



**The Metropolitan Water District of Southern California**  
**Revenue and Expense Structures of**  
**Wholesale Water Agencies**

**REPORT / June 21, 2023**



THE METROPOLITAN WATER DISTRICT  
OF SOUTHERN CALIFORNIA





June 21, 2023

Mr. Arnout Van den Berg  
Revenue and Budget Section Manager  
The Metropolitan Water District of Southern California  
700 N. Alameda St.  
Los Angeles, CA 90012

Subject: Revenue and Expense Structure of Wholesale Water Agencies

Dear Mr. Van den Berg:

Raftelis is pleased to provide this Revenue and Expense Structure of Wholesale Water Agencies (Report) for the Metropolitan Water District of Southern California (Metropolitan) as you requested. The major objectives of this report include the following:

- Identify and compare the revenue structure of wholesale water providers in California and across the U.S. with Metropolitan's revenue structure.
- Identify and compare the expense structure of wholesale water providers in California and across the U.S. with Metropolitan's expense structure.

The report summarizes our analysis results and key findings from the wholesale water agency survey that was completed.

It has been a pleasure working with you, and we thank you and Metropolitan staff for the support provided during the course of this work.

Sincerely,

A handwritten signature in black ink that reads "John M. Mastracchio".

**John M. Mastracchio, CFA**  
*Executive Vice President*

cc: J. Wright (Raftelis)  
K. Phan (Metropolitan)  
M. Hamilton (Metropolitan)

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# Summary

This report provides the Metropolitan Water District of Southern California (“Metropolitan”) with the results of a survey of the revenue and expense composition for various wholesale water agencies in California and throughout the country. A total of 22 wholesale water service providers were included in the survey; 19 of these water agencies were the same agencies as those that were included in a similar report prepared by Metropolitan in 2011. Information from these original 19 wholesale water agencies was included here and updated to reflect the most current data, either fiscal year FY 2021 or FY 2022 actual financial results data or the FY 2022/23 budget data depending on data availability. Additionally, three large water agencies were added to the survey based on Raftelis’ knowledge of large wholesale water agencies across the country and the availability of data and information.

## Fixed and Variable Revenue Sources

The composition of revenues of the wholesale water agencies was segregated into fixed, variable, and other revenue sources. Fixed revenue sources were defined as those sources of revenues that do not vary based on the amount of billed water volume, and include charges allocated based on historical water usage, property taxes, assessments, sales taxes, monthly connection charges, and standby charges. These charges remain stable and are not a function of current year water sales or volumetric rate. Variable revenue sources were defined as those sources of revenues that do vary based on the amount of billed water volume that are not reconciled or trued up based on actual costs at a later date. These revenues are a function of water sales in the current year. Other revenue sources include interest income, rents, power sales, and other charges such as penalties, fees, etc. Grant funds and pass-through revenues were excluded from the composition of revenues.

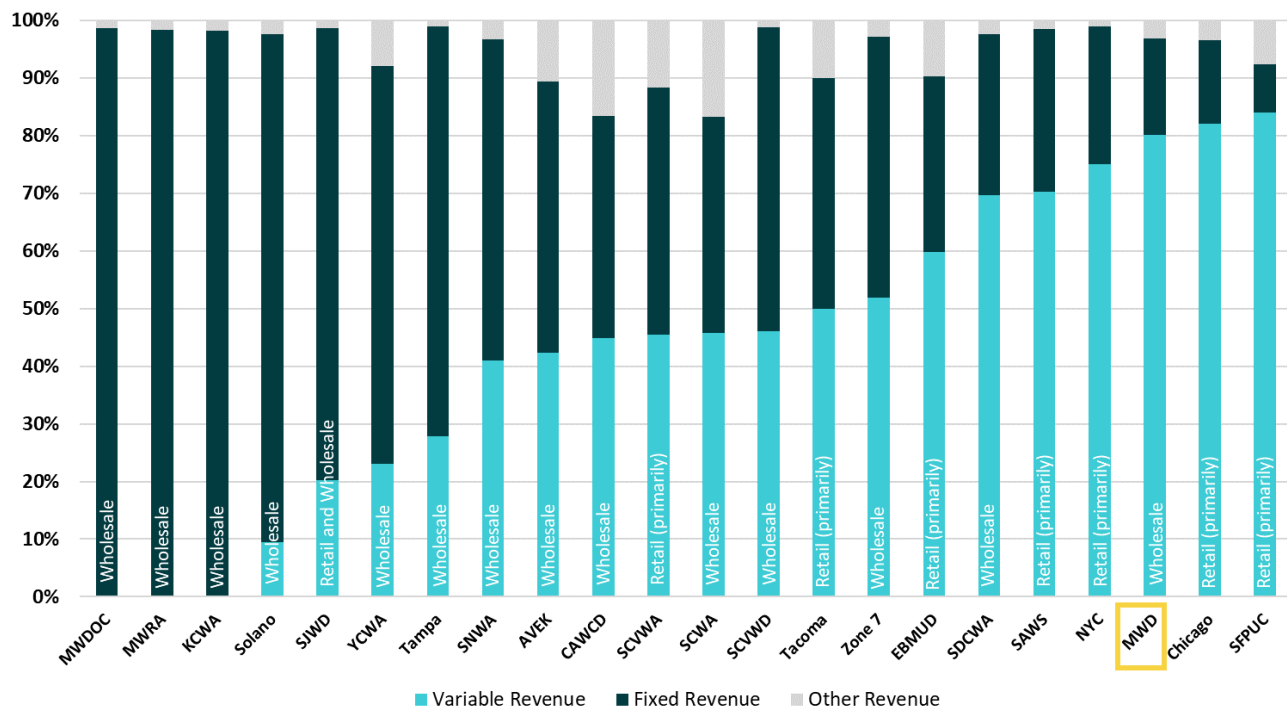
A summary of the results of the revenue composition survey is presented in Figure 1. The summary provides the percentage of annual fixed, variable and other revenue by water agency. The results show that the annual variable revenues as a percentage of total revenues varies considerably by water agency with a mean of 44%, a median of 46%, a standard deviation of the mean of 27%, and a range from a low of approximately 0% to a high of 84%. As shown in Figure 1, Metropolitan’s revenue composition is comprised of approximately 80% variable revenues from the supply rate, system access rate, system power rate, and treatment surcharge, approximately 17% fixed revenues from readiness to serve (“RTS”) charges, capacity charges, property taxes, and 3% other revenues from power revenues, and other miscellaneous revenues. This revenue composition and percentage of variable revenues for Metropolitan is higher than most of the other water agencies that were surveyed.

For the water agencies included in the survey, the percentages of fixed revenues vary considerably, but the following conclusions can be drawn:

- All of the water agencies that were included in the survey generate a portion of revenues from fixed sources that are not dependent upon the amount of billed water volume.
- Variable revenues ranged from 0% to 84% of total revenues, with the first quartile ranging from 0-24%, the second quartile ranging from 24% to 46%, the third quartile ranging from 46% to 67%, and the fourth quartile ranging from 67% to 84%. Metropolitan’s variable revenues are in the fourth quartile.
- Water agencies with a significant portion of their water sales to retail customers tend to rely more heavily on variable revenue sources, whereas water agencies that primarily or solely provide

wholesale water tend to rely more heavily on fixed revenues and less on variable revenues with some exceptions.

**Figure 1. Fixed and Variable Revenue Composition for the Surveyed Wholesale Water Agencies**



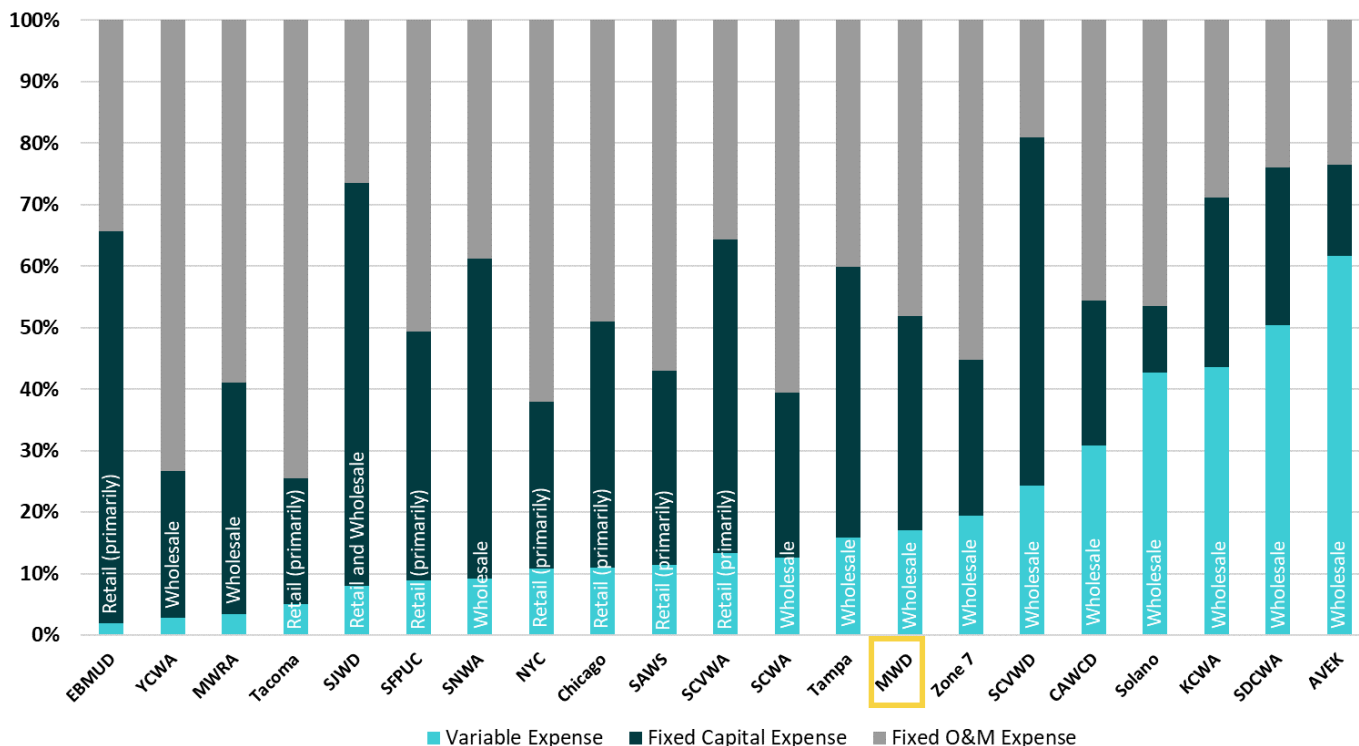
In general, a higher level of fixed revenues provides for less dependency on volumetric sales, more revenue stability, and potentially lower financial risk for water agencies. Alternatively, wholesale customer water rates that are directly tied to the amount of water purchased provide a better price signal for conservation and may encourage the use of local resources.

### Fixed and Variable Expenses

The composition of expenses was segregated into variable operation and maintenance (“O&M”) expenses, fixed O&M expenses, and fixed capital expenses. Variable O&M expenses were defined as those expenses that vary based on the amount of billed water volume, such as power and chemical expenses. Fixed O&M expenses were defined as those O&M expenses that do not vary based on the amount of billed water volume, such as personnel and professional services expenses. Fixed capital expenses were defined as non-operating expenses, such as debt service and pay-as-you-go capital expenses.

A summary of the results of the expense composition survey is presented in Figure 2. The summary provides the percentage of annual variable O&M expenses, fixed O&M expenses, and fixed capital expenses. The results show that the annual variable expenses as a percentage of total expenses varies considerably by water agency with a mean of 18%, a median of 12%, a standard deviation of the mean of 17%, and a range from a low of approximately 0% to a high of 62%.

Figure 2. Fixed and Variable Expense Composition for the Surveyed Wholesale Water Agencies



For the water agencies included in the survey, the percentages of variable and fixed expenses vary considerably, but the following conclusions can be drawn:

- The mean percentage of total annual fixed expenses (including both fixed O&M and fixed capital) was estimated to be 82%, which is a much higher percentage than the mean percentage of fixed revenues, which was 44%. This indicates that the proportion of revenues from fixed sources does not typically recover all of the fixed expenses. On average, fixed revenues recover approximately 57% of the fixed expenses based on the survey results.
- Metropolitan’s estimated percentage of fixed expenses (83%) was near the mean of the survey group. However, Metropolitan’s fixed revenues as a percentage of total revenues was (approximately 20% of total revenues, including fixed and other revenues) below the mean of the survey group. In combination, Metropolitan’s fixed revenues correspond to approximately 22% of fixed expenses, which is a low percentage when compared to the other agencies included in the survey, as shown in Table 1.
- The mean percentage of fixed capital expenses (including debt service and pay-as-you-go) expenses for the survey group was 34% of the total expenses. Metropolitan’s estimated percentage of fixed capital expenses (35%) was near the mean of the survey group. This indicates that Metropolitan’s capital portion of total annual expenses is typical and comparable to the other agencies included in the survey, on average.

Table 1. Fixed Revenues as a Percentage of Fixed Expenses

Utility		Fixed Revenue	Fixed Expense	Fixed Rev as % of Fixed Exp
SFPUC	San Francisco Public Utilities Commission	\$ 53.9	\$ 698.6	8%
MWD	The Metropolitan District of Southern CA	318.0	1,415.6	22%
Chicago	Chicago Water Department	112.3	480.1	23%
EBMUD	East Bay Metropolitan Utility District	229.9	851.0	27%
SAWS	San Antonio Water System	141.4	473.2	30%
YCWA	Yuba County Water Agency	11.0	35.0	31%
SCVWD	Santa Clara Valley Water District	303.2	872.3	35%
SCVWA	Santa Clarita Valley Water Agency	53.5	136.2	39%
SJWD	San Juan Water District	24.0	57.9	41%
Tacoma	Tacoma Water	92.5	213.5	43%
Tampa	Tampa Bay Water	72.7	155.8	47%
SDCWA	San Diego County Water Authority	215.3	412.5	52%
MWDOC	Municipal Water District of Orange County	11.0	20.7	53%
SCWA	Sonoma County Water Agency	41.1	62.9	65%
Zone 7	Zone 7 Water Agency	25.7	43.6	59%
MWRA	Massachusetts Water Resources Authority	778.8	1,300.3	60%
SNWA	Southern Nevada Water Authority	339.6	508.7	67%
CAWCD	Central Arizona Water Conservation District	156.7	177.7	88%
Solano	Solano County Water Agency	27.8	16.7	167%
AVEK	Antelope Valley East Kern Agency	38.8	21.7	179%
NYC	New York City Water Board	n/a	2,377.0	n/a
KCWA	Kern County Water Agency	n/a	20.6	n/a

Revenue and Expenses shown in \$ millions.



# Water Agency Descriptions

The water agency descriptions that follow provide a summary of the characteristics, revenues and expenses of the water agencies that were surveyed. The best available data was used to prepare this survey. The data was obtained primarily from publicly available reports, including Annual Comprehensive Financial Reports (“ACFRs”), Bond Official Statements, Cost of Service Studies or Rate Studies, and other publicly available information. In a few instances, Raftelis had access to detailed agency information from prior or ongoing work with the agency.

## Antelope Valley East Kern Agency

Antelope Valley East Kern Agency (“AVEK”) provides wholesale water service to a land area of approximately 2,300 square miles including Northern Los Angeles, Eastern Kern Counties, and a small portion of Ventura County. AVEK’s contract with the State assures delivery of imported water through the State Water Project (“SWP”) which includes the California Aqueduct System and consists of seven divisions.

AVEK’s revenues are derived from water sales, tax revenues, and other miscellaneous revenues, such as capacity charges, and interest income. Variable revenues are generated from municipal and industrial water delivered to customers priced in dollars per acre-feet (\$/AF).

AVEK’s revenues from its latest available annual financial report (from FY 2021) were derived 47% from fixed revenue sources, 42% from variable revenue sources, and the remaining 11% from other miscellaneous revenues. It was also estimated that approximately 62% of operating expenses are variable and dependent upon the amount of water sales, 24% is fixed O&M expense, and 15% is fixed capital expense and not dependent upon the amount of water sales.<sup>1</sup>

## Central Arizona Water Conservation District

The Central Arizona Water Conservation District (“CAWCD”) operates and maintains the Central Arizona Project. It is a wholesale water provider that serves 80 long-term water users that fall into three user groups: Native American Tribes, Municipal and Industrial customers, and Agricultural customers. CAWCD and these customers have long-term contracts and the Central Arizona Project water is provided in return for paying water rates that are based on cost of service. CAWCD also has two taxing authorities, a general ad valorem tax and a water storage tax.

CAWCD generates revenues in a variety of ways to fund its operations and repay its debt obligations. These revenue sources include the sale of water, capital and facility-use fees paid by water users, property taxes paid by non-Indian reservation residents, and investments.

Based on the FY 2021 financial report, approximately 39% of revenues are generated on a fixed basis, 45% on a variable basis, and 17% of revenues are from other sources. It was also estimated that approximately 31% of operating expenses are variable and dependent upon the amount of water sales, 46% is fixed O&M expense, and 24% is fixed capital expense and not dependent upon the amount of water sales.<sup>2</sup>

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<sup>1</sup> Percentages do not always add to 100% due to rounding.

<sup>2</sup> Same note as 1.

## Chicago Water Department

The City of Chicago's Water Department operates a water system that obtains water from Lake Michigan and supplies water to the City of Chicago and 125 suburban communities including the DuPage Water Commission that supplies water to 24 suburban communities. The City's water rates are uniform rates charged based on customer water consumption, except that a portion of the City's customers (approximately 15%) are non-metered. The City's service to suburban communities is based on various contracts.

Based on the FY 2021/22 actual financial results, approximately 14% of revenues are generated on a fixed basis, 83% on a variable basis, and approximately 3% of revenues are from other sources. It was also estimated that approximately 11% of operating expenses are variable and dependent upon the amount of water sales, 49% is fixed O&M expense, and 40% is fixed capital expense and not dependent upon the amount of water sales.

## East Bay Municipal Utility District

East Bay Municipal Utility District ("EBMUD") is a publicly owned utility located in San Francisco Bay Area that provides water and wastewater treatment services to residents and businesses in the eastern San Francisco Bay Area. EBMUD was established in 1923 and has since grown to become one of the largest water and wastewater utilities in California. The district operates several water treatment plants, a wastewater treatment plant, and extensive network of pipes, pumps, and reservoirs to deliver safe and reliable water and wastewater services to its customers.

EBMUD charges a monthly service charge and elevation charge. Both charges make up the fixed portion of the revenue. EBMUD also has a volume charge which is the variable portion of the revenue. Other forms of revenue include taxes, investment fees, power fees, and capital contributions.

Based on the FY 2022 revenues and expenses for EBMUD, approximately 30% of revenues are generated on a fixed basis, 60% on a variable basis, and approximately 10% of the revenues are from other sources. It was also estimated that approximately 2% of operating expenses are variable and dependent upon the amount of water sales, 34% is fixed O&M expense, and 64% is fixed capital expense and not dependent upon the amount of water sales.

## Kern County Water Agency

The Kern County Water Agency ("KCWA") is a wholesale water agency that serves as a local contracting agency for the SWP. The primary purpose of the Agency formation was to secure adequate water supply for the County by serving as the local contracting entity for the SWP. The KCWA has long-term contracts with 13 local water districts. The Agency also participates in a wide scope of water management activities, including water and facilities acquisition and storage, water quality, flood control, drainage, land reclamation, and groundwater management and oversight.

KCWA member agencies pay for 100% of the water entitlements regardless of the amount of water delivered. A capital facilities charge is assessed to each of the districts for the cost of debt service on outstanding bonds. The annual operating costs, other than pumping costs, are estimated at the beginning of each fiscal year, and the purveyors pay one fourth of the operating costs quarterly throughout the year. At the end of the year, the purveyor's cost share is reconciled using actual operating costs. Pumping costs are charged to the purveyors each month at cost.

Based on the FY 2021 financial results, approximately 98% of revenues are generated on a fixed basis, including 21% of costs recovered from property taxes, 0% on a variable basis, and approximately 2% of revenues are from other sources. It was also estimated that approximately 44% of operating expenses are variable and dependent upon the amount of water sales, 29% is fixed O&M expense, and 27% is fixed capital expense and not dependent upon the amount of water sales.

## **Massachusetts Water Resources Authority**

The Massachusetts Water Resources Authority (“MWRA”) provides wholesale water and sewer service to 62 communities in eastern Massachusetts, including most of the cities and towns in the metropolitan Boston area. The major sources of water for the MWRA system are the watersheds of the Quabbin Reservoir, the Ware River, and the Wachusett Reservoir. In FY 2021, approximately 97% of the Authority’s revenues were derived from wholesale rates and charges assessed to the municipalities that it serves. The remaining revenues were derived primarily from investment income and other miscellaneous revenues.

In setting water rates, MWRA first identifies, through its budgeting process, the total amount of revenue that must be raised through water rates in a given fiscal year, net of anticipated other sources of revenue. Generally, charges for water service are then computed on the basis of the proportional metered water usage of each municipality for the immediately preceding calendar year. For example, the FY 2022 water charges are based on the municipality’s metered water use in calendar year 2020. In this way, the water rate revenues generated by MWRA are generated on a fixed basis.

Based on the FY 2023 budget for MWRA, approximately 98% of revenues are generated on a fixed basis, 0% on a variable basis, and approximately 2% of revenues are from other sources. It was also estimated that approximately 3% of operating expenses are variable and dependent upon the amount of water sales, 59% is fixed O&M expense, and 38% is fixed capital expense and not dependent upon the amount of water sales.

## **Metropolitan Water District of Orange County**

The Metropolitan Water District of Orange County (“MWDOC”) is the third largest member agency of Metropolitan. MWDOC serves nearly 3.2 million Orange County residents through providing wholesale water to 27 retail water agencies. MWDOC is a wholesale water supplier and resource planning agency that focuses on planning and investments in water supply development, water use efficiency, public information, legislative advocacy, water education, and emergency preparedness. Local water supplies provide more than half of Orange County’s total water demand. The remaining demand is purchased from Metropolitan.

MWDOC’s rates and fees generally fall into three categories: (1) pass through costs from Metropolitan for imported water; (2) specific charges for services contracted by member agencies; and (3) charges for MWDOC services that apply to all member agencies. The pass-through rates and charges from Metropolitan are normally billed on a monthly basis to member agencies with the majority of the cost allocation based on volumetric purchases. The specific charges to member agencies are primarily associated with water education school program and water use efficiency programs, including conservation rebates. Member agencies elect to subscribe to specific programs and can opt out of program participation. MWDOC’s core budget includes all other programs and functions. The rate structure for this portion of the budget is comprised of two different charges. For retail member agencies, a fee is assessed on the total number of retail meters an agency has in its service area. For the remaining groundwater agency, the rate is based on a combination of factors including a proportional share for specific cost of services and a long-term volumetric usage average.

Based on the FY 2022/23 budget, and excluding Metropolitan pass-through revenue and cost, approximately 99% of revenues are generated on a fixed basis, 0% on a variable basis, and 1% of revenues are from other sources. It was also estimated that approximately 0% of operating expenses are variable and dependent upon the amount of water sales, 96% is fixed O&M expense, and 4% is fixed capital expense and not dependent upon the amount of water sales.

## **Metropolitan Water District of Southern California**

Metropolitan provides wholesale water service to 26 member agencies in a six-county area. Its supply sources are the Colorado River, the SWP, and various water supply programs. Metropolitan's rate structure is comprised of a Supply Rate, a System Access Rate, a System Power Rate, and a Treatment Surcharge that each recover costs based on the amount of water sales. Metropolitan's rate structure also includes a Capacity Charge and a RTS Charge, which are fixed charges that are not dependent upon the amount of annual water sales. Rate revenue requirements are offset by other revenues, including property taxes, interest income, and miscellaneous fees and charges.

Based on information contained in Metropolitan's Cost of Service Study for FY 2021/22, approximately 17% come from fixed charges, including property taxes, approximately 80% of revenues come from variable sources, and approximately 3% comes from other miscellaneous revenues. It was also estimated that approximately 17% of operating expenses are variable and dependent upon the amount of water sales, 48% is fixed O&M expense, and 35% is fixed capital expense and not dependent upon the amount of water sales.

## **New York City Water Board**

The New York City Water Board and the Department of Environmental Protection supplies water and sewer service to the Boroughs of the Bronx, Brooklyn, Manhattan, Queens, and Staten Island and serves approximately 8.5 million residents. The City is also required by State law to sell water in counties where its water supply facilities are located. In these areas, the City provides services to approximately 1 million additional people.

Water rates for City customers are based on either a uniform metered water rate or a flat fixed charge. Customers who use less than 86 gallons of water per day receive a minimum bill for water usage. Rates for water supply service provided to municipalities and water districts located north of the City are based on two volumetric rates, an entitlement rate and an excess rate. The entitlement rate is based on an allowance for daily per capita consumption, and the excess rate is for water usage in excess of the per capita daily allowance.

Based on the FY 2023 budget for the City, approximately 24% of revenues are generated on a fixed basis, 75% on a variable basis, and approximately 1% of revenues are from other sources. It was also estimated that approximately 11% of operating expenses are variable and dependent upon the amount of water sales, 62% is fixed O&M expense, and 27% is fixed capital expense and not dependent upon the amount of water sales.

## **San Antonio Water System**

The San Antonio Water System ("SAWS") is a water and wastewater utility located in Texas that provides both retail and wholesale water service to the City of San Antonio and the majority of the population of Bexar County. The water system service area extends over 934 square miles and provides service to approximately 545,000 customer connections. Approximately 40% of the water supply comes from the Edwards Aquifer,

29% from Aquifer Storage and Recovery, 7% from the Vista Ridge Water Project, 7% from Recycled Water, and the remaining portion from other various sources.

SAWS charges a monthly service availability charge that varies by meter size and a usage rate based on the amount of water consumption. SAWS has eight tiers of usage rates. SAWS also charges a Water Supply Fee that is based on the amount of water consumption. There are separate rate schedules for inside-City retail customers, outside-City retail customers, and for wholesale customers. Wholesale customer revenue comprises approximately one percent of the operating revenues.

Based on the FY 2021 revenues and expenses for SAWS, approximately 28% of revenues are generated on a fixed basis, 70% on a variable basis, and approximately 2% of revenues are from other sources. It was also estimated that approximately 11% of operating expenses are variable and dependent upon the amount of water sales, 58% is fixed O&M expense, and 32% is fixed capital expense and not dependent upon the amount of water sales.

## **San Diego County Water Authority**

San Diego County Water Authority (“SDCWA”) is a wholesale water provider with a service area that spans approximately 1,490 square miles (roughly one-third of San Diego County) and serves 24 member agencies that deliver water to 3.3 million residents. These member agencies include six cities, five water districts, three irrigation districts, eight municipal water districts, one public utility district, and one federal agency. As purely a wholesale entity, there are no retail customers.

Operating revenues consist mainly of water sales revenues generated through rates and charges from the Water Authority (both fixed and commodity-based charges). Volumetric commodity rates are collected monthly and are set as a unit price per acre-foot for actual water delivered. In addition to volumetric water rates, SDCWA recovers fixed annual expenditures through property taxes, water availability standby charges, and Infrastructure Access Charges (IAC). SDCWA also imposes a System Capacity and Treatment Capacity Charge for a new meter or meter upgrade.

Based on the FY 2023 adopted budget for SDCWA, approximately 28% of revenues are fixed, 70% are variable, and 2% of revenues are generated from other sources. It was also estimated that approximately 50% of operating expenses are variable and dependent upon the amount of water sales, 24% is fixed O&M expense, and 26% is fixed capital expense and not dependent upon the amount of water sales.

## **San Francisco Public Utilities Commission**

The San Francisco Public Utilities Commission (“SFPUC”) provides both retail and wholesale water and wastewater services to the City of San Francisco and County of San Francisco. SFPUC also sells water to 27 wholesale customers in San Mateo, Alameda, and Santa Clara counties under various contractual agreements. In FY 2022, SFPUC’s wholesale revenues were \$261 million from water sales from a volumetric rate of \$4.75 per ccf charged to customers, and retail sales were approximately \$256 million.

Based on the FY 2022 revenues for SFPUC, approximately 8% of revenues are generated on a fixed basis, approximately 84% of revenues are from variable sources, and approximately 8% of revenues are from other sources. It was also estimated that approximately 9% of operating expenses are variable and dependent upon the amount of water sales, 51% is fixed O&M expense, and 41% is fixed capital expense and not dependent upon the amount of water sales.

## **San Juan Water District**

The San Juan Water District (“SJWD”) provides water on a wholesale and retail basis to an area of approximately 17 square miles for retail service and 46 square miles for wholesale service in Sacramento and Placer Counties. The District’s wholesale operations include protecting access to reliable and sufficient water supplies, operating and maintaining a surface water treatment plant, operating and maintaining treated water storage, pumping and transmission facilities, delivering treated water to five retail agencies, and providing administrative support necessary to successfully carry out those functions. The District’s retail operations include operating and maintaining storage, pumping transmission, and distribution facilities, delivery of water to 10,700 retail connections, and providing the administrative, customer service, water efficiency, and engineering support necessary to carry out these functions. The District’s water supply comes from a settlement contract with the U.S. Bureau of Reclamation for water rates from the American River, a water service contract with the Bureau for the Central Valley Project water, and through a contract with Placer County Water Agency for wholesale water.

Revenues of SJWD come from water sales, capital charges, tax assessments and other revenues. Water sales include account charges, meter charges, and fixed capital charges, as well as usage rates. Based on the FY 2021/22 financial results, approximately 78% of revenues are generated on a fixed basis, 20% on a variable basis, and approximately 2% of revenues are from other sources. It was also estimated that approximately 8% of operating expenses are variable and dependent upon the amount of water sales, 26% is fixed O&M expense, and 66% is fixed capital expense and not dependent upon the amount of water sales.

## **Santa Clara Valley Water District**

Santa Clara Valley Water District (“SCVWD”) acts as the primary water wholesaler to two million residents living in 15 different towns across an area of 1,315 square miles in Santa Clara County. SCVWA water sells water to eight water retail companies, cities, and towns that make up four customer classes including groundwater, treated water, surface water, and recycled water users, the largest of which is San Jose Water Company. SCVWA has three business enterprises: Water Operations; Flood protection, Watershed and Stream Stewardship; and General Fund.

Fixed revenues include property taxes (1% ad valorem), special parcel taxes, and benefit assessments. These fixed revenues based on the FY 2023 Budget, are projected to be \$216 million or 53% of total revenues. Variable revenues were projected to be \$265 million or 46% of total revenues and other revenues made up approximately 1% of total revenues. It was also estimated that approximately 24% of operating expenses are variable and dependent upon the amount of water sales, 19% is fixed O&M expense, and 57% is fixed capital expense and not dependent upon the amount of water sales.

## **Santa Clarita Valley Water Agency**

Santa Clarita Valley Water Agency (“SCVWA”) exists today as a merged entity with the Castaic Lake Water Agency following the merger between two existing water agencies, the Castaic Lake Water Agency and the Newhall County Water District. The agency serves nearly 75,000 customers in the Santa Clarita Valley.

SCVWA owns and operates water conveyance pipelines and two surface water treatment plant facilities to supply water delivered through the SWP to its retail customers and to one wholesale customer. The agency also owns and operates a water transmission and distribution system to deliver water to retail customers.

SCVWA generates revenue in a variety of ways to fund its operations. These revenue sources are retail water sales, recycled water sales, one-time water sales, one percent property tax revenues, facility capacity fee, perchlorate reimbursements, grants, laboratory revenues, communications revenue, and investment revenues.

Based on the FY 2022 financial report, approximately 43% of revenues are generated on a fixed basis, 46% of revenues are generated on a variable basis and 12% of revenues comes from other sources. It was also estimated that approximately 13% of operating expenses are variable and dependent upon the amount of water sales, 36% is fixed O&M expense, and 51% is fixed capital expense and not dependent upon the amount of water sales.

## **Solano County Water Agency**

The Solano County Water Agency (“Solano”) was established to provide adequate water supply to the cities within Solano County and is responsible for the conservation, development, and control. It is a wholesale water agency with the responsibility to maintain the infrastructure to deliver raw water to the cities within the County, work in conjunction with the county on soil erosion projects and public flood control projects. Solano’s water sources come from (1) the Solano Project, which provides about half of the municipal water supply and the majority of water supply in Solano County, and (2) the North Bay Aqueduct, which is owned and operated by the Department of Water Resources and provides about half of the water supply to Solano.

Solano’s revenues are primarily generated by property taxes but SCWA also assesses charges for service. Solano is a SWP contractor and its biggest expenditure is SWP payments, which comprised about 40% of its expenditures in FY 2021.

Based on the FY 2021 financial statements, approximately 88% of revenues are generated on a fixed basis primarily through property taxes, approximately 10% of revenues are from variable sources, and approximately 2% of revenues are from other sources. It was also estimated that approximately 43% of operating expenses are variable and dependent upon the amount of water sales, 47% is fixed O&M expense, and 11% is fixed capital expense and not dependent upon the amount of water sales.

## **Sonoma County Water Agency**

Sonoma County Water Agency (“SCWA”) is a wholesale water supplier to nine water districts that serve more than 600,000 residents in Sonoma and Marin counties. The majority of SCWA’s water supply comes from the Russian River while groundwater is secondarily sourced from the Santa Rosa Plain.

Based on the FY 2022 revenues and expenses for SCWA, approximately 38% of revenues are generated on a fixed basis, 46% on a variable basis, and approximately 17% of revenues are from other sources. Fixed revenues were generated primarily from property. It was also estimated that approximately 13% of operating expenses are variable and dependent upon the amount of water sales, 61% is fixed O&M expense, and 27% is fixed capital expense and not dependent upon the amount of water sales.

## **Southern Nevada Water Authority**

Southern Nevada Water Authority (“SNWA”) is a purveyor of wholesale water and serves major metropolitan areas of Clark County, Nevada which includes the Las Vegas Strip. The service area has an arid climate with low precipitation despite a population of roughly 2.26 million relying on water from the Agency.

Fixed revenues included a regional connection charge (one-time per meter connection), contributed capital (includes regional infrastructure charges), and Clark County sales tax (8.25%). Combined fixed revenues made up 56% of total budgeted revenues in FY 2023 and variable revenues comprise 41% of the total revenues.<sup>3</sup> Variable revenues include wholesale delivery charges and regional water charges (consists of regional commodity charge and regional reliability surcharge). Other revenues comprise 3% of the budgeted revenues and included receipts from the Southern Nevada Public Lands Management Act (SNPLMA), investment income, groundwater program fees, and other minor revenues.

It was also estimated that approximately 9% of operating expenses are variable and dependent upon the amount of water sales, 39% is fixed O&M expense, and 52% is fixed capital expense and not dependent upon the amount of water sales.

## **Tacoma Water**

Tacoma Water is a provider of retail and wholesale water service in Washington State. Its service area includes the City of Tacoma and urbanized areas of Pierce and South King Counties. Most of its water supply comes from surface water. Water sales revenues are collected from a fixed charge that varies by meter size and volumetric rates with three tiers. Wholesale revenues comprise approximately \$2.7 million of the total \$99.0 million in water sales, or approximately 2.7% in 2021.

Based on the FY 2023/24 budget for Tacoma Water, approximately 40% of revenues are generated on a fixed basis, 50% on a variable basis, and approximately 10% of revenues are from other sources. It was also estimated that approximately 5% of operating expenses are variable and dependent upon the amount of water sales, 74% is fixed O&M expense, and 21% is fixed capital expense and not dependent upon the amount of water sales.

## **Tampa Bay Water**

Tampa Bay Water is a regional water supply authority that provides wholesale water to six member governments in southwest Florida. The utility's water source is from a combination of groundwater, surface water, and desalination. The utility charges wholesale customers a uniform rate based on the amount of water consumption. Tampa Bay Water is required to perform an annual true-up of the budgeted fixed cost component of the bills paid during the fiscal year based on the actual amount of water delivered to each member government during the fiscal year then ended, making a significant portion of the revenue stream fixed and not dependent upon the amount of water sales.

Based on the FY 2022 budget for Tampa Bay Water approximately 71% of revenues are generated on a fixed basis, 28% on a variable basis, and 1% of revenues are from other sources. It was also estimated that approximately 16% of operating expenses are variable and dependent upon the amount of water sales, 40% is fixed O&M expense, and 44% is fixed capital expense and not dependent upon the amount of water sales.

## **Yuba County Water Agency**

Yuba County Water Agency ("YCWA") provides wholesale water supplies for agricultural use to irrigation and water districts north and south of the Yuba River in Yuba County. YCWA provides water to eight member units. As a wholesaler, YCWA's distribution system is limited to the main canals used to deliver

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<sup>3</sup> Note that contributed capital was much higher for FY 2023 compared to FY 2009/10. Therefore, the percent of fixed revenues will be higher than the previous survey completed by Metropolitan.



water to the south member units and three pumping plants used to lift water for conveyance. North of the Yuba River, deliveries are made directly to the member units and no agency facilities exist. YCWA has separate water services contracts with each of the member units and the specific terms of these agreements vary by member.

New water supply agreements with member units include a base charge of \$2.50 per acre-foot (in FY 2022) for project base supply allocation, which must be paid in full by the member unit, regardless of the volume of water delivered. Additionally, there is a metered/usage charge of \$1.20 per acre-foot for project base supply volumes actually delivered to the member units. In addition, member units are required to reimburse YCWA for operations and maintenance costs based on the water delivered. These charges are applied to each member unit on a pro-rata basis according to the actual volume of water delivered each year.

Based on the FY 2022/23 budget for YCWA (excluding power operations), approximately two thirds of the water sales are generated on a fixed basis with the remaining generated on a variable basis. In addition, approximately 100% of the O&M expenses from the South Irrigation Districts is fully recovered on a fixed basis. In combination, approximately 69% of revenues are from fixed sources, 23% from variable sources, and the remaining 8% are from other revenues.

It was also estimated that approximately 3% of operating expenses are variable and dependent upon the amount of water sales, 73% is fixed O&M expense, and 24% is fixed capital expense and not dependent upon the amount of water sales.

## **Zone 7 Water Agency**

Zone 7 Water Agency provides untreated water for irrigation and treated wholesale water to retail water suppliers in the Livermore-Amador Valley area. The Agency's four retail water customers are the City of Livermore, the City of Pleasanton, Dublin San Ramon Services District, and California Water Service Company – Livermore District which in total serve a population of 266,000 people. The Agency also provides treated water to six direct customers which are the Lawrence Livermore Lab, Livermore Area Recreation and Park District (LARPD), Veterans Hospital, Wentz Brothers Vineyard, the State of California Department of Water Resources (California DWR), and the East Bay Regional Park District.

Treated water rates consist of an annual fixed charge for each customer (based on a two-year rolling average allocation of historical water usage) and a uniform volume-based charge for all customers based on hundred cubic feet (\$/ccf) of water usage. In 2022, Raftelis conducted a Treated Water Rate Study for the Agency which included developing wholesale treated water rates. This report, along with the treated water rate model, was used to determine the Agency's fixed and variable revenue streams.

Based on projected revenues and expenses for FY 2023, approximately 45% of the Agency's revenues were fixed, while 52% were variable revenues. Other revenues made up the remaining 3% of total revenues. It was also estimated that approximately 19% of operating expenses are variable and dependent upon the amount of water sales, 55% is fixed O&M expense, and 25% is fixed capital expense and not dependent upon the amount of water sales.