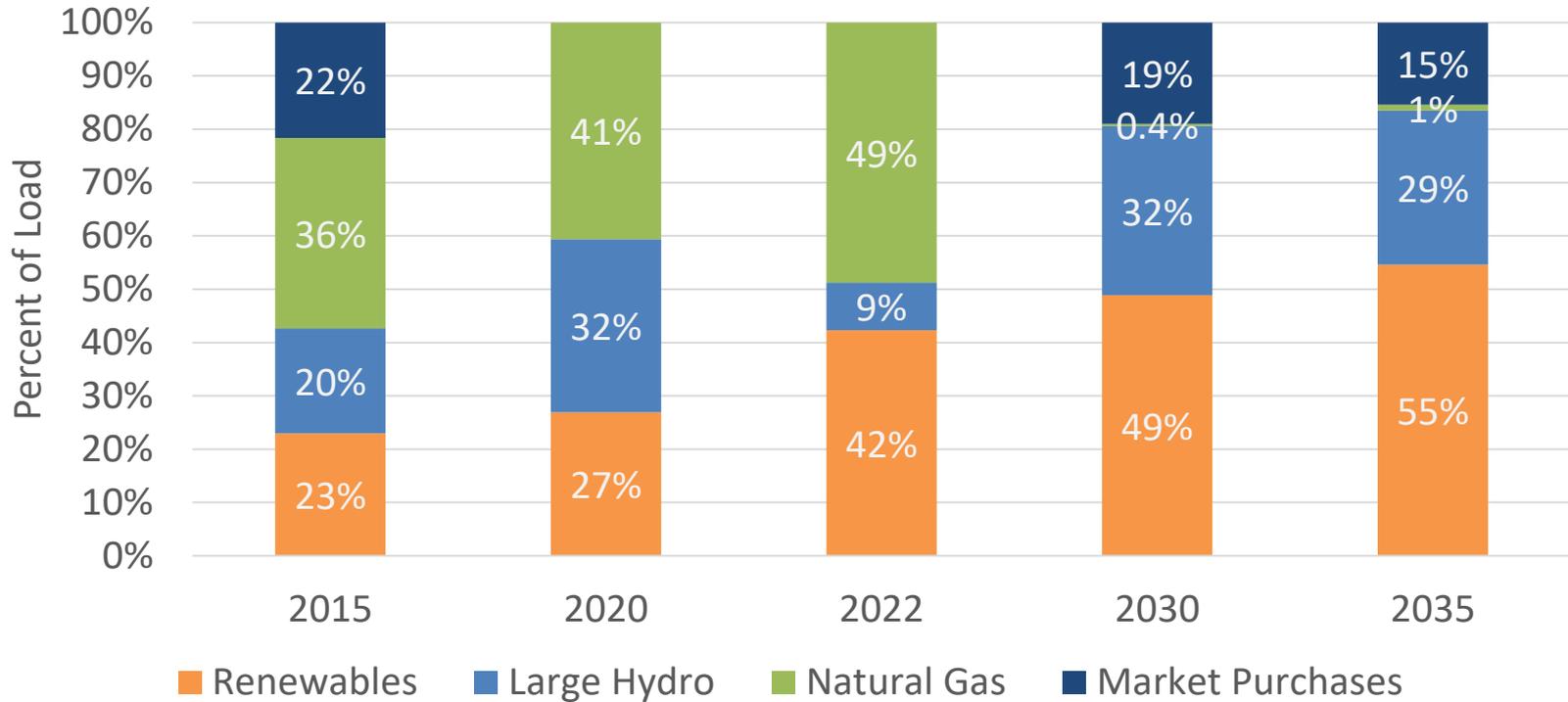


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City of Redding's Resource Mix



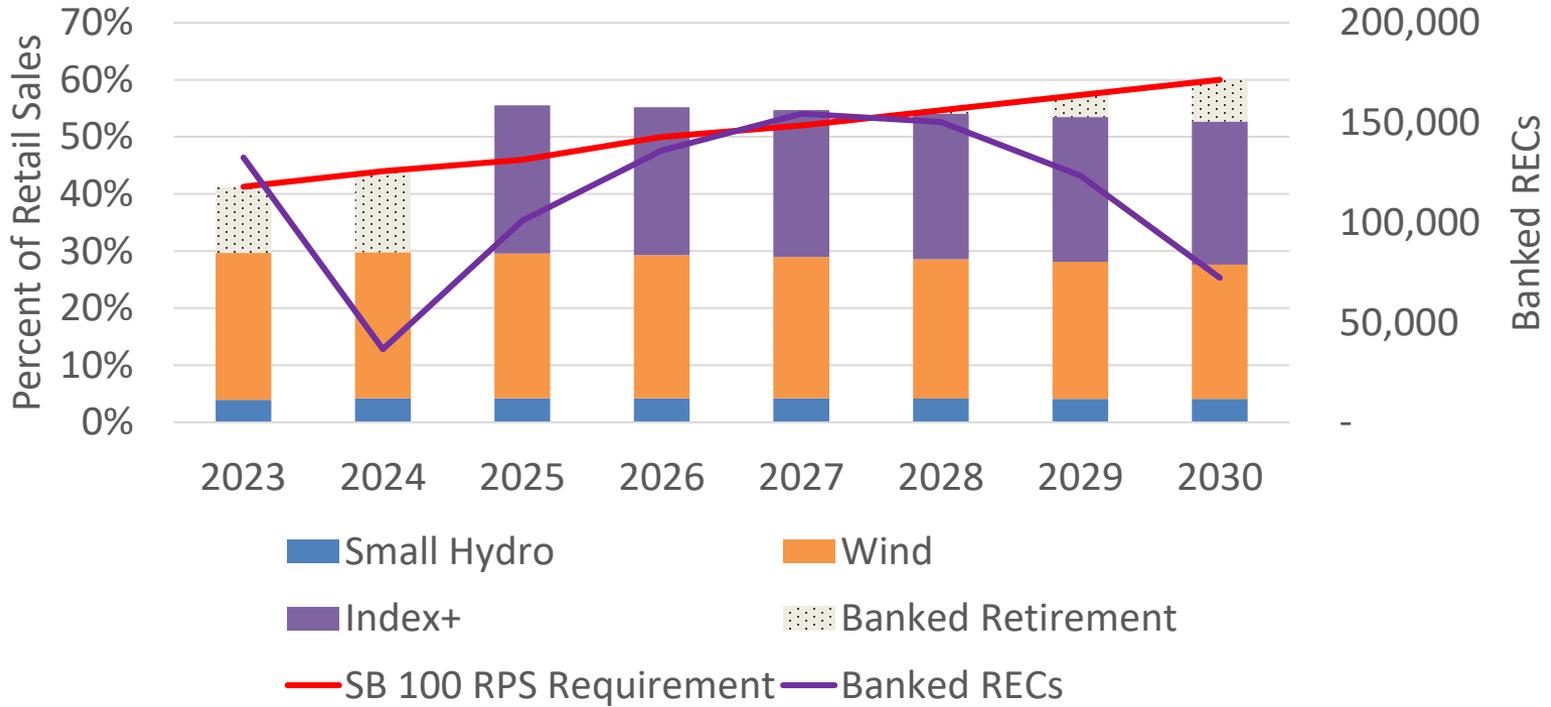
Renewable contribution to resource mix does not measure compliance with SB100 RPS requirement, which is evaluated by other methods

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City of Redding's SB100 RPS Compliance Forecast



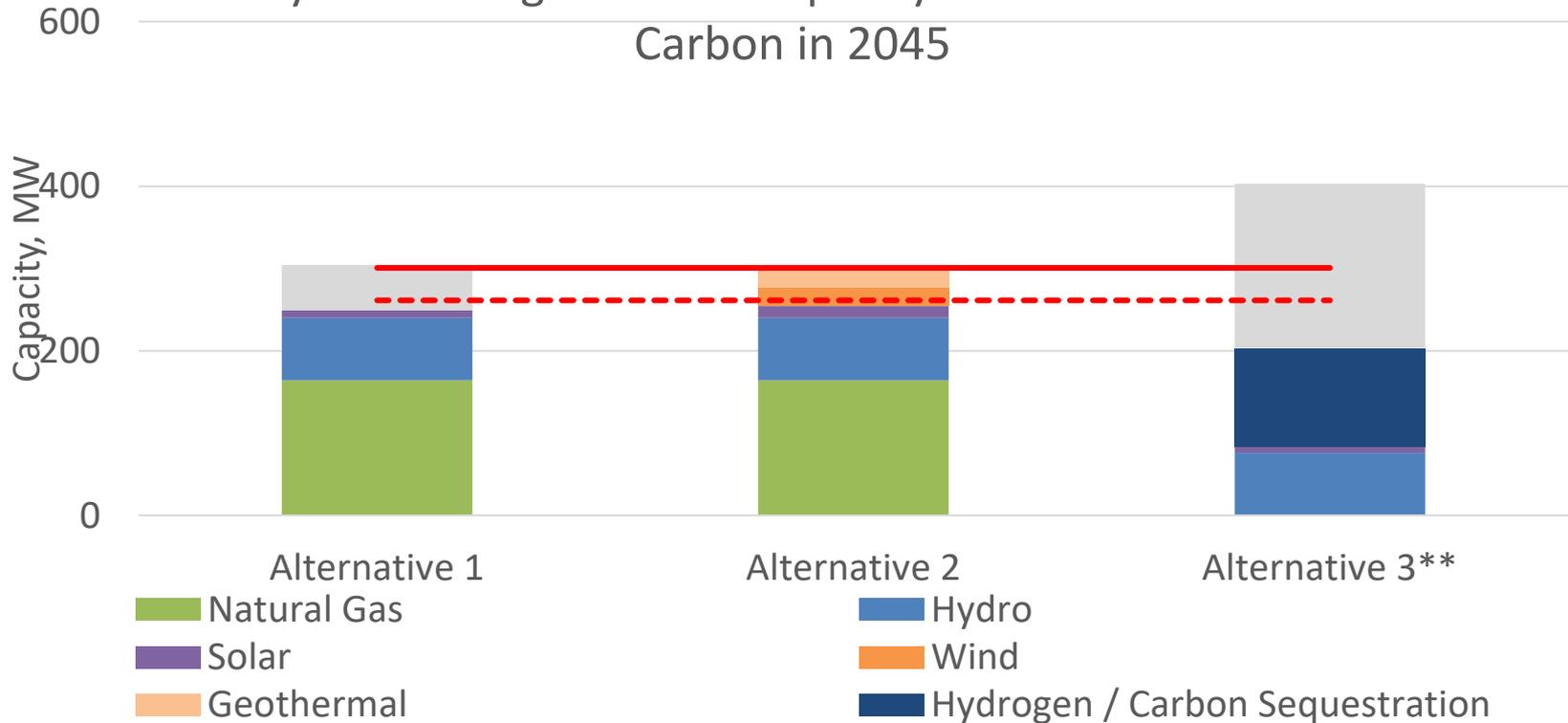
Banked RECs assume 121,352 excess procurement RECs from previous compliance periods. COR is currently working with the CEC on the status of these RECs.

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City of Redding Potential Capacity Resources* for Zero Carbon in 2045



*These alternatives are being explored the City of Redding's 2024 IRP

**The removal of Redding's natural gas plant requires large over-procurement of battery storage to maintain system reliability

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Meet 60% Renewable by 2030 and Carbon-Free by 2045

- City of Redding is currently resourced to meet 60% renewables by 2030
- City of Redding is currently studying resource options for a zero-carbon portfolio in 2045



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Caveats and Challenges

- The City of Redding is currently working with the CEC on the eligibility of RECs from excess procurement in previous compliance periods. These RECs are vital to COR's RPS compliance forecast. The ineligibility of these RECs will likely trigger alternative compliance measures for Compliance Period 4.
- Many renewable and carbon-free projects that the City of Redding has investigated have experienced delays, cost increases, or cancellations making future resource procurement an arduous process.
- Eliminating all carbon-emitting resources from the City of Redding's portfolio will lead to substantial cost increases from resource procurement and internal system upgrades. Removing the City's Natural Gas Plant results in large over-procurements of capacity resources to maintain system reliability.



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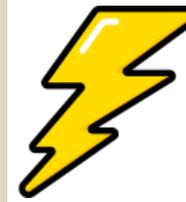


City of Roseville SB100 Update

ROSEVILLE ELECTRIC

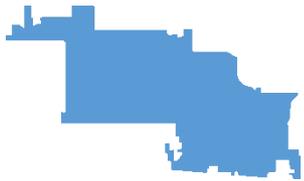
110 Years

66,000 Customers
59,000 Residential
7,000 Commercial
200 Employees



370 MW

1,190 GWh/yr



Territory **43 mi²**
Distribution **900 mi**
Underground **91%**



5 Elected Council Members
7 Commissioners

**ELECTRICITY RATES ARE AMONG THE
LOWEST IN CA**

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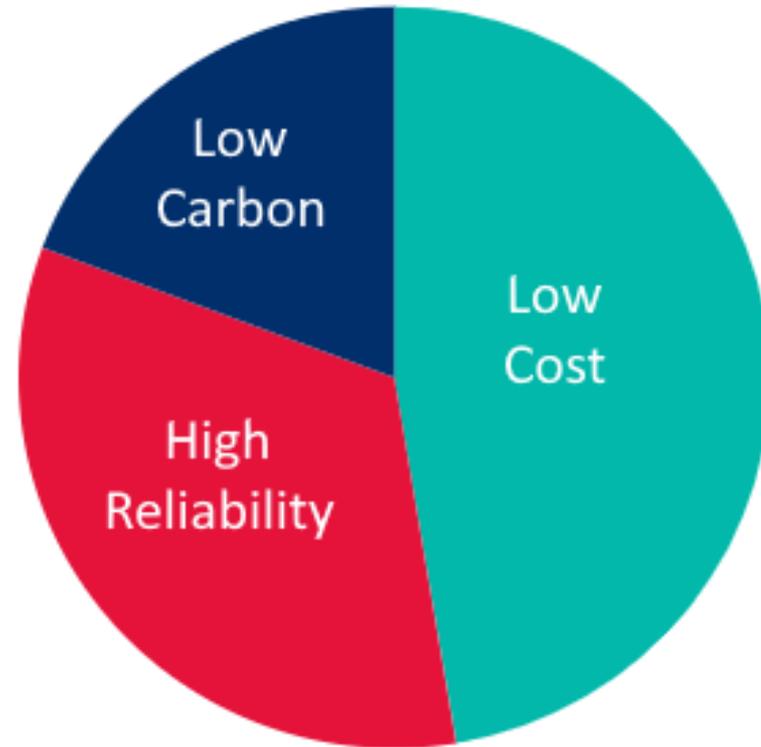
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Roseville 2023 IRP Customer Priorities

1. **Affordability**

2. **Reliability**

3. **Exceed carbon reduction targets**



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Roseville IRP 2023 – Preferred Plan

Existing Resources

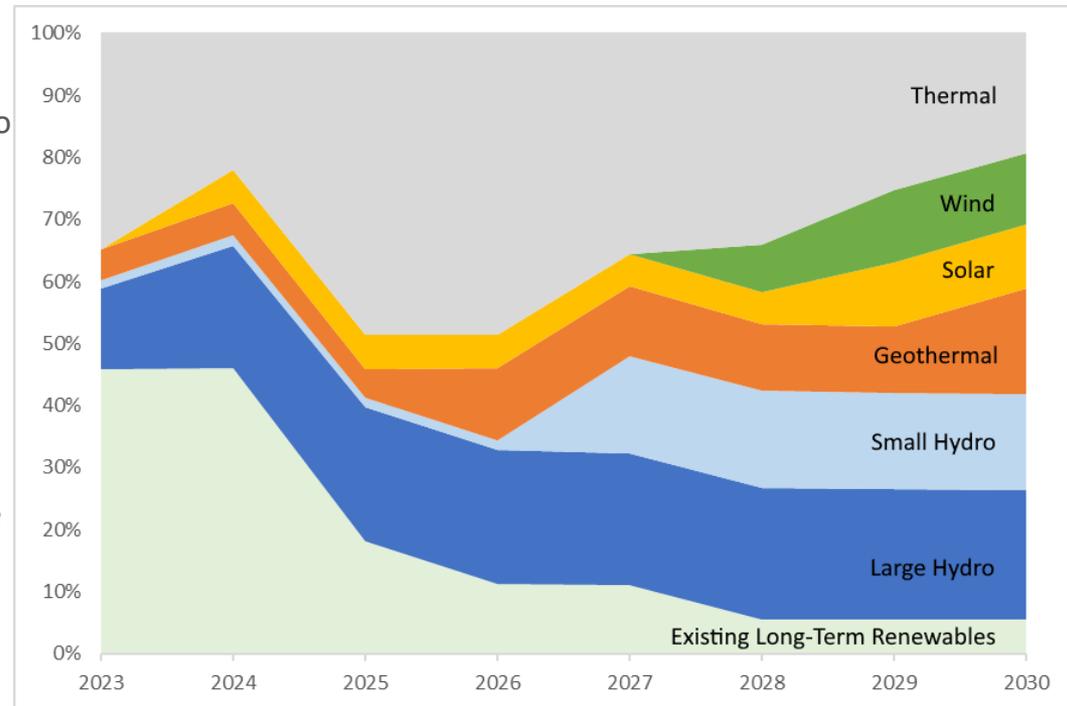
- Maintain existing large hydro and renewable projects
- Extend life of aging thermal resources to ensure reliability

New Resources

- Pursue BANC connected resources to directly serve load including renewable and carbon reducing/sequestration
- Seek diverse renewable technologies to reduce oversupply and need for storage

Partnerships

- Focus on joint action projects with municipal partners
- Continue to support the State with the Roseville SRRP peakers



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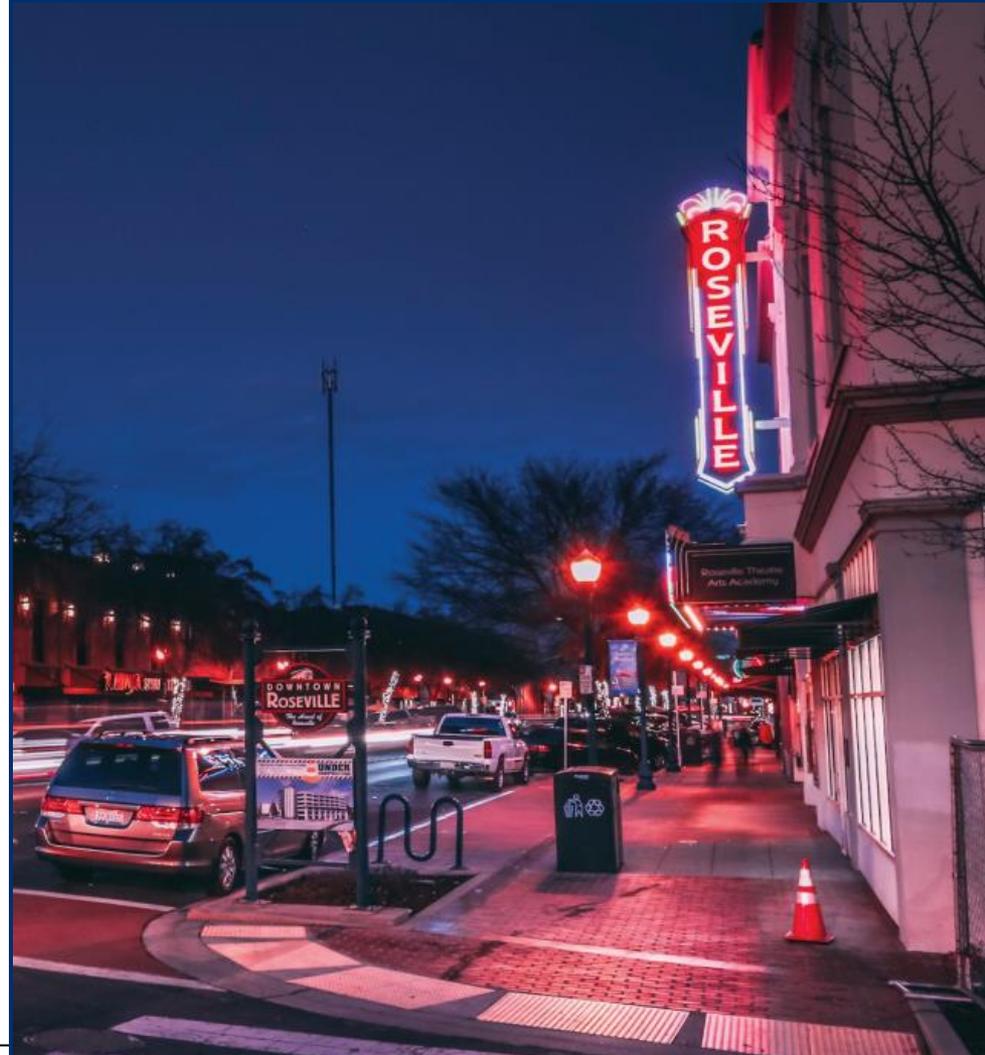
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SB100 Compliance Status

Fully compliant through end of 2025

Actively soliciting long-term and short-term projects for future compliance periods

Market is challenging given supply chain and interconnection issues



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SMUD's Road to Zero Carbon

Powering forward.
Together.





2030 Zero Carbon Plan Overview

Affordable, Reliable, and Equitable



Natural gas generation repurposing

Retire 2 power plants by 2025 and retool remaining 3 to minimize emissions

~\$2.5 billion investment



Proven clean technology

Expand SMUD's renewable and battery storage resources by 3.5x
>3,000 MW of new renewable energy & storage – equivalent to energy needs of more than 600,000 homes

Support customer resources
Growing rooftop solar and batteries



~\$2 billion investment



New technology & business models

Pilot & scale new projects and programs

- 2x savings from energy efficiency & building electrification
- Education & demand flexibility
- Virtual power plants & vehicle-to-grid technology
- New grid-scale technologies

Financial

- Pursue grants & partnerships
- Limit rate impacts to rate of inflation



Maximize community benefits

- Keep affordable rates & reliable power
- Improve local air quality & overall community health
- Reduce regional impacts of carbon – drought, wildfires & extreme weather
- Create regional clean tech jobs
- Strengthen all communities
- Support under-resourced communities
- Involve our customers & community in this transition

Goal:

Eliminate CO₂ from SMUD's power supply



Thousands of new regional clean tech jobs

2030 Vehicle/Building Electrification Goals: 1.4 million MT GHG reduced

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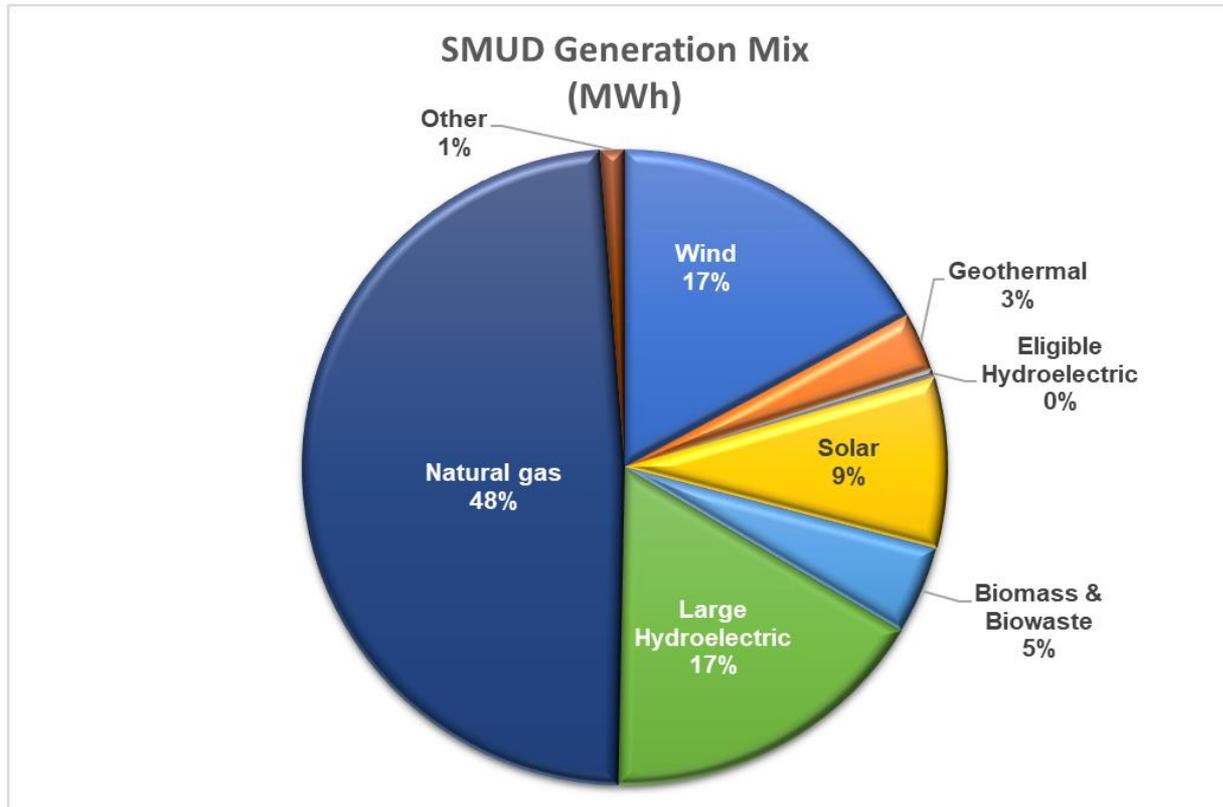


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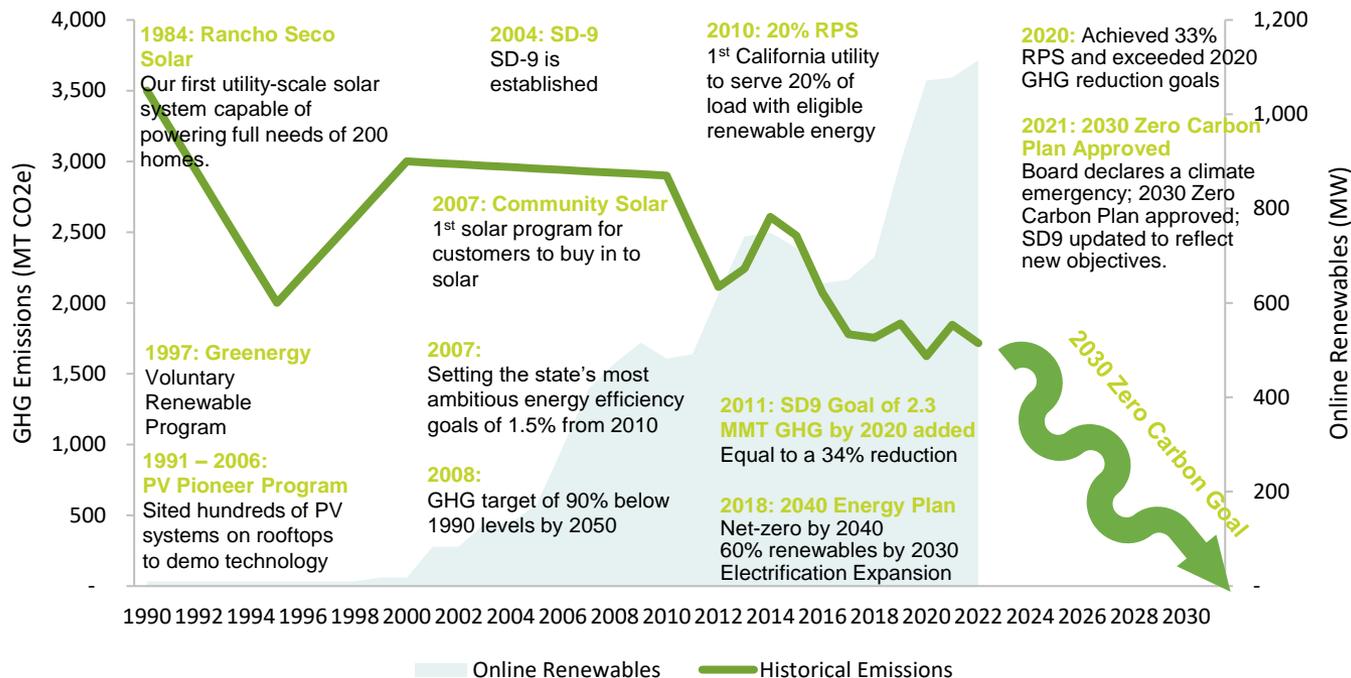
Where are we today...50-60% carbon free*



**2021 was a low hydro year, in a normal hydro year we normally get about 22% large hydro*

Resource Planning Goals Past/Present/Future

2030 Zero Carbon Goal – Eliminate All GHG Emissions from SMUD’s Energy Supply by 2030



2022 Update

Key efforts:

- Expanded renewables and storage and developed future projects
- Continued exploration and development of new tech and business models
- On track to meet state renewable goals
- Kicked off our Community Impact Strategy
- Supported growth of distributed resources

Challenges:

- Cosumnes Power Plant Unplanned Outage
- Continued Drought Conditions
- Renewable Project delays and unplanned outages

Ensure Affordable, Reliable and Equitable Service

Conclusions, Caveats, Challenges

- Major investments by all BANC members in renewable resources and storage.
- Balancing key considerations of Decarbonization – Reliability – Affordability - Equity
- Market is currently in a state of disruption
 - Supply chain issues
 - Long lead times on project development
 - Long interconnection queues



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