

Attachment 2 Assumptions and Calculations

FOR ESTIMATE OF WATER SAVINGS, ENERGY SAVINGS, AND GHG EMISSIONS REDUCTION

In order to calculate the ten steps to creating estimates of water, energy and GHG emissions, CNPS made multiple calculations and assumptions. They are outlined here, in step-by-step order to show the derivation of the savings.

- i. 191 million gallons baseline volume of water associated with the project.
 - i. CNPS will complete 150 turf conversions during the funding period. Each conversion project of a large managed landscape is assumed to be a 50,000 square foot area of turf.
 - ii. Turf requires 48" of irrigation annually, plus conservative statistics state that landscape managers overwater turf by at least 25%.
 - iii. Each inch of natural rainfall equates to 625 gallons. This computes to 1,140,000 gallons per year each, or 85 million gallons total.
 - iv. Homeowners will be inspired to convert their ornamental lawns. Using a conservative 2000 square feet of turf per home, and a conservative 225 gardens (three homeowners making permanent change after each one of the 75 Hands-On Experiences). This calculates to 10 million gallons.
 - v. These two numbers, added, totals to 95 million gallons.
- ii. CNPS used industry averages that native plant gardens can save at least 80% of the water use, and calculated that the initial 95 million gallons will be reduced to 19 million gallons.
- iii. No hot water component.
- iv. No hot water component.
- v. Gardens have long lives. On average, as of 2007 homeowners stayed in their home for 15 years, according to NAHB statistics. Newly purchased homes are most often the targets for complete re-landscaping. This estimates how long a landscape might last.
- vi. The CNPS project is statewide. Southern California imports about half of its water. CNPS estimated that, on average, half the projects would be in Southern California, which means an approximate 25% figure for imported water.
- vii. Energy Intensity for a state-wide system is impossible to calculate to a high degree of accuracy. The pilot project starts in Contra Costa County, so CNPS used their Total EI, Marginal Supply low end figure.
- viii. CNPS used the default rate of 0.0278.
- ix. Supply and Conveyance will only apply to Southern California projects and the EI rates for these Water Districts and municipalities varied so widely, determining an average was not meaningful.
- x. No savings from Energy Efficiency or Renewable Energy.