



Perspective from Our Municipal Bond Team

Responsible Investing in a Traditional Asset Class

In the municipal bond market, the issuance of green bonds—which are bonds issued to help fund environmentally beneficial projects—has provided an attractive solution for investors interested in socially responsible investments while also receiving the tax-exempt income benefit municipal bonds offer. In this primer, we seek to provide:

- An overview on green bonds in the muni market (how and why they are issued)
- Potential benefits and risk considerations
- Why we believe an active approach is valuable when selecting green bonds

In November 2008, the World Bank issued the first ever bond that carried the label "green".¹ This marked the inception of the global green bond market—a market that is now over a decade old. In that bond issue, the World Bank defined its criteria for eligible green bond projects and provided a second party opinion to assure investors the proceeds would address climate change.¹

Since 2008, green bonds and climate-aligned bonds have become a growing subset of the global fixed income markets. These bonds are distinguished by their use of proceeds, which must be deployed in a manner consistent with environmental sustainability.

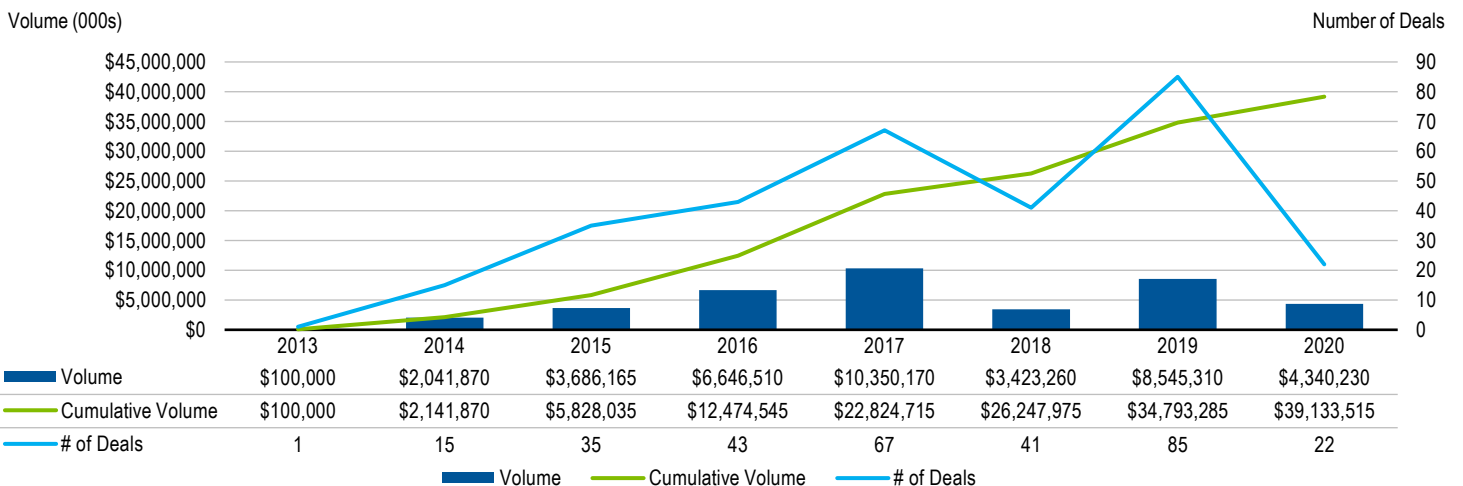
Examples of projects funded by green bonds include investment in infrastructure for water and wastewater systems, renewable energy assets, and Leadership in Energy and Environment Design (LEED) certified buildings. The environmental benefits of such projects include water use efficiency, a reduction in carbon emissions, and energy efficiency.

For investors, green bonds provide an opportunity to dedicate capital to projects and programs that have a defined environmental purpose.

GREEN BOND ISSUANCE HAS GROWN OVER TIME

Exhibit 1: Municipal Green Bond Issuance

As of May 31, 2020



Source: Franklin Templeton internal records, sourced from Official Statements, Bloomberg, and broker-dealers as of May 31, 2020.

Globally, green bond issuers include for-profit corporations and other private enterprises, supranational organizations such as the International Monetary Fund, governments, and quasi-sovereign issuers. In the United States, state and local entities, as well as not-for-profit organizations, have increasingly issued green bonds to finance environmentally friendly projects and programs.

The universe of municipal green bond issuers in the United States includes states, cities, municipal water and sewer enterprises, transportation systems, universities, and hospitals, among others. As a result, some municipal green bonds are issued as general obligation bonds, while others are classified as revenue bonds. Green bonds have the same bondholder security features from the issuers as their non-green counterparts.

Similarly, municipal green bonds enjoy the same tax-exempt status as traditional municipal bonds. As a result, environmentally conscious investors have the opportunity to invest in projects that promote environmental sustainability without sacrificing the tax exemption.

Green bonds include sustainability bonds, climate bonds, and environmental impact bonds. All three categories are defined by their use of proceeds. Borrowers have a duty to demonstrate that proceeds from issuance of a green bond are used appropriately. Some green bond issuers hire independent parties to verify that proceeds are used for their stated purposes, and all climate bonds require independent verification. We will take a closer look at standards of issuance and verification later in this paper.

Issuance and Market Structure

The Commonwealth of Massachusetts became the first issuer of municipal green bonds by issuing \$100 million of green bonds in June of 2013. Issuance has steadily increased since that time, both in terms of the number of issuers and principal amount outstanding, as shown in Exhibit 1. In 2017, gross issuance increased by over 40% from the prior year. What began as a small group of issuers has expanded into a broad collection of municipal entities spanning multiple sectors and geographic regions.

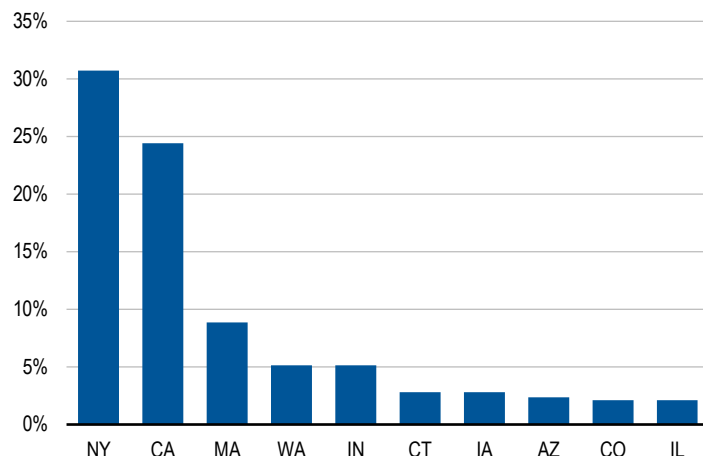
The market for municipal green bonds has continued to grow. As of May 31, 2020, there were over 175 unique issuers of municipal green bonds across 36 states. The total principal amount issued was \$39 billion. Although the geographic reach of municipal green bonds continues to grow, the top 10 states, based on issuance, make up 85% of all outstanding bonds. As shown in Exhibit 2, New York and California are the largest issuers with 31% and 24% of the market, respectively. Massachusetts has another 9% of the market.

Green bonds still represent a small portion of the overall municipal bond market. Average annual issuance since 2013 has been less than 2% of total supply. Transactions have ranged in size from \$465,000 to the largest transaction of over \$2 billion.^{2,3}

TOP STATE ISSUERS OF MUNI GREEN BONDS

Exhibit 2: Top 10 Issuance by State

As of May 31, 2020



Source: Bloomberg, Official Statements, and issuer websites as of May 31, 2020.

Approximately 10% of municipal green bond issuance has been federally taxable, similar to the municipal market. The supply of green bonds grew steadily from 2013 through 2017, before slowing in 2018. This slowdown corresponded with the sharp decrease in overall issuance in the municipal market at large—largely a result of the Tax Cuts and Jobs Act.

In 2019, issuance outpaced prior years in terms of the number of transactions. Issuers, underwriters, and investors are all becoming increasingly familiar with the acceptable requirements and framework for issuing green bonds. Similarly, these same market participants increasingly understand the use of proceeds of many municipal bond transactions naturally align with one or more of the 10 eligible categories laid out in the Green Bond Principles (the Principles are discussed in detail later in this paper).

While gross issuance remains small relative to the overall municipal bond market, the range of issuers is broad and diverse. There has been at least one green bond issued from 16 different sectors. To date, public, transportation and water-sewer related entities have dominated issuance: combined these two sectors account for over 50% of the market (Exhibit 3). Increasingly, state-affiliated loan pools are a common issuer of municipal green bonds, and we take a closer look at this segment of the market later in the paper.

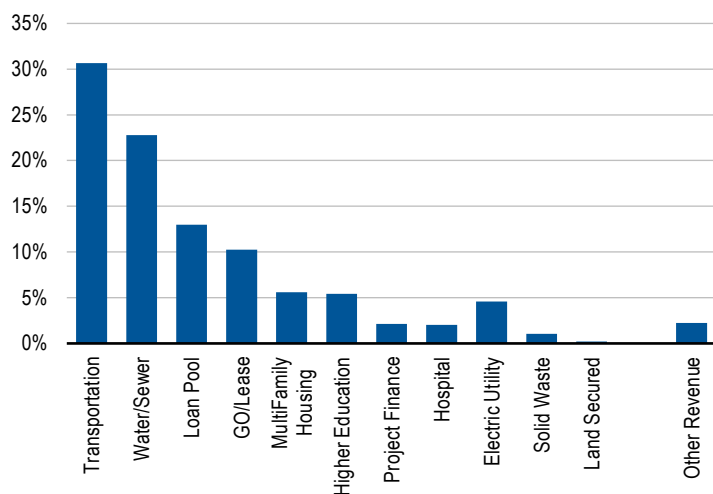
Overall, this growing universe of municipal green bonds allows for the ability to manage a dedicated portfolio in this space.

Analogous to the broader municipal market, green bonds tend to carry relatively long maturities compared to other fixed income sectors. Just as most municipal issuers are generally assumed to exist in perpetuity, environmental initiatives and projects also carry long-term time horizons. As a result, the average maturity of all outstanding municipal green bonds is greater than 15 years.

TRANSPORTATION AND WATER/SEWER SECTORS LEADING GREEN BOND ISSUANCE

Exhibit 3: Issuance by Sector

As of May 31, 2020



Source: Bloomberg, Official Statements, and issuer websites as of May 31, 2020.

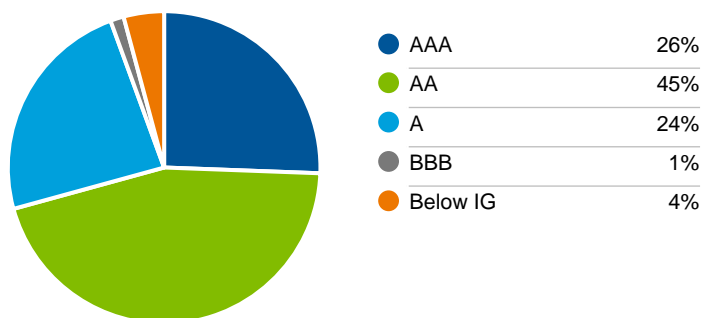
The credit quality of municipal green bonds is also reflective of the broader market. As of May 2020, 71% of outstanding green bonds were rated AAA or AA by Standard & Poor’s, Moody’s or Fitch (Exhibit 4). By dollar volume, over 95% of supply-to-date has carried investment-grade credit ratings. That said, several non-rated green bond deals offer compelling opportunities for high impact investments. Examples of non-rated green bonds include waste-to-energy and land restoration projects, among others.

The municipal green bond market is young and continues to evolve. Importantly, the number of unique issuers continues to grow. Smaller issuers are increasingly considering green bonds as a potential source of funds. This expanding pool of borrowers allows dedicated green bond investment portfolios to achieve diversification across sectors and issuers.

MAJORITY OF GREEN BONDS ARE HIGH QUALITY

Exhibit 4: Green Bond Credit Quality Breakdown

As of May 31, 2020



Source: Bloomberg, Official Statements, and issuer websites as of May 31, 2020.

Municipal Green Bond Examples

In the state of Washington, the Department of Ecology found that the transportation sector is responsible for the majority of the region’s greenhouse gas emissions. The Central Puget Sound Regional Transit Authority (“Sound Transit”) provides rail and bus systems serving the greater Seattle area and is a large issuer of green bonds. Through its Environmental and Sustainability Management Program—financed by green bonds—Sound Transit has made several key accomplishments, including reductions in greenhouse gas emissions, air pollutants, and overall energy use, with a significant increase in renewable energy inputs.⁴

The largest issuer of green bonds in the United States is the Metropolitan Transportation Authority (MTA) of New York City. The public transportation system most famous for operating New York City’s subway system has engaged the Climate Bond Initiative to certify \$11.3 billion of its \$24 billion capital program—funding nearly half of its capital investments with green bonds. By only using the green label on bonds that fund environmentally friendly initiatives, the MTA bolsters its credibility as an issuer of green bonds. These bonds are certified pursuant to the Low Carbon Transport Criteria under the Climate Bonds Standard 2.0. This standard provides a scientific framework for determining which projects and assets are consistent with a low carbon and climate resilient economy.

While the bulk of supply has been in the transportation and water sectors, eligible green bond projects are not limited to those two categories. In 2018, the Marin General Hospital in Northern California issued \$91 million in green bonds to finance the construction of a new hospital tower that will be LEED Certified (silver). LEED is a voluntary, third-party building certification process developed by the US Green Building Council. LEED Certification aligns with multiple eligible green bond use-of-proceeds categories.

- Non-Rated:** non-rated green bonds allow investors the potential to achieve a measurable environmental impact with their investments. There have been many non-rated green bonds issued to address a specific environmental issue or to produce a specific environmentally beneficial outcome. The number of non-rated issuers doubled in 2018 (from 2017), despite a decline in overall green bond issuance. Projects funded with non-rated municipal green bonds include waste-to-energy projects, climate change adaptation projects, and renewable fuel projects. As an example, the Louisiana Local Government Environmental Facilities and Community Development Authority (LCDA) issued three series of non-rated green bonds in 2018 to finance land preservation projects such as breakwater construction and river dredging.
- Municipal loan pools:** Many states administer loan programs to leverage federal and state funds and provide loans to local borrowers. In most cases, these loan pools serve an important

function, providing below-market financing to local borrowers that might otherwise have difficulty raising funds. Loan pools generally provide funds for local water and sewer projects, but some states also have pooled financing programs for energy efficiency and transportation projects. Citing the environmental benefits of the underlying projects, many loan pool issuers have opted to issue green bonds. These green loan pools have come to represent a notable share of the municipal green bond market and are expected to remain a critical element of local infrastructure funding.

Poor initial and on-going disclosures can make it difficult to identify authentic green bonds in this segment of the market. The municipal bond team at Franklin Templeton screens and ranks all municipal loan pools that are labeled as green bonds. Particular attention is paid to the descriptions of the underlying projects and the disclosure practices of the issuer. Loan pool transactions with inadequate project descriptions or inadequate disclosure are not approved for purchase in municipal green bond strategies.

Green Bond Verification

Green bonds are not regulated as a class and their designation is voluntary. As of this writing, there is no legislative body, either domestically or internationally, governing what “green” means—only voluntary standards. This presents the risk of issuers misleading investors by making false claims about the use of proceeds or the management of their proceeds.

Issuers employ a variety of practices to disclose the use of proceeds and describe targeted projects and programs. Some issuers do not provide any meaningful description of the projects or programs funded with green bonds; others hire independent parties to verify that proceeds are used for environmentally friendly purposes. The absence of standard green bond disclosure practices represents an additional challenge to investors. It also highlights the importance of having a thorough process dedicated to identifying authentic green bonds from those issuers that attempt to “greenwash” an issuance by inappropriately self-labeling their bonds as green.

To address the issue of disjointed disclosure practices across issuers, some voluntary organizations have created frameworks for issuing green bonds. The International Capital Market Association (ICMA) publishes the Green Bond Principles (GBP), which classifies environmentally friendly projects and programs, and directs issuers to adopt adequate disclosure practices. The ICMA also publishes the Social Bond Principles (SBP); Sustainability Bonds adopt both the GBP and SBP. The Green Bond Principles are generally considered to be the most widely accepted framework for municipal green bond issuance and disclosure.

Green Bond Principles⁵

Many green bond issuers (though not all) refer to the GBP to inform their underwriting and ongoing disclosure process. The GBP were first published by the ICMA in 2015, and updated versions are released annually. The GBP outline a framework for green bond issuance—the so-called “Four Pillars” of green bond underwriting—as well as 10 eligible use-of-proceeds categories as described below.

The Four Pillars

1. Use of Proceeds

The fundamental component of any Green Bond is how the issuer uses the proceeds of the transaction. The GBP recommend issuers provide appropriate description of the environmental benefits, among other things, in the legal documents that govern the bond offering. The Principles explicitly recognize 10 broad categories of Green Bond eligibility, with the over-arching goal of addressing key areas of environmental concerns. More detailed information on these categories is found later in this paper.

2. Process for Project Evaluation and Selection

The issuer of a Green Bond should clearly communicate the environmental sustainability objectives, the process for determining eligible projects, and any related inclusion or exclusion criteria.

3. Management of Proceeds

The Principles recommend that the proceeds of Green Bond transactions be tracked in a manner such that the use of proceeds can be easily verified.

4. Reporting

Issuers should keep up-to-date information on the use of proceeds, to be renewed annually, until the full amount of the proceeds has been utilized.

Drafted by a consortium of capital markets participants, the GBP do not represent a commercial certification, but rather a framework for green bond issuance available for all interested parties: issuers, underwriters, and investors alike. In some instances, issuers will not directly reference the GBP, but will still follow the framework spelled out in the principles—specifically, the “Four Pillars.” Understanding the GBP is a critical foundation for green bond investors.

The GBP recommend that issuers engage an independent party to verify that their green bonds conform to the Four Pillars. Explicitly stating the intention to adhere to the GBP and utilizing a reputable verification agent reinforces the integrity of the green bond designation.

In the absence of any centralized regulatory oversight governing green bonds, the GBP have emerged as the authority for green

bond issuance within US public finance (as well as in Europe). They serve as a critical form of guidance to help standardize a nascent and growing sector of the international green bond markets.

The Climate Bond Initiative oversees a program through which issuers can sell climate bonds. The Climate Bond Initiative is an independent, international organization committed to promoting a low carbon and climate resilient economy. Climate bond certification requires independent verification that bond proceeds are deployed in a manner consistent with this mission. The CBI is aligned with the Green Bond Principles, and we consider all climate bonds to be part of the broader green bond universe.

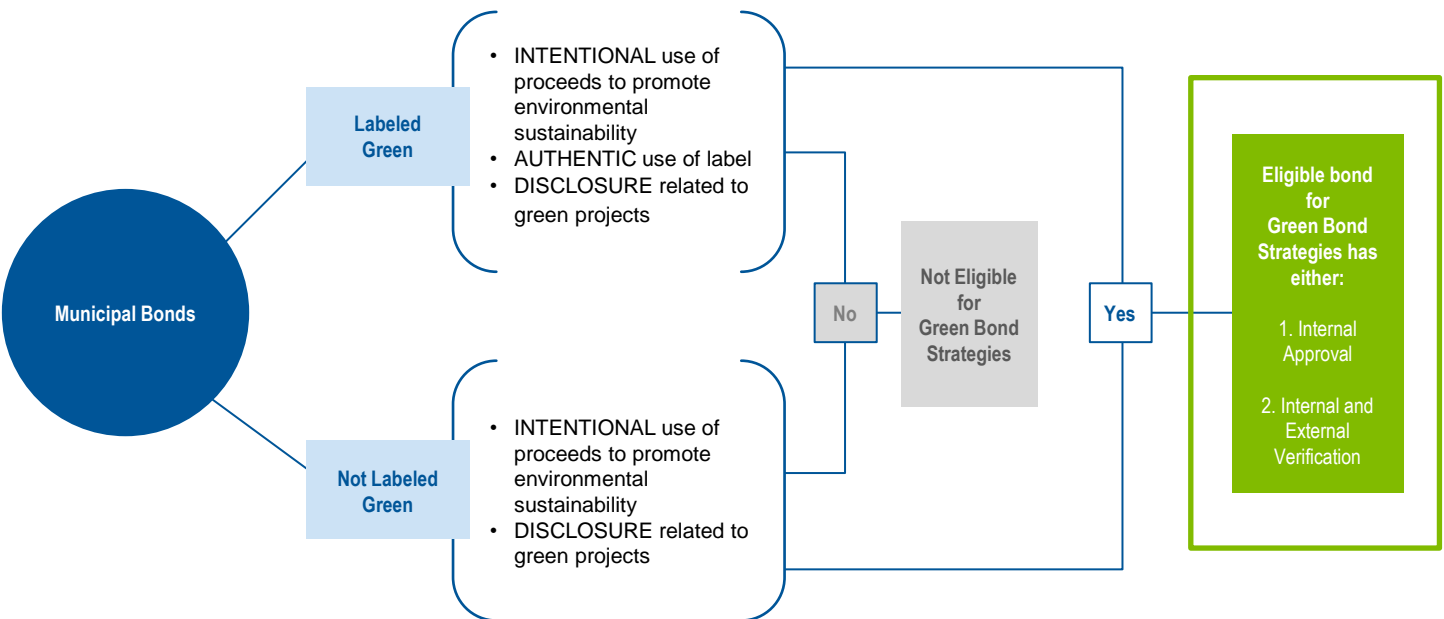
Sustainable Development Goals

In 2013, the United Nations adopted the 2030 Agenda for Sustainable Development. The 17 Sustainable Development Goals (SDGs) outline the framework for this agenda, laying out the “blueprint to achieve a better and more sustainable future for all.” The SDGs focus on the thematic issues of water, energy, climate, oceans, urbanization, transport, science and technology.⁶

As global financial markets become increasingly focused on financing a sustainable future, issuers and investors alike are using the SDGs to inform their capital allocation decisions.

Green bonds have become an ideal financing tool for issuers by providing a lower cost of funds for projects aspiring to contribute to a sustainable future. Our internal analysis provides investors another lens they can utilize when evaluating green bond investments by applying relevant Sustainable Development Goals.

Franklin's Approach to Evaluating Green Bonds



Source: Franklin Templeton. For illustrative purposes only.

Franklin's Approach to Evaluating Green Bonds

To address the lack of standards in the municipal green bond market, Franklin's research analysts and portfolio managers work together to identify and select authentic green bonds and discard bonds that use the “green bond” label inappropriately or provide inadequate disclosure. Franklin screens all green bonds, sustainability bonds, and climate bonds. In the absence of an official designation, research analysts and portfolio managers can also nominate bonds that have not received any of these labels.

The portfolio managers leverage the large and tenured team of research analysts dedicated to municipal bond analysis to identify authentic green bonds. Municipal bonds are riddled with nuance, a fact that necessitates a deep and experienced team of analysts to portfolio managers to assess the intent and authenticity of an issuer. To aid in that effort, we directly contact the issuers, and often will engage them on various issues related to their green bond program.

The due diligence process for identifying authentic green bonds primarily focuses on the intended use of funds for projects or programs. In our process, we ask a series of questions to help guide our decision-making. In answering these questions, we review offering documents, issuer websites, and other sources of information to verify that the projects or programs in question are adequately described.

Fundamentally, projects being funded with green bonds must align with at least one GBP category. In addition, green bonds without an adequate description of the respective projects are not considered for investment in our green bond strategies. Franklin encourages all green bond issuers to adopt the GBP.

However, alignment with the GBP does not ensure that a bond will be deemed suitable for green bond strategies, and failure to adopt the GBP does not preclude a bond from being purchased in these strategies. We rely on our independent analysis to determine which bonds are suitable for inclusion in our green strategies.

In addition to examining all publicly available information, we often interact with borrowers, bankers, financial advisors, and other parties to determine if the projects and programs are intended to generate authentic environmental benefits. In cases where the issuer demonstrates a quantifiable, positive environmental impact, the determination is straightforward. In other cases, we must make the determination based on qualitative factors. To help make this determination, we attempt to answer the following questions:

- Do the projects and programs have clear environmental benefits?
- Do the projects and programs promote sustainability or climate resiliency?
- Does the borrower have a clear sustainability and/or climate resiliency program?
- Has the borrower engaged an independent party to verify that its projects and programs are green?

After all due diligence is complete, green bonds will be placed in one of the following three categories:

- N. Not eligible for investment in municipal green bond strategies. This classification could be based on poor initial disclosure or inadequate description of the project or programs. Projects or programs without clear environmental benefits and those that do not promote sustainability or climate resiliency will also be deemed ineligible.
- I. Eligible for investment in municipal green bond strategies based exclusively on an internal evaluation of the bond and the borrower. This classification will apply to projects and programs that demonstrate quantifiable environmental benefits, clearly intend to produce environmental benefits, promote sustainability or climate resiliency. The size and scope of the borrower's sustainability and/or climate resiliency programs, if any, will also be taken into consideration.
- E. Eligible for investment in municipal green bond strategies based on an internal evaluation of the bond and the borrower, as well as an external evaluation by an independent party.

We will also conduct ongoing surveillance on all green bonds held in green bond strategies to verify that the proceeds were used for environmentally friendly projects and programs. If an issuer fails to use proceeds as prescribed in its offering documents, or if continuing disclosure is inadequate, we can change the categorization of the corresponding green bonds and attempt to sell them.

Non-labeled green bonds

The inclusion of non-labeled bonds that we deem to be fit for green strategies must pass the same selection criteria as any other candidate. While the preponderance of eligible securities for a given green bond investment strategy will carry the label, the municipal market does present numerous opportunities to invest in issuers who are investing in environmentally friendly projects who choose—either knowingly or unknowingly—to not use the “green bond” label.

Credit research and Environmental, Social and Governance (ESG) integration

Green bond strategies leverage the same fundamental, bottom-up research analysis employed by all strategies in Franklin Templeton's Municipal Bond Department. Each targeted green bond investment is subject to internal credit approval. The research team is organized by sector groups, and there is at least one research analyst covering every sector of the municipal market. Due to the fragmented nature of the market, each sector has its own distinct criteria—both quantitative and qualitative—that analysts use to evaluate the creditworthiness of a given issuer.

As a signatory to the Principles for Responsible Investment (PRI),⁷ Franklin Templeton has made a firm-wide commitment to integrating an analysis of ESG factors into our core investment process across all investment teams and asset classes. Our Municipal Bond Department has responded by instituting a multi-pronged approach to ESG analysis for every credit we review.

Conclusion

For investors seeking to align long-term investment goals with their social values, we believe green bonds offer a compelling solution.

As with any municipal bond investment, green bond or otherwise, it is important for investors to understand if the underlying asset truly fits with their objectives. We also see the value active management brings when selecting green bonds.

As one of the largest municipal bond fund managers in the nation,⁸ our resources allow us to more completely analyze the space and better identify truly green projects.

Contributors



Nicholas Bucklin, CFA
Vice President, Portfolio Manager
Franklin Templeton Fixed Income



Daniel Workman, CFA
Vice President, Portfolio Manager
Franklin Templeton Fixed Income

Franklin Templeton Municipal Bond Team

Experience

Franklin Templeton has managed tax-free income funds since 1977. Today, we're one of the largest municipal bond fund managers in the nation and have more than \$64 billion in municipal bond assets under management.⁹

Strength

Our large tax-free investment management team—31 municipal bond investment professionals with an average of 24 years of financial industry experience—has the experience to identify opportunities and risk indications others might miss. We believe this is critical given the vast size of the municipal bond market.

Opportunity

To help meet your investment needs, we offer over 30 tax-free funds, including national and state-specific, investment grade and high-yield, and long-, intermediate- and limited-term funds. Franklin tax-free income funds seek to provide monthly income exempt from regular federal and, depending on the fund and the investor's state of residency, state and local income taxes.¹⁰

Endnotes

1. Source: The World Bank, November 2018.
2. Source: Proprietary data assembled from Official Statements and Bloomberg as of March 31, 2019.
3. Source: The largest transaction was issued by the Metropolitan Transportation Authority of New York City and was structured with two series, which combined to total in excess of \$2 billion in par value, as of March 31, 2019.
4. Source: The Central Puget Sound Regional Transit Authority (Sound Transit), 2016 Green Bond Annual Report.
5. Source: Much of the information in this section is taken from International Capital Markets Association (ICMA), Green Bond Principles, June 2018.
6. Source: United Nations, Sustainable Development Goals.
7. Source: Principles for Responsible Investment (PRI). A consortium of global investment managers and an affiliate of the United Nations. The PRI "works to understand the investment implications of environmental, social and governance (ESG) factors and to support its international network of investor signatories in incorporating these factors into their investment and ownership decisions."
8. As of March 31, 2020. Based on long-term municipal bond fund assets.
9. As of March 31, 2020. Municipal bond assets under management figure includes US retail municipal bond fund assets and separately managed accounts.
10. For investors subject to the alternative minimum tax, a small portion of fund dividends may be taxable. Distributions of capital gains are generally taxable.

WHAT ARE THE RISKS?

All investments involve risks, including possible loss of principal. Bond prices generally move in the opposite direction of interest rates. Thus, as prices of bonds in an investment portfolio adjust to a rise in interest rates, the value of the portfolio may decline. Investments in lower-rated bonds include higher risk of default and loss of principal. Changes in the credit rating of a bond, or in the credit rating or financial strength of a bond's issuer, insurer or guarantor, may affect the bond's value. Municipal bonds are debt securities issued by state and local governments and are generally exempt from federal income tax and also from state and local taxes for residents in the state where the bond was issued. They typically offer income, rather than capital appreciation potential. Corporate bonds are issued by corporations. Bonds with lower ratings and higher credit risk (risk of default) typically offer higher interest rates to compensate investors for the higher risk associated with the investment.

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