

# SBX7-7 Urban Stakeholder Committee

**U4 Technical Subcommittee**

Method 4 Proposal

Western Municipal Water District

# General Overview of Proposed Method

- Determine agency target using:
  - Hydrologic region target in 20x2020 Plan, adjusted for
    1. Climate
    2. Population density

# Basic Procedures to Calculate Target

$$\text{Agency 2020 GPCD Target} = \left[ (\text{HR Target} - 55) \times \frac{\text{Agency ETo}}{\text{HR ETo}} \times \frac{\text{HR Urban Area Density}}{\text{Agency Urban Area Density}} \right] + 55$$

- HR = Hydrologic Region
- HR Target = Target in 20x2020 Water Conservation Plan
- 55 = efficient indoor GPCD (consistent with Option 2 performance standard)
- Agency ETo = weighted average of State Reference ETo Zones within agency service area
- HR ETo = weighted average of State Reference ETo Zones within hydrologic region
- Urban Area = land area excluding vacant or unoccupied land
- HR Urban Area Density = Region's population divided by urban area (acres or square miles)
- Agency Urban Area Density = Agency's population divided by urban area (acres or square miles)

## Consideration of Climatic Differences in the State

- Agency target is based on local climate conditions compared to climate within hydrologic region

## Consideration of Population Density Differences Within the State

- Agency target is based on local urban area density compared to urban area density of hydrologic region
  - Lower density = higher adjustment factor  
(more irrigated area per person, higher water needs)
  - Higher density = lower adjustment factor  
(less irrigated area per person, lower water needs)

# Methods to Provide Flexibility to Communities and Regions

- Provides flexibility to establish target based on local conditions

## Consideration of Different Levels of Per Capita Water Use - Regional Plant Water Needs

- Agency target is based on local reference evapotranspiration in relation to region's reference evapotranspiration
  - Warmer areas have a higher adjustment factor
  - Cooler areas have a lower adjustment factor

## Consideration of Different Levels of CII Water Use in Different Regions of the State

- CII use is factored into 20x2020 target for each hydrologic region

## Consideration of Undue Hardship on Communities

- Regional targets in 20x2020 Plan incorporate differences between regions, including higher baseline water use
  - Water savings from cooler areas reallocated to inland regions to reduce impact

## Difference from Legislatively Defined Methods

- Provides methodology to refine hydrologic region targets in 20x2020 Plan into agency-specific targets based on local conditions

# Cost and Expense to Collect Data Required to Implement the Method

- Statewide data needed:
  - Urban area within each hydrologic region
  - Urban area population density within each hydrologic region
  - Weighted average Eto for each hydrologic region
- Agency data needed:
  - Urban area within agency service area
  - Population density
  - Weighted average Eto for service area

## Ease of Implementation by the Water Supplier

- With GIS: relatively easy
- Without GIS: medium effort to determine Eto

# Statewide 20% Savings

- Methodology uses targets in 20x2020 Plan
  - Plan affirms that targets would achieve 20% reduction
  - Agency targets determined in relation to regional average
  - Maintains 20% statewide reduction