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

Date: Wednesday, May 17, 2023

Time: Scheduled to begin at 6:00 p.m.

Location: SMUD Headquarters Building, Auditorium

6201 S Street, Sacramento, CA





• AMENDED AGENDA BOARD ENERGY RESOURCES & CUSTOMER SERVICES COMMITTEE MEETING AND SPECIAL SMUD BOARD OF DIRECTORS MEETING

•Item 1 - Speaker Revised.

Wednesday, May 17, 2023 SMUD Headquarters Building, Auditorium 6201 S Street, Sacramento, California Scheduled to begin at 6:00 p.m.

This Committee meeting is noticed as a joint meeting with the Board of Directors for the purpose of 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 Energy Resources & Customer Services Committee will review, discuss and provide the Committee's recommendation on the agenda items.

Virtual Viewing or Attendance:

Live video streams (view-only) and indexed archives of meetings are available at: http://smud.granicus.com/ViewPublisher.php?view id=16

Zoom Webinar Link: Join Board Energy Resources & Customer Services

Committee Meeting Here

Webinar/Meeting ID: 161 857 8572

Passcode: 186628

Phone Dial-in Number: 1-669-254-5252 or 1-833-568-8864 (Toll Free)

Verbal Public Comment:

Members of the public may provide verbal public comment by:

- Registering in advance of a meeting by sending an email to <u>PublicComment@smud.org</u>, making sure to include the commenter's name, date of the meeting, and topic or agenda item for comment. Microphones will be enabled for virtual or telephonic attendees at the time public comment is called and when the commenter's name is announced.
- Completing a sign-up form at the table outside of the meeting room and giving it to SMUD Security.
- Using the "Raise Hand" feature in Zoom (or pressing *9 while dialed into the telephone/toll-free number) during the meeting at the time public comment is called. Microphones will be enabled for virtual or telephonic attendees when the commenter's name is announced.

Written Public Comment:

Members of the public may provide written public comment on a specific agenda item or on items not on the agenda (general public comment) by submitting comments via email to PublicComment@smud.org or by mailing or bringing physical copies to the meeting.

Comments will not be read into the record but will be provided to the Board and placed into the record of the meeting if received within two hours after the meeting ends.

DISCUSSION ITEMS

- 1. Bryan Swann
 DIRECTOR, RESOURCE
 STRATEGY, SMUD
 - Emily Wimberger, MANAGING PARTNER, HUA NANI PARTNERS

Rajinder Sahota

DEPUTY EXECUTIVE

OFFICER, CLIMATE

CHANGE & RESEARCH,

CALIFORNIA AIR

RESOURCES BOARD

Dr. Sarah Saltzer
MANAGING DIRECTOR,
STANFORD CENTER FOR
CARBON STORAGE,
STANFORD UNIVERSITY

Barbara McBride SENIOR DIRECTOR OF STRATEGIC ORIGINATION AND DEVELOPMENT, CALPINE

- a. Approve SMUD's participation in the submittal of a grant application or applications by Calpine Corporation (Calpine) to the U.S. Department of Energy (DOE) or other agencies for the Sutter Energy Center Carbon Capture and Sequestration Project (CCS Project) and authorize the Chief Executive Officer and General Manager (CEO/GM), on behalf of SMUD, to execute all grant documents necessary to secure grant funds; and
- b. Authorize the CEO/GM to execute a Memorandum of Agreement (MOA), substantially in form attached, with Calpine to negotiate commercial terms of a Power Purchase Agreement (PPA) for the output of Calpine's proposed CCS Project.

Presentation: 60 minutes Discussion: 60 minutes

INFOMATIONAL ITEMS

- 2. Public Comment
- 3. Brandon Rose Summary of Committee Direction.

Discussion: 1 minute

Members of the public shall have up to three (3) minutes to provide public comment on items on the agenda or items not on the agenda, but within the jurisdiction of SMUD. The total time allotted to any individual speaker shall not exceed nine (9) minutes.

Members of the public wishing to inspect public documents related to agenda items may click on the Information Packet link for this meeting on the <u>smud.org</u> website or may call 1-916-732-7143 to arrange for inspection of the documents at the SMUD Headquarters Building, 6201 S Street, Sacramento, California.

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 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 1-916-732-7143, no later than 48 hours before this meeting.

SSS No.	
RS 23-002	

BOARD AGENDA ITEM

STAFFING SUMMARY SHEET

Committee Meeting & Date
ERCS – 05/17/23
Board Meeting Date
May 18, 2023

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1.	Bryan Swann						6.	Bran	Brandy Bolden					
2.	Scott Martin					7.								
3.	. Frankie McDermott					8.								
4.	Lora Anguay					9.	Legal							
5. Suresh Kotha					10.	CEG	3 (Gener	al N	Manager				
Consent	Calendar	Х	Yes		o If no, sc resentation	hedule a dry run 1.	Budgeted Yes No (If no, explain in Cost/I section.)			Budgeted				
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Requested Action:

- a. Approve SMUD's participation in the submittal of a grant application or applications by Calpine Corporation (Calpine) to the U.S. Department of Energy (DOE) or other agencies for the Sutter Energy Center Carbon Capture and Sequestration Project (CCS Project) and authorize the Chief Executive Officer and General Manager (CEO/GM), on behalf of SMUD, to execute all grant documents necessary to secure grant funds; and
- b. Authorize the CEO/GM to execute a **Memorandum of Agreement (MOA)**, substantially in form attached, with **Calpine** to negotiate commercial terms of a **Power Purchase Agreement (PPA)** for the output of **Calpine's** proposed **CCS Project**.

Summary:

At the March 15, 2023, SMUD Board meeting, staff provided an overview of an opportunity to enter into a 12-year offtake agreement with Calpine on the CCS Project located in Sutter County and be listed as the off-taker on grant applications that Calpine will submit to DOE to obtain grant funds for the CCS Project.

Over the past several weeks, SMUD and Calpine have conducted robust public outreach and workshops. On May 2, 2023, SMUD hosted a workshop on the CCS Project in Sacramento. Email invitations were sent to individuals and organizations, including environmental justice groups and SMUD's listserv. We also created a dedicated webpage and posted about the event on our social media channels. On May 4, 2023, Calpine hosted a workshop on the CCS Project in Yuba City.

The California Air Resources Board (CARB), Stanford University, and Calpine will present on State support for CCS technology, California geology supporting carbon storage, safety, project technology, local outreach and support, development path, etc.

SMUD staff will provide the benefits of the proposed CCS Project and a summary of public feedback gathered.

Board Policy: (Number & Title)

Strategic Direction SD-9, Resource Planning; Strategic Direction SD-4, Reliability; Strategic Direction

(Number & Title) SD-7, Environmental Leadership

Benefits: Provide the SMUD Board and Community details of a clean technology resource opportunity that could

help SMUD achieve its 2030 Zero Carbon Plan.

Cost/Budgeted: N/A

Alternatives: Do not inform the SMUD Board of the clean energy resource opportunity and decline Calpine's offer to

purchase the output of the proposed CCS Project and be listed as the off-taker on any grant applications

associated with the CCS Project.

Affected Parties: Resource Strategy, Legislative and Regulatory Affairs Customer Strategy, Enterprise Strategy,

Communication, Marketing and Community Relations, Treasury Operations & Risk Management, Legal, Government Affairs & Reliability Compliance, Energy Supply, Sustainable Communities

Coordination: Resource Strategy, Energy Trading and Contracts, Power Generation, Transmission Planning and

Operations, Marketing and Corporate Communications

Presenters: Bryan Swann, Director, Resource Strategy – SMUD

Rajinder Sahota, Deputy Executive Officer, Climate Change and Research – CARB

Sarah Saltzer, Managing Director of the Stanford Center for Carbon Storage - Stanford University

Barbara McBride, Senior Director of Strategic Origination and Development - Calpine

Additional Links:		

SUBJECT Calpine Carbon Capture and Sequestration Partnership Opportunity

ITEMS SUBMITTED AFTER DEADLINE WILL BE POSTPONED UNTIL NEXT MEETING.

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Emily is a Managing Partner at Hua Nani Partners, a strategic climate and energy consulting firm. Emily works broadly across climate and environmental policy advocacy with a focus on the economic analysis and implementation of subnational policies and carbon markets.

Prior to Hua Nani Partners, Emily was a Climate Economist at Rhodium Group where she analyzed the economic impact of climate change and policy responses. Emily also worked with the Climate Impact Lab, focusing on state climate damages and the Social Cost of Carbon. Prior to Rhodium, Emily was the Chief Economist for the California Air Resources Board where she oversaw the economic analyses of California's portfolio of climate and air quality policies. She also worked on the design and implementation of the Cap-and-Trade Program and Low Carbon Fuel Standard.

Emily holds a Ph.D. in Agricultural and Resource Economics from UC Davis and a Bachelor's degree in energy, environmental, and mineral economics from Penn State.



Dr. Sarah Saltzer is the Managing Director of the Stanford Center for Carbon Storage and is leading the effort to launch a new Carbon Management Initiative at Stanford. She was also recently named to the Biden-Harris Administration's Carbon Dioxide Capture, Utilization and Sequestration (CCUS) Non-Federal Lands Task Force. Sarah spent 25 years in the oil and gas industry where she held a series of scientific, managerial, and executive roles. She has a diversity of experience in positions of increasing responsibility, including geology research and teaching, petroleum engineering, leading exploration teams, competitor analysis and business planning and strategy. Dr. Saltzer holds a M.S. and B.S. from the Massachusetts Institute of Technology and a Ph.D. from Stanford University.



Barbara McBride

Senior Director of Strategic Origination and Development

Barbara Huettenhain McBride is Director of Strategic Origination and Development at Calpine Corporation (Calpine), which operates the largest fleet of natural gas-fired power plants in the United States and is the largest producer of electricity from geothermal resources. Ms. McBride has over 35 years of experience as an environmental professional and is responsible for permitting over 6,000 megawatts of natural gas-fired generation in the western United States, including the first facility to receive a federal air permit regulating its greenhouse gas (GHG) emissions, which the project voluntarily sought, before GHG limits were required by the U.S. Environmental Protection Agency. She has been working on carbon capture, utilization and storage (CCUS) projects for



nearly two decades and is currently leading development of two demonstration-scale CCUS projects at a combined heat and power facility in Pittsburg, California; the first is a U.S. Department of Energy (DOE) funded project that will be testing advanced carbon capture solvents, and the second is a demonstration-scale project that employs advanced technology to mineralize captured carbon, so it can be used as a light-weight and low-carbon substitute for building materials. She is also currently leading the development of a DOE-funded front-end engineering and design study to deploy CCUS at-scale for natural gas-fired generation and another full-scale CCUS retrofit of an existing gas-fired power plant in California. Ms. McBride has an established record of working with federal, state and local regulators to design projects that achieve the project objectives, while adhering to the strong environmental and labor standards, often in the face of significant opposition. She is a member of the Board of Directors of the Carbon Capture Coalition and the California Council for Environment and Economic Balance and regularly participates in legislative and regulatory advocacy for the role that CCUS projects can play in achieving federal and state decarbonization objectives. An agricultural engineering graduate of the University of California, Davis, she is a single mother of three adult children. Her son is a member of the Army National Guard and attends the University of California, Santa Cruz with his older sister who majors in chemistry.

MEMORANDUM OF AGREEMENT

This Memorandum of Agreement ("Memorandum"), dated as of May ___, 2023, is entered into by and between the Sacramento Municipal Utility District, a political subdivision of the State of California, with its principal offices at 6201 S Street, Sacramento, California 95817 ("SMUD"), and Calpine Corporation, a Delaware corporation, with its principal offices at 717 Texas Avenue, Suite 1000, Houston, Texas 77002 ("Calpine"). SMUD and Calpine are referred to herein individually as a "Party" and collectively as the "Parties".

RECITALS

- A. SMUD and Calpine Energy Services, L.P., a Delaware limited partnership and an affiliate of Calpine ("CES") are parties to that certain Transaction Confirmation dated February 19, 2020 and that certain Transaction Confirmation dated December 21, 2021 (collectively, the "Existing Transactions"), pursuant to which Calpine makes available to SMUD and SMUD has the right to dispatch, up to 258 MW of energy and capacity from the Sutter Energy Center (the "Facility"), that is owned by Sutter Energy Center, LLC, a Delaware limited liability company and also an affiliate of Calpine ("SEC"), through December 31, 2026.
- B. SMUD has adopted its 2030 Zero Carbon Plan which sets forth a number of procurement and resource-related goals with the objective of eliminating carbon emissions from its power supply by 2030. In connection with its execution of the objectives set forth in the 2030 Zero Carbon Plan, SMUD believes that retrofitting existing natural gas generation facilities with carbon capture and sequestration ("CCS") technologies may be an expeditious and cost effective means of eliminating carbon emissions from its power supply, while also preserving a high level of reliability. The successful deployment of CCS technologies at the Facility might also facilitate an earlier closure of less efficient thermal resources located in or near disadvantaged communities.
- C. Pursuant to AB 1279, the State of California has directed the implementation of a variety of policies and strategies that enable carbon dioxide removal solutions and CCS technologies in California to complement emissions reductions and achieve the State of California's policy goals.
- D. Calpine is actively pursuing the use and deployment of CCS technologies and is currently developing retrofits at a number of its natural gas-fired generation facilities throughout the country, including the Facility. The Facility is particularly well suited to the deployment of CCS technology, given its proximity to suitable geologic formations for effective sequestration, the availability of sufficient real property, and Calpine's ownership of suitable pipeline rights of way.
- E. The use and deployment of CCS at the Facility is critical for meeting California's ambitious climate goals while ensuring the availability of reliable natural gas-fired electricity. CCUS is one of the only technologies that can enable firm, dispatchable, non-duration-limited low-carbon generation to backstop the reliability of the grid. The California Air Resources Board's ("CARB") Scoping Plan projects a need to retain all existing gas-fired generation to meet demand through 2045 and includes 16.7 million tons per year of existing fossil generation utilizing CCUS by 2045 to achieve AB 1279's 85% reduction target.

- F. Calpine has applied to the California Energy Commission ("CEC") to modify the CEC permit for the Facility to enable the use of CCS technology. Calpine has also engaged an engineering, procurement and construction (EPC) contractor to perform the front end engineering design ("FEED") study for the addition of a carbon capture facility to the Facility, has procured substantially all of the real estate rights necessary to transport the captured carbon dioxide to a carbon sequestration facility being developed by a third party, and [has entered into a memorandum of understanding with such third party] for the sequestration of all carbon dioxide captured from the Facility in compliance with all federal and state requirements.
- G. There is substantial federal support for the deployment of CCS technologies, including retrofitting of existing natural gas-fired generation facilities, such as the Facility, with CCS technology. Section 45Q of the Internal Revenue Code provides for a tax credit of up to \$85 per ton of sequestered carbon dioxide for qualified projects that begin construction before January 1, 2033. The party that is developing the carbon sequestration facility has received a grant from the Department of Energy ("DOE") under the Infrastructure Investment and Jobs Act for CarbonSAFE Phase II funding which, together with other committed funds, will pay a substantial portion of the costs necessary to develop the carbon sequestration facility. Calpine is also applying to DOE for federal funding for the installation of CCS technology at the Facility and believes that the Facility is an excellent candidate for this funding because of, among other things, the proximity of the carbon sequestration facility.
- H. Pursuant to a Memorandum of Understanding dated September 10, 2021 (the "MOU") between the Parties, the Parties have been investigating the technical and economic feasibility of entering into a transaction pursuant to which Calpine (or its affiliates) would retrofit the Facility with CCS technology and arrange for the sequestration of the captured carbon dioxide, so that the Facility is capable of providing capacity and energy meeting the requirements of SMUD's 2030 Zero Carbon Plan ("Zero Carbon Capacity and Energy"), and SMUD would purchase the Zero Carbon Capacity and Energy from the retrofitted Facility. The Parties have concluded that such an arrangement is technically and economically feasible and wish to proceed to the execution of definitive agreements, subject only to the satisfaction of certain conditions precedent set forth in this Memorandum.

AGREEMENT

NOW, THEREFORE, in consideration of the premises and for other good and valuable consideration, the Parties agree as follows:

1. <u>Intent to Enter into PPA</u>. The Parties agree that it is their mutual intent, subject to satisfaction or waiver of the conditions set forth in Section 2 of this Memorandum, and subject to further clarification by the Parties around certain material commercial terms not currently available at the time of the execution of this Memorandum, to enter into a definitive transaction confirmation for the purchase and sale of Zero Carbon Capacity and Energy from the Facility for a minimum of 12 years (Transaction Confirmation). Each Party herby authorizes its duly authorized representatives to, upon satisfaction of the conditions set forth herein and in Section 2, to enter into negotiations for such Transaction Confirmation in accordance with Section 3 of this Memorandum.

- 2. <u>Conditions to Entry into PPA</u>. Each Party's obligation to enter into the Transaction Confirmation is subject to the satisfaction or waiver by the Party benefited, in such Party's reasonable discretion, of the following conditions. The Parties will cooperate and work together in good faith to satisfy these conditions as soon as reasonably practical. All conditions shall be deemed to benefit both Parties unless otherwise stated.
- a. Calpine or its affiliates have received all federal, state and local governmental authorizations and permits necessary to retrofit the Facility and operate it to produce Zero Carbon Capacity and Energy, including modifications of the CEC permit and air permit for the Facility and compliance with the National Environmental Policy Act ("NEPA") and the California Environmental Quality Action ("CEQA").
- b. All federal, state and local governmental authorizations and permits necessary for the construction and operation of a carbon sequestration facility capable of sequestering the carbon dioxide emitted by the Facility have been issued, and Calpine or its affiliates have entered into an agreement with the owner of such facility to accept the carbon dioxide expected to be produced by the Facility under the Transaction Confirmation for at least the full term of the Transaction Confirmation and to sequester such carbon dioxide in accordance with applicable federal and state requirements.
- c. The Parties are satisfied that Calpine or an affiliate has entered into or will be able to enter into an EPC contract to modify the Facility by the addition of a carbon capture facility that, when operated in conjunction with the carbon sequestration facility described above, can reasonably be expected to produce Zero Carbon Capacity and Energy as provided in the Transaction Confirmation.
- d. SMUD is satisfied that the Transaction Confirmation, as completed and/or modified by the Parties, is consistent with its Integrated Resources Plan and its 2030 Zero Carbon Plan, satisfies SMUD's reliability needs, and the pricing and other terms are competitive with other base-load resources available to SMUD to provide Zero Carbon Capacity and Energy.
- 3. <u>Definitive Agreement</u>. The Parties will use all commercially reasonable efforts to enter into the definitive Transaction Confirmation within [thirty (30)] days after the conditions set forth in Sections 2(a) through 2(d) have been satisfied or waived. This Memorandum only constitutes a statement of the current mutual intentions of the Parties and does not create any binding legal obligations on the part of either Party, and may not be relied upon by either Party as the basis for any claim, estoppel or purported agreement. No Party shall be obligated to proceed with the transactions contemplated by the Memorandum unless and until a definitive Transaction Confirmation has been (i) approved by the SMUD Board of Directors, and (ii) executed and delivered by the Parties, and then only to the extent provided in such Transaction Confirmation.
- 4. <u>Term.</u> This Memorandum will terminate on the earliest of: (i) the execution of a definitive Transaction Confirmation by the Parties, or (ii) the agreement of the Parties to terminate this Memorandum.
- 5. <u>Confidentiality</u>. This Memorandum and all information delivered or disclosed pursuant to this Memorandum or in connection with the activities described herein are subject to

the terms and conditions of that certain Confidentiality and Non-Disclosure Agreement dated August 5, 2021 between the Parties.

- 6. <u>Public Statements</u>. No Party shall issue any announcements, press releases or public statements regarding the existence of this Memorandum or the shared purpose or activities herein without the approval of the other Party; provided that a Party may make such public disclosures or filings as required by law.
- 7. Assignment. Neither Party may assign this Memorandum or its rights and obligations hereunder without the prior written consent of the other Party in its sole discretion, provided, however, that Calpine may assign or delegate this Memorandum and/or its rights and obligations hereunder, in whole or in part, to one or more wholly-owned affiliates and SMUD may assign or delegate this Memorandum and/or its rights and obligations hereunder, in whole or in part, to the Balancing Authority of Northern California. Any purported assignment not in accordance with this Section 7 shall be null and void and of no force or effect. Subject to the foregoing, the binding provisions of this MOU shall bind and benefit the Parties and their successors and assigns.
- 8. Relationship of the Parties. This Memorandum is not intended to create, nor shall it be construed to create, any partnership, agency or joint venture between the Parties or to render either Party liable for any debts or obligations of the other Party, and the Parties represent and warrant to each other that no fact or relationship exists that would expressly or impliedly create any such partnership, agency or joint venture.
- 9. <u>Fees and Expenses</u>. Each Party will be solely responsible for its own legal and professional fees and expenses costs (including without limitation legal, engineering, accounting and other professional fees) incurred in connection with the negotiation and preparation of the Memorandum and the Transaction Confirmation and the performance of its obligations hereunder.
- 10. <u>Governing Law</u>. This Memorandum shall be governed by and interpreted in accordance with the laws of the State of California without reference to principles of conflict of laws.
- 11. <u>Counterparts.</u> This Memorandum may be executed in one or more counterparts, each of which will be deemed to be an original copy and all of which, when taken together, will be deemed to constitute one and the same document, and will be effective when counterparts have been executed by each of the Parties and delivered. A manual or electronic signature been transmitted electronically will constitute an original for all purposes. The delivery of copies of this Memorandum, including executed signature pages, by electronic transmission will constitute effective delivery of this Memorandum for all purposes.

IN WITNESS WHEREOF, the Parties have executed this Memorandum as of the day and year first above written.

SACRAMENTO MUNICIPAL UTILITY DISTRICT CALPINE CORPORATION

By:	By:
Name:	Name:
Title:	Title:



SSS No.		
BOD 2022-021		

BOARD AGENDA ITEM

STAFFING SUMMARY SHEET

Committee Meeting & Date	_
2023	
Board Meeting Date	
N/A	

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FROM (IPR	R)					DEPARTMENT	•				MAIL STOP	EXT.	DATE SENT
	Rose / Speci	al Assi	istant	to th	ne Board	Board Office					B307	5079	12/27/22
NARRATI	IVE: lested Action					es provided to stat							
	Summary Board Policy Number & Title	to to to con	summ make me ou	nariz clea it of agen	e various B or the will of the commi	on-going opportu Board member sug of the Board. The ttee presentations g states the Board	gestion Comm for this	s and requittee Chameeting.	uests the	hat w sum	ere made at the marize Board r	e meeting nember	g in an effort requests that
	Benefits		: Having an agendized opportunity to summarize the Board's requests and suggestions that arise the committee meeting will help clarify what the will of the Board.						arise during				
Co	ost/Budgeted	l: Inc	cluded	l in l	budget								
	Alternatives	: No	Not summarize the Board's requests at this meeting.										
Affe	ected Parties	s: Bo	Board of Directors and Executive Staff										
C	Coordination	ı: Sp	pecial	Ass	istant to the	e Board							
	Presenter	: B1	randoi	n Ro	se, ERCS (Chair							

Additional Links:		

SUBJECT Summary Of Committee Direction – ERCS

ITEM NO. (FOR LEGAL USE ONLY)

ITEMS SUBMITTED AFTER DEADLINE WILL BE POSTPONED UNTIL NEXT MEETING.

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