



November 5, 2021
GM 21-280

BOARD OF DIRECTORS

Re: 2022 SMUD Proposed Budget

Dear Board Members:

I'm pleased to submit SMUD's proposed 2022 Budget. It provides funding for operations and maintenance (O&M) and capital programs needed to successfully meet all the Board's Strategic Directions and deliver on our 2030 Clean Energy Vision in the coming year and ensures we'll continue to do so in the future.

Executive Summary

As a community-owned, not-for-profit utility, we look holistically at our budget, programs, projects, and initiatives each year to make sure we continue to deliver value to our customers and community in a way that maximizes benefits to all communities and the 1.5 million people we serve.

With the Board's leadership, we embarked on a bold journey in 2021 to remove all carbon emissions from our power supply by 2030, while maintaining our world class reliability and keeping any needed rate increases within the rate of inflation. As the Board knows, our carbon reduction goal is the most ambitious of any large utility in the nation. This budget proposal reflects our 2030 Clean Energy Vision and other changes since 2021 budget, including our organizational realignment. The realignment has allowed us to consolidate functions and increase organizational efficiency to free up funds that can support achieving our 2030 zero carbon goal, drive prioritization, harness innovation and sharpen our focus on diversity, equity, and inclusion.

Our 2022 proposed budget is ambitious, and funds far-reaching initiatives, which we've grouped into 5 themes: safety and reliability, affordability, organizational agility, environmental leadership, and community vitality, which you will see during staff presentations and in the budget documentation. Staff across the organization have been thoughtful in developing the 2022 Budget to ensure we continue to fund the activities that are critically important to support our customers and community while also funding activities that support SMUD's long-term success and leadership position. Included are our investments in accelerating our carbon reduction efforts, infrastructure investments, and initiatives to create a beneficial impact for our community by leveraging our strategic partnerships, such as our Sustainable Communities program, continuing to work with our low-income customers and support our commitment to embed Diversity, Equity & Inclusion (DE&I) in everything we do at SMUD. By partnering

Paul Lau, Chief Executive Officer & General Manager

with key community and customer partners, we continue to deliver on our track record of maximizing community impact, by ensuring every dollar we spend delivers the most value possible.

The proposed 2022 Budget Authorization request is **\$1.7 billion**, which is **\$9 million lower than the 2021 Budget**, primarily due to lower capital expenditures.

We know combatting climate change is one of the most pressing imperatives facing mankind and we're investing in delivering on our Zero Carbon Plan. Our O&M budget (line c in the table below) is increasing by \$28 million while our Public Good budget (line b) is decreasing slightly, by \$4.5 million, as we reallocate funds from a placeholder in the 2021 budget to specific programs in the 2022 budget. Key initiatives included in our 2022 O&M budget include electric transportation incentives, building electrification programs and other carbon reducing efforts. As the Board knows, electrification is a critical part of our zero carbon future, and an important part of our strategy to continue to be a leader in the region's transformation to a Clean PowerCitySM for all of our customers. We're continuing to make investments for our low-income customers and under-resourced communities so that all customers benefit from our carbon reduction efforts. The budget funds customer outreach and education for these efforts. The O&M budget also includes increased funding for vegetation management, wildfire mitigation actions, cyber security and property and casualty insurance. While staff works diligently to minimize budget impacts from these items, many increases are outside of our control.

Capital (line d) is decreasing by \$31 million. Major capital projects for 2022 include continuing to build Station G, expanding the Solano Wind Farm and ongoing work at Union Valley in support of our 50-year hydro license. The 2022 Budget includes funding for new and continuing technology projects, such as the Advanced Distribution Management System (ADMS) and Distributed Energy Resource Management Systems (DERMS) to provide increased visibility and management of distributed energy resources, Workforce Optimization to maximize the field crews scheduling and work efficiency and Talent Technology Transformation (T3) to manage hiring, onboarding and talent management processes holistically through a single technology platform.

The 2022 Budget authorizes 2,210 full-time positions and funding for 39 limited-term positions. There is no change to our overall staffing level from last year's budget despite the many new initiatives to achieve our ambitious new carbon reduction goal. This is a reflection of our success in creating efficiencies within the organization due to the realignment. The budget includes funding for our future workforce pipeline needs with student positions.

We expect a slight increase in our customer count and kWh sales of electricity in 2022. Our commodity budget (line a) remains flat as the various components in our portfolio are changing – we are realizing the savings of a higher priced commodity contract ending, coupled with higher power, natural gas and resource adequacy prices. We recognize the potential for new growth related to building electrification, electric vehicle adoption and mixed-use commercial/residential sales growth, and have maintained

conservative planning assumptions so we can act nimbly as business conditions change. To manage potential impacts on our budget and operations, we'll monitor these and other factors throughout the year, including the local economy, construction costs and any supply chain and labor shortages.

Budget breakdown

Here is a brief overview of the proposed 2022 Budget compared to the 2021 Budget, dollars in millions (\$M):

	2021 (\$M)	2022 (\$M)	Change (\$M)
Commodity (a)	\$440.9	\$440.7	(\$0.2)
Public Goods excluding subsidies (b)	68.1	63.6	(4.5)
Other O&M (c)	631.2	659.6	28.4
Subtotal	\$1,140.2	\$1,163.9	\$23.7
Debt Service	213.7	212.2	(1.6)
Capital (d)	390.9	359.9	(31.0)
Total Budget Authorization	\$1,744.8	\$1,735.9	(\$8.9)

Totals may reflect minor rounding differences.

The total public good budget includes an additional \$35 million for rate subsidies that are not included in the Budget Authorization because the Board previously approved these as a component of the rate tariff.

Additional Budget details

The following sections provide details on the major initiatives and programs funded in the 2022 Budget, grouped by the Board's Strategic Directions (SD).

Competitive Rates (SD-2)

The 2022 Budget reflects the first year of our recently approved rate increases that the Board adopted in September 2021. Commodity costs make up a good portion of our total O&M budget. Staff has locked in prices for most of our expected energy requirements for 2022 to ensure cost and rate stability for customers. Only a small portion of budgeted energy purchases are exposed to short-term market price fluctuations – a beneficial practice, especially during the price volatility currently reflected in California power and energy prices.

We'll enter 2022 with approximately \$56 million in the Hydro Rate Stabilization Fund (HRSF) and \$69 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.

In 2022, we'll implement the Board-approved Solar and Storage rate and an optional Critical Peak Pricing rate, plus we'll be looking to pilot and test more new optional rates.

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 has a renewed focus across SMUD in 2022 and beyond to free up funds to support our carbon reduction goals and other strategic initiatives. The formal Operational Excellence program, created in 2021, supports the 2030 Clean Energy Vision by developing and managing a consistent framework to reduce costs, increase efficiency and drive a culture of continuous improvement.

We will continue to implement the consolidated functions identified with the 2021 organizational realignment such as project management and planning functions to create higher value and benefits at a lower cost. We will also continue to explore external funding opportunities through grants and partnerships to support 2030 Zero Carbon Plan objectives.

Access to Credit Markets (SD-3)

We proactively manage our 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 fund our ambitious zero carbon future.

We 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 as a standard. This higher performance standard has proven valuable during the last two years' economic uncertainty stemming from the pandemic. Our current 2022 forecast plans for a fixed charge coverage of 1.93 times.

We maintain 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 for 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. Additionally, the unused commercial paper capacity further enhances our liquidity position as interpreted by investors and ratings agencies.

Reliability (SD-4)

Power reliability for our customers remains a top priority. The 2022 budget includes the necessary funding to ensure our transmission and distribution (T&D) systems have sufficient capacity and load serving capability to safely, reliably and cost effectively serve the needs of our customers while meeting regulatory compliance requirements. The budget was developed through a risk-based approach and the careful balance between capital investments and O&M work.

The 2022 budget continues to fund implementation of our Wildfire Mitigation Plan and infrastructure replacement plans such as cable replacement, pole replacement and T&D substation assets replacement. It also includes work to complete the upgrade of one of our 230kV transmission lines to increase the load serving capability of our transmission grid. In addition, the budget includes projects to expand or upgrade sections of our distribution system to serve continued load growth in downtown Sacramento and the Railyards. Outside of downtown Sacramento, there are projects planned to serve continued residential and commercial development growth in existing and new communities such as the Sunrise-Douglas area, Rio Del Oro and Cordova Hills in Rancho Cordova; Russell Ranch, Folsom Ranch and Mangini in Folsom; East Elk Grove, Laguna Ridge and Southeast Policy area in Elk Grove; Metro Airpark and the California Northstate University Medical Center to be located at the former Sleep Train Arena site.

Key reliability investments in the 2022 Budget include:

- **Grid substation improvements and new capacity** – Building a large substation is a multi-year effort, and the important work to build Station G substation continues in the 2022 budget. Most of the electrical equipment will be received and commissioned on the site in 2022. Electrical construction will be completed in fall 2022 and cutover of 12 kV networks from Station A to Station G will begin in fall 2022 and finish before summer 2023. Engineering design work for Station H will continue, and the material procurement process will be initiated. Station A will be decommissioned once Station G is fully operational. We'll continue our multi-year replacement plan for T&D substation assets, which includes circuit breakers, transformers, and switchgears. Construction for reconfiguration of the Hurley substation 230 kV bus to improve reliability will begin in summer 2022 and continue over the next 2 years in phases due to the complexity of the project. In 2022, we will also construct 1 new distribution substation, Oselet-Baroque, and add 1 more transformer to Del Paso East Commerce distribution substation.
- **Vegetation management & wildfire mitigation** – In 2022, we plan to trim about 104,000 trees as part of our routine distribution tree trimming efforts. We'll 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. Our budget includes \$9 million for targeted vegetation management risk reduction work in the Upper America River Project (UARP). We'll also complete

phase 2 of the 4kV line undergrounding effort in Bush Creek Reservoir, which will eliminate the last remaining 4kV overhead/wood construction line in the UARP.

- **Protecting the reliability of our existing Power Generation facilities** – As we shift our focus to zero carbon resources, we're committed to protecting the reliable operation of SMUD's existing generation fleet. To that end, we're planning to complete several important major maintenance tasks in 2022, including inspections and overhauls to keep emissions as low as possible.
- **Pole and cable replacements** – In 2022, we plan to replace 1,200 poles and are targeting to replace 240,000 circuit feet of underground cable. The Pole Replacement Program includes replacing poles that have failed a pole inspection and are not candidates for pole reinforcement. For cable replacements, we prioritize addressing the worst performing cable first, which will decrease future outages, repair costs, customer complaints and reduce the number of the worst performing circuits. Customer driven work (new business) for 2022 is budgeted at current 2021 levels. If customer driven work decreases in 2022, we will increase the number of poles and underground cable targets accordingly, as this is annual ongoing work.

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

2022 will be a significant year for SMUD and our customers as we plan for emerging from the COVID-19 pandemic, with a return to more in-person outreach and events as well as normal billing operations. With our sights on zero carbon by 2030, we're focused on outreach, communication and engagement that helps bring all our customers and communities along as partners in this important mission.

Supporting our customers and community partners by keeping the lights on, supporting economic development and securing the customer experience while delivering on the goals of the 2030 Zero Carbon Plan continue to be priorities for SMUD.

In 2022 we'll restart collections activities for unpaid bills using a personalized approach that uses advanced analytics to help us identify and support customers who need the most significant and immediate aid. We will also continue to seek out other funding options, as they may become available.

In support of our work to deliver value to our customers and community, key investments in the 2022 Budget include:

- Establish multi-year partnerships with local non-profits to equitably provide resource support to our underserved communities as part of our Sustainable Communities Initiative.

- Implementing the 2021 Rate Action process deliverables that were approved by the Board in September 2021 and providing customers with tools and information to help manage their energy usage.
- 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.
- Capitalizing on the SMUD brand to increase our customer population and its sustainable revenue future by helping recruit businesses to the Sacramento area, thus bringing more jobs, opportunities, development, and economic vitality.
- Balancing SMUD's priorities and maintaining pace with changing customer expectations in these uncertain times aligned with Customer Satisfaction and Value for What you Pay (VFP) metric targets.
- Providing updated and enhanced mapping on the Sustainable Communities Resource Priorities Map to address environmental justice, climate change and equity related to impacts on SMUD customers and activities.
- Continuing communication, outreach and education related to our 2030 Clean Energy Vision, including:
 - Delivering a new phase of our integrated Clean PowerCitySM campaign to increase awareness and customer participation. Key focus areas include building and vehicle electrification and distributed energy resources.
 - Enhancing ongoing market research to understand customers' awareness and perceptions for multiple demographics.
 - Building interactive experiences on smud.org to grow awareness and understanding.
 - Continuing community forums and listening sessions to understand various customer segments more deeply.
- Enhancing the digital user experience by:
 - Continuing to test and expand marketing efforts into streaming media, including Over-The-Top (OTT) television like Hulu and streaming audio like Pandora.
 - Planning personalization in customers' digital experiences and preferences to increase participation in decarbonization.
 - Building awareness of and engagement around SMUD's 2030 Clean Energy Vision and other key priorities through channel-specific social media strategies, with a focus on building SMUD's TikTok presence and engagement.

- Reestablishing our presence in the community by returning to community events as safely allows, such as:
 - The State Fair, the California Capital Air Show and home and garden shows.
 - Planning additional nonprofit events in 2022 as COVID-19 hopefully subsides.
 - Returning to large-scale volunteer projects through our SMUD Cares volunteerism efforts.

- Maintaining our focus on our partnerships:
 - Continue to leverage flagship partnerships such as our support for the SMUD Museum of Science & Curiosity.
 - Expand opportunities and support material as part of our 2030 Clean Energy Vision outreach, including increased use of our speaker's bureau at external meetings and events.

- Completing customer research studies and delivering data and analysis to inform program development and enhancements. Key projects include annual EAPR customer satisfaction research and monitoring customers' electric vehicle experiences. These studies also help us continue to enhance SMUD's brand and drive improvements in customer perception of and their experiences with SMUD.

Safety (SD-6)

SMUD continues to execute our plan to be a recognized leader in safety. In 2022, 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 investments in the 2022 Budget include:

- Continuing to support COVID-19 and re-entry efforts in 2022. Priorities for 2022 include regulatory tracking, exposure guidance, personal protective equipment usage, contact tracing, ergonomic support for remote workers, COVID-19 safety protocols for contractors, re-entry training and review/safety consultation for the re-introduction of SMUD staff into SMUD facilities and participation in public events/activities.

- Training and use of the new Safety Management System (SMS) software for our inspection tool, risk assessment and compliance calendar modules. In addition, Safety will have new dashboard capabilities to collect data analytics for these programs as well as implementing new concern reporting, safety observations and ergonomic modules that are rolling out in late 2021 and early 2022.

- Expanding SMUD's pilot field ergonomics injury prevention program. This program provides biomechanical instruction to improve an employee's core body

strength and posture, corrective exercises to support joint mobility, muscle flexibility and balance, recovery techniques for muscle inflammation and injury prevention instruction for field activities.

- 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. In addition, SCORCH will continue to focus on safety observations and removal of safety barriers for remote and on-site workers.
- Continuing to implement our contractor safety pre-qualification program to increase the review of high-risk project contracts.
- Re-evaluate SMUD's Public Safety program that includes: expanding Emergency Responder and Public Safety Electrical training; evaluation of school public safety publications; evaluation of public contractor safety outreach; drone safety and updating Electromagnetic Fields and Radio Frequency (EMF/RF) educational publication updates.

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.

Key environmental leadership investments in the 2022 Budget include:

- Performing annual reporting of SMUD's greenhouse gas (GHG) reductions using the 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.
- Submitting the Habitat Conservation Plan (HCP) to U.S. Fish & Wildlife by the end of 2022 for permit issuance in 2023.
- Working with U.S. Fish & Wildlife to develop a 30-year Eagle Take Permit. We'll continue to initiate agreed-upon mitigation measures to retrofit utility poles at Solano Wind Farm to be avian safe, while evaluating new sensor technologies to reduce avian impacts. We currently have a 5-year permit and will be working to finalize the 30-year permit with these enhancements.
- Supporting soil remediation efforts at our 59th Street facility to remove solvents in soil and groundwater remediation efforts at the former Community Linen site (FCL). The 59th Street project will include the demolition of 2 buildings and

removal of contaminated soil. In addition, SMUD will initiate treatment of groundwater in mid-2022 at FCL.

- Continuing to support recreational improvements such as the construction of the Union Valley Bike Trail from Wench Creek to Yellow Jacket campgrounds. Also, reconstructing campsites at Yellow Jacket and West Point campgrounds along with boat ramp construction at these sites. This work is part of the construction and upgrade of recreational facilities for our UARP Operating License implementation requirements.
- Enhancing to our fleet by increasing the number of electric vehicles to upwards of 18% of our total fleet. SMUD's goal is to make 50% of all light-duty vehicle miles driven be zero emissions and all electric by 2025.
- Initiating construction of a landfill cap for SMUD's North City substation property. We're working with Sacramento City and County, along with CalRecycle to coordinate the 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 is 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.
- Integrating Environmental Justice components into SMUD's California Environmental Quality Act (CEQA) documents. The Environmental Justice chapter in our CEQA documents will describe the relevant socioeconomic characteristics and current environmental burdens of the project while evaluating enhancements to lessen the negative environmental impacts caused by the project.

Employee Relations (SD-8)

Investments in talent and culture will be critical to SMUD's ability to deliver on the 2030 Clean Energy Vision. We'll advance our talent acquisition strategy, particularly those impacting critical roles and skills. Additionally, we'll invest in equitable workforce strategies, so that SMUD can continue to reflect the diverse community we serve and build a culture of high trust, inclusion and belonging.

Key employee relations investments in the 2022 Budget include:

- More deeply embedding Diversity, Equity & Inclusion (DE&I) in all we do, with a focus on strategy, policy and education, specifically:
 - Establishing a DE&I road map with milestones, monitoring and reporting.

- Launching our employee Diversity, Equity, Inclusion and Belonging advisory council.
- Training our workforce on concepts and values of Diversity, Equity, Inclusion and Belonging.
- Continuing to address risks to workforce agility through our succession planning and strategic workforce planning programs. In 2022, our strategic workforce planning emphasis will be on reviewing critical roles considering our 2030 Clean Energy Vision and bringing a DE&I lens to review and revise our succession planning program, so it supports our efforts to increase our workforce diversity.
- Opening a child development center in partnership with CSU, Sacramento and UC Davis Health to help attract and retain the region's top talent, as well as address the need for quality childcare in Sacramento.
- Implementing successor Memorandums of Understanding (MOUs) for the International Brotherhood of Electrical Workers (IBEW) and the Organization of SMUD Employees (OSE) that are effective January 1, 2022, including providing education to SMUD leaders over the impacted employees regarding negotiated changes. We'll negotiate a new MOU for the SMUD Public Safety Officer's Association (PSOA) bargaining unit before the current labor contract expires on December 31, 2022.
- Launching the Talent Technology Transformation (T3) project, which will enhance applicant and employee experience, improve our human resources technology ecosystem and enhance data-driven decision making for SMUD's people processes and policies.
- Evaluating Total Rewards benefits offerings including exploring additional adaptive benefits that meet the needs of SMUD's diverse workforce.
- Implementing the Powering Careers program, which is focused on building a pipeline for underrepresented communities to enter skilled trades at SMUD and other industry partners in our region.
- Continuing to refine and enhance communications with employees based on reader and viewer data to drive understanding of and engagement in key SMUD efforts and activities.

Resource Planning (SD-9)

In March 2021, the Board adopted the 2030 Zero Carbon Plan, our flexible road map to achieving our zero carbon goal while ensuring all customers and communities we serve share in the benefits of decarbonization. While SMUD has always had an Integrated Resource Plan target to meet or exceed goals established by the State for renewable energy and the reduction of carbon emissions, our 2030 Zero Carbon Plan greatly

accelerates these efforts, working toward eliminating carbon emissions from our power supply by 2030.

We're focused on reimagining our generation portfolio through retiring or retooling our natural gas assets, expanding our local investments in proven clean technologies, and launching pilot projects and programs for new and emerging technologies, all while continuing our work to improve equity for our under-resourced communities and minimizing the cost of implementing our 2030 Zero Carbon Plan. The projects planned in 2022 are foundational to the decarbonization of our grid and achieving our zero carbon goal. These 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're also preparing the distribution system for the future by beginning implementation of our Integrated Distributed Resource Plan (IDRP) and continuing our grid modernization work.

Equity and inclusion are a major focus of our decarbonization efforts. We're working to engage members of our diverse communities to deliver wide-reaching benefits, including expanded workforce development program offerings to support clean technologies. The 2 natural gas plants we're planning to retire are located in local disadvantaged/under-resourced communities and by focusing our efforts on retiring these 2 plants and adding new local renewable projects, we're providing a direct reduction of local natural gas generation and emissions in communities that are impacted the most.

Key resource planning investments in the 2022 Budget include:

- Expanding renewables and increasing reliability:
 - Continuing evaluation and development of several local utility-scale solar and battery storage projects, with targeted online dates in 2024.
 - Expecting new 100 MW solar project with the Navajo Tribal Utility Authority in Southern California to come online in 2022.
- Continuing to evaluate additional proven clean technology options, such as concentrating solar power, wind, geothermal and long-duration energy storage options; continuing to study the local reliability needs along our path to 2030 Zero Carbon and continuing to explore new technologies such as the Allam-Fetvedt Cycle carbon capture technology and expanding our understanding of clean fuels that could be viable alternatives as we transition away from natural gas.
- Continuing work with local and state government to guide building codes to encourage building electrification.
- 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 distributed solar and energy storage, flexible demand, and electric vehicles.

- Beginning a planning effort to evaluate how medium- and heavy-duty electric vehicle (EV) fleets and charging infrastructure are expected to impact our distribution grid, and what opportunities there may be to mitigate those impacts.
- Launching a new program, SMUD eFuelSM aimed at advancing commercial transportation electrification. The program will provide businesses with no-cost consultations on converting to EVs. SMUD will also install EV chargers and infrastructure for eligible customers for no- or low-money down in exchange for a monthly fee on their SMUD bill.
- Launching new Virtual Power Plant programs and the optional Critical Peak Pricing rate providing needed load flexibility in support of our 2030 Zero Carbon Plan.
- Incorporating equity components into SMUD's building energy efficiency and electrification programs and into our transportation electrification offerings for under-resourced communities and EAPR customers.
- Expanding and refining our building electrification programs with an increase in gas to electric conversions across all sectors, including:
 - Launching a newly evolved Smart Homes program to an all-electric only offering, along with greater integration with load management products.
 - Launching an Express Water Heating service within the Advanced Homes program.
- Expediting utility service planning to support the launch of the Power Inn Station RT Charging Plaza, which incorporates solar, energy storage and vehicle charging for public and fleet vehicles.

Innovation (SD-10)

Delivering innovative solutions, products, and services to our customers through research and development and implementing new business models continues to be a core value for SMUD. In 2022, we'll embark on an innovation culture and mindset shift along with aligning innovation activities through the Technology & Innovation business unit. This focus ensures innovative ideas align with enterprise priorities and operational excellence guidelines. We're also focusing our investments on emerging technology innovations for 2022 that directly align with our 2030 Zero Carbon Plan.

Key innovation investments in the 2022 Budget include:

- Accelerating research in building and transportation load flexibility to allow for the transition of SMUD's thermal fleet by 2030, increasing integration of intermittent renewable resources and mitigating grid and customer infrastructure impacts of electrification, such as:

- Researching the ability to orchestrate diverse residential customer-sited devices to deliver load flexibility as a reliable resource.
 - Collaborating with a consortium of vehicle manufacturers to test the impact and reliability of a residential-managed charging program to protect service transformers and soak up solar generation to reduce curtailment risks.
 - Furthering vehicle-to-grid readiness for school bus electrification by expanding participation opportunities to additional school districts to develop and test charging infrastructure's ability to enable a 2-way power flow.
- Researching and addressing key barriers to building and transportation electrification, including:
 - Quantifying and forecasting customer adoption of building and transportation electrification and developing a plan for delivering needed upgrades to grid infrastructure and mitigation measures to accelerate sector growth.
 - Partnering with regional agencies to create a regional zero emission vehicle deployment strategy to address the needs of under-resourced communities and to capture funding support from federal and state agencies.
 - Assessing our first eMobility hub with EV charging and expanding our support of hubs within disadvantaged communities.
 - Continuing California Mobility Center client services by deploying 5 medium-duty electric trucks built and customized by Zeus Electric Chassis into SMUD's fleet.
- Investigating options to increase the efficiency and precision of grid monitoring and control capabilities by:
 - Evaluating the use of dynamic transmission line ratings to inform short-term operational and long-term planning decisions.
 - Testing advanced functionality of smart inverters to increase customer hosting capacity and reliability of solar and storage resources.
- Building on efforts launched in 2021, the Innovation Team will proliferate the innovation effort bringing it to all corners of SMUD using the IDEAHub portal for employees to submit innovative ideas.
- Researching the potential to create natural habitats through pollinators and planting native species to sequester carbon and advance our efforts in responsible power generation land development.

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.

Key areas of focus in the 2022 Budget include:

- Post-2020 carbon state and federal policies and regulations.
- Transportation and building electrification frameworks.
- Oversight of wildfire mitigation plans.
- Legislative and regulatory mandates.
- Load Management Standards.
- 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 economic growth in disadvantaged neighborhoods. We also provide enhanced resources to key chambers of commerce to support their work with our commercial customers.

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

Key economic development investments in the 2022 Budget include:

- Building awareness and adoption of the 2030 Zero Carbon Plan among key business partners.
- Maximizing and diversifying participation in the Supplier Education and Economic Development (SEED) program by leveraging key partnerships and identifying opportunities to expand outreach and engage under-resourced communities.

- Utilizing our Community Resource Liaisons, formerly called the Loaned Executive Program, in support of chamber partners and initiatives that provide innovative support and strengthen our business communities.
- Improve support to small businesses in under-resourced communities to help them adopt zero carbon practices and innovate, to spur inclusive economic development.

System Enhancement (SD-14)

The 2022 Budget includes 2 key system enhancement projects. The first project involves underground placement of our facilities as part of the City of Elk Grove's Streetscape Project at Elk Grove Boulevard from Waterman Road to School Street. The second project is completing detailed design of the City of Citrus Heights' Auburn Blvd. Project (from Rusch Park to Interstate 80).

Information Management and Security (SD-16)

Technology plays a critical role in the collaboration across SMUD to institutionalize robust information management and physical security practices, which are critical to effective risk management, and to ensure regulatory compliance, business resiliency and customer satisfaction. Multiple SMUD teams working together are critical for SMUD to take prudent and reasonable measures to accomplish the objectives of SD-16. Cybersecurity's mission is to work closely across SMUD to help manage risk by strategic alignment of policies and processes across cybersecurity, physical security, customer privacy and records management. The 2022 budget funds solutions and strategies to implement effective and efficient measures to manage information risk to SMUD's people, processes, and technology.

Key information management and security investments in the 2022 Budget include:

- Publishing and enforcing cybersecurity policies, procedures and standards aligned to the National Institute of Standards and Technology (NIST) Cybersecurity Framework Security and Privacy Control families. This effort builds on 2021's successful system integration of new technology solutions that enabled continued maturation of our cybersecurity governance, risk and compliance programs. This continual process ensures we are implementing effective policy to protect our information confidentiality, integrity, and availability.
- Continuing to mature cybersecurity technical and programmatic efforts to be integrated within critical business technology and processes to ensure cybersecurity and privacy are incorporated 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, Information Technology and Operational Technology Risk Assessments, Cloud and

Applications Security, Supply Chain Risk Management, Physical Security and Awareness Training for employees who have privileged access to our information and technology.

- Extending 2021's Critical Infrastructure Protection (CIP) vendor risk assessments to the enterprise, further strengthening SMUD's overall risk posture.
- Preparing for and participating in the North American Electric Reliability Corporation (NERC) Critical Infrastructure Protection (CIP) compliance Audit conducted by the Western Energy Coordinating Council (WECC). This effort builds on the successful completion of the CIP Mock Audit in 2021.

Enterprise Risk Management (SD-17)

The 2022 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 enterprise risk management initiatives in the 2022 Budget include:

- Continuing to mitigate wildfire risk and potential impacts to SMUD's operations, customers and the community.
- Enhancing and improving SMUD's emergency preparedness and response capabilities leveraging lessons learned from our response to the COVID-19 pandemic and the Caldor Fire.
- Supporting and informing the new Enterprise Strategy business unit with enterprise risk management assessment and information.

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 2022, we'll pursue opportunities that benefit our customers and community, create economic value, achieve a balanced and diversified portfolio and leverage and optimize our strengths, assets and expertise, all while maintaining our financial health and reputation.

Key diversified business investments in the 2022 Budget include:

- Continuing to collaborate and support the California Mobility Center (CMC), a private/public consortium focused on innovation and commercialization, standards and policy, workforce development and new business models in electric mobility. In 2022, we'll work with the CMC and its growing list of electric mobility start-ups to reduce barriers to EV adoption, support our vehicle electrification goals and reduce local carbon emissions.
- Continuing work on our Community Energy Services business for Valley Clean Energy and East Bay Community Energy.
- Continuing to identify, structure and implement new strategic partnerships for SMUD that are aligned with the 2030 Clean Energy Vision and that generate new sources of revenue.

In closing, 2022 will build on the foundation and momentum that was established in 2021 with the approval of the 2030 Zero Carbon Plan and adoption of new customer rates and optional programs, such as the solar and storage rate and incentives and virtual power plant program. Over the next 8 years on our journey to zero carbon by 2030, we'll lead the nation toward a transformational and inclusive clean energy future, starting right here with our own customers and community. Our holistic approach to developing the 2022 Budget and road ahead toward zero carbon is centered around bringing more value to all of our customers and community while keeping our rates low and continuing to provide world class reliability. The 2022 Budget is designed to deliver on the Board's Strategic Directions while also achieving strong financial metrics that ensures our strong foundation.

Our executive team members will share an overview of their key 2022 initiatives during the November 9 and 10 Finance & Audit Committee meetings and 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: Executive Team
Special Assistant to the Board
Corporate Files