



November 6, 2020
GM 20-240

BOARD OF DIRECTORS

2021 BUDGET

Dear Board Members:

I am pleased to submit SMUD's 2021 Budget proposal, my first as SMUD's new CEO & General Manager. It provides funding for operations and maintenance (O&M) and capital programs needed to successfully meet all the Board's Strategic Directions over the coming year and ensures we will continue to do so in the future.

As a community-owned, not-for-profit utility, we look holistically at our budget, programs, projects and initiatives each year to make sure we deliver value to our customers and community in a way that maximizes the benefit, while also striving to be as fair and equitable as possible for the 1.5 million people we serve.

There were two major new drivers we considered while preparing this budget: first, the Board's 2030 Climate Emergency Declaration and our new 2030 Clean Energy Vision. Second, the COVID-19 pandemic, which continues to impact the economy and SMUD's business. Other key drivers that continue to be reflected in the proposed budget include: safety and reliability, affordable rates, value for our customers, and community vitality. Staff has been thoughtful in developing the 2021 Budget that reflects the current uncertainties while ensuring we continue to fund the activities that are critically important to support our customers and community during this challenging time, while also funding activities that support SMUD's long-term success and leadership position, including our investments in accelerating our carbon reduction efforts.

The proposed 2021 Budget balances constrained resources due to flat energy sales per customer, economic uncertainty around the COVID-19 pandemic and investments needed to support our carbon reduction goals, wildfire mitigation, vegetation management and infrastructure investments with our commitment to deliver on our purpose to enhance the quality of life for our customers and community. In addition to keeping the lights on and rates affordable, the Budget includes several initiatives to create a beneficial impact for our community by leveraging our strategic partnerships, including our Sustainable Communities initiative, continuing work with our low-income customers, our support for the SMUD Museum of Science & Curiosity, (formerly the Powerhouse Science Center), and the California Mobility Center, which is a public-private innovation initiative to make Sacramento an international hub for eMobility

Paul Lau, Chief Executive Officer & General Manager

investments. By combining efforts with key customer and community partners, we'll maximize community impact, helping to ensure every dollar we spend delivers value.

In 2021, we'll continue to focus on optimization and operational excellence, building on the progress we've made to streamline our operations and reduce expected costs to help offset necessary expenditures that support key initiatives and operations. One of our top priorities is to remain focused on getting the maximum value from every dollar we spend. In developing the proposed 2021 Budget, we went through an enhanced risk assessment process to allocate money within the budget based on level of risk. This allowed us to absorb unexpected increases in wildfire mitigation, vegetation management and low-income subsidies, among others.

The proposed 2021 Budget Authorization is **\$1.7 billion**, which is **\$62 million lower than the 2020 Budget**, primarily due to lower commodity and capital expenditures. The 2021 Budget funds a variety of items including investments and programs to support our grid modernization, wildfire mitigation, cybersecurity, and investments to deliver our Sustainable Communities initiative. In 2021, we have allocated additional funds for clean energy resources and pathway analysis, research and development, pilots, and technology innovation activities as we begin to plan and execute on our ambitious 2030 Clean Energy Vision.

Major capital projects for 2021 include continuing to rebuild Station G, work on the expansion of the Solano Wind Farm, the purchase and operationalization of Chili Bar Hydroelectric facility and work at Union Valley in support of our hydro license. The 2021 Budget includes funding for new and continuing technology projects, such as the Advanced Distribution Management System (ADMS) and Distributed Energy Management Systems (DERMS) to provide increased visibility and management of distributed energy resources, Workforce Optimization for Energy Delivery to maximize the efficiency of the field crews and field work and Talent Transformation for Human Resources, Diversity & Inclusion (HRD&I) to manage hiring, onboarding and talent management processes holistically through a single technology platform. This Budget contains funding for corporate contingency and reserve, which aligns with prudent fiscal management practices and is designated for items with the potential of occurring in 2021 but without enough definition to be included within a business unit's budget. In 2021, corporate contingency includes funds for inventory and land purchases and additional development projects and programs.

The O&M budget is increasing slightly due to mandatory costs for vegetation management and additional wildfire mitigation plans and actions. We are increasing our spending on low carbon pathways analysis, plus pilots, projects, and initiatives to support the acceleration of our carbon reduction efforts. Funds have been budgeted for electric transportation incentives, building electrification programs and other carbon reducing efforts. As the Board knows, electrification is a critical part of our low carbon future, and an important part of our strategy to continue to be a leader in the region's transformation to a low-carbon future. The budget also funds customer outreach and education for these items.

The 2021 Budget authorizes 2,157 full-time positions – a reflection of our success in creating efficiencies within the organization, as it reflects a decrease of 30 planned positions from the prior year’s plan due to capturing savings from staff attrition. In addition to a full-time workforce, the Budget reflects funding for SMUD’s flexible workforce strategy in support of temporary and part-time work, plus funding for our future workforce pipeline needs with student positions.

To fulfill the Strategic Directions you’ve set for us, especially during this time of uncertainty and industry transformation, strong financial management is imperative. The previously approved rate increases of 2.50% in January 2021 and 2.00% in October 2021 and our year-end cash balances will be sufficient to achieve our financial metrics.

Although we expect a slight increase in our customer count in 2021, we are expecting a decrease in our kWh sales of electricity. We recognize the potential for new growth related to building electrification, electric vehicle adoption and mixed-use commercial/residential sales growth, but have maintained conservative sales estimates as these markets are complex, and we don’t expect to see a material increase until after 2025. We’ll continue to monitor these and other factors, including local construction and employment, and manage their impact on our budget and operations.

Budget Breakdown

Here is a brief overview of the proposed 2021 Budget compared to the 2020 Budget, dollars in millions (\$M):

	2020 (\$M)	2021 (\$M)	Change (\$M)
Commodity	\$474.2	\$440.9	(\$33.3)
Public Goods without Subsidies	69.1	68.1	(1.0)
Public Goods Subsidies	29.6	40.0	10.4
Public Goods Total	98.7	108.1	9.4
Other O&M	614.8	631.2	16.5
Subtotal (of commodity, public goods and other O&M)	\$1,158.1	\$1,140.2	(\$17.8)
Debt Service	191.9	213.7	21.9
Capital	456.6	390.9	(65.7)
Total Budget (of subtotal plus debt service + capital)	\$1,836.1	\$1,784.8	(\$51.3)
Total Budget Authorization*	\$1,806.5	\$1,744.8	(\$61.7)

Totals may reflect minor rounding differences.

*Budget Authorization does not include public good subsidies because Board approves as a component of rates.

The following sections provide details on the major initiatives and programs funded in the 2021 Budget, grouped by the Board's Strategic Directions (SD).

Competitive Rates (SD-2)

The 2021 Budget reflects the second year of our phased-in rate increase approach that the Board adopted in June 2019. Energy supply commodity costs make up almost half of our total O&M budget. Staff has locked in prices for most of our expected energy requirements for 2021 to ensure cost and rate stability for customers. Only a small portion of budgeted energy purchases are exposed to short-term market price fluctuations.

We'll enter 2021 with approximately \$82 million in the Hydro Rate Stabilization Fund (HRSF) and \$34 million in the Rate Stabilization Fund (RSF), net of Low Carbon Fuel Standard (LCFS) and Cap and Trade (AB32) funds. These reserve funds help us absorb higher energy costs when hydroelectric production is down and serve as a buffer against unexpected financial developments.

SMUD will conduct a public rate action during 2021, which will include a new solar rate for customers with renewable generating facilities, such as rooftop solar. The proposal will include creative ways to continue to make solar accessible to all customers, including low-income customers.

We know our customers expect us to keep our rates low while continuing to deliver safe, reliable, and environmentally responsible power and the products and services they value. Operational Excellence will continue to be a focus across SMUD in 2021 and beyond to free up dollars to support our carbon reduction goals and other strategic initiatives. There are many initiatives focused on making our processes as efficient as possible.

2021 Budget investments and improvements to create efficiencies and operational savings include:

- Continuing outreach to commercial and residential customers that are behind in payments to SMUD to provide payment options and minimize write-offs.
- Automating the manual Corrective Notifications process used when our utility inspectors are out in the field and find an issue. The Corrective Notification Automation project will free up resources and increase the frequency and accuracy with which notifications are processed on a daily occurrence.
- Implementing the Distribution Line Inspection mobility project to eliminate the need for secondary handheld devices in the field. This allows inspectors to use their SMUD-issued phones to capture notes, corrective notifications, etc. instead of using a costly secondary device.

- Saving about \$500,000 annually in cash discounts from our new Procure-to-Pay Supply Chain discount management strategy that was implemented in 2020. We're also giving our vendors the opportunity to receive their payments earlier and enhancing our electronic vendor payment channels for increased security, savings and efficiency.
- Developing the Real Estate PowerClerk and Property Management Lifecycle programs for improved utilization of staff time and land assets at SMUD, estimating a savings of \$750,000 over 3 years related to real estate management.

Access to Credit Markets (SD-3)

SMUD proactively manages its strong financial position to maintain high credit ratings. These strong credit ratings improve access to credit markets and result in a lower cost of borrowing – an especially important financial benefit as we look to finance our ambitious low-carbon future. We were able to borrow early during the COVID-19 pandemic and have additional cash in 2020, which provides operational flexibility while limiting our need for any borrowing in 2021.

Our operations target strong financial metrics in cash flow coverage (fixed charge) and liquidity (days cash). The Board sets a minimum fixed charge of 1.50 times operating cash flow; however, we aim for a minimum of 1.70. Our current 2021 forecast plans for a fixed charge coverage of 1.80 times.

SMUD maintains a strong liquidity position by setting a minimum number of days cash on hand and managing a \$400 million commercial paper program. The commercial paper program allows us to do short-term borrowing when needed in lieu of issuing long-term debt, similar to a credit card or line of credit. A strong liquidity position is important in demonstrating to investors and rating agencies that SMUD can withstand various financial stresses. Our current days cash threshold is 150 days — the minimum amount of cash on hand before triggering a new debt or commercial paper issuance to replenish cash balances.

Reliability (SD-4)

Power reliability for our customers remains a top priority. The 2021 Budget funds the ongoing preventive maintenance and capital improvement projects needed to ensure high reliability of our distribution system. Increased investments in prior years have delivered the desired improvements and we're continuing to invest in reliability enhancements in 2021. We understand that any power outage is a negative experience for our customers and will continue proactive communications to customers during outages.

Some major efforts to address reliability in the 2021 Budget include:

- **Grid substation improvements & new capacity** – We'll continue work on building Substation G. The control building and site work construction is expected to be complete in the fall of 2021, with project completion targeted for 2022. Work on Substation H continues and will address normal substation capacity deficiencies at Station D and Station E due to growth. As part of the planning for Station G and H, the existing Station A will be decommissioned once Station G is turned over to Operations. We are also on track with our multi-year replacement plan for Transmission & Distribution (T&D) substation assets, which includes circuit breakers, transformers and switchgears. Equipment replacements in 2021 includes 4 transformers, 3 transmission circuit breakers and 8 69kV circuit breakers.
- **Vegetation management & wildfire mitigation** – In 2021, we plan to trim 84,000 trees as part of our routine tree trimming efforts. We continue to remove vegetation that could grow or fall within unsafe distances to the transmission lines and reduce fuels minimizing the potential effects of a wildfire. We are also working to underground the 4kV line in Bush Creek Reservoir and Junction Dam at Union Valley. This will eliminate wildfire exposure and reduce future vegetation management activities associated with this line.
- **Transition of Chili Bar hydro facility to SMUD** – The Chili Bar facilities are north of Placerville and began operating in 1965. SMUD built Chili Bar and gave it to PG&E to compensate for damage to its powerhouse during the building of our Upper American River Project (UARP). The UARP is immediately upstream from Chili Bar Reservoir and is in our “Stairway of Power” that currently features 11 dams and 8 powerhouses. The Chili Bar powerhouse has a generating capacity of 7MW. The purchase will increase our hydroelectric generation portfolio to 695MW and add to our Renewable Portfolio Standard as Chili Bar’s generating capacity is under the state’s 30MW maximum capacity, thereby qualifying it as a renewable resource.
- **Pole and cable replacements** – In 2021, we plan to replace 1,200 poles and are targeting to replace 300,000 circuit feet of cable for 4kV, 12kV and 21kV lines. The Pole Replacement Program includes replacing poles that have failed a pole inspection and are not candidates for pole reinforcement. The new poles will meet the compliance requirements established by SMUD and the California Public Utilities Commission. For cable replacements, the plan is to address the worst performing cable first, which will decrease future outages, repair costs, customer complaints and reduce the number of the worst performing circuits.
- **Transmission and distribution** – The 2021 budget includes work to complete the upgrade of 1 of our 230kV transmission lines to increase the load serving capability of our transmission grid. The budget also includes projects to expand or upgrade sections of our distribution system such as 21kV extension projects that serve load in downtown Sacramento and The Railyards, Department of General Services projects on O Street, P Street and Richards Blvd., Capitol

Hotel, Cathedral Square and the MLS Soccer Stadium. Additional distribution capacity projects are also planned to serve new communities such as Rio Del Oro in Rancho Cordova, Russell Ranch, Folsom Ranch and Mangini in Folsom and multiple commercial developments at Metro Airpark in Natomas and California Northstate University Medical Center in Elk Grove.

Customer Relations (SD-5), Outreach and Communication (SD-15)

2021 is an important year for maintaining and enhancing our strong customer relations and brand loyalty. We want customers to feel in control of their energy usage by delivering reliable energy, information, and the tools they need in a way that is easy, responsive, personal and collaborative. In 2021, we will resume customer collections activities and focus on managing the financial risk and customer experience related to COVID-19 recovery and changes to our rates.

In support of our work to deliver value to our customers and community, initiatives in the 2021 Budget include:

- Supporting the Commercial Rate Restructure that was approved by the Board in 2019 and providing commercial customers with rate analyses to help them better understand the impacts of the Commercial Rate Restructure on their business.
- Continuing our Energy Assistance Program Rate (EAPR) support by providing our customers most in need with home weatherization, energy efficiency and electrification to reduce their electric bill burden.
- Expanding efforts to support our customers most in need in collaboration with our Sustainable Communities initiative by leveraging community partnerships. Sustainable Communities is a holistic strategy that defines SMUD's vision for creating a healthy community and region through workforce and economic development, social equity, climate change leadership and environmental justice initiatives.
- Continuing our work in the community with our SMUD Cares campaign, Shine Awards and work with the SMUD Museum of Science & Curiosity, formerly the Powerhouse Science Center.
- Expanding digital communication capabilities to ensure delivery within the customer's preferred channel (IVR, text, mobile app).
- Maintaining pace with changing customer expectations in these uncertain times to meet Customer Satisfaction and Value for What you Pay (VFP) targets.

Safety (SD-6)

SMUD continues to execute our plan to be a recognized leader in safety. In 2021, we'll implement our 3-year Safety Road Map and Safety Management System (SMS) that fosters SMUD's safety culture and leadership and furthers our journey toward our organizational goal of zero incident and injuries.

Key safety commitments in the 2021 Budget include:

- Continuing to support COVID-19 and re-entry efforts in 2021. Goals for 2021 include ongoing exposure guidance, personal protective equipment usage, contact tracing, ergonomic support for remote workers, re-entry training and review/safety consultation for the re-introduction of SMUD staff in the participation of public events/activities.
- Implementing our 3-year Safety Road Map, which outlines our strategy to continue to build a Safety for Life culture at SMUD for employees, SMUD contractors and the public. The Road Map focuses on roles and responsibilities, goals for leadership, staff, contractors, and the public, identifying priority areas and initiatives to reduce injuries and record milestones.
- Populating and implementing the SMS software program to consolidate many of SMUD's safety programs and the conduct data trending and analytics reviews.
- Updating and using the new SMS for Safely Conducted Observations Reduce Common Hazards (SCORCH) field observations to provide SCORCH observers with the ability to use tablets and phones in the field to conduct and track observations. Data can then be more efficiently used for trending, incident investigations and barrier removal.
- Expanding our Contractor Safety pre-qualification pilot program to increase the review of high-risk project contracts.
- Expanding and formalizing SMUD's Emergency Responder and Public Safety Electrical training program to ensure that first responders have knowledge of electrical hazards during emergency response activities.

Environmental Leadership (SD-7)

SMUD is recognized as an environmental leader within our industry and beyond. Our commitment to the environment is evident in the power we deliver to our customers, our community involvement, the materials we buy and the decisions we make each day. We're always looking to reduce our impact on the environment, conserve resources, and improve the environment for current and future generations. These efforts benefit our employees, customers and most of all, our community.

A large focus in 2021 is to update SMUD's internal 5-year Environmental Sustainability plan. The report provides a roadmap and strategy to reduce SMUD's non-power generation carbon footprint of our business practices through reduced energy use, water conservation, waste minimization, Greenhouse Gas (GHG) emission reduction and fleet electrification. In 2021, the Environmental Services team will audit the success of the last 5 years of sustainability efforts and amend its sustainability plan based on audit results and operational changes on our campuses.

Other environmental leadership investments in the 2021 Budget include:

- Working with Sustainable Communities to communicate and bolster the impact of existing and new SMUD Environmental and Safety and Sustainable Communities efforts.
- Continuing to investigate alternative technologies to reduce the use of Sulfur Hexafluoride (SF6), a potent Greenhouse (GHG) gas. SF6 contributes to the greenhouse effect and has more than **22,000 times** the global warming potential of carbon dioxide. SMUD staff are working with engineering teams to use non-SF6 gas equipment, like vacuum-interrupting technology, as a replacement for SF6 breakers.
- Reporting SMUD's GHG reductions using CDP (formerly known as the Carbon Disclosure Project). The CDP is a not-for-profit organization that runs the global disclosure system to measure and report on company environmental impacts related to GHG emissions. The CDP report in 2019 and 2020 described SMUD's governance and strategy, risk and opportunity management and emissions management related to climate change. This report, in combination with mandatory and other voluntary GHG reports, provides stakeholders with a measure of SMUD GHG emissions, and reduction efforts to reduce emissions.
- Continuing to initiate agreed upon mitigation measures to retrofit utility poles at Solano Wind Farm to be avian safe while expanding our avian field monitoring program under the provisions of our new Eagle Take Permit.
- Implementing environmental justice components into California Environmental Quality Act (CEQA) documents. Environmental justice components will be used in the development of SMUD CEQA projects and staff will work with project managers and Sustainable Communities in the review of findings and outcomes.
- Continuing recreational improvements such as the construction of the Union Valley Bike Trail from Wench Creek to Yellow Jacket campgrounds and reconstructing existing campsites at Yellow Jacket and expanding the campground by 65 units. We are also paving drive loops, ensuring ADA compliance, and installing a shower facility with toilets at Yellow Jacket. This work is part of the construction/upgrade of recreational facilities for UARP Operating License Implementation requirements.

- Making enhancements to our fleet by increasing the number of electric vehicles to upwards of 18% of our total fleet, which includes the purchase of 5 Zeus Electric—A California Mobility Center pilot client—work trucks and 6 all-electric pickup trucks from Lordstown Motors. The increase in fleet electrification will contribute to increasing our fuel economy and “all-electric miles driven” will become a new measure that we will report on and set goals for after 2021.
- Initiating design of a landfill cap for SMUD’s North City property to meet state minimum standards for landfill closure. SMUD staff is working with Sacramento City and County, along with CalRecycle to coordinate design and eventual construction of a cap once the existing substation is decommissioned. Work includes an engineering design for the cap and a stormwater retention basin that can be used jointly by SMUD and the City of Sacramento.
- Continuing to enhance our procurement process to support a best practice approach to sustainable purchasing. To assist in this effort, SMUD will become a member of the Electrical Utility Industry Sustainable Supply Chain Alliance, where we can work jointly with other utilities in the sharing of sustainable purchasing best practices.

Employee Relations (SD-8)

The uncertainty we experienced throughout 2020 is precisely why a focus on culture is among the top of HRD&I priorities. To attract, retain and engage talent that will drive our region forward, we are adapting our strategy to respond to an ever-changing work environment by including a focus on navigating remote work culture, demonstrating respect for all people and enhancing collaboration. We are elevating our sustained commitment to diversity and inclusion in the workplace by improving equitable practices and approaches to talent acquisition and employee development as we continue to leverage varied skills, experiences, and perspectives. These investments will be critical to SMUD’s ability to deliver on strategy, open doors to innovation and foster an inclusive culture that reflects the broad values of our customers and community.

Key employee relations investments in the 2021 Budget include:

- Negotiating new Memorandums of Understanding (MOU) with bargaining units IBEW and OSE with total compensation packages for these represented employees that successfully meet SMUD’s financial targets while maintaining competitive pay, safety in the workplace, employee engagement and positive labor management relations between SMUD and the bargaining units before current labor contracts expire on December 31, 2021.
- Continuing development and implementation of a child development center in conjunction with CSU Sacramento and UC Davis Health to be completed by fall 2021.

- Conducting an employee engagement survey to continue obtaining feedback and benchmarking data for comparison purposes in key areas including work environment, advancement, recognition, pay and benefits, leadership, communication, job role and training and development opportunities.
- Accelerating and deepening SMUD's diversity and inclusion strategy by improving equitable practices in our operations, implementing a Diversity Council, onboarding a Program Manager and piloting programs to improve diversity, equity and inclusion in our hiring processes and employee development efforts.
- Implementing the Powering Careers program, a collaboration between HRD&I and Energy Delivery, to focus on building a pipeline for underrepresented communities to get into skilled trades at SMUD and other industry partners in our region.
- Expanding recruitment and talent outreach strategies to include community partnerships, Employee Resource Groups, veterans' organizations, and continued investment in GlassDoor and other advertising/recruiting platforms. This will provide increased visibility and partnership opportunities with community organizations as part of our talent acquisition efforts.
- Developing mentorship and coaching programs that provide increased opportunities for development and career growth, expand networking and visibility across business units and levels of leadership, and improve opportunities for advancement for underrepresented groups within SMUD.

Resource Planning (SD-9)

The Board adopted the current Integrated Resource Plan (IRP) in 2018 and recently adopted a more ambitious 2030 zero carbon goal outlined in the Climate Emergency Declaration. The new 2030 Clean Energy objective will be studied over the next 6 months and the Board will be presented with the pathway for the 2030 carbon goal in March 2021. While SMUD has always had an IRP target to meet or exceed goals established by the State for renewable energy and the reduction of carbon emissions, our new 2030 plan will greatly accelerate these efforts. Starting in Q4 2020, SMUD staff will undertake a public process with the Board and other stakeholders to explore options to achieve the new 2030 zero carbon goal.

Although we haven't yet determined the details of the new 2030 zero carbon plan, the SD-9 projects planned in 2021 are fundamental to the decarbonization of our grid and are supportive of this new direction. These efforts include planning, developing, and implementing renewable projects and customer offerings, including building and vehicle electrification and energy efficiency programs, renewable energy, and reliability projects. We are also preparing the distribution system for the future by beginning

implementation of our Integrated Distributed Resource Plan (IDRP) and continuing our grid modernization work.

In 2021, Activities in support of achieving our SD-9 goals include:

- Expanding renewables and increasing reliability:
 - Continuing the development of Solano Phase 4 in Solano County adjacent to our other wind resources at this location.
 - Continuing evaluation and development of several utility solar and battery storage projects, online target of 2024.
 - Continuing work on a 100 MW solar project with the Navajo Tribal Utility Authority in Southern California due online in 2022.
 - Installing of our first utility-scale battery at the Hedge Substation, which will provide operational benefits for our system and give staff beneficial operations experience with battery storage, prior to ramping up much larger systems.
 - Continuing to identify future locations for local solar and battery storage projects in support of our renewable goals and green programs such as Neighborhood Solar Shares.
- Expanding our building electrification offerings.
- Working with local and state government to guide building codes to encourage building electrification.
- Continue exploring solar rate structures that reflect the value of solar and encourage intelligent dispatch of battery storage, either through tariffs or associated programs to be included in the formal rate action to begin in Q1 of 2021.
- Completing work on grid modernization efforts including the Automated Distribution Management System (ADMS) and continuing work on the Distributed Energy Resource Management System (DERMS), which lay the foundation for integration of Distributed Energy Resources (DERs) such as solar, energy storage, flexible demand and electric vehicles.
- Beginning a planning effort to evaluate how medium- and heavy-duty EV fleets and charging infrastructure are expected to impact our distribution grid, and what opportunities there may be to mitigate those impacts.

Innovation (SD-10)

One of our core values is delivering innovative solutions, products, and services to our customers. We are increasing our investment in technology innovations for 2021, especially as it relates to programs and projects that support our carbon goals. We will

also investigate, research, and demonstrate a variety of projects that support SMUD's strategic goals, including:

- Accelerating research in building and transportation load flexibility to allow for the intermittent renewable resources and mitigate the infrastructure impacts of electrification, such as:
 - Supporting the development of vehicle-to-grid readiness for school bus electrification. Vehicle-to-grid readiness means the charging infrastructure is ready to support charging the vehicle and includes a battery storage system for the grid to enable 2-way power flow.
 - Demonstrating the flexibility of commercial thermal energy storage.
 - Continuing the implementation and evaluation of the AB 2514 battery storage pilots (residential behind-the-meter storage, new residential construction, StorageShares, residential heat pump water heaters).
- Researching key barriers to building and transportation electrification, including:
 - Multi-family/central heat pump water heating system design and performance.
 - Mitigating panel and grid infrastructure upgrades needed to support electrification goals.
 - Expanding EV pilot program offerings to provide design consulting services for medium and heavy-duty EVs and commercial light duty vehicles such as sedans and pickups.
 - Investing in low-income and disadvantaged communities (DAC) sustainability projects through a portfolio of offerings such as working with Sacramento Metro Air Quality Management District (SMAQMD) on eMobility hubs with EV charging at specific community locations within DACs.
- Investigating options to increase the efficiency and precision of grid monitoring capabilities.
 - Implementing a transmission line monitoring pilot to test the achievability and usability of dynamic line ratings to inform short-term operational and long-term planning decisions.
 - Assessing a technology that provides active grid monitoring capabilities, including fault detection, fire alarms, load data, protector status, and equipment health condition for the Downtown Network.
- Expanding our microgrid capabilities and development of associated processes.
 - Converting SMUD's solar port to demonstrate a solar plus storage microgrid capable of providing emergency EV charging during outages.
- Planning for Phase 3 of the DERMS development to enable management and alignment of customer-sited batteries and flexible loads such as EVs, heat pump water heaters and smart thermostats.

- Providing client services to support business development of California Mobility Center clients in electric transportation, including initiatives such as:
 - Incorporating 5 medium-duty electric trucks built and customized by Zeus Electric Chassis into SMUD's fleet.
 - Partnering with Amply in its testing of a "gas station" model, multi-tenant charging depot for commercial customer fleets in Sacramento.

Public Power Business Model (SD-11)

We'll continue to guard local decision making and flexibility as we pursue innovative solutions that meet the needs of our customers and community.

The primary focus areas for Government Affairs activities in the 2021 Budget include:

- Post-2020 carbon policies and regulations.
- NEM, grid charges and other utility fees.
- Transportation electrification frameworks.
- Oversight of wildfire mitigation plans.
- Legislative and regulatory mandates in response to mid-August 2020 rolling outages.
- Federal policies on transmission.
- Energy markets.

Economic Development (SD-13)

SMUD promotes the economic vitality of our region and the growth of our customer base through strategic leadership and active participation in regional economic development partnerships. This includes supporting efforts to retain, recruit, and grow commercial and industrial customers, offering Economic Development Rates and program incentives and providing a SMUD contracting program for certified small business customers. We're also helping build a strong innovation ecosystem through support for start-ups, entrepreneurs, and business incubators, with a key focus on encouraging growth in disadvantaged neighborhoods.

SMUD helps make our region an attractive destination for businesses of all sizes through affordable rates and customized energy solutions.

Key initiatives in the 2021 Budget include:

- Realigning and leveraging strategic business partnership benefits to maximize support of commercial customers impacted by the COVID-19 pandemic.

- Maximizing Supplier Education and Economic Development (SEED) awareness and vendor participation through key partnerships, outreach and the launch of engagement tools including online program webinars; enhancement of the SEED vendor verification process and development and implementation of a key study to assess small business availability in, and surrounding SMUD's service area to inform a SEED outreach strategy.
- Supporting regional and international interest and investment in the California Mobility Center—a public/private consortium created to fund and commercialize new mobility technologies including customized technical, digital and advanced manufacturing of electric vehicles, autonomous transportation, battery storage, shared mobility solutions, and public transit – as well as develop new business and policy models for adoption on the international stage.

System Enhancement (SD-14)

The 2021 Budget includes 2 projects that SMUD has committed to fund under the SD-14 policy. The first project involves construction completion of Sacramento County's Hazel Avenue Improvement Project - Phase 3 (from Sunset Avenue to Madison Avenue). The second project is City of Elk Grove's Streetscape Project (at Elk Grove Boulevard from Waterman Road to School Street) and entails detailed design activities in 2021. These projects will underground the existing overhead facilities that are within the scope of work.

Information Management and Security (SD-16)

Technology plays a critical role in the collaboration across SMUD, especially looking to the future with so many more employees working remotely, to institutionalize robust information management and physical security practices. Multiple disciplines, specifically cybersecurity, physical security and legal, are critical for SMUD to take prudent and reasonable measures to accomplish the objectives of SD-16. Accordingly, the 2021 Budget funds technology and cybersecurity solutions and strategies to implement efficient and effective measures to manage information risk to SMUD's people, processes, and technology.

Key initiatives in the 2021 Budget include:

- Integrating cybersecurity-related technology solutions. Building on work from 2020 to mature the Cybersecurity department's implementation of the National Institute of Standards and Technology Cybersecurity Framework to protect our people, processes and technology, in 2021 we will work to finalize system integration of 2 new solutions to mature our cybersecurity governance, risk and compliance program. These systems will enhance our cybersecurity engineering practices and ensure we are implementing effective policy to protect our information confidentiality, integrity, and availability. The Risk Management Framework will introduce repeatable processes that enhance or support the

enterprise – Data Governance, Enterprise Risk Management (ERM), Business Strategy & Requirements, IT Strategy & Governance and Project and Procurement Lifecycles.

- Expanding Cybersecurity programs to deliver 24/7 cyber risk management. Mature cybersecurity technical and programmatic efforts to be integrated in critical business capability and requirements processes and practices to ensure cyber and privacy are baked in early to avoid risk to cost, schedule and performance of SMUD's operational business requirements. This includes improvements in Cyber and Privacy governance, CIP compliance, IT and OT Risk Assessments, Cloud and Applications Security, Supply Chain Risk Management and awareness and training for employees who have privileged access to our information and technology.
- Integrate application rationalization and enterprise architecture functions. Staff will continue to develop a strategic view of applications with potential future savings by retiring or consolidating applications used across SMUD.

Enterprise Risk Management (SD-17)

The 2021 Budget fully funds key risk mitigation activities. SMUD's enterprise-level risks span the spectrum of operational and strategic business risks and include those associated with energy procurement, strategy, operations, natural hazards, political and regulatory issues, economics, and the environment. Risk assessments and mitigation plans continue to be refined and improved by considering SMUD's changing internal and external risk environment and enhancing how SMUD addresses its risks. Mitigation activities for high and significantly high risks identified in the enterprise risk register will continue to be monitored closely to ensure these risks are adequately managed.

Some key initiatives in the 2021 Budget include:

- Continuing to mitigate wildfire risk and potential impacts to SMUD's customers and the community.
- Enhancing and improving SMUD's emergency preparedness and response capabilities that leverages lessons learned from our response to the COVID-19 pandemic this year.

Enterprise Risk Management will continue to align with Internal Audit and other lines of defense through shared best risk management practices.

Diversified Business (SD-19)

Broadening and diversifying our products and services is a key value for SMUD. In 2021, we will pursue opportunities that benefit our customers and community, create economic value, achieve a balanced and diversified portfolio, leverage and optimize our

strengths, assets, and expertise, all while maintaining our financial health and reputation.

Some efforts in the 2021 Budget include:

- Standing up the California Mobility Center, a private/public consortium focused on innovation and commercialization, standards and policy, workforce development and new business models in electric mobility.
- Working with the California Mobility Center, Zeus and Amply to reduce barriers to EV adoption, support our vehicle electrification goals and reduce local carbon emissions.
- Participating in energy and power markets, selling transmission and ancillary services.
- Continuing work on our Community Energy Services business for Valley Clean Energy and East Bay Community Energy.

In closing, 2021 promises to be a transformative year for SMUD and the Sacramento community, and the budget includes funding for setting the Sacramento community on a path to achieving a low-carbon future while also working to enhance the vitality of all Sacramento area residents through our Sustainable Communities and other initiatives. I'm proud of the work we've done to build a budget that supports the Board's Strategic Directions, covers the increased costs of wildfire mitigation, provides additional funds in support of our 2030 carbon goals, and continues to deliver value for our customers and community while also responding to the ongoing COVID-19 pandemic. It's also important to note that the 2021 Budget is designed to deliver on these key goals while also achieving strong financial metrics that create our strong foundation.

I look forward to providing the Board with regular updates on progress throughout the upcoming year.

Respectfully submitted,



Paul Lau
Chief Executive Officer and General Manager

cc: Corporate Files