# Climate Action Plan:
## GHG Reduction Strategy

Engineering & Operations Committee
Item 9-2
June 8, 2020

# Board Recap

- October 2018 – Board authorized preparation of a Climate Action Plan (CAP) to streamline CEQA for future projects
- November 2019 – Board updated on results of the emissions inventory and forecast of future emissions
- March 2020 – Board updated on GHG emissions calculation methodology, GHG tracking method and GHG reduction target options

# Staff Recommendation

- Per Capita Emissions Calculation methodology
- Carbon Budget Tracking method
- GHG Reduction Target: Carbon Neutrality by 2045

Carbon Neutrality by 2045
Per Capita Emissions Calculation, Carbon Budget Tracking

# Drivers for Recommended Target

- CEQA
  - Must be consistent with statewide, regional, or local GHG plans or goals
- Statewide GHG Reduction Legislation
  - Current target: 40 percent below 1990 levels by the year 2030 (SB 32)
  - Current goal: Carbon neutrality by 2045, net negative thereafter (EO B-55-18)

# Required Elements

- Identify quantifiable measures to achieve 2030 target
- Demonstrate progress towards 2045 target
  - Track emissions annually
- Adapt strategies based on actual emissions
  - Update CAP every 5 years
  - Adjust measures needed to meet target, as necessary

# Gap Analysis Results - 2030

| | |
|---|---|
| Low | 5 Million MT Surplus |
| Avg. | 3.5 Million MT Surplus |
| High | (280,000) MT Deficit |

- No reductions required in low or average pumping scenarios
- High pumping scenario unlikely (continuous CRA pumping)

# Project Cost Analysis (Mitigation vs. CAP)

- Mitigation cost (Regional Recycled Water Program)
  - $18 million (through 2045)*
- CAP 2030 target (average pumping scenario)
  - $0**
- CAP 2045 target (average pumping scenario)
  - $3.6 million**

*Based on $11 cost per MT of carbon offset (with escalation of 2%)

**Business as usual (No GHG reduction projects included)

# Pathway to Carbon Neutrality by 2045

- Increased carbon free energy in the Southwest
  - Increased renewable portfolio for purchased CRA power
  - Manage power purchases from green energy sources
- Implementation of energy savings actions
  - Short-term actions (2030 target)
  - Long-term actions (2045 target)
- Purchasing carbon offsets (last resort)

# Potential Short-term Measures (2030)


## LED Lighting

- 35,000 MT $CO_2e$ savings
- $3.7 Million in cost savings

## Battery Storage

- 2,300 MT $CO_2e$ savings
- $3 Million in cost savings

# Potential Short-term Measures (2030)

## Connect Yorba Linda Power Plant Behind the Meter

- 22,000 MT $CO_2e$ savings
- $8.6-$16.9 million in cost savings

## CRA Pump Rehabilitation

- 66,000 to 190,000 MT $CO_2e$ savings
- Costs/Savings TBD (calculated during CRAMPR study)

# Potential Short-term Measures (2030)


## Electric Passenger Vehicles

- 2,100 MT $CO_2e$ savings
- $300,000 in savings

## Biodiesel for Trucks

- 8,400 MT $CO_2e$ savings
- $136,000 in savings

# Moving Forward 2030-2045

- Electricity emissions dependent on future grid mix and emerging technologies
  - Will other states improve their grid-mix?
- Continued tracking and investigation of strategies will be required
  - Will utility-scale batteries flatten time-of-use costs?
  - Long-term cost of electricity vs. capital costs to retrofit CRA equipment

# Potential Long-term Measures (2045)

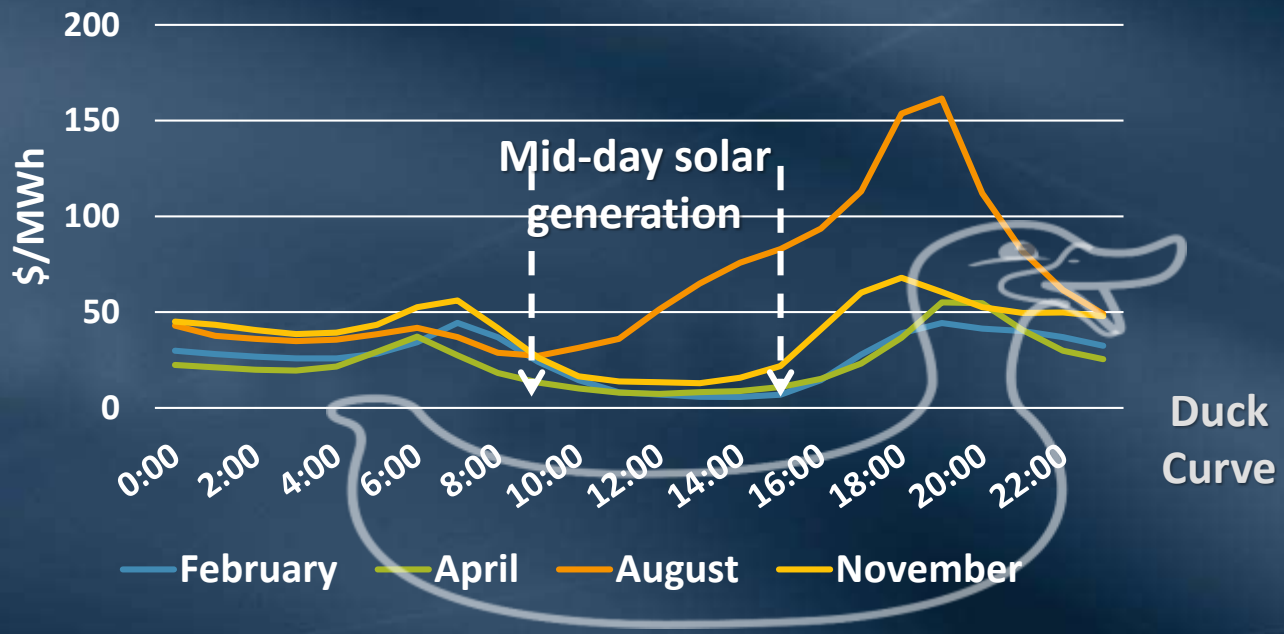
PPA for Renewable Power on the CRA

- 1.2 Million MT $CO_2e$ savings
- Savings dependent on power costs and PPA rates
- Cost TBD

# Potential Long-term Measures (2045)

## Manage Time of CRA Pumping (10% of load)

- 58,000 MT $CO_2e$ savings
- $5.6 Million in energy savings (infrastructure costs TBD)



# Potential Long-term Measures (2045)

Carbon Sequestration

- 1.3 Million $MTCO_2e$ sequestration potential on Metropolitan lands
- Costs TBD

# Next Steps

- Complete CAP and CEQA document – late 2020
- Return to the Board to adopt CAP and certify CEQA document – early 2021


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928