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CREDIT OPINION
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Metropolitan Water District of So. California

Update to credit analysis

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Summary

Metropolitan Water District of Southern California (Aa1 stable) benefits from an immense service area that includes over 300 cities across six counties within southern California. Consistent finances with sound debt service coverage and liquidity levels further support a strong credit profile. Financial performance is enhanced by adopted policies, the availability of a rate stabilization reserve and measured, deliberate and consistent rate increases. Metropolitan Water District's (MWD) ongoing efforts to increase water storage and facilitate interstate agreements to ensure reliable supplies in the face of climate change also support credit quality. Based on the state's historic, six-year drought, MWD has sufficient water in storage, in excess of emergency supplies, to withstand a multi-year drought period, offsetting risks associated with variability of both hydrologic conditions and precipitation levels that are again below long-term averages. MWD has a relatively high degree of leverage including variable rate debt and interest rate swaps which the district manages effectively.

We regard the coronavirus outbreak as a social risk under our ESG framework, given the substantial implications for public health and safety. As a wholesale water provider, MWD is somewhat insulated from customer delinquencies and other potential impacts of the coronavirus pandemic, although it has taken immediate steps to address potential challenges. These initiatives include modified rates increases for fiscal years 2021 and 2022, reduced spending in fiscal 2021, and creation of a deferral program for invoices from January through June 2021 for its retail member agencies with significant customer payment delinquencies. Any deferred amounts are due and payable by December 29, 2021. The quality and availability of water supplies have not been impacted, and the coronavirus crisis is not a key credit driver at the present time. We do not see any material immediate coronavirus related credit risks for MWD. However, the situation surrounding coronavirus is rapidly evolving and the longer-term impact will depend on both the severity and duration of the crisis.

Credit strengths

» Favorable position as water wholesaler for treated and untreated water supplies to expansive service area

» Growing service area population with income levels in line with US medians

» Consistent financial performance supported by long-term planning and measured rate increases

» Favorable and increasing water storage capacity

Credit challenges

» Pressured water supplies vulnerable to climate change

» Large capital plan to finance additional water supplies and address environmental concerns

» Efforts on the part of some member agencies to reduce water purchases

» Ongoing litigation challenging rates and regulatory requirements

Rating outlook

The stable outlook reflects our expectation that MWD will maintain sound financial performance with consistent debt service coverage and liquidity levels despite the long term challenge of meeting the water demands of a growing population, the increasing cost pressures of regulatory requirements, and environmental risks that will reduce the reliability of available water supplies. It also incorporates our expectation that MWD will effectively manage through the impacts of the coronavirus crisis, which will include lower demand and somewhat reduced flexibility to increase rates, both of which are likely to contribute to slower revenue growth.

Factors that could lead to an upgrade

» Material and sustained increase in debt service coverage and liquidity

» Long-term alleviation of water supply pressure including sustained growth in stored water supply and development of alternative water reuse projects

Factors that could lead to a downgrade

» Significantly weakened debt service coverage

» Prolonged drought period that significantly reduces available supplies

» Capital costs required to meet future supply or environmental requirements that significantly weaken financial performance

Key indicators

Exhibit 1

Metropolitan Water District of So. California					
System Characteristics					
Asset Condition (Net Fixed Assets / Annual Depreciation)	30 years				
System Size - O&M (in $000s)	$964,020				
Service Area Wealth: MFI % of US median	97.83%				
Legal Provisions					
Rate Covenant (x)	1.0x				
Debt Service Reserve Requirement	No DSRF (Baa and Below)				
Management					
Rate Management	Aaa				
Regulatory Compliance and Capital Planning	Aaa				
Financial Strength					
	2016	2017	2018	2019	2020
Operating Revenue ($000)	$1,329,010	$1,315,368	$1,446,358	$1,303,431	$1,338,420
System Size - O&M ($000)	$1,212,910	$935,119	$902,256	$868,050	$964,020
Net Revenues ($000)	$292,974	$541,565	$716,606	$652,260	$599,090
Net Funded Debt ($000)	$4,295,077	$4,382,023	$4,098,189	$3,847,371	$3,856,467
Annual Debt Service ($000)	$303,000	$307,605	$328,867	$310,647	$290,448
Annual Debt Service Coverage (x)	1.0x	1.8x	2.2x	2.1x	2.1x
Cash on Hand	222 days	240 days	114 days	193 days	170 days
Debt to Operating Revenues (x)	3.2x	3.3x	2.8x	3.0x	2.9x

Moody's debt service coverage figures reflect adjusted Operations and Maintenance (O&M) to reconcile actual changes in cash related to contributions for pensions and OPEB, consistent with our cross-sector Adjustments to Pension and OPEB Data Reported by GASB Issuers, Including States and Local Governments Methodology. As a result, Annual Debt Service Coverage varies from metrics reported by MWD.
Source: Metropolitan Water District of Southern California Audited Financial Statements and Moody's Investors Service

Profile

Comprising 26 member agencies including 14 cities, 11 municipal water districts and one county water authority, MWD serves as a water wholesaler to a 5,200 square mile service area with over 19 million residents. MWD provides supplemental water to its member agencies that represent a critical portion of the members' water supply mix, with these supplies projected to represent roughly 50% of member agencies' water supplies over at least the next 25 years. While member agencies continue to develop their own water supplies from recycled and desalination supplies, reliance on MWD remains stable and in some cases will increase as a result of water quality regulations, underscoring the essentiality of MWD water to the region. The district serves exclusively as a wholesale supplier, with no direct retail customers.

Detailed credit considerations

Service area and system characteristics: critical water wholesaler with favorable current storage levels providing insulation from below average precipitation levels

As the second largest water utility in the nation, MWD will remain firmly positioned as a critical wholesale water provider supplying between 40% and 60% of water used by all or portions of six counties within southern California. While member agencies continue to develop their own water supplies from recycled and desalination sources, reliance on MWD remains stable and in some cases will increase as a result of water quality regulations, underscoring the essentiality of this water to the region.

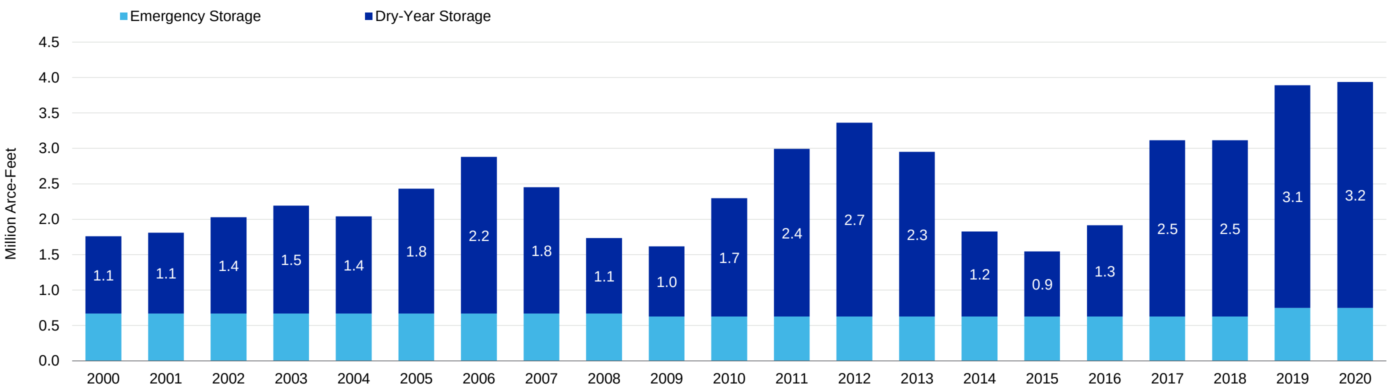
MWD derives its water supplies from two principal sources: deliveries from the State Water Project (SWP) and the Colorado River. Both are experiencing precipitation levels that fall below historical averages and will remain stressed due to climate change, underscoring the importance of MWD's storage capacity and support for development of alternative water sources. On December 1, 2020, the SWP cut its 2020 delivery of water to 10% of the contracted amount. This equates to approximately 191,150 acre-feet (AF) of water for MWD.

This figure is down from an earlier estimate of 20% and a significant decline from 35% of the contracted amount in 2018 and 75% in 2019, reflecting northern Sierra snowpack levels equal to only 40% of the 50-year average.

Snowpack in the upper Colorado River Basin is also below normal at 69% of the 30-year average. Total system storage in the Colorado River Basin equals 47% of capacity; a decline of 3.4 million AF from the prior year. However, no shortage will be declared on the Colorado River supply in 2021, with this source providing just over 1 million AF, a significant increase from approximately 857,000 AF during the drought year of 2018.

Positively, as shown in Exhibit 2, MWD heads into the current conditions with stored water at record levels.

Exhibit 2
Current water storage levels are at historical highs



An acre-foot is the amount of water that will cover one acre to a depth of one foot and equals approximately 325,851 gallons, which represents the needs of three average families in and around the home for one year within MWD's service area.
Source: MWD

As of the beginning of 2021, MWD's stored water supply, which includes both surface reservoirs and groundwater storage, exceeded 3.9 million AF, increasing from 2.9 million AF in 2019. Of this amount, approximately 750,000 AF is reserved for emergency events such as supply interruptions from earthquakes or an extended drought. Current storage levels are roughly double projected water transactions of 1.6 million AF in each of the next two fiscal years. While variable water supplies and the risk of drought represent long-term credit pressures, these risks are offset to a significant degree by MWDs strong level of stored water supplies with approximately 6.0 million AF in total capacity.

MWD is currently updating its Integrated Water Resources Plan, a process management expects to complete in the spring of 2021, and is continually at work to harden supplies and increase storage. As an example, efforts are underway to develop a regional recycled water program to free up existing supplies for consumption rather than groundwater recharge. As an initial step, a 500,000 gallon-per-day advanced wastewater treatment demonstration plant was opened in October 2019 with initial testing expected to be completed in 2021.

Water supply variability will likely increase with the rising impact of climate change, which is forecast to increase the severity and frequency of droughts. We expect that MWD will mitigate these impacts by deploying its stored supply and implementing conservation as needed. MWD will also build water resilience by broadening its ground water use and improving the efficiency of SWP water deliveries through its participation in the Bay-Delta conveyance project.

Approximately 50% of MWD's water deliveries are treated water, disinfected at five water treatment plants. The plants typically treat between 0.8 and 1.0 billion gallons per day, well within a maximum capacity of approximately 2.4 billion gallons per day. MWD continually monitors the development of legislation on environmental requirements, and is currently in compliance with all state and federal drinking water regulations and permits.

Debt service coverage and liquidity: coverage and liquidity, while slightly below projections, are expected to remain stable despite disruptions from coronavirus pandemic

Despite expectations of reduced consumption and rate increases for fiscal 2021 and 2022 that are slightly below preliminary budgeted figures, MWD's debt service coverage and liquidity levels will remain stable, although slightly narrower than earlier projections. In fiscal 2020, debt service coverage equaled 1.39x. While falling slightly below projected coverage of 1.55x, this remained in line with coverage averaging around 1.5x over the longer term. Accounting for non cash expense of pension accruals, debt service coverage improves to over 2x. In fiscal 2021, debt service coverage is projected to equal 1.43x, remaining consistent with past performance despite a reduced rate increase.

In response to the significant and far reaching impacts of the coronavirus crises, MWD quickly implemented a number if initiatives. Notably, MWD adjusted its biennial budget for calendar years 2021 and 2022; approving a 3% rate increase for 2021 and a 4% increase in calendar year 2022; lower than the initially proposed increases in the proposed biennial budget of 5% in each year. Recognizing the negative economic impacts of the coronavirus pandemic, this change was made in consultation with member agencies in an effort to provide some rate relief to their retail customers. MWD has identified $11.7 million in spending reductions for fiscal 2021 including largely suspending vehicle purchases and travel and keeping some positions open.

While member agencies have not reported a significant increase in customer payment delinquencies, MWD also approved a payment deferral program allowing members to defer a portion of payments owed from January 2021 through June 30, 2021 until December 29, 2021; effectively moving these receipts until the subsequent fiscal year. MWD will allow deferrals equal to the percentage of delinquencies experienced by a member agency, although it's not yet known whether any of the members will utilize the program.

Going forward, debt service coverage should remain stable at around 1.5x, reaching a targeted 2.0x in fiscal 2025. While achieving a debt service coverage target of 2x has now been delayed by two years under the revised projections, MWD's financial performance will remain sound supported by strong oversight and multi-year planning and forecasting. Even during the state's historic drought or in wet years such as 2019 with reduced consumption, coverage has never fallen below 1.4x.

Importantly, the budget retains spending on critical long-term projects including $25 million per year for planning for the large tunnel project associated with the Bay-Delta conveyance project; $15 million in annual spending for planning costs associated with the regional recycled water program; and $43 million per year for demand management.

Despite planned rate increases, MWD's water supplies remain competitively priced, with Tier I untreated water at $755 per AF as of January 1, 2020, and Tier 1 treated water priced at $1,078 per AF.

Liquidity

MWD maintains favorable liquidity levels, offsetting risks associated with variable water purchases, potential supply shortages and variable rate debt. At the end of fiscal 2020, unrestricted reserves of $448 million equaled 170 days' cash. This figure remains stable but is down slightly from fiscal 2019, in which unrestricted reserves of $460 million equaled a favorable 193 days' cash.

Unrestricted reserve levels also remain consistent with a targeted liquidity range from a minimum of $269.5 million (the level required to provide 18 months' of rate protection assuming a 20% decline in water sales) and $654.4 million (the required liquidity to provide a total of 3.5 years of rate protection assuming a 20% declines in sales.)

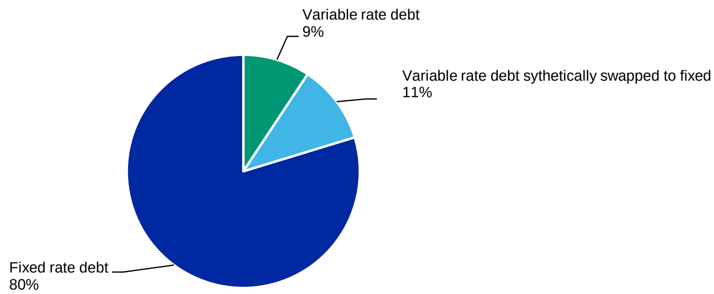
None of the member agencies have any purchase requirements, and during the Great Recession, MWD experienced annual declines in water sales ranging from 5% to 8%. Over a ten-year forecast period, liquidity, including the rate stabilization and unrestricted reserve balances are expected to remain within MWD's target liquidity range of a minium of 18 months rate protection and an identified maximum providing an additional two years' protection assuming a 20% decline in sales. This level of decline is conservative although it is in line with some industry stress scenarios resulting from the coronavirus pandemic.

MWD will continue to successfully meet its liquidity target even with moderated rate increases. However, additional expenditure reductions may be required should assumed average annual increases of 4.3% in water purchases prove overly aggressive.

Debt and Legal Covenants: large debt portfolio with additional planned issuances

MWD's leverage will remain slightly elevated but manageable, reflecting the large scale capital projects that the district is undertaking to ensure redundancy of regional water supplies. Inclusive of the Series 2021A issuance, MWD's water revenue debt includes $3.7 billion in fixed rate obligations and $824.9 million (20% of total debt) in variable rate obligations. (See Exhibit 3.) In addition to outstanding revenue bonds, MWD has $32.2 million in outstanding general obligation debt.

Exhibit 3
MWD's debt portfolio is balanced between fixed and variable rate debt and guided by policy



Source: MWD

Through 2025, MWD plans to issue an additional $330 million to finance planned capital improvements. In response to the coronavirus crisis, MWD has made adjustments to its capital program, shifting a 60/40 split between cash and debt financed projects to a 55/45 split in fiscal 2021. Given the scope of MWD's capital projects, this is a reasonable adjustment to ensure sound liquidity levels given additional uncertainty. Major projects include improvements to the Colorado River Aqueduct facilities and water distribution system. Improvements are also planned at two treatments plants to improve water reliability.

In addition to more routine system improvements, MWD will have to share in the costs of repairs to the Oroville Dam, with its portion estimated at $243 million as well as the ultimate solution to the Bay-Delta Conveyance Project. In December, MWD approved its 47.2% share of planning and preconstruction costs for the Conveyance Project of $160.8 million. The full construction cost of these two projects is not currently included in MWD's Capital Improvement Planning (CIP) projections.

Legal security

MWD's revenue bonds are special limited obligations payable and secured solely from net operating revenues on parity with outstanding senior lien parity obligations. There is no reserve fund associated with the 2021 Series A bonds.

Debt structure

Amortization of MWD's revenue bonds is slightly slower than average, with roughly 40% of principal repaid over ten years, although this is in line with industry norms given the scope, scale and expected useful life of the projects.

Variable rate obligations include: $446.2 million index tender bonds with a tender date of June 21, 2021; $271.8 million issued through a direct purchase agreement with Wells Fargo. The direct placement is currently placed in long mode at a fixed interest rate through the mandatory tender of April 2, 2021. MWD also has $331.9 million senior lien, daily VRDOs backed by stand-by purchase agreements which expire in June and July 2021 and March 2023; $46.8 million in subordinate lien short-term certificates and $2.8 million in term mode bonds with a tender date of October 1, 2021. Nominally substantial exposure to tenders and support facility expirations in the balance of 2021 is mitigated by MWD's strong credit profile and is manageable relative to the overall debt portfolio.

Events of default on MWD's direct placement that could result in accelerated repayment include any non payment of senior lien, parity obligations as well as non payment of legal judgements in excess of $50 million.

MWD has taken concrete steps to reduce its variable rate exposure as well as its exposure to liquidity renewals and has eliminated variable rate debt supported by its own liquidity, reducing risk of a draw on liquidity to cover a failed remarketing. MWD also maintains a $200 million revolving credit facility with RBC, against which there are currently no draws.

The rate maintenance requirement for the senior bonds is 1.0x coverage of all obligations, with an additional bonds test of 1.2x of MADS.

Debt-related derivatives

Fifty-four percent of the district's existing variable rate obligations are associated with interest rate swaps entered into in conjunction with debt issuances between 2002 and 2005. The outstanding national amount of these swaps currently totals $438.7 million, with a negative mark-to-market approaching $68.1 million as of September 30, 2020. Both of these figures have fallen as the outstanding notional amounts have declined in conjunction with debt amortization and their remaining lives have shortened. The district pays a fixed rate on each of its eight swaps in exchange for variable payments indexed to 1-month and 3-month LIBOR rates. Fixed rates paid by MWD range from 2.98% to 3.36%.

MWD continues to monitor the market value of the swaps and risks around a change in the variable rates that it receives upon the pending termination of LIBOR. While publication of the LIBOR Index is expected through June 2023, MWD is examining alternative options for these agreements. A 50 basis point increase in debt service costs associated with MWD's LIBOR swaps would have a minimal impact on debt service coverage. MWD also has the flexibility to terminate its LIBOR swaps and refinance related debt.

Pensions and OPEB

Metropolitan contributes to the California Public Employees' Retirement System (CalPERS), an agent multiple-employer public employee defined benefit pension plan. In fiscal 2020, MWD's adjusted net pension liability, using our methodology for pension adjustments with an adjusted discount rate of 3.5%, approached $2 billion; a figure that continues to grow. MWD's fiscal 2020 pension contributions exceeded $66 million or a moderate 4.9% of operating revenue, remaining consistent with historical levels.

MWD's OPEB obligations are similarly manageable. In fiscal 2020, MWD's net unfunded OPEB liability, using Moody's adjustments similar to those for pension data, equaled $380.7 million or 28.4% of operating revenues. Favorably, MWD has been contributing amounts above Moody's "tread water" level, meaning that net unfunded OPEB liabilities are likely to decline over time.

ESG considerations

Environmental

Environmental risks associated with periodic droughts and long-term climate change represent a significant credit pressure. In the current year, precipitation levels in both of MWD's two major water sources fall below historical averages and have declined from the prior year.

Drought pressures on the Colorado River will require greater cooperation and planning among agencies in California, Arizona, and Nevada, and the ability to shift to other sources when supplies in Lake Mead fall. Within California, MWD continues to increase storage to address precipitation levels that have shifted from snow to rain, with investments in the necessary infrastructure to bank additional supplies.

Social

Social considerations also represent a significant credit consideration and are discussed above in the description of MWD's service area. Although some of MWD's member agencies continue to augment their local supplies, regulatory issues and the costs of meeting environmental requirements will continue to make MWD's water an attractive source. Orange County, as one example, is expected to increase its purchases as a result of having to close down some of its ground water wells because of contamination by per- and polyfluoroalkyl substances ("PFAS"). MWD will also continue to face litigation surrounding environmental issues and rates and charges.

We regard the coronavirus outbreak as a social risk under our ESG framework, given the substantial implications for public health and safety. As a wholesale water provider, MWD is somewhat insulated from customer delinquencies and other potential impacts of the coronavirus pandemic, although it has taken immediate steps to address potential challenges. These actions are described in greater detail in the report.

Governance

MWD's governance is strong as evidenced by adopted policies, multiyear rate setting practices and long-term capital planning. It is governed by a 38 member board of directors with each member agency being represented by at least one board member. Member agencies can also have an additional board member for each 5% of MWD's assessed value that is also within the member agency's service area. Board member votes are allocated proportionally by the percentage of MWD assessed value within the member agency's service area. The district has sole rate setting authority independent of the state and California Public Utilities Commission.

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