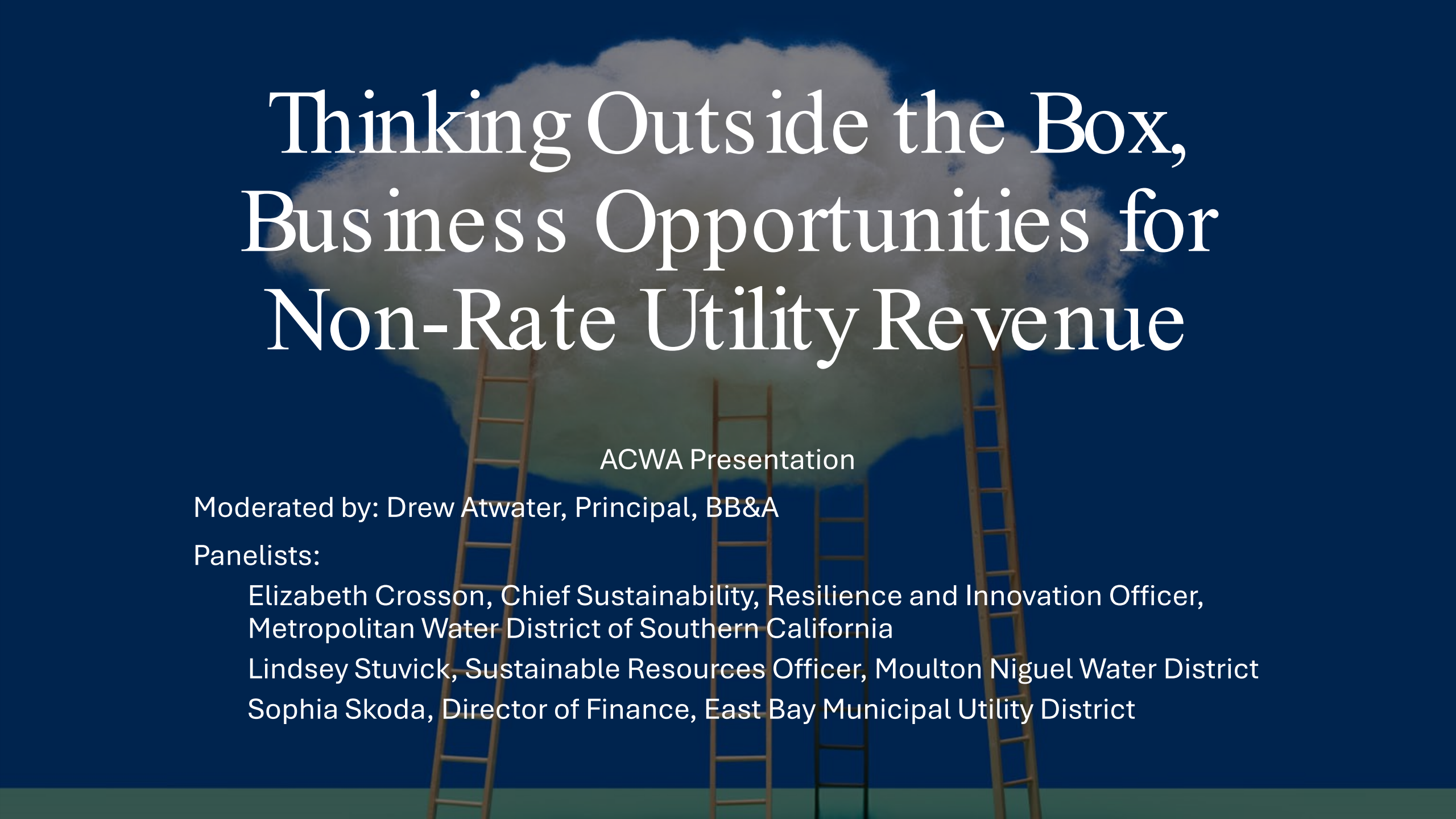




Thinking Outside the Box, Business Opportunities for Non-Rate Utility Revenue

ACWA Presentation

Moderated by: Drew Atwater, Principal, BB&A

Panelists:

Elizabeth Crosson, Chief Sustainability, Resilience and Innovation Officer,
Metropolitan Water District of Southern California

Lindsey Stuvick, Sustainable Resources Officer, Moulton Niguel Water District

Sophia Skoda, Director of Finance, East Bay Municipal Utility District

About BB&A

Our team has extensive practical experience.

- We know the public sector and have worked for more than 30 years with utilities throughout California and the West.
- We come from the public sector and have served in executive management positions in California public utilities.
- We have worked on large, complex, and multi-faceted programs, evaluating the financial feasibility and making the business case for municipalization efforts and community choice aggregation programs.
- We are senior, seasoned professionals that interact and communicate directly with executive management, elected boards and city councils all the time.



Overview

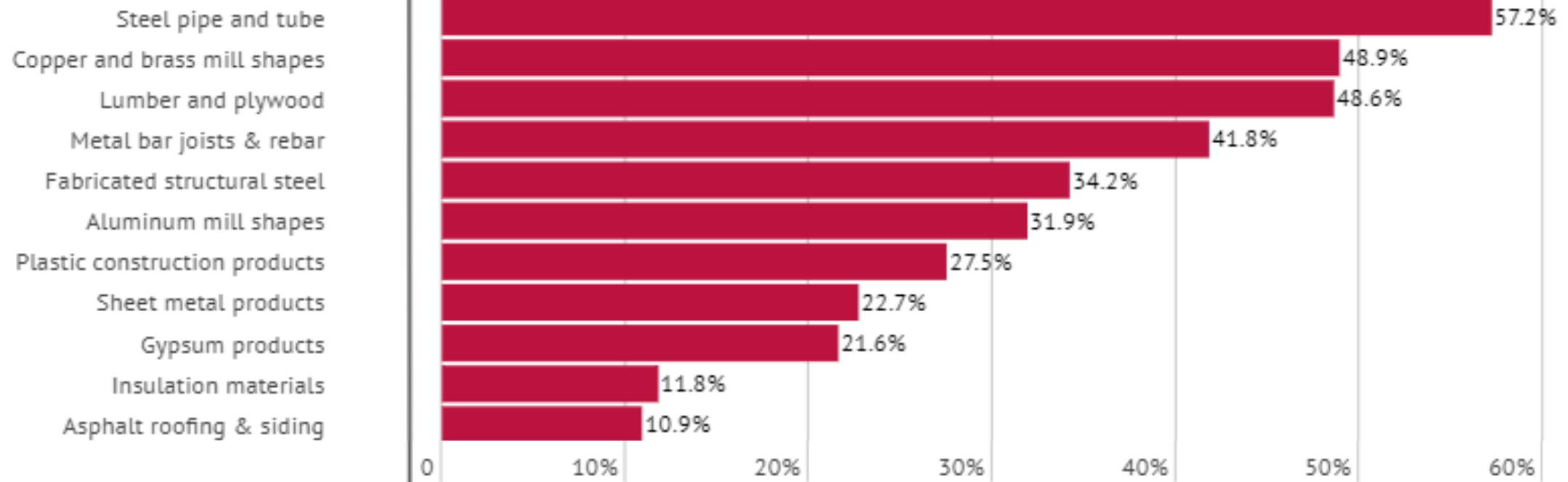
California Water Utilities face unprecedented affordability pressures

- Average water rate increases past 20 years 6-7% statewide, far above inflation
- Future outlook with no signs of stopping
 - Underinvestment in aging infrastructure
 - Inflation in materials and input costs
 - Supply chain
 - Disaster frequency and magnitude increasing
 - Labor shortages
 - Pursuit of new water supplies/ storage

Need for non-rate revenues to help

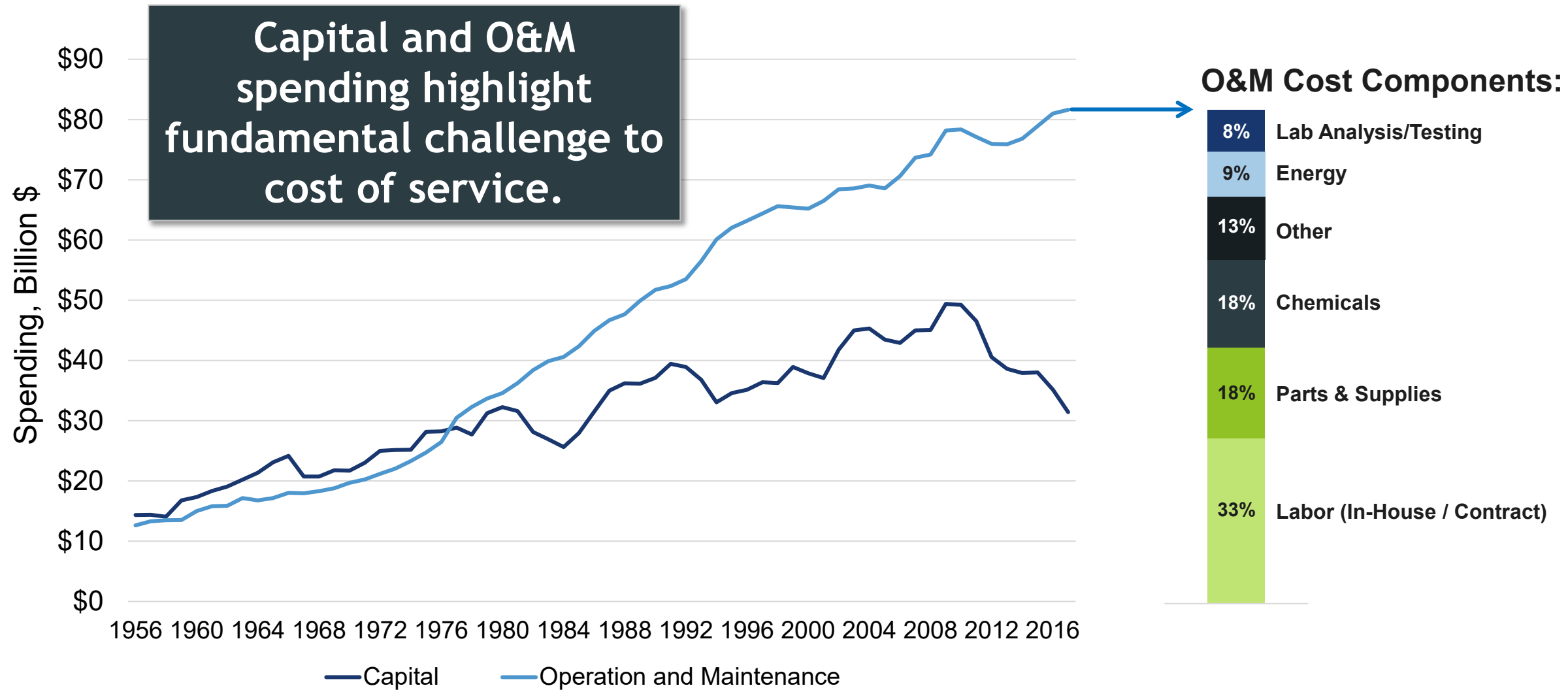
Materials are more expensive

Construction Materials Price Movement - Last 12 Months



Sources:
US Bureau of Labor Statistics

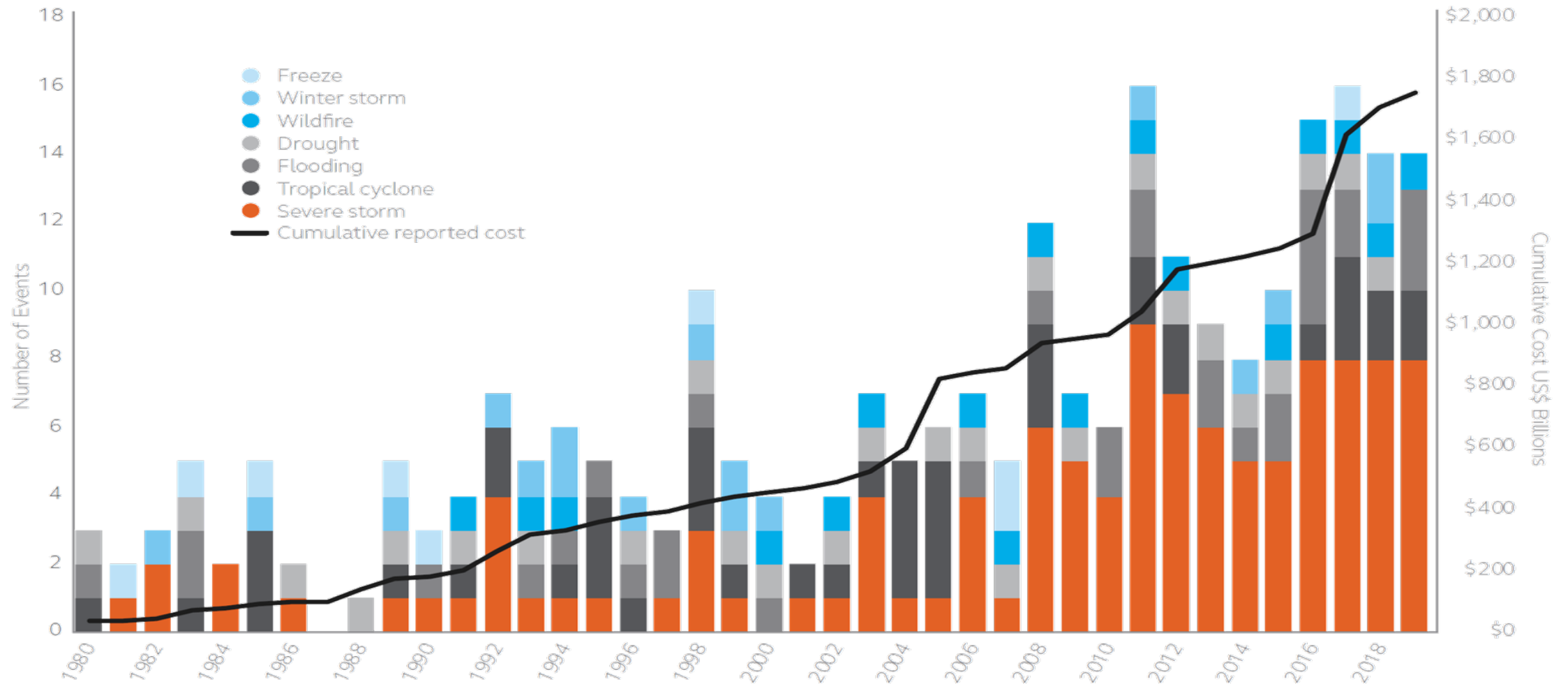
Capital Investment is not keeping up



Public spending on Capital and O&M Investments, 1956-2016. Source: Bluefield Research using U.S. Congressional Budget Office data.

Weather Events are more costly

Number and Cost of U.S. Weather-Related Disasters, 1980-2019.
Source: National Centers for Environmental Information.



Transmission Investment and Needs are substantial (CAISO)

Unprecedented need for new renewable resources, driven by customer demand for clean energy, continuing electrification, and the requirements of SB100 that renewable energy and zero-carbon resources supply 100% of retail sales by 2045.

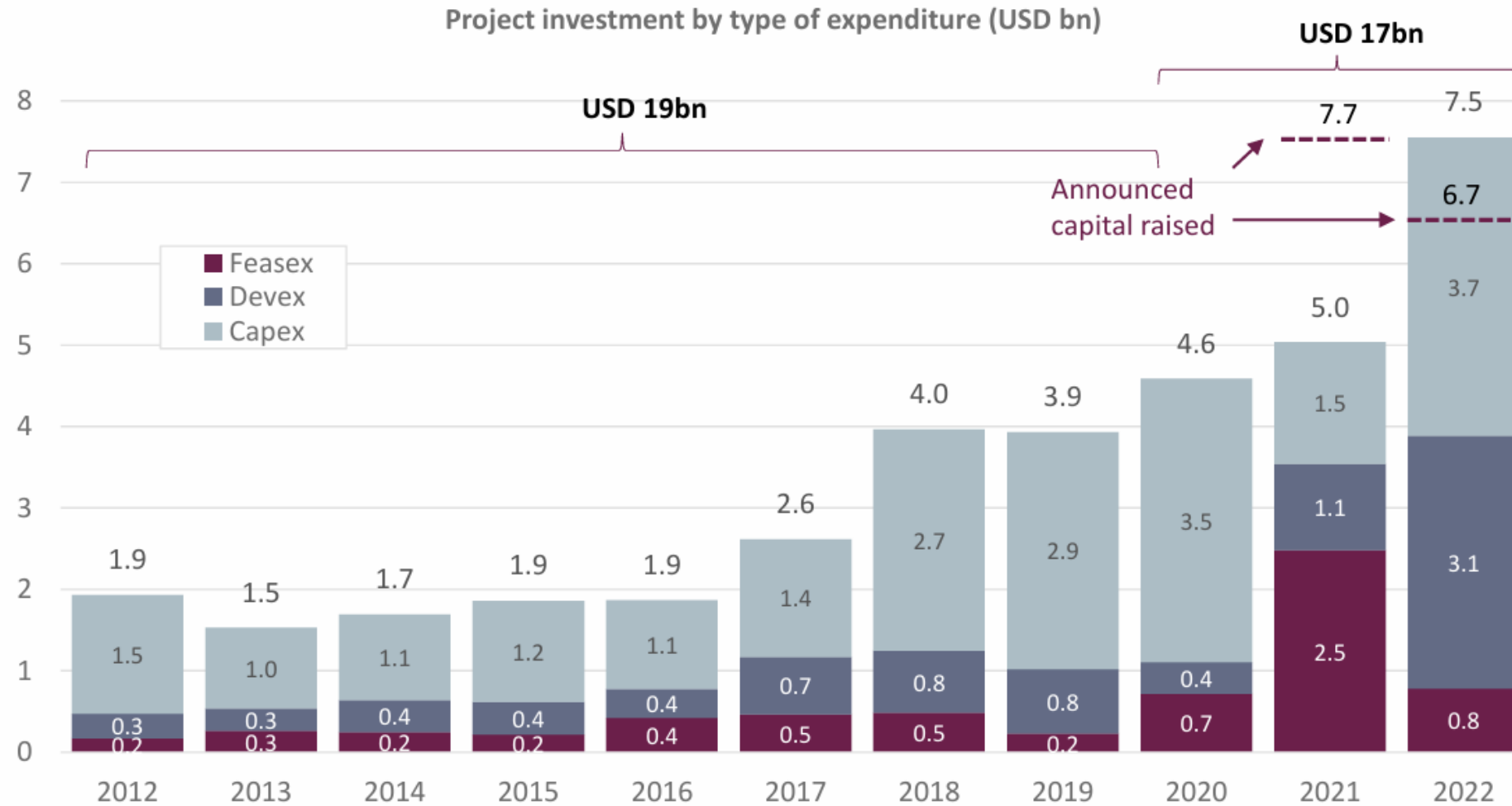
This transformation will require significant transmission to accommodate the new capacity being added.

Transmission Development	Est. Cost (\$billions)
Upgrades to existing ISO footprint	\$9.3 to \$11.5
Off-Shore wind integration	\$25.0 to \$36.5
<u>Out of State wind</u>	<u>\$11.6 to \$15.2</u>
Total	\$45.8 to \$63.2

Source: CAISO 20-Year Transmission Outlook Update July 31, 2024



Carbon Capture Investments Increasing



Source: Trove analysis of carbon-credit registered and pipeline projects across the five carbon-credit registries including Verra, Gold Standard, ACR, CAR and Puro Earth – as of September 2023. Methodology and assumptions are shown in Appendix A.



Case Studies

Panelists:

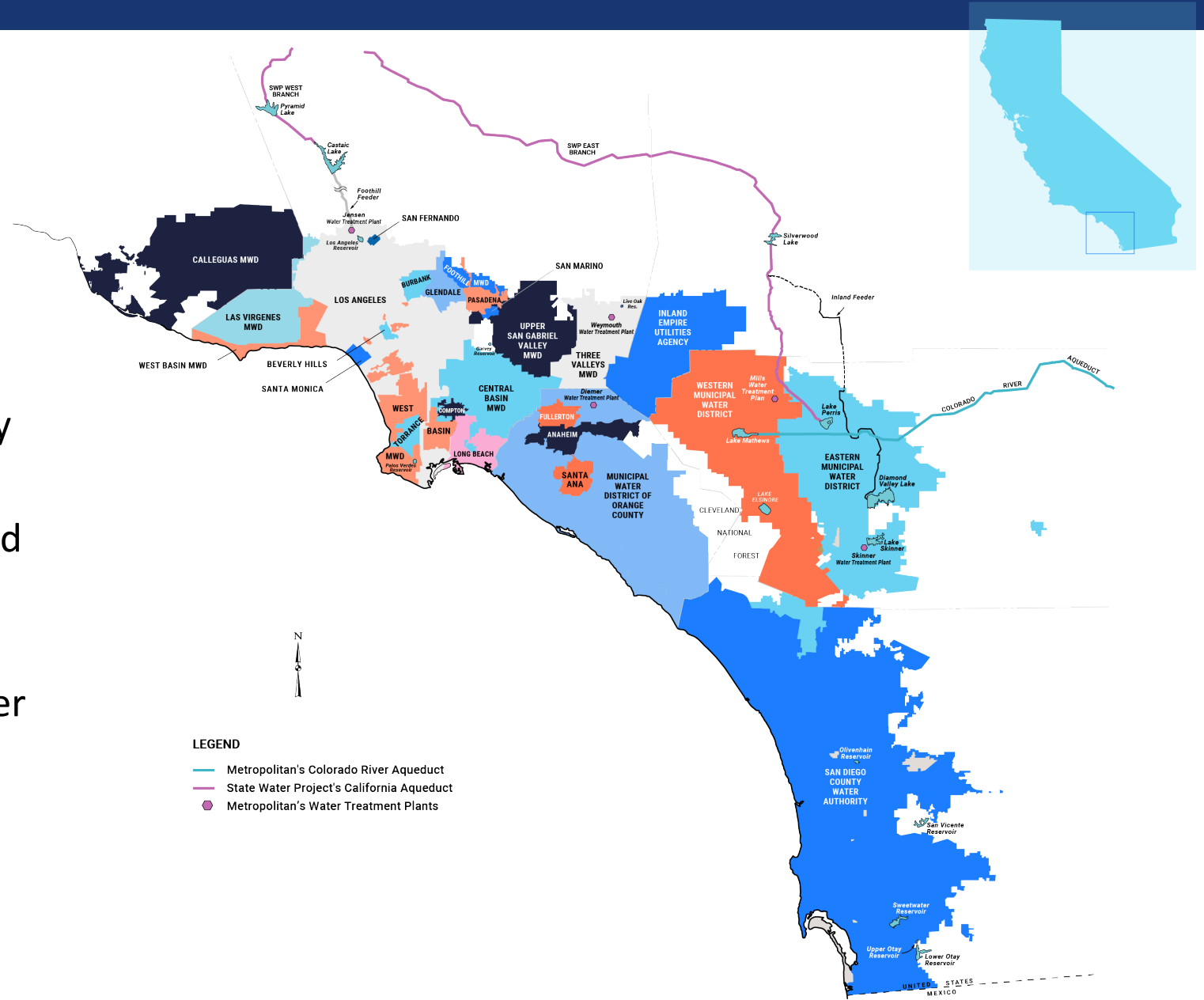
Elizabeth Crosson, Chief Sustainability, Resilience and Innovation Officer,
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Sophia Skoda, Director of Finance, East Bay Municipal Utility District

Metropolitan Overview

- Nation's largest wholesale water provider
- Service area is 5,200 square miles (13,500 sq km) throughout 6 counties
- 19 million people through 26 public member water agencies
- Supports \$1.6 trillion regional economy (11th largest in world)
- Imports water from Northern Sierra and the Colorado River, invests in local projects & conservation
- Manages 200,000 + acres of land in over 10 counties
- Already experiencing severe climate impacts



Organizational Structure Can Facilitate Innovation to Meet Multiple Objectives



SUSTAINABILITY
RESILIENCE
INNOVATION



The mission of the Sustainability, Resilience, and Innovation Office is to empower Metropolitan to deliver its core mission by inspiring and implementing solutions that benefit people, nature, and the climate.

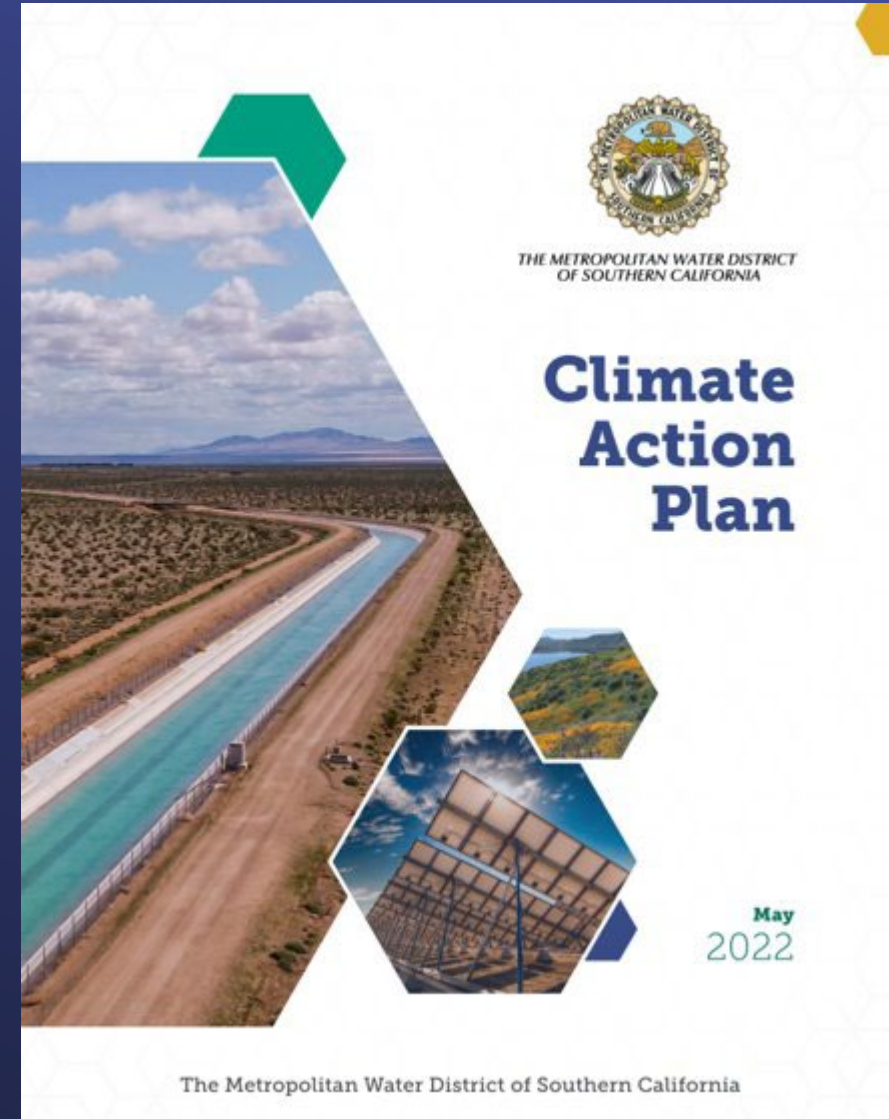
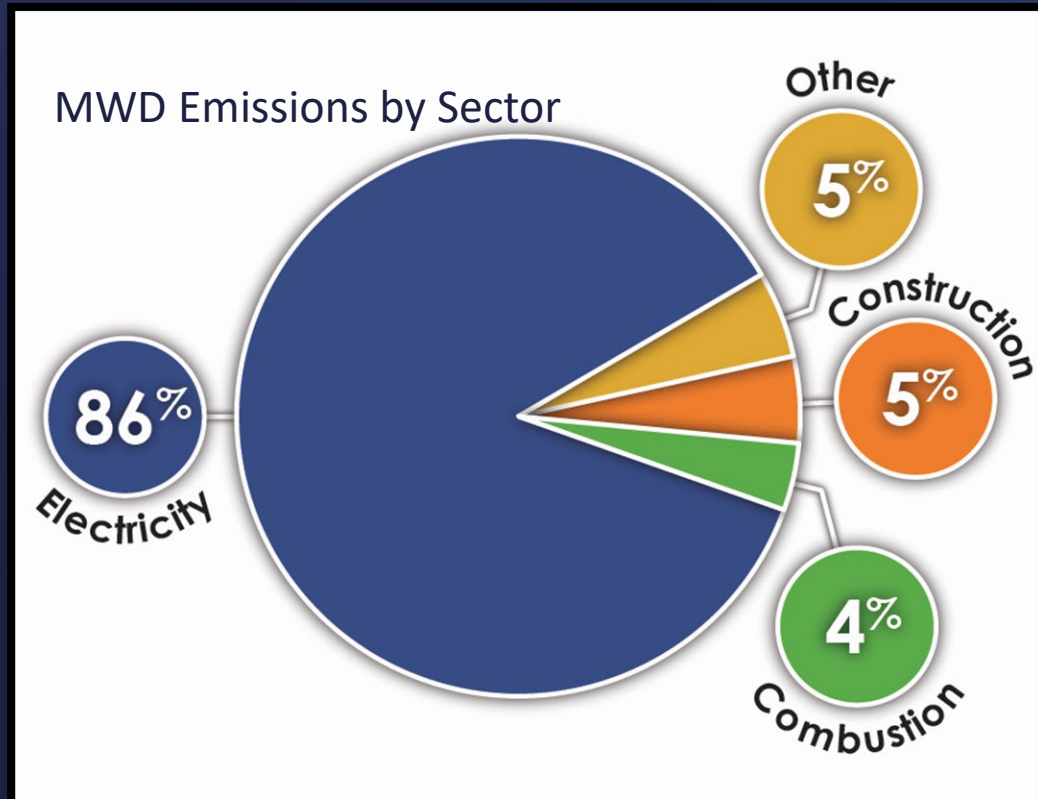
Climate Action Plan - Mitigation Targets

Established an emissions target:

- Carbon neutrality by the year 2045

Interim target to ensure compliance:

- 40% below 1990 levels by 2030



Metropolitan's Land Ownership Provides Additional Climate Action and Revenue Opportunities

Renewable Energy Development
Regenerative Agriculture
Carbon Sequestration



About Moulton Niguel



Drinking-Water, Recycled Water, and Wastewater Treatment



Serve 170,000+ Customers in 6 Cities in South Orange County



7-Member Board of Directors



200 Employees



AAA Credit Rating from Fitch and S&P Global



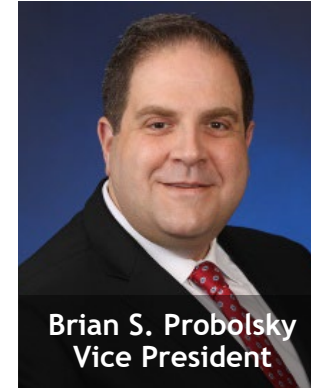
Top Workplace OC & USA



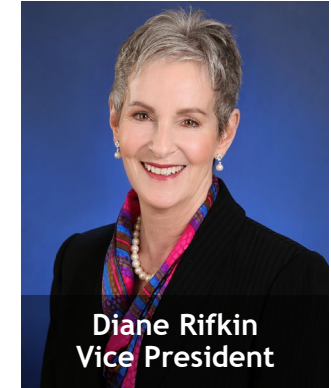
Recognized Statewide and Nationally for Innovation, Environmental Stewardship, and Customer Service



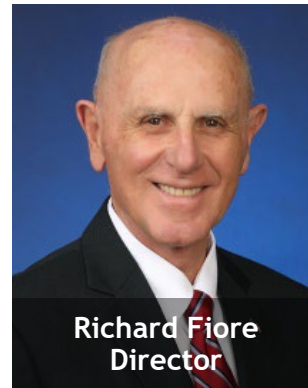
Duane D. Cave
President



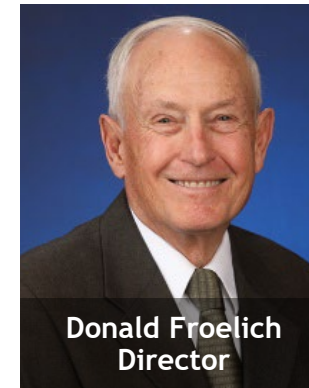
Brian S. Probolsky
Vice President



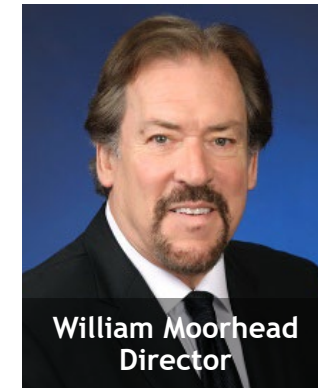
Diane Rifkin
Vice President



Richard Fiore
Director



Donald Froelich
Director



William Moorhead
Director



Sherry Wanninger
Director

Energy Goals

Increase energy independence and resilience

Reduce energy costs and mitigate cost volatility and risk

Alignment on energy management

Optimizing Your Energy Portfolio

<u>Capital Investments</u> Renewable Energy Batteries Microgrids Demand Driven Distribution	<u>Non-Capital Options</u> Pump Optimization Load Shifting Peak Shavings Demand Response Programs
<u>Bill Credit Offset</u> Generate RES-BCT Bill Credits Offset Energy Costs @ up to 50 Sites	<u>Site Rehabilitation</u> Energy Use Analysis Engineering Design Standards Specs for Metering and Energy Mmgt

Net Zero Headquarters

- ▶ System generates clean energy
- ▶ HQ uses 860,000 kWh annually
- ▶ PPA & ownership options
- ▶ External funding available
- ▶ Expected payback <10 years
- ▶ CA Net metering 2.0
- ▶ CEQA categorical exemption



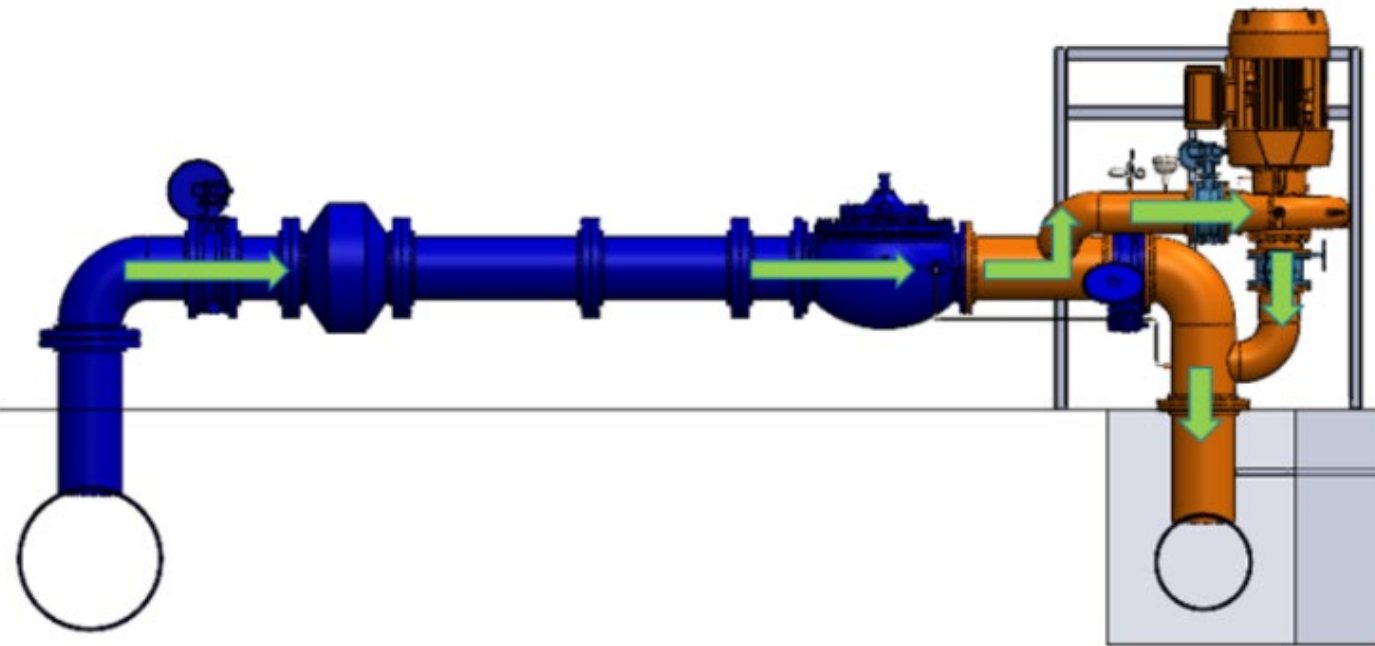
Micro Hydropower at Flow Control Facility

- Generates energy & manages pressure
- 224 kW system
- 820,000 kWh generated annually
- 2-4 year payback period
- External funding covers up to 70% of costs
- RES-BCT Program
- Received CEQA & FERC exemptions

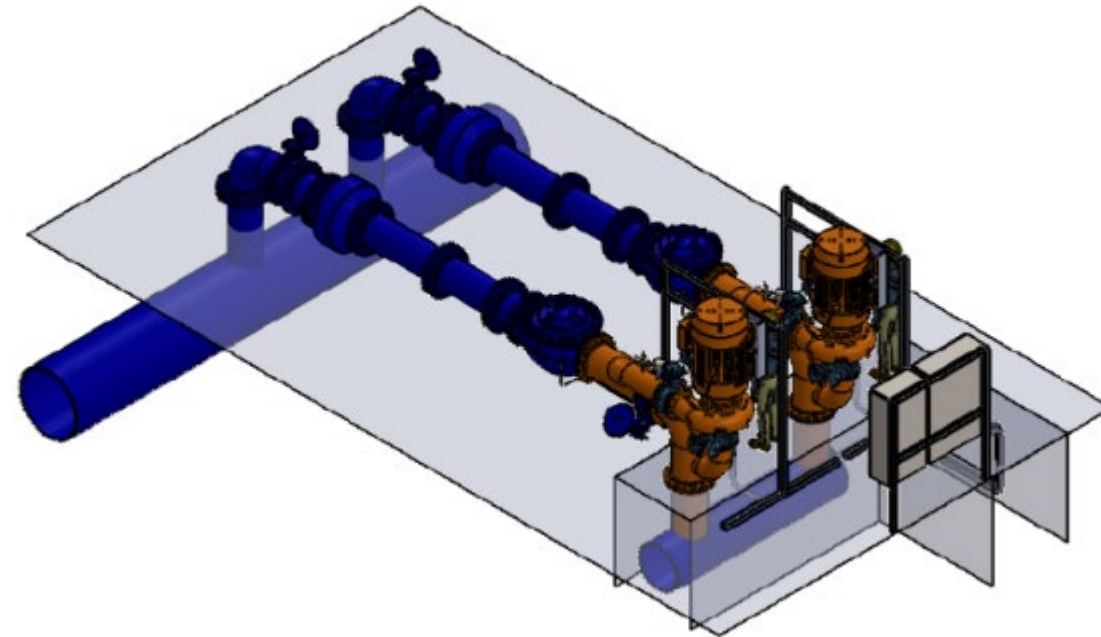


Design Renderings

Dual train energy generation - MOV 2 & 3



Profile view of water flow through Hydro XS



RES-BCT and other Funding Sources

Governing Body	Incentive	Eligible Projects	Amount	Incentive Details
US Dept of Energy	Inflation Reduction Act	- Turbines - Solar - Battery	Up to 40% of total project costs	30% for project 10% for projects using domestic content - Investment Tax Credit as a Direct Payment
US Dept of Energy	Hydro Production Incentive (Section 242)	Turbines	Up to \$0.18 per kWh generated	- Performance based incentive - Payable for first 10 years of energy production
Center for Sustainable Energy	Self Generation Incentive Program (SGIP)	- Turbines - Battery	Up to \$2.00/installed Watt	50% is paid upfront and 50% paid over years 1-3 of project operations - Applies \$2/installed Watt (100 kW/Turbine Generator)
Renewable Energy Self-Generation Bill Credit Transfer (RES-BCT)				
SDG&E	RES-BCT	Surplus Energy Generation	Credit based on hourly generation rate	- Applies to surplus energy only - Can apply bill credits to up to 50 other energy accounts



Thinking Outside the Box on Non Rate Revenue

ACWA

December 4, 2024



Overview of Major Water & Wastewater Non-Rate Revenue

- Hydropower
- In-Conduit Hydro
- Photovoltaics
- Resource Recovery
- Real Estate
- Ideas to Explore



Pardee Powerhouse



Orinda PV



Camanche Powerhouse



In-Conduit Hydro

Renewable Energy Projects

Hydropower

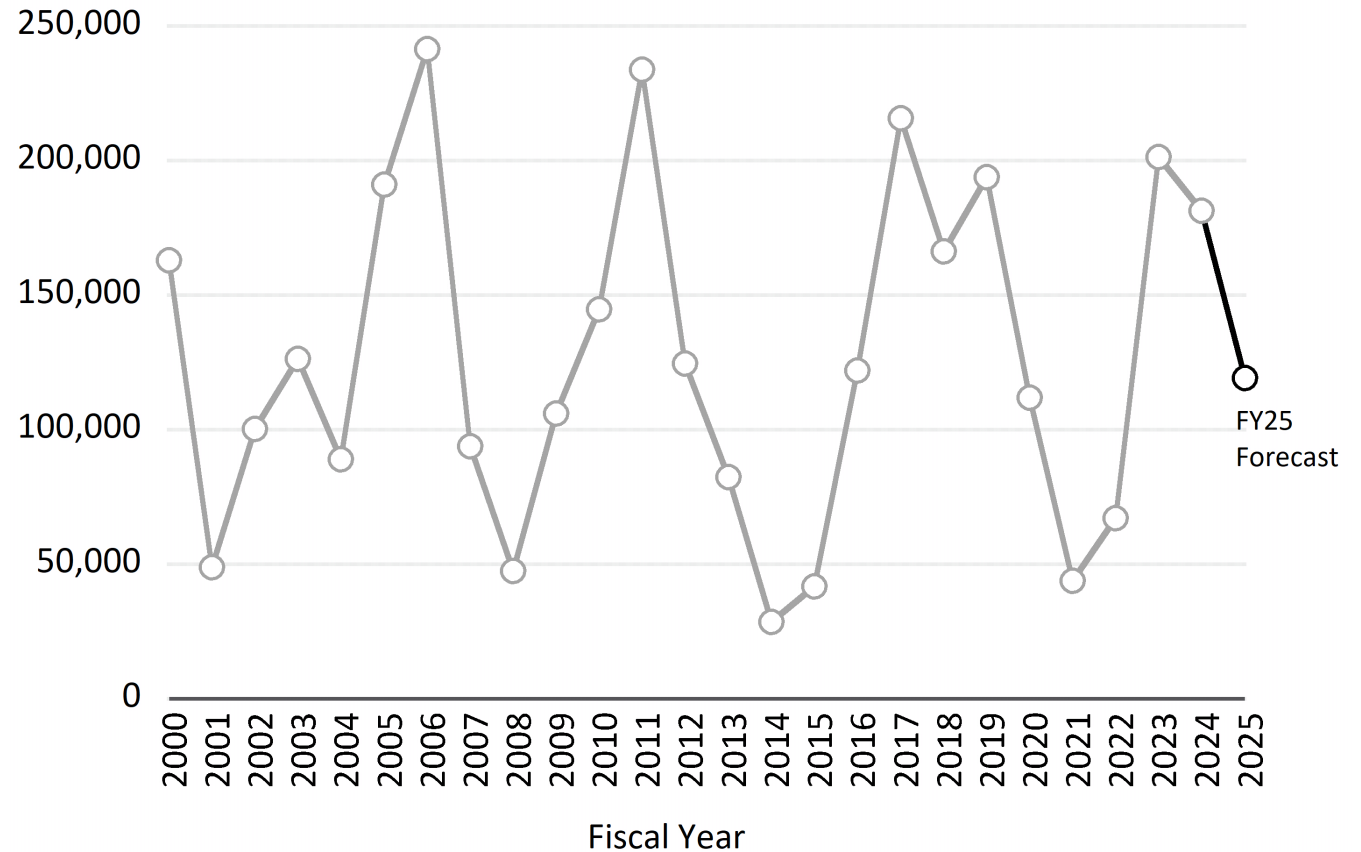
- Pardee and Camanche Powerhouses
 - 1928 and 1983
 - Hydropower Generation



Pardee Dam and Powerhouse

Total Hydropower Generation

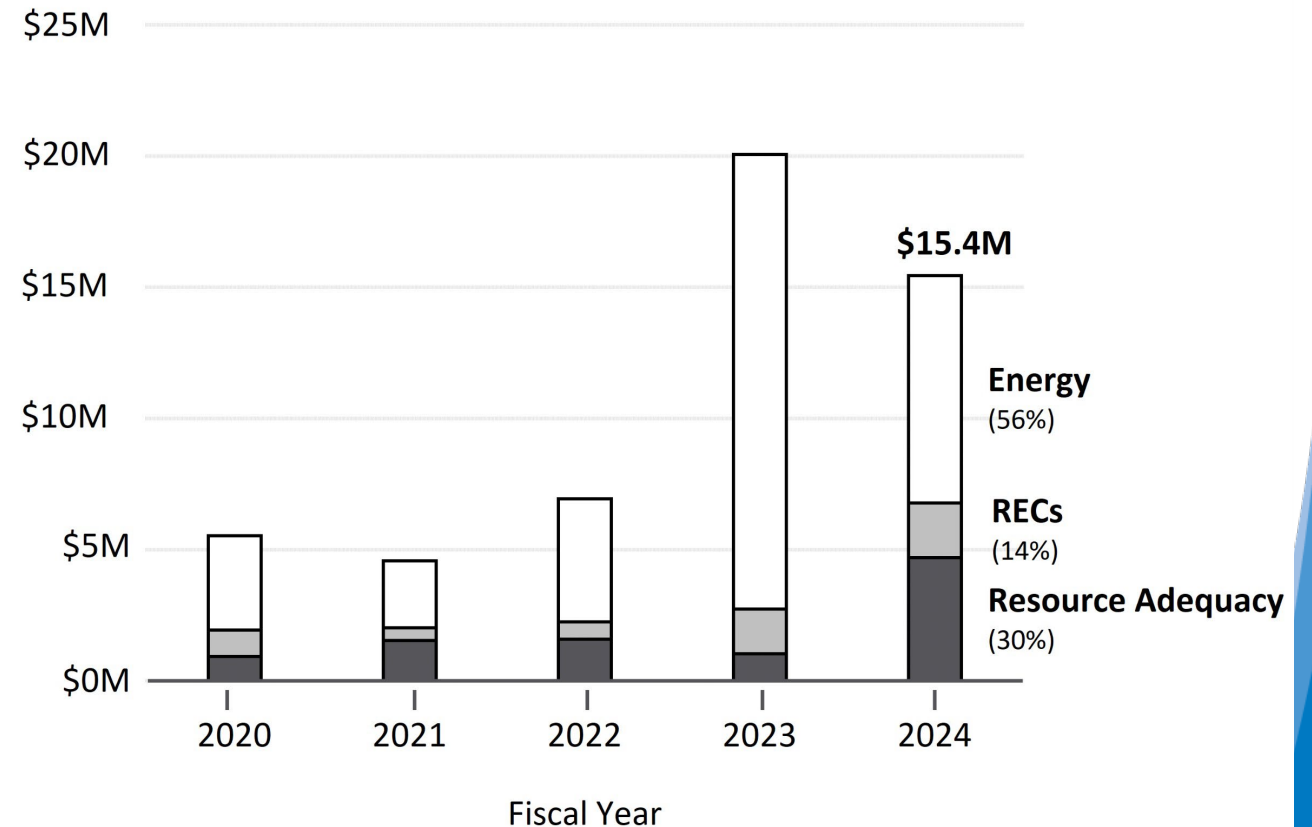
(MWh, Pardee and Camanche Powerhouses)



Hydropower Net Revenue

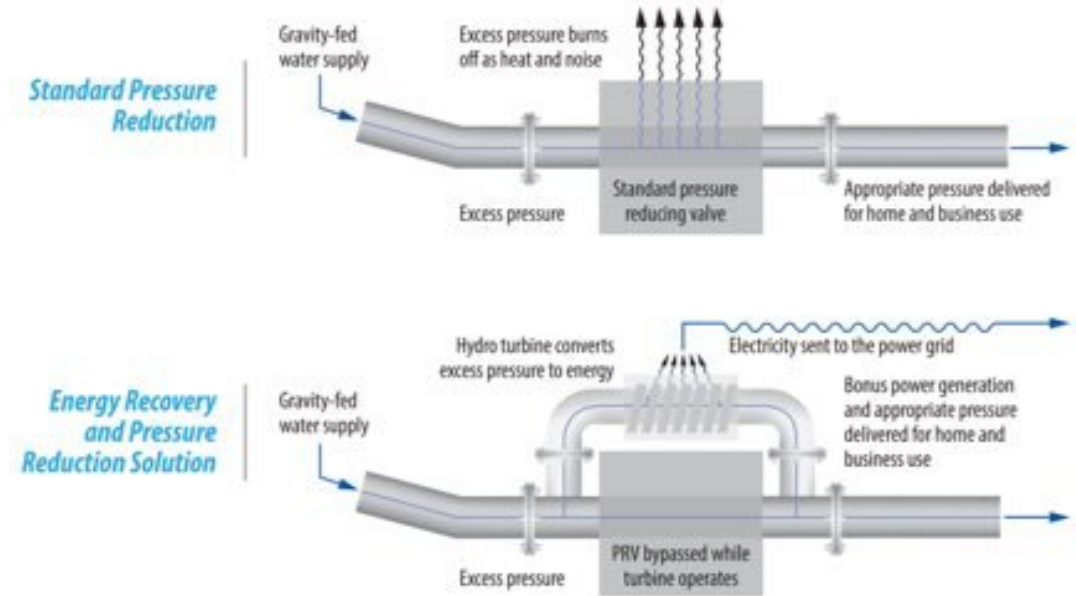
- Fiscal Year (FY) 2024 revenue \$15.4M
- Forecasted FY 2025 revenue \$11.5M
- Resource adequacy providing increasing revenue

Hydropower Net Revenue



In-Conduit Hydroelectricity Generation

- 30kW system installed on a 12" line
- Takes advantage of pressure zone management related activities
- Reduces greenhouse gas emissions ~3.7 MT CO₂e/yr
- Reduces operational costs \$21K to \$59K/yr
- Electricity generation to date 11% greater than estimate
- Payback estimated at 2 to 4 years



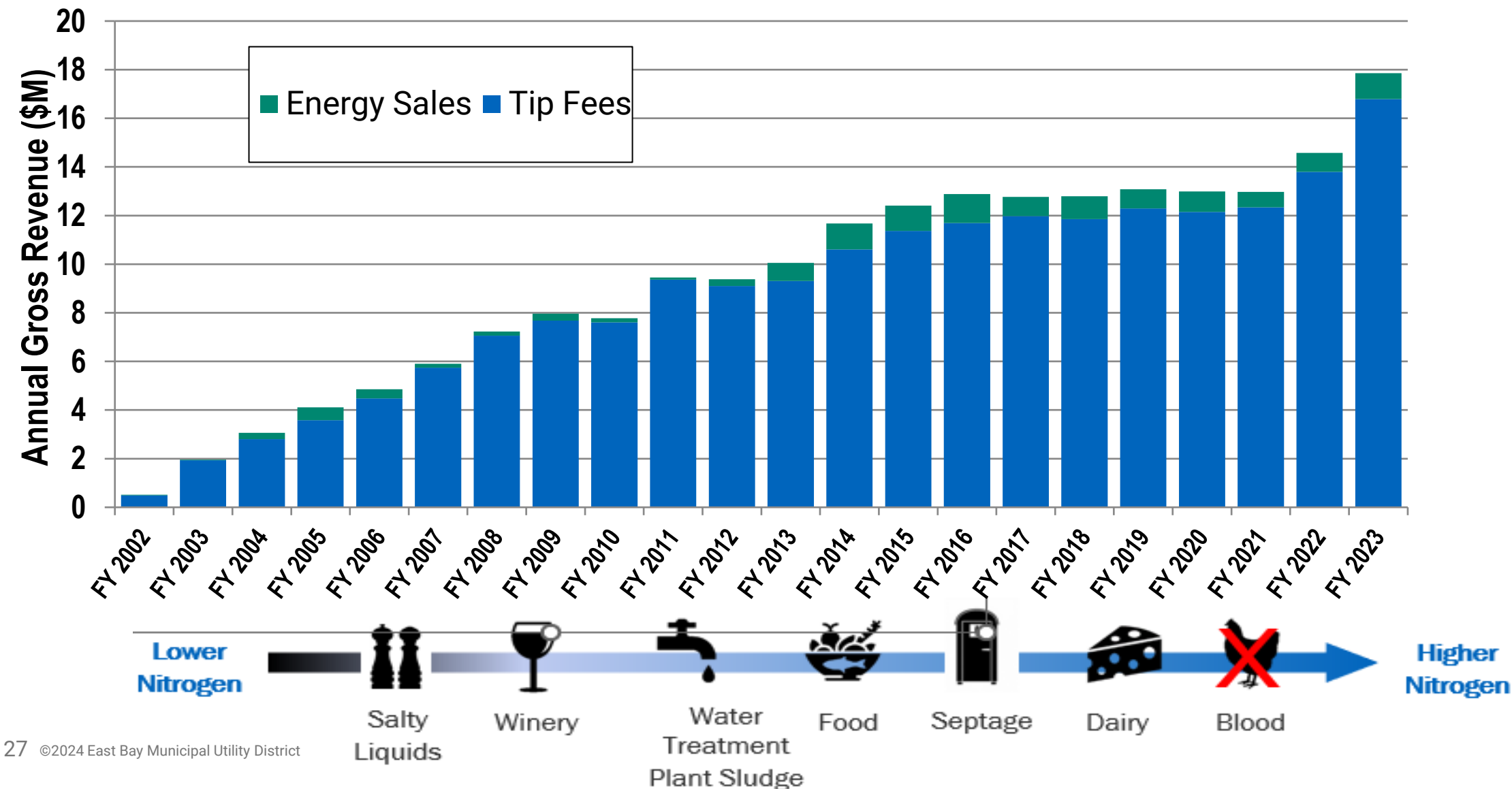
Source: Idaho National Laboratory and Pacific Northwest National Laboratory

Photovoltaic Projects

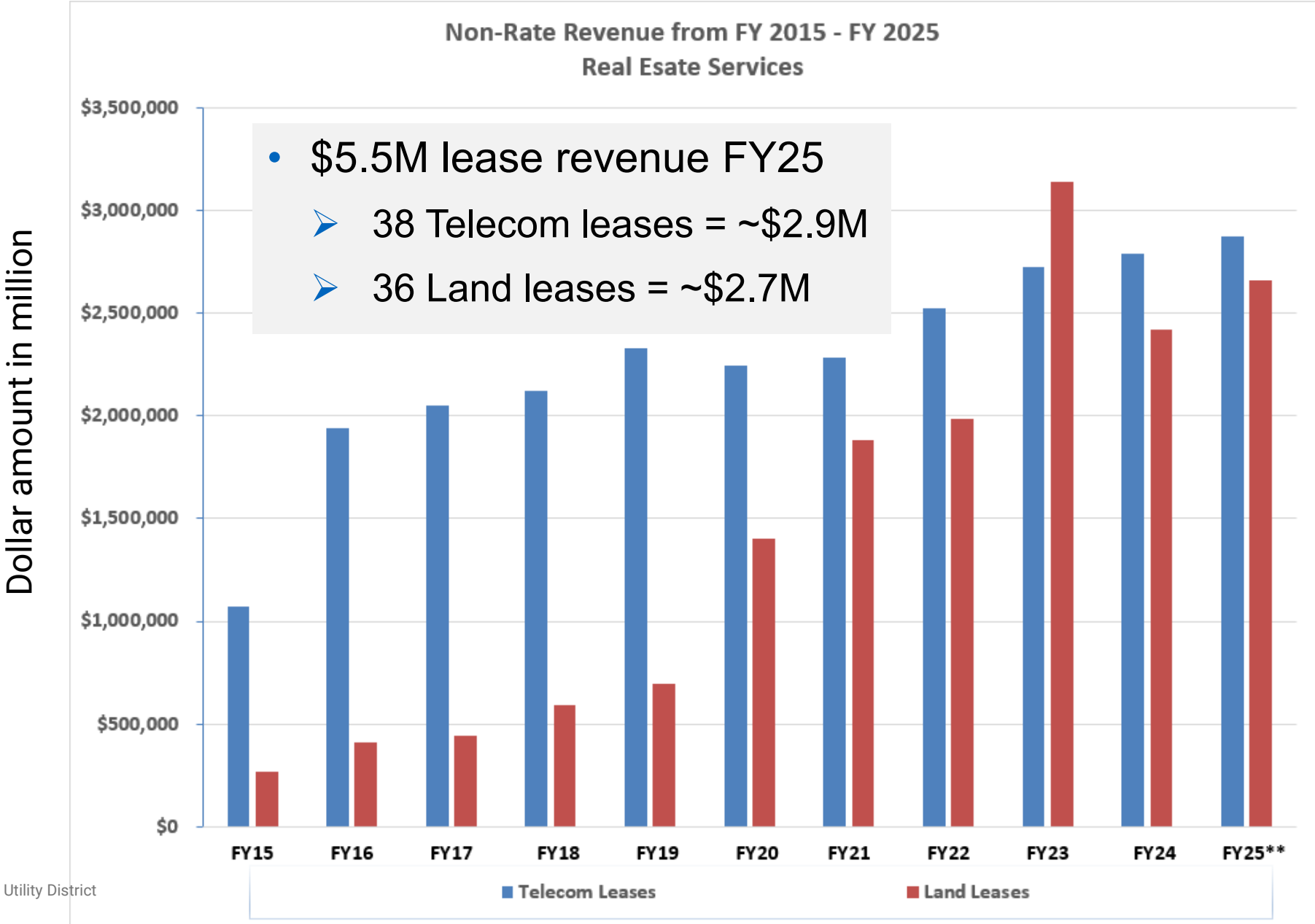
- Orinda Photovoltaic (PV) 4.6MW
- Camanche Dam PV System (363 kW)
- South Shore Wastewater (WW) Ponds PV System (49 kW)
- Recreational Area Water Treatment Plant PV System (150 kW)
- North Shore WW Ponds PV System (49 kW)



Resource Recovery



Real Estate Revenue



Ideas to Explore

- Service lateral insurance partnerships?
- Setting up a foundation to pursue private funding for activities like education, recreation, habitat restoration, etc.?
- EBMUD has a partnership with the Center for Smart Infrastructure at UC Berkeley; part of the goal of the partnership is to encourage development of new technologies to serve our sector. We have 'invested' in many small companies historically but have reaped minimal benefits relative to the company – how can we re-think our 'equity'?

Questions

