

2020 Budget

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2020 Budget

Strategic Direction

Purpose, Vision & Values

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Core Values: Strategically Essential for SMUD

- | | | | |
|------|------------------------------|-------|--|
| SD-1 | Purpose and Vision Statement | SD-8 | Employee Relations |
| SD-2 | Competitive Rates | SD-9 | Resource Planning |
| SD-3 | Access to Credit Markets | SD-10 | Innovation |
| SD-4 | Reliability | SD-11 | Public Power Business Model |
| SD-5 | Customer Relations | SD-12 | Ethics |
| SD-6 | Safety | SD-16 | Information Management & Security Policy |
| SD-7 | Environmental Leadership | SD-17 | Enterprise Risk Management |

Key Values: Provide Value-Added Services

- SD-13 Economic Development
- SD-14 System Enhancement
- SD-15 Outreach & Communication
- SD-19 Diversified Business

Purpose Statement

SD-1A SMUD is community-owned. Our purpose is to enhance the quality of life for our customers and community through creative energy solutions.

Vision Statement

SD-1B SMUD's vision is to be the trusted partner with our customers and community, providing innovative solutions to ensure energy affordability and reliability, improve the environment, reduce our region's carbon footprint, and enhance the vitality of our community.

Core Values: Strategically Essential for SMUD

- SD-2 Maintain Competitive Rates
- SD-3 Maintain Access to Credit Markets
- SD-4 Reliability - Meeting customer energy requirements
- SD-5 Maintain a high level of Customer Relations
- SD-6 Safety - Creating a safe environment for employees and the public is a core value of SMUD
- SD-7 Environmental Leadership - Community engagement, continuous improvement in pollution prevention, carbon reduction, energy efficiency, and conservation
- SD-8 Employee Relations - Developing and maintaining a high quality, inclusive workplace that engages and inspires employees to commit to SMUD's purpose, vision and values

Core Values: Strategically Essential for SMUD

- SD-9 Provide customer-owners with a sustainable power supply through the use of an integrated Resource Planning process
- SD-10 Deliver innovative solutions, products and services to our customers
- SD-11 Public Power Business Model – Support and strengthen the public power business model
- SD-12 Ethics – Maintain the public trust and confidence in the integrity and ethical conduct of the Board and SMUD employees
- SD-16 Information Management and Security Policy - Proper management of cyber and physical information are critical to effective risk management and to ensure regulatory compliance, business resiliency and customer satisfaction. SMUD will take prudent and reasonable measures to ensure information security, customer privacy and proper record management.
- SD-17 SMUD will implement and maintain an integrated enterprise risk management process that identifies, assesses, manages and mitigates a variety of risks facing SMUD, including financial, supply, operational, physical security, climate change, legal, legislative and regulatory, and reputational risk.

Key Values: Provide Value-Added Services

- SD-13 Economic Development – Promote economic vitality of our region and the growth of our customer base
- SD-14 Make selected distribution system enhancements such as relocation or underground placement of primary power lines.
- SD-15 Broad Outreach and Communication to SMUD’s customers and the community
- SD-19 Broaden and diversify the products and services that SMUD offers

2020 Budget Performance Metrics

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Performance Metrics



Strategic Direction	Metric	2019 Forecast	2019 Target	2020 Target
SD-2 Competitive Rates	Competitive System Average Rates			
	Percent below Pacific Gas & Electric [1]	36.5%	18.0%	18.0%
	Percent below each Customer Class [1]	Meet 10% Goal for each Customer class	Meet 10% Goal for each Customer class	Meet 10% Goal for each Customer class
SD-3 Access to Credit Markets	Fixed Charge Ratio of at least 1.50 [2]	1.90	1.76	1.69
SD-4 Reliability	Customer Load Demand [3]	100%	100%	100%
	SMUD Availability of Generation Assets [4]	98%	97%	97%
	Overall Availability of Transmission Assets	100%	>99.99%	>99.99%
	Distribution System Reliability			
	Duration of Outages (SAIDI) [5]			
	SAIDI With Major Event	102.4 min	67.5 - 93.3 min	67.5 - 93.3 min
	SAIDI Excludes Major Event	53.9 min	49.7 - 68.7 min	49.7 - 68.7 min
Frequency of Outages (SAIFI) [5]				
SAIFI With Major Event	1.2	0.99 - 1.33	0.99 - 1.33	
SAIFI Excludes Major Event	0.9	0.85 - 1.14	0.85 - 1.14	
SD-5 Customer Relations	Customer Satisfaction Survey	95%	95%	95%
	Value for What You Pay	69%	73%	70%

Performance Metrics (continued)



Strategic Direction	Metric	2019 Forecast	2019 Target	2020 Target
SD-6 Safety	<u>Shift safety culture, improve safety results, and maintain positive financial performance</u>			
	Leading Indicator			
	Employee-Supervisor Interactions	100%	95%	95%
	Incident Reports ≤ 3 days [6]	100%	95%	95%
	Incident Investigations ≤ 5 days [7]	90%	95%	95%
	Days Away Restricted Time (DART) [8]			
	Annual average	1.0	1.4	1.0
SD-8 Employee Relations	<u>Workers' Compensation</u>			
	Average Workers' Compensation Cost per \$100 payroll (Actuarial Basis) (Maintain positive financial performance of the workers' compensation program.) [9]	\$0.68	\$0.94	\$0.94
	Public Safety			
SD-9 Resource Planning	Corrective actions implemented (to protect the public from injuries related to SMUD ops. or facilities.)	100%	95%	95%
	<u>Employee Engagement</u>			
SD-13 Economic Development	Sustain Employee Engagement [10]	87%	>80%	>80%
	<u>Energy Savings [11]</u>			
	GWh Savings - Energy Efficiency	164	161	161
	<u>Renewable Energy to meet SMUD's Load Renewable Portfolio Standards (RPS) [12]</u>	31.0%	31.0%	33.0%
	Supplier Education and Economic Development (SEED) - Percent of Contract Dollars	28%	20%	20%

Footnotes:

- [1] 2019 Forecast is based on rate forecasts as of September 2019.
- [2] Fixed Charge Ratio 2019 Forecast is as of October 2019.
- [3] Customer Load Demand met through Use of Generation Resources and Purchased Power Portfolio. Target reflects Board Generation Resources and Purchase Power Portfolio Target.
- [4] Maintain high level of availability of generation assets (adjusted IEEE availability for peak load season June - September). Supports Board target for overall availability of transmission assets.
- [5] 2019 Forecast is based on 2019 Actuals through September 30 and 2014-2018 for October through December. One major event occurred January 6-7th, 2019. In 2019, 3 of the 4 metrics for SAIDI/SAIFI are projected to be within the Strategic Direction. The impact to SAIDI during the major event far exceeded the allowance provided for the SAIDI major event threshold.
- [6] Employee-Supervisor Interactions Incident Reports excludes incident types where the date of injury may be difficult to determine. It measures the percentage of reports completed within the target date, which is normally set to 3 days, but may be extended due to extenuating circumstances.
- [7] Incident Investigations excludes incident types where the investigation may require coordination of outside parties or may have a high degree of complexity. It measures the percentage of investigations completed within the target date, which is normally set to 5 days, but may be extended due to extenuating circumstances.
- [8] Board SD-6 targeted to reduce SMUD's injury severity rate to 1.4 by 2020.
- [9] The projected loss rates per \$100 payroll (for 2019/20 and 2020/21) are calculated based on SMUD's historical loss experience and actuarial judgment.
- [10] Employee Engagement metrics reflects the percentage of employees classified as "fully engaged" and "key contributor" combined together to exceed 80% as measured through the bi-annual engagement survey. As we evaluate improved approaches to measuring an organization's engagement, this metric may be modified.
- [11] Total energy savings goals are reflective of Board's 10-year energy efficiency goals. GWh savings for 2020 Target include 10 GWh of Electrification, 148 GWh of Energy Efficiency Estimated Pilots, and 3 GWh of Low Income.
- [12] SMUD will meet the 2019 target (31%; ~3,130 GWh) using forecasted 2019 generation (31.2%; ~3,150 GWh). The 2020 Renewable Portfolio Standards (RPS) target is 33% (~3,350 GWh). The RPS statutes allow renewables procured above the compliance period targets to be carried over and applied in future compliance periods.

2020 Budget

Business Units & Segments and Organizational Chart

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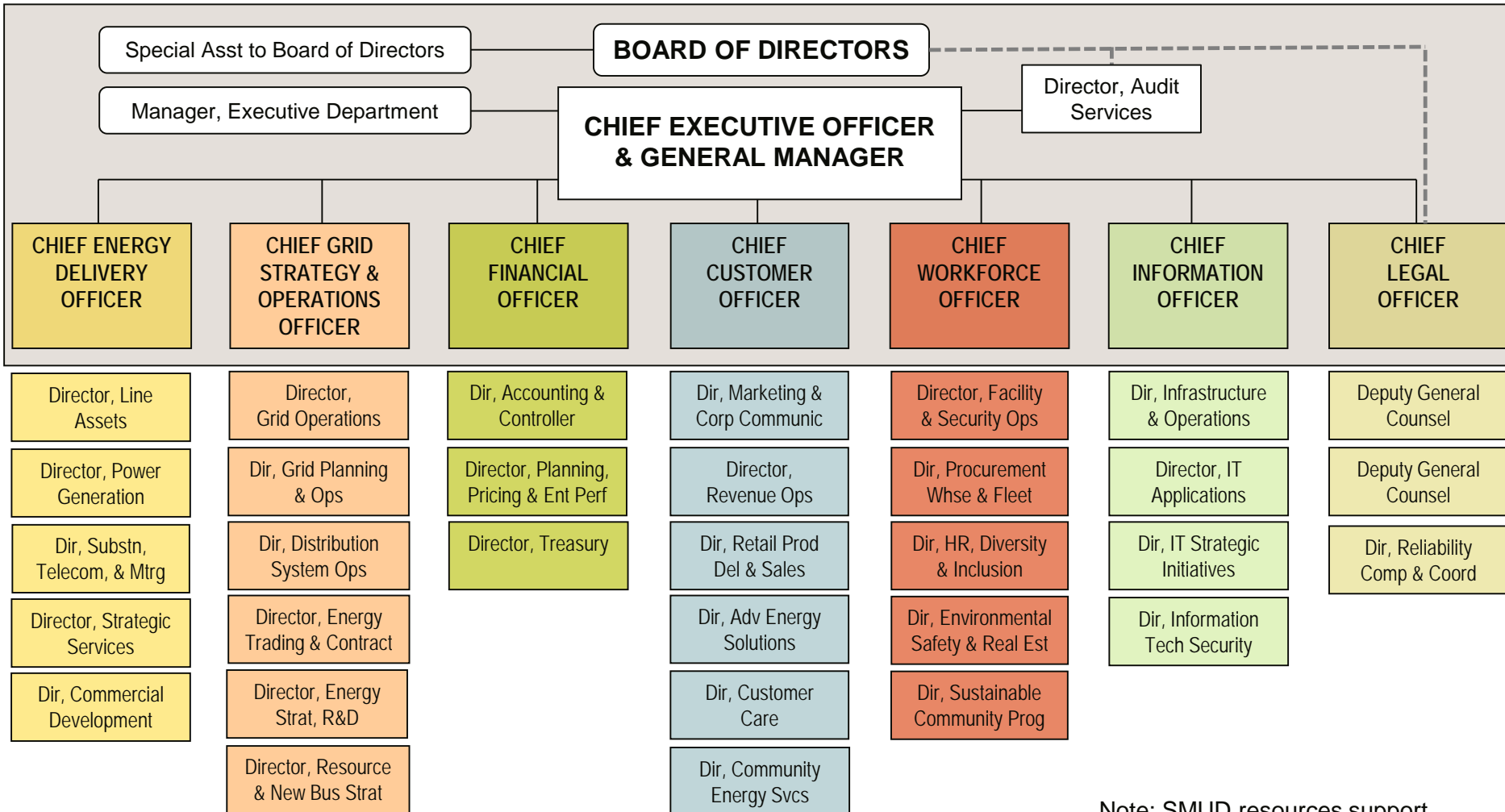
Business Units & Segments



The SMUD Budget is planned by Business Unit processes which in some cases differs from the organizational/functional reporting structure.

Customer/ Community	Energy Operations	Energy Delivery	Internal	Technology	Corporate
Retail Product Delivery & Sales	Grid Planning & Operations	Power Generation	Operations	Applications	Governance
Advanced Energy Solutions	Commodity, Procurement & Sales	Grid Assets	Services	Infrastructure & Operations	Strategic & Finance
Revenue Operations	Energy Strategy, Research & Development		Support	Strategy Planning & Governance	Legal, Gov't Affairs & Reliability Compliance
Communic. Marketing & Community Relations	Resource & New Business Strategy			Strategic Initiatives	Enterprise Affairs
Customer Care	Integrated Resource Plan			Information Security	

Organization Chart by Executive



Note: SMUD resources support Business Unit processes regardless of organization/functional affiliation.

2020 Budget

Economic Outlook & Assumptions

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The planning data presented here is based on a recent update as part of the Corporate Resource Planning process.

Customer count is up slightly in the 2019 Forecast from what was assumed in the 2019 Budget. Looking ahead, we are seeing regular growth in the future in residential customers and commercial customers.

New customers to be added to SMUD's customer base in 2020 are projected to total approximately 5,579. This is about a 1 percent annual growth rate, which is below the average growth during the past decade. Of the 2020 projection, 4,825 are new residential customers and 754 are other customers.

	2019 <u>BUDGET</u>	2019 <u>FORECAST</u>	2020 <u>BUDGET</u>
New residential customers	5,196	(218)	4,825
All other new customers	(9)	447	754
TOTAL new customers*	5,187		5,579
Residential customers	563,035	562,817	567,860
All other customers	75,126	75,573	75,880
TOTAL customers**	638,161	638,390	643,740

*Reflects monthly average instead of end-of-year count in order to reflect the fluctuation of SMUD's customer growth.

(continued)

Energy sales to customers is projected to decrease from the 2019 Budget assumption.

Unmanaged Peak load is forecasted to decrease by 5MW from the 2019 Budget assumption.

	2019	2020
	<u>BUDGET</u>	<u>BUDGET</u>
Billed energy sales (GWh)	10,348	10,258
Peak load (MW)	2,855	2,850

Inflation Escalation Factors:

The forecasted inflation factor for use where applicable in preparing the 2020 Budget is 2%. The longer-term outlook (ten years) used in the business strategy update is the same, at 2% per year.

The cost-of-living (COLA) increase for SMUD salaries and wages during 2020 is based on formulas contained in negotiated bargaining agreements.

(continued)

Power Supply Assumptions

The Integrated Resource Plan is the basis for the operating assumptions for the 2020 Budget. Electricity prices are forecast to be higher, and natural gas prices are forecast to be lower in the 2020 Proposed Budget than what was forecast in the 2019 Budget. The Upper American River Project (UARP) generation and renewable generation are forecasted to be slightly lower in 2020, while thermal generation is forecasted also to be slightly lower in the 2020 Budget.

SMUD became a Control Area, presently called a Balancing Authority (BA), in June 2002 and since then has operated its transmission and generation system independently. On January 1, 2006, the Western Area Power Administration's Sierra Nevada Region (WAPA-SNR) was integrated into the SMUD BA, followed on December 1, 2006, by the California-Oregon Transmission Project (COTP) – a 500kV transmission line - and the Modesto Irrigation District (MID). On May 8, 2009, together with MID and the cities of Redding and Roseville, SMUD entered into a Joint Powers Agreement to create the new Balancing Authority of Northern California (BANC). With regulatory approval on May 1, 2011, the operations of SMUD BA were transferred to BANC BA. BANC uses SMUD's existing employees and physical resources to be the BANC Operator. BANC's General Manager reports to a five person Commission made up of SMUD, MID, City of Redding, City of Roseville, and Trinity Public Utility Districts chief executives. This BA, as an independent entity, is not subject to market disruptions that result from financially induced supply shortages within the California Independent System Operator (CAISO) or investor-owned utilities. SMUD is still subject to certain CAISO transmission, grid management and other costs for transactions that use the CAISO controlled grid. These costs have been included in SMUD's 2020 Budget.

(continued)

SMUD Generation

SMUD Hydroelectric (Upper American River Project): The 2020 Plan assumes median rainfall and normal starting reservoir levels in 2020. Generation is expected to be 1,522 GWh.

Other SMUD Generation (South Fork, Photovoltaic, Solano Wind): The 2020 Plan assumes average generation subject to limitations governing the operation of each plant. The largest contributor, Solano Wind Phases 1, 2 & 3 is expected to generate 619 GWh.

SFA Cosumnes Power Plant: This 500 MW gas-fired combined cycle power plant began commercial operation in February 2006. Forecasted generation from this plant in 2020 is 3,989 GWh.

CVFA Carson Cogeneration: This gas-fired cogeneration project, which began commercial operation in October 1995, consists of a 61 MW combined cycle unit and a 42 MW peaking unit. With the installation of an auxiliary steam boiler in 2017, if running the cogeneration unit is uneconomic, it can be turned off. Energy will be supplied from the auxiliary boiler instead of the cogeneration unit. The forecasted generation from this facility in 2020 is 269 GWh.

SCA Procter & Gamble Cogeneration: This gas-fired cogeneration plant began commercial operation in March 1997. It consists of a 120 MW combined cycle power plant and a 49 MW peaking unit that became operational in May 2001. With the installation of an auxiliary steam boiler in 2016, if running the cogeneration unit is uneconomic, it can be turned off. Steam will be supplied from the auxiliary boiler instead of the cogeneration unit. Forecasted generation from this facility in 2020 is 601 GWh.

SPA Campbell Soup Cogeneration: This gas-fired combined cycle plant, began commercial operation in December 1997. It consists of a 170 MW combined cycle power unit. Beginning in 2008 the 72 MW McClellan gas turbine is also included under SPA. Forecasted generation from these two units in 2020 is 569 GWh.

(continued)

Purchased Power

The 2020 Plan assumes delivery of energy and capacity from the following contracts:

Western Area Power Administration (WAPA) / Central Valley Project (CVP): Provide 376 MW of capacity and 661 GWh of energy. Under a separate agreement, WAPA provides 38 GWh to serve its customers located within SMUD's service territory.

Kiefer Landfill: Provide a total of 14.0 MW of capacity and 109 GWh of energy under two separate agreements. The original Kiefer I contract was extended in November 2014, for an additional 10 years. The current Kiefer II contract was extended in March 2016, for an additional 10 years.

MM Yolo: Provide 2.4 MW of capacity and 21 GWh of green energy under an agreement that expires in June 2026.

IBR Highwinds: Provide 50 MW of capacity and 127 GWh of energy under an agreement signed in July 2015 to extend the original contract for additional 10 years.

IBR Biomass (previously RockTenn): Provide 45 MW of capacity and 313 GWh of energy under an agreement that expires in August 2021.

Grady Wind: Provide 200 MW of capacity and 900 GWh of energy of energy under an agreement that expires in December 2043.

enXco – SolarShares®: Provide 0.5 MW of capacity and 2 GWh of energy to participants of SolarShares® program under an agreement which expires in August 2028.

Santa Cruz Landfill: Provide 1.5 MW of capacity and 12 GWh of energy under an agreement, which expires in September 2024.

Feed-in-Tariff Solar Projects: Provide 100 MW capacity and 213 GWh of energy delivered from all projects under a 20-year term ending in December 2030.

Van Warmerdam Dairy Biogas: Provide 0.5 MW of capacity and 2 GWh of energy under an agreement which expires in May 2033.

(continued)

Purchased Power (cont'd)

New Hope Dairy Biogas: Provide 0.4 MW of capacity and 2 GWh of energy under an agreement which expires in August 2033.

Patua (aka: Gradient) Geothermal: Provide 25 MW to 19 MW of capacity and 147 GWh of energy under an agreement, which expires in December 2033.

Loyalton Biomass: Provide 4.2 MW of capacity and 33 GWh of energy under an agreement, which expires in March 2023.

Van Steyn Dairy Biogas: Provide 0.12 MW of capacity and 1 GWh of energy under an agreement, which expires in June 2035.

Camp Far West: Provide 6.8 MW of capacity and 21 GWh of energy under an agreement which expires in July 2031.

Conergy SolarShares®: Provide 1.3 MW of capacity and 2 GWh of energy to participants of SolarShares® program, under an agreement that expires in August 2034.

Rancho Seco Solar: Rancho Seco I provides 11 MW of capacity and 23 GWh of energy under a 30-year agreement which expires in August 2036. Rancho Seco II will begin production on December 31, 2019 and will provide 157 MW of capacity and 337 GWh of energy through November 2039.

Sutter Energy Center: Provide 258 MW of capacity and 528 GWh of energy under a two-year contract with Calpine Energy Services, L.P. effective April 2019 from a natural gas-fired, combined-cycle.

CalEnergy: Provide 20 MW of capacity and 199 GWh of geothermal energy under an agreement expiring December 2039.

SB-859 Biomass: Provide 2.6 MW of capacity and 19 GWh of energy, per State legislation requiring utilities in California to procure power from biomass plants that burn forest fuels from high hazard areas as identified by Cal Fire. A biomass project of 2.7 MW of capacity is expected in January 2020.

(continued)

Purchased Power

The balance of energy requirements to meet forecasted sales to customers will be met by short-term purchases of energy. Some of the long-term and short-term contracts will be delivered over SMUD's 528 MW share of the California-Oregon Transmission Project (Northwest) or under the South-of-Tesla transmission agreement with PG&E (Southwest & Southern California). These purchases are coordinated through SMUD's membership in the Western Systems Power Pool (WSPP), which facilitates sales and exchanges among its 30 member utilities, and through market trading. Lastly, another 5-year extension to the WAPA Custom Product ~300-MW sale/purchase contract with WAPA allows SMUD to import additional power from California Oregon Border through 2020.

2020 Budget

Budget Summary

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Overview

The 2020 Budget totals \$1.8 billion. This represents an increase of \$96 million from the 2019 Budget. The 2020 Budget is a request to authorize new spending.

The 2020 SMUD Budget summarized on the following pages is a blueprint of planned operating, public goods and debt service expenses and capital expenditures for the fiscal year beginning January 1, 2020. Historical comparisons to the 2019 Budget adopted by the Board on December 20, 2018 are shown to put the 2020 Budget in perspective. A forecast of actual 2019 expenses is also shown.

The O&M and Capital Budgets are shown by Business Unit. SMUD Business Units correspond to business processes which deliver specific products and services to SMUD customers. The core business processes are represented by the Customer & Community Services, Energy Operations and Energy Delivery Business Units. Included within Energy Operations and Customer/Community are Public Good costs related to energy efficiency, low income assistance, renewable generation and research and development. These costs are shown separately because they are designated as Public Goods programs as determined by statute.

The Technology, Internal Services and Corporate Services Business Units provide services which enable the other business units to perform their work. The Enterprise Business Unit contains contingency and reserve estimates for the organization. The planning and budgeting philosophy is to more accurately plan and measure the total cost of SMUD business processes and set performance improvement targets for the processes and Business Units that will most efficiently accomplish strategic goals. This budgeting methodology also most efficiently allocates and plans resources from throughout SMUD to the Business Units and work processes.

Within each Business Unit budget, work processes are subdivided into business segments and individual business processes. Budget detail is provided at both levels. Business segments and processes enable each business unit to effectively plan and measure performance of its operations at a manageable level.

The budgeted costs shown under each core Business Unit include all the costs of performing the work planned for 2020. These include labor costs from departments throughout SMUD which perform work in the core business processes. Labor costs include employee benefits. Also included in the budget is a surcharge allocation of internal service costs such as transportation, facilities, technology, human resources, and security. Expenditures budgeted by Technology and Internal Services represent those process costs that are not allocated to the core business units, such as dedicated software implementations or enhancements that do not meet minimum SMUD criteria for capitalization. The Corporate Services budget includes insurance and risk management, cash and debt management, and corporate legal, reliability compliance, legislative, regulatory and government relations, planning and performance, executive management and Board of Directors; a portion of this budget is allocated to Capital and Public Good. The Enterprise budget includes contingency and reserve estimates for the organization.

The 2020 Budget includes the following major components:

OPERATING EXPENSES (O&M): Expenses related to producing and acquiring energy, operating and maintaining the electrical delivery system, providing service to customers including public goods (energy efficiency, low income assistance, new renewable generation sources, and research and development of advanced technologies) programs, and corporate activities. Included within this category as a separate line item are commodity costs associated with energy supply. These costs include purchased power, fuel for energy production, and transmission wheeling costs.

Also included under Energy Delivery are fuel, operating and interest expense associated with CVFA's Carson Cogeneration plant, SCA's Procter & Gamble plant, SPA's Campbell Soup Cogeneration plant, SFA's Cosumnes Power Plant, NCGA No. 1 and NCEA pass-through gas costs. These expenses are shown in the SMUD Budget because SMUD will reimburse CVFA, SCA, SPA, SFA, NCGA No. 1 and NCEA for their costs under the terms of the Power and Gas Purchase Agreements. The detailed CVFA, SCA, SPA, SFA, NCGA No. 1 and NCEA Budgets are also in separate booklets and/or resolutions as they will be approved by the CVFA, SCA, SPA, SFA, NCGA No. 1 and NCEA Commissions.

CAPITAL INVESTMENT: Investment in additions and improvements to SMUD's property, plant and equipment. The Capital Investment budget includes all qualifying costs related to acquiring or constructing tangible and intangible assets which meet SMUD's capitalization guidelines - cost exceeding \$5,000 and an estimated service life greater than two years. SMUD follows Federal Energy Regulatory Commission (FERC) capitalization guidelines which dictate the inclusion of all direct costs (labor, employee benefits, materials, services and other) and a proportionate share of indirect costs (engineering and construction supervision and support, transportation, insurance, etc.) related to capital projects. Capital assets are depreciated on a straight-line basis over their estimated useful service life.

ALLOCATED: Costs in the two supporting business units, Technology and Internal Services, which enable the core business units to perform work. These costs are allocated to both O&M and capital costs, based on the quantity of labor hours. The aggregated allocated costs for Technology and Internal Services are presented in the budget documentation separately as information only; the actual costs are reflected in each of the Business Unit's budgets as the total cost of their work processes.

DEBT SERVICE: Interest expense on and principal repayments of SMUD's outstanding long-term debt and commercial paper notes, any revenues or payments on interest rate swaps, and trustee fees and debt issuance costs. Detail is provided in the Budget Summary.

Description of Cost Categories

Activity Type Labor	SMUD employee labor planned to a business unit work process. Each Activity Type has a standard hourly charge-out rate that is based on work (non-leave) hours, average annual employee salaries, and includes benefits.
Materials & Equipment	Materials and equipment either issued from inventory or purchased for a specific project or task.
Dues & Publications	Dues and publications and general membership requirements to accomplish work.
General Expenditures	All services and other non-material costs not covered by other specific cost categories including training, travel, rents, leases, licenses, fees, taxes, etc.
Outside Services	The cost of outside services contracts, consultants, and outside legal service.
Advertising	The cost of advertising.
Utilities & Postage	The cost of telephones, other utilities and postage.
Insurance	The cost of property and liability insurance.
Rebates & Incentives	The cost of energy efficiency rebates and incentives.
Commodities	The cost of purchased power, wheeling, and fuel for SMUD and JPA generating plants.
Surplus/Whsl Pwr Sales	The revenue generated from selling energy which is not needed to meet SMUD retail load.
LI/LS Rate Discount	The discount given to customers who qualify for the Low Income or Medical Energy Discount (MED) rate subsidy.
Cost Reductions/Reimb	Reimbursements, cost-sharing grants, or pass-through amounts received from outside parties to reduce net costs.
Cost Center Overhead	A rate developed to recover the indirect costs of a Cost Center. Includes Activity Type labor for administration, supervision, training, and miscellaneous general expenses such as office supplies and travel. It is assessed per hour of Activity Type Labor planned directly to the work.
Surcharges	Surcharge rates developed to recover 1) an allocation of internal service costs such as transportation and technology assessed per hour of Activity Type Labor planned directly to the work, 2) the costs of procuring outside service agreements (excluding outside legal service) and cost of procuring, storing, and handling materials and equipment assessed relative to the contract amount or whether material issued from inventory or purchased specifically for a project or task, 3) miscellaneous general and administrative SMUD expenses including insurance and risk management, cash management, debt management, and other assessed to capital and public good projects based on a flat percentage of overall SMUD activity type labor.

O&M Budget Summary



Description (\$000s)	2019 Forecast	2019 Budget	2020 Proposed	\$ Change vs Budget	% Change vs Budget
<i>Customer/Community (excl. PubGd)</i>	121,214	122,010	125,251	3,241	3%
<i>Public Good</i>	44,373	41,261	35,811	(5,450)	-13%
Customer/Community	165,587	163,270	161,062	(2,209)	-1%
<i>Energy Delivery (excl. JPA)</i>	203,197	196,367	207,053	10,686	5%
<i>JPA Interest Expense</i>	7,576	7,547	5,822	(1,725)	-23%
Energy Delivery (excl. JPA)	210,773	203,914	212,875	8,962	4%
<i>Commodity (net)</i> [1]	432,449	448,091	474,182	26,091	6%
<i>Energy Operations (excl. PubGd)</i>	88,428	84,909	109,269	24,360	29%
<i>Public Good</i>	15,718	20,029	24,287	4,258	21%
Energy Operations	536,595	553,029	607,738	54,709	10%
Internal Svcs	20,635	12,893	15,201	2,308	18%
Technology	33,221	39,308	40,358	1,050	3%
Corporate Services	69,843	63,322	78,761	15,438	24%
<i>Enterprise (excl. PubGd)</i>	0	14,700	1,400	(13,300)	-90%
<i>Public Good</i>	3,850	0	9,000	9,000	100%
Enterprise	3,850	14,700	10,400	(4,300)	-29%
Other Employee Benefits [2]	(5,910)	30,634	31,651	1,017	3%
O&M Budget Authorization	\$1,034,594	\$1,081,069	\$1,158,045	\$76,976	7%
Revenue	(107)	(55)	(55)	0	0%
O&M Net	\$1,034,487	\$1,081,014	\$1,157,990	\$76,976	7%

[1] Net of surplus sales. The 2020 Budget assumes median water year.

[2] Other Post-Employment Benefits (OPEB) and Workers Compensation - These benefits are not allocated or included as a labor expense in the Business Units. 2019 forecast includes \$20M reimbursement from OPEB that was paid to PERS.

O&M Budget Summary (continued)



Cost Category (\$000's)	2019 Forecast	2019 Budget	2020 Proposed	\$ Change vs Budget	% Change vs Budget
ActivityType Labor	\$225,130	\$228,683	\$244,249	\$15,566	7%
Material & Equipment	10,282	11,057	10,204	(854)	-8%
Dues & Publications	5,801	6,846	7,048	202	3%
General Expenditures	31,358	31,994	34,791	2,797	9%
Outside Services	139,531	128,243	145,698	17,455	14%
Advertising	3,641	3,707	3,665	(42)	-1%
Utilities & Postage	8,239	7,243	7,364	121	2%
Insurance	19,296	18,931	22,477	3,546	19%
Rebates & Incentives	26,867	27,452	29,097	1,645	6%
Commodities	488,912	562,737	598,062	35,325	6%
Surplus/Whsl Pwr Sales	(48,270)	(72,620)	(77,974)	(5,355)	7%
Non-Labor Expenditures	685,657	725,592	780,432	54,840	8%
Cost Reduction/Reimb	(19,213)	(54,783)	(58,080)	(3,297)	6%
Cost Center Overhead	56,193	51,746	56,817	5,071	10%
Surcharges	85,161	91,651	97,154	5,503	6%
Expenditures Subtotal	1,032,928	1,042,889	1,120,572	77,683	7%
JPA Interest	7,576	7,547	5,822	(1,725)	-23%
Other Employee Benefits	(5,910)	30,634	31,651	1,017	3%
O&M Budget Authorization [1]	\$1,034,594	\$1,081,069	\$1,158,045	\$76,976	7%
Revenue	(107)	(55)	(55)	0	0%
O&M Net	\$1,034,487	\$1,081,014	\$1,157,990	\$76,976	7%

[1] O&M Budget Authorization includes Public Good. A summary of Public Good is provided on the following page.

O&M Budget Summary (continued)



Public Good

2020 Summary (\$000s)	Customer/ Community	Energy Operations	Enterprise/ Contingency	Total
Energy Efficiency	\$26,659	\$10,476	\$0	\$37,135
Residential Assistance	8,627	0	5,000	13,627
Renewables	525	0	4,000	4,525
Research & Development	0	13,811	0	13,811
Public Good Budget Authorization [1]	\$35,811	\$24,287	\$9,000	\$69,098
Rate Subsidy	0	0	29,578	29,578
Total Public Good [2]	\$35,811	\$24,287	\$38,578	\$98,676

[1] Public Good expenditures are included in SMUD O&M summary (this table is information only)

[2] Specific information is provided within Customer/Community, Energy Operations and Enterprise Business Units.

The O&M Proposed Budget for 2020 totals \$1,158 million, which is \$77 million or 7 percent higher than the 2019 Budget.

Commodities: The Energy Operations Commodity budget for 2020 of \$474.2 million is \$26 million higher than the 2019 Budget. Details on the commodity assumptions in the 2020 Proposed Budget are found on pages 18-22.

Business Unit O&M:

Total Business Unit O&M, excluding Commodity and Public Good, is \$614.8 million, which is \$43.1 million higher than the 2019 Budget. The 2020 Proposed Budget includes new spending for our Integrated Resource Plan, which includes increases in Transportation Electrification programs. Transportation Electrification is a critical part of our newly-adopted IRP and an important part of our strategy to continue to provide a leadership role in the region's transformation to a low-carbon future. The budget also funds the customer outreach and education for these items. The O&M budget also includes investment in the California Mobility Center, a collaboration with regional leaders, policymakers, and venture capitalists to embark on a road to mobility innovation. The 2020 Budget funds continued increased costs for wildfire mitigation efforts which include higher insurance coverage and vegetation management work.

More detailed and specific information is provided within each Business Unit's documentation.

Public Good: Total Public Good is \$98.7 million, an increase of \$4.8 million, after inclusion of rate subsidies. The Public Good Budget is \$69.1 million. The difference is because the Budget represents the cash disbursement portion of the program that requires Board authorization.

By December 2020, the number of subsidized customers is expected to be approximately 73,659. The total cost of the EAPR subsidy is budgeted at \$27.8 million in 2020, a decrease of \$2.9 million from 2019, and the subsidy for customers using medical equipment decreased by \$0.1 million to \$1.8 million. Total subsidies are \$29.6 million.

Energy efficiency spending increased \$2.8 million to reflect new building electrification work and pilots and programs for low income customers. Incorporation of savings from codes and standards was included as a component of the energy efficiency portfolio to match standard industry practice going forward. The energy efficiency budget remains in line with the goal of achieving savings of 1.5% of average annual retail energy sales.

More detailed and specific information is provided within Customer, Energy Operations and Enterprise Business Unit documentation.

Other Employee Benefits: SMUD's Other Employee Benefits, is \$31.7 million, an increase of \$1 million. This item consists of the O&M portion (unfunded liability) of Other Post-Employment Benefits (OPEB) expense of \$28 million and \$3.7 million of workers compensation.

The total OPEB cost of \$37.5 million is the sum of the O&M portion of \$28 million and the current year contribution of \$9.5 million. OPEB are costs related to other post employment benefits other than pension (primarily health and dental insurance), for SMUD current and future retirees.

Capital Budget Summary



Description (\$000s)	2019 Forecast	2019 Budget	2020 Proposed	\$ Change vs Budget	% Change vs Budget
Customer/Community	\$ 4,335	\$ 4,518	\$ 4,406	\$ (112)	-2%
Energy Delivery	202,492	213,329	261,380	48,051	23%
Energy Delivery Resource Projects	54,126	68,559	36,845	(31,714)	-46%
Energy Operations	7,071	5,308	5,899	591	11%
Energy Operations Resource Projects	1,551	6,072	3,250	(2,822)	-46%
Internal Services	61,643	54,143	27,531	(26,612)	-49%
Technology	37,828	42,227	36,100	(6,128)	-15%
Corporate	0	0	6,298	6,298	100%
Contingency & Reserve	33,600	49,700	74,900	25,200	51%
Capital Budget Authorization	\$ 402,646	\$ 443,856	\$ 456,610	\$ 12,753	3%
Revenue	(318)	(705)	(705)	0	0%
Capital Net	\$ 402,328	\$ 443,151	\$ 455,904	\$ 12,753	3%

Capital Budget Summary (continued)



Cost Category (\$000's)	2019 Forecast	2019 Budget	2020 Proposed	\$ Change vs Budget	% Change vs Budget
ActivityType Labor	\$62,877	\$65,192	\$65,974	\$782	1%
<i>Material & Equipment</i>	63,077	66,026	69,005	2,979	5%
<i>Dues & Publications</i>	195	211	201	(10)	-5%
<i>General Expenses</i>	40,735	68,978	84,964	15,986	23%
<i>Outside Services</i>	208,893	213,442	194,438	(19,004)	-9%
<i>Advertising</i>	6	0	0	0	0%
<i>Utilities & Postage</i>	28	8	6	(2)	-27%
<i>Insurance</i>	543	645	656	11	2%
Non-Labor Expenses	\$313,477	\$349,309	\$349,269	(\$40)	0%
Cost Reduction/Reimb	(\$28,290)	(\$27,153)	(\$15,258)	\$11,895	44%
Expenditures	\$348,065	\$387,348	\$399,984	\$12,637	3%
Cost Center Overhead	19,020	19,120	18,595	(525)	-3%
Surcharges	35,561	37,388	38,030	642	2%
Capital Budget Authorization	\$402,646	\$443,856	\$456,610	\$12,753	3%
Revenue	(318)	(705)	(705)	0	0%
Capital Net	\$402,328	\$443,151	\$455,904	12,753	3%

Capital Budget Summary (continued)



Project Summary (\$000s)	2020 [1]	2021-22 [2]
<i>Meters</i>	4,406	9,115
Customer/Community	\$ 4,406	\$ 9,115
<i>Cable Replacement</i>	21,018	46,341
<i>Decommissioning</i>	5,649	11,733
<i>Gas Pipeline</i>	570	2,377
<i>Hydro License</i>	9,586	26,931
<i>Hydro Other</i>	6,324	9,294
<i>Hydro Production</i>	24,391	35,003
<i>Line Projects</i>	47,870	107,706
<i>New Services/Local Agency</i>	15,836	27,921
<i>New Substation</i>	37,925	25,153
<i>Other Energy Delivery</i>	1,119	1,260
<i>Pole Replacement</i>	17,863	38,578
<i>Power Generation</i>	1,937	-
<i>Renewable Production</i>	18,731	101,114
<i>Substation Lifecycle and Improvements</i>	35,879	48,609
<i>Thermal</i>	-	6,900
<i>Thermal Production</i>	2,314	1,005
<i>Transmission</i>	52,067	34,091
Energy Delivery	\$ 299,078	\$ 524,016

Capital Budget Summary (continued)



Project Summary (\$000s)	2020 [1]	2021-22 [2]
<i>Energy Operations Technology</i>	1,434	735
<i>Gas</i>	3,250	6,500
<i>Interconnection</i>	1,780	3,515
<i>Substation Land & Easement</i>	685	1,697
Energy Operations	\$ 7,149	\$ 12,447
<i>Environmental</i>	2,770	9,138
<i>Facilities</i>	16,099	23,396
<i>Vehicle Replacement</i>	8,662	17,374
Internal Services	\$ 27,531	\$ 49,909
<i>Customer Technology</i>	132	3,774
<i>DMS</i>	6,771	10,880
<i>Grid Technology</i>	9,069	5,234
<i>Information Security</i>	272	1,625
<i>IT Lifecycle and Infrastructure</i>	5,055	10,872
<i>Other Technology</i>	45	-
<i>Shared Services Technology</i>	9,302	58,108
<i>Telecom</i>	6,601	4,691
Technology	\$ 37,247	\$ 95,183
Corporate Contingency/Reserve	81,198	99,660
Capital Budget Authorization	\$ 456,610	\$ 790,331

[1] Requested Board Authorization amount for 2020 spending.

[2] Provided for Board information as an estimate of the amount needed to complete projects started in 2020 or earlier.

SMUD has historically had two categories of capital for budget authorization, Annual and Reserve/Contingency Capital. Annual Capital is for projects with completion dates or specific milestone dates within the current budget year and as such budget dollars are requested during the annual budget cycle. Projects that were approved in prior years but have not been completed are resubmitted to the Board annually for approval to continue the project. Reserve/Contingency Capital projects will be completed if load growth or customer growth is greater than expected, if there are unexpected expenditures, or if there are projects in which the planning phase will be completed and work will begin in 2020. Beginning in 2020, Reserve Capital is planned within the Enterprise Business Unit.

Capital: The proposed 2020 capital investment budget is \$456.6 million, for planned investment in generation, transmission, distribution, buildings, vehicles, technology and other assets critical to meeting the energy needs of our customers. Proposed ongoing capital expenditures go through a rigorous evaluation and prioritization process, based on value and risk, to ensure we fund those that have the highest contribution to the Board's strategic directives. This total includes the Reserve Capital Budget of \$15.0 million for unexpected end-of-year project carryover and capital contingency.

Major capital expenditures planned in 2020 include work for Station E and Station G, starting development work for additions to our wind farm with Solano Phase IV, and the White Rock Tunnel Bolt Replacement. Ongoing capital planned in 2020 includes cable and pole replacement programs, installing new meters, and new fleet purchases. Technology investments included in the 2020 Proposed Budget are to complete the Advanced Distribution Management System (ADMS), ongoing work for Workforce Optimization, and improvements to HR systems and network communications systems.

Contingency and Reserve in the 2020 Proposed Budget totals \$74.9 million. This contingency/reserve money is planned for the following potential items: reserve for carry-over and unexpected capital projects, system enhancement projects, land purchases, inventory/spare parts, and the purchase of Chili Bar from PG&E.

More detailed and specific information is provided within each Business Unit's Documentation.

Allocated Budget Summary



Description (\$000s)	2019 Forecast	2019 Budget	2020 Proposed	\$ Change vs Budget	% Change vs Budget
<i>Supply Chain</i>	\$ 15,851	\$ 14,967	\$ 16,548	\$ 1,581	11%
<i>Fleet & Fuel</i>	8,670	9,398	8,995	(403)	-4%
<i>Other Internal Services</i> [1]	41,599	46,023	44,899	(1,125)	-2%
Internal Services	66,120	70,388	70,441	54	0%
Technology	56,336	59,800	65,620	5,820	10%
Total Allocated Budget [2]	\$122,456	\$130,188	\$136,061	\$ 5,873	5%

[1] Other Internal Services: Health & Safety, Organizational Development, Inclusion, Fire Protection, Security, Postal & Print Shop, Graphics, Human Resources, Labor Relations, Facilities and Fleet (excluding fuel)

[2] Allocated Budget expenditures are included in all SMUD Business Unit's O&M and Capital summaries (this table is information only)

Allocated Budget Summary (continued)



Cost Category (\$000's)	2019 Forecast	2019 Budget	2020 Proposed	\$ Change vs Budget	\$ Change vs Budget
ActivityType Labor	\$56,691	\$58,729	\$63,974	\$5,245	9%
<i>Material & Equipment</i>	14,094	13,296	12,831	(465)	-3%
<i>Dues & Publications</i>	10	38	90	52	135%
<i>General Expenses</i>	1,302	1,305	1,226	(79)	-6%
<i>Outside Services</i>	28,861	33,394	33,871	477	1%
<i>Advertising</i>	128	153	153	0	0%
<i>Utilities & Postage</i>	1,679	1,752	1,793	42	2%
<i>Insurance</i>	215	420	294	(126)	-30%
Non-Labor Expenses	\$46,289	\$50,358	\$50,259	(\$99)	0%
Cost Reduction/Reimb	(\$150)	(\$86)	(\$90)	(\$5)	5%
Expenditures	102,830	109,002	114,143	5,141	5%
Cost Center Overhead	14,491	15,814	16,175	361	2%
Surcharges	5,136	5,372	5,743	371	7%
Total Allocated Budget [1]	\$122,456	\$130,188	\$136,061	\$5,873	5%

Allocated Budget Summary (continued)



The Allocated Proposed Budget for 2020 totals \$136.1 million, which is \$5.9 million higher than the 2019 Budget. This is shown as **information only** as 100% of these allocated expenditures are included in the budget dollars of all SMUD O&M and Capital described in this documentation. Internal Services and Technology costs are allocated to business units based on the quantity of labor hours.

More specific and detailed information is provided within Internal & Technology Business Unit Documentation.

Position Count Summary



Executive Hierarchy	2019 Full-time	2019 Limited Term	2019 Part-time	2019 Approved Positions	2020 Full-time	2020 Limited Term	2020 Part-time	2020 Positions Planned	Increase/Decrease
CEO & General Manager	34	21	9	64	35	27	8	70	6
Chief Legal Officer	41	2	4	47	40	2	4	46	(1)
Chief Financial Officer	90	2	5	97	88	7	6	101	4
Chief Energy Delivery Officer	697	19	14	730	694	27	13	734	4
Chief Grid Strategy & Operations Officer	287	3	23	313	289	3	23	315	2
Chief Customer Officer	411	22	107	540	412	20	105	537	(3)
Chief Workforce Officer	364	14	10	388	367	10	22	399	11
Chief Information Officer	244	13	43	300	262	15	49	326	26
Full-time				2,168				2,187	19
Limited Term				96				111	15
Part-time				215				230	15
SMUD Total	2,168	96	215	2,479	2,187	111	230	2,528	49

Position Count: The full-time count is identified in the Board Resolution.

Labor Cost Summary



Executive Hierarchy (\$000)	2019 Forecast	2019 Budget	2020 Proposed	\$ Change vs Budget	% Change vs Budget
CEO & General Manager	\$9,233	\$8,543	\$9,825	\$1,282	15%
Chief Legal Officer	6,020	6,160	6,036	(\$123)	-2%
Chief Financial Officer	11,302	11,308	11,482	\$174	2%
Chief Energy Delivery Officer	97,067	95,917	102,698	\$6,781	7%
Chief Grid Strategy & Operations Officer	42,012	42,565	44,595	\$2,030	5%
Chief Customer Officer	44,529	44,935	47,729	\$2,794	6%
Chief Workforce Officer	38,934	39,971	40,726	\$755	2%
Chief Information Officer	34,227	34,511	39,617	\$5,106	15%
Salaries & Wages*	\$263,151	\$267,104	\$284,038	\$16,934	6.3%
Overtime	\$20,175	\$16,807	\$18,671	\$1,864	11.1%
SMUD TOTAL	\$283,326	\$283,911	\$302,709	\$18,798	6.6%

*Salaries & Wages includes paid leave ----- 2019 Budget not adjusted for any organizational realignment

Labor Salaries: The labor summary reflects the cost of wages for SMUD employees. The budget for labor and associated benefit costs is included on the previous budget summary pages.

2020 Budget Debt Service

Powering forward. Together.



The following schedules show the summary and details of the 2020 Proposed Budget for Debt Service. SMUD issues Electric Revenue Bonds and Commercial Paper Notes to finance long-lived capital assets. The Debt Service Budget includes accrued interest expense on outstanding Electric Revenue Bonds and Commercial Paper Notes, net of any swap revenues tied to debt issues, scheduled principal repayments of Bonds and Commercial Paper, trustee fees associated with administration of debt service payments, and interest expense and issuance costs associated with planned new debt issues.

Revenue Bond Interest totals \$98.4 million in the 2020 Budget, an increase of \$5.9 million from 2019.

Commercial Paper Interest totals \$4.8 million in the 2020 Budget, a decrease of \$5.8 million from 2019. Short-term interest rates assumed for 2020 are slightly higher than those assumed for 2019; The budget assumes an average commercial paper balance of \$150 million.

Scheduled Principal Repayments of revenue bonds and commercial paper notes total \$92.9 million in 2020, a \$5.5 million increase from 2019.

Fees/Bond Issuance Costs of \$1.8 million are included for new 2020 bond issuances and related fees.

Debt Service Budget (continued)



Debt Service (\$000s)	2019 Forecast	2019 Budget	2020 Proposed	\$ Change vs Budget	% Change vs Budget
Interest Expense ¹	\$97,705	\$103,208	\$103,245	\$37	0%
Principal Repayments	87,425	87,425	92,920	5,495	6%
Fees/Bond Issuance Cost	1,613	1,763	1,836	73	4%
Total Debt Service	\$186,743	\$192,397	\$198,001	\$5,604	3%
Allocated to JPAs	(6,314)	(6,314)	(6,126)	188	-3%
NET DEBT SERVICE	\$180,429	\$186,083	\$191,875	\$5,792	3%

[1] Build America Bonds are shown gross of the rebate of \$9.2 million expected in 2019. The budget authorization is requested gross of the rebate. Includes net debt related swap payments and interest on long-term, variable rate, and subordinated debt. Assumes an interest rate of 3.15% (incl. all related fees & swaps) on avg. commercial paper balance of \$150 million.

The Debt Service component of the 2020 Proposed Budget totals \$198 million, an increase of \$5.6 million or 3% percent over 2019. The increase is due to a normal fluctuation in debt service schedules.

Interest expense represents accrued interest on revenue bonds and commercial paper, net of any related swap revenue. The credit for debt service charged to the JPAs represents the portion of the interest expense on the District's investments in the PG&E Line 301/400 pipeline, the local gas pipeline (including Cosumnes extension) and the Rosa natural gas reserves which is allocated to the cogeneration plants for fuel delivery and included in the SMUD and JPA budgets under fuel commodity. Principal repayments represent scheduled repayment of revenue bonds and commercial paper notes.

Debt Service Budget (continued)



SUMMARY OF DEBT SERVICE ON EXISTING SMUD BOND ISSUES (\$000'S)						
Date Issued	Issue	1/1/2020 Principal Balance	Issued Interest Rate	Final Maturity Date	2020 Scheduled Principal Payment	2020 Interest Expense
Electric Revenue Bonds						
Jun-97	Series K ¹	88,470	5.25% to 5.90%	2024	15,850	679
May-09	Series V ²	200,000	6.322% (4.11% net)	2036	-	12,644
Jul-10	Series W ³	250,000	6.156% (4.00% net)	2036	-	15,390
Sep-11	Series X (Refunding)	188,440	1.50% to 5.00%	2036	31,670	8,748
Jan-12	Series Y (Refunding)	175,065	3.00% to 5.00%	2033	5,535	8,427
May-13	Series A	132,020	3.75% and 5.00%	2041	-	6,592
May-13	Series B (Refunding)	90,635	3.00% to 5.00%	2033	5,730	4,296
Jul-16	Series D (Refunding)	139,805	5.00%	2028	6,445	6,735
Dec-17	Series E (Refunding)	170,755	3.00% to 5.00%	2028	18,195	8,194
Aug-18	Series F (Refunding)	150,975	5.00%	2028	9,495	7,369
Apr-19	Series G	191,875	5.00%	2041	-	9,352
	Subtotal	<u>1,778,040</u>			<u>92,920</u>	<u>88,426</u>
Subordinated Electric Revenue Bonds						
Jul-19	Series A	100,000	5%	2049	-	5,000
Jul-19	Series B	100,000	5%	2049	-	5,000
	Subtotal	<u>200,000</u>			<u>-</u>	<u>10,000</u>
	Total Outstanding Bonds	<u>1,978,040</u>	Principal & Interest Payments		<u>92,920</u>	<u>98,426</u>
	Total Debt Service				<u>92,920</u>	<u>98,426</u>

1) Swapped to a variable rate for the life of the debt, interest expense net of swap payment. Interest expense without swap would be \$4,280,125.

2) Interest expense gross of federal government Build America Bond rebate of \$4,155,451.

3) Interest expense gross of federal government Build America Bond rebate of \$5,057,924.