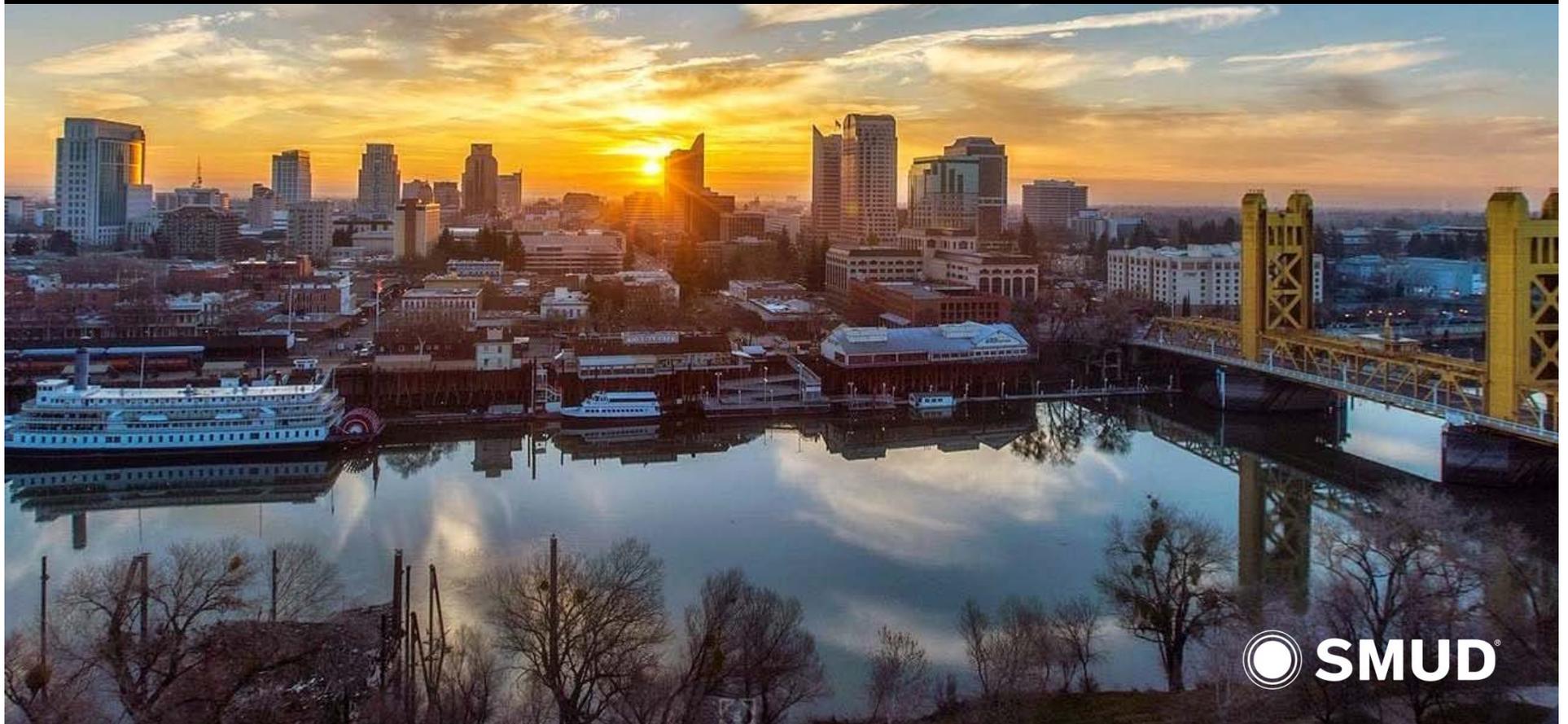


# Hawaiian Electric Advanced Rate Design Workshop

Jennifer Davidson  
SMUD Chief Financial Officer

July 15, 2019





## SMUD Overview



70+ years community owned, not for profit



Safe, reliable electricity at affordable rates



Elected 7-member Board of Directors  
628,000 accounts serving 1.5 million



Taking steps to reduce reliance on carbon-based fuels



900 Square foot district in Northern California serving the state's Capitol



# SMUD Board of Directors Sets Strategic Directions

The SMUD Board of Directors created 18 Strategic Directions to guide decisions we make about SMUD policies and operations.

## **PURPOSE STATEMENT**

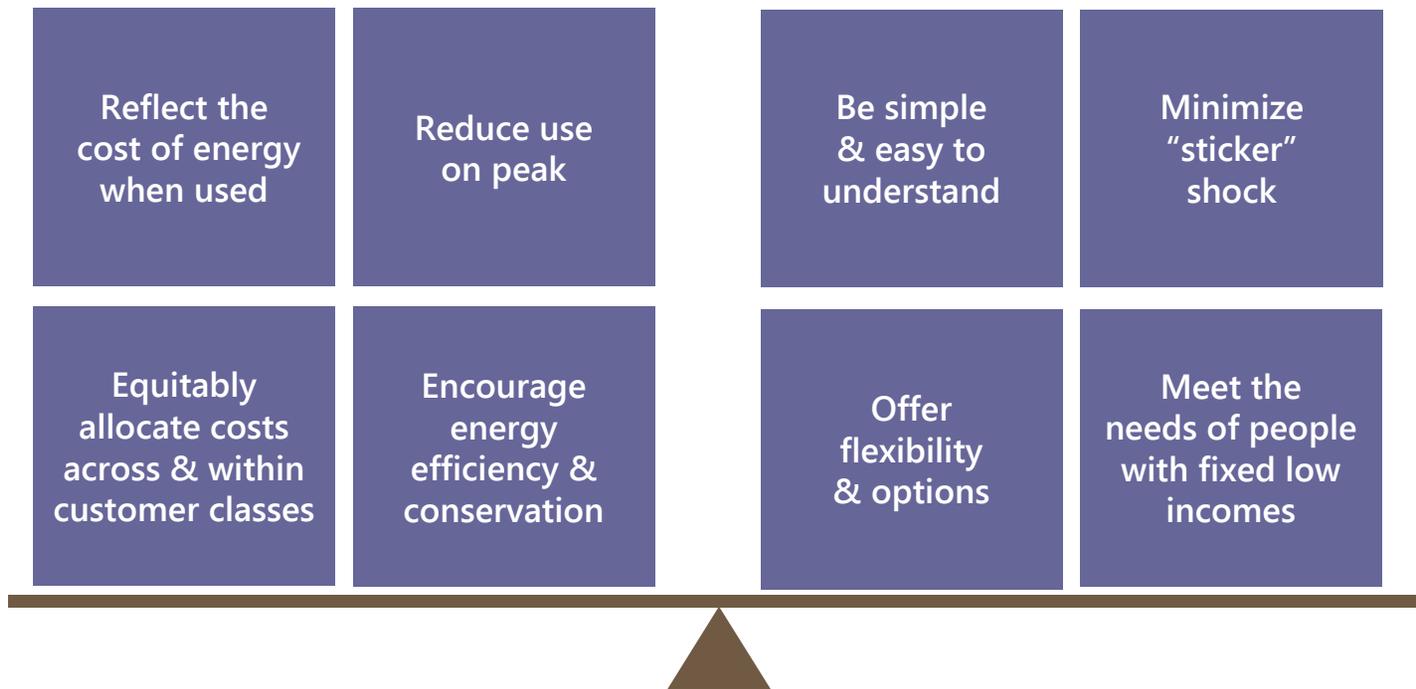
- Our purpose is to enhance the quality of life for our customers and community through creative energy solutions.

## **VISION STATEMENT**

- 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
    - enhance the vitality of our community
- 17 additional SDs- aspiration with natural friction between SDs
- Example: Reliability, Customer Relations, Environmental Leadership, Innovation, Enterprise Risk Management, and Economic Development

## Strategic Direction 2: Competitive Rates

**Maintaining competitive rates** is a core value of SMUD. In addition, SMUD rates shall be designed to balance and achieve the following goals:



As the business evolves and markets change, these principles guide SMUD's pricing changes

# Pricing As a Strategic Function

Pricing is the primary means to interact with majority of our customers.

**Previously:** Pricing was a back office function to ensure rates covered costs



**Now:**

Dynamic strategic function to support SMUD's long-term ability to deliver on vision and purpose

# Adopting Longer Term Outlook with a Rates Roadmap

- **Rate structure needs to evolve** with business and market changes
  - Urgency because gap currently exists between cost causation and revenue collection, and is quickly widening
  - Urgency because customers adopting DERs and non-adopters may have competing interests
- **Recognizing that pricing changes** can take multiple years for a utility to update, within two response time cadences:
  - behavioral based responses - take longer to enact but are lasting
  - technology based - can be enacted and responded to almost immediately
- **Rates need to be evolving** now with both a short and long-term vision and with an identified path to avoid more significant rate impacts and exacerbate cost shifting between parties

# SMUD's Rates Journey

## HISTORICAL ACTION

- **SmartPricing Options Pilot** (SPO) Residential pricing study with 12,000 participants to inform design of future tariff
  - 95% of participants reported they were satisfied with the new pricing plans
- **Flattening of Tiered Rates** from 3-tiered structure to flat rate before TOD
  - Results: pure TOD price signals
- **Increased residential monthly charge** from \$7.50 to \$20 per month
  - Results: increased recovery of fixed costs

## NOW

- **Overhauling low income rate** (Energy Assistance Program Rate or EAPR) to provide the greatest discount on a sliding scale based on Federal Poverty Level (FPL)
  - Results: greatest benefit to those most in need
- **TOD implemented** as a standard for residential customers
- **New commercial restructure**
- **Rate increase** in support of low carbon plan, wildfire mitigation, and technology

# A Deeper Dive

Direct Linkage Between Pricing  
&  
Achievement of SMUD's Strategies



# Strategy: Building Sustainable Communities

## Sustainable Communities Initiative

Enhancing Quality of Life for All Through Innovative Solutions

*“Addressing energy affordability can help break the cycle of poverty and improve economic development, educational achievement and public health.”* ACEEE, April 2016



“ 2006 – 2016: The Sacramento metropolitan statistical area ranks in the bottom-third of the 100 largest metro areas in composite rankings measuring improvements in growth, prosperity, and inclusion, 3 critical elements of regional economies that work for everybody. ”



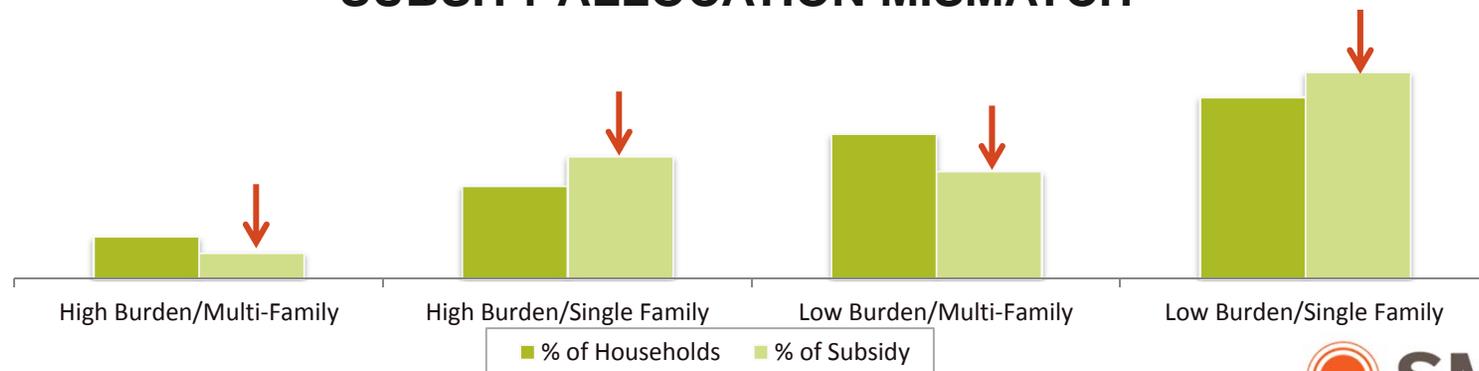
# Pricing Strategies – Sustainable Communities

- Economic Development Rate in 2018
- Higher discount applied to businesses that locate in disadvantaged communities
- Extended discount to business which add to a communities' place making
  - Education, art, entertainment, recreation, accommodations, food service, government and retail
- Greater Sacramento Economic Council (GSEC)

# Low Income Assistance Rate (EAPR) – Problem Statement

- The cost of EAPR subsidies has risen **324%**, while enrollments have only increased **131%** over the last 10 years
- 10% of EAPR customers continue to have unaffordable electric bill burdens, especially those in the lowest of poverty levels
- Providing the subsidy alone doesn't address the underlying issues of energy consumption
- TOU could potentially worsen electric bill burdens for low income customers, unless we provide targeted information, education and energy efficiency programs.

## SUBSIDY ALLOCATION MISMATCH



# Low Income Assistance EAPR Rate Restructured

- EAPR customers on TOD rate
- Energy bill discounts on a **sliding scale of need** using the Federal Poverty Level (FPL)
- 2016 – 2019: education and investment in energy efficiency
- **Feedback** response **to TOD** rates has been **most positive** from low income communities due to increased feeling of control of energy bill
- Energy Efficiency investments to **address root cause**, permanently reducing energy bill to offset reduction in subsidy

Monthly Maximum EAPR Discount			
FPL	2019	2020	2021
0 – 100%	\$50	\$60	\$70
100 – 150%	\$30	\$25	\$20
150% - 200%	\$30	\$20	\$10

# Sustainable Community Strategy Results



**100,000 +**

Customers reached through education, outreach and recruitment



**13,774**

Pilots, weatherization and mobile home installations including education



**\$878K**

Estimated bill savings 2016 to current

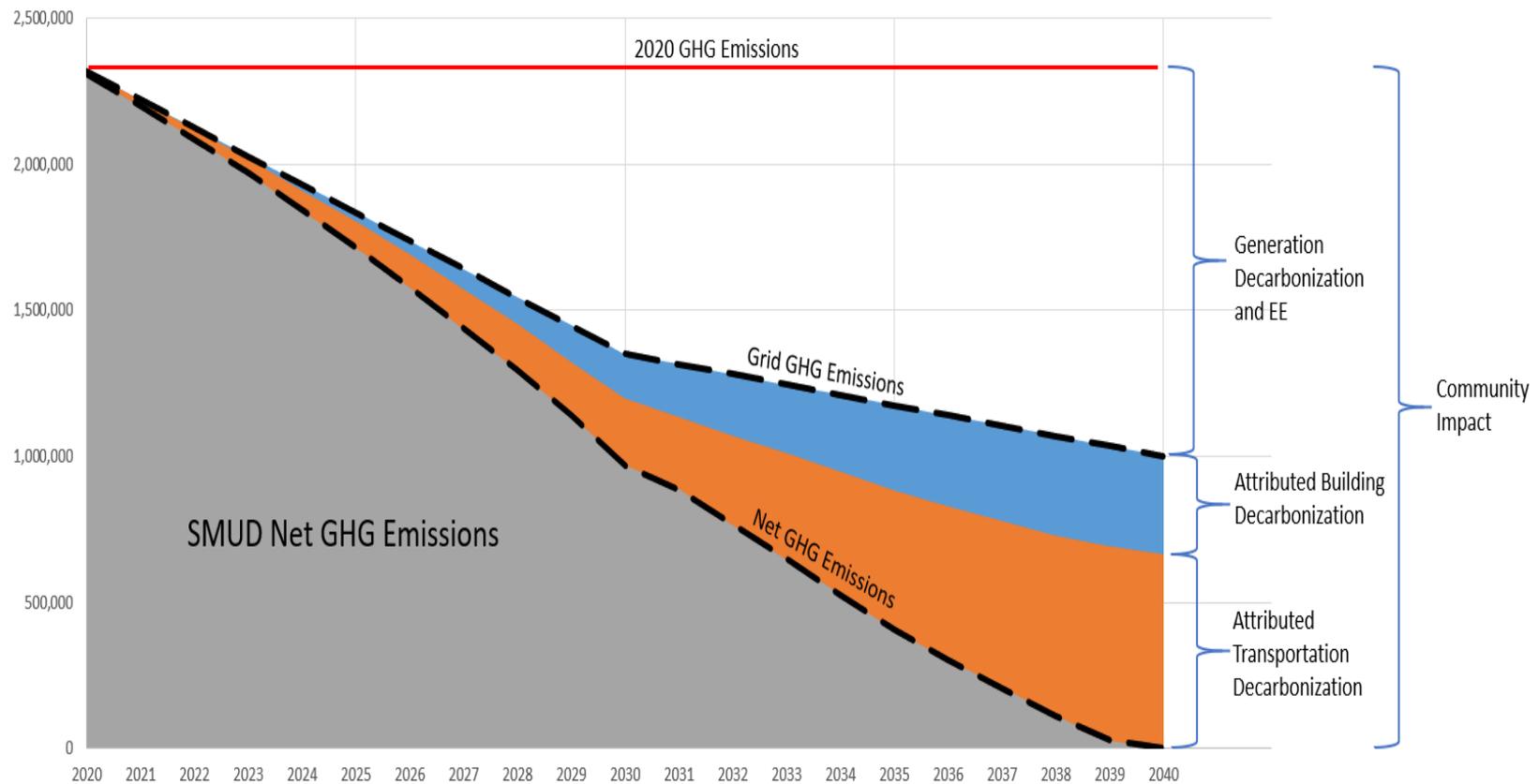


**6.7**

GWh savings since 2016

# Strategy: Net Zero Carbon Future

**SMUD Board adopted aggressive Integrated Resource Plan** with the strategic objective to establish long-term GHG reduction goals while balancing environmental leadership, cost and customer impacts, reliability and local benefits



# Pricing Strategies – Net Zero Carbon Goal

## Residential Customers

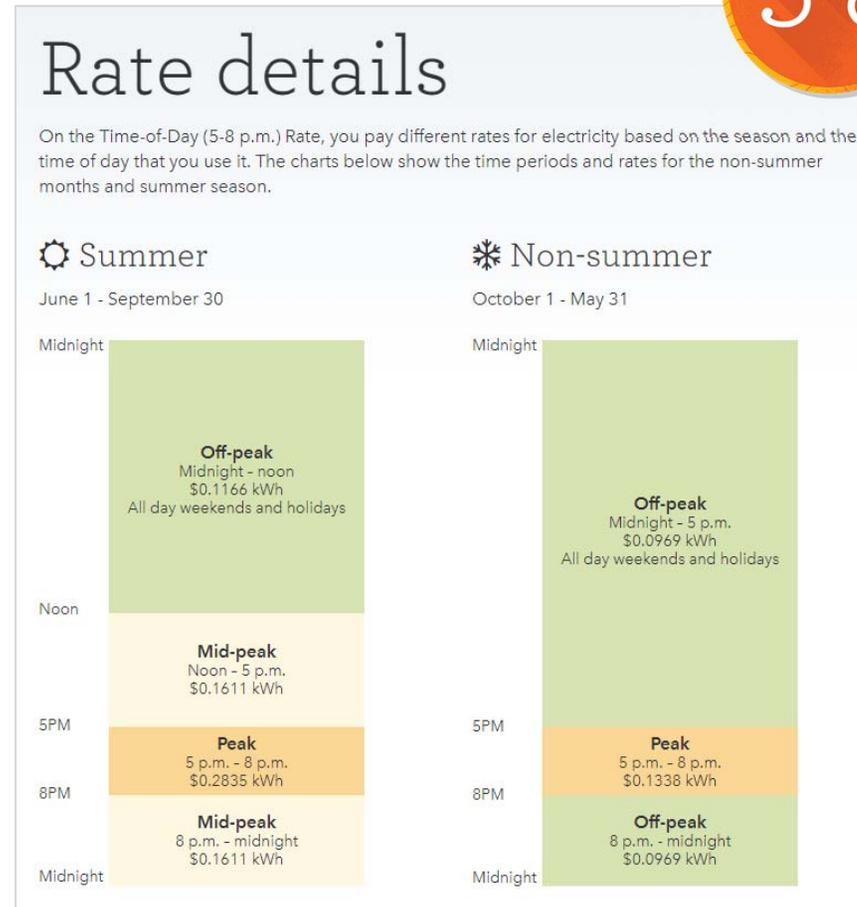
- Peak reduction and to reduce reliance on higher carbon emitting plants and higher commodity costs
- Transportation electrification and charging for optimized load shape
- Equitable costs sharing and fixed cost recovery
- NET Energy Metering Compensation
  - TOD pricing balancing complexity and appropriate compensation for over generation
  - Shifting of peak from 4-7pm to 5-8pm better reflect the value of solar in our price signals; 1 hour shift reduced value of solar by 2¢/kWh

# Energy Rate Restructured for Residential Customers

## Residential Time of Day (TOD)



- Default Standard Rate
- Alternate fixed rate priced higher to reflect indifference to price signal
- 99% adoption of TOD rate
- EV customers have additional 1.5¢ whole house discount from midnight to 6 am



# Pricing Strategies – Net Zero Carbon Goal

## Commercial Customers

- Commercial customers have larger energy bills so are more responsive to price signals and are more apt to be motivated by more complex rate designs
- Fairness between customers and customer classes; more reliably collect for fixed costs
- Price signals that distinguish between service level demand and coincident demand
- Staking middle ground as storage is still infancy and during transition, is easier to adjust in the future
- Not create price signal that drives behavior that favors the individual over the system
- Moving energy costs closer to generation costs to make electrification attractive
- Energy charges that target load shapes; targeted energy efficiency
- Optimize investments by SMUD and our customers

# Energy Rate Restructured for Commercial Customers

- 1. Increase the fixed charges and decrease energy charges** to be revenue neutral
- 2. Adjusted the time period** to reflect price of energy, encourage electrification, especially when generation source is low-cost renewables
  - Created new day-time off peak super saver rate for 8 non-summer months
- 3. Created consistency** across 10 commercial classes
  - Adjust Demand Charges (5 classes had increases; 2 classes had decreases; 3 classes had no change)
  - Added a Summer Peak Demand Charge to all but the smallest commercial customers
  - Reduced the energy charge
- 4. Created multi-year transition plan** to avoid rate shock

## One Last Note About the Importance of Programs

- Customer Programs and Rates are two biggest tools we have to drive market transformation
- Pilots to test tariffs
- Bridge to new program design to mitigate impact of pricing channels
  - EAPR restructure
  - Commercial restructure
- More responsive than tariff to rapid change to DERs and technology
- Facilitate small wins that over time become additive and compliment Pricing in achieving our strategies

# Rates Roadmap Next Steps



NEM successor  
rate and Fixed  
Cost Recovery

- SMUD desires least cost solution; though neutral on specific solutions
- Valuing the community over the individual
- Least total cost for the system

# Pricing Challenges and Opportunities

- **Provide visibility of price signals** so customers can understand the long term value proposition before making the investment to avoid misalignment between DER adopters and non-adopters
- **Embedded costs** (historical investments) greater than current marginal cost (cost to add 1 more customer)
- **Balance** between tangible, immediate benefits vs. intangible longer-term benefits
- **Maintaining SMUD's financial health** so we can harness the benefits of the energy revolution for all of our customers