

LOS ANGELES DEPARTMENT OF WATER AND POWER

PURCHASED WATER COST PROJECTION (Accelerated Case + Owens Lake Water Savings)

ED5 Demand Goals + Current Wet Weather + Future Average LAA Supply/Climate Change

4-19-17 Updated per Supply Symposium & MWD 10-yr rate forecast (4/12/16)
 3-17-17 Update population, demand, supplies
 2-9-17 Update CY2017 & FY17/18 demands. Assume MWD treated purchase of 66,000 AF & no untreated purchase due to anticipated high LAA delivery in RY17/18. GW is assumed at 30 cfs or less. Update RTS & Capacity Charge.
 7-22-16 Update GPCD targets, add CY 2017

	Supply Based on Prelim. 4/1/16 Snowpack	Supply Based on 4/1/17 Snowpack	Supply Based on 4/1/17 Snowpack	Supply Based on Average Hydrology	Supply Based on Average Hydrology	Supply Based on Average Hydrology	Supply Based on Average Hydrology	Supply Based on Average Hydrology	Supply Based on Average Hydrology	Supply Based on Average Hydrology	Supply Based on Average Hydrology	Supply Based on Average Hydrology
Fiscal Year	2016-17	CY 2017	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	
Water Demand ¹	553,000	563,000	573,000	592,000	612,000	618,000	625,000	632,000	638,000	645,000	646,000	
Planned Conservation & SC Reuse Savings ²	77,411	85,012	87,047	103,055	118,726	121,802	128,787	129,080	103,682	111,989	111,068	
Demand Post Conservation	475,589	477,988	485,953	488,945	493,274	496,198	496,213	502,920	534,318	533,011	534,932	
Population	4,073,351	4,079,275	4,085,199	4,097,046	4,108,894	4,120,741	4,132,589	4,144,436	4,156,284	4,168,131	4,176,513	
Days in Year	365	365	365	365	366	365	365	365	366	365	365	
GPCD	102.3	102.5	103.6	103.3	103.0	102.7	102.4	102.1	101.8	101.5	101.2	
Los Angeles Aqueduct ³	208,902	369,441	351,561	276,200	275,700	275,300	274,800	274,300	293,900	293,400	292,900	
Local Groundwater ⁴	52,092	24,445	38,991	91,248	114,670	114,670	114,670	114,670	114,670	114,670	114,670	
Recycled Water ⁵	8,675	9,622	12,000	15,000	18,000	22,200	22,200	28,900	59,000	59,000	61,500	
Metropolitan Water District ⁶	205,921	74,481	82,901	106,497	84,904	84,028	84,543	85,050	66,748	65,941	65,862	
Total Supplies	475,589	477,988	485,453	488,945	493,274	496,198	496,213	502,920	534,318	533,011	534,932	
Non-revenue Water (5.0%) ⁷	23,779	23,899	24,273	24,447	24,664	24,810	24,811	25,146	26,716	26,651	26,747	
Water Sales (AF)	451,810	454,089	461,180	464,498	468,610	471,388	471,402	477,774	507,602	506,361	508,186	
Water Sales (MHCF)	196.8	197.8	200.9	202.3	204.1	205.3	205.3	208.1	221.1	220.6	221.4	
Breakdown of MWD Water Purchases												
Treated ⁸	86,828	74,481	82,901	86,828	84,904	84,028	84,543	85,050	66,748	65,941	65,862	
Untreated	119,093	0	0	19,669	0	0	0	0	0	0	0	
Total	205,921	74,481	82,901	106,497	84,904	84,028	84,543	85,050	66,748	65,941	65,862	
Projected MWD Purchased Water Costs⁹												
Tier 1 Treated	\$ 83,398,294	\$ 72,916,458	\$ 82,652,055	\$ 89,780,152	\$ 91,059,602	\$ 93,061,142	\$ 96,674,937	\$ 100,741,941	\$ 81,900,170	\$ 83,910,345	\$ 86,938,414	
Tier 1 Untreated	\$ 75,028,418	\$ 0	\$ 0	\$ 14,092,941	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	
Tier 2 Surcharge	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	
Sub-total (water cost)	\$ 158,426,712	\$ 72,916,458	\$ 82,652,055	\$ 103,873,093	\$ 91,059,602	\$ 93,061,142	\$ 96,674,937	\$ 100,741,941	\$ 81,900,170	\$ 83,910,345	\$ 86,938,414	
Other Projected MWD Costs												
Readiness-to-Serve Charge ¹⁰	\$ 26,208,000	\$ 24,570,000	\$ 25,025,000	\$ 25,753,000	\$ 26,481,000	\$ 27,664,000	\$ 29,484,000	\$ 31,850,000	\$ 34,398,000	\$ 37,037,000	\$ 39,949,000	
Capacity Charge ¹¹	\$ 7,389,900	\$ 6,256,000	\$ 6,529,700	\$ 6,119,775	\$ 6,136,905	\$ 7,033,800	\$ 7,292,940	\$ 7,589,100	\$ 7,996,320	\$ 8,218,440	\$ 8,292,480	
Total MWD Costs	\$ 192,024,612	\$ 103,742,458	\$ 114,206,755	\$ 135,745,868	\$ 123,677,507	\$ 127,758,942	\$ 133,451,877	\$ 140,181,041	\$ 124,294,490	\$ 129,165,785	\$ 135,179,894	
West Basin Rec. Water Purchases ¹²	\$ 1,100,000	\$ 1,238,979	\$ 1,377,958	\$ 11,155,700	\$ 11,601,928	\$ 12,066,005	\$ 12,548,645	\$ 13,050,591	\$ 13,572,615	\$ 14,115,519	\$ 14,680,140	
Total Purchased Water Estimate	\$ 193,124,612	\$ 104,981,438	\$ 115,584,713	\$ 146,901,568	\$ 135,279,435	\$ 139,824,947	\$ 146,000,523	\$ 153,231,632	\$ 137,867,105	\$ 143,281,304	\$ 149,860,034	

Assumptions:

- ¹ Per 2015 UWMP water demand forecast in average years.
 - ² Required conversation to comply with Mayor's Sustainable City Plan water use reduction targets.
 - ³ Apr 2017 - Mar 18 based on projected City deliveries from April 1, 2017 snow survey, followed by average hydrologic conditions with projected declines due to climate change impacts. Mono Basin export is reduced to 0 acre-feet for RY 2017-18 due to extreme wet conditions and will resume at 4,500 AFY or increase to 16,000 AFY depends on Mono Lake elevation. Los Angeles Aqueduct releases for the Owens Lake Dust Control Project and the Lower Owens River Project as follows:
- | | 2016-17 | CY 2017 | 2017-18 | 2018-19 | 2019-20 | 2020-21 | 2020-22 | 2022-23 |
|---------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| Owens Lake Dust Control Project | 65,000 | 65,000 | 65,000 | 65,000 | 65,000 | 65,000 | 65,000 | 65,000 |
| Lower Owens River Project | 26,000 | 26,000 | 26,000 | 26,000 | 26,000 | 26,000 | 26,000 | 26,000 |
- ⁴ Most of the groundwater production will be reduced to minimum to accommodate excess LAA water from Apr 2017 to Mar 2018. Normal production is assume after March 2018. As updated in 2017 Water Supply Symposium, the following are treatment facilities operational timeline: N Hollywood West Well Field - Dec 2019, Pollock Well Field treatment - Dec 2020, N Hollywood Central treatment - 2021, Tujunga Central treatment - 2021.
 - ⁵ Deliveries based on 2015 UWMP projections with 2017 Water Supply Symposium updates.
 - ⁶ Transfer and storage change are applied to calculate net MWD purchases.
 - ⁷ Non-revenue water is updated with FYE 2012-16, 5-yr average of 5.0%.
 - ⁸ Treated water purchases were fairly consistent during FYE 2012-16 with an average of 86,828 AF. Lowered to approx 66,000 AF in wet years.
 - ⁹ MWD water purchase costs per acre-foot is based on the following table (MWD 10-year financial forecast, 4/12/16), 5% escalation for subsequent calendar years, based on MWD Tier 1 price increase projections:

Effective Date:	Jan 1, 2016	Jan 1, 2017	Jan 1, 2017	Jan 1, 2018	Jan 1, 2019	Jan 1, 2020	Jan 1, 2021	Jan 1, 2022	Jan 1, 2023	Jan 1, 2024	Jan 1, 2025
Tier 1 Untreated:	\$594	\$666	\$666	\$695	\$738	\$783	\$835	\$876	\$917	\$961	\$1,008
Tier 1 Treated:	\$942	\$979	\$979	\$1,015	\$1,053	\$1,092	\$1,123	\$1,164	\$1,205	\$1,249	\$1,296
Tier 2 Surcharge:	\$134	\$94	\$94	\$86	\$81	\$69	\$57	\$50	\$45	\$34	\$22
Readiness-to-Serve Charge (\$/M)	\$153	\$135	\$140	\$143	\$148	\$156	\$168	\$182	\$196	\$211	\$228
Capacity Charge (\$/cfs)	\$10,900	\$8,000	\$8,700	\$9,000	\$9,300	\$9,700	\$10,000	\$10,500	\$11,100	\$11,100	\$11,300

¹⁰ LA's share of MWD Readiness-to-Serve Charge is 18.20% (MWD 04122016 FI 8-1 Board Letter).

¹¹ MWD Capacity Charge is based on summer peak day demand of 782 cfs -2016 FY, 782 cfs - 2017 CY, 782 cfs - 2018 CY, 601 cfs - 2019 CY, 740 cfs for CY 2020 and beyond, based on a 10-yr historical average (2010-2019).

¹² West Basin recycled water purchase cost estimate provided by Water Recycling Group with 4% escalation. Deliver water to Harbor Refineries by the start of 2018-19.