



One Water and Stewardship Committee

Annual Climate Action Plan and Update on Climate Vulnerability and Risk Assessment

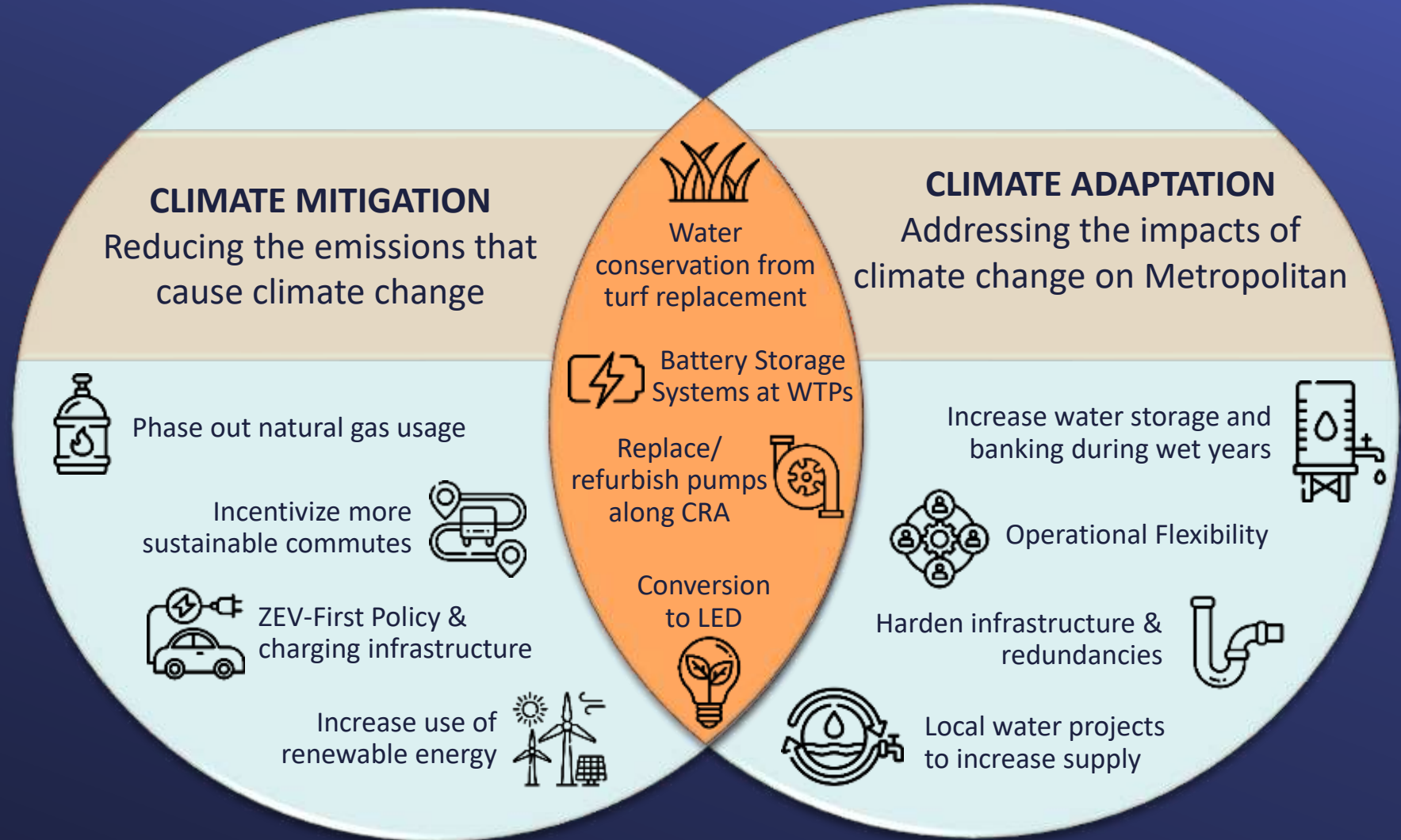
Item 7c

May 8, 2023

Increasing **Climate** Resilience

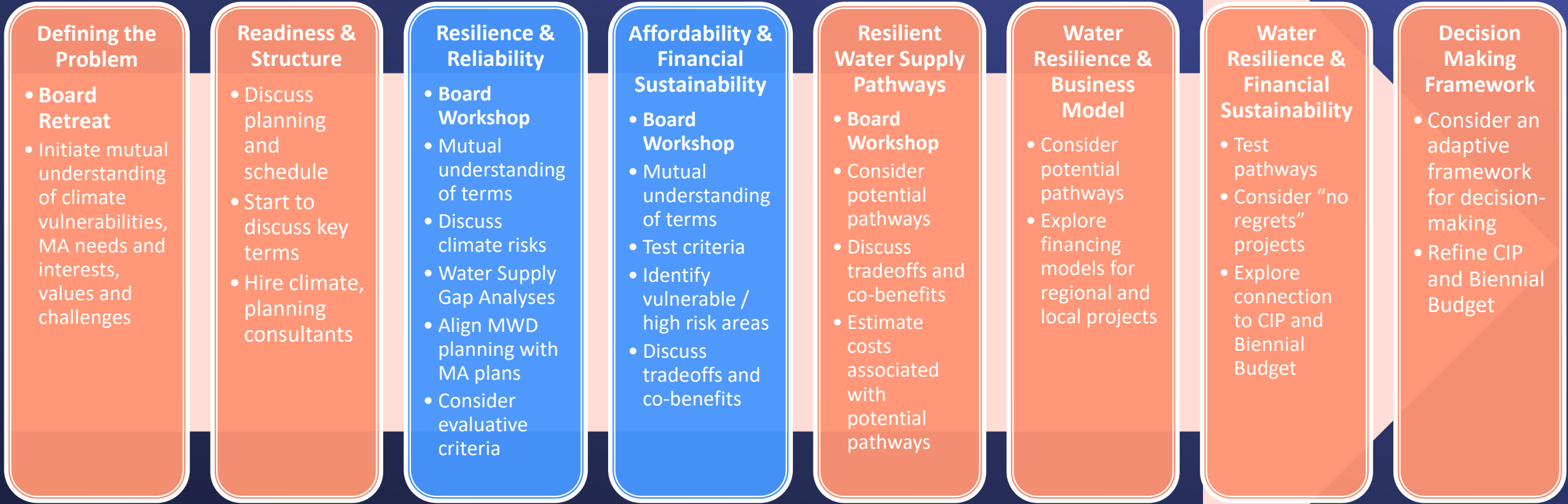
Resilience

Metropolitan builds climate resilience by continuing to reduce its GHG emissions & by investing to manage more frequent & severe climate hazards.



Climate Adaptation Master Planning **Process**

CAP Progress, CVRA initial findings, discuss resilience



Member Agency and Public Engagement

CAP Progress Update

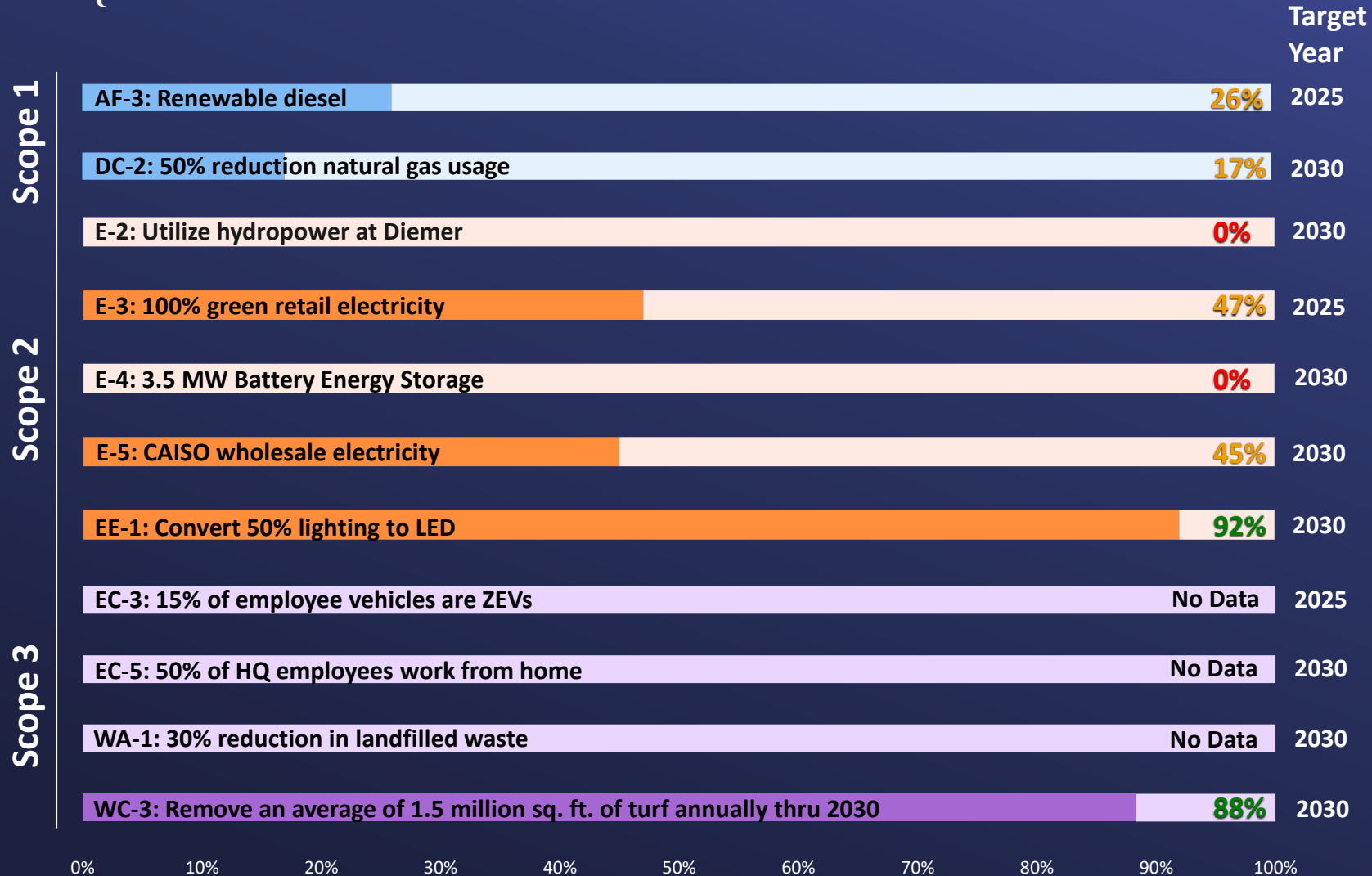
Climate Mitigation

Key Actions & Successes

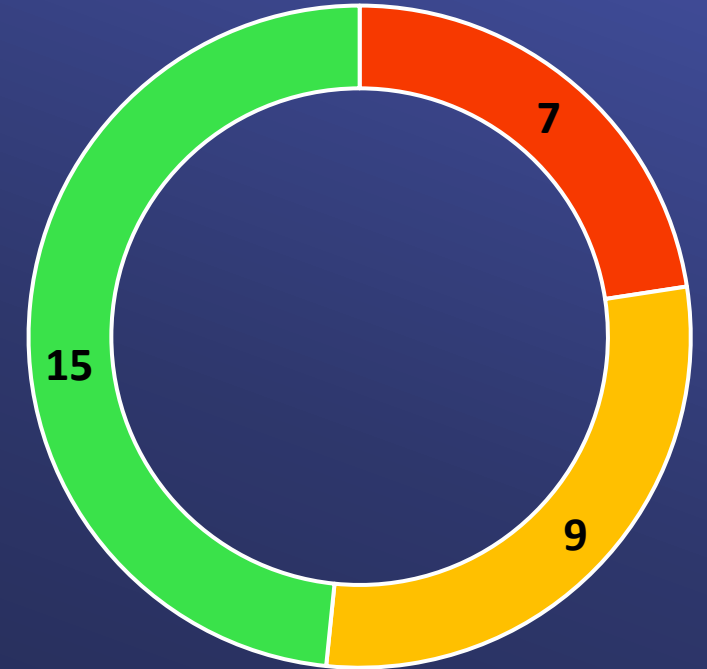
- SRI Office and SRI Council formed to ensure CAP success
- Formed the Zero Emission Vehicle Executive Task Force
- Saved 93,500 MT CO₂e in 2021 by implementing green energy procurement measures due to Measure E-5
- Significantly outperforming the turf replacement and water savings targets set in Measure WC-3
- Ahead of schedule in retrofitting lighting to LED technologies
- Renewable diesel pilot project completed in 2021 at Lake Mathews fuel depot
- Three Battery Energy Storage System (BESS) projects have been planned with completion date targets of late 2023 (Weymouth WTP) and early 2025 (Skinner and Jensen WTPs)

Summary of Implementation Progress

Quantifiable Measures



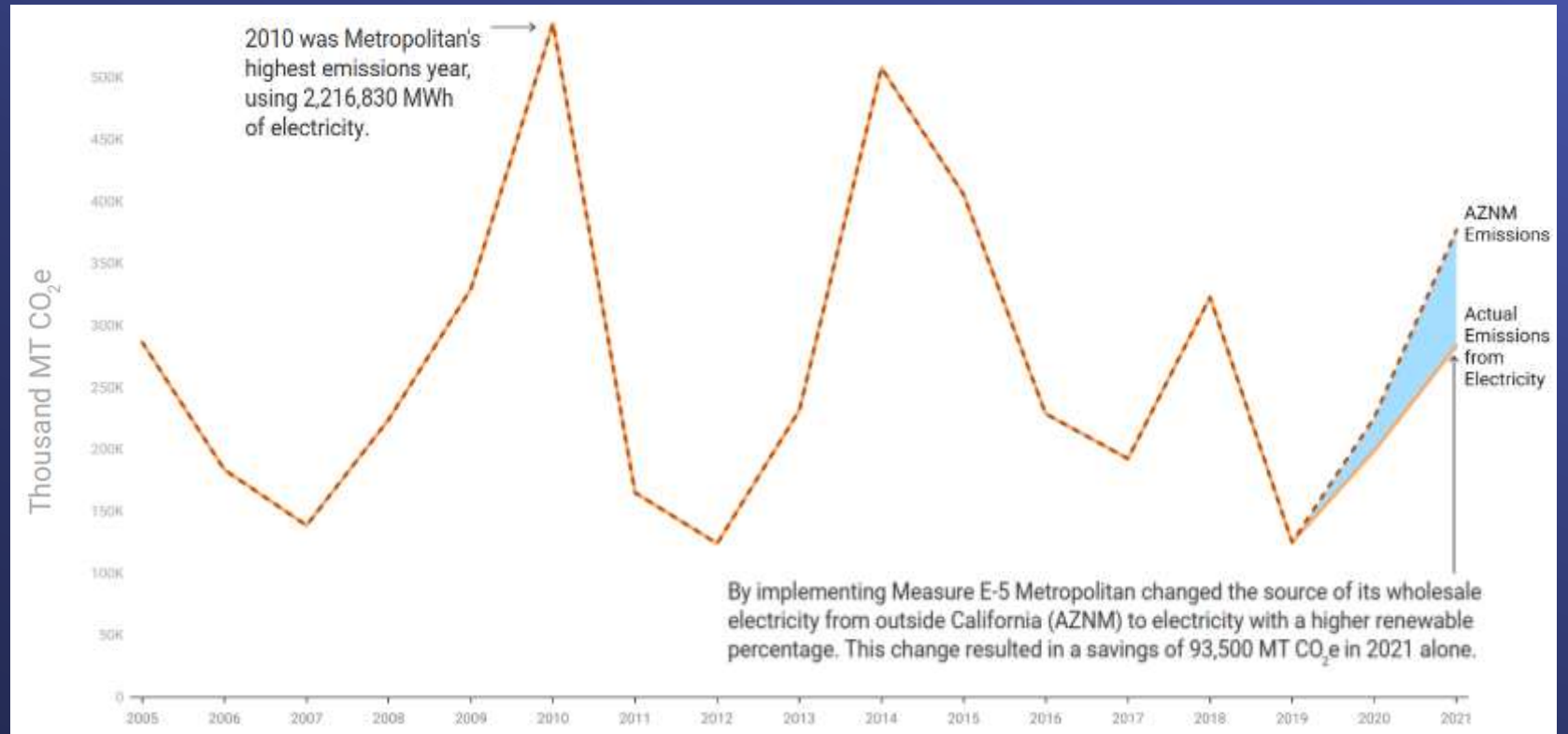
Supportive Measures



- No Action or Pending
- Underway
- Complete or Ongoing

Measure E-5

Switching to CAISO from AZNM electricity for CRA pumping led to emissions savings

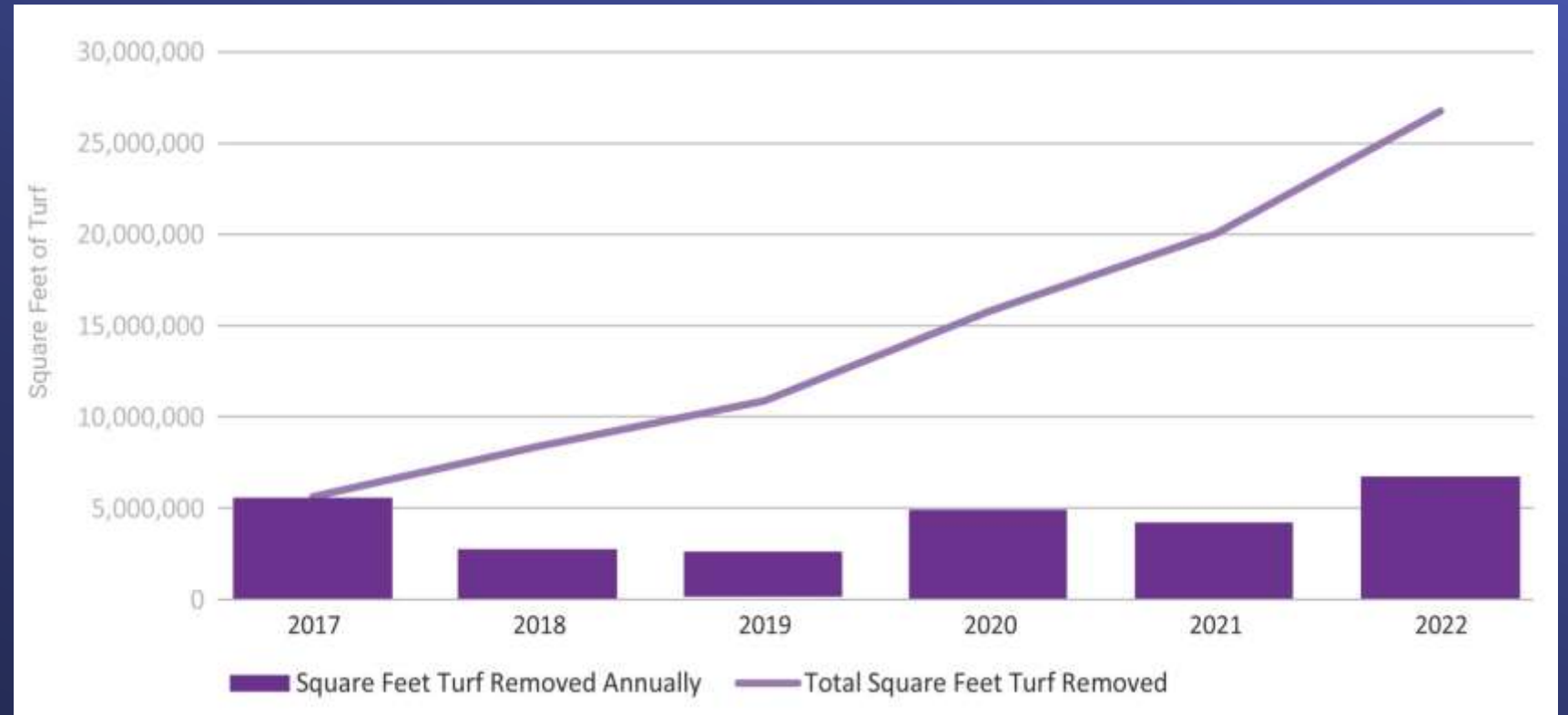


Saved **93,500 MT CO₂e** in 2021 by implementing energy procurement measures due to Measure E-5.

This is equivalent to taking **20,807 gasoline-powered cars** off the road for one year.

Measure WC-3

Achieved 88% of the 2030 turf removal target



The estimated water savings from turf replacement projects in Metropolitan’s service area from 2017 through 2022 is approximately **9,393 acre-feet**, which translates to saving an average of 855 MT CO₂e per year.

This is equivalent to saving over **4,600 Olympic-sized swimming pools** of water since 2017 and taking 190 cars off the road per year.

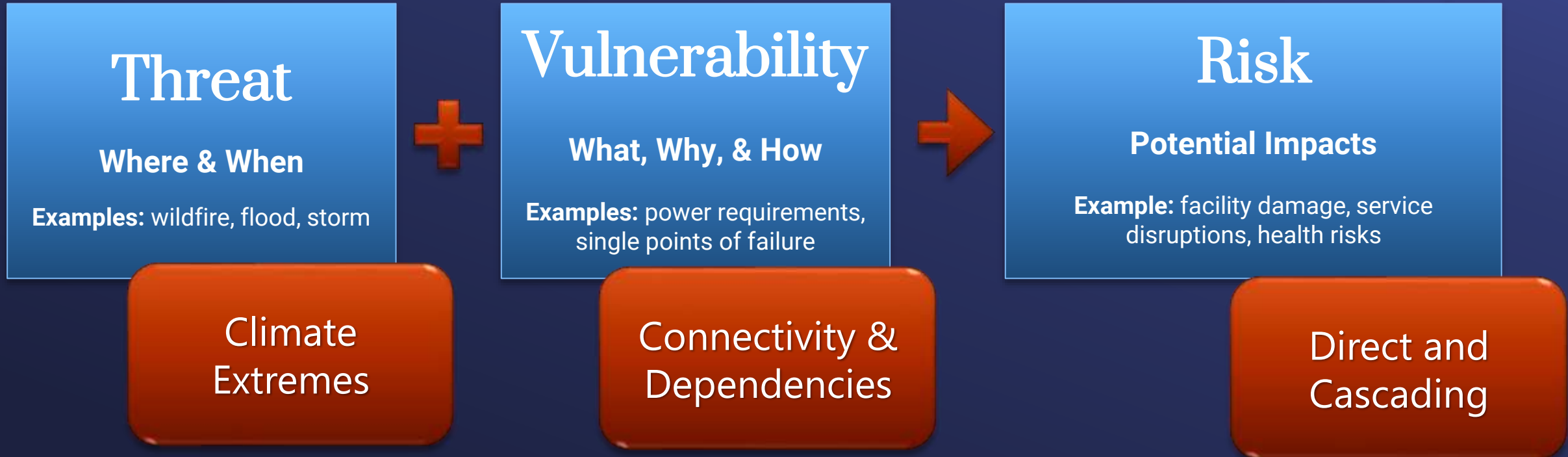
Climate Vulnerability & Risk Assessment

Climate Adaptation



Lake Mead Reservoir

Climate Vulnerability & Risk Assessment



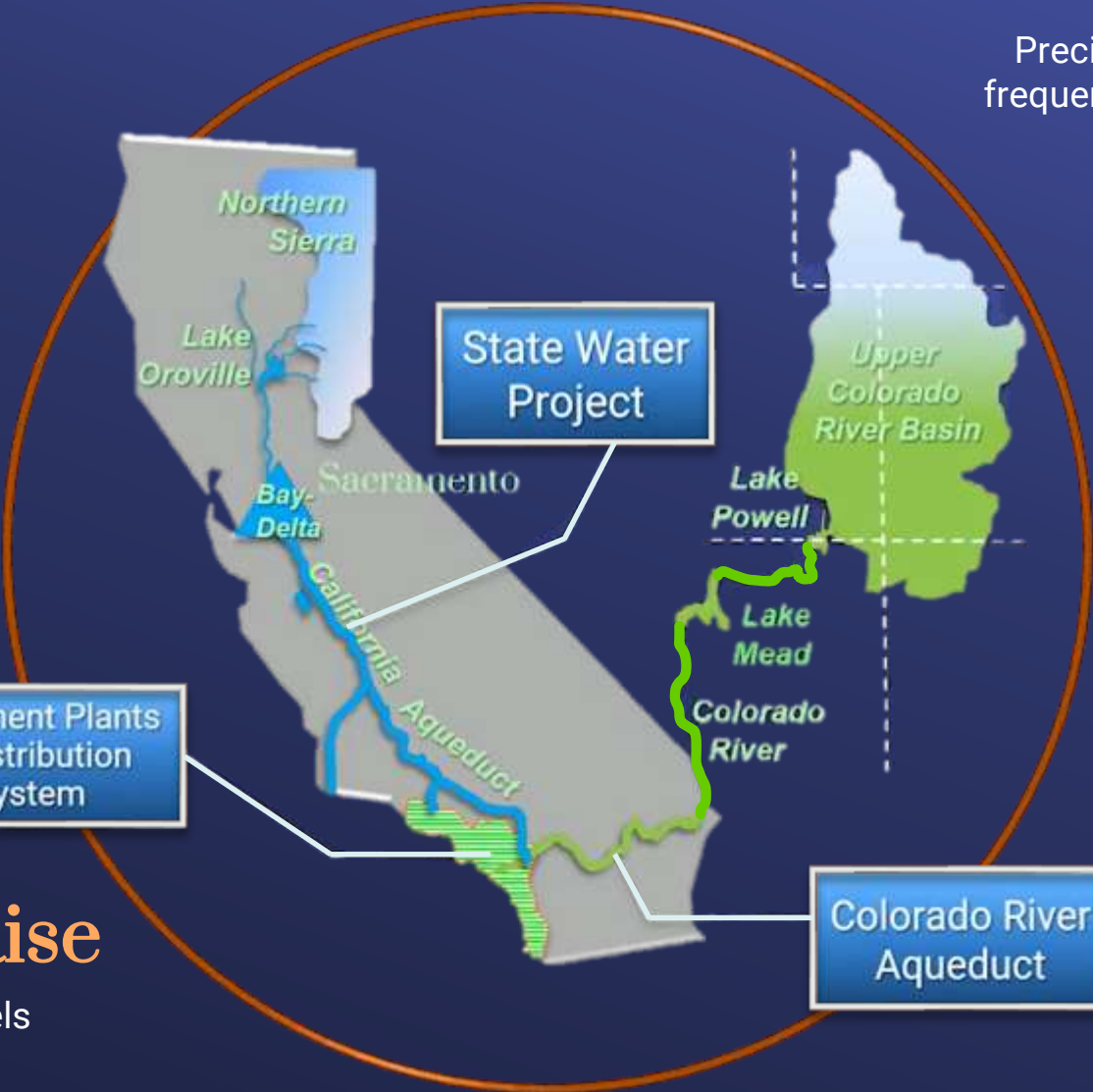
Severe Storms

Precipitation from larger and less frequent events (Climate Whiplash)



Wildfire

Larger and more intense



Drought

More frequent and extended



Sea Level Rise

Increased global sea levels

Extreme Heat

High temperatures over extended periods

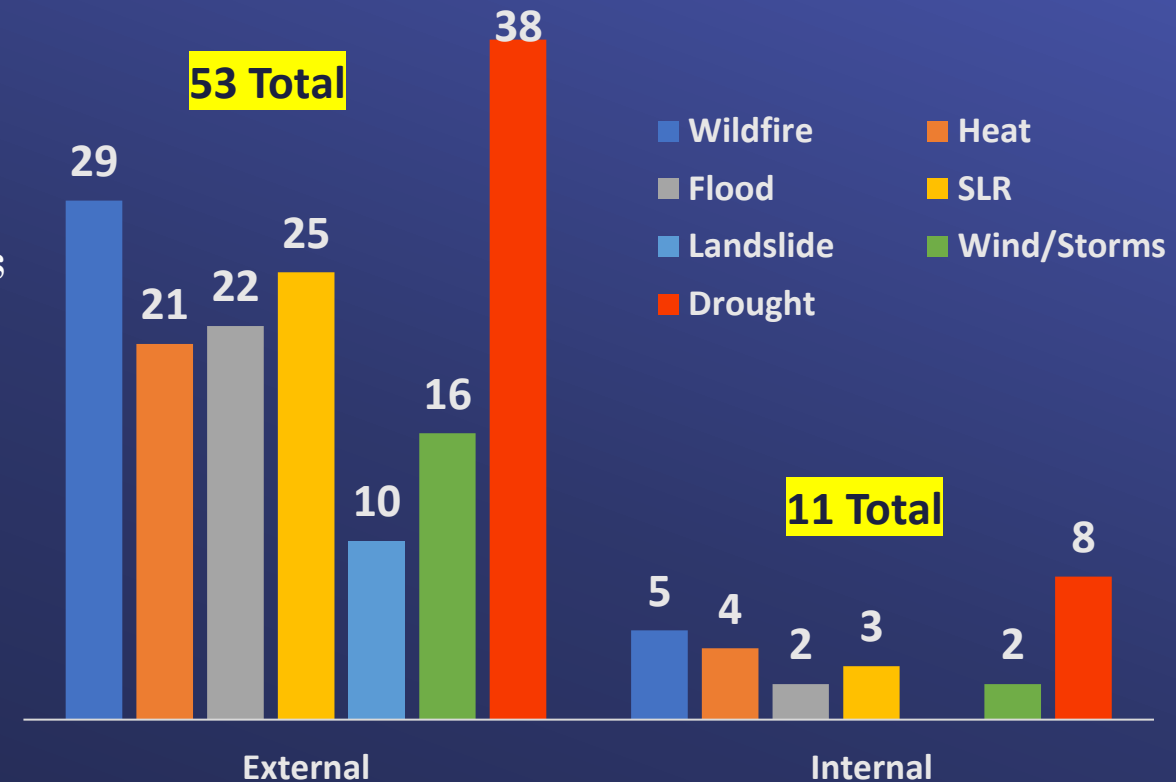


Literature Review

64 Total Documents:
11 Internal and 53 External

Cited:
Municipal Water Agencies
Ground Water Agencies
Energy Utilities
Counties
CA State Agencies
Federal Agencies
Fire Departments
Academic

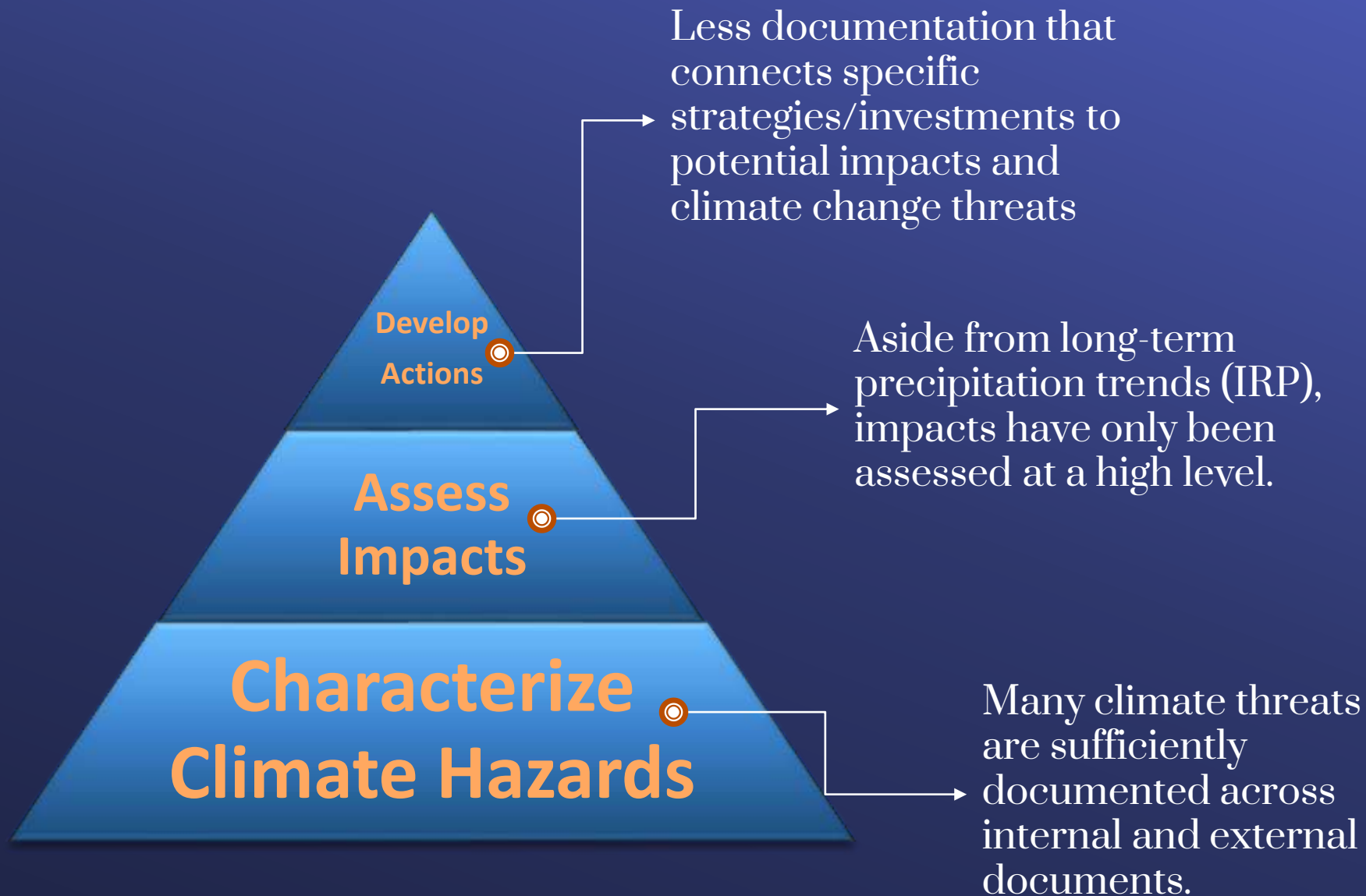
Identified Climate Hazards



- Drought and Wildfire were the most assessed climate hazards
- Energy-related documents thoroughly identified climate hazards

Initial Findings

Documentation **decreases** across the spectrum of characterizing hazards, assessing impacts, & developing adaptation actions



Castaic Lake Turbidity Event

Metropolitan is already
managing climate
extremes

Characterize
Climate Hazards

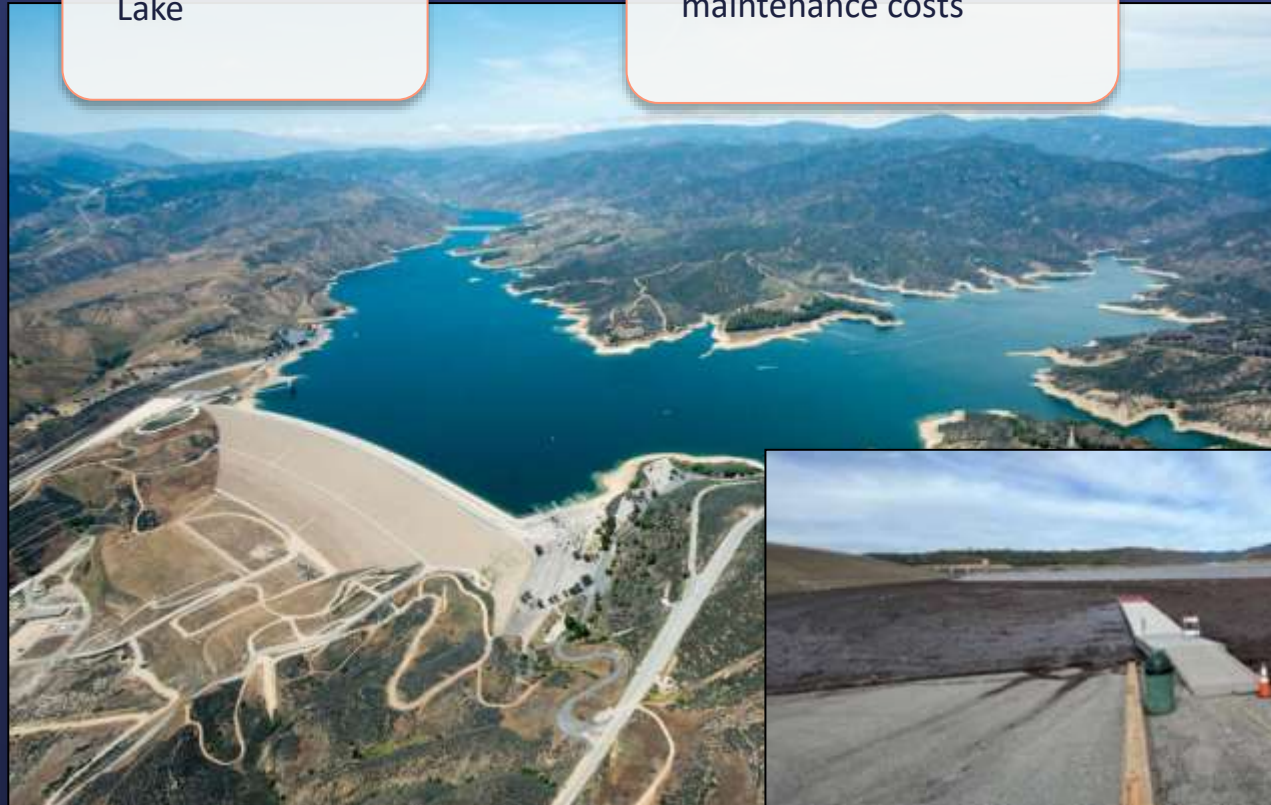
- Heavy rain event in January caused debris and silt to flow into Castaic Lake

Assess Potential
Impacts

- Stresses the ability of the plant to meet compliance requirements
- Increases operation & maintenance costs

Identify Adaptation
Strategies

- Reduce flow
- Repurposed out of service basins
- Increase coagulant dose
- Combined chlorine and ozone



Delta Island Projects

Metropolitan is securing grant funds to support new adaptation investments

Characterize Climate Hazards

- Drought, severe storms, sea level rise and extreme heat all impact the delta and are expected to increase over time.

Assess Potential Impacts

- Land subsidence, flooding, increased salinity, levee failure, species decline, water supply issues.

Identify Adaptation Strategies

- Convert farms to wetlands and rice production
- Habitat Restoration activities



Energy- Water Nexus on the CRA

Metropolitan is
exploring adaptation
options along the CRA

Characterize
Climate Hazards

- Drought, extreme heat, and extreme flooding are expected to become more frequent and extreme.

Assess Potential
Impacts

- Increased energy costs, greater risk of grid instability, health & safety issues, equipment failure, water supply disruptions

Identify Adaptation
Strategies

- Infrastructure upgrades, hardened facilities, power generation facilities, transmission investments



Next Steps

Integrate work into the
Climate Adaptation
Master Planning
Process

Climate Mitigation

- Continue implementation of GHG reduction measures
- Develop ZEV Fleet Transition Roadmap
- Renewable energy and storage investments
- Pursue carbon sequestration opportunities
- Initiate quantification of Scope 3 emissions

Climate Adaptation

- Complete Climate Vulnerability Risk Assessment
- Develop Economic Consequence Matrix to connect assessments of hazards & impacts to CAMP4W, adaptation projects, CIPs, and budget

