

SBX7-7 Compliance Option 4: Hydrologic Region-to-Agency Targets

- Section 10608.20(b)(4) states:

The method developed by the department shall identify per capita targets that cumulatively result in a statewide 20-percent reduction in urban daily per capita water use by December 31, 2020.

- DWR’s 20x2020 Water Conservation Plan (February 2010) provides GPCD targets for each hydrologic region that will result in a 20% reduction in urban daily per capita water use. It does not provide agency-level targets that reflect differences within a region.
- A primary factor affecting GPCD is outdoor water use. Outdoor water use is a factor of population density (lower densities have more irrigated area per person) and weather (warmer areas require higher irrigation use).
- By comparing agency service area conditions to hydrologic region conditions, DWR’s regional GPCD targets can be refined to an agency level based on population density and evapotranspiration. Two adjustment factors are needed:

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

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 an agency’s populated service area

HR ETo = weighted average of State Reference ETo Zones within populated areas of 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)

- This methodology meets the legislative requirement for targets that will result in a 20% reduction in urban per capita water use.