



Engineering, Operations, & Technology Committee

Power Operations and Planning Update

Item 6b

February 10, 2025

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Power Operations and Planning Update

Subject

Power Operations and Planning Update

Purpose

Update the Board on recent developments in energy markets and the transmission grid, their impact on Metropolitan, and strategies on managing Metropolitan's transmission and energy assets

Next Steps

Seek board approval in March 2025 for extension of professional services agreement for transmission planning
Complete RFQ and seek board approval for new professional services agreement for supplemental interconnection and strategic planning services in Q2 2025

A Dynamic Electric Grid Environment

Renewable Energy Goals Driving Grid Evolution Nationwide and in California

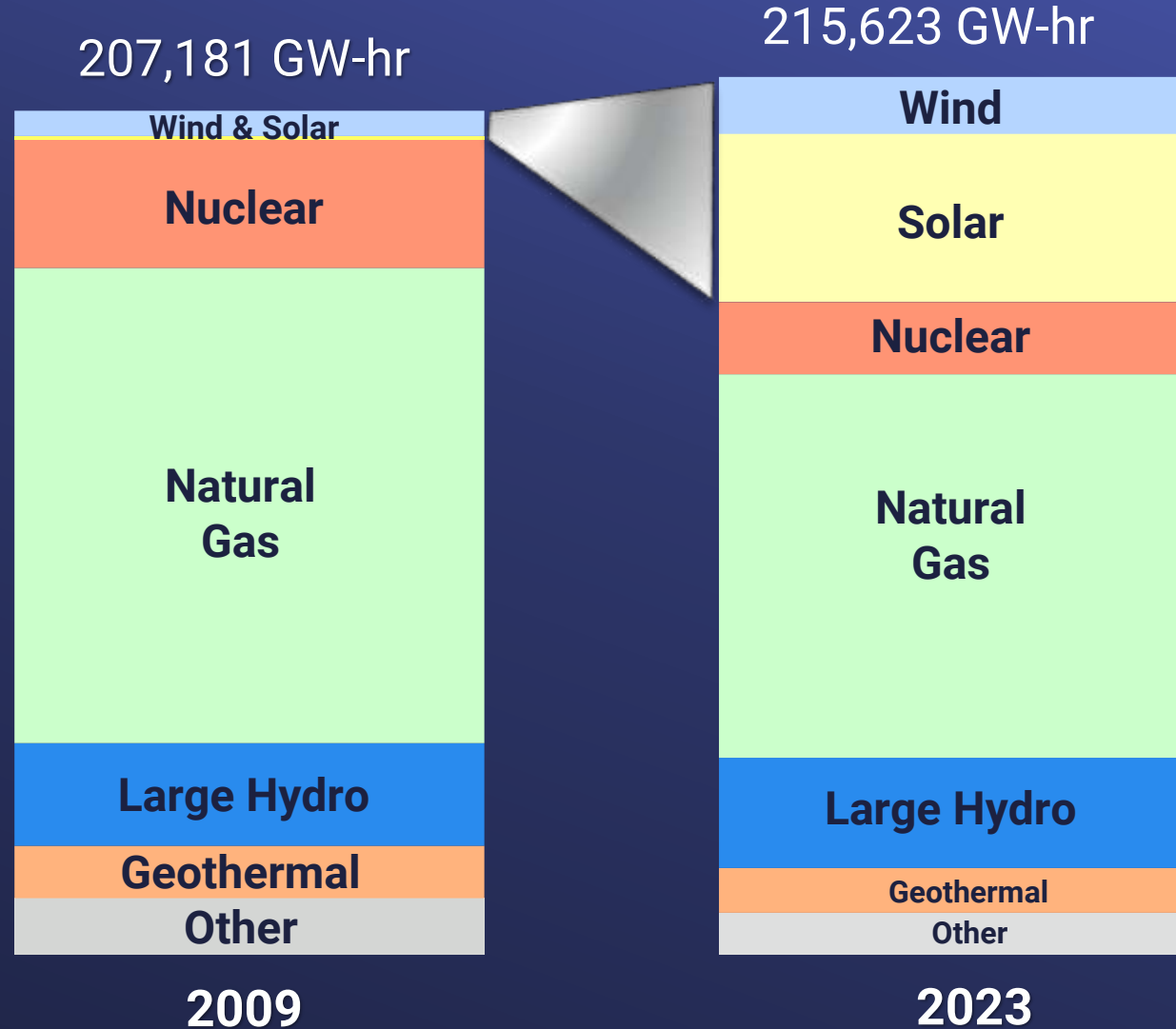
The Evolving Grid



- Renewable Portfolio Standard (RPS) goals
 - California: 60% renewable energy by 2030, and 100% by 2045
- Retirement of legacy fossil and nuclear generation
- Increased reliance on renewable generation (primarily wind and solar)

Moving to Renewables & a Dynamic Market

Market and
Regulatory
Forces
Changing
Energy Mix



Source: California Energy Commission

Managing the Transition to Renewables

Regulatory Response



OPINION CROSS COUNTRY [Follow](#)

Walz's Climate Policies Could Leave the Midwest in the Dark

Minnesota isn't alone in pursuing 'net zero,' leaving nowhere to go when solar and wind power fail.

- California ISO (CAISO) and other authorities planning for a transition to a more renewable future
- Energy storage projects to increase reliability and manage variability
 - **Battery storage**
 - **Pumped hydro**
- Technological innovations such as green hydrogen

California ISO Expansion Plan



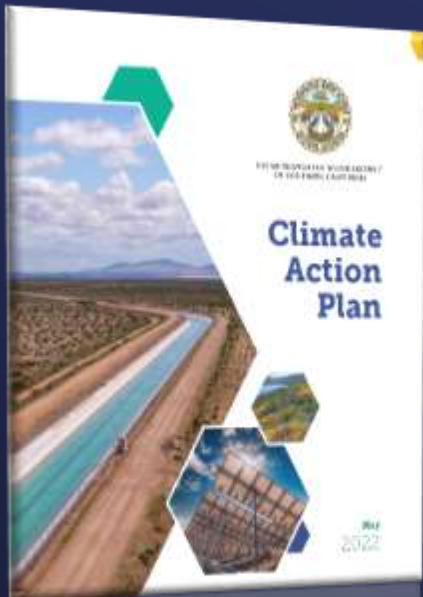
Over \$45 Billion in Planned Upgrades To Meet California's Energy Reliability & Resource Needs

- Extensive upgrades and additions to the bulk electric transmission system
- Offshore wind generation development
- Out-of-state wind generation integration
- Total investment of \$45-60 billion

Source: California ISO 2024 20-Year Transmission Outlook

Adapting to a Sustainable Future

Ongoing Metropolitan Efforts



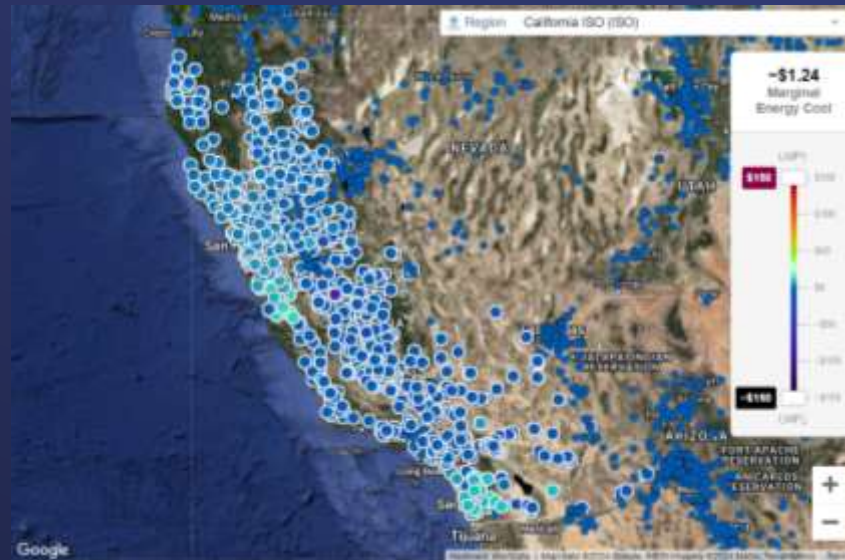
- Energy Sustainability Plan
- CRA Power Sustainability Project
- Transmission Strategic Plan
- Climate Vulnerability and Risk Assessment
- Climate Action Plan
- CAMP4W
- Pure Water Southern California
- Energy Risk Management Policy Update
- Technical studies on pumped hydro and other energy storage technologies

Increasingly Complex Demands on Metropolitan's Energy Systems

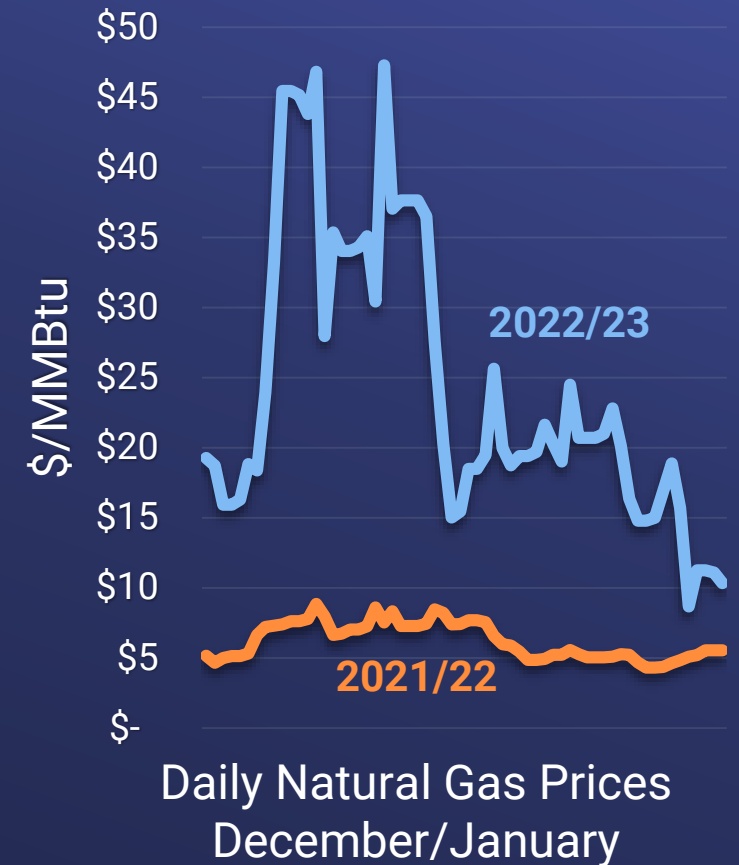
Changing Market Dynamics

Market Volatility & Pricing Extremes

- Energy market prices can vary widely depending on the cost of natural gas and availability of wind & solar



CAISO Market Prices
April 2024



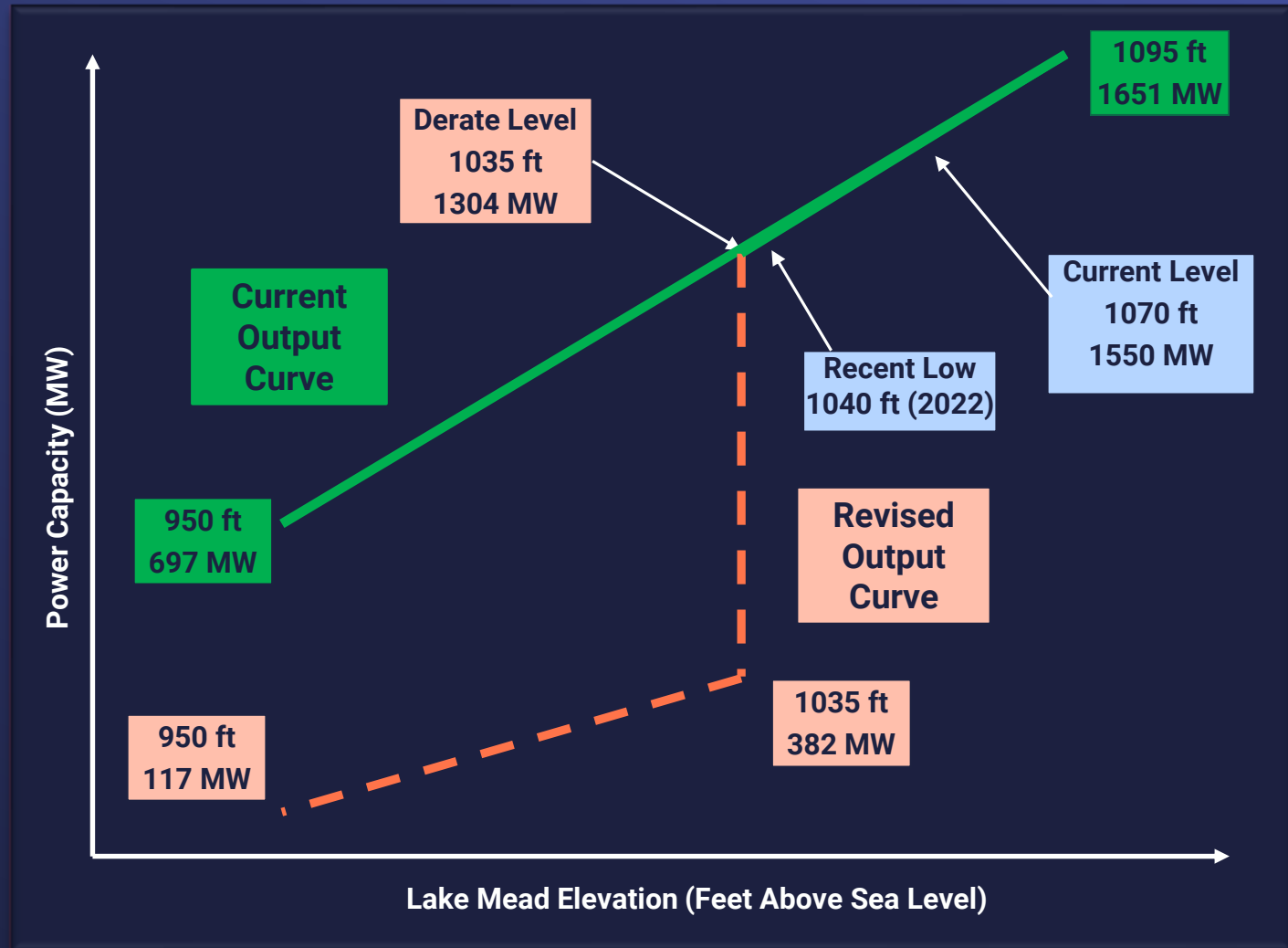
Daily Natural Gas Prices
December/January

Significant Generation Reduction During Low Lake Mead Water Levels

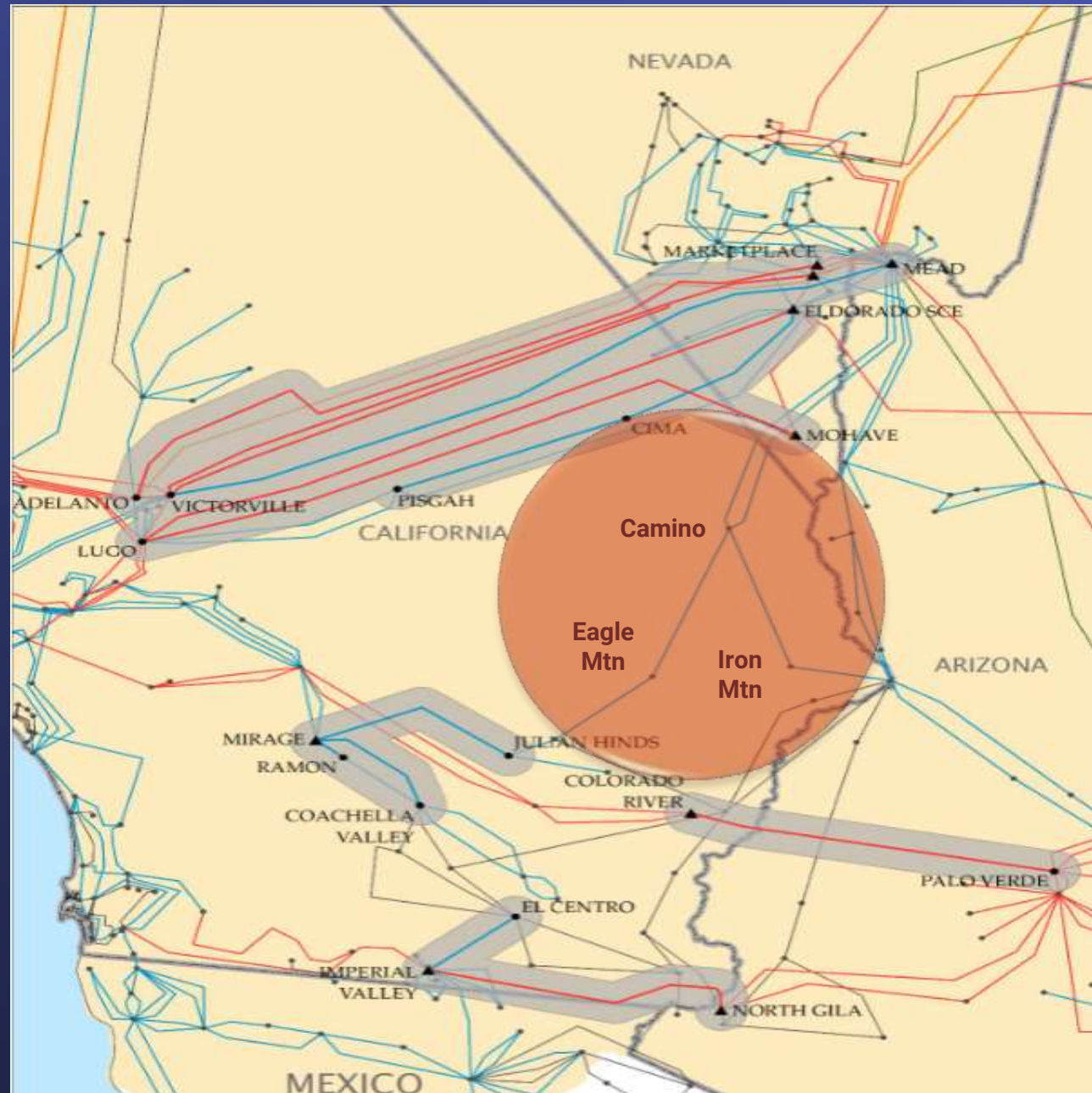
Hoover Dam Generation Uncertainty



Source: USBR



Metropolitan's System In Perspective



Protecting Metropolitan's System



Identifying Impacts from Generation Development

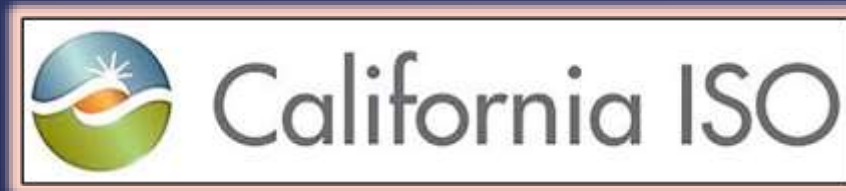
- Third-party interconnection requests
 - Seven affected system study requests
 - One interconnection request
- Additional requests pending
- Transmission planning professional services agreements to perform technical studies
 - GridSME agreement extension
 - RFQ for supplemental interconnection and strategic planning services

Potential Consequences of Third-Party Generation



Posing Significant Risks to the CRA Transmission System

- Operational constraints
- Increased capital and O&M costs
- Increased regulatory requirements



Strategies for Managing Metropolitan's Transmission and Energy Assets

Staffing & Other Resource Needs



Staffing & Professional Services Resources to Manage Increased Workload

- Power Operations is currently staffed at the same level as prior to the SCE contract termination in 2017
- Since that time, the workload has effectively doubled or tripled
- Additional staff and professional services necessary to protect Metropolitan's system, manage the required study work, support energy sustainability efforts, and meet regulatory compliance obligations
- Creative ways to manage costs and increase revenues
- Strategic planning to balance risk and opportunity

Potential Future Revenue Streams



Low-Hanging Fruit (Low risk – Near Term – Stable and Predictable Returns)

- Sale of Mead Import Allocation Rights
 - No impact to CRA water operations
 - Benefits the CAISO grid generally
- DVL Pumped Storage Operations
 - Realize capacity value when operational conditions permit
- Surplus HEP Unbundled Renewable Energy Credits
 - Production and market value vary significantly

Potentially \$0.5 - \$3 million in annual revenues

Next Steps

- Seek board approval in for extension of professional services agreement with transmission planning services provider (GridSME) of \$1 million to a new not to exceed limit of \$1.25 million
- Complete RFQ and seek board approval for new professional services agreement for supplemental interconnection and strategic planning services
- Secure additional staffing to pursue asset monetization and strategic planning and sustainability efforts

