



GREEN BOND SECOND PARTY OPINION

ELECTRIC REVENUE BONDS, 2019 SERIES G GREEN BONDS ("2019 Series G Green Bonds")

Issuer:	Sacramento Municipal Utility District
GBP Category:	Green Buildings
Location (HQ):	6301 S St, Sacramento, CA, USA
Financing value:	\$75,000,000
Amount evaluated:	100%
Evaluation date:	July 2, 2019
Contact:	Evan Smith, Lead Technical Verifier, Kestrel Verifiers +1 530.919.9162, evan@kestrel-inc.com

TRANSACTION OVERVIEW

Sacramento Municipal Utility District ("SMUD") plans to issue \$200,000,000 in Electric Revenue Bonds, 2019 Series G with \$75,000,000 identified as Green Bonds ("2019 Series G Green Bonds"). These Green Bonds are a select part of the Series G offering maturing on August 15, 2029 and annually thereafter through 2036.

This Second Party Opinion reflects our view of SMUD's project and financing, allocation and oversight, and conformance of the bonds with the Green Bond Principles.

Proceeds from the 2019 Series G Green Bonds will be used to renovate and upgrade SMUD's existing headquarters building ("SMUD Headquarters") to reduce energy and water consumption. The renovations are designed to meet the Leadership in Energy and Environmental Design (LEED) Gold standard.

In our opinion, the 2019 Series G Green Bonds to be issued by SMUD are aligned with the Green Bond Principles 2018.

INTRODUCTION

The Sacramento Municipal Utility District, also known as SMUD, is a community-owned, not-for-profit electric service in Sacramento, California. SMUD has been serving Sacramento for over 70 years and is

now the nation's sixth-largest community-owned electric utility. SMUD is a recognized leader in environmental and sustainability initiatives. As the first California utility to receive more than 20% of its energy from renewable sources, SMUD continues to be a leader in greenhouse gas emissions reductions.

SMUD has established goals that support emissions reductions and a low-carbon trajectory, including goals in using renewable energy and reducing fleet fossil fuel use. To achieve this sustainability vision, SMUD has further established sustainability targets for buildings and office space by setting a primary goal to double energy savings at existing buildings.

SMUD plans to issue these bonds and use the proceeds to finance and reimburse expenditures related to renovation and upgrades on the existing SMUD Headquarters to reduce energy and water consumption.

SMUD has engaged Kestrel Verifiers to provide an independent Second Party Opinion on the alignment of the 2019 Series G Green Bonds with the Green Bond Principles 2018 (the "GBP"), as administered by the International Capital Market Association (the "ICMA"), and to the United Nations Sustainable Development Goals ("SDGs"). Kestrel Verifiers is an Approved Verifier, as per the Climate Bonds Initiative, for Green Bonds and Climate Bonds. The Kestrel review team included a Green Buildings specialist.

As part of this engagement, Kestrel Verifiers examined public and non-public information, and interviewed members of SMUD's management and finance teams. Our goal was to understand sustainability impacts of the business, planned use of proceeds, procedures for management of proceeds, and plans and practices for reporting. This document contains Kestrel's opinion of the 2019 Series G Green Bonds.

SACRAMENTO MUNICIPAL UTILITY DISTRICT'S SUSTAINABILITY STRATEGY

Kestrel believes that the Sacramento Municipal Utility District has a strong sustainability strategy supported by a robust governance structure. SMUD's goals and commitment to environmental quality are supported through a governance system for managing and integrating sustainability into the utility and setting clear, attainable and effective goals.

SMUD's vision is to "be the trusted partner with our customers and community, providing innovative solutions to ensure energy affordability and reliability, improve the environment, reduce our region's carbon footprint, and enhance the vitality of our community." This vision drives the organization toward sustainability. To achieve its sustainability vision, SMUD has established sustainability guiding principles which include:

- Supply 33% of energy from qualified renewable sources by 2020 (wind, water, sun and landfill gas) and 60% by 2030;
- 50% reduction in petroleum use in vehicles through expansion of their fleet of plug-in hybrids and battery electric vehicles; and
- Double energy savings at existing buildings.

It is this last guiding principle aimed at doubling energy savings at existing buildings which is the core idea behind the SMUD Headquarters renovation project financed by the 2019 Series G Green Bonds. SMUD is following through on their vision and goals to promote a sustainable future.

PROJECT DESCRIPTION

The 2019 Green Bonds will be issued as a part of the larger Electric Revenue Bonds, 2019 Series G. The Green Bonds with \$75 million out of the \$200 million total offering will cover the upgrades and renovations to the SMUD Headquarters, designed to the LEED Gold standard. These renovations focus on reducing energy use and water consumption for an office building which houses over 420 employees.

Table 1 summarizes the project components of the 2019 Series G Green Bonds that are being funded by this offering.

Table 1. Summary of new improvements

2019 Project Component
High-efficiency, low-volume mechanical systems
New insulated glazing
LED lighting
Low water use fixtures
Incorporation of biophilic features
Rainwater management site improvements
Landscape water-use reduction

The high-efficiency mechanical systems represent a significant savings in energy use through the modernization of the HVAC system. This major improvement, coupled with LED lighting and insulated glazing, will lead to dramatic reductions in energy use for climate control and lighting. Additionally, the project is incorporating 26 electric vehicle charging stations that will encourage zero emissions vehicles for commuting. Increased natural light resulting from these renovations saves energy. Potentially even more pertinent in water-scarce California is the water-saving technology being incorporated as a part of the renovations. Use of low water fixtures, rainwater capture, and low water use landscaping all contribute to reducing water use at the Headquarters building.

Table 2 summarizes historic water use at the SMUD Headquarters compared to estimated future water use after renovation, illustrating a drastic reduction.

Table 2. Water use at SMUD Headquarters

2019 Project Component	
Annual baseline water consumption (actual)	541,975.20 (gallons/year)
Annual future water consumption (estimated)	318,711.12 (gallons/year)
Percent water use reduction (%)	41.19%

By incorporating insulating, energy savings, and water saving technologies, SMUD has invested in a renovated Headquarters building that will reduce environmental impacts, save money, and promote a healthy work environment.

ENVIRONMENTAL BENEFITS

The SMUD Headquarters renovation project includes many green and modernizing features including: energy efficiency upgrades through insulation and lighting, installation of low water use fixtures and landscaping, and high-efficiency mechanical systems such as modern HVAC systems. In general, energy use in commercial buildings is one of the biggest potential reductions in greenhouse gas emissions from current levels. Furthermore, due to changing climate, California can be affected by droughts that drive a need for water conservation technologies, as demonstrated in this project.

ALIGNMENT WITH GREEN BOND PRINCIPLES

Use of Proceeds

One hundred percent of bond proceeds will be used for Green Buildings, which is recognized by the ICMA Green Bond Principles as an eligible project category with positive environmental benefits.

Project Evaluation and Selection

SMUD's project evaluation and selection process is executed through a dedicated environmental team supported by the Finance and Audit Committee and the Board of Directors. Kestrel assesses this process as a best market practice due to the active participation of the Board and management.

Management of Proceeds

SMUD's management of proceeds is in line with market practices. The net proceeds will be tracked by SMUD's Finance Team and will be 100% allocated and reimbursed in full at bond closing.

Reporting

SMUD will file the appropriate reports and financial statements as detailed in the Continuing Disclosure Agreement. Kestrel Verifiers will provide one post-issuance Use of Proceeds report, which SMUD will post on the Electronic Municipal Market Access (EMMA) system operated by the MSRB. From time to time, SMUD will make and keep readily available a sustainability report which will be posted to the agency's website.

ALIGNMENT WITH UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

In addition to following the guidelines of the Green Bond Principles, SMUD also recognizes the United Nations Sustainable Development Goals ("SDGs"). The 2019 Series G Green Bonds align with the following SDGs:

- **SDG 9: Industry, Innovation and Infrastructure**, which includes targets to upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes. The SMUD Headquarters renovation aligns with this goal by retrofitting a historical building to current standards and incorporating environmental technology to achieve greater sustainability.
- **SDG 12: Responsible Consumption and Production**, which includes targets to encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle. SMUD exemplifies this goal through the directives from the Board of Directors and Sustainability Reports that coincide with the SMUD Environmental Roadmap 2020.

IMPACT OF USE OF PROCEEDS

The eligible project category for the use of proceeds—Green Buildings—is recognized as impactful by the GBP, and Kestrel views the selection of this project category positively.

Kestrel is of the opinion that the financing of SMUD’s operations will deliver a significant positive environmental contribution by reducing energy and water consumption.

Beyond the environmental benefits, green buildings also yield clear social and economic benefits in the form of energy cost savings, increased property value, and worker health and well-being. Economically, energy and water costs will be reduced dramatically while maintaining high property value for SMUD. Socially, employees working in green buildings that focus on clean well-ventilated spaces—similar to the spaces SMUD will achieve with upgraded high-efficiency systems—and natural light are more productive, sleep better, and live happier, healthier lives.¹

Overall, Kestrel believes that the eligible projects will contribute to improving the environment through Green Buildings.

SECOND PARTY OPINION ON GREEN BOND PRINCIPLES ALIGNMENT

SMUD intends to issue the 2019 Series G Green Bonds which will be used to finance green assets and green activities related to Board Action. These activities are recognized as impactful under the “Green Buildings” category of the Green Bond Principles. SMUD’s project selection process and management of proceeds are also in line with market practices. Based on these tenets and that 100% of proceeds have or will be allocated to green projects, we expect this bond to meet the basics of the four pillars of the GBP.

SMUD has committed to:

- ☑ allocating the full amount of the net proceeds of bonds to eligible green projects, as defined by the Green Bond Framework;
 - ☑ using clear “green” criteria, as defined by the issuer, to select projects for funding;
 - ☑ managing and tracking proceeds; and
 - ☑ a one-year post-issuance report.
-

Kestrel is of the opinion that the green activities funded by the proceeds of the 2019 Series G Green Bonds will provide a meaningful contribution to the Sacramento Municipal Utility District’s strong sustainability commitments and targets, and positively contribute to the transition toward a more circular and low-carbon economy.

Based on the above, Kestrel is of the opinion that the Sacramento Municipal Utility District is well positioned to issue the green bonds; that their corresponding sustainability plans are credible, robust and aligned with the four pillars of the Green Bond Principles 2018; and the use of proceeds is aligned with United Nations Sustainable Development Goals 9 and 12.

¹ U.S. Green Building Council, “Benefits of green building” available online at <https://new.usgbc.org/press/benefits-of-green-building>

About Kestrel Verifiers

To public and corporate finance teams who are preparing green bonds, Kestrel is an Approved Verifier with direct and varied project experience in many sectors: green buildings, water, renewable energy, energy efficiency, pollution prevention and control, sustainable water and wastewater management, climate change adaptation and natural resources. As bespoke US municipal specialists, we strive to provide a personal, focused approach and dedicated support. We bring real-world experience, relationships and tools to efficiently verify and report on green bonds and Climate Bonds. Kestrel is a Woman-Owned Small Business and a certified Women's Business Enterprise.

For more information, visit www.kestrelverifiers.com

GREEN BOND INDEPENDENT EXTERNAL REVIEW FORM

ELECTRIC REVENUE BONDS, 2019 SERIES G GREEN BONDS

("2019 Series G Green Bonds")

Sacramento Municipal Utility District

SECTION 1. BASIC INFORMATION

Issuer name: Sacramento Municipal Utility District ("SMUD")

Independent External Review provider's name: Kestrel Verifiers

Completion date of this form: 7/2/2019

Publication date of review publication: 7/2/2019

SECTION 2. REVIEW OVERVIEW

Scope of Review

The review assessed the following elements and confirmed their alignment with the GBPs:

- | | |
|------------------------------------------------------------|----------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Use of Proceeds | <input checked="" type="checkbox"/> Process for Project Evaluation and Selection |
| <input checked="" type="checkbox"/> Management of Proceeds | <input checked="" type="checkbox"/> Reporting |

Role(s) of Independent External Review Provider

- | | |
|-----------------------------------------------------------|-----------------------------------------|
| <input checked="" type="checkbox"/> Second Party Opinion | <input type="checkbox"/> Certification |
| <input type="checkbox"/> Verification | <input type="checkbox"/> Scoring/Rating |
| <input type="checkbox"/> Other (<i>please specify</i>): | |

Executive Summary of Review

The Sacramento Municipal Utility District, also known as SMUD, is a community-owned, not-for-profit electric service in Sacramento, California. SMUD plans to issue \$200,000,000 in Electric Revenue Bonds, 2019 Series G with \$75,000,000 identified as Green Bonds (“2019 Series G Green Bonds”). Proceeds from the 2019 Series G Green Bonds will be used to renovate and upgrade SMUD’s existing headquarters building (“SMUD Headquarters”) to reduce energy and water consumption.

SMUD has engaged Kestrel Verifiers to provide an independent Second Party Opinion on the alignment of the 2019 Series G Green Bonds with the Green Bond Principles 2018 (the “GBP”), as administered by the International Capital Market Association (the “ICMA”), and to the United Nations Sustainable Development Goals (“SDGs”). As part of this engagement, Kestrel Verifiers examined public and non-public information, and interviewed members of SMUD’s management and finance teams. Our goal was to understand sustainability impacts of the business, planned use of proceeds, procedures for management of proceeds, and plans and practices for reporting.

Kestrel is of the opinion that the green activities funded by the proceeds of the 2019 Series G Green Bonds will provide a meaningful contribution to SMUD’s strong sustainability commitments and targets, and positively contribute to the transition toward a more circular and low-carbon economy.

Based on the above, Kestrel is of the opinion that the Sacramento Municipal Utility District is well positioned to issue the green bonds; that the corresponding sustainability plans are credible, robust and aligned with the four pillars of the Green Bond Principles 2018; and the use of proceeds is aligned with United Nations Sustainable Development Goals 9 and 12.

SECTION 3. DETAILED REVIEW

Reviewers are encouraged to provide the information below to the extent possible and use the comment section to explain the scope of their review.

1. Use of Proceeds

Overall comment on section:

SMUD will use proceeds from the 2019 Series G Green Bonds to renovate and upgrade their headquarters to reduce energy and water consumption. Bond proceeds will be used for Green Buildings, which is recognized by the ICMA Green Bond Principles as an eligible project category with positive environmental benefits. The Green Bonds \$75 million out of the total \$200 million are designed to meet Leadership in Energy and Environmental Design (LEED) Gold standards.

Use of proceeds categories as per GBP:

☒ Green Buildings

If applicable please specify the environmental taxonomy, if other than GBPs:

Not applicable.

2. Process for Project Evaluation and Selection

Overall comment on section (if applicable):

SMUD utilizes a robust and transparent annual process to prioritize capital improvements for financing. SMUD's project evaluation and selection process is executed through their environmental team and supported by their Finance and Audit Committee and the Board of Directors. Kestrel assesses this process as a best market practice due to the active participation of the Board and management.

Evaluation and selection

- | | |
|--------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Credentials on the issuer's environmental sustainability objectives | <input type="checkbox"/> Documented process to determine that projects fit within defined categories |
| <input checked="" type="checkbox"/> Defined and transparent criteria for projects eligible for Green Bond proceeds | <input checked="" type="checkbox"/> Documented process to identify and manage potential ESG risks associated with the project |
| <input checked="" type="checkbox"/> Summary criteria for project evaluation and selection publicly available | <input type="checkbox"/> Other (please specify): |

Information on Responsibilities and Accountability

- | | |
|----------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| <input checked="" type="checkbox"/> Evaluation / Selection criteria subject to external advice or verification | <input type="checkbox"/> In-house assessment |
| <input type="checkbox"/> Other (please specify): | |

3. Management of Proceeds

Overall comment on section (if applicable):

SMUD's management of proceeds is in line with market practices. The net proceeds will be tracked by SMUD's Finance Team. Funds are already 100% allocated and will be reimbursed and expended in full on bond closing.

Tracking of proceeds:

- | |
|----------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Green Bond proceeds segregated or tracked by the issuer in an appropriate manner |
| <input type="checkbox"/> Disclosure of intended types of temporary investment instruments for unallocated proceeds |
| <input type="checkbox"/> Other (please specify): |

Additional disclosure:

- | | |
|----------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| <input type="checkbox"/> Allocations to future investments only | <input type="checkbox"/> Allocations to both existing and future investments |
| <input type="checkbox"/> Allocation to individual disbursements | <input type="checkbox"/> Allocation to a portfolio of disbursements |
| <input type="checkbox"/> Disclosure of portfolio balance of unallocated proceeds | <input type="checkbox"/> Other (please specify): |

4. Reporting

Overall comment on section:

SMUD will file the appropriate reports and financial statements as detailed in the Continuing Disclosure Agreement. Kestrel Verifiers will provide one post-issuance Use of Proceeds report, which SMUD will post on the Electronic Municipal Market Access (EMMA) system operated by the MSRB. From time to time, SMUD will make and keep readily available a sustainability report which will be posted to the agency's website.

Use of proceeds reporting:

- | | |
|-------------------------------------------------------------------|-------------------------------------------------------|
| <input type="checkbox"/> Project-by-project | <input type="checkbox"/> On a project portfolio basis |
| <input checked="" type="checkbox"/> Linkage to individual bond(s) | <input type="checkbox"/> Other (please specify): |

Information reported:

- | | |
|-------------------------------------------------------|-----------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Allocated amounts | <input checked="" type="checkbox"/> Green bond financed share of total investment |
| <input type="checkbox"/> Other (please specify): | |

Impact reporting:

- | | |
|--------------------------------------------------------|--------------------------------------------------------------------------------|
| <input type="checkbox"/> Project-by-project | <input type="checkbox"/> On a project portfolio basis |
| <input type="checkbox"/> Linkage to individual bond(s) | <input checked="" type="checkbox"/> Other: link to SMUD Sustainability Reports |

Information reported (expected or ex-post):

- ☒ Energy Savings
- ☒ Water Savings

Means of Disclosure

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Information published in financial report | <input checked="" type="checkbox"/> Information published in sustainability report |
| <input type="checkbox"/> Information published in ad hoc documents | <input type="checkbox"/> Other (please specify): |
| <input checked="" type="checkbox"/> Reporting reviewed (Kestrel Verifiers will provide a post-issuance Use of Proceeds report, which SMUD will post on EMMA.) | |

USEFUL LINKS (e.g. to review provider methodology or credentials, to issuer's documentation, etc.)

www.kestrelverifiers.com

<https://www.smud.org/sustainability/index.htm>

SPECIFY OTHER EXTERNAL REVIEWS AVAILABLE, IF APPROPRIATE**Type(s) of Review provided:**

- | | |
|-----------------------------------------------------------|-----------------------------------------|
| <input checked="" type="checkbox"/> Second Party Opinion | <input type="checkbox"/> Certification |
| <input type="checkbox"/> Verification | <input type="checkbox"/> Scoring/Rating |
| <input type="checkbox"/> Other (<i>please specify</i>): | |

Review provider(s):**Date of publication: 7/2/2019**

Monica Reid, Verification Team Leader
Evan Smith, Lead Technical Verifier
Kestrel Verifiers

About Kestrel Verifiers

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