

Board Policy Committee Meeting and Special SMUD Board of Directors Meeting

Date: Wednesday, September 8, 2021

Time: Scheduled to begin at 5:30 p.m.

Location: Virtual Meeting (online)

Powering forward. Together.



AGENDA BOARD POLICY COMMITTEE MEETING AND SPECIAL SMUD BOARD OF DIRECTORS MEETING

Wednesday, September 8, 2021

Scheduled to begin at 5:30 p.m.

Zoom Webinar Link: [Join SMUD Policy Committee Meeting Here](#)

Webinar ID: 161 948 8752

Password: 000297

Phone Dial-in Number: 1-669-254-5252

In accordance with the Governor's Executive Order N-29-20 and the Emergency Board Meeting Procedures adopted by the SMUD Board of Directors, the regular Board meeting and other public meetings are closed to the public to align with state, local, and federal guidelines and social distancing recommendations for the containment of the coronavirus.

Live video streams and indexed archives of meetings are available at:

http://smud.granicus.com/ViewPublisher.php?view_id=16

Members of the public may register to provide verbal comments at an upcoming Board or Committee meeting by emailing a request to speak to PublicComment@smud.org. Please include the date of the meeting, name, and topic or agenda item the requestor wishes to speak on. The request may also be submitted while the meeting is in progress during the standard time for the agenda item or topic. **Pre-registration is strongly encouraged by no later than 3:00 p.m. on the day of the meeting.**

Members of the public may provide written public comments on a specific agenda item or on items not on the agenda (general public comment) by submitting comments via e-mail. Comments may be submitted to PublicComment@smud.org and will be placed into the record of the meeting.

Members of the public that are listening to or watching the live stream of a Committee meeting and wish to comment on a specific agenda item as it is being heard may submit their comments, limited to 250 words or less, to PublicComment@smud.org, noting the agenda item number in the subject line. The Committee Chair may read comments for items on the agenda into the record, in her discretion, based upon such factors as the length of the agenda or the number of e-mail comments received. General public comment for items not on the agenda will not be read into the record but will be provided to the Board and placed into the record of the Board meeting if it is received within two hours after the meeting ends.

This Committee meeting is noticed as a joint meeting with the Board of Directors for compliance with the Brown Act. In order to preserve the function of the Committee as advisory to the Board, members of the Board may attend and participate in the discussions, but no Board action will be taken. The Policy Committee will review, discuss and provide the Committee's recommendation on the following:

DISCUSSION ITEMS

1. Patrick Durham Accept the monitoring report for **Strategic Direction SD-7, Environmental Leadership.**
Presentation: 15 minutes
Discussion: 15 minutes
2. Bryan Swann Accept the monitoring report for **Strategic Direction SD-9, Resource Planning.**
Presentation: 15 minutes
Discussion: 10 minutes
3. Rachel Huang Accept the monitoring report for **Strategic Direction SD-10, Innovation.**
Presentation: 15 minutes
Discussion: 15 minutes

INFORMATIONAL ITEMS

4. Nancy Bui-Thompson Board Work Plan.
Discussion: 5 minutes
5. Public Comment
6. Heidi Sanborn Summary of Committee Direction.
Discussion: 1 minute

Pursuant to Resolution No. 20-06-08 adopted on June 18, 2020, Emergency Board Meeting Procedures are in effect:

Members of the public may make either a general public comment or comment on a specific agenda item by submitting comments via email. Comments may be submitted to PublicComment@smud.org. Comments will be provided to the Board and placed into the record of the Committee meeting if it is received within two hours after the meeting ends.

Members of the public that are listening or watching the live stream of a Board meeting and wish to comment on a specific agenda item as it is being heard, may submit their comments, limited to 250 words or less, to

PublicComment@smud.org. The Board Committee Chair may read the comments into the record, in her discretion, based upon such factors as the length of the agenda or the number of email comments received. Comments will be provided to the Board and placed into the record of the Committee meeting if it is received within two hours after the meeting ends.

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submitted while the meeting is in progress during the standard time for the agenda item or topic.
Pre-registration is strongly encouraged by no later than 3:00 p.m. on the day of the meeting.

ADA Accessibility Procedures: Upon request, SMUD will generally provide appropriate aids and services leading to effective communication for qualified persons with disabilities so that they can participate equally in this virtual meeting. If you need a reasonable auxiliary aid or service for effective communication to participate, please email Toni.Stelling@smud.org, or contact by phone at (916) 732-7143, no later than 48 hours before this virtual meeting.

SSS No.

E,S,RES 21-06

BOARD AGENDA ITEM

STAFFING SUMMARY SHEET

Committee Meeting & Date

Policy –September 08, 2021

Board Meeting Date

Board -September 16, 2021

| | | | | | | | | | | | |
|--|-------------------|---|-----|---|-----------------------|----------|--|-------------------|-----|---|--|
| TO | | | | TO | | | | | | | |
| 1. | Frankie McDermott | | | 6. | | | | | | | |
| 2. | Stephen Clemons | | | 7. | | | | | | | |
| 3. | Jennifer Davidson | | | 8. | | | | | | | |
| 4. | | | | 9. | Legal | | | | | | |
| 5. | | | | 10. | CEO & General Manager | | | | | | |
| Consent Calendar | | X | Yes | No If no, schedule a dry run presentation. | | Budgeted | | X | Yes | No (If no, explain in Cost/Budgeted section.) | |
| FROM (IPR) Patrick Durham | | | | DEPARTMENT EDO - Env, Safety, and Real Estate Services | | | | MAIL STOP H201 | | EXT. 6327 | |
| DATE SENT 08/236/2021 | | | | | | | | | | | |
| NARRATIVE: | | | | | | | | | | | |
| <p>Requested Action: Accept the monitoring report for Strategic Direction SD-7, Environmental Leadership.</p> <p>Summary: The purpose of this meeting is to facilitate a discussion with the SMUD Board of Directors on Strategic Direction (SD) -7, Environmental Leadership. The presentation will briefly summarize SMUD's internal and external environmental programs and initiatives that promote environmental leadership.</p> <p>Board Policy: Strategic Direction 7 - (Environmental Leadership), Strategic Direction 9 - (Resource Planning), and Strategic Direction 10 - (Innovation)</p> <p>Benefits: Clarification of environmental leadership, as defined in Strategic Directions 7 and 9, to better guide SMUD Staff's interpretation and actions to fulfill these Directions.</p> <p>Cost/Budgeted: N/A</p> <p>Alternatives: Do not provide a report to the Board</p> <p>Affected Parties: SMUD</p> <p>Coordination: SMUD Environmental Services, Resource Planning, and Energy Strategy, Resource, & Development</p> <p>Presenter: Patrick Durham</p> | | | | | | | | | | | |

Additional Links:

SUBJECT

SD-7, Environmental Leadership Board Monitoring Report

ITEM NO. (FOR LEGAL USE ONLY)

ITEMS SUBMITTED AFTER DEADLINE WILL BE POSTPONED UNTIL NEXT MEETING.

SACRAMENTO MUNICIPAL UTILITY DISTRICT

OFFICE MEMORANDUM

TO: Board of Directors

DATE: August 31, 2021

FROM: Claire Rogers *CR 8/31/21*

**SUBJECT: Audit Report No. 28007342
Board Monitoring Report; SD-07: Environmental Leadership**

Audit and Quality Services (AQS) received the SD-07 *Environmental Leadership* 2020 Annual Board Monitoring Report and performed the following:

- A review of the information presented in the report to determine the possible existence of material misstatements;
- Interviews with report contributors and verification of the methodology used to prepare the monitoring report; and
- Validation of the reasonableness of a selection of the report's statements and assertions.

During the review, nothing came to AQS' attention that would suggest the SD Board Monitoring report did not fairly represent the source data available at the time of the review.

CC:

Paul Lau

Board Monitoring Report 2020

SD-7 Environmental Leadership



1. Background

Strategic Direction 7 ([SD-7](#)), Environmental Leadership states that:

Environmental leadership is a core value of SMUD. In achieving this directive, SMUD will:

- a. Conduct its business affairs and operations in a sustainable manner by continuously improving pollution prevention, minimizing environmental impacts, conserving resources, and promoting equity within SMUD's diverse communities.
- b. Provide leadership and innovation to improve air quality and reduce greenhouse gas emissions.
- c. Promote the efficient use of energy by our customers.
- d. Advance the electrification of vehicles, buildings, and equipment.
- e. Attract and build partnerships with customers, communities, policy makers, the private sector, and other stakeholders.

2. Executive Summary

SMUD's focus on environmental leadership is clearly evident in our 2030 Clean Energy Vision and Zero Carbon Plan, but it also includes transparent reporting of GHG emissions, natural resource stewardship and our concerted efforts to make all of our communities more sustainable. This report highlights some of the accomplishments SMUD achieved in 2020 to showcase our commitment to environmental leadership.

We are compliant with the five tenets of SD-7 and our successes include making CDP's (formerly known as the Carbon Disclosure Project) "A List" for tackling climate change, and incorporating environmental justice (EJ) into our California Environmental Quality Act (CEQA) process. A number of our staff and programs received distinguished recognition too, and our efforts are highlighted in the following Appendices: Appendix A (Examples of SMUD Efforts Supporting SD-7), Appendix B (2020 SD-7 Pamphlet), Appendix C (2015-2020 SMUD GHG Emissions Trends), Appendix D (Sustainable Communities), and Appendix E (Acronyms).

3. Additional Supporting Information

2030 Clean Energy Vision and Zero Carbon Plan

For decades, SMUD has been a leader in clean energy and carbon reduction. SMUD's goal is to eliminate carbon emissions from our power supply is more ambitious than the already aggressive state mandates and is ahead of virtually all other utilities in the United States. Our 2030 Zero Carbon Plan is a flexible road map to achieve our zero carbon goal while ensuring all customers and communities we serve reap the benefits of decarbonization.

Zero carbon emissions brings benefits not only globally, but also locally with reduced emissions GHG emissions, improving local air quality, job creation opportunities, and leadership move away from the use of fossil fuels.

Greenhouse Gas (GHG) Emissions

SMUD is a leader in addressing global climate change and is an active member of The Climate Registry (TCR). SMUD reports its third-party verified GHG emissions to the California Air Resources Board (CARB), TCR and CDP. Staff also reports sulfur hexafluoride (SF₆) emissions and aids with reporting GHG emissions from the Joint Power Authorities (JPAs) to the US Environmental Protection Agency (EPA).

For 2020, GHG emissions were approximately 1.925 million metric tons carbon dioxide equivalent (CO₂e)¹. This is an increase of about 229 thousand metric tons from 2019 emissions yet reflects an overall downward trend over the past six years (Appendix C). Fluctuations in total emissions year-to-year are primarily attributed to hydroelectricity production and natural gas contract rates. Lower hydroelectricity generation leads to higher utilization of SMUD's thermal power plants and increased purchased power leading to higher emissions. Over the past several years, SMUD's efforts to procure power from zero and low-emission sources (e.g., hydro, wind and solar) have resulted in a lower carbon footprint.

SMUD uses or supplements the use of biofuels at its thermal power plants to reduce our carbon compliance obligation and we generated approximately 189 gigawatt hours (GWh) of power from biofuels in 2020. Emissions from biofuels are typically considered "carbon-neutral" under several GHG reporting protocols including California's Cap-and-Trade Program.

CDP "A List"

SMUD was recognized for our leadership in corporate sustainability by global environmental non-profit CDP, securing a place on its prestigious ["A List"](#) for the first time. SMUD was recognized for its actions to cut emissions, mitigate climate risks, and develop the low-carbon economy based on reported data.

CDP's annual environmental disclosure and scoring process is widely recognized as the gold standard of corporate environmental transparency. SMUD is one of a small number of high-performing companies out of over 9,600 that were scored in 2020. Through significant demonstrable action on climate, SMUD is leading on environmental ambition, action, and transparency worldwide.

TCR Climate Registered™ Platinum Status

For the second year in a row, SMUD was awarded Climate Registered™ Platinum status by TCR, a non-profit organization which designs and operates voluntary and compliance GHG reporting programs. To date, SMUD has submitted over 10 years of verified inventories to TCR. Climate Registered™ Platinum level recognition is the second highest tier that can be achieved which SMUD earned by publicly reporting its

¹ The 2020 GHG emissions value represents emissions associated with delivering power to SMUD customers and does not include emissions associated with wholesales into the market. The 2020 emissions from wholesale power are approximately 0.327 million metric tons of CO₂.

third-party verified GHG emissions inventory for its operations in 2020, and by setting and disclosing its ambitious GHG reduction goals. GHG inventory data enables us to track the effectiveness of our climate initiatives and GHG reductions over time.

Notices of Violation (NOVs)

SMUD and its joint powers authority (JPA) contractor, EthosEnergy, strive to be good corporate citizens and responsible environmental stewards that comply with all local, state, and federal rules and regulations. In 2020, we received no NOVs or similar citations that include civil and/or criminal penalties.

California Mobility Center (CMC)

SMUD continued its leadership and support of the CMC by leveraging relationships with our Sustainable Communities partners who conducted outreach and job readiness training to prepare residents in underserved communities for stable, upwardly mobile careers. With SMUD's support, the CMC obtained grants worth over \$2M and is growing their workforce development efforts to reach even more community members, opening doors to emerging zero-carbon careers.

Sustainable Communities

To promote environmental equity as well as inclusive economic and community development, SMUD continues to focus community partnerships, programs, and neighborhood outreach activities in vulnerable and under-resourced communities through its Sustainable Communities program. SMUD has invested over \$5 million into this initiative, leveraging partnerships to increase positive impact in these areas of need. The goal is to ensure access to an inclusive clean energy future in the Sacramento Region regardless of zip code or socio-economic status by focusing on equitable access to mobility, a prosperous economy, a healthy environment, and social well-being as seen in Appendix D.

Environmental Justice and California Environmental Quality Act (CEQA) Process

SMUD now considers environmental justice (EJ) impacts as part of our CEQA review process. The EJ chapter identifies and addresses current environmental burdens and relevant socioeconomic characteristics using analysis from elsewhere in the CEQA document and from data sets within the [Sustainable Communities Resource Priorities Map](#) including [CalEnviroScreen](#). A project's potential to worsen existing adverse environmental and public health conditions is evaluated to determine if the project would negatively impact the local community. If so, community enhancements are proposed to lessen any negative impacts as part of our CEQA process.

Sacramento Tree Foundation (STF) Sacramento Shade Program

In 2020, the STF distributed 9,831 trees as part of its Sacramento Shade program serving 3,303 customers. A total of 829 of the trees were planted at public sites such as schools and parks, and 3,146 (32%) were planted in under-canopied communities to help resolve regional tree canopy inequity. The total carbon (stored in biomass and avoided) for these trees is estimated at 31,775.1 metric tons. To better understand issues related to tree planting and care, STF NeighborWoods organizers actively engage residents to help resolve tree planting impediments.

Wildfire Mitigation Plan (WMP)

SMUD's goal is to provide safe, reliable, environmentally sustainable, and economical electric service to its communities. SMUD constructs, maintains, and operates our electrical lines and equipment to minimize any risk of catastrophic wildfire. Our updated 2021 [WMP](#) describes the range of activities we are doing to mitigate the threat of power-line ignited wildfires, including various programs, policies and procedures. The WMP meets or exceeds the requirements of Public Utility Commission (PUC) section 8387 for publicly owned electric utilities and customers can find additional information at [Wildfire Safety](#).

Workflow Integration Program (WIP)

The WIP processed 261 planned overhead and underground electrical infrastructure projects in 2020. Avoidance and minimization measures (AMMs) were prescribed for 62 projects to reduce impacts on sensitive biological resources and the risk of NOV's. Field crews were given information on AMMs in their job packets, including descriptions of resources they could encounter, pre-construction survey requirements and the potential inclusion of biological and/or cultural monitors.

Environmental Leadership Recognition

Energy Strategy Research and Development project manager Joshua Rasin received a Technology Transfer Award from the Electric Power Research Institute (EPRI) for his work demonstrating the capacity and value of water heaters to support grid operation in low carbon future (2/20). The Energy StorageShare Program was recognized by Environment + Energy Leader, the California Municipal Utilities Association, and the Clean Energy States Alliance (2020). SMUD tied for first among national utilities for the JD Power Sustainability Index (7/20). Presented by Plug In America, SMUD received the 2020 Drive Electric Award as an outstanding utility for showing leadership and having significant impact on the adoption of electric vehicles (9/20).

Pollinator Support

SMUD is an active member of the Electric Power Research Institute's (EPRI) Power-in-Pollinators initiative which promotes and supports pollinator conservation among electric utilities. This partnership shares the latest scientific findings, case studies and tools to assist with the integration of pollinator-friendly practices into utility vegetation, facilities, and land management with the goal of restoring pollinator habitat and reversing species declines. We are partnering with the UC Davis Wild Energy Lab, EPRI and the Xerces Society to research pollinator-friendly native grasses and wildflowers, ecosystem health and soil carbon storage at Rancho Seco Solar II. We also plan to study the impacts of solar panel shading and soil moisture on milkweed establishment success as part of that larger research effort. We sent a letter to the U.S. Fish and Wildlife Service (USFWS) in support of the Candidate Conservation Agreement with Assurances (CCAA) program which encourages voluntary monarch butterfly habitat conservation. We are working with EPRI on a technical assessment of SMUD's landholdings for monarch butterfly habitat suitability and our website now includes [pollinator information](#). We regularly evaluate weed control alternatives in our Integrated Vegetation Management program and work to minimize the use of herbicides throughout our system. When feasible, we use goats and sheep to graze dry grass and brush in our

transmission corridors and other land holdings, reducing the need for herbicides and the risk of fires caused by mowing.

4. Challenges

The COVID-19 pandemic changed how we conduct business as our company and stakeholders pivoted to mostly remote workplaces. SMUD continues to experience challenges with federal, state, and local regulators as rules and regulations evolve, and some agencies are slow to issue permits due to a lack of resources. We expect delays to continue as many long-term agency employees retire and less experienced staff are left to manage changing policies. Additionally, we are actively supporting electric vehicle (EV) integration in our fleet (11.8% electric) as well as our region, which is challenging as technology changes quickly and we want to ensure EV adoption in all of the communities we serve.

We continue to expend considerable resources on numerous, complicated environmental remediation projects (e.g., Station E, the Former Community Linen site, 59th Street Reuse, Thornton Substation, and the North City Landfill Cap Design and Construction). Some of these efforts were additionally challenging due to regulatory changes made at the national level that do not consider California-specific factors.

We conduct monthly eagle injury and mortality monitoring at the Solano Wind Project in compliance with our 2019 Incidental Eagle Take Permit. With seven golden eagle fatalities, we are approaching the 12 eagle incidents authorized under the permit. We are coordinating with the U.S. Fish and Wildlife Service to develop and implement mitigation measures including operational changes to reduce the number of fatalities. We are also proposing to apply for a permit extension two years earlier than anticipated in order to avoid exceeding the number of authorized take.

5. Recommendation

It is recommended that the Board accept the Monitoring Report for SD-7, Environmental Leadership.

6. Appendices

- A. Examples of SMUD Efforts Supporting SD-7
- B. 2020 SD-7 Pamphlet
- C. 2015-2020 SMUD Greenhouse Gas Emissions Trends
- D. Sustainable Communities
- E. Glossary of Acronyms

Appendix A

Examples of SMUD Efforts Supporting Strategic Direction 7 (SD-7)

| SD-7 Requirement | Supporting Effort |
|--|---|
| A) SMUD will conduct its business affairs and operations in a sustainable manner by continuously improving pollution prevention, minimizing environmental impacts, conserving resources, and promoting equity within SMUD's diverse communities. | SMUD exceeds state and federal requirements for public outreach for both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA); Station E; 59 th Street; Former Community Linen; North City landfill closure; Workflow Integration; Wildfire Mitigation Plan; Partnership with Sacramento Tree Foundation (9831 trees distributed to customers in 2020 with 32% in disadvantaged communities); SMUD Green Team; Rancho Seco Solar II; Climate Resiliency planning; Environmentally Sustainable Purchasing Program (ESPP); Sustainable Communities; Pollinator Support; SD-5 (Customer Relations); SD-13 (Economic Development); SD-15 (Outreach and Communication); CA Clean Air Day. |
| B) SMUD will provide leadership and innovation to improve air quality and reduce greenhouse gas emissions. | 2030 Clean Energy Vision and Zero Carbon Plan; Third-party verified annual GHG reporting to the U.S. Environmental Protection Agency (EPA), California Air Resources Board (CARB), The Climate Registry (TCR) and CDP; GHG reduction efforts; Hydrogenation-Derived Renewable Diesel (HDDR); SF ₆ database pilot; SD-9 (Resource Planning); Integrated Resource Plan (IRP); SD-10 (Research and Development); Rancho Seco Solar II; ESPP; CA Clean Air Day. |
| C) SMUD will promote the efficient use of energy by our customers. | Greenenergy [®] ; SolarShares [®] ; Energy Assistance Program Rate (EAPR); home electricity reports; SMUD app; Incentives, rebates, and loans; web tools; educational opportunities for customers; BERCC Sustainability Series; SD-5 (Customer Relations); SD-13 (Economic Development); SD-15 (Outreach and Communication); Sustainable Communities program; Powerhouse Science Center. |
| D) SMUD will advance the electrification of vehicles, buildings, and equipment | California Mobility Center; Fleet Electrification; Building Electrification; Sustainable Communities program; Incentives, rebates, and loans. |
| E) SMUD will attract and build partnerships with customers, communities, policy makers, the private sector, and other stakeholders. | 111 Sustainable Communities partnerships; Electric Power Research Institute (EPRI); Electric Utility Industry Sustainable Supply Chain Alliance (EUISSCA); Partnership with Sacramento Tree Foundation (9831 trees distributed to customers in 2020 with 32% in disadvantaged communities). |

Appendix B SD-7 Summary Pamphlet

Greenhouse Gas (GHG) Emissions

SMUD is a leader in addressing global climate change and is an active member of The Climate Registry (TCR). SMUD reports its third-party verified GHG emissions to the California Air Resources Board (CARB), TCR and CDP (formerly the Carbon Disclosure Project). SMUD also reports SFA emissions and adds with reporting GHG emissions from the Joint Power Authority (JPA) to the US Environmental Protection Agency (EPA).

For 2020, GHG emissions were approximately 1,925 million metric tons carbon dioxide equivalent (MTCO₂e). This is an increase of about 229 thousand metric tons from 2019 emissions yet reflects an overall downward trend over the past six years (Appendix C). Fluctuations in total emissions year to year are primarily attributed to hydroelectricity production and natural gas contract rates. Lower hydroelectricity generation leads to higher utilization of SMUD's thermal power plants and increased purchased power leading to higher emissions. Over the past several years, SMUD's efforts to procure power from zero and low-emission sources (e.g., hydropower, wind and solar) have resulted in a lower carbon footprint.

SMUD burns biofuels at its thermal power plants to reduce our carbon compliance obligation and we generated approximately 180 gigawatt-hours (GWh) of power from biofuels in 2020. Emissions from biofuels are typically considered "carbon-neutral" under several GHG reporting protocols including California's Cap and Trade Program.

| Year | GHG Emissions (MTCO ₂ e) |
|------|-------------------------------------|
| 2018 | ~1,925 |
| 2019 | ~1,696 |
| 2020 | ~1,925 |

For questions concerning SMUD's environmental services programs, please contact Patrick Durham, Director of Environmental, Safety and Real Estate Services, at 916-732-6327.

SMUD

Environmental Leadership

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We are compliant with the five tenets of SD-7 and our successes include making CDP's formerly known as the Carbon Disclosure Project "A List" for tackling climate change, and incorporating environmental justice (EJ) into our California Environmental Quality Act (CEQA) process. A number of our staff and programs received distinguished recognition too.

CDP "A List"

SMUD was recognized for our leadership in corporate sustainability by global environmental non-profit CDP, securing a place on its prestigious "A List" for the first time. SMUD was recognized for its actions to cut emissions, mitigate climate risks, and develop the low-carbon economy based on reported data. CDP's annual environmental disclosure and scoring process is widely recognized as the gold standard of corporate environmental transparency. SMUD is one of a small number of high-performing companies out of over 1,800 that were scored in 2020. Through significant demonstrable action on climate, SMUD is leading on environmental ambition, action, and transparency worldwide.

**CDP
A LIST
2020
CLIMATE**

Powering Forward, Together.

SMUD

2030 Clean Energy Vision and Zero Carbon Plan

For decades, SMUD has been a leader in clean energy and carbon reduction. Our 2030 Clean Energy Vision continues the commitment with our goal to reach zero carbon emissions in our power supply by 2030. This goal puts the Sacramento Region on the map as an example to follow and a region where innovative, climate-friendly businesses want to be. Going zero carbon brings benefits not only globally, but also locally with job creation opportunities, and since reduced emissions improve local air quality and overall health. SMUD's goal to eliminate carbon emissions from our power supply is more ambitious than the already aggressive state mandates and is ahead of virtually all other utilities in the United States. Our 2030 Zero Carbon Plan is a flexible road map to achieve our zero carbon goal while ensuring all customers and communities see some step the benefits of decarbonization.

Sustainable Communities

To promote environmental equity as well as inclusive economic and community development, SMUD continues to focus community partnerships, programs, and neighborhood outreach activities in vulnerable and underserved communities through its Sustainable Communities program. SMUD has invested over \$5 million into this initiative, leveraging partnerships to increase positive impact in these areas of need. The goal is to ensure access to an inclusive clean energy future in the Sacramento Region regardless of zip code or socioeconomic status by focusing on equitable access to mobility, a prosperous economy, a healthy environment, and social well-being.

Environmental Justice and California Environmental Quality Act (CEQA) Process

SMUD now considers environmental justice (EJ) impacts as part of our CEQA review process. The EJ chapter identifies and addresses current environmental burdens and relevant socioeconomic characteristics using analysis from elsewhere in the CEQA document and from data sets within the Sustainable Communities Resource Priorities Map including Call-to-Action. A project's potential to worsen existing adverse environmental and public health conditions is evaluated to determine if the project would negatively impact the local community. If so, community enhancements are proposed to lessen any negative impacts as part of our CEQA process.

Pollinator Support

SMUD is an active member of the Electric Power Research Institute's (EPRI) Power-to-Pollinator initiative which promotes and supports pollinator conservation among electric utilities. This partnership shares the latest scientific findings, case studies and tools to assist with the integration of pollinator-friendly practices into utility vegetation, facilities, and land management with the goal of restoring pollinator habitat and reversing species declines. We are partnering with the UC Davis Wild (Energy Lab), EPRI and the Xerces Society to research pollinator-friendly native grasses and wildflowers, ecosystem health and soil carbon storage at Rancho Seco V. We also plan to study the impacts of solar panel shading and soil moisture on milkweed establishment success as part of that larger research effort. We sent a letter to the U.S. Fish and Wildlife Service in support of the Candidate Conservation Agreement with Assurances (CCA) program which encourages voluntary monarch butterfly habitat conservation. We are working with EPRI on a technical assessment of SMUD's landholdings for monarch butterfly habitat suitability and our website now includes pollinator information. We regularly evaluate weed control alternatives in our Integrated Vegetation Management program and work to minimize the use of herbicides throughout our system. When feasible, we use goats and sheep to graze dry grass and brush in our transmission corridors and other land holdings, reducing the need for herbicides and the risk of fires caused by mowing.

Sacramento Tree Foundation (STF) Sacramento Shade Program

In 2020, the STF distributed 9,831 trees as part of its Sacramento Shade program serving 3,303 customers. A total of 627 of the trees were planted at public sites such as schools and parks, and 3,146 (32%) were planted in underserved communities to help resolve regional tree canopy inequity. The total carbon stored in biomass and avoided for these trees is estimated at 31,773.1 metric tons. To better understand issues related to tree planting and care, STF Neighborhoods' organizers actively engage residents to help resolve tree planting impediments.

For the second year in a row, SMUD was awarded Climate Registry's Platinum status by TCR, a non-profit organization which designs and operates voluntary and compliance GHG reporting programs.

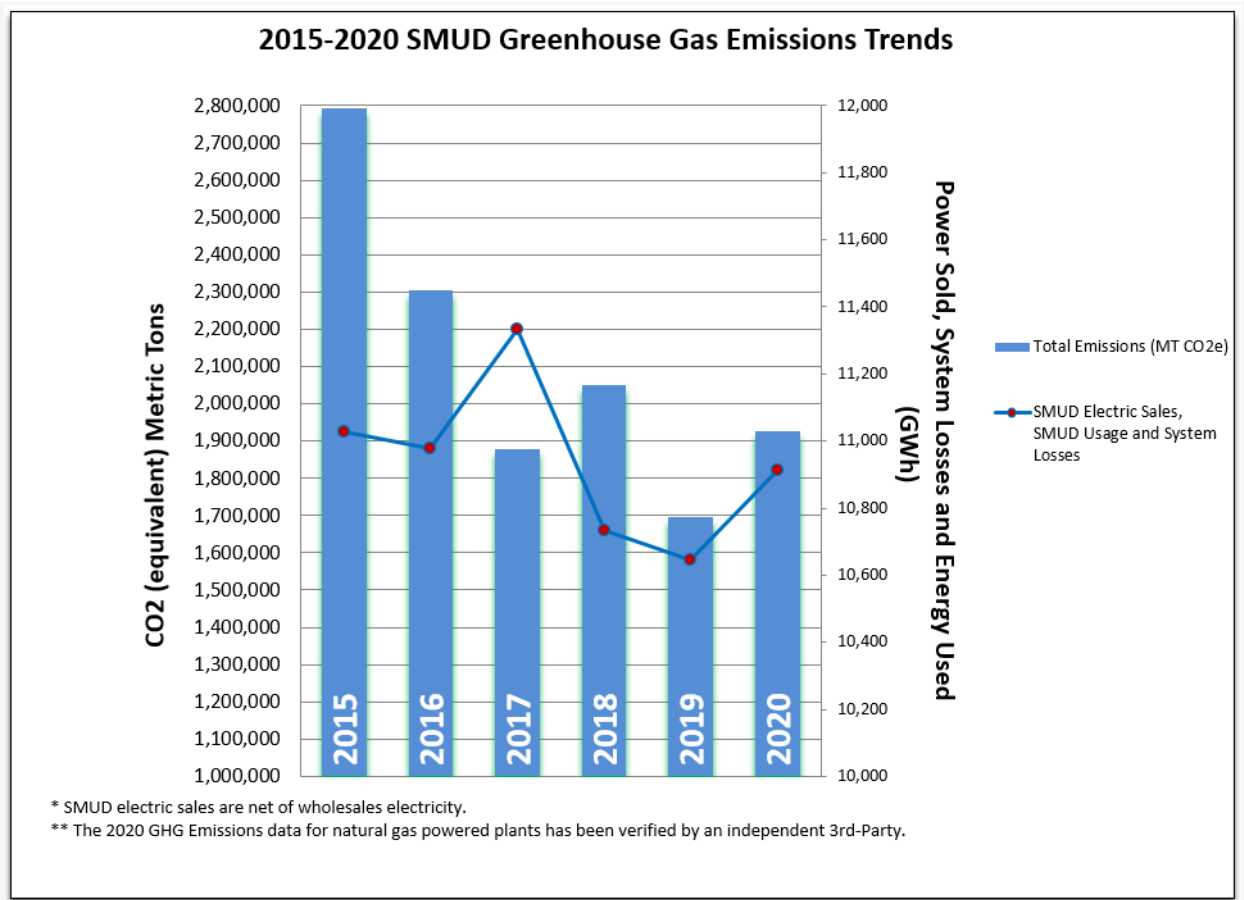
Environmental Leadership Recognition

Energy Strategy Research and Development project manager Joshua Beati received a Technology Transfer Award from the Electric Power Research Institute (EPRI) for his work demonstrating the capacity and value of water heaters to support grid operation in low carbon future (2/23). The Energy StorageShare Program was recognized by Environment + Energy Leader, the California Municipal Utilities Association, and the Clean Energy States Alliance (2020). SMUD tied for first among national utilities for the iD Power Sustainability Index (7/23). Powered by Plug In America, SMUD received the 2020 One Electric Award as an outstanding utility for showing leadership and having significant impact on the adoption of electric vehicles (9/23).

Notices of Violation (NOV)

SMUD and its joint powers authority (JPA) contractor, EbascoEnergy, strive to be good corporate citizens and responsible environmental stewards that comply with all local, state, and federal rules and regulations. In 2020, we received no NOV or similar citations that include civil and/or criminal penalties.

Appendix C²



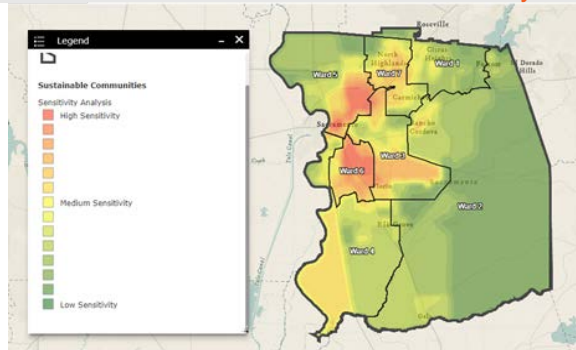
² Unlike SD-9, the emissions data in SD-7 is not normalized.

Appendix D

Sustainable Communities Deliverables and Accomplishments To-Date



SMUD's Sustainable Communities Priority Map



To deploy comprehensive resources for our communities most in need, we must align our region's investments toward the goal of creating and supporting healthy, vibrant, and economically sustainable neighborhoods. Our Sustainable Communities Resource Priorities Map is a result of SMUD's data-driven approach to geographically identify areas of inequity within the Sacramento region that highlight where future resources may be optimally utilized. This interactive map helps analyze current data to identify under-resourced and distressed areas in our region, driven by lack of community development, income, housing, employment opportunities, transportation, medical treatment, environmental sustainability mitigation, nutrition, education, and clean environment.

<https://sdgs.un.org/goals>

United Nations Environmental Justice Principles

Prioritize human health and quality of life

Do no further harm

Prioritize Environmental Justice Communities

Meaningful Community Engagement

Be Responsive

Be Accountable

Be Transparent

Engage in Proactive Partnerships

EV Chargers Reported in Sacramento County- Q3 2020

SMUD Thermal Generation - SCI Sensitivity Scores

Sustainable Communities Mapping and Metrics

Ensuring Equitable Outcomes

April 14, 2021

9

Board Energy Resources & Customer Services Committee and Special SMUD Board of Directors Meeting

<https://www.cdc.gov/climateandhealth/effects/default.htm>

Impact of Climate Change on Human Health

“Climate change challenges our commitment to achieve equity in health and wellbeing in California, as it deepens the need to take actions that reduce vulnerabilities and increase resilience to climate change in our communities.”

April 14, 2021

4

Board Energy Resources & Customer Services Committee and Special SMUD Board of Directors Meeting

Sacramento Region Inclusive Economic Conditions- 2018-2020 Sustainable Communities Outcomes

Racial Inclusion 31 (Improved 15 spots)

- Change in Employment gap46
- Change in median earnings gap25
- Change in relative poverty gap21

Geographic Inclusion 30 (Decreased 7 spots)

- Change in neighborhood employment gap8
- Change in median household gap8
- Change in neighborhood poverty gap21

Growth 34 (even)

- Change in Jobs 27
- Change in Gross Metropolitan Product80
- Change in jobs at young firms45

Prosperity 33 (Improved 1 spot)

- Change in Productivity 34
- Change in average annual wage30
- Change in standard of living37

Inclusion 15 (Improved 5 spots)

- Change in employment rates11
- Change in median earnings27
- Change in relative poverty rate 9

| 2020 Sacramento Region Economic Outcomes Post COVID19 (Brookings Institute March 2021) | |
|---|--------|
| COVID-19 cases | N/A |
| Jobs | -7.3% |
| Unemp. rate | +4.6% |
| Job postings | +9.7% |
| Air passengers | -61.2% |
| Work trips | -36.5% |
| Small biz hours | -34.3% |
| Small biz open | -27.7% |
| Active listings | -52.0% |
| Listing price | +19.8% |
| Commercial vacancies | +0.4% |
| Multifamily rent | +7.5% |

April 14, 2021

3

Board Energy Resources & Customer Services Committee and Special SMUD Board of Directors Meeting



Appendix E

List of Acronyms

| | |
|------------------------|---|
| AMM | Avoidance and Minimization Measure |
| BERC | Business Environmental Resource Center |
| CARB | California Air Resources Board |
| CCAA | Candidate Conservation Agreement with Assurances |
| CDP | Carbon Disclosure Project (formerly) |
| CEQA | California Environmental Quality Act |
| CMC | California Mobility Center |
| CO₂ | Carbon Dioxide |
| CO₂e | Carbon Dioxide Equivalent |
| EAPR | Energy Assistance Program Rate |
| EJ | Environmental Justice |
| EPA | Environmental Protection Agency |
| EPRI | Electric Power Research Institute |
| ESPP | Environmentally Sustainable Purchasing Program |
| EUISSCA | Electric Utility Industry Sustainable Supply Chain Alliance |
| EVs | Electric Vehicles |
| GHG | Greenhouse Gas |
| GWh | Gigawatt Hour |
| HDRD | Hydrogenation Derived Renewable Diesel |
| IRP | Integrated Resource Plan |
| JPA | Joint Power Authority |
| MT | Metric Tons |
| NEPA | National Environmental Policy Act |
| NOV | Notice of Violation |
| PUC | Public Utility Commission |
| SD | Strategic Direction |
| SEPA | Smart Electric Power Alliance |
| SF₆ | Sulfur Hexafluoride |
| SMUD | Sacramento Municipal Utility District |
| STF | Sacramento Tree Foundation |
| TCR | The Climate Registry |
| WIP | Workflow Integration Program |
| WMP | Wildfire Mitigation Plan |

SSS No.

RS 21-005

BOARD AGENDA ITEM

STAFFING SUMMARY SHEET

Committee Meeting & Date

Policy Committee; 09/08/2021

Board Meeting Date

09/16/2021

| TO | | | | TO | | | |
|---|--------------------------|------------|--|-----------------|----------------------------------|---|--------------|
| 1. | Bryan Swann | | | 6. | | | |
| 2. | Scott Martin | | | 7. | | | |
| 3. | Jennifer Davidson | | | 8. | | | |
| 4. | Stephen Clemons | | | 9. | Legal | | |
| 5. | | | | 10. | CEO & General Manager | | |
| Consent Calendar | | Yes | No <i>If no, schedule a dry run presentation.</i> | Budgeted | Yes | No <i>(If no, explain in Cost/Budgeted section.)</i> | |
| FROM (IPR) Sara Elsevier | | | DEPARTMENT Resource Strategy | | | MAIL STOP B205 | EXT. 5056 |
| DATE SENT 08/19/2021 | | | | | | | |
| NARRATIVE: | | | | | | | |
| Requested Action: Accept the monitoring report for Strategic Direction SD-9, Resource Planning. | | | | | | | |
| Summary: Annual SD-9 Resource Planning Monitoring Report | | | | | | | |
| Board Policy: Meets annual monitoring requirement for SD-9 (Resource Planning) and addresses SMUD's progress toward achieving 2030 Zero Carbon Plan, renewable portfolio standard (RPS), energy efficiency (EE), building electrification (EB), transportation electrification (TE), equity and sustainable communities, as well as carbon reduction goals. <i>(Number & Title)</i> | | | | | | | |
| Benefits: Provide a status report to the Board members on meeting 2030 Zero Carbon Plan, RPS, EE, EB, TE, equity and sustainable communities, and carbon reduction goals. | | | | | | | |
| Cost/Budgeted: NA | | | | | | | |
| Alternatives: NA | | | | | | | |
| Affected Parties: Customer Service, Legislative and Regulatory Affairs Customer Strategy, Risk Management, Resource & New Business Strategy, Communication, Marketing and Community Relations, Treasury, Legal, Energy Supply, Sustainable Communities, Customer Experience Delivery | | | | | | | |
| Coordination: Resource Strategy | | | | | | | |
| Presenter: Bryan Swann | | | | | | | |

Additional Links:

SUBJECT

Annual SD-9, Resource Planning Monitoring Report

ITEM NO. (FOR LEGAL USE ONLY)

ITEMS SUBMITTED AFTER DEADLINE WILL BE POSTPONED UNTIL NEXT MEETING.

SACRAMENTO MUNICIPAL UTILITY DISTRICT

OFFICE MEMORANDUM

TO: Board of Directors

DATE: August 31, 2021

FROM: Claire Rogers *CR 8/31/21*

**SUBJECT: Audit Report No. 28007343
Board Monitoring Report; SD-09: Resource Planning**

Audit and Quality Services (AQS) received the SD-09 *Resource Planning* 2021 Annual Board Monitoring Report and performed the following:

- A review of the information presented in the report to determine the possible existence of material misstatements;
- Interviews with report contributors and verification of the methodology used to prepare the monitoring report; and
- Validation of the reasonableness of a selection of the report's statements and assertions.

During the review, nothing came to AQS' attention that would suggest the SD Board Monitoring report did not fairly represent the source data available at the time of the review.

CC:

Paul Lau

Board Monitoring Report 2021

SD-9, Resource Planning



1. Background

It is a core value of SMUD to provide its customers and community with a sustainable power supply using an integrated resource planning process.

A sustainable power supply is one that reduces SMUD's greenhouse gas (GHG) emissions to serve retail customer load to Zero by 2030. Zero GHG emissions will be achieved through investments in energy efficiency, clean distributed energy resources, renewables portfolio standard (RPS) eligible renewables, energy storage, large hydroelectric generation, clean and emissions free fuels, and new technologies and business models. Additionally, SMUD will continue pursuing GHG savings through vehicle, building and equipment electrification. SMUD shall assure reliability of the system, minimize environmental impacts on land, habitat, water and air quality, and maintain competitive rates relative to other California electricity providers.

To guide SMUD in its resource evaluation and investment, the Board sets the following energy supply goal:

| Year | Greenhouse Gas Emissions (metric tons) |
|---------------|---|
| 2020 | 2,318,000 |
| 2030 - beyond | 0 |

In keeping with this policy, SMUD shall also achieve the following:

- a) Pursue energy efficiency and electrification to reduce carbon emissions by 365,000 metric tons from buildings and 1,000,000 metric tons from transportation in 2030 (the equivalent of 112,000 single family homes and 288,000 passenger vehicles electrified).
- b) Procure renewable resources to meet or exceed the state's mandate of 33% of SMUD's retail sales by 2020, 44% by 2024, 52% by 2027, and 60% of its retail sales by 2030 and thereafter, excluding additional renewable energy acquired for certain customer programs.
- c) In meeting GHG reduction goals, SMUD shall:
 1. Emphasize local and regional benefits.
 2. Improve equity for under-served communities.
- d) Explore, develop, and demonstrate emerging GHG-free technologies and business models.
- e) Promote cost effective, clean distributed generation through SMUD programs.

2. Executive Summary

SMUD's integrated resource planning process informs long-term strategic development by the various business units within SMUD, and efforts are made to balance reliability, sustainability, environmental, financial, and customer objectives while achieving SD-9 goals.

In 2020, SMUD's Board took two actions related to our SD-9 Goals. SMUD's Board (1) updated the SD-9 energy efficiency goal to a carbon-based metric and established building-electrification goals and (2) adopted a Climate Emergency Resolution that calls on the Board to work towards carbon neutrality by 2030. In 2021, the Board further revised our SD-9 targets and put us on a path to eliminate GHGs from our power supply by 2030.

In April 2021, SMUD's Board adopted our 2030 Zero Carbon Plan, our road map to eliminating carbon emissions from our electricity production by 2030. Under this plan, we're working to eliminate GHG

emissions from our power plants, develop new distributed energy resource business models, research emerging grid-scale carbon free technologies, and expand our investments in proven clean technologies. We have made progress implementing this plan including undertaking new studies, studying new zero carbon resources, and piloting new programs.

In 2020, our normalized GHG emissions were 1.77 million metric tons (MMt), which continues to be below our 2020 goal. We also met our 2020 RPS target of 33% renewables by 2020. As this report demonstrates, **in 2020, SMUD was in compliance with each of the goals for the year established in SD-9.**

3. Additional Supporting Information

A. Implementation of our 2030 Zero Carbon Plan

Our 2030 Zero Carbon Plan is our road map to eliminating carbon emissions from our electricity supply by 2030 while maintaining reliable and affordable service and partnering with our customers, communities, and a wide range of stakeholders on this journey. This plan calls for eliminating GHGs from our power plants and expanding our investments in proven clean technologies. Below, is a discussion of our current carbon footprint as well as an update on the near-term actions we're taking to implement our 2030 Zero Carbon Plan; for more detailed project information, see Appendix C.

As shown in Table 1, SMUD's adjusted GHG footprint in 2020 was 1.777 MMt, lower than our 2020 target of 2.318 MMt. SMUD's main sources of GHG emissions were from SMUD's thermal power plants and market purchases.

Table 1: 2020 SD-9 Carbon Footprint & Near-term Targets

| Source | Net Power (GWh) | CO2e Emissions (1000 t) ¹ |
|--|-----------------|--------------------------------------|
| Net Generation and Power Purchases | 12,331 | 2,252 |
| Wholesale | (1,417) | (327) |
| SMUD Electric Sales, SMUD Usage and System Losses | 10,914 | 1,925 |
| Adjustment for Normal Load | | (34) |
| Adjustment for Normal Wind and Hydro | | (108) |
| REC Banking Adjustment | | (7) |
| SMUD Normalized Total (estimate) | | 1,777 |
| 2020 Target | | 2,318 |

Expanding our Sustainable Power Supply; Local and Regional Benefits

We're focused on reimagining our generation portfolio through retirement or retooling of 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.

Natural Gas Generation

Currently, our natural gas-fired thermal power plants are economic and reliable sources of both energy and non-energy services to the system, but are our largest source of GHGs. Moving forward,

¹ Based on SMUD's internal accounting and represent best estimates available. The thermal power plant emissions, SMUD's largest source of emissions, have been independently verified. Biogenic emissions are excluded as they are part of the natural carbon cycle.

we're considering what role these units could play in our zero carbon future and we are on track with our year one implementation priorities.

- We are performing detailed studies of reliability and the impacts of retiring McClellan and Campbell; infrastructure planning and reliability studies are also underway. These studies are on schedule.
- We are conducting industry outreach, have begun preliminary research on the Allam-Fetvedt Cycle² and are expanding our understanding of clean fuels that could be viable alternatives as we transition away from natural gas. Additionally, we're probing long duration energy storage options and are further exploring hydrogen as part of the DOE's H2 Blend Collaborative Partnership Grant.

Proven Clean Technologies and Zero Emission Resource Development

Acquisition of additional proven clean technologies, such as renewables, batteries, and hydroelectric power will further help reduce and ultimately eliminate our GHG emissions. Staff continue to conduct procurement efforts, cultivate new resource development, and implement new ideas. In 2020, we added over 180 MW of renewables and have over 1,000 MW of new renewables and storage in the pipeline for development to serve our customers due online in the coming years.

Although our goals are more ambitious than already aggressive state mandates, we continue to implement a renewable energy strategy that fulfills state RPS requirements and gives our customers the choice to further reduce their emissions with renewable energy products. SMUD achieved our 2020 RPS target by providing 33% of retail sales with renewables and are on path to achieving the next RPS statutory requirement of 44% RPS in 2024.

We continue to be a leader in the nation by offering our customers renewable pricing choices. Last year SMUD delivered 1,271 GWhs, 12.5% of retail sales, to customers participating in Greenergy and SolarShares. Our Greenergy program served more than 74,000 residential and commercial participants with 950 GWh and our Large Commercial SolarShares program met program expectations, delivering 321 GWhs to customers. Our Neighborhood SolarShares project, approved by the CEC in early 2020, will be served entirely from solar resources within SMUD's service territory. The first of those resources, Wildflower (13 MW), came online in December 2020.

We are on track with our year one 2030 Zero Carbon Plan implementation priorities in this area.

- Locational analysis, system impact studies, and economic valuation work are ongoing
- The team is exploring and evaluating delivery options for out-of-area renewables.
- The process to develop and issue competitive solicitation for new proven clean technology projects is ongoing; we are assessing need for new resources in the 2024-2027 timeframe.

New Technology and Business Models

Using proven clean technology, we expect to be able to reduce our carbon emissions by 90% without compromising reliability or our low rates. To eliminate the last 10%, we'll need to explore, develop, and demonstrate new technologies. As part of our 2030 Zero Carbon Plan, we are on track with our year one implementation priorities in this area.

- Perform information technology system upgrades to enable DERs and VPPs – this work is ongoing, anticipated completion in early 2022.

² A process that involves burning fossil fuel with oxygen instead of air to generate electricity without emitting any carbon dioxide

- Work integrating DERs in operations, distribution and the grid planning process is ongoing and will evolve based on our experience with our new load flexibility pilots.
- To support our load flexibility efforts, we're preparing to launch a portfolio of pilots, including behavioral, multi-DER, and storage virtual power plant, and are working to expand our EV managed charging and vehicle-to-grid demonstrations. Our residential Multi-DER Virtual Power Plant, which will launch in 2021 and a residential NextGen 2-way A/C load control switch program, is expected to be launched within the next couple years.

We continue to fund research and development efforts and to look for grants for clean energy and GHG reduction projects. Finally, recognizing the importance of equity, we will continue to prioritize under-resourced communities to help reduce the energy bill burdens of our low-income customers while ensuring equity in our program offerings.

Improving Equity through Workforce Development in Under-Resourced Communities

SMUD's carbon reduction actions help reduce climate change, but our work is about more than that. We are staying true to our roots—as a community-owned organization, implementation of our 2030 Zero Carbon Plan will deliver wide-reaching benefits to our community, including expanded workforce development program offerings, while focusing on equity and strengthening our communities—one SMUD, one Sacramento.

- SMUD has partnered with the California Mobility Center (CMC) and community-based organizations (La Familia Counseling Center, Inc., Asian Resources, Inc., and Greater Sacramento Urban League) to provide job readiness and technical training to over 300 community participants to prepare them for careers in the clean mobility sector.
- Additionally, SMUD and its Promise Zone partners graduated 25 students from the inaugural "Energy Career Pathways" solar training class. SMUD and its partners continue to work with graduates on job placement, with a total of 12 placements to date. After a short hiatus due to COVID-19 restrictions, SMUD restarted an expanded program in 2021 with a new partner, Grid Alternatives, which expects to graduate 100 participants in the program.

B. Energy Efficiency and Electrification Goals

Energy Efficiency and Building and Vehicle Electrification

The Building Energy Efficiency portfolio includes offerings for residential retailer incentives, residential customer rebates, commercial builder incentives, and commercial customer rebates. The Building Electrification portfolio includes offerings for gas-to-electric conversions of water heating equipment, space heating equipment, and cooktops delivered through residential new construction, whole house retrofits, and prescriptive equipment rebates. In 2020, our energy efficiency and building electrification programs reduced emissions by 25,786 tCO₂[Civic Carbon].³ By 2030, our goal is to have these programs reduce emissions by 365,000 MT in 2030, the equivalent of 112,000 single family homes. We are on track to meet this goal. We are on track to reduce carbon emissions by 365,000 metric tons from buildings in 2030.

³ The DER Cost Effectiveness Tool evaluates and accounts for DER program effectiveness on achieving our prior 2040 Net Zero goal. This estimate is the 2020 gross annual emissions impact. It is a measure of the carbon reduced from measures, programs, and the DER portfolio. It is reported in each year the "measure" is installed on the grid and within its useful life. The tool will be updated to reflect our current 2030 Zero Carbon Vision so the 2020 carbon emission impact from this report should be considered draft and will be revised for the next monitoring report.

SMUD's Transportation Electrification portfolio includes offerings in residential vehicle incentives, dealership incentives, residential outreach, commercial charger incentives, and commercial vehicle incentives. At the end of 2020, we had 17,977 EVs registered within SMUD's service territory, an increase of 4,821 registered vehicles and an estimated CO2 reduction of 22,300 metric tons. 16,179 are residentially registered EVs. We are on track to pursue transportation electrification to reduce carbon emissions by 1,000,000 metric tons from transportation in 2030.

C. Promote Cost Effective Clean Distributed Generation and Storage

SD-9 requires that SMUD develop programs to promote cost effective, clean distributed generation. The following describes progress in 2020 and alignment with our 2030 Zero Carbon Plan.

Flexible Demand

Our flexible demand programs seek to optimize operation of our customer-partner's equipment and distributed energy resources while balancing customer-partner and grid needs as well as compensating customers for the energy they supply into SMUD's grid for use by other customers. In past, DERs have mainly focused on rooftop solar and heating/cooling technologies, but now include EVs, water heaters, solar panels with smart inverters, batteries, and more.

With our PowerDirect program, commercial customers were notified six times to curtail load; average load reduction of 2.06 MW to 9.56 MW across the duration of the events.⁴ Under our temperature dependent rates, two commercial customers were notified three times during the summer, 13.55 to 15.46 MW of load reduction.⁵ Finally, Peak Corps provides about 59 MW of resource adequacy capacity and remains an operational resource to be used in case of an emergency. Our dispatchable programs provide an expected load shed range of 53.5 to 79.5 MW; our non-dispatchable programs provide between 0 and 15.5 MW of expected load shed.

As part of our load flexibility programs, we offer time-of-day rates, which give the majority of our customers more time on the lower priced non-summer seasonal rate. In 2020, the TOD rate program exceeded our expectations, providing vital reductions in our peak load, carbon emissions and commodity costs. For more details, please see Appendix C.

As part of our 2030 Zero Carbon Plan, pilot programs aimed at flexible energy use will allow customers to reduce their energy usage and bills at times when grid stress is the highest.

Clean Distributed Generation and Storage

In 2020, we had over 34,000 customer-sited PV installations in SMUD's service territory. 35 MW of customer sited solar PV was installed and 3.17 MW of customer-sited energy storage projects were installed or in progress, 2.96 MW in residential and 0.206 MW in commercial. In addition, we procured a 4.4 MW SMUD owned utility-scale battery.

4. Challenges

There were no notable challenges to meeting the goals in SD-9.

5. Recommendation

It is recommended that the Board accept the Monitoring Report for SD-9.

⁴ NERC WebDADs report

⁵ NERC WebDADs report

Appendix A – SD-9 History

SD-9 was established by SMUD's Board in 2004 and provides direction for SMUD's ongoing environmental leadership and the use of an IRP process to achieve these directives while balancing environmental goals with financial and customer rate impacts and reliability requirements. SMUD's strategic directions have evolved as markets, policies and laws have changed.

In December 2008, the Board added sustainable power supply as the overall objective of the integrated resource planning process and set a GHG emissions target. In 2018 the Board updated our greenhouse gas reduction goals to include a 2040 Net Zero GHG goal. In 2020, the Board amended SD-9 to adopt carbon-based targets for energy efficiency and building electrification. This change represents the first time a major utility has used carbon as its efficiency tracking metric, and was done to better align our energy efficiency and electrification programs as well as to align both of those programs with our evolving energy supply picture.

In April 2021, the Board adopted Resolution No. 21-04-04 which updated the SD-9 direction to align with our 2030 goal of 0 MT GHG emissions in our energy supply by 2030, as put forth in our *2030 Zero Carbon Plan*. SMUD has embarked on a path to zero carbon by 2030, focusing on zero carbon resource acquisition and new renewable energy contracts, expanding on customer programs for energy efficiency and building and transportation electrification, developing new voluntary customer programs, and researching emerging clean energy technology. Under SD-9, SMUD's goal is the reduction of long-term GHG emissions for serving retail load from its current state to zero carbon by 2030, more aggressive than California's goal of 20% of 1990 emissions by 2050.

Appendix B – Methodology Discussion

Normalization Adjustments

Emissions adjustments to the actual footprint include a *decrease* to account for higher than expected energy usage by SMUD customers, a *decrease* to account for lower than expected hydro production, an *increase* to account for higher than expected wind production and a *decrease* for using banked renewable energy credits (RECs). In 2020, SMUD strategically utilized banked RECs to achieve RPS mandates as additional large renewable projects are developed. In previous years, SMUD procured more renewable energy than required and received credits for future use. These credits were saved or banked in accordance with RPS rules. Using these banked RECs lowers SMUD's normalized emissions because any emissions impacts were realized at an earlier date.

Renewable Portfolio Standard (RPS)

State law requires SMUD procure renewable generation of at least 33% of retail sales by December 31, 2020 and 60% by 2030 as well as interim targets be achieved over compliance periods⁶. In 2020, we achieved our and the State's RPS target with 3,200 GWh of eligible RECs.

Appendix C – Detailed Project Descriptions

Sustainable Communities

Implementation of our 2030 Zero Carbon Plan will deliver wide-reaching benefits to our community while focusing on equity and strengthening our communities.

⁶ Senate Bill 100 (De León, Chapter 312, Statutes of 2018) increased RPS targets to 44% by the end of 2024, 52% by the end of 2027, 60% by the end of 2030 and sets a statewide retail sales goal of 100% RPS eligible and zero-carbon resources by 2045.

- Transportation Electrification. SMUD is dedicated to partnering with the community to expand eMobility Hubs throughout our region, which will be strategically located at sites in under-resourced communities. These Hubs will include various modes of transportation such as public transit, micro mobility, shared mobility, ride hail, taxi services, community electric vehicles, public EV charging stations, etc. Additionally, EV programs will be expanded to assist customers that own or lease an electric vehicle to charge at home by providing low cost or free EV charging infrastructure for income eligible customers and expertise on home charging solutions. We also have incentive funds available to expand EV charging infrastructure at public locations, multifamily properties and affordable housing sites.
- Load Flexibility. SMUD will work to ensure that all customers can participate in the portfolio of load flexibility pilots launching in 2021 and 2022. These pilots are necessary to meet our 2030 zero carbon goal, yet they can sometimes require costly technology like a smart thermostat, electric vehicle, or battery storage system to participate. SMUD will continue to explore ways in which our load flexibility pilots can be more inclusive despite this barrier. Examples surfaced to date include integrating load flexibility program enrollment into our existing low-income weatherization program, which already provides a no-cost smart thermostat in most cases. Another example would be creating a no-cost technology installation pathway for low-income homeowners or renters to participate in our virtual power plant with their heating/cooling system.
- Building Electrification and Energy Efficiency. To support SMUD's equity efforts as part of the 2030 Zero Carbon Plan, SMUD will continue expansion of its existing efforts to provide no-cost energy retrofit installations to income eligible residential customers for both gas-to-electric conversions and electric-to-electric upgrades. Available project measures include electric heat pump water heaters, electric heat pump HVAC units, seal and insulate projects, and panel upgrades. In addition, SMUD will continue to provide a low-income incentive premium for projects within SMUD's Multifamily retrofit program that meet affordable housing criteria

Our Sustainable Communities Workforce Development efforts partner with organizations to reach into our community to understand the challenges that residents face in pursuing good-paying careers.

- SMUD and its Promise Zone partners graduated 25 students from the inaugural "Energy Career Pathways" solar training class. The class recruited participants from underserved communities and helped them access high-paying solar jobs by demonstrating proficiency in the areas of energy industry knowledge, solar installation and the social, teamwork, and safety skills needed to be successful in the workforce. Despite the challenges presented by the onset of the COVID-19 pandemic, several students were hired-on by solar companies immediately upon graduating. SMUD and its partners continue to work with graduates on job placement, with a total of 12 placements to date. As part of the program, trainees installed two solar trees each at The Greater Sacramento Urban League and the Simmons Community Center. The installation of these solar trees not only serves to beautify our community and help to promote renewable energy, but they also provide class participants with hands-on experience building solar structures. After a short hiatus due to COVID-19 restrictions, SMUD restarted an expanded program in 2021 with a new partner, Grid Alternatives, which expects to graduate 100 participants in the program.
- SMUD is partnering with the California Mobility Center and community-based organizations (La Familia Counseling Center, Inc., Asian Resources, Inc., and Greater Sacramento Urban League) to provide job readiness and technical training to over 300 community participants to prepare them for careers in the clean mobility sector. The CMC provides an atmosphere where clean mobility start-ups can grow and drive new business opportunities and this partnership will ensure that these new business opportunities will have an already trained, local workforce to draw upon. The infrastructure that is used to design and manufacture clean mobility vehicles will also be used to train priority populations.

Additionally, to deploy comprehensive resources for our communities most in need, we must align our region's investments toward the goal of creating and supporting healthy, vibrant, and economically sustainable neighborhoods. We have several data collection and visualization initiatives aimed at matching areas of inequity within the Sacramento region with future investment; we're working to address potential inequities in the way we do business.

- Our Sustainable Communities Resource Priorities Map is a result of SMUD's data-driven approach to geographically identify areas of inequity within the Sacramento region that highlight where future resources may be optimally utilized. This interactive map helps analyze current data to identify under-resourced and distressed areas in our region, driven by lack of community development, income, housing, employment opportunities, transportation, medical treatment, environmental sustainability mitigation, nutrition, education and clean environment. Recently, we used this map to analyze thermal power plants in high/moderately high sensitivity areas that should be targeted for emissions reductions.
- Also, part of our data-driven approach to equity, our internal Sustainable Communities Dashboard tracks funding and links partners and projects across six key focus areas – Institutional Support and Outreach, Education, Health Equity, Environmental Leadership, Economic Development, and Transportation and Access. These metrics coupled with expanded access to equitable workforce pipeline and business creation, will serve to validate investments across focus areas.
- SMUD will establish a structure for institutionalizing and operationalizing DEI strategies by creating an equity index to provide evaluation of new & existing SMUD programs & incentives.

Proven Clean Technology Projects

Table C-1 details new proven clean technology procurement activities.

Table C-1: New Procurement and Project Development Status

| Project Name | Type | MW | Status | Projected Online Date |
|---------------------------------|-------------|---------------|--------------------|-----------------------|
| Sacramento Valley Energy Center | PV | 250 | Planning | 2024 |
| | Battery | 100 | | |
| King's Country | PV | 50 | Planning | 2024 |
| Sacramento Solar | PV | 340+ | Planning | 2024 |
| | Battery | 170+ | | |
| Solano 4 | Wind | 91 | Pre-Construction | 2024 |
| Hedge Battery | Battery | 4MW/ 8MWh | Under Construction | 2021 |
| NTUA Drew Solar | PV | 100 | Under Construction | 2022 |
| South Fork Powerhouse | Small Hydro | 3 | Online | 2020 |
| Wildflower | PV | 13 | Online | 2020 |
| Chili Bar | Small Hydro | 7 | Online | 2021 |
| Rancho Seco 2 | PV | 160 | Online | 2021 |
| Total | | 1,000+ | | |

Additionally, in the near-term, we are exploring options to procure or develop new zero emission resources, including local solar and storage, to help achieve our 2030 Zero Carbon Vision.

Energy Efficiency Programs

In 2020, SMUD's residential new construction program completed 230 newly built all-electric homes, and installed 928 gas-to-electric heat pump water heaters in existing homes, 1,265 gas-to-electric heat pump HVAC systems in existing homes, and 78 gas-to-electric induction cooktops in existing homes.

Below is a summary of some of our 2020 energy efficiency and building electrification accomplishments including our energy efficiency improvement and building electrification initiatives for our income eligible customers.

Table C-2: 2020 Energy Efficiency and Building Electrification Accomplishments

| Measures & Projects | Results |
|--|----------------|
| Commercial Projects Completed Complete Energy Solutions | 47 |
| Commercial Projects Through Express Energy Solutions | 3,681 |
| Custom Commercial Projects Completed | 41 |
| New Efficient Commercial Buildings Constructed | 25 |
| Multifamily Apartments Retrofitted (Electric To Electric) | 622 |
| Multifamily Apartments Retrofitted (Gas To Electric) | 45 |
| Efficient Induction Cooktops (Electric To Electric) | 86 |
| Efficient Induction Cooktops (Gas To Electric) | 78 |
| Energy Star Products Purchased through RPP Retailers | 23,059 |
| Advanced Power Strips Installed | 4,320 |
| Old Refrigerators Recycled | 9,949 |
| Pool Pumps Purchased | 879 |
| Residential Heat Pump Water Heaters Installed (Electric To Electric) | 77 |
| Residential Heat Pump Water Heaters Installed (Gas To Electric) | 928 |
| Residential HVAC Installations (Electric To Electric) | 2,540 |
| Residential HVAC Installations (Gas To Electric) | 1,265 |
| Residential Seal and Insulate Installations | 346 |
| All Electric New Homes Constructed | 230 |
| Income Eligible Energy Efficiency Bundles and Electrification | Results |
| Solar + Weatherization | 743 |
| Energy Saver Deep Home Retrofits | 743 |
| Energy Saver House Bundles | 421 |
| Energy Saver Apartment Bundles | 1,194 |
| Virtual Energy Education | 1,014 |
| Weatherization | 808 |
| Energy Saver bundle for Mobile Homes | 277 |
| Heat Pump Space Heating (Gas to Electric) | 226 |
| Heat Pump Water Heaters (Gas to Electric) | 97 |
| Induction Stoves (Gas to Electric) | 23 |

Vehicle Electrification

In 2020, the California Mobility Center (CMC) prepared to move from its pre-launch phase to commercial operations, which began March 2021. This transition helped us achieve a major milestone towards our transportation electrification objectives, 288,000 passenger vehicles electrified by 2030, and defined Sacramento as a hub for innovation. In 2020, SMUD continued its leadership and support of the CMC, leveraging relationships with our Sustainable Communities partners who conduct outreach and job readiness training to prepare residents in underserved communities for jobs in stable, upwardly mobile careers. With SMUD's support, the CMC obtained grants worth over \$2M and is expanding their workforce development efforts to reach even more community members, opening doors to emerging zero carbon careers.

SMUD team members also collaborate broadly through the Sacramento PEV Collaborative, which includes the County of Sacramento, the City of Sacramento, Sacramento Metropolitan Air Quality Management District (SMAQMD), Sacramento Area Council of Governments (SACOG), State of California agencies, UC Davis Institute of Transportation Studies, Electrify America, Sac EV and many others.

In 2020, SMUD's Drive Electric program continued to promote adoption of plug-in electric vehicles (PEV) through a special EV rate offering, our "Charge Free for 2 years" rebate, and participation in educational events, educational offerings through our website <http://www.SMUD.org/DriveElectric> and in collaboration with local auto dealers and Sac EV. In 2020, SMUD's Charge Free for Two Years EV incentive ended in Q4 and was replaced by the statewide California Clean Fuel Reward program. In 2020, SMUD approved 1,846 EV incentives for the purchase or lease of a new EV.

Due to COVID restrictions, in lieu of in-person events, staff produced a virtual ride & drive video to expand capabilities and reach. The video, designed for customers, is "experiential" and to the extent possible educates viewers on many "EV lifestyle" elements.

Other 2020 activities included:

- Transitioned to live online dealer EV sales training webinars in response to COVID and implemented on-demand online training as an additional resource to enhance dealer certification as PlugStar certified dealers. Twenty-two dealers are participating in the program.
- Implemented an "EV Concierge" service for SMUD customers through Plug in America's Electric Vehicle Support Program offering live one-on-one support answering questions on all things EV.
- Implemented our first EV auto dealership competition to encourage and incentivize EV sales and reward dealerships and their staff for increased EV promotion.
- Developed and launched the Clean Cars for All program in conjunction with SMAQMD. This program provides up to \$9,500 toward a new or used PEV for income-qualified residents living in areas impacted by higher levels of pollution (disadvantaged communities).
- Facilitated the second *Charge Up Change!* EV video competition in which middle school students produce a video on why "EVs are cool" and compete for monetary awards and other recognition.
- SMUD partnered with the California Energy Commission and the Center for Sustainable Energy to launch the California Electric Vehicle Infrastructure Project (CALeVIP) in Sacramento County to promote the installation of public level II and DC fast charging stations. The partnership was the first of its kind in the state, and is being used as a model for projects in other areas of California. In 2020, SMUD staff hosted a contractor training to 70 attendees to provide overview of the State CALeVIP and Commercial EV programs.

Additionally, SMUD conducted and supported research to increase EV adoption:

- Awarded \$85,000 incentive to a Shell gas station for the installation of a 50kW DC Fast Charger (DCFC) located in a high traffic area, miles from any other DCFC.
- Analyzed the extent to which SMUD's electric transportation programs impacted EV adoption.
- Researched and verified technical solutions to reduce total installed cost of EV charging for commercial customers.
- Identified fleet vehicles suitable for EV replacements for five commercial customers and provided them with a total cost of ownership compared to gas or diesel vehicles.
- Contributed \$200K for the Del Paso Mobility Hub, which started grid interconnection and site construction in 2020. The Del Paso Mobility Hub will provide sensible, clean, affordable transportation and other social benefits to an underserved community, helping advance equitable electric transportation adoption in Sacramento, the state, and the country. The project is expected to be operational August 2021.

Time-of-Date Rates

Our residential customers reduced overall load in the range of 110-130 MW, similar to 2019 levels, despite the increase in residential load due to COVID. In addition to avoiding peak energy prices, customers, on average, saved money using more energy in the middle of the day when retail energy prices are cheaper, and renewables are abundant. Participation in the program has remained strong with 98% of customers on TOD rates.

Table C-3: 2020 Results of TOD Implementation

| Benefits | Assumed based on pilot | 2019 Normal Weather | 2020 Normal Weather |
|---------------------------------|-------------------------------|----------------------------|----------------------------|
| Carbon reduction (tonnes) | 3K-5K | 12.8K | 12.8K |
| Residential peak load reduction | 75MW, or 5.8% | ~130MW, or 8% | ~110MW – 130MW, or 7-8% |
| Financial benefit | \$4M annually | \$5M estimated | \$6M - \$8M** estimated |
| Selection of TOD | 96% | 98% | 98% |

Zero Emission Resources

We are continuing to fund research and development efforts as well as pursue grants for clean energy and GHG reduction projects in 2020 and beyond as part of our 2030 Zero Carbon Plan. Below are some of those projects.

- Carbon Projects for Zero Carbon Planning. Completed high level techno-economic assessments of proven clean technology expansion opportunities (wind, on-shore and off-shore; solar; geothermal; biomass/biogas for RNG), long duration storage technologies, carbon capture, renewable hydrogen and gas pipeline analysis. Results of these assessments were utilized as inputs into the modeling and planning efforts for the Zero Carbon Plan.
- Assessment of Alternative Clean Fuels. The 2030 Zero Carbon Plan calls for a shift in the role of natural gas electricity generation towards decarbonization using carbon negative or carbon free fuel sources. This shift represents much of the flexibility built into the Plan. With the 2030 Zero Carbon Plan in mind, a study was initiated for deep understanding of the resource sustainability, existence of supply/suppliers, price forecasts, market trends, and the

economic/technical feasibility of these alternative biofuels that will facilitate decision making across many business units. The clean fuels to be researched in this project include ethanol, biodiesel, renewable diesel, RNG, hydrogen, and others.

- Wind Resources in Northern CA. In order to meet SMUD's 2030 zero carbon goals, SMUD may need to procure wind resources outside of the service territory. This project was initiated to perform a study of all the available wind generation resource in Northern California with the potential to be delivered to the SMUD Balancing Authority. This study will concentrate on turbine blade tip heights under 500', 600' and 700'. AECOM was tasked to complete this study by the end of 2021.
- Zero CI Electricity Pathway for Wind. Completed the first annual report submitted to CARB for Zero CI electricity pathway from wind energy systems. Monetized value garnered from LCFS credits from this Zero CI pathway is about \$1.0 Million with GHG reduction of about 5,202 MT (Q2 to Q4 2020 only).
- Long Duration Energy Storage Market (LDES) & Technology. This project addresses intermittency of higher penetration of renewable sources and lower costs in replacing thermal generation assets beyond the economics of Lithium-ion batteries. Comparative market and economic analysis of all long duration energy storage technologies (Chemical, Mechanical, Electrochemical, Thermal & Hybrids) to serve as an initial screening for future LDES in-depth studies. Analysis will identify pros and cons and will compare LCOEs, technology maturity, markets, benefits and challenges
- Long Duration Flow Battery Study. Initiated an assessment of the feasibility of using long duration flow batteries at the BESS/HEDGE site after PV3 is removed. LDES may serve as a viable alternative to traditional thermal plant operations.
- Geothermal resource opportunities. A follow-up study was initiated to identify geothermal project opportunities that would include identifying projects, engaging with developers, and providing resource technical due diligence to support SMUD with assessing possible opportunities for power purchase agreement.
- Allam Fetvedt Cycle. Direct-fired, supercritical CO2 power cycle with in-situ oxy-combustion designed to capture CO2 is being investigated to understand its status and commercial opportunities, assess any technical issues, and potential applicability to help achieve SMUD's Zero Carbon Plan.
- LCFS Electricity Pathway for New Hope Dairy Digester. Completed the certification of New Hope Dairy Digester Electricity Pathway to charge EVs with CI score of -750.81 gCO2/MJ (CI Deemed Complete: 1/1/2021, CI Certified on 6/28/2021, CI Start Date: 1/1/2021)
- Dairy Digesters e-RIN Applications. This project entails the development and submission of the biogas-to-electricity pathway applications for Van Steyn, Van Warmerdam and New Hope dairy digesters under the USEPA-Renewable Fuel Standard (RFS) otherwise known as electricity Renewable Identification Number (eRIN). This is Federal credits akin to LCFS credits that can be generated when electricity produced from dairy digester biogas is used to charge electric vehicles in SMUD Service Area or in California. If monetized, eRIN may amount to 12-33 cents/kWh, a financially fit proposition and supports the growth of electric transportation.
- Concentrating Solar with Thermal Energy Storage. Assessment of current CSP+TES technologies, levelized cost of energy and consideration of commercial viability of local or regional development prior to 2030.
- Long duration thermal energy storage. Feasibility analysis and cost assessment of long-duration, utility-scale, solid state energy storage solution.

Grant Funded Clean Energy Projects

- Hydrogen Blend Collaborative Research. Received \$12.45 M grant award from USDOE H2@Scale Initiative with NREL as the Prime Applicant for hydrogen blending research with participation from six National Laboratories and more than 20 industry and academia participants with combined cost share of over \$4 Million. This project will address the barriers on pipeline materials compatibility & degradation related to the blending of hydrogen into natural gas pipelines, a concept referred to as HyBlend. Blending hydrogen into the natural gas infrastructure has national and regional benefits by storing green hydrogen for energy storage, resiliency and emissions reduction. SMUD will provide data and will serve as one of the sites or use cases for injection point of H2. Data that will be provided will be used for techno-economic analysis to quantify costs and opportunities of H2 production and blending with natural gas. Completed the execution and kickoff of collaborative research agreement for this project.

Distributed Generation Studies

- PRECISE Project – Completed requirements and the QA environment integration. Unit tests were completed with oracle driver installation. Additionally, produced training material for SMUD Engineers on how to use PRECISE for evaluating PV interconnection applications and to identify advanced inverter settings that each PV system with a smart inverter is to be set to. Worked with NREL to further refine the development of this advanced interconnection assessment tool that won the 2019 R&D 100 award for deployment at SMUD.
- LCFS Electricity Pathway for Van Warmerdam and Van Steyn Dairy Digesters. Completed the first annual re-calculation of carbon intensities (CIs) and annual report with recent performance data that were submitted to CARB. Monetized value of LCFS credits from certified CIs for both Van Warmerdam and Van Steyn dairy digesters with over \$1.2 Million gross for both facilities and with total credits of 7,856 MT or GHG reduction (Q4 2019 to Q4 2020).
- DER Carbon Tool. Completed the development and expansion of DER planning and modeling tool that assess carbon reduction/savings, budgeting, portfolio optimization, cost effectiveness and load forecasting for EE and building electrification, electric vehicles (EV), solar PV, battery storage and flexible load measures.
- EPRI DRIVE. Completed the operational transfer of EPRI DRIVE evaluation software tool to Distribution Planning Engineers enabling them to more efficiently and effectively evaluate the technical impacts of DERs on distribution systems.
- Allume PV Disaggregation. Partner with Allume, developer of SolShare, which enables interconnection and management of electron flowing from a single PV array to co-located meters at a multifamily dwelling property, overcoming one of the main barriers to rooftop PV for multifamily properties not eligible for net-energy metering. Still in ideation, plan to work with owner/manager of multiple fourplexes serving predominantly low-income residents to test the functionality, billing accuracy, and feasibility of Allume's PV disaggregation software as an alternative to virtual net-energy metering for multifamily dwellings that are not designated affordable housing.

Climate Change and Carbon Reduction Research Projects undertaken in 2020

This program provides technical, economic, and policy expertise on climate change and impacts to SMUD territory supporting SMUD's IRP goals, assisting operations in addressing climate vulnerabilities, and creating opportunities for customers and community partners who support climate neutrality and regenerative projects with a net positive impact.

- Natural Refrigerant Incentive Program, which targets commercial and industrial systems, continued executing grant-funded field assessment and reporting on two new grocery store

installations, expected to deliver over 10,000 tons CO2e reduction relative to conventional systems.

- Began planning for ecosystem service integration research at SMUD's Rancho Seco II Solar project, including soil carbon monitoring, native seeding and hedgerows, grazing and pollinator field studies (Delayed due to COVID-19)
- Completed research on physical climate impacts and summarized key findings relevant to SMUD's service territory, generation, transmission and sourcing locations.

Renewable Energy Programs

Greenery is a voluntary green pricing program that gives customers the option to support carbon free energy generation by paying a fixed monthly rate (\$4 or \$8) to match either 50% or 100% of their usage with renewable energy credits. When a customer enrolls in Greenery their usage is tracked according to their enrollment level. SMUD uses the proceeds from this program to purchase renewable or carbon free power or renewable energy credits to supply participants from generators located within the western US. These purchases are in addition to our RPS requirements.

In 2018, the CEC adopted new Title 24 Building Energy Efficiency Standards that, beginning in 2020, now requires solar on new homes, with some exceptions. These standards are expected to drive additional solar installations within SMUD's service territory. In 2020, the CEC approved SMUD's application for our Neighborhood SolarShares program to act as an alternative compliance method for California's rooftop solar mandate in the 2019 Title 24 Building Code.

Customer-side Solar Status

In 2016, SMUD achieved our SB1 Program funding goals for residential and commercial installations. Currently, there are remaining SB1 funded projects still under development. Additionally, residential and commercial solar systems are being installed under our net-energy metering tariff. In 2020, nearly 36 MW of customer solar was installed in SMUD service territory under net-energy metering agreements. Table C-4 summarizes solar installation data through 2020.

Table C-4: Installed Customer PV⁷

| | SB-1 | | Residential | | Commercial | | Totals | |
|---------------|-------------------|--------|-------------------|-------|-------------------|--------|-------------------|--------|
| | Installed Systems | MW | Installed Systems | MW | Installed Systems | MW | Installed Systems | MW |
| 2020 | 38 | 0.193 | 4,924 | 22.2 | 149 | 13.38 | 5,111 | 35.78 |
| Totals | 14,673 | 129.76 | 19,138 | 85.12 | 472 | 151.94 | 34,283 | 366.82 |

⁷ This table includes NEM, Solar Smart, VNEM installations, and projects funded with SB-1 dollars.

SSS No.

CGS 2021-003

BOARD AGENDA ITEM

STAFFING SUMMARY SHEET

Committee Meeting & Date

Policy Mtg 9/8/2021

Board Meeting Date

9/16/2021

| | | | | | | | | | | | |
|--|-------------------|---|-----|--|-----|-----------------------|--|-----------|-----|---|--|
| TO | | | | | TO | | | | | | |
| 1. | Scott Martin | | | | 6. | | | | | | |
| 2. | Lora Anguay | | | | 7. | | | | | | |
| 3. | Stephen Clemons | | | | 8. | | | | | | |
| 4. | Jennifer Davidson | | | | 9. | Legal | | | | | |
| 5. | | | | | 10. | CEO & General Manager | | | | | |
| Consent Calendar | | x | Yes | No If no, schedule a dry run presentation. | | Budgeted | | x | Yes | No (If no, explain in Cost/Budgeted section.) | |
| FROM (IPR) | | | | DEPARTMENT | | | | MAIL STOP | | EXT. | |
| Rachel Huang | | | | Customer & Grid Strategy, Research & Development | | | | B305 | | 6930 | |
| | | | | | | | | | | 8/19/2021 | |
| NARRATIVE: | | | | | | | | | | | |
| <p>Requested Action: Accept the monitoring report for Strategic Direction SD-10, Innovation.</p> <p>Summary: SD-10 supports innovation by investigating technologies, business models, and solutions that are sustainable, innovative, improve operational efficiency and provide financially positive benefits for SMUD customers and community. We measure the number of projects implemented, risk, and potential customer benefits. SMUD has developed a diverse portfolio of projects to assist in being competitive and improve our ability to deliver innovative products and services. The wide range of projects is designed to balance risk with potential environmental and economic benefits that will result in delivering our carbon reduction goals and a more sustainable energy supply for the region.</p> <p>Board Policy: SD-10, Innovation (Number & Title)</p> <p>Benefits: The benefits for SMUD are many, including accelerated competitiveness, better innovative products & services, and an improved ability to meet SMUD's strategic directions such as environmental protection and climate change, reliability, local control, meeting energy efficiency and renewable energy goals.</p> <p>Cost/Budgeted: Activities represented in the monitoring report were budgeted in the respective year of which the activity occurred.</p> <p>Alternatives: Do not accept the monitoring report.</p> <p>Affected Parties: Enterprise Strategy, Zero Carbon Energy Solutions, Customer & Community Services, Energy Delivery, Technology & Innovation</p> <p>Coordination: Customer & Grid Strategy, Research & Development</p> <p>Presenter: Rachel Huang</p> | | | | | | | | | | | |

SACRAMENTO MUNICIPAL UTILITY DISTRICT

OFFICE MEMORANDUM

TO: Board of Directors

DATE: August 31, 2021

FROM: Claire Rogers *CR 8/31/21*

**SUBJECT: Audit Report No. 28007344
Board Monitoring Report; SD-10: Innovation**

Audit and Quality Services (AQS) received the SD-10 *Innovation* 2021 Annual Board Monitoring Report and performed the following:

- A review of the information presented in the report to determine the possible existence of material misstatements;
- Interviews with report contributors and verification of the methodology used to prepare the monitoring report; and
- Validation of the reasonableness of a selection of the report's statements and assertions.

During the review, nothing came to AQS' attention that would suggest the SD Board Monitoring report did not fairly represent the source data available at the time of the review.

CC:

Paul Lau

Board Monitoring Report 2021

SD-10 Innovation



1) Background

SD-10 States:

Delivering innovative solutions, products and services to our customers is a core value. To assure our long-term competitiveness, SMUD shall invest in research and development projects that support its core and key values, and integrate emerging technologies and new business models into SMUD's customer offerings in a way that balances risk, and opportunity, and benefits our customers and community.

2) Executive Summary

SMUD's R&D portfolio addresses innovation and challenges in *electric transportation, energy efficiency, building electrification, energy storage, generation, climate change, load flexibility and grid evolution*. The research provides insight into future planning and supports the development of near-term technology solutions for SMUD customers and the grid. SMUD's distributed energy strategy pursued technologies, business models and customer offerings to expand the use of emerging technologies by our customers, while enhancing value to SMUD and our community. A number of foundational initiatives were launched or expanded this year to support SMUD's Zero Carbon Plan (ZCP) goals and to integrate innovation into standard processes.

Our conclusion is that SMUD is in compliance with SD-10 Innovation.

| SD Requirement | Purpose | Outcome | Notes |
|-------------------------------|--|--|--|
| Project Implementation | Project distribution indicates breadth of portfolio diversity and prioritization of program areas. | 65 active projects in 2021. 16 projects are complete as of August 1, 2021 ¹ . | This reflects a 55% increase in active projects and 27% reduction in completions compared to the previous reporting period. |
| Risk | Technology risk assesses ability to meet expected performance goals. Implementation risk assesses probability of deployment. | 72% of projects are deemed low to medium-low technology risk. 77% are deemed low to medium-low implementation risk. | The risk portfolio is consistent with the previous reporting period. Potential risks are managed by creating a diversified portfolio and partnering with other entities to distribute risk and mitigation. |
| Benefits | Research stage and benefits timeframe indicate the relevance of portfolio to address customer needs and strategic planning. | 80% of projects are in stages 4-5 ² . 92% are expected to provide benefits to SMUD or customers within 5 years. | Percent of stages 4-5 is higher than 2020's 76%, indicating more focus on near-term applications. Benefits time frame is consistent with 2020. |

Table 1: SD Requirements Compliance

¹ Reporting metrics and achievements reflect the reporting period of October 1, 2020 – August 1, 2021.

² Stage 1 - Preliminary Investigation, Stage 2 - Concept Definition/Lab scale, Stage 3 - Concept Development (Prototype/bench scale), Stage 4 - Technology Development and Verification (pilot scale; field testing), Stage 5 - Commercialization

3) Additional Supporting Information

Project Implementation

Energy Strategy, Research and Development (ESR&D) has the primary responsibility of meeting SD-10; however, notable relevant innovation occurs throughout SMUD.

Electric Transportation (ET)

Transportation electrification will improve air quality and reduce net greenhouse gas emissions and petroleum consumption to support energy sustainability, while creating new revenue streams for SMUD. This strategy is supported through investigation of mitigation of grid impacts due to charging, improvement of electric vehicles (EV) value via pricing signals and remote controls, increased EV adoption and access to charging.

Key Achievements:

- Del Paso Mobility Hub began construction to provide clean, affordable transportation to an underserved community, helping advance ET social equity.
- Issued RFP for the Charging as a Service program and Fleet Advisory Services. Contract for services will go to the Board for approval this fall.
- Awarded two CEC grants: Blueprints Grant to develop plans with SMAQMD and the City of West Sac for grid infrastructure to deploy EV charging and fuel cell EV hydrogen fueling infrastructure supporting medium- and heavy-duty fleets; and BESTFIT grant supporting the managed charging and vehicle-to-grid demonstration at Twin Rivers School District.
- Ordered five customized electric medium-duty Zeus trucks for SMUD's fleet.
- Received EPRI Technology Transfer Award for our collaboration on modeling work that established incremental benefits of EV programs on EV adoption.
- Completed our first annual attribution study which confirmed that our electric transportation programs are increasing EV adoption as planned.

Energy Efficiency (EE) & Electric Buildings (EB)

This program area optimizes energy delivery costs and improves grid asset utilization through targeted, time-specific energy efficiency and building electrification as well as by capturing permanent outcomes in building codes. ESR&D explores emerging and underutilized technologies; working to enhance advanced applications in building decarbonization and energy efficiency and increase technology adoption

Key Achievements:

- Supported the City of Sacramento in adopting a local ordinance requiring all-electric new construction starting 2023, with few exceptions.
- Characterized local restaurant market and assessed multiple prototype designs for opportunities and technical barriers to electrification.
- Analyzed technical options to help customers adopt electric technology without requiring grid service upgrades, which can have large financial impacts for the ~80,000 accounts with electric service cables buried directly underground.

- Develop Electrification Readiness and Future State Ideation planning reports, to describe how SMUD's incentive programs can scale to reach statewide goals.
- SMUD is a founding sponsor of the Advanced Water Heater Initiative, which works nationally to drive increased penetration and operation of heat pump water heaters and received support from the U.S. DOE in May. Delivered the "Building Demand for Unitary Heat Pump Water Heaters" report under this effort.
- Established working group to assess the feasibility of a local electric kitchen innovation center, including local community members, and SMUD staff.

Energy Storage (ES)

Significant research is needed to enable storage as a reliable and integrated grid asset. ESR&D seeks to evaluate solutions that align customer benefit with grid needs by enabling behind the meter energy storage to act as virtual power plants and establish grid storage solutions to increase renewables integration while maintaining reliability.

Key Achievements:

- Procured 9.03 MW of storage, including dairy biogas using lagoon digester and 389 customer installations (2.62 MW as of Aug. 4, 2021) to support future Load Flexibility programs, exceeding target set for 2020.
- SMUD's first utility-scale battery project, 4.4 MW/8.8 MWh adjacent to Hedge substation, began construction in May 2021, expected completion Sep. 2021.
- Received EPRI Tech Transfer Award for Energy StorageShares program.

Generation

ESR&D pursues innovative generation solutions, including customer products, rate design support, and continuous improvement of related business processes. This program supports system reliability, reducing revenue erosion, and reducing emissions through alignment of DERs and low/zero-carbon generation with grid needs.

Key Achievements:

- Provided technical guidance and input on the Value of Solar Study, leading to adoption of new solar+storage rate reducing cross-subsidy to PV customers.
- SMUD is one of 20+ industry and academia participants and six National Labs collaborating on \$12.45M DOE grant for hydrogen blending research.
- First annual re-calculation of carbon intensities of Van Warmerdam and Van Steyn dairy digesters. Monetized \$1.2M LCFS and reduced 7,856 MT of GHG. Completed new certification of New Hope Dairy Digester Electricity Pathway.
- Submitted first annual report to CARB for Zero CI electricity pathway from wind energy systems. Monetized ~\$1.0M for 5,202 MT CO₂ reduction.
- Expand DER planning and modeling tool to include solar PV and battery storage for assessing carbon reductions, portfolio optimization, and load forecasting.

- Techno-economic assessments of carbon free generation, long duration storage, carbon capture, and gas pipeline analysis were instrumental inputs into the modeling and planning efforts for the Zero Carbon Plan.

Grid Evolution

This program seeks to accelerate interconnection of grid-connected systems and devices to ensure safe and efficient operation. It seeks to improve grid reliability through reduced outage frequency and duration; control of the distribution system, voltage and frequency variations, and overload conditions; and optimize grid benefits of DERs through advancing integration standards and coordinated automation.

Key Achievements:

- Installed online bulk transformer monitoring system to enable lower cost, streamlined maintenance and comply with NERC requirements.
- Installed 3M Spartan II equipment monitoring sensors on the downtown network at two vaults and one manhole to monitor and alarm for hazardous gas levels.
- Concluded Blockchain Local Energy Market demonstration, rewarding EV drivers who automate charging sessions based on carbon intensity and wholesale costs.
- Developed interface for SMUD's Price Communication Application to integrate with OSI DERMS to support DER load flexibility programs.

Climate Change

This program provides technical, economic, and policy expertise on climate change and impacts to SMUD territory. It compliments SMUD's Zero Carbon Plan and aligns with our board direction to address climate vulnerabilities, and we partner with our customers and community on mitigation opportunities and regenerative, net positive projects.

Key Achievements:

- Completed Year 1 assessment of pilot natural refrigerant systems and continued field monitoring to ensure robust financial and environmental analysis.
- Established partnership with UC Davis and EPRI to evaluate Rancho Seco II Solar soil carbon storage and pollinator habitat restoration opportunities.
- Launched Monarch Habitat Suitability and Solar-Pollinator assessments.
- Updated projection of physical impacts of climate change in SMUD territory, locations of generation and transmission, and critical equipment procurement.

Load Flexibility

This program supports cost-effective, reliable, scalable flexible resource growth to serve future grid needs. ESR&D determines functional, operational and market viability of flexible loads to align supply and demand, give customers bill management options, improve air quality, and reduce carbon emissions.

Key Achievements:

- Developed 10-year Zero Carbon strategy and implementation plan for flexible DERs to support the retirement and retooling of our thermal plants.
- Initiated competitive bid solicitation for an aggregator to reduce peak demand by 30 MW by 2024 via price signals to customer DER devices.
- Initiated Oracle Behavioral Demand Response pilot research.
- PowerMinder pilot determined heat pump water heaters can effectively shift load and support 2030 Zero Carbon implementation plan for load flexibility.

Enterprise-Wide Innovations

While SD-10 innovation goals are met by ESR&D research programs, additional notable achievements occurred across SMUD supporting progressive customer offerings.

- Launched virtual energy audits, engaging customers in a safe and convenient way while resulting in operational efficiency and cost reduction for truck/car rolls.
- Demonstrated a central IoT platform successfully providing remote management, data collection, analytics and visualization for grid assets (transformers, telecom batteries, and generators). Phase 2 will expand to customer DERs.
- Participated in the CMC as a Founding Member to identify advanced mobility solutions and startups.
- Formed the Innovation team to support our 2030 absolute zero carbon goal by balancing diverse emerging technologies and ideas across SMUD that drive operational efficiencies and competitive advantage with a centralized team to champion breakthrough innovations. The Innovation Governance Team reviewed 63 technology and business model submissions for inclusion in the ZCP.
- ADMS development complete, resolving variances. Expected go-live Q4 2021.
- DERMs Phase 1 development work complete. Phases 2-3 are in progress.

Summary

With the adoption of the 2030 Zero Carbon Plan, we've ramped up efforts in generation and load flexibility technologies and business models leveraging storage, electric transportation, and building science, while we continue to advance research in climate change and grid modernization. These innovations expand customer choice and offer new solutions toward a low carbon future. Our diverse portfolio helps maintain long-term competitiveness and balance risk with potential environmental and economic benefits, ensuring community benefits.

4) Challenges

2021 posed unique challenges due to the ongoing health pandemic and pivots to support development of the Zero Carbon Plan and NEM successor rate. In response, ESR&D revised project designs to reflect the new work environment and focused staff hours and expertise to deliver on innovation goals driving toward zero carbon.

5) Recommendation: Recommend the Board accept the SD-10 Monitoring Report.

SD-10 Innovation 2021 Board Monitoring Report
Appendix

Table 2: ESR&D Projects

| Research Program | ID | Project Name | Project Description | SD-10 Benefits | Start Date | End Date | Ward |
|--------------------------|-----|--|--|--|------------|------------|------|
| Building Electrification | 12 | Electrification Readiness Study | Conduct an expedited utility industry analysis to identify key insights from utilities, community choice aggregators (CCAs), and other key market actors to accelerate electrification programs. The analysis inform a research-based approach for accelerating SMUD's own electrification programs. | Establishes a new paradigm for how research informs the development of incentive programs. Identifies opportunities for incentive programs to maximize outcomes like GHG savings, equity, and affordability. Creates rapid feedback on the performance of new technologies within programs. | 8/20/2020 | 1/28/2022 | All |
| Building Electrification | 13 | Advanced Water Heating Initiative | SMUD is a founding sponsor of the Advanced Water Heater Initiative, which seeks to dramatically expand the heat pump water heater market using advocacy, program alignment, and research. The U.S DOE supports the initiative. | The project will set out a consensus agenda and process for water heating research, specifically joint research between utilities. It will also bring together best practices to ensure that SMUD and other utilities are implementing the most innovative possible programs based on available knowledge. | 7/1/2020 | 12/28/2021 | All |
| Building Electrification | 67 | St. Francis Manor Central HPWH Study | Monitor the conversion of St. Francis Manor to a hybrid HPWH/gas fed system with storage. Analysis of system performance and benefits. | Confirm the realized savings and benefit of replacing existing boiler and gas-powered hot water systems in a central plant. | 4/1/2021 | 5/2/2022 | 5 |
| Building Electrification | 9 | Restaurant Market Analysis and Feasibility Study | Conduct market analysis and electrification feasibility study to document the current restaurant market in Sacramento County, and identify barriers and opportunities for restaurant electrification. | Characterized the types of restaurants in the Sacramento-region market. Developed the basis of design for electric equipment to meet the foodservice needs for a variety of restaurant prototypes. Identified gaps in equipment availability for specific applications. | 10/16/2020 | 12/31/2020 | All |
| Building Electrification | 10 | Central Heat Pump Water Heater Meta Study | Documents best practices and experiential findings regarding design and use of central heat pump water heaters in multifamily buildings (new construction and retrofit). | Provided best practices to guide SMUD in planning programs and research efforts to accelerate the electrification of multifamily water heating systems. | 9/2/2020 | 12/17/2020 | All |
| Building Electrification | 11 | Direct Bury Analysis | Identify the locations, characteristics, and electrification market barriers for customers who are currently served by direct burial cables (DBC). | This will provide insights into the characteristics of DBC customers, and the related challenges to SMUD's decarbonization efforts. | 9/28/2020 | 12/31/2021 | All |
| Building Electrification | 110 | Sanden Heat Pump Water Heater Project | Assess the performance and feasibility of Sanden C02 heat pump water heaters at two fourplexes. The owner of these fourplexes is interested in converting from natural gas to all electric and owns over twenty identical fourplexes in SMUD's service territory. | Finding cost effective solutions for converting from natural gas water heaters to HPWHs in multifamily residences to achieve SMUD's decarbonization goals and provide a path forward for the thousands of low-income customers who dwell in fourplexes. | 6/19/2019 | 12/7/2020 | 6 |

SD-10 Innovation 2021 Board Monitoring Report
Appendix

| | | | | | | | |
|-------------------------|-----|--|---|--|-----------|------------|-----|
| Climate Change | 64 | Carbon Farming and Ecosystem Service Research at RSSII | Conduct field experiments at Rancho Seco to research ecosystems and evaluate the use of native species/pollinators to reduce the operational costs associated with vegetation management, erosion control, and fire protection. The project will explore the effects of vegetation and panel layout on PV generation and soil carbon. | The project will help identify and demonstrate strategies to integrate ecosystem services and agricultural value into large scale solar projects, helping to mitigate their environmental impact and build public support for their continued construction, assisting SMUD in achieving the 2030 ZCP. | 1/30/2021 | 1/30/2026 | 2 |
| Climate Change | 96 | EPRI Evaluating Landholdings for Monarch Habitat | The SMUD Pollinator working group will determine recommended actions, including proposed acres, timing and cost for enrollment in the CCAA, if appropriate. | Assists SMUD in understanding opportunities and costs associated with enrollment in the Monarch butterfly CCAA and compliance with a potential future Endangered Species Act listing. | 3/1/2021 | 1/31/2022 | All |
| Climate Change | 95 | EPRI Power in Pollinators | SMUD pollinator Working Group has been meeting monthly for over a year. Working on policy recommendation for integration of pollinators into utility scale solar procurement and future operations and on the launch of a major research project at RSSII. Supporting the EPRI supplemental on Monarch Habitats and the working group on cost/benefit of solar + pollinators. | SMUD will be prepared for increasing public focus and demand for pollinator support on large land holdings. Opportunity to be proactive and strategic in expanding our solar project benefits and bringing in new supportive stakeholders (agricultural interests, groundwater management, for example) | 1/1/2020 | 12/31/2022 | All |
| Climate Change | 109 | Natural Refrigerant Incentive Pilot Program | Provides incentive for customer natural refrigerant systems, replacing super-polluting conventional refrigerants with high global warming potential. SMUD's first incentive program based on GHG reduction, not kWh savings. Monitored field pilots are underway at Grocery Outlet and Raley's stores in Sacramento. | DEED grant funding (\$125K) was secured to support the Grocery Outlet project and technology transfer. First of its kind for the utility industry, this program demonstrates SMUD's leadership in leveraging relationships with our customers to help them save money and reduce GHG emissions in the region. | 1/1/2018 | 12/31/2023 | All |
| Climate Change | 90 | NG Alternatives & Upstream Emissions Update | Document the emissions profile of SMUD's current gas supply chain and compare that with various alternative gas supply solutions. Summarize research findings of lifecycle costs and benefits associated with energy sources SMUD requires in its current and future supply portfolio. | This is an opportunity to reduce the upstream emissions of gas supply chains that are primarily tied to the procurement process and selection of suppliers. Allows for more comprehensive assessment of the big picture issues of interest to stakeholders. | 3/1/2021 | 7/30/2021 | All |
| Electric Transportation | 22 | Residential Managed EV Charging | Actively manage residential EV charging times and electrical flow rates. Managed EV charging can enable deferral of distribution system upgrades, smooth the duck curve, reduce renewable generation curtailment, and provide import and export arbitrage opportunities. | Benefits include reduction of the financial risks associated with transportation electrification, specifically by mitigating the risk of overloading electrical distribution infrastructure. Another secondary mitigation measure is to better align energy delivery for charging with low-cost energy supply. | 10/1/2021 | 12/31/2023 | All |
| Electric Transportation | 20 | Twin Rivers Managed | Incorporate electric school buses and light duty vehicles to evaluate the effectiveness of managed charging and vehicle-to-grid capabilities | Reduce grid impacts, reduced customer infrastructure build-out cost, wholesale energy or capacity cost avoidance, and mirror | 1/30/2021 | 6/30/2023 | 5 |

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| | | Charging and V2G | to balance impacts on customer and utility electrical distribution and create value through grid services. | characteristics of stationary storage using V2G. | | | |
| Electric Transportation | 15 | Zeus Electric Truck Deployment | This project is in partnership with the CMC and works with the start-up company Zeus, who develops medium-duty electric trucks. SMUD will purchase and test five vehicles in SMUD's fleet. | Inform customers of the challenges and benefits of fleet electrification. This project synergizes with the launch of the California Mobility Center which will support local economies and improve health and safety in DACs. | 1/3/2022 | 6/30/2022 | All |
| Electric Transportation | 17 | Del Paso Mobility Hub | Help create an e-Mobility hub for different modes of transportation, such as taxis, Uber, Jump, buses, etc. It will also include EV charging capability as well as gig cars. The first project in execution is the Del Paso Mobility Hub. | This is a novel project and transportation facility concept. It includes electric and fuel cell vehicles, including an electric shuttle, EV charging, shared vehicles, electric micro-mobility (ebikes and electric scooters) and transportation services. | 6/1/2021 | 12/31/2022 | 5 |
| Electric Transportation | 21 | EPRI Qualification of EVSE | Produce a compliance matrix for EVSE that SMUD will be able to use to qualify EVSE vendors for our EV-related programs | Support EV adoption and reduce risk to SMUD by using only qualified EV supply equipment vendors in SMUD's EV programs. | 1/6/2020 | 5/31/2021 | All |
| Electric Transportation | 18 | Mobi EV and Gen Charger Loan Pilot Program | Evaluate viability and logistic application of mobile EV chargers and battery powered generators to support development of transportation electrification and elimination fossil fuel generators. SMUD loans the units at no cost to customers who can demonstrate they have a need. | Determine challenges and opportunities of using EV chargers and battery powered generators, which will help support the development of electric transportation as well as reduce GHG emissions and criteria pollutants. | 8/3/2020 | 12/31/2021 | All |
| Electric Transportation | 24 | SMUD-Owned EVSE | Operation and maintenance of SMUD's public level 2 and DCFC charging stations. | Increase EV adoption by having publicly available working charging stations in high trafficked areas. | 1/1/2014 | On-Going | All |
| Electric Transportation | 19 | EV Annual Program Attribution Study | This project assesses SMUD's current electric transportation programs impact on EV adoption in SMUD's territory and informs cost effectiveness of programs in the portfolio. | Provide insight into SMUD's investment impacts on EV adoption. Enable communication of program effectiveness. | 9/1/2020 | 4/30/2021 | All |
| Energy Efficiency | 65 | CalTF | Co-funding CalTF's development of the eTRM (Electronic Technical Resource Manual) as the basis for IOU EE program deemed measure savings. The eTRM adds functionality for POUs to use available data and transition to transparent accounting of savings, including Carbon. POUs can set different baselines for measure savings than the IOUs. | SMUD will benefit from a centralized California eTRM online repository for all statewide deemed measures. The platform will ensure the accuracy, transparency, and accessibility of all deemed measure values, supplementing our current approach of conducting M&V studies every three years. | 1/1/2018 | 12/31/2021 | All |
| Energy Efficiency | 4 | 2020 Codes & Standards Savings Attribution | Quantification of the energy and carbon savings attributable to SMUD for our influence on the development of California Title 24 Building Energy Efficiency Standards, California Title 20 Appliance Standards and Federal EnergyStar regulations. | This project quantifies the energy, demand and carbon savings attributable to SMUD based on our annual participation in the California Statewide Codes & Standards Team in partnership with the CA IOUs and LADWP. | 12/16/2020 | 2/28/2021 | All |
| Energy Storage | 58 | Alternative Fuels to | HQ Solar Port is a potential site to test a fuel cell backup system and support microgrid operation. The fuel cell will be a 1 kW 8-hour | As the first fuel cell back up system for SMUD we will be able to test the system and determine if it is a good alternative to our | 7/31/2020 | 7/31/2022 | 3 |

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| | | Replace Diesel Generators | duration backup power system. R&D staff will monitor the selected alternative fuel source system for 9 months. | current fossil fuel backup generators. The data we collect will inform SMUD on future backup power replacements. | | | |
| Energy Storage | 7 | C&I Energy Storage Programs | Promote the deployment of behind-the-meter energy storage for Commercial and Industrial customers and their participation in a Commitment to Operate program, discharged at peak usage time. | Supports future work in the Zero Carbon Plan as well as educating our commercial customers about the types of energy storage appropriate for their business and energy usage. These deployments will decrease load on the grid and save the customers money. | 1/1/2021 | 12/31/2021 | All |
| Energy Storage | 6 | Hedge Utility-Scale Battery | 4 MW/ 8 MWh battery located behind the Power Academy off Tokay Lane and is the deployment for the StorageShares program and will demonstrate functionality use cases. | As SMUD's first utility-scale battery, we will be able to test different modes and how it interacts with the grid. The data collected will inform future battery installations in SMUD territory. | 3/1/2019 | 12/31/2023 | 3 |
| Energy Storage | 26 | Integrated EV Charging with Storage and Solar PV | Install and test a new 175 kW DC Fast Charger and 2nd-life battery storage. Integrate solar, storage, and EV charging into an advance site controller. | Integrate EV DC Fast charging, 2 nd -life battery storage and solar PV together to mitigate peak demand and storage excess solar generation Measure the performance of 2 nd -life batteries compared to newer lithium-ion battery systems. Help promote EV adoption by using load management to prevent unnecessary infrastructure installations, ultimately saving the customer and SMUD time and money. | 11/5/2018 | 12/31/2021 | 3 |
| Energy Storage | 5 | Residential Energy Storage Programs | Continuation of Residential BTM energy storage systems including Commitment to Operate, SmartEnergy Optimizer, and PowerMinder. | Residential BTM energy storage are customer-facing innovations that will provide resilience and system benefits to customers and SMUD alike. This work will inform future pilots including Multi-DER and Capacity Contracts VPPs. | 1/1/2021 | 12/31/2021 | All |
| Energy Storage | 66 | Energy Storage-Shares | Allow eligible commercial customers the opportunity to purchase shares in a utility scale battery to for peak price shaving without the operation and maintenance of owning their own battery. | The capital investment from the customer allow SMUD to offset the cost of the utility scale battery and locate the battery in a location which is beneficial to the grid. | 12/1/2019 | 12/31/2021 | All |
| Energy Storage | 29 | Sunverge in Schools | Partner with schools to install eight battery energy storage units at high schools or colleges to provide early hands-on education of battery energy storage systems. | Support local workforce development by developing a battery energy storage curriculum and installing battery energy storage system at educational institutes. | 1/1/2021 | 12/31/2021 | All |
| Energy Storage | 111 | AB 2514 Energy Storage Programs & Research | Procure 9 MW of energy storage by December 31, 2020. Develop and research behind-the-meter energy storage pilot-programs for early adopters to understand how energy storage is being used and the effect on the grid. | The project seeks to determine emerging storage technologies commercial readiness, applications, benefits and costs; and grid impacts. | 4/26/2018 | 12/31/2020 | All |
| Energy Storage | 30 | EPRI- Hazard and Fire | Perform a site specific hazard assessment of the Hedge Solar Farm Battery Energy Storage System. | Ensure the Hedge Solar Farm Battery Energy Storage System is designed and built to the new fire code and safety standards. | 1/1/2021 | 4/30/2021 | 3 |

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| | | Prevention and Mitigation Study | | This will directly influence fire and safety requirements for future battery installations. | | | |
| Energy Storage | 27 | Back Up Power as a Service Market Assessment | This project will evaluate the potential of Back-Up Power as a Service which will help define alternative business models that may enable a faster, more efficient reduction of local GHG emissions while saving customers money. SMUD is interested in the benefits these solutions could provide to both commercial and residential customers. | This preliminary evaluation will help SMUD understand the market potential, associated costs overall environmental impact and potential business models for providing backup power as a service to our customers. | 10/14/2021 | 12/31/2020 | All |
| Generation | 54 | Assessment of Microgrid Business Models & Applications | Assessment of technical and economic potentials, market trends (e.g. supply curves), market players/suppliers, costs and performance of applicable microgrid systems. Develop standardized processes/guidelines for the interconnection of a customer-supported microgrid in compliance with SB1339 and identification of potential deployment sites. | This project will provide techno-economic feasibility and market assessments to determine the microgrid value proposition as well as best practices for technology choices, siting, and market participation. | 4/1/2021 | 12/31/2021 | All |
| Generation | 81 | Assessments of Alternative Fuels (Generation) | SMUD will hire a consultant to explore the feasibility of using renewable ethanol, biodiesel, renewable diesel, RNG & others as potential fuel-sources for our thermal generation assets. | This assessment will facilitate enterprise decision-making, providing a deep understanding of the resource sustainability, supply chain landscape, price forecasts, market trends, and techno-economic feasibility of each biofuel. | 4/28/2021 | 4/28/2022 | All |
| Generation | 53 | Community Resiliency Center | Identify Sacramento community centers that have been designated as emergency evacuation centers or cool zones featuring convenient interconnection. A battery system will maintain power to the site during grid outages and operate as a DER asset. | Enhance safety and customer resiliency by providing backup power for critical services (cool zone and electric vehicle charging). Help prevent revenue erosion from customers moving to off-grid solutions, increase revenue through market participation and potentially mitigate upgrade costs for distribution system infrastructure. | 5/6/2021 | 5/11/2024 | TBD |
| Generation | 41 | Fuel Reduction Wildfire Prevention / Resiliency Biopower | Assess opportunity to mitigate wildfire danger and protect communities along the UARP transmission corridor by reducing fuels. Biopower produced will charge electric vehicles, reduce GHG emissions, and generate LCFS credit revenues. | Mitigating fire danger in SMUD service areas while generating revenues via LCFS credits. This essential wildfire mitigation protects critical infrastructure, system integrity, customer health, and public safety. | 4/1/2021 | 12/31/2021 | All |
| Generation | 78 | Highview Power | SMUD will hire one a consultant to conduct a feasibility study and deep dive techno-economic analysis for Highview Power (liquid air thermal energy) long-duration energy storage technologies. | HighView Power installations will allow for comparative analysis to determine if Cryogenic LDES helps SMUD reach 2030 ZCP goals. | 4/28/2021 | 4/28/2022 | All |
| Generation | 52 | HQ Solar Port Microgrid | Install and commission a small microgrid at the HQ Solar port using second-life batteries, solar and an advance site controller. | Microgrids can increase reliability by providing backup power to customers during power outages using renewable generation, | 1/1/2021 | 12/1/2022 | 3 |

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| | | | | reduce transmission infrastructure needs, and hedge against volatile energy markets. | | | |
| Generation | 91 | Hydrogen Blend Collaborative Research | Address the barriers on pipeline materials compatibility and degradation related to the blending of hydrogen into natural gas pipelines, a concept referred to as HyBlend. SMUD will provide data and serve as one of the injection points of H2. The data that will be provided will be analyzed to quantify the costs and opportunities of H2 production and integration into the natural gas system. | The HyBlend project will specify the role Hydrogen can play in the transformation of SMUD's thermal generation. HyBlend is a leading fuel choice that offers benefits for seasonal energy storage, resilience, and GHG emissions reductions. | 7/1/2021 | 7/30/2023 | All |
| Generation | 87 | LDES Market & Technology Report | SMUD will hire a consultant to investigate the following Long Duration Energy Storage (LDES) strategies: liquid air energy storage, incline railway storage, crane and block system, Piston pump, concentrated solar/thermal. | Empower SMUD planners to make confident technology decisions along the flexible path to zero carbon. These technologies will provide grid stability and predictable electricity prices for SMUD customers. | 4/29/2021 | 4/29/2022 | All |
| Generation | 34 | Dairy Digesters eRIN Applications | Develop and submit the biogas-to-electricity pathway applications for Van Steyn, Van Warmerdam and New Hope dairy digesters under the Renewable Fuel Standard (RFS) for electricity Renewable Identification Number (eRIN) credits, generated when electricity produced from dairy digester biogas is used to charge electric vehicles in SMUD Service Territory. | The use of eRIN credits could unlock \$0.12/kWh to \$0.33/kWh of electricity generated for electric vehicle charging. This legal and financial innovation offer sound investment into biofuels production and carbon-negative transportation for electric vehicles. | 1/1/2021 | 12/31/2021 | 7 |
| Generation | 55 | DER Carbon Tool | Expand DER planning and modeling tool that assesses carbon reduction/savings, budgeting, portfolio optimization, cost effectiveness and load forecasting to include solar PV and battery storage measures. | Provide hourly forecasting of load shapes, evaluate carbon impacts and cost effectiveness for programs. Provides insights about DER valuation and the attribution of GHG reductions. | 11/1/2020 | 12/31/2021 | All |
| Generation | 39 | LCFS Electricity Pathways for Dairy Digesters, Solar and Wind | LCFS Electricity pathway applications for Van Warmerdam, Van Steyn and New Hope dairy digesters, wastewater biogas and wind/solar that perform carbon intensity life cycle modeling, certification, verification, monetization, and reporting for LCFS credits to charge electric vehicles in SMUD territory. This initiative stimulates revenue generation, supports the growth of electric transportation and advanced renewable generation and helps achieve carbon zero target goal. | At full utilization of the 30 dairies and 14,000 cows in SMUD territory, the dairy digesters could offset a minimum of 70,000 Metric Tons of CO2 per year, while garnering \$12.6 Million per year in LCFS credits. In 2021, Van Warmerdam and Van Steyn reduced 7,856 MT of GHG worth \$1.2M LCFS. This project also proved the financial viability of Zero Carbon Intensity (CI) wind generation, which garnered approximately \$1 Million from LCFS. | 6/1/2019 | 12/31/2030 | All |
| Generation | 38 | PRECISE Project Phase 2 | Evaluate PV interconnection applications and identify the advanced inverter settings that each PV system to be set to. This process will significantly save SMUD engineer's time and yet maximize the benefit of each asset. | Increased safety and avoiding reprogramming of advanced inverters post-install, and minimizing curtailment. Deploying the tool in a real utility environment would advance chances of commercialization of PRECISE and revenues to SMUD. | 1/1/2019 | 6/30/2021 | All |

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| Generation | 75 | Wind Resources in Northern CA | This study will help SMUD identify sites in Northern California suitable for adding wind generation. The work will be performed by a consultant. | Identifying areas outside of SMUD's service territory suitable for wind resource, will enable SMUD to remain on track to meet the 2030 carbon reduction goals. | 4/28/2021 | 4/28/2022 | All |
| Generation | 71 | Carbon Neutrality Projects for Zero Carbon Planning | Techno-economic assessments of the full range of proven clean technology expansion opportunities in the generation, storage, and alternative fuels segments. Evaluated the cost-effectiveness, performance characteristics, Levelized Cost of Energy, challenges. Determined the necessary inputs required for production cost models and scenario analysis. | Assessment of zero-carbon technologies could provide the sustainability and resilience needed to achieve the aggressive 2030 ZCP targets. All the studied technologies are expected to be commercially available for SMUD's use by 2030. The results of this study provided useful information towards completion of the ZCP. | 10/1/2020 | 4/1/2021 | All |
| Generation | 37 | EPRI: DRIVE Tool | Distribution Resource Integration and Value Estimation (DRIVE) enables planners to evaluate the technical impacts of DER penetration on distribution systems. Determines ability to host DERs on distribution feeders without causing adverse impacts to power quality or reliability. | Provides a starting point for analyses of distribution system DER capacity, asset upgrades deferral, cost savings, and mitigation strategies. | 1/1/2018 | 12/31/2020 | All |
| Grid Evolution | 42 | Direct Connection Smart Inverter | Install a direct connection, CSIP-capable, smart inverter to determine if smart inverters can provide reliable visibility of residential PV. | Benefits of smart inverters include a better way to monitor residential PV and storage as well as advanced control functionality to assist us in grid support needs. | 7/1/2021 | 12/31/2023 | All |
| Grid Evolution | 101 | EPRI Substations SF6 Alternatives | The EPRI study will conduct high voltage tests on a range of alternatives, study the safe and effective handling, operation, maintenance, and disposal of these new alternative approaches, and study the tradeoffs utilities will face after implementation. | Access to insights discovered by EPRI that will help our ability to comply with regulations to phase out the use of SF6 gas after January 1, 2025. | 7/1/2021 | 12/31/2022 | All |
| Grid Evolution | 47 | Blockchain Local Energy Market | Coordinate EV charging and with PV generation by using local grid conditions and blockchain-based incentives. Employees in SMUD's Workplace EV Charging program will use a mobile application to make daily choices to have their charge timing flexibly optimized to accumulate incentives. | SMUD Customers could benefit from savings on EV charging costs and recognition for contributing to increased renewable energy adoption. SMUD could realize reduced costs through lower wholesale energy costs and deferring local infrastructure investments necessary for increased EV and PV adoption. | 4/1/2019 | 9/30/2021 | 2 |
| Grid Evolution | 80 | EPRI 2021 Utility Blockchain Interest Group | Work alongside other utilities to expand knowledge of blockchain technology and its potential applications. Enable collaboration among utilities and bridge to the startup/vendor community, compile and track a comprehensive list of global utility blockchain pilots and extract and document industry trends, lessons learned and key insights. | Through a collaborative approach, expand utility knowledge of blockchain technology and its potential applications in the industry. Enable collaboration opportunities among utilities and act as a bridge to the startup/vendor community. | 1/1/2021 | 12/31/2021 | All |
| Grid Evolution | 36 | EPRI SHINES | Beneficial integration of solar PV, energy storage, load management, and solar forecasting. EPRI will test the architecture at three sites to compare configurations and size, as well as grid connections, and solar generation variability. | Enhanced grid operations, increased PV deployments, time shifting of solar generation, improved generation/load profiles, reduced grid impacts and interconnection processing time and cost. | 11/1/2019 | 6/1/2021 | All |

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| Grid Evolution | 100 | EPRI Transmission & Substations Collaboration | Participation in this EPRI collaborative enables SMUD to stay current on industry-wide EPRI R&D, including results of advanced technology testing, software tool development, reference guides and the application of research results. | Apply EPRI tools and research results in Overhead Lines, Underground Lines, Substations, and Asset Analytics. Increased knowledge of failure rates and emerging issues by contributing to and accessing EPRI's T&S Asset Industry-Wide Databases. | 1/1/2021 | 12/31/2021 | All |
| Grid Evolution | 45 | Transmission Line Monitoring | Test the achievability and usability of Dynamic Line Ratings (DLR) to inform short-term operational and long-term planning decisions, using the LineVision V3 monitoring system. | Increases efficiency of transmission asset utilization while maintaining reliability. Advanced line rating methodologies can result in cost savings and operational benefits. | 4/22/2021 | 12/31/2023 | All |
| Grid Evolution | 61 | 3M Spartan II | The Spartan units will be used to gain visibility on the downtown network where we currently have none. | Savings on SCADA for the downtown network and reduction in time for restoring service. | 11/5/2018 | 11/5/2021 | 5 |
| Grid Evolution | 63 | Transformer Online Monitoring | Installation and testing of Online Transformer Monitoring on two 230/69 kV substation transformers. Monitoring includes oil analysis for asset health and Geomagnetically Induced Currents for NERC compliance. | Identify problems before transformer failure, maintain an accurate asset health index, identify if a different mode of operation is needed, and better predict the asset's end of life. | 9/1/2018 | 8/31/2021 | All |
| Grid Evolution | 62 | 69kV Advanced Line Sensor | Evaluate the leading 69kV fault indicator sensor products. Install viable sensors on the grid and review their performance. | Visibility for the ADMS.SAIDI SAIFI impact with faster fault location identification and system restoration. | 3/1/2017 | 6/30/2021 | All |
| Grid Evolution | 46 | Communication Architecture for Secure DER | This EPRI project will leverage expertise from utility members, the vendor community, and other industries to develop and demonstrate secure communication architectures to enable coordinated control of DER. | Advancement of standardized interfaces will promote competition amongst communications solutions providers to drive quality up and costs down. By influencing national standards, SMUD can facilitate DER adoption and realize the many grid benefits of coordinated DERs. | 12/13/2017 | 11/11/2020 | All |
| Grid Evolution | 43 | PCA Pilot Enhancement | Demonstrate and enhance the Price Communication Application to provide dynamic pricing coordination for partner projects automating DER technologies for: Residential and Commercial Storage, Heat Pump Water Heater, and Thermostat Optimization Pilots. | Enable Price-based DER automation pilots and systems enhancements for: Residential and Commercial Storage, Heat Pump Water Heater - Thermostat Optimization | 8/1/2018 | 12/31/2020 | All |
| Load Flexibility | 69 | EnergyKit HEMS Proof of Concept | Ynventive is designing, building, and testing the EnergyKit, as well as demonstrating its effectiveness at a chosen site in Davis, CA. SMUD is providing inputs on typical home energy use patterns and technological considerations pertaining to SMUD's operations. | Successful development may persuade Panasonic and NEDO to match up to \$20M in DOE or CEC grant funding to deploy a field demo to dispatch customer loads using price signals with the confidence and reliability of a VPP product. | 4/30/2021 | 12/17/2021 | All |
| Load Flexibility | 49 | Multi-DER VPP | This project will research the ability of the proposed solution to orchestrate a diversity of qualifying residential customer -sited devices to deliver load flexibility needs throughout the year and to assess whether it makes sense to continue to scale-up. | Upon successful completion of the Multi-DER VPP, SMUD will have a guaranteed, load flexible residential program. This load will be integrated with the DERMS and allow SMUD to operate as required for business needs (EIM/RA/Emergency). | 1/5/2021 | 12/31/2026 | All |

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| Load Flexibility | 50 | Commercial TES Phase II | Commercial TES Phase II will be a live pilot of this operation based on CalISO day ahead pricing. | Cost to serve and cost to operate will be reduced. Justification for a customer incentive to modify their existing TES operation or install a new system. | 3/3/2019 | 3/17/2023 | All |
| Load Flexibility | 99 | Oracle BDR Evaluation | R&D will provide a 3rd party evaluation of Oracle Behavioral Demand Response (BDR) to confirm results. This project aims to fulfill the boards desire to have a demand response program for all customers. | Having a demand response program available to all customers, regardless of technology, is an important step towards meeting the 2030 goals. | 6/14/2021 | 8/31/2021 | All |
| Load Flexibility | 60 | PowerMinder HPWH | Load shifting using controllable Heat Pump Water Heaters (HPWH). Scalability and load flexibility will be evaluated for both GE and Rheem brand controllable HPWHs. | Up to 0.5 kW of flexible load per HPWH, at scale this technology has the potential to significantly contribute flexible load called for by the ZCP. This project is an important step to help realize the value of flexible load from water heaters. | 10/7/2018 | 7/31/2021 | All |

Table 3: Enterprise-Wide Initiatives

| Initiative Name | Initiative Description | Initiative Benefits | Start Date | End Date | Ward |
|---------------------------------------|--|--|------------|----------|------|
| California Mobility Center | The CMC revamped its brand, developed launch campaign, finalized service offering and secured service providers, negotiated lease, designed ramp-up factory and procured equipment, executed founders' agreements, assisted with the creation of an affiliated venture capital fund and more. | Accelerate commercialization of electric transportation solutions will enable SMUD to realize the GHG benefits of transportation electrification and minimize costs for grid expansion via new smart innovative technologies. | 06/2019 | Ongoing | All |
| DERMS | Strategic business partnership with OSI to develop a Distributed Energy Resource Management System whereas SCADA and behind the meter resources can be used to solve distribution constraints, participate in the market, and manage flexibles loads. | Leverage DER capabilities to meet economic objectives, peak load reduction, local constraint issues, deferred infrastructure investment, and grid optimization. As OSI's partner, SMUD shares revenue from future sales. | 2018 | 2028 | All |
| ADMS | Implement a real-time Advanced Distribution Management System (ADMS) Platform (DMS and D-SCADA) to improve management and control of distribution system, enhance distribution operations functions, optimize distribution system and improve forecasting accuracy. | ADMS is the foundation to support providing SMUD's Distribution System Operations a 360 view of distribution and is required to support future DERMS Phases. | 02/2018 | 2021 | All |
| Innovation team | Innovation at SMUD comprises of exploratory activities related to new strategies. The Innovation Governance Team reviewed 63 technology and business model submissions by employees and external stakeholders for inclusion into the 2030 Zero Carbon Plan, and will continue reviewing opportunities as they are presented. | The Innovation team will propel us towards our 2030 absolute zero carbon goal by balancing diverse emerging technologies and ideas across the organization that drive operational efficiencies and competitive advantage with a centralized team that can champion breakthrough innovations. | 2021 | Ongoing | All |
| Internet of Things Platform (Phase 1) | Phase 1 proof-of-concept of remote management of grid assets showed how a centralized platform can support device connectivity, data collection, analytics and visualization. Phase 2 will expand to customer DERs. | The IoT platform will improve the planning and operations of SMUD assets, while expansion to customer DERs will support load flexibility and decarbonization. | 09/2020 | 07/2021 | All |
| Virtual Assessments | SAAs, Energy Specialists and Energy Advisors conducted onsite energy audits virtually giving customers a safe and convenient way to engage and thrive with SMUD during and after COVID-19. | Greater safety and flexibility provided to SMUD customers in attaining energy audits for their properties. Operational efficiency and cost reduction for fewer truck/car rolls. | 2020 | Ongoing | All |

SSS No.

BOD 2021-001

BOARD AGENDA ITEM STAFFING SUMMARY SHEET

Committee Meeting & Date
Policy 2021

Board Meeting Date
2021

| | | | | | | | | | | |
|--|-------------------|--------------------------|------------|---|--|----------------------------------|--------------------------|-------------------|------------------------------------|-------------------------|
| TO | | | | | TO | | | | | |
| 1. | Jennifer Davidson | | | | 6. | | | | | |
| 2. | Stephen Clemons | | | | 7. | | | | | |
| 3. | | | | | 8. | | | | | |
| 4. | | | | | 9. | Legal | | | | |
| 5. | | | | | 10. | CEO & General Manager | | | | |
| Consent Calendar | | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> No | Budgeted | | <input type="checkbox"/> | Yes | <input type="checkbox"/> No | |
| If no, schedule a dry run presentation. | | | | | (If no, explain in Cost/Budgeted section.) | | | | | |
| FROM (IPR) Nancy Bui-Thompson / Donna Lofton | | | | | DEPARTMENT Board Office | | | MAIL STOP B307 | EXT. 5079 | DATE SENT 12/22/2020 |
| NARRATIVE: | | | | | | | | | | |
| <p>Requested Action: Enable the Board of Directors and Executive Staff an opportunity to review the Board Work Plan.</p> <p>Summary: The Board President reviews the Board Work Plan at the Policy Committee meeting to ensure agenda items support the work of the Board.</p> <p>Board Policy: This review of the work plan supports GP-6 Role of the Board President which states that the Board President shall give progress reports on the Board's work plan. <i>(Number & Title)</i></p> <p>Benefits: Reviewing the Work Plan allows the Board members and Executive staff to make changes to the Work Plan and Parking Lot items as necessary.</p> <p>Cost/Budgeted: N/A</p> <p>Alternatives: Not review the Work Plan at this time</p> <p>Affected Parties: Board and Executive staff</p> <p>Coordination: Donna Lofton</p> <p>Presenter: Nancy Bui-Thompson, Board President</p> | | | | | | | | | | |

Additional Links:

SUBJECT

Board Work Plan

ITEM NO. (FOR LEGAL USE ONLY)

ITEMS SUBMITTED AFTER DEADLINE WILL BE POSTPONED UNTIL NEXT MEETING.

SSS No.

BOD 2021-004

BOARD AGENDA ITEM

STAFFING SUMMARY SHEET

Committee Meeting & Date

Policy 2021

Board Meeting Date

N/A

| TO | | | | | TO | | | | |
|----|-------------------|--|--|--|-----|-----------------------|--|--|--|
| 1. | Stephen Clemons | | | | 6. | | | | |
| 2. | Jennifer Davidson | | | | 7. | | | | |
| 3. | | | | | 8. | | | | |
| 4. | | | | | 9. | Legal | | | |
| 5. | | | | | 10. | CEO & General Manager | | | |

| | | | | | | | | | |
|--|--------------------------|------------|-------------------------------------|--|----------------------------|--------------------------|------------|--------------------------|---|
| Consent Calendar | <input type="checkbox"/> | Yes | <input checked="" type="checkbox"/> | No <i>If no, schedule a dry run presentation.</i> | Budgeted | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No <i>(If no, explain in Cost/Budgeted section.)</i> |
| FROM (IPR) Heidi Sanborn / Donna Lofton | | | | | DEPARTMENT Board Office | | | MAIL STOP B307 | EXT. 5079 |
| | | | | | | | | DATE SENT 12/22/20 | |

NARRATIVE:

Requested Action: Provide a summary of committee direction from the Board to Staff.

Summary: During a Board discussion at the January 2017 Policy Committee, the Board requested having an on-going opportunity to do a wrap up period at the end of each committee meeting to summarize various Board member suggestions and requests that were made at the meeting in an effort to make clear the will of the Board. The Committee Chair will summarize Board member requests that come out of the committee presentations for this meeting.

Board Policy: GP-4 Agenda Planning states the Board will focus on the results the Board wants the organization to achieve.
(Number & Title)

Benefits: Having an agendaized opportunity to summarize the Board's requests and suggestions that arise during the committee meeting will help clarify what the will of the Board.

Cost/Budgeted: N/A

Alternatives: Not summarize the Board's requests at this meeting.

Affected Parties: Board of Directors and Executive Staff

Coordination: Donna Lofton, Special Assistant to the Board

Presenter: Heidi Sanborn, Policy Committee Chair

Additional Links:

| | | |
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| SUBJECT | Summary of Committee Direction | ITEM NO. (FOR LEGAL USE ONLY) |
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