

Locally Not Cost Effective Water Conservation Programs and Measures

Att1_DG_Eligible_14of14

California Water Service Company

The California Water Service Company, Stockton Division, is proposing grant funding for locally not cost-effective water conservation measures. The discussion that follows uses Tables ES-1 through ES-5 from the PSP to demonstrate that the present value of the annualized capital plus annual operation and maintenance costs for the Cal Water/Stockton District Drought Relief Conservation Programs project exceeds the present value of the project's benefits.

Program Benefits

The annual program benefits are based on unit avoided costs that are calculated using the CUWCC/WRF Avoided Cost model. (California Urban Water Conservation Council, 2006) Table ES-4 is used to show these annual benefits.

Table ES-4 – Annual Costs of Avoided Projects (2014 Dollars)						
Project: Cal Water Comprehensive Conservation Program						
	Costs				Discounting Calculations	
(a)	(b)	(c)	(d)	(e)	(f)	(g)
Year	Alternative (Avoided Project Name): Groundwater Wells and Pumping Costs				Discount Factor ⁽¹⁾	Discounted Costs (e) x (f)
	Avoided Project Description:					
	Avoided Capital Costs	Avoided Replacement Costs	Avoided Operations and Maintenance Costs	Total Cost Avoided for Individual Alternatives (b) + (c) + (d)		
2014	\$0	\$0	\$5,649	\$5,649	1.000	\$5,649
2015	\$0	\$0	\$10,387	\$10,387	0.943	\$9,795
2016	\$50,007	\$0	\$14,920	\$64,926	0.890	\$57,784
2017	\$44,286	\$0	\$13,616	\$57,903	0.840	\$48,638
2018	\$41,674	\$0	\$13,055	\$54,729	0.792	\$43,345
2019	\$35,524	\$0	\$11,404	\$46,928	0.747	\$35,055
2020	\$30,093	\$0	\$9,910	\$40,002	0.705	\$28,202
2021	\$25,295	\$0	\$8,556	\$33,852	0.665	\$22,511
2022	\$24,300	\$0	\$8,315	\$32,615	0.627	\$20,450
2023	\$23,342	\$0	\$8,076	\$31,418	0.592	\$18,600
2024	\$16,876	\$0	\$6,201	\$23,076	0.558	\$12,877
2025	\$10,964	\$0	\$4,485	\$15,449	0.527	\$8,142
2026	\$4,994	\$0	\$2,619	\$7,613	0.497	\$3,784
2027	\$4,482	\$0	\$2,398	\$6,879	0.469	\$3,226
2028	\$3,992	\$0	\$2,179	\$6,171	0.442	\$2,728
2029	\$3,799	\$0	\$2,115	\$5,914	0.417	\$2,466
2030	\$3,616	\$0	\$2,053	\$5,670	0.394	\$2,234
2031	\$3,444	\$0	\$1,994	\$5,438	0.371	\$2,017
2032	\$3,280	\$0	\$1,938	\$5,218	0.350	\$1,826
2033	\$3,125	\$0	\$1,883	\$5,009	0.331	\$1,658
2034	\$2,979	\$0	\$1,831	\$4,810	0.312	\$1,501

Table ES-4 – Annual Costs of Avoided Projects (2014 Dollars)						
Project: Cal Water Comprehensive Conservation Program						
	Costs				Discounting Calculations	
(a)	(b)	(c)	(d)	(e)	(f)	(g)
Year	Alternative (Avoided Project Name): Groundwater Wells and Pumping Costs				Discount Factor⁽¹⁾	Discounted Costs (e) x (f)
	Avoided Project Description:					
	Avoided Capital Costs	Avoided Replacement Costs	Avoided Operations and Maintenance Costs	Total Cost Avoided for Individual Alternatives (b) + (c) + (d)		
2035	\$2,841	\$0	\$1,781	\$4,622	0.294	\$1,359
2036	\$0	\$0	\$1,733	\$1,733	0.278	\$482
2037	\$0	\$0	\$1,686	\$1,686	0.262	\$442
2038	\$0	\$0	\$1,642	\$1,642	0.247	\$406
2039	\$0	\$0	\$1,080	\$1,080	0.233	\$252
2040	\$0	\$0	\$533	\$533	0.220	\$117
Total Present Value of Discounted Costs (Sum of Column (g))						\$335,545
(%) Avoided Cost Claimed by Project						100%
Total Present Value of Discounted Avoided Project Costs Claimed by Alternative Project (Total Present Value of Discounted Costs x % Avoided Cost Claimed by Project)						\$335,545

The avoided unit capital costs (the “long-run avoided cost”) are the annualized per-acre-foot value of deferring planned future capital investments in additional well capacity. The avoided unit operations and maintenance cost (the “short-run avoided cost”) is the cost to produce an acre-foot of supply from the groundwater basin. It is assumed that only peak-season water savings contribute to capital investment deferral. Thus, each year’s avoided unit capital cost is multiplied by that year’s peak-season savings to yield the figures in Column (b) of Table ES-4; the avoided unit O&M costs are multiplied by the total annual savings to yield the figures in Column (d).

The present value of the program benefits is \$335,545.

Program Costs

Table ES-5 shows the total program implementation costs, which are assumed to be spread over three years (2014-2016). The present value of these costs is \$516,785. This exceeds the present value of the program benefits in Table ES-4.

Table ES-5 – Annual Costs of Project (2014 Dollars)**Project: Cal Water Comprehensive Conservation Program**

	Initial Costs Grand Total Cost from Table 7 (row (i), column (d))	Adjusted Grant Total Cost ⁽¹⁾	Annual Costs ⁽²⁾					Discounting Calculations		
			Admin	Operation	Maintenance	Replacement	Other	Total Costs (a) +...+ (g)	Discount Factor ⁽³⁾	Discounted Project Costs (h) x (i)
Year	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
2014			\$182,416					\$182,416	1.000	\$182,416
2015			\$182,416					\$182,416	0.943	\$172,018
2016			\$182,416					\$182,416	0.890	\$162,350
Total Present Value of Discounted Costs (Sum of column (j))										\$516,785
Transfer to Table ES-6, column (c), Proposal Benefits and Costs Summaries										

Only one project in this application is for Non-Locally Cost-Effective Projects, so the information in summary Table ES-6 matches the information presented above.

Table ES-6 – Benefits and Costs Summary**Proposal: Eastern San Joaquin Region 2014 IRWM Drought Grant****Agency: Eastern San Joaquin County Groundwater Basin Authority**

Project	Project Proponent	Total Present Value Project Costs ⁽¹⁾	Total Present Value Project Benefits ⁽²⁾
(a)	(b)	(c)	(d)
Cal Water Comprehensive Conservation Program	California Water Services Company	\$516,785	\$335,545

