



**California Green Bond  
Market Development Committee**

**Recommended Approach to  
Municipal Green Bond Disclosure**

May 2023

## SECTION 1. INTRODUCTION

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### 1.1: PURPOSE OF THIS PAPER

**The purpose of this paper is to provide municipal bond issuers with concise, easy to follow guidance about what investors look for when evaluating the environmental attributes of a Green Bond issue.**

The California Green Bond Market Development Committee (“CGBMDC”) established a subcommittee, comprised primarily of municipal bond investors, to create a straightforward **“Recommended Approach to Municipal Green Bond Disclosure” written with input from municipal market investors, specifically for U.S. municipal market issuers.** For purposes of this report, Green Bond refers to a bond where the proceeds are used to fund projects with environmental benefits, without regard to whether the bond is labeled as a Green Bond or not.

The CGBMDC envisions that the information herein will serve as a starting point for dialogue and collaboration as the municipal bond industry continues to develop more robust and streamlined Green Bond issuance and disclosure practices.

Notably, these guidelines intend only to address information disclosure for investors’ Green Bond assessments, and not the broader environmental risk disclosures necessary for general credit analysis. Further, these guidelines do not address disclosures for social/sustainable or sustainability-linked bonds that are also prevalent in the labeled bond market.

### 1.2: BACKGROUND

Since the first municipal Green Bond was issued in 2014, over \$100 billion of Green Bonds have been issued by U.S. municipalities and municipal conduit issuers<sup>1</sup>. In California, over 150 green bonds have been issued, totaling over \$30 billion since 2014.<sup>1</sup> Although various municipal issuers routinely sell bonds for different projects that may have environmental benefits<sup>2</sup>, **most municipal bond investors require additional data and information about the use of bond proceeds in order to accept and categorize such bonds as Green Bonds.**

<sup>1</sup> Source: Securities Data Corporation

<sup>2</sup> e.g., mass transit, clean power, water projects, environmental remediation, and green buildings

### 1.3: LABELING FRAMEWORKS: ICMA GREEN BOND PRINCIPLES AND CLIMATE BOND INITIATIVE

Several organizations have worked to establish transparent frameworks that can be used to provide some standardization to Green Bond definitions and issuance. Two of the frameworks most commonly utilized by U.S. municipal issuers for Green Bond issuance are briefly discussed below.

1. The International Capital Market Association's ("ICMA") Green Bond Principles ("GBP") is the most commonly utilized framework for entities seeking to issue municipal Green Bonds. In 2022, 74% of municipal issuers who issued Green Bonds followed the GBP<sup>3</sup>. **While ICMA offers a general framework, it does not specifically address the disclosure requirements of many municipal Green Bond investors.**

*Link to ICMA's Green Bond and Sustainable Finance page; updated periodically:*  
<https://www.icmagroup.org/sustainable-finance/>

2. In the global marketplace, and increasingly in the U.S. municipal bond market, issuers are seeking to demonstrate alignment of their projects financed by Green Bonds with climate goals. The Climate Bonds Initiative Certification incorporates the ICMA framework and takes it further by addressing the disclosure recommendations discussed therein and utilizes sector-specific standards to show consistency with global climate goals.

*Link to CBI's Certification under the Climate Bond Standard; updated periodically:*  
<https://www.climatebonds.net/certification>

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<sup>3</sup>Source: Securities Data Corporation

### 1.4: MUNICIPAL GREEN BOND INVESTORS ARE NOT ALL THE SAME

Municipal bond investors are diverse in terms of type, size, investment strategy and/or focus, with differing disclosure needs. Below is a snapshot of different kinds of investors, in part based on broad SEC classifications that apply to registered investment companies (funds) and registered investment advisors:

Green-Focused	Impact	Integration	Traditional
Investors with a mandate around a specific theme (e.g. environmental, etc.)	Investors that seek a particular impact that may require more specific and measurable metrics	Investors who incorporate material environmental risks into their traditional credit analysis	Investors who follow traditional credit analysis without a specific environmental mandate

**Because there is a degree of discretion when categorizing Green Bonds and differing requirements for the analysis, merely having a Green Bond label is often not sufficient for certain investors.** Broadly speaking, certain Green Bond investors need project specific environmental disclosure to drive positive and negative screening techniques, as well as enact thematic investing with a focus on environmentally responsible investments.

While use of second and third-party opinions or certifications are an ICMA GBP ‘key recommendation’ and can increase confidence in a Green Bond label, many Environmentally-Focused and Impact Investors perform their own internal analyses in order to determine whether a bond meets their internal Green Bond criteria. These investors rely upon additional disclosure information such as that recommended in Section 3 and the Appendix to complete their own due diligence and analyses.

## 1.5: BENEFITS OF ENHANCED GREEN BOND DISCLOSURE

A key goal of every bond sale is to maximize the universe of potential investors, which helps secure competitive interest rates. **Information about environmental goals and specific metrics allows Green Bond-specific investors to determine eligibility for their environmentally-focused portfolios. Investors use this information not only at primary issuance, but also in the secondary market, and it can help broaden the investor base.** Secondary market eligibility does not have an obvious impact on initial pricing, but liquidity can be a factor that investors consider when determining the appropriate pricing level. As discussed in more detail in “2.4: Reporting,” if investors have greater confidence that a Green Bond will conform to their requirements over time, this could result in greater demand and, thus potentially, better pricing for the issuer.

Notably, project-specific environmental disclosure is becoming increasingly important as the ‘generational transfer of wealth’ means the millennial generation, keen on responsible investing, are making investment decisions<sup>4</sup>. Project specific-environmental disclosure allows investors and issuers to align their goals and actions and increase accountability, ultimately reducing the possibility of ‘greenwashing’<sup>5</sup>.

## 1.6: LOOKING FORWARD

Given the expectation of ongoing climate changes, regulations, and technologies, market practices to finance a sustainability transition are inherently dynamic. Consequently, the disclosure/information needed to support Green Bonds may change. With the recommended disclosure detailed in this paper as a starting point, **the CGBMDC encourages issuers to enhance current disclosure practices and, over time, converge to a consistent and harmonized set of disclosure principles.**

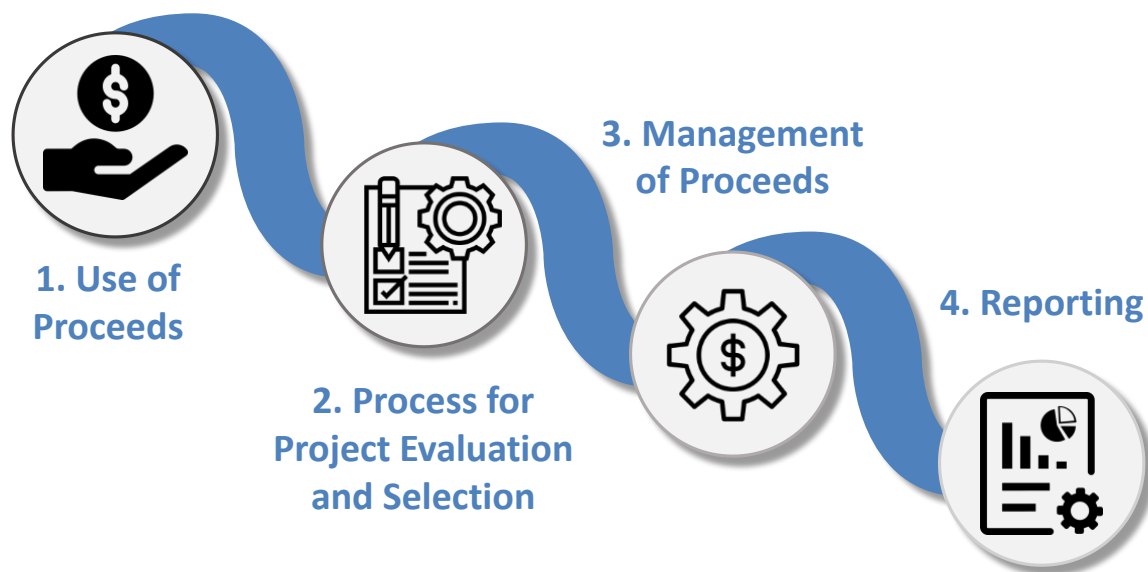
<sup>4</sup>Source: <https://www.fa-mag.com/news/sponsor-insights--how-esg-can-bridge-the-gap-between-generations-in-wealth-transfer-discussions-63778.html?print>

<sup>5</sup>Greenwashing refers to the practice of marketing a bond to be more environmentally impactful than is warranted by the bond proceeds’ actual climate impact benefits.

## Section 2: RECOMMENDED GREEN BOND DISCLOSURE: The ICMA Framework

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The most basic level of Green Bond disclosure should follow the ICMA Green Bond Principles (“GBP”) four core components:



This section summarizes current ICMA GBP guidelines and best practices but borrowers should always consult ICMA for the most recent guidelines<sup>6</sup>.

### 2.1: USE OF PROCEEDS

A few of the most common municipal Green Bond categories include: Renewable Energy, Clean Transportation, Sustainable Water and Wastewater Management, and Green Buildings. Issuers should provide a specific list, including a detailed description of Green Projects, to be financed **with a discussion of expected environmental benefits** and, to the extent possible, quantified targets (e.g., expected reduction in carbon emissions, water usage, or electricity) to be reached as a result of those projects. Notably, LEED-certified project applications already include much of this information, and could be easily disclosed to investors.

Please consult ICMA for the most recent list and see **SECTION 3: PROJECT SPECIFIC IMPACT METRICS – SELECTED SECTORS/PROJECTS** for information on suggested municipal market-specific disclosure or impact metrics.

For **refunding issues**, including disclosure about the original project information, original projections of environmental benefits and impacts, an update on how proceeds were expended, and information on any environmental benefits achieved to date can assist investors to evaluate refunding projects for the mandates of their environmentally focused portfolios.

## **2.2: PROCESS FOR PROJECT EVALUATION AND SELECTION**

Issuers should describe how they deemed the project(s) appropriate for Green Bond financing, including any environmental objectives, and information on how environmental risks will be addressed by the project(s), if applicable.

Some Green Bond investors also seek qualitative and quantitative, enterprise-level information (including governance practices) on how an issuer has identified, quantified, and made plans to mitigate known environmental risks. **For more specific suggestions and examples regarding this type of disclosure, please see the Appendix.**

## **2.3: MANAGEMENT OF PROCEEDS**

Proceeds of a Green Bond issue should be segregated and tracked by the issuer through a formal internal process. This process of segregating funds is similar to tracking bond proceeds for tax purposes and reporting. Since various types of investors assess projects differently, detailing the tracking process and allocation details, whether performed internally or by a third party, can bolster investor comfort and confidence.

## 2.4: REPORTING

Providing annual reports after bond issuance allows investors to verify that bond proceeds were used as planned and to receive metrics on the level of impact, when they are available.

Investors perform their own periodic due diligence and reporting can help give investors confidence that the Green Bonds still meet their investment requirements. Specific practices in the municipal market still vary widely, but ICMA recommends annual reporting with updates on actual expenditure of proceeds, actual environmental impact, and any changes to the project or environmental goals.

For additional information about the type of metrics, including impact metrics, that could be included in annual reporting, please see Section 3. ICMA also provides reporting templates under its Harmonized Framework for Impact Reporting, available at the link below:

<https://www.icmagroup.org/sustainable-finance/impact-reporting/green-projects/>

Since an Official Statement can become dated or stale, all investors value updated disclosure of data and metrics from the Official Statement to support ongoing surveillance and suitability. In general, investors would like to access reporting updates on EMMA, ([www.emma.msrb.org](http://www.emma.msrb.org)), along with other more traditional continuing disclosure items.

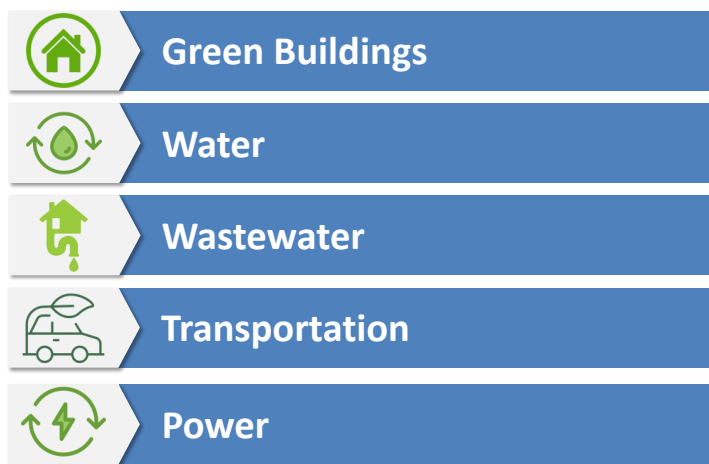
### SECTION 3: PROJECT SPECIFIC IMPACT METRICS – SELECTED SECTORS/PROJECTS

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The following pages detail project specific metrics identified as important, if available, to include in Green Bond Official Statements to assist investors in their own internal evaluation of Green Bond investments, for the sectors listed below.

For Impact Investors (i.e. investors who focus on investments with the ability to generate positive and measurable positive environmental impact), specific information about the actual environmental impact of an investment may be necessary. Similarly, for investors that manage “climate aligned” or “net zero” portfolios, information about greenhouse gas emissions, project-level expected climate impacts, or other information may be necessary. There are two separate analytical needs for environmental impact information:

- 1) Impact targets and measurable achievements (also referred to as Key Performance Indicators, or KPIs, or “environmental return on investment”) for impact-driven investors. The alignment and connection between applicable GBPs and the use of proceeds allows investors to connect their KPIs with environmentally sound benefits. This helps demonstrate the positive effect of the investment.
- 2) Data that enables investors to score or rate bonds using internal methodologies, screen out specific environmental factors, validate assumptions, or to comply with fund or company-level environmental mandates and targets. Importantly, this need is not necessarily binary (e.g. “green/not green”), but can operate on a spectrum (“shades of green”).





## Green Buildings

Green Buildings may include municipal buildings for administration centers, city halls, libraries, fire and police stations, courthouses, multifamily housing, educational facilities, hospitals, senior and student housing.

**Examples of useful metrics and information include, if or when applicable:**

- Building certification (e.g., LEED, Energy Star, BREEAM)
- Energy efficiency, amount/percent reduction in energy used
- Reduction in carbon emissions
- Renewable energy sources including applicable threshold or exclusions
- Water efficiency (e.g, amount and/or percent of water use reduction, water recycling)
- Waste management (e.g., reduction in construction and/or operations)
- Use of sustainable or efficient materials, including reuse/recycled materials, low VOC paints, xeriscaping, sustainable sourcing of certified materials (e.g., FSC certification)
- Protection of native species, water supplies and/or air quality
- Adaptive re-use of existing/historic properties
- Walkability/access to public transportation
- Protection of green fields/reductions in impervious surface
- Use of low carbon building material



## Water

**Examples of useful metrics and information include, if or when applicable:**

- Discussion of any known environmental hazards
- Handling and treatment of any “forever chemicals”
- Age of major capital infrastructure components
- Current status of CEQA, EPA, NPDES permits, including date of last issued permit, date of permit expiration, and cease-and-desist orders
- Reduction in water losses in water transfer and/or distribution – current estimated water loss percentage and estimated improvements to loss percentage
- Reduction in water consumption – on a per customer basis, if in a growth area
- Discussion of any specific/separate charges related to system improvements or to support conservation
- Discussion of water recycling systems, including water re-use/water use avoided
- Discussion of current wastewater treatment process (e.g., primary, secondary, or tertiary), including any expected reductions in wastewater treated/avoided
- Flood mitigation project impact
- Drought plans such as any mandatory water conservation programs
- Requirements for new development/additional customers
- Average daily and annual demand versus supplies
- Discussion of monitoring/efficiency systems
- Disclosure of significant system leaks
- Status/plan for lead pipe mitigation and replacement
- Strength of water rights



## Wastewater

**Examples of useful metrics and information include, if or when applicable:**

- Discussion of any known environmental hazards
- Comparisons of utilization to capacity (e.g., average daily flow versus max/peak flow versus, average daily capacity versus peak capacity)
- Expected increase in sewage treatment capacity due to the project
- Expected reduction in Combined Sewer Overflow amount (in CCF)
- Expected amount of overflow waste recaptured by project
- Expected decrease in nutrient level in local waterways
- Discussion of any specific/separate charges related to system improvements or to support conservation
- Description of recycled water system and expected benefits
- Discussion of current wastewater treatment process (e.g., primary, secondary, or tertiary), including any expected reductions in wastewater treated/avoided
- Planned use of renewable energy via onsite clean generation or procurement



## Transportation

- Examples of useful metrics and information include, if or when applicable:**
- Public transportation riders: Number of passenger miles, gallons of gas, and/or CO2 emissions reduced or avoided per day/year
- Relationship to community or state electrification and alternative fuel strategies
- Sources of system power
- Pounds of CO2 per passenger mile
- Development/incorporation of bicycle lanes; how many linear miles?
- Development of walkable communities
- Congestion pricing strategies
- Amount of cool pavement utilized
- Number of electric vehicle charging stations; either total or on some per-unit measure like per square mile
- Electric vehicle charging stations along HOV/toll roads
- The extent to which any federal funding (such as grants) are subject to specified environmental standards



## Power

- Examples of useful metrics and information include, if or when applicable:**
- Generation capacity by resource (fuel source), and energy sales by resource (fuel source)
- Power source mix over last decade and commitment to and timing of clean energy within capital plan
- Reductions in fossil fuel use, including specific goals or targets
- Transition risks, including to local community
- Dispatch stack, fuel and power supply hedges, outage information
- Carbon emissions:
  - Clear outline of state emissions standards and any and pending energy legislation. How is the utility positioned relative to these standards?
  - Data that shows generation mix, current and historical
  - Is the utility subject to any energy legislation that could adversely impact its ability to operate in the future?
  - Does the utility have contracts in place to procure clean energy at some point in the future?
  - Clear disclosure on how the utility plans to achieve clean energy goals/targeted future generation mix
- Toxic Emissions and Waste:
  - Increased disclosure around how generation byproducts are disposed
  - How are the byproducts protected from natural disaster?
  - Are state and/or federal guidelines being followed?
  - If the utility has decommissioned assets, disclosure on how the assets were decommissioned and what state/federal guidelines were followed
- Specific indicators for CO2 emission reductions
- Details of any Integrated Resource Plan that incorporates carbon reduction strategies for power plants

## Appendix.

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**The following outline includes Enterprise Level Governance and Environmental Strategy information, which goes beyond project specific Green Bond disclosure and which applies whether or not the bond is labeled a Green Bond, that investors identified as helpful to include in Green Bond Official Statements.**

- Goals of environmental policies and strategies approved by the governance board
- A summary of any environmental, climate risk studies, or sustainability reports. Have third-party benchmarks or audits been used for such studies)
- How the entity's environmental strategy integrates with overall environmental risks and priorities of your broader geographic region (i.e. city, county, state or region)
- Descriptions of any committees, departments, or staff dedicated to identifying and addressing environmental risks and opportunities
- How the organization incorporates environmental factors into its capital improvement plan. A discussion of how climate change mitigation, biodiversity, mitigation of natural disaster and other known environmental risks, energy efficiency, renewable energy, and/or environmental equity are incorporated into the entity-wide plan and into the design of capital projects. Discuss the process for evaluating environmentally beneficial options into the plan
- What ordinances, laws, regulations, or incentives are incorporated into zoning, taxation, pricing, or other relevant rules of the organization? Does the organization utilize any incentives or taxes/fees directed towards environmental goals?
- Whether any funding sources (including rate increases) been identified or implemented for environmental projects
- How the organization's environmental goals address past or present disproportionate impacts on low-income and/or diverse communities
- Provide (through inclusion in the Official Statement, EMMA, or the issuer's website) any second-party environmental designation reports or feasibility studies for facilities or projects
- Describe how the specific projects funded from the current Green Bond proceeds fit into an issuer's overall environmental plan to reduce carbon emissions and/or enhance its resiliency and/or climate adaptation
- List and briefly describe any federal, state, local, or organization regulations, legislation, ordinances, resolutions, consent decrees, or other provisions or required actions that affect the Green Bond Project

### **About the California Green Bond Market Development Committee (CGBMDC)**

The California Green Bond Market Development Committee (CGBMDC) was established in 2019. It is chaired by California State Treasurer Fiona Ma and the secretariat is at the UC Berkeley Goldman School of Public Policy. The CGBMDC works to expand financing for climate-friendly infrastructure through Green Bonds. The Committee has held training events for market participants, targeted events for specific sectors such as municipal utilities, participated in ongoing efforts to improve the Green Bond market and has served as a catalyst for promoting linkages between climate solutions and finance. GBMDC includes issuers, rating agencies, bankers, legal experts, infrastructure experts and others.

#### **CGBMDC Members:**

Dan Adler, Governor's Office of Business & Economic Development  
Raul Amezcua, Ramirez & Co., Inc.  
Catherine Bando, California Statewide Communities Development Authority  
Robert Berry, State Treasurer's Office  
Kathleen Brown, Sempra Energy  
Mike Brown, SFPUC  
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