The Strategic Plan ensures that SMUD and each of us individually are headed in the same direction and focused on the activities and outcomes that are important to our customers and community so we continue to thrive in a challenging and uncertain future.
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Introduction and CEO’s message

Being a community-owned, not-for-profit utility means putting our customers and community at the heart of everything we do at SMUD. For more than 70 years, we’ve delivered on our promise to provide our region with safe, reliable and affordable electricity, excellent customer service, community value, innovative customer programs and services and environmental leadership. While change is transforming virtually every aspect of our business, SMUD’s purpose won’t change. We exist to enhance the quality of life for our customers and community. What will change is that we need to deliver value to our customers and community in new ways to meet the evolving expectations of our customers and the communities we serve.

We’re proud of what we’ve accomplished for our customers and community, and humbled that our customers consistently recognize SMUD’s commitment to them. We start the new decade with our highest ever scores in J.D. Power’s customer satisfaction studies, with residential and commercial customers again ranking SMUD #1 in California for customer satisfaction.

Our employees take SMUD’s community mission to heart, and 83% of us see the connection between our daily work and SMUD’s overall vision and business strategy. We’re honored that SMUD was recognized by Forbes as one of America’s Best Mid-size Employers in 2019 and was the only utility to make the list.

Looking ahead, we recognize what’s made SMUD successful in the past won’t be enough to maintain our position as an industry and regional leader, our customers’ provider of choice and an employer of choice in the Sacramento region.

Most of the changes impacting the electric utility industry aren’t new. We continue to adapt to increased competition and business complexity, growing customer expectations, additional legislative and regulatory mandates and constraints, flat or declining energy usage per customer, the proliferation of data, decarbonization, rising costs, increased cyber and physical security threats and an ever-increasing reliance on technology in all parts of our business.

What is new is that change has accelerated faster than most could have imagined. Despite these challenges, SMUD has successfully seized the opportunities that come with change to deliver great outcomes for our customers, community, employees and the region.

We know the pace of change will continue to increase, making the need to optimize our business operations, prioritize our efforts, right-size mitigation efforts, ensure holistic views and collaborate across the company more important than ever.

Significant business drivers

Two noteworthy business drivers have grown significantly in importance since we released SMUD’s last Strategic Plan in 2018 — climate change and wildfire mitigation. As we worked with senior leaders and staff from across the company to develop our 2020–24 Strategic Plan, California utilities were making national headlines more than at any time since the Energy Crisis of 2000 and 2001. The accelerated push to reduce the impact of climate change and California’s devastating wildfires are impacting utilities — legislatively, financially and operationally.

In late 2018, SMUD’s Board adopted bold carbon reduction goals — to achieve net-zero carbon emissions by 2040, 5 years ahead of the state’s goal, through our new Integrated Resources Plan (IRP).
Our new carbon reduction goals are a fundamental shift from how we’ve traditionally approached resource planning. We moved beyond a focus on carbon reduction in SMUD’s operations to reflect SMUD’s broader values by supporting the Sacramento region as it reduces carbon through electrification of buildings and transportation. Our strategy makes good business sense for SMUD because it reduces carbon for our customers and grows our retail electricity sales. The strategy also supports our local economy and provides regional benefits through investments in electrification, local storage and utility-scale and community solar. Our IRP is far reaching, ambitious and comprehensive, identifies our strategic priorities and guides SMUD’s nearly $7 billion investment over the next 20 years. Importantly, our IRP supports communities traditionally left behind with improvements in air quality, better access to transportation options and opportunities for job creation. As a result of executing the IRP, we expect to see a 64% decrease in carbon emissions within our service area over the next 20 years.

In late 2019, the SMUD Board approved our first wildfire mitigation plan. The plan demonstrates how SMUD is building on a strong history of patrolling and maintaining hundreds of miles of power lines and managing vegetation in and around our equipment, using aerial inspections and new technology and increasing the durability of our system to go to even greater lengths to detect and reduce potential threats. However, the plan also recognizes that SMUD will need to make significant additional investments to mitigate wildfire risks.

Carbon reduction and wildfire mitigation are key strategic priorities in this Strategic Plan and will continue to have a profound impact on our business for decades to come. SMUD is thinking very differently not only about how we address carbon reduction and wildfire risk, but everything we do to ensure our future is as bright as our past.

We’re leading the way and collaborating with local and regional partners to deliver maximum collective impact. Whether it’s collaboration to establish the California Mobility Center, deliver on our Sustainable Communities initiative to support traditionally underserved communities or partnering to increase electrification, by aligning our work to support regional priorities, we’ll help ensure SMUD delivers on our purpose to improve the quality of life in our region while optimizing our investment dollars.

**Prioritization**
This Strategic Plan recognizes we’re in an era of increasing costs, partly to support our investments to achieve aggressive carbon reduction goals, and also from costs associated with doing business, which are increasing significantly year-over-year due to needed technology investments and to mitigate the risks of wildfire and cybersecurity threats and to support the growth of Distributed Energy Resources (DERs). Coupled with flat or declining energy usage per customer, it means we must look for efficiencies in all we do and prioritize the projects, programs and initiatives that will deliver the greatest value to our customers and support SMUD’s long-term success while ensuring our investments deliver the intended benefits.

We expect to face constrained resources for the foreseeable future and must deliver maximum value from every dollar we spend.

**Embracing the future**
We know change will continue to accelerate, and while change often isn’t easy, it also brings opportunities. At SMUD, we’re embracing the future with confidence. Who would have believed just 10 years ago, when we faced a 30% Renewable Portfolio Standard goal for 2020, that SMUD would exceed it with room to spare?

I’m proud SMUD has adopted aggressive carbon reduction goals, continuing our record of environmental leadership. Some may ask if
SMUD can afford all the things we’ve committed to doing to achieve net-zero carbon emissions by 2040. My response is simple. We can’t afford not to. We’re doing this because SMUD has a reputation as an environmental leader, and the times call for that leadership more than ever. More than 200,000 adults and children across the Sacramento region suffer from asthma, which is directly related to air quality. As a community-owned business, we must be involved in finding solutions. If we aren’t doing everything in our power to improve the lives of our customers and our neighborhoods and maximize our social and environmental impact while maintaining a financially sustainable business model, then we have failed.

This Strategic Plan is ambitious. It creates the foundation to achieve bold carbon reduction goals that will benefit our region for generations to come while ensuring SMUD’s continued success. It includes strategies to help our customers and employees thrive in a new energy future. By anticipating and adapting to changes in our industry, we’ll remain our customers’ supplier of choice, continue our track record of affordable rates, high reliability, great customer service and innovative programs and services. By building diversity and inclusion into everything we do at SMUD and fostering a culture built on communication, collaboration and trust, we’ll empower our workforce to innovate, embrace change and ensure SMUD remains an employer of choice in the Sacramento region.

History favors the bold. SMUD has a 70+ year track record of being bold, successful and leading the way. This Strategic Plan is our blueprint to make sure our enviable track record continues.

Arlen Orchard
CEO & General Manager

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

Our vision
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.

Our values
SMUD has 4 values which distinguish SMUD and describe how we work every day:

Leadership  Ingenuity  Community  Integrity
**Values**

**Leadership**
- We are strong and self-assured. Our actions are purposeful and responsible. We use our expertise to make thoughtfully balanced decisions and provide sound guidance.

**Ingenuity**
- We are smart, creative and pioneering. We solve tough challenges with fresh thinking and “can-do” resourcefulness. We are always looking ahead.

**Community**
- We act in the collective best interests of our customers and our community. We respect and support those we work with and those we serve.

**Integrity**
- We do the right thing. We are honorable and dedicated to operating in an ethical and safe manner. We exercise good judgment and are principled in every interaction.

**We are...**
- Proactive
- Insightful
- Influential
- Dependable
- Passionate
- Forward-looking
- Inventive
- Collaborative
- Approachable
- Inclusive
- Caring
- Safe
- Reliable
- Honest
External and internal context

External and internal factors are driving our business and shaping our business model. We updated the SWOT (strengths, weaknesses, opportunities and threats) analysis based on our position in January 2020.

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
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<tbody>
<tr>
<td>• Talented, engaged, diverse workforce</td>
<td>• Lack of clarity on SMUD’s highest priorities leads to a focus on business unit priorities over SMUD priorities</td>
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<tr>
<td>• Strong brand and reputation</td>
<td>• Difficulty collaborating, prioritizing and aligning goals and efforts across business units</td>
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<tr>
<td>• High customer satisfaction and trust</td>
<td>• Clarity and speed of decision-making processes</td>
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<tr>
<td>• Reliable service</td>
<td>• Inconsistencies between cost consciousness and other priorities</td>
</tr>
<tr>
<td>• Competitive rates and improving rate/cost alignment</td>
<td>• Inconsistent use of “bottom line” business acumen in strategic thinking, decision-making, operations and project management</td>
</tr>
<tr>
<td>• Active and engaged community partner</td>
<td>• Inconsistent approach to leveraging data (customer, operational, infrastructure) across the company to make informed decisions</td>
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<tr>
<td>• Diversified customer base</td>
<td>• Legal, regulatory and political constraints</td>
</tr>
<tr>
<td>• Environmental leadership</td>
<td>• Financial and resource constraints from increasing costs, labor capacity and pressure to maintain rates at a reasonable level</td>
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<tr>
<td>• Strong financial health</td>
<td>• Large investments needed to support existing and new infrastructure and the rapidly changing and modernizing industry</td>
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<tr>
<td>• Incumbent vertically-integrated utility with operational independence</td>
<td></td>
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<tr>
<td>• Independent Board and decision-making</td>
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<tr>
<td>• Future focused and forward thinking</td>
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<tr>
<td>• Recognized innovator</td>
<td></td>
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<tr>
<td>• Targeted, disciplined approach to funding retiree pension/health care liabilities</td>
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Opportunities

- Continuing to build a zero-incident safety culture
- Continuing to embrace and foster diversity and inclusion across our workforce and operations
- Continuing to invest in strategic workforce planning to attract, develop and retain a diverse, highly skilled, nimble and flexible workforce
- Fostering an innovative, collaborative work environment
- Sustaining SMUD’s reputation as a great employer
- Creating alignment, transparency and awareness of cross-business unit priorities, goals and strategies to foster collaboration and shared ownership of goals
- Creating an enterprise change management strategy
- Clearly defining SMUD’s priorities to create organizational alignment
- Building customer loyalty
- Delivering targeted products, services and rate options
- Partnering to improve community and regional economic vitality and equity for all our customers and community
- Creating rates and pricing that collects fixed costs fairly and equitably and achieves SMUD’s priorities
- Optimizing and prioritizing resources to maintain SMUD’s leadership position and accomplish goals in innovative, flexible, affordable and sustainable ways (e.g., participation in regional markets, support load growth, support regional innovation and development and electrification)
- Becoming a more agile business in our decision-making, processes and operations
- Optimizing our assets and resources to achieve efficiencies across all business processes and operations
- Continuing focus on deploying business intelligence and data analytics to increase data-driven decision-making
- Optimizing DER investments for SMUD and our customers

Threats

- Strong competition for talent
- Risk of talent or knowledge loss
- Physical and cybersecurity threats
- Wildfires and the impact of climate change on our business
- Declining energy usage per customer and current rates that are largely based on charging customers per kWh used
- Rates don’t always reflect the cost of supplying customers
- Increased competition by third-party providers of products and services
- Legislative and regulatory uncertainty
- Potential for loss of operational independence
- Impacts of rapid technology changes
- Unmanaged and unmitigated growth of DERs
- Economic downturn
- Rising costs and constrained resources
- Financial fragility of neighboring investor-owned utility
- Operations challenged to keep pace with technology adoption
- Political pressure slows progress of major initiatives
Our business model

SMUD’s business model is changing and we recognize it must continue to evolve to meet changing market conditions and customer expectations. We’ve made some significant transformations in our business since creating SMUD’s first Strategic Plan in 2016. While we don’t have perfect clarity about our future business model, it’s clear that to be successful, we must retain operating flexibility, be laser focused on delivering value for each dollar we spend, enhance our relationship with our customers and be innovative and proactive in the face of change.

Where we’ve been

- Safe, predictable monopoly
- Focus on gross revenue
- Customer satisfaction focus
- Single, undifferentiated product – electricity
- Recruitment based on technical skills
- One-size-fits-all customer products with siloed marketing and delivery
- Focused primarily on delivering core operational outcomes such as reliability. Risk averse and resistant to change. Lack of recognition of the need to communicate and collaborate broadly across the company
- Manage and optimize SMUD resources on the utility side of the meter; one-way flow of energy
- Getting the basics right in a time-tested way
- Sustained load growth to support operations
- Long lead time for decision-making (particularly infrastructure decision-making)
- Delivery of core services
- Reduction of SMUD’s carbon footprint
## Where we are

<table>
<thead>
<tr>
<th>Where we are</th>
<th>Where we’re going</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growing third-party provider choice for customers (products, services and</td>
<td>Competitive retail environment (others will offer our customers products and</td>
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<tr>
<td>aggregation services)</td>
<td>services)</td>
</tr>
<tr>
<td>Growing number of new revenue sources</td>
<td>Focus on net revenue growth aligned with business objectives</td>
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<tr>
<td>Enhanced customer experiences in multiple channels</td>
<td>Customer loyalty focus</td>
</tr>
<tr>
<td>Growing portfolio of products, services and partnerships</td>
<td>Array of competitive and tailored products and services</td>
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<tr>
<td>Increasing focus on future-ready workforce</td>
<td>Focus on a diverse workforce with flexible skills and competencies to adapt to a</td>
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<tr>
<td></td>
<td>changing business environment (e.g., continuous learning)</td>
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<tr>
<td>Customer segmentation strategy and segment-specific products, services and</td>
<td>Robust portfolio of targeted products, services, communications and marketing for</td>
</tr>
<tr>
<td>marketing plans</td>
<td>each segment</td>
</tr>
<tr>
<td>Highly engaged workforce. Employees who understand how their work supports</td>
<td>High-trust culture that values employees’ ideas and fosters innovation,</td>
</tr>
<tr>
<td>SMUD’s strategic priorities. Desire to innovate, embrace change and improve</td>
<td>collaboration, diversity, inclusiveness and accountability</td>
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<tr>
<td>communication and collaboration across the company</td>
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<tr>
<td>Integration of growing number of DERs (EVs, solar, storage) on SMUD’s grid</td>
<td>Manage and optimize an increasing number of DERs and two-way flow energy and</td>
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<td></td>
<td>services between and among customers, third-party providers and SMUD</td>
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<tr>
<td>Increased focused on efficient operations and Operational Excellence across</td>
<td>Getting the basics right through technology, innovation and business processes</td>
</tr>
<tr>
<td>the business</td>
<td></td>
</tr>
<tr>
<td>Constrained labor and financial resources</td>
<td>Continued constraints on labor and financial resources creates prioritization</td>
</tr>
<tr>
<td></td>
<td>imperative</td>
</tr>
<tr>
<td>Implementation of efficient project management approach in key project areas</td>
<td>Robust, nimble and efficient decision-making across the company</td>
</tr>
<tr>
<td>Identifying and delivering community value through strategic partnerships</td>
<td>Leverage strategic partnerships to optimize our investments and maximize</td>
</tr>
<tr>
<td>(e.g., Sustainable Communities, California Mobility Center)</td>
<td>customer and community value (innovation, economic development, air quality,</td>
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<tr>
<td></td>
<td>social equity)</td>
</tr>
<tr>
<td>Initiate strategy to provide region-wide carbon reduction benefits (e.g.,</td>
<td>Focus on regional carbon reduction, which grows revenues through electrification</td>
</tr>
<tr>
<td>electrification)</td>
<td>and other tactics</td>
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Building on a strong foundation

This is SMUD’s third Strategic Plan. The first was introduced in 2016, and the years since then have been critical for laying the foundation for SMUD’s future success. Having a Strategic Plan has helped focus the organization and our individual efforts on the initiatives that deliver value to customers and transform our operations to be sustainable and successful in the future. Our Strategic Plans have provided direction to deliver great outcomes for our customers, community and employees, including:

- Our Safety For Life approach has helped us make significant improvements as we drive to zero incidents or injuries. We’ve reduced the number of significant employee injuries—22 in 2019, compared to 75 in 2016, the first year of our 5-year Strategic Plan.

- We put Operational Excellence in place across the organization. Knowing every savings, efficiency or operational enhancement, however small, makes a positive impact, and we’ve empowered all employees to find small ways to increase efficiencies in their daily work. Savings reduced the size of rate increases needed in our 2019 Rate Action by 2% and helped fund community programs, including our Shine Community Development Awards.

- We successfully transitioned all eligible residential customers to our standard Time-of-Day (5-8 p.m.) Rate (TOD). The largest overhaul of SMUD’s rates, TOD makes time-based rates the standard for all customers. The transition was successful, with a 98% adoption rate. A multi-year transition plan to prepare our systems and employees for TOD and the largest integrated marketing, communications, education and outreach campaign in SMUD’s history to prepare our customers for the new rate were critical to the successful implementation and acceptance by our residential customers.
• Our Board of Directors’ approval of our new Integrated Resource Plan puts in place an aggressive plan to lead the way in regional carbon reduction for decades to come and firmly cements SMUD’s reputation as a national environmental champion while moderating future rate increases.

• Following an uptick in external factors that impacted the reliability of our distribution system, such as car-pole accidents and trees outside of our rights-of-way hitting SMUD’s power lines, we invested additional resources to mitigate these causes of outages. Key efforts included increased funding to relocate poles that had been repeatedly struck by vehicles and accelerated pole and cable replacement and vegetation management programs. As a result, we’ve seen a significant improvement in reliability over the last 3 years and are meeting our reliability metrics.

• We renovated our historic Headquarters building, and while the design honors the historical significance of the building, it created an open environment that supports the culture we’re trying to create. Our vision was to create an open, vibrant and collaborative workplace to help us attract and retain top talent and to support and innovative, modern workforce that enhances communication and collaboration. Moreover, we financed the Headquarters building with SMUD’s first ever Green Bonds, targeting investors who want to invest in environmental and sustainable causes.

• SMUD joined the California Independent System Operator’s (CAISO) Energy Imbalance Market (EIM) in 2019. Being part of the EIM, which encompasses a much larger geographical grid that facilitates economic energy transactions to handle intermittent power from various resources, helps SMUD manage intermittent resources more economically and gives us the ability to access additional carbon-free energy and generate revenue from excess generation. SMUD's participation in the EIM has provided
wholesale market opportunities that have achieved significant economic and carbon benefits for our customers, and these benefits will continue to expand through participation in future market opportunities as the EIM grows in market scope and participation. We are on track to recover our costs of entering the EIM even sooner than the 1.7 years forecasted in the original plan.

- We redefined SMUD’s role as an environmental and community leader, adopting a broader framework through our Sustainable Communities initiative. The goal of Sustainable Communities is improved equity across our region to ensure the advantages of a not-for-profit, community-owned electric provider to improve the quality of life for all our customers and enhance the vitality of all communities. The strategy leverages the work we’ve done to date, and that of our external partners, to optimize our investments to maximize our collective impact to help people thrive holistically in 4 key areas: social well-being, a healthy environment, mobility and a prosperous economy.

- We overhauled our Energy Assistance Program Rate, which supports low-income customers through a combination of rate design, energy efficiency investments, pilot programs and education. The restructure helps customers save energy and money on their SMUD bills while improving the sustainability and integrity of the program by helping those most in need.

We successfully entered the Community Choice Aggregation (CCA) market and are providing CCA customers with data management, contact center, wholesale energy and other services while generating revenue for SMUD.

- SMUD began making supplemental contributions from operational savings and other resources to fund our pension liability. It’s part of our strategy to reach a fully funded pension in 10 years. This is in addition to funding into an “other post-employment benefits” (OPEB) trust fund, for retiree medical and other benefits. OPEB is now approximately 90% funded, up from 0% in 2008. Funding these liabilities over the next decade prevents them from growing, avoiding hundreds of millions of dollars in payments for decades to come. By proactively managing SMUD’s strong financial position, we’ll retain the financial flexibility to be able to leverage opportunities as they arise.

- SMUD employees take our commitment to our customers and community to heart. In 2019 alone, employees personally donated more than $428,000 in one-time donations and through payroll deductions to the non-profits they care most about through our SMUD Cares program, and more than 12,000 volunteer hours to community boards.

- We continue to enhance our customers’ digital experiences. Customers can report and check outage restoration times and pay their bill via the SMUD app and buy everything from LED light bulbs to smart thermostats in the online SMUD Energy Store (SMUDEnergyStore.com). We were quick to market with both, thanks to collaboration across multiple business units and an agile approach, which are hallmarks of the nimble and innovative culture we’re trying to create.

- We successfully entered the Community Choice Aggregation (CCA) market and are providing CCA customers with data management, contact center, wholesale energy and other services while generating revenue for SMUD.

Each of these initiatives is significant and complex in its own right and required extensive collaboration across multiple parts of the business to be successful, characteristics of the culture that will be essential to SMUD’s future success.
Prioritization is key to future success

Our Strategic Plans have helped us focus on accomplishing the things that are important to our customers and community and our future success; however, because we’re in an era of constrained resources for the foreseeable future, we know we can’t do everything. We must prioritize our work and investments to ensure that every dollar and labor hour we spend delivers maximum value for our customers and community.

For most organizations, including SMUD, getting the basics right, which in our case is “keeping the lights on,” accounts for 80–90% of our resources and effort. Everyone at SMUD does important work each and every day to keep the lights on for our customers and serve our mission. These are the basics we must get right every day – meeting our customers’ expectations for safe, reliable, affordable and environmentally responsible energy 24/7. It includes things like replacing power poles, maintaining our facilities and technology and answering customer calls to name just a few.

That leaves 10–20% of our resources and effort to deliver the large and longer-term strategic priorities to move the organization forward and invest in our future success. These activities are the focus of this Strategic Plan. It’s a delicate balance to accomplish all the things we need to do 24/7 for our customers while also focusing on investing for the future. By balancing risks and benefits, we’ll make informed decisions, knowing we must sometimes say no or “not right now” to great ideas when other higher priority investments are needed.
SMUD’s executive team went through an extensive prioritization effort to help identify and align our organizational priorities. With input from the senior leadership team, we prioritized the things that will have the most impact on supporting our long-term success to make sure SMUD advances successfully in a changing and increasingly competitive environment, continues to deliver high value to our customers and community and remains an employer of choice in the Sacramento region. It means some things that were priorities in our previous Strategic Plans are no longer organizational priorities. That’s the nature of prioritization.

For several years, we’ve focused on identifying and pursuing potential sources of new net revenue as a way of mitigating rising costs and flat or declining energy usage. Recognizing that we need to focus our resources and that a number of things have changed since that priority was set, our new net revenue strategy has been refined to align with our recently-adopted carbon reduction goals. We put a stake in the ground with our new Integrated Resource Plan and aggressive carbon reduction goals. Increasing and supporting building and vehicle electrification are cornerstones of our strategy to achieve our carbon reduction goals and also aim to grow revenue, which is critical in an era of flat or declining energy usage per customer.

Going forward, our primary focus will be on pursuing new revenue streams that support our building and transportation electrification goals, which will have broader impact through increased revenue, carbon reduction and community benefit.

That isn’t to say the door is closed to all other new business opportunities, which we’ll continue to evaluate on a case-by-case basis, considering the value to our customers, community and SMUD, alignment with our current priorities and the costs of entry. For example, we will continue to serve our current Community Choice Aggregation (CCA) customers and we have customer service models that we believe will be of interest to existing and potential CCA customers.

In the past, we used our 5-year Strategic Plan as a communication and alignment document for the organization, including enough key initiatives for our North Star points so every employee could see their place in the Plan. Our Strategic Plans have evolved over time, and we found that approach didn’t go far enough to set organizational priorities because it included some initiatives that fit more appropriately in business unit or department 3-year or 1-year operational plans.

We took a different and sharper approach in this Strategic Plan, reducing the number of priorities and key initiatives, listed by North Star point, starting on page 28. This makes it easier to see the true priorities for the 10–20% of our resources that are focused on investing in our future success.
Overarching strategies

Our 2020-2024 Strategic Plan continues to strike a balance between the strategies, projects, programs and other initiatives aimed at ensuring SMUD’s success in a changing industry with the resources available to deliver them.

To remain successful, we must continue to:

• Build and maintain a safety-committed, highly skilled, flexible, engaged and diverse workforce.

• Keep the lights on safely, reliably, economically and in an environmentally responsible way.

• Focus on creating a high-trust culture that values employees’ ideas and fosters innovation, collaboration, diversity, inclusiveness and accountability.

• Enhance our connection to our customers and community.

• Continue to focus on Operational Excellence to improve our internal processes and lower costs while delivering high-quality services. Operational Excellence isn’t just about creating efficiencies to reduce costs, it’s also about delivering safe, reliable and quality products and services to our customers at an affordable price.

• Focus on outcomes to ensure every dollar and labor hour we spend delivers value and the intended outcomes successfully, on time and on budget.

• Efficiently invest in technology, analytics and infrastructure to support the evolving utility business model.

• Advance SMUD’s position as an innovative and environmentally progressive thought leader.

• Embrace risk-based, data-driven, timely decision-making.

While most of the overarching strategies haven’t changed since we launched our first Strategic Plan, we’ve seen change accelerate, affecting many areas of our business. Adapting to these changes is driving the focus areas and key priorities outlined in this Strategic Plan.
Major initiatives

Continued environmental leadership and carbon reduction

SMUD has a long history of environmental leadership and firsts, from the world’s first commercial-scale solar photovoltaic power plant in 1984 to renewable energy goals that predate and are more aggressive than those of the state.

We know we can’t rest on our laurels. Just as customers’ expectations of their utilities’ program and service offerings have evolved, customers expect SMUD to be a responsible and forward-thinking environmental steward.

Our carbon reduction goals are innovative and ambitious and exceed the state’s goal by reaching net-zero carbon emissions by 2040. Our community and region will benefit from a 64% reduction in greenhouse gas emissions as a result of prioritizing local renewable energy resources and significant investment in the electrification of buildings and vehicles in a way that supports local economic development, disadvantaged communities and moderates future rate increases over time.

Over the next 2 decades, investments to support the carbon reduction goals in our IRP include:

- $4 billion in new renewables, including 1,500 MW of local solar.
- Approximately $900 million of local reliability measures, including 500 MW of local energy storage.
- Nearly $2 billion in building and transportation electrification.

We’ll make strong headway on these goals and investments over the life of this Strategic Plan and recognize that delivering our carbon reduction goals in an inclusive way that benefits all the communities we serve is critical to our success.

Sustainable Communities

SMUD has always invested in supporting the causes that are important to our customers and community and support our mission, but we’re taking it a step further by creating a laser sharp focus on impact, which squarely reflects our purpose to enhance the quality of life for all our customers and community.

We’re proud of SMUD’s reputation for supporting the diverse needs of our customers and community. Our Energy Assistance Program Rate for low-income customers, our Powering Futures scholarship program and the millions of dollars our employees have donated to local nonprofits through our SMUD Cares giving program are just a few examples of that longstanding commitment.

A 2018 Brookings report drove the point home that we need to think differently. From 2006 to 2016, Sacramento ranked in the bottom third of the largest 100 metropolitan areas in composite rankings of growth, prosperity and inclusion. The report noted that while there had been positive developments in the region’s downtown core, many other communities were being left behind. This opened our eyes even wider—and prompted SMUD to launch our Sustainable Communities initiative.
5-Year Strategic Plan
With Sustainable Communities, we’re aligning our programs, goals and investments around supporting healthy, vibrant and economically sustainable neighborhoods for the benefit of all our customers. We’re supporting not only cleaner energy and carbon reduction in these neighborhoods but partnering with policy makers, transit leaders, technology companies, health care providers and community-based organizations to maximize our collective impact. Accessibility to clean transportation options is a key part of any sustainability model. We recognize that alone, none of us can bridge the gap. Together, our chances for meaningful change improve exponentially.

Aligning rates with costs

The proliferation of distributed energy resources, evolving technology, aggressive environmental mandates, increasing customer expectations and more volatile commodity markets have made the electricity grid and our relationship with customers far more dynamic. Once a back-office function to help ensure rates covered costs, pricing has now become a dynamic, strategic function to help ensure utilities’ long-term ability to deliver on their vision and purpose while remaining financially viable.

Many of SMUD’s costs to serve customers are fixed, regardless of the amount of energy they use. SMUD, like most utilities collects the majority of fixed costs, such as grid, cybersecurity, labor,
customer service, public good and wildfire mitigation costs through our per kWh rates. This model made sense for decades, when demand for electricity continued to grow and customers got all their electricity from their utility.

Significant increases in energy efficiency and the growing adoption of DERs such as rooftop solar, have delivered a decline in energy usage per customer, without a corresponding drop in the fixed costs to serve customers, reducing our ability to recover fixed costs.

Several years ago, SMUD recognized the changes and challenges ahead and began overhauling our approach to pricing and rate setting. We successfully overhauled several aspects of our rates, including the phased restructuring of our System Infrastructure Fixed Charge, the overhaul of our Energy Assistance Program Rate for low-income customers and the introduction of TOD Rates as the standard for all residential customers.

The distributed nature of our grid is increasing the need to reform our rate structure to send accurate price signals to customers and ensure rates collect revenue in a way that’s as fair and equitable as possible to all customers. Our Board approved changes to rates for our commercial customers, which increases consistency across rate classes, better aligns rates with when electricity is used and encourages customer adoption of DERs in a win-win manner for SMUD and our customers. We’ll phase in the changes to commercial rates over several years beginning in 2021.

The next step in our Pricing Road Map is to develop a Net Energy Metering (NEM) successor rate for customers with their own onsite self-generation such as rooftop solar. With NEM, excess energy generated by customers is fed into SMUD’s grid when the customer’s system is producing more electricity than they need. When their system isn’t producing enough electricity, they receive power from SMUD via the grid.

NEM was established more than 20 years ago to incentivize customer adoption of rooftop solar. Under NEM, electric utilities are required to pay customers for all excess electricity generated at full retail rates. SMUD reached the statutory program cap in 2017, which was 5% of SMUD’s peak load, or 150 MW, and can now create a new NEM rate.

Market conditions have changed significantly since NEM rates were introduced, but the compensation to customers has not. Today, SMUD continues to pay NEM customers at a much higher rate for their self-generation compared to what SMUD could buy the energy for in the open market.

Because of NEM customers’ lower energy usage, we don’t collect the fixed costs that are built into the per kWh energy charge that all other customers are paying.

It means we’re under recovering fixed costs, such as use of the grid, from NEM customers.

Work began in late 2019 to develop a NEM successor rate. Through a robust open, collaborative process with a wide range of stakeholders, our goal is to develop a rate that recognizes the value of solar and solar-plus-storage and accurately recovers costs in a way that’s as fair and equitable as possible to all customers.

**Diverse, inclusive and future-focused workforce**

The proliferation of information and communications technology and new technologies like distributed generation, smart home devices and energy storage have created new opportunities, which require a wide array of new skills, impacting not only how we recruit employees, but also how we grow additional skills within our current workforce. This era of rapid change makes our Human Resources, Diversity & Inclusion efforts even more critical.
SMUD has long placed priority on developing a diverse workforce that’s representative of the communities we serve, and we’re focused on embedding diversity and inclusion in everything we do across the company. Just as a diverse workforce enriches the workplace and helps us better understand our customers and our communities, we recognize that diversity of thought, perspectives and approaches to work leads to better business results, including enhanced communication and collaboration and faster, better and more effective decision-making.

As our workforce continues to become more diverse, there’s increasing diversity in the preferences among our employees—from learning and work styles to the types of benefits they value.

The dynamic nature of our industry means that in many cases, we need employees to have much more than technical skills. A broad range of skills, including business acumen, adaptability, collaboration, communication, strategic thinking, inclusion, innovation and continuous learning will all be essential in a future-ready workforce. Through our Human Resources, Diversity & Inclusion efforts, we’ll help our employees adapt to the changes impacting our business.

Having engaged employees and a culture that supports SMUD’s strategic priorities is essential to our success, and we’re focused on creating a culture that values employees’ ideas and fosters innovation, collaboration, inclusiveness and accountability. We’ve conducted employee engagement surveys for several years, giving us insight into SMUD’s culture. Results of our 2019 engagement “pulse” survey were positive, with 87% of employees engaged and a participation rate of 86%, both of which are considered best-in-class. However, we can’t take these results for granted and must continue to support an evolving culture that meets not only our employees’ expectations but our business needs.

In 2019, we began implementing Stephen Covey’s Speed of Trust framework, recognizing that a high-trust culture fosters communication, collaboration, accountability and innovation, which are hallmarks of the culture we’re creating to ensure SMUD’s future is as bright as our past. We’ll continue to embed the Speed of Trust framework and behaviors across the company.

Our Human Resources, Diversity & Inclusion strategies focus on talent management, benefits, employee relations, learning & development, culture, leadership development and succession planning. Together, they’re designed to make sure we can continue to attract and retain a diverse workforce comprised of the right people with the right skills at the right time, in the right place, and we’ll continue to evaluate and evolve them to keep pace with the workforce trends we’re seeing today and on the horizon.
Enabling the grid of the future

As customers add their own technologies, such as electric vehicles, rooftop solar and energy storage systems, they need a two-way relationship with SMUD, where energy flows between SMUD and the customer using our grid. It’s SMUD’s job to integrate and optimize customer, third-party and our own assets so DERs are added and operated in a safe, reliable and cost-effective way for both SMUD and our customers.

SMUD is the conductor that makes everything work together in concert to maximize benefits to customers, the grid and SMUD. Our significant investments in the Advanced Distribution Management System (ADMS) and Distributed Energy Management System (DERMS) are critical to helping us be a successful conductor over the long term, by giving greater visibility into all the DERs on our grid.

DERs bring benefits to customers, SMUD and our grid. Customer investment in DERs, for example, could potentially help defer the need to invest in infrastructure, such as neighborhood transformers in specific locations. Through the development of our Integrated Distributed Resource Plan, we’ll investigate DERs in detail—neighborhood by neighborhood and circuit by circuit—to determine where to make investments and optimize resources. This more granular data will guide grid operations and planning and future investments to help customers achieve their goals while balancing risks, costs and benefits in a way that’s fair and equitable to all customers and financially sustainable for SMUD.

*SMUD is the conductor that makes everything work together in concert to maximize benefits to customers, the grid and SMUD.*
Our North Star

The North Star translates SMUD 3.0 into 6 priority areas (the points on the star), each with goals and measurements. The North Star helps to focus our efforts to ensure we fulfill SMUD’s purpose, vision and the Strategic Directions adopted by our Board. The North Star also creates outcomes and measurements that tell us about our progress under our new business model. We can’t look at any one point of the North Star in isolation. They’re all interrelated and collaboration across SMUD will be critical to meet our North Star objectives and ensure SMUD’s future success.

The Strategic Plan spells out the priority areas we’ll focus on from 2020 to 2024. It gives business units and departments direction in setting priorities and measurable goals that connect our employees’ day-to-day work to SMUD’s strategic priorities.

We make every move a safe one for employees, our customers and our community.

Employees are the most important part of our success, and we create an inclusive environment where employees thrive and do their best.

We act in the best interest of our customers and community.

We do it right. We innovate to improve our quality of service and lower our delivery costs.

We are financially flexible to make necessary and timely investments and take advantage of opportunities while remaining competitive.

We embrace a low carbon future for all while balancing affordability, reliability and customer choice. We are committed to building sustainable communities.
2018–2022

SMUD 5-Year Strategic Plan

SMUD 3.0’s North Star

Be Safe. Always.

Value Our Customers and Community

Financially Fit

Sustainable Future

Operational Excellence

Treasure Our Employees
### North Star point

**Be Safe. Always.**

### 2024 Goal

Zero incidents and injuries.

### 2020-2024 Outcomes

Every move we make is a safe one for our employees, customers and our community.

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### 2020-2024 Priorities

1. Support our Safety For Life culture throughout SMUD—safety and wellness at work, home, play and in the community.
2. Deploy Human Performance Engineering to enhance safety.
3. Improve analyses of injury, incident trends and ensure timely corrective action.

### Examples of key initiatives

1. Expand successful SMUD safety programs such as tailboards, field visits and near-miss reporting to non-traditional activities like community events, to reflect best practices given the level of risk and business needs of the different work groups.
2. Implement a safety management system to improve safety incident and near-miss data collection and analysis, root-cause analysis, track corrective actions and prevent recurrences of employee and public incidents.
3. Reduce the risk of serious injuries, fatalities and soft tissue injuries through the use of job hazard assessments, up-to-date work procedures, training and other measures.
4. Implement Human Performance Engineering programs in select work groups.

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*Family Safety Day*
2020-2024 Priorities

1. Foster a culture of collaboration, inclusion, accountability and trust, and recognize and value employees’ ideas.
2. Ensure SMUD is competitive in attracting and retaining high-quality, diverse talent.
3. Help our workforce adapt to change.
4. Develop and retain high-performing leaders who enable optimal employee performance.

Examples of key initiatives

1. Implement the Speed of Trust framework to build a culture focused on trust, communication, inclusion, collaboration, accountability and delivering results that support SMUD’s strategic priorities.
2. Enhance leadership, employee and cross-business unit communications to promote organizational alignment, shared understanding of priorities and collaboration through diverse channels meeting the needs of different work groups.
3. Continue to execute SMUD’s Diversity & Inclusion Strategy to more deeply embed diversity and inclusion in all processes and all parts of SMUD.
4. Cost effectively implement strategies to enhance employees’ and their families’ health and wellbeing while providing quality healthcare and adaptive benefits.
5. Enhance Learning & Development offerings to increase the availability of on-demand training.

2024 Goal

Maintain a highly engaged workforce to achieve our business goals.

North Star point

Treasure Our Employees

2020-2024 Outcomes

Employees are the most important part of our success, and we create an inclusive environment where employees can thrive and do their best.
Examples of key initiatives

1. Deliver and enhance our digital-first strategy so customers can interact with us seamlessly how, when and where they want from any device.
2. Continue successful education and outreach to customers to support implementation of rate changes and support SMUD’s strategic priorities.
3. Address the needs of our customers by improving energy affordability through rate design and targeted programs and products.
4. Continue to build sustainable communities, with a focus on social well-being, a healthy environment, mobility and a prosperous economy through partnerships, sponsorships, education, outreach and support for small business.
5. Support regional economic development through enhancing the development community’s experience, services and products for our customers and regional innovation partnerships.
## Operational Excellence

### 2024 Goal

Contain annual cost growth to no more than inflation trend, plus 1.75%.

### 2020-2024 Outcomes

We do it right. We innovate to improve our quality of service and lower our delivery costs.

### 2020-2024 Priorities

1. Improve business processes to enable enterprise alignment and achieve operational efficiencies and cost reductions.

2. Ensure the security and resiliency of our business operations and facilities.

### Examples of key initiatives

1. Drive enterprise-wide change to improve consistency and cost reductions, including:
   - Agile methodology and practices.
   - Enterprise technology architecture.
   - Tools and capabilities for employees to work anywhere.
   - Project Portfolio Management to create efficiency in project selection, monitoring and value realization.

2. Continue to focus on risk mitigation through compliance, physical/cybersecurity, implementation of wildfire mitigation, reliability mitigation and load-serving capability projects.

3. Design/develop and implement a new enterprise budget, planning and prioritization process that creates enterprise-wide alignment and efficiencies through stronger interfaces across business units.

4. Leverage technology and process changes to optimize operations including:
   - Human Resource and Supply Chain processes.
   - Workforce Optimization, including scheduling and mobile work management.
   - A distribution management system to provide foundational capabilities to improve outage restoration, reduce distribution system losses and manage distributed energy resources.

5. Optimize our commodity budget through Energy Trading Risk Management efforts, including enhanced technology and real-time data analytics.

*Inflation trend based on Federal Reserve Inflation target and CPI trend. The additional 1.75% is intended to cover IRP investments and unforeseen, uncontrollable increases in operating costs.
### North Star point

**Financially Fit**

#### 2024 Goal

Maintain our credit ratings* while meeting or exceeding our financial metrics of:
- Target 150 days’ cash on hand.
- Fixed charge of 1.65 (cash to debt ratio).
- Positive net income.

#### 2020-2024 Outcomes

We are financially strong and flexible to make necessary and timely investments to remain competitive.

### 2020-2024 Priorities

1. Improve alignment of pricing with changing markets, costs and technology.
2. Focus on risk rationalization and balance in all investments to ensure risks are managed appropriately and in the most cost-effective way.
3. Ensure returns on business investments are defined, tracked and achieved.

### Examples of key initiatives

1. Continue to execute key financial strategies:
   - Long-term capital investments funding strategy.
   - Targeted strategies to manage debt and accelerate funding of liabilities such as retiree pension benefits, which has profound, positive long-term impacts for SMUD.
2. Evolve and deliver the Pricing Road Map to drive future pricing options and decisions, with a focus on helping our customers and stakeholders understand the way forward.
   - Develop a framework for a successor rate for the Net Energy Metering tariff, which better reflects the value of solar and solar-plus-storage and fairly recovers fixed costs.
3. Enhance load forecasting to reflect increasing complexity, including TOD, the growing number of DERs and economic development.
4. Optimize system and energy assets:
   - Participate in new energy markets such as the EIM and influence the development of the new day-ahead market.
   - Optimize DER investments to benefit customers and SMUD.
   - Increase the utilization, efficiency and value of our generation, transmission and distribution assets.
5. Prioritize and diversify our lines of business to grow net revenues by providing utility-related services to third parties and capitalizing on our intellectual property consistent with SMUD’s strategic priorities and financial and resource constraints.

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*Our credit ratings at January 1, 2020 are AA (Fitch), AA (Standard & Poor’s) and Aa3 (Moody’s).
North Star point

Sustainable Future

2024 Goal

Accomplish our Board-adopted carbon reduction goals.

2020-2024 Outcomes

We embrace a low carbon and sustainable future for all while balancing affordability, reliability and customer choice. We are committed to building sustainable communities.

2020-2024 Priorities

1. Increase building and transportation electrification.
2. Complete the Integrated Distributed Resource Plan (IDRP).
3. Enhance environmental equity through carbon reduction efforts.

Examples of key initiatives

2. Implement the DER strategies and ensure they align with the delivery of next-generation customer programs.
3. Participate in partnerships to improve regional sustainability and support SMUD’s strategic priorities, such as the California Mobility Center.
4. Optimize our all-electric program for residential and commercial property developments to meet our IRP goals within budget.
5. Optimize our electric transportation program to meet our IRP goals within budget.
6. New IRP projects:
   • Expansion of the Solano Wind resource.
   • Complete construction of Rancho Seco Solar (PV), Phase 2.
   • Plan and develop local utility-scale solar projects.
   • Meet our storage targets through investments that provide grid benefits and provide meaningful insights into customer and grid benefits associated with behind-the-meter storage.
In summary

By all conventional measuring sticks, SMUD is an A+ student. Our challenge is to decide where to invest our financial and people resources to maintain that A+ report card in a way that ensures we continue to be our customers’ first choice for all things energy-related, and recognize that every opportunity or issue doesn’t require a costly platinum solution. In an environment of constrained financial and people resources, prioritization is critical. In other words, we need to say yes to great ideas which optimize the achievement of our strategic priorities and no to great ideas which are either not directly aligned or don’t provide optimal value. Using innovation and a risk-based lens, we can be smart about creating right-sized solutions to deliver the intended benefits to our customers, community and employees within our new financial and resource constrained environment.

We enter the new decade in a strong financial position, with a bold and ambitious plan to tackle climate change, one of the most urgent challenges of our time. Our 2020-2024 Strategic Plan is our blueprint to align the organization on the key priorities to make sure we continue to deliver on the Board’s Strategic Directions, our commitments to customers while maintaining SMUD’s long-term financial viability. It balances the need to keep the lights on with investing smartly and selectively in the strategic priorities that will continue to move the business forward and secure our future.

Culture underpins everything we do at SMUD. We’re focused on and committed to creating a high-trust culture, which we know fosters communication, collaboration, accountability and innovation and drives better business results, including timely and effective decision-making – all things that will help ensure SMUD’s future is as bright as our past.

Our Strategic Plan is a living document; it must be in time of uncertainty and near constant change. The executive team will review it each year and revise it as necessary to meet new challenges and opportunities and reflect the progress we’ve made.

Our Enterprise Performance metrics set annual goals to help achieve our North Star and Strategic Plan goals. Our business unit operational plans and budgets detail the specific projects, programs, initiatives and resources to guide each of our day-to-day work to achieve our strategic goals.
Call to action

This Strategic Plan lays out an ambitious future for SMUD, our customers, community and employees. Take time to understand the Strategic Plan, our business drivers, evolving business model and our strategic priorities. Through your business unit and department planning process, your director will develop goals, priorities, projects, programs and initiatives that connect the work you do each day to the goals in our Strategic Plan.

Each of us has a role to play in ensuring SMUD’s future is as bright as our past. We must use our collective skills, talents, knowledge and strengths to achieve our vision and goals. It means we need to be open and committed to:

• Acquiring new skills.

• Collaborating effectively across the organization. It means consulting, meeting with and informing the right people to get the right input at the right time to make the right decisions for SMUD.

• Speaking up when work no longer delivers value.

• Caring more about SMUD’s future, our collective successes, our customers and community and our ability to serve than about our individual successes.

• Finding new and innovative ways to work more efficiently and streamline processes while maintaining or improving the quality of our work.
Strategic Directions

SMUD’s publicly-elected Board of Directors create Strategic Directions (SDs) which spell out our vision for the future, our role in the community and how we’re managed. The Board has adopted 19 SDs, which are grouped by subject, as follows:

**PURPOSE STATEMENT (Policy Number: 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 (Policy Number: 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.

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**Core values**

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

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**Key values**

- Economic Development (Policy Number SD-13)
- System Enhancement (Policy Number SD-14)
- Outreach and Communication (Policy Number SD-15)
- Diversified Business (Policy Number SD-19)
Glossary of terms

**Agile:** Is a philosophy or mindset for working. Agile emphasizes adaptation, embracing change, delivering value and quality early and often, empowered self-organizing teams and collaboration. Agile is typically associated with software development but has applications beyond technology.

**Behind the meter:** Refers to generation (such as rooftop solar), storage or energy-related solutions (such as smart thermostats) installed by the customer on their side of the meter for example, inside their home or business.

**Bundled products:** A group of products, services or information offered to customers to meet a specific need. For example, product bundles utilities would offer to young professionals renters would be different than those offered to fixed-income retirees who own their own home.

**Community Choice Aggregators (CCAs):** Are defined by legislation in California and a handful of other states as electric service providers, with members who are automatically enrolled. The legislation allows cities and counties — or groups of cities and counties — to supply electricity to customers within their borders. A CCA is an alternative to an investor-owned electricity service provider. Customers of the local investor-owned utility (IOU) are automatically enrolled in the new CCA although they can opt out and go back to their local IOU.

Unlike traditional electricity organizations, CCAs don’t own the transmission and distribution systems, which are still owned and run by their local IOU. CCAs are responsible for providing the energy to customers and the CCA may or may not own the generating resources.

**Classic utility cost of service pricing:** Utilities have traditionally priced their product — electricity — by adding up all costs to operate the business and serve customers. Newer pricing structures, such as system fixed infrastructure charges and TOD are designed to better reflect the cost of a particular part of providing power (such as transmission and distribution) or providing power at a specific time.

**Competitive retail environment:** Others will offer energy-related products, services and information to our customers.

**Demand management:** Utility mechanisms or programs that encourage customers to temporarily curtail their energy use to reduce overall demand on the electrical system at critical times, typically when electricity is in short supply and market prices are high.

**Distributed Energy Resources (DERs):** Electricity from DERs is generated or stored by a variety of small, grid-connected devices referred to as distributed energy resources. Traditional generation (such as hydro and gas-fired plants) is centralized and usually requires electricity to be transmitted over long distances. DER systems are decentralized, modular and more flexible technologies located close to the load they serve. Some examples include rooftop solar systems, energy storage, plug-in electric vehicles, demand response and energy efficiency.

**Energy Imbalance Market (EIM):** The California Independent System Operator’s (CAISO) EIM is an automated, real-time energy wholesale market that matches the lowest cost electricity supply with demand every 15 minutes and dispatches every 5 minutes. EIM participants must submit balanced load and resource schedules (including ramping ability) to the CAISO for each market cycle, using the EIM only for the last-minute unbalanced portion of load versus resources.
Human Performance Engineering: Is a multidisciplinary effort to generate and compile information about human capabilities and limitations and apply that information to equipment, systems, software, facilities, procedures, jobs, environments, training, staffing and personnel management to limit human errors and produce safe and effective human performance.

Knowledge capture and transfer: The process to acquire and transfer knowledge between outgoing and incoming employees, senior and junior employees and reassigned workers.

MW: Abbreviation for megawatt, or 1 million watts.

Tailboard: A brief safety talk or meeting, usually at the beginning of a shift or job.

Utility side of the meter: Refers to all the assets (generation transmission, distribution etc.) up to and including the meter that is owned and/or controlled by the utility.

Vertically-integrated utility: A utility, such as SMUD, that owns all levels of the supply chain: generation, transmission and distribution.