



U.S. Municipal Sustainable Bond Issuance Outlook 2023: Momentum To Continue

Data And Analysis Highlights

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Feb. 9, 2023

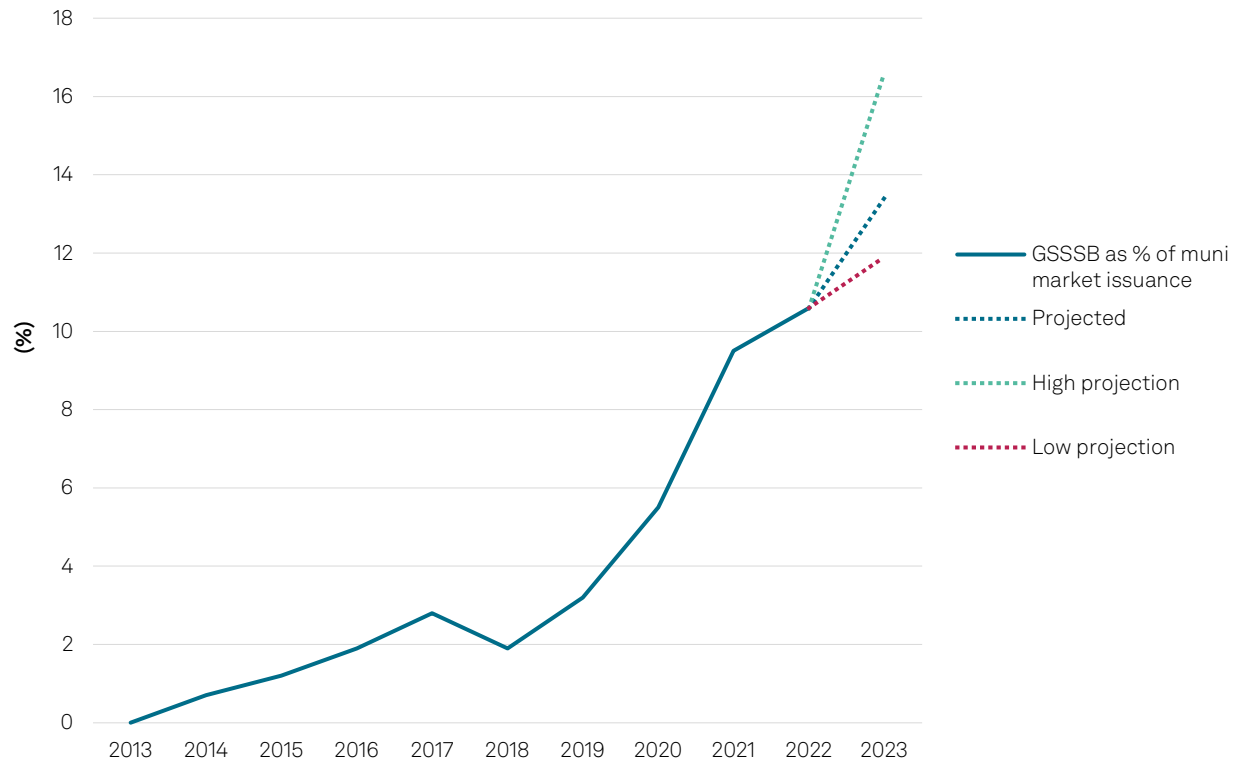
S&P Global
Ratings

This report does not constitute a rating action

GSSSB Has Room To Run In 2023

S&P Global Ratings estimates total U.S. municipal sustainable bond issuance could reach at least \$54 billion.

Municipal GSSSB As A Percentage Of Total Municipal Bonds



Source: S&P Global Ratings.

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Key Takeaways

- **Continued robust growth:** Total green, social, sustainability, and sustainability-linked bond (GSSSB) issuance by U.S. municipal entities will reach approximately \$54 billion; we expect market share to increase for a fifth consecutive year, likely **ranging from 12% to 17%** of total municipal bond issuance.
- **Mixed impact from policy:** The U.S. Inflation Reduction Act may boost GSSSB issuance, but objections to environmental, social, and governance (ESG) factors as discrete investment or financial considerations from some policymakers, issuers, and investors may hinder growth.
- **Prominence for social:** The affordable housing sector will continue to drive municipal GSSSB issuance under the social label, in contrast to lagging green bond issuance for the struggling mass transit sector.
- **Municipal entities to seek fresh funds:** Rising interest rates through mid-2023 will limit the refunding opportunities that typically bolster GSSSB issuance.

See "[U.S. Muni Sustainable Bonds: Momentum To Continue In 2023](#)," Feb. 9, 2023

Municipal GSSSB Issuance By The Numbers - 2022

Total sustainable debt issuance



Total municipal GSSSB issuance fell 11% in 2022 from 2021, compared to a 21% decline in total municipal bond issuance in 2022.

States with at least one GSSSB issuance in 2022

Includes Washington, D.C.



47

South Dakota, Nevada, and Montana observed GSSSB issuers for the first time.

The volume of labeled issuances declined by **29%** in 2022.

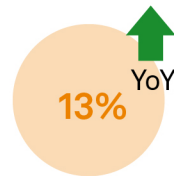
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Social



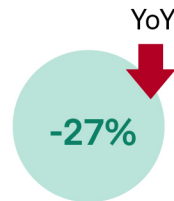
\$19 bil.



Green



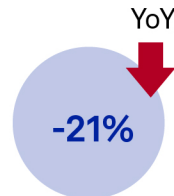
\$16 bil.



Sustainability



\$6 bil.



Par amount per transaction



\$107 mil.

Muni GSSSB average

\$43 mil.

Total muni market average

2.5x

The average transaction of muni GSSSB par amount is 2.5x of total muni market average.

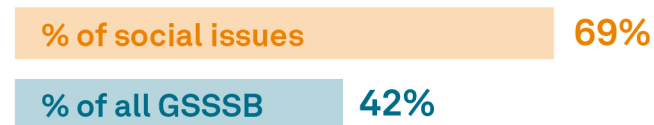
\$2 bil.

Massachusetts issued the largest labeled issuance in the municipal market's history.

Total issuance from the state accounted for **7%** of total municipal GSSSB in 2022.



The affordable housing sector sits firmly atop the mantel of municipal GSSSB market leadership.



70%



New money % of the total issuance

-58%



First time issuers declined in 2022 from the peak of 2021.

Source: S&P Global Ratings.

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Themes For U.S. Municipal GSSSB



Natural alignment

Most municipal issuers provide public goods and services. This often includes efforts to improve environmental and social conditions. As a result, a significant portion of municipal issuance is inherently well suited for GSSSB labels, whether self-labeled or subject to an external review.



Sheer momentum

GSSSB market share has increased as transactions are used by an increasing number of issuers in the municipal market, both large and small. For example, recently the cities of Chicago (in early 2023) and New York (in 2022) issued GSSSBs for the first time. A growing number of high-profile issuers could spur peers to follow suit.



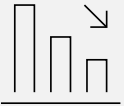
Issuer focus and intent

Many municipal entities formalize their focus on environmental and social initiatives by embedding these considerations in budgets and planning documents. In addition, hardening assets against the impacts of climate change has become a primary objective in some issuers' capital expenditure plans. Some issuers use GSSSBs to demonstrate commitment to these goals.



Unclear financial benefits

The absence of a clear pricing advantage for GSSSBs remains a disincentive. Many GSSSB issuances are oversubscribed, with robust investor demand including demand from international investors who typically do not buy municipal bonds. However, the municipal market's smaller and more fragmented nature complicates the pricing outcomes.



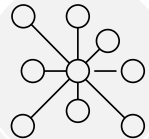
Political headwinds

We expect that GSSSB issuance may be tempered by some policymakers' objections to the consideration of ESG factors and/or issuers' and investors' elections not to offer or invest in bonds falling under the GSSSB label.



Major issuers

Several large, frequent issuers with annual GSSSB issuance often exceeding \$1 billion have embraced GSSSB labels and continue driving annual issuance totals. We think large issuers with substantial capital requirements will continue underscoring growth.



Evolving disclosure landscape

Progress toward disclosure best practices and post-issuance regulatory guidance may bring clarity to the market and solidify demand from investors. At the same time, complex disclosure requirements could dampen growth, as could potential penalties imposed for misrepresentation of sustainability issues, or greenwashing.



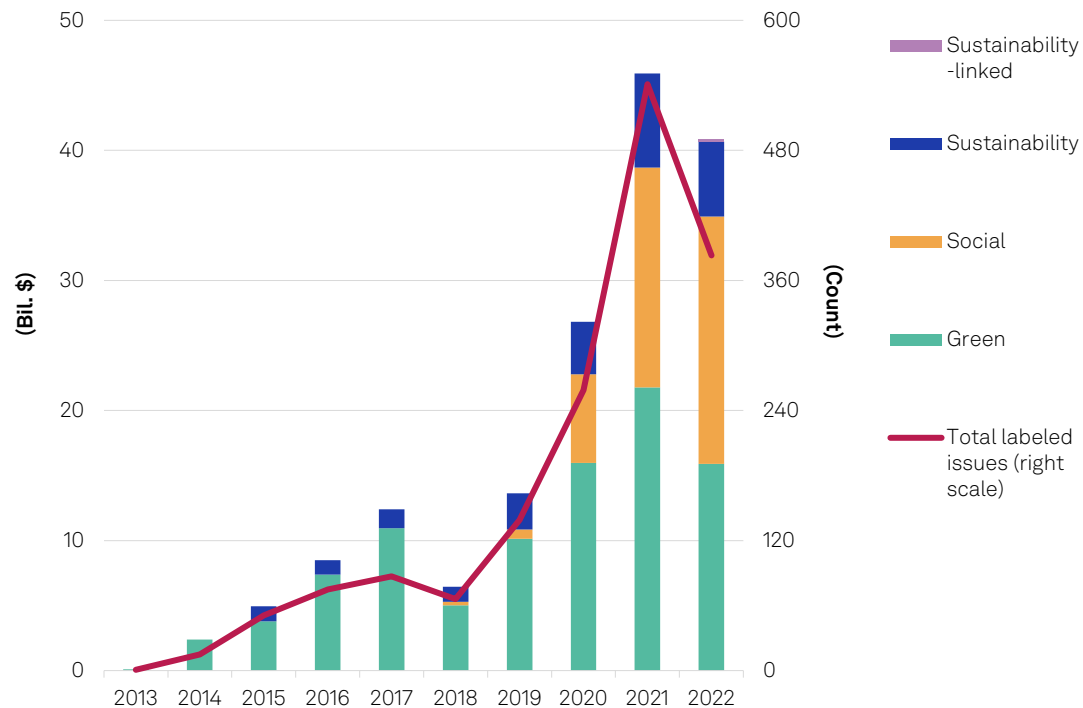
Affordable housing

This sector was the driving force in 2022, accounting for 75% of social-labeled GSSSB, but whether this momentum continues in the social segment remains to be seen. Sixty percent of all affordable housing municipal bond issuance used a GSSSB label in 2022.

GSSSB Issuance Declines From 2021 Peak, But Social Segment Gains Ground

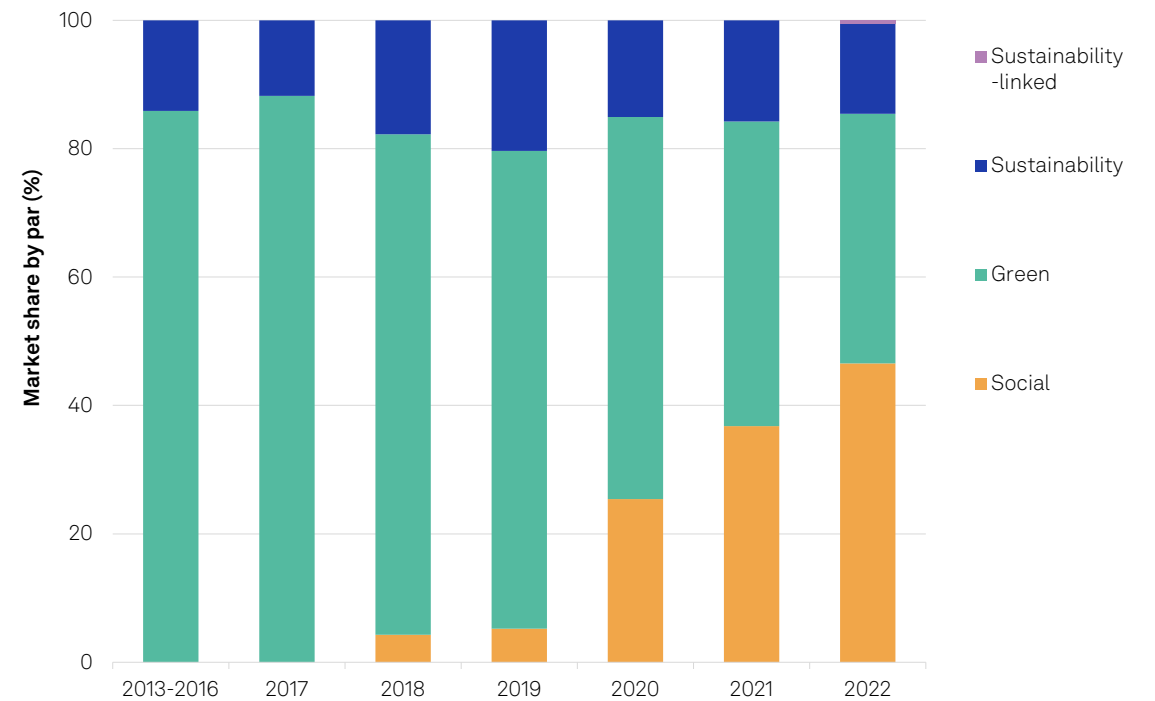
Social surpasses green for largest share of muni GSSSB, and first muni sustainability-linked bonds come to market.

Municipal GSSSB By Label: Par Versus Issues



Source: S&P Global Ratings
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Municipal GSSSB: Market Share By Label



Source: S&P Global Ratings
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Largest Issuers And Sectors - 2022

Affordable housing drives issuance in 2022, followed by green buildings, green transport, and water projects.

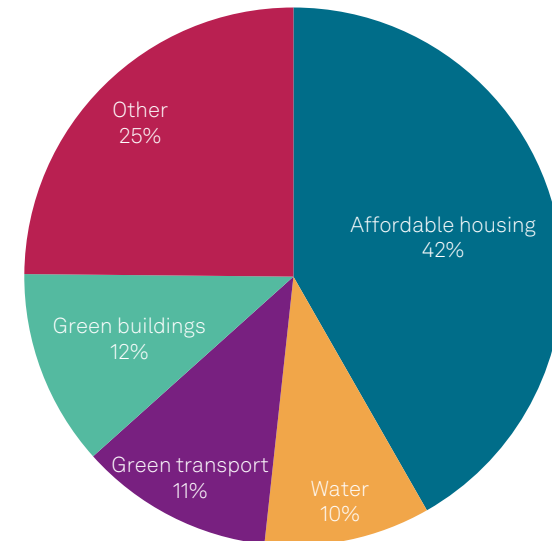
Top 10 U.S. Municipal GSSSB Issuers - 2022

Issuer	Par (Mil. \$)	% of par
Massachusetts (State of)	2,881	7.0
New York City Housing Development Corporation	2,011	4.9
New York MTA	1,449	3.5
Department of Airports Of The City Of Los Angeles	1,356	3.3
California Health Facilities Financing Authority	1,050	2.6
New York State Housing Finance Agency	1,037	2.5
California Community Choice Financing Authority	931	2.3
Connecticut Housing Finance Authority	808	2.0
Minnesota Housing Finance Agency	800	2.0
Massachusetts Housing Finance Agency	783	1.9
Top 10	13,105	32.1

Source: S&P Global Ratings.

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Municipal GSSSB Issuance By Sector - 2022



Other includes green energy, green manufacturing, land conservation, mixed, waste, education, and socioeconomic advancement and development. Source: S&P Global Ratings.

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Largest Issuers And Sectors - Since 2013

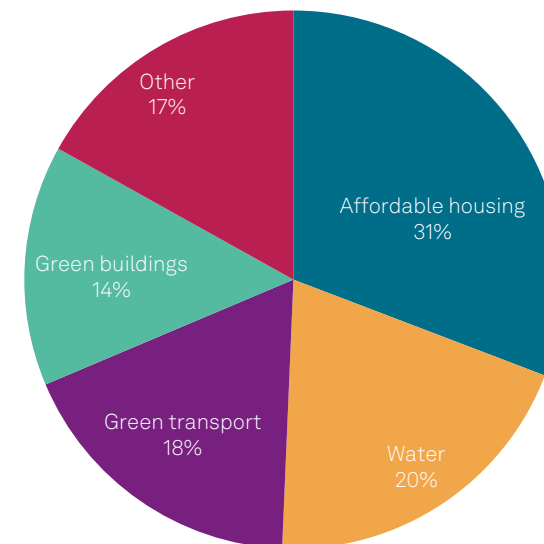
Affordable housing remains ahead of water projects as the leading sector for U.S. municipal GSSSB use of proceeds after another strong year of issuance in 2022.

Top 10 U.S. Municipal GSSSB Issuers, 2013 -2022

Issuer	Par (Mil. \$)	% of par
New York City Housing Development Corporation	12,852	7.9
New York MTA	12,476	7.7
New York State Housing Finance Agency	5,278	3.3
CSCDA* Community Improvement Authority	4,422	2.7
Massachusetts (State of)	3,868	2.4
Indiana Finance Authority	3,443	2.1
San Francisco Public Utilities	3,243	2.0
California Community Choice Financing Authority	2,768	1.7
San Francisco Bay Area Rapid Transit District	2,694	1.7
California Health Facilities Financing Authority	2,448	1.5
Top 10	53,493	33.0

*CSCDA--California Statewide Communities Development Authority. Source: S&P Global Ratings.
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U.S. Municipal GSSSB Issuance By Sector 2013-2022



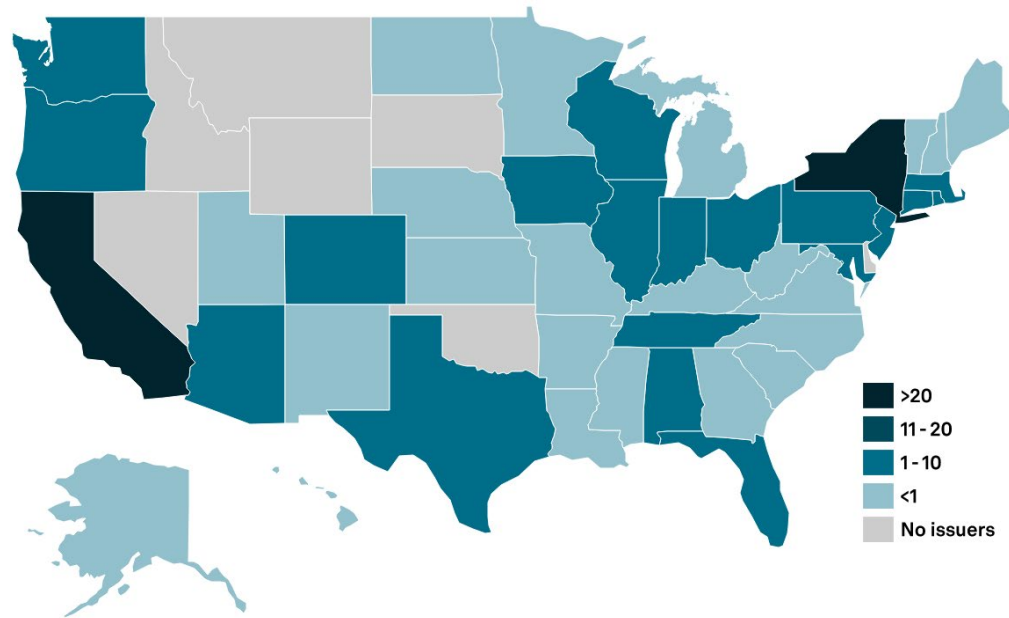
Other includes green energy, green manufacturing, land conservation, mixed, waste, education, health, and socioeconomic advancement and development. Source: S&P Global Ratings.
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South Dakota, Nevada, And Montana Enter The GSSSB Market – 2022

States with at least one issuer of GSSSBs

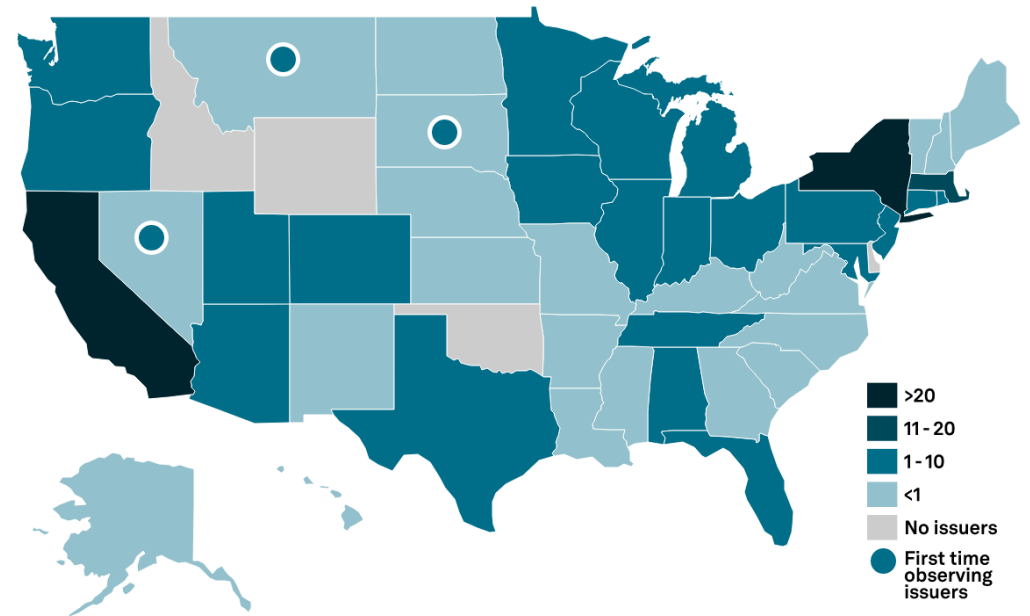
2013 -2021: 44 states

Par (Bil. \$)



2013-2022: 47 states

Par (Bil. \$)



Includes Washington, D.C. Source: S&P Global Ratings.

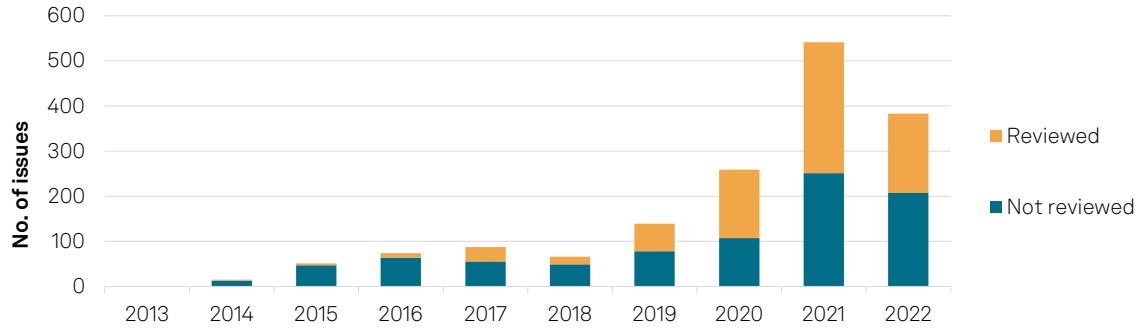
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Includes Washington, D.C. Source: S&P Global Ratings.

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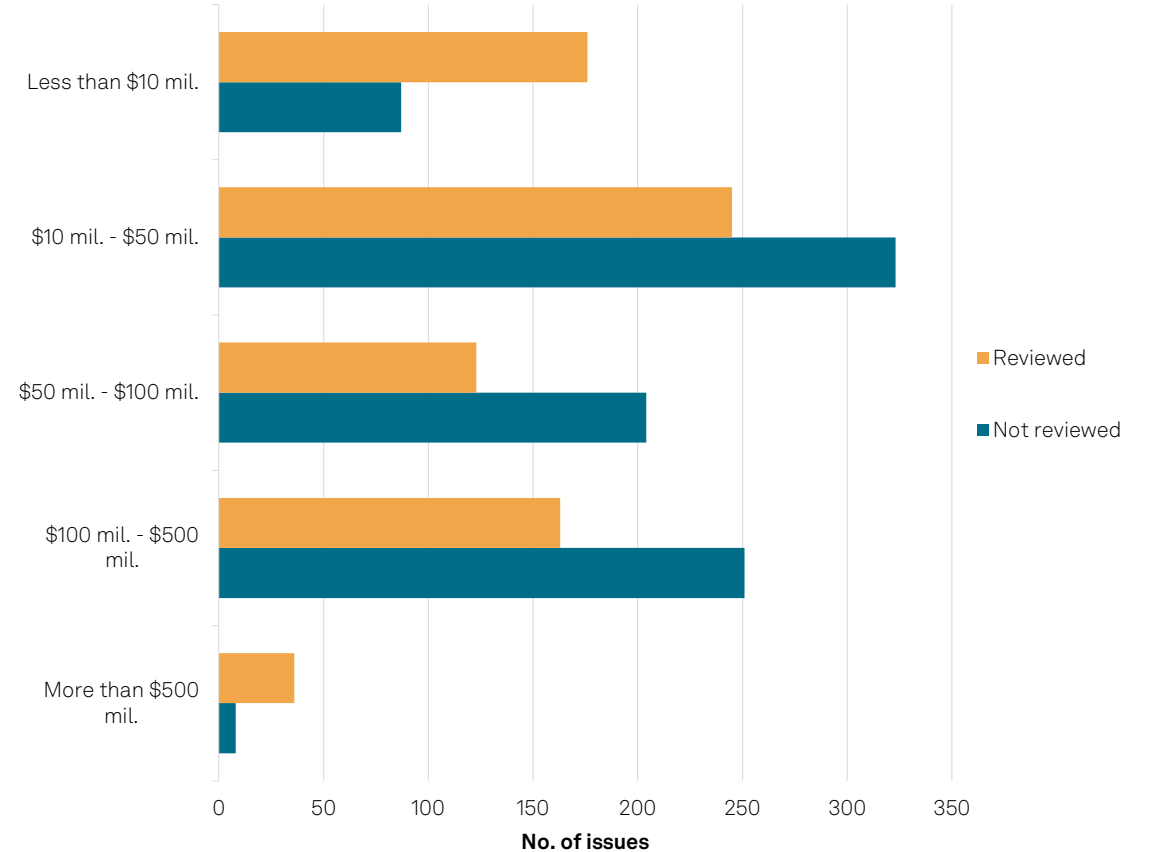
U.S. Municipal GSSSB Issuance With External Review - 2022

Total U.S. Municipal GSSSB With External Review



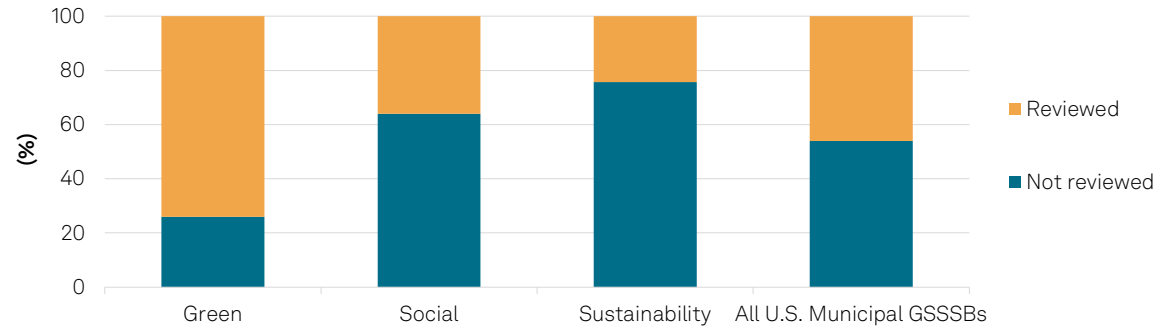
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External Review By Issuance Size 2013-2022



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External Review By Label 2022

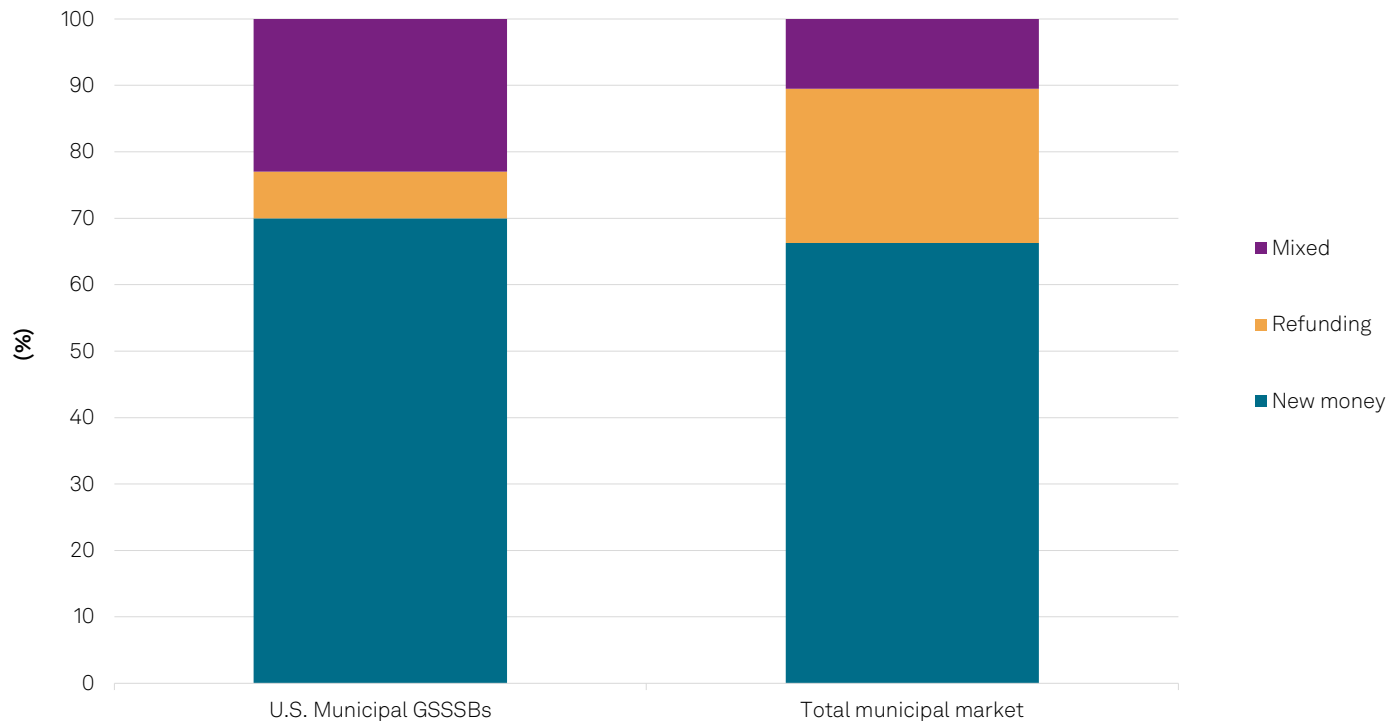


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New Money Versus Refunding - 2022

Rates are rising, but refundings were in the back seat for U.S. municipal GSSSB issuance in 2022.

U.S. Municipal GSSSB By Type



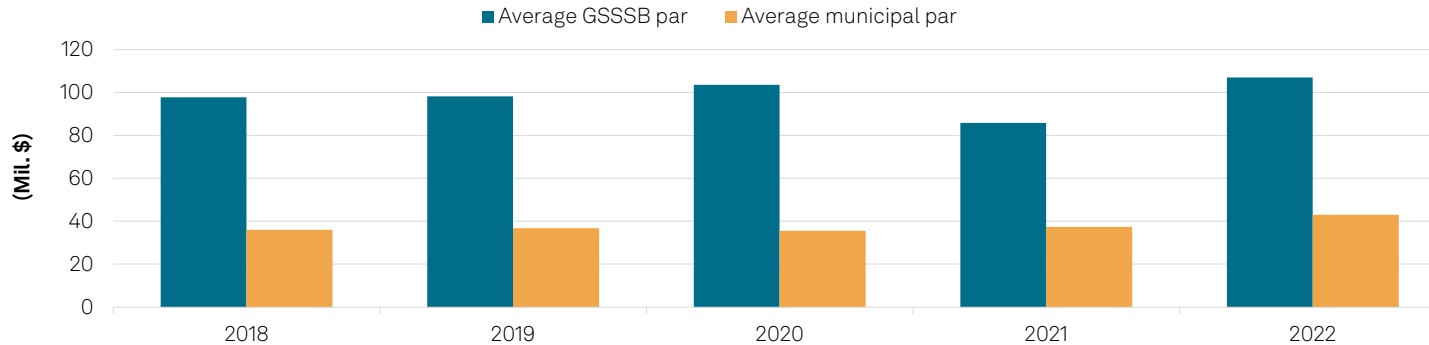
- New money continues to drive the GSSSB market.
- With \$28.6 million issued in 2022, new money accounted for a greater portion of the GSSSB space compared with the municipal market as a whole.
- With fewer outstanding bonds available to refinance and an unfavorable interest rate environment, reduced refund activity will likely dampen U.S. municipal GSSSB issuance in 2023.
- Because issuers often reuse labels when refinancing GSSSBs, more new social bonds issued likely positions the market for more GSSSB refundings down the road.
- Stronger new money and mixed use of proceeds for GSSSBs points to continued need and appetite for financings focused on improving environmental and social conditions.

Source: The Bond Buyer. S&P Global Ratings.

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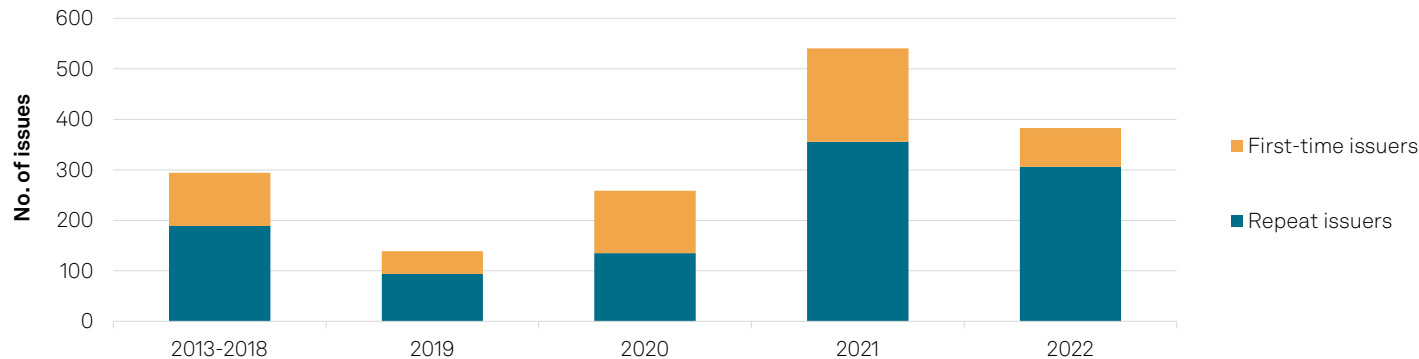
Average Par Amount And First-Time Issuers - 2022

Average Par Amount Per U.S. Municipal GSSSB Issuance



Source: The Bond Buyer. S&P Global Ratings.
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Comparing First-Time And Repeat U.S. Municipal GSSSB Issuers

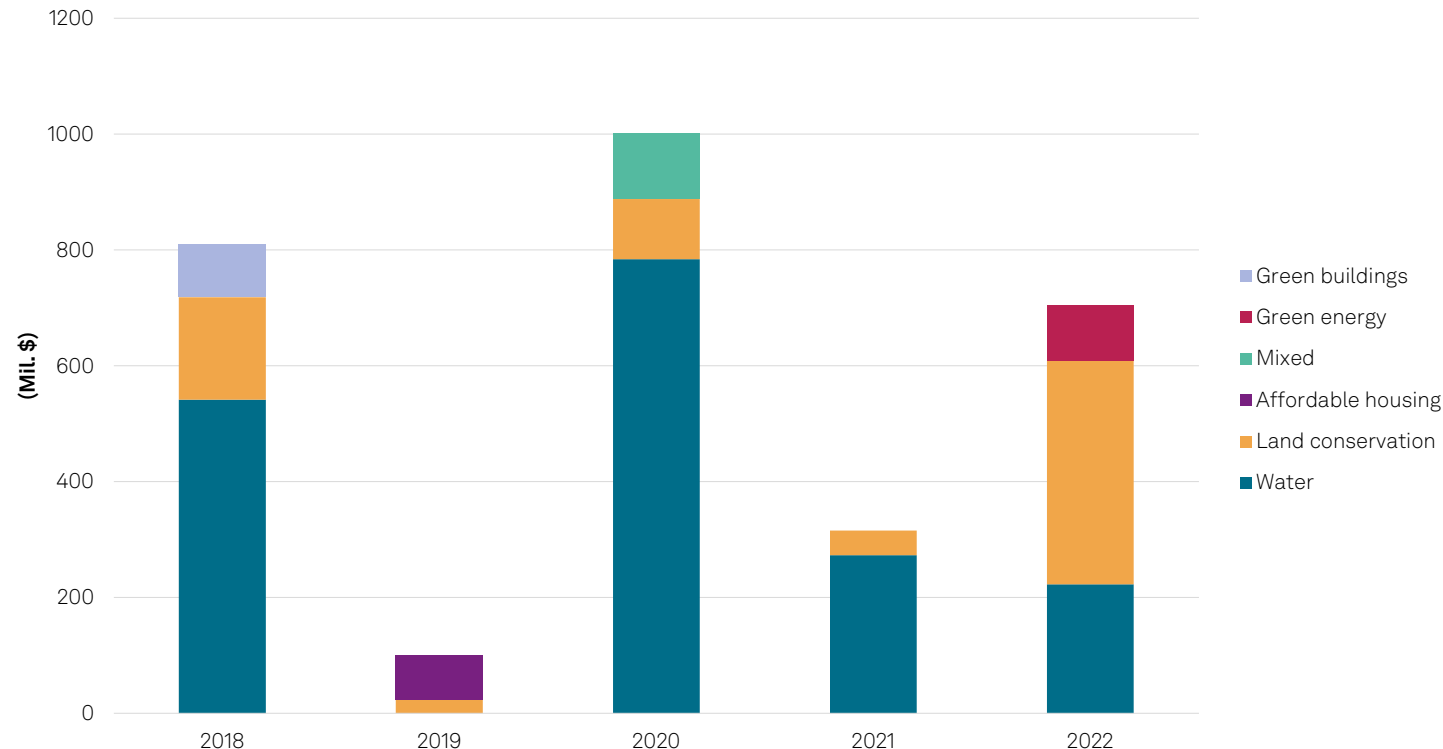


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- GSSSB issuance size continues to exceed that of the average municipal bond transaction.
- The average GSSSB issuance across all markets totaled \$106.7 million in 2022 (2.5x the total muni market), a 25% increase from \$85.8 million in 2021.
- The increase in average municipal market issuance reflects, in part, a lower number of first-time GSSSB issuers in 2022, as first-time labelers' issuances trends smaller than overall the GSSSB average issuance.
- In 2022, 77 new GSSSB issuers came to market, compared with 185 new issuers in 2021.
- The largest shares of new issuers in 2022 were in **California (13% of new GSSSB issuers)**, New York (12%), and Texas (6%).

GSSSB Adaptation Issuances - 2022

Adaptation GSSSB Breakdown (2018-2022)



Source: S&P Global Ratings.

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- Adaptation-focused projects financed by GSSSBs in 2022 are related to land conservation, and improvements to stormwater systems and electric grids.
- Adaptation-related projects remain niche within the space.
- Increased federal funding may combine with rising costs from climate-related events to drive dedicated adaptation and resilience bond issuance.
- We identified nine issuances totaling \$703.5 million in 2022—representing **just 2% of U.S. municipal GSSSB**—with adaptation as a clear and primary purpose for issuance.
- Harris County Flood Control District issued \$222.9 million to finance a flood damage reduction project.

Notable Transactions - 2022

Issuer	Label	Amount	Sector	Purpose
State of Massachusetts	Social	\$2.7 billion Special obligation revenue bonds, series 2022A and B	Socioeconomic advancement and empowerment	Financing and refinancing unemployment insurance benefits, helping in reducing economic hardship for those who have lost their jobs during the COVID pandemic.
Arizona Industrial Development Authority	Sustainability-linked	\$200 million Senior federally taxable revenue bonds, series 2022A and B	Land conservation	Bond proceeds will be loaned to New Life to finance or refinance the construction and operation of biomass and lumber processing facilities in Bellmont and Heber, that will directly support the sustainable management of a national forest in Arizona.
City of New York	Social	\$400 million General obligation bonds, series B- subseries B-2	Affordable housing	Reimburse spending on previously funded affordable housing projects in New York City.
Florida Development Finance Corporation	Green	\$770 million Revenue bonds, series 2022A	Green transport	Pay or reimburse a portion of the cost of constructing a privately owned and operated passenger rail system from Miami to Tampa.
State of Connecticut	Social	\$300 million General obligation bonds, series 2022B \$250 million General obligation bonds, series 2022F	Education	Finance a reimbursement program for local school construction projects.
California Community Choice Financing Authority	Green	\$931 million Clean Energy Project revenue bonds, series 2022A-1 and A-2	Green energy	Finance repayment of renewable and carbon-free electricity for the benefit of East Bay Community Energy Authority.

Source: S&P Global Ratings.

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Appendix

Breakdown By U.S. Municipal GSSSB Segment

U.S. Municipal Green Bonds - 2022

Top 10 Green Bond Issuers In U.S. Public Finance 2022

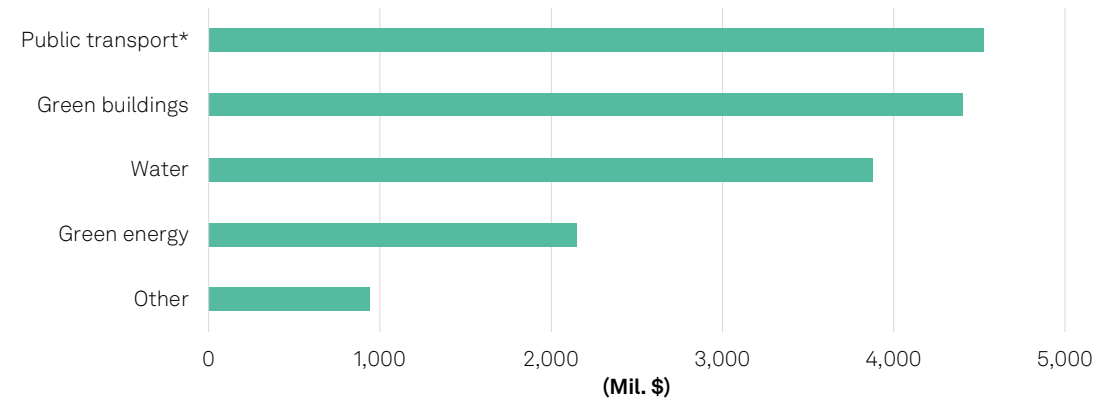
Issuer	Par (Mil. \$)	% Green
New York MTA	1,449	9
Department of Airports Of The City Of Los Angeles	1,391	9
California Community Choice Financing Authority	931	6
Florida Development Finance Corporation	770	5
New York State Thruway Authority	732	5
San Francisco Bay Area Rapid Transit District	700	4
Utah Board of Higher Education	665	4
Maryland Economic Dev Corp.	643	4
Power Authority of the State of New York	608	4
San Diego Unified School District	600	4
Top 10	8,454	53

Top 10 Green Bond Issuers In U.S. Public Finance 2013-2022

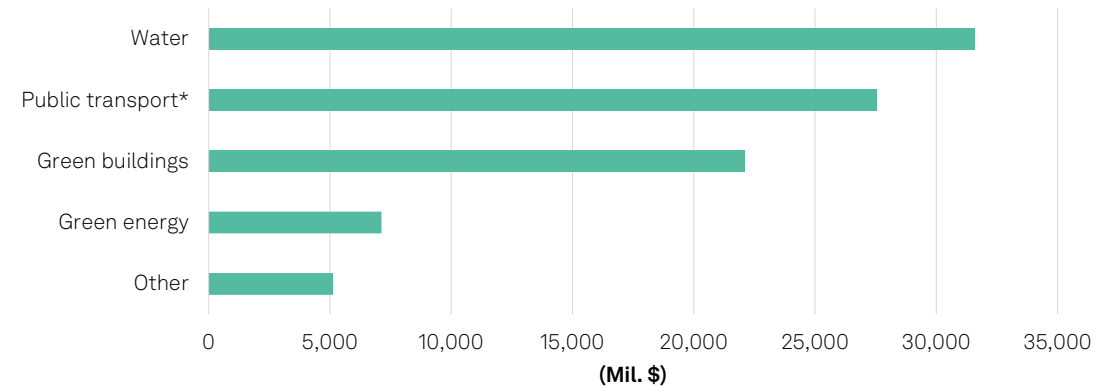
Issuer	Par (Mil. \$)	% Green
New York MTA	12,476	13
Indiana Finance Authority	3,443	4
San Francisco Public Utilities	3,243	3
California Community Choice Financing Authority	2,768	3
San Francisco Bay Area Rapid Transit District	2,694	3
Massachusetts Water Resources Authority	2,400	3
Los Angeles County Metropolitan Transportation Authority	2,246	2
Central Puget Sound Transit Authority	2,212	2
Greater Orlando Aviation Authority	2,011	2
Power Authority of the State of New York	1,843	2
Top 10	35,337	38

*Public transport consists of mass transit and rail financings. Issuance by airports (i.e., financing terminal projects) largely resides within green buildings. Source: S&P Global Ratings. Copyright@ 2023 by Standard & Poor's Financial Services LLC. All rights reserved.

U.S. Municipal Green Bond Issuance By Sector 2022



U.S. Municipal Green Bond Issuance By Sector 2013-2022



U.S. Municipal Social Bonds - 2022

Top 10 Social Bond Issuers In U.S. Public Finance - 2022

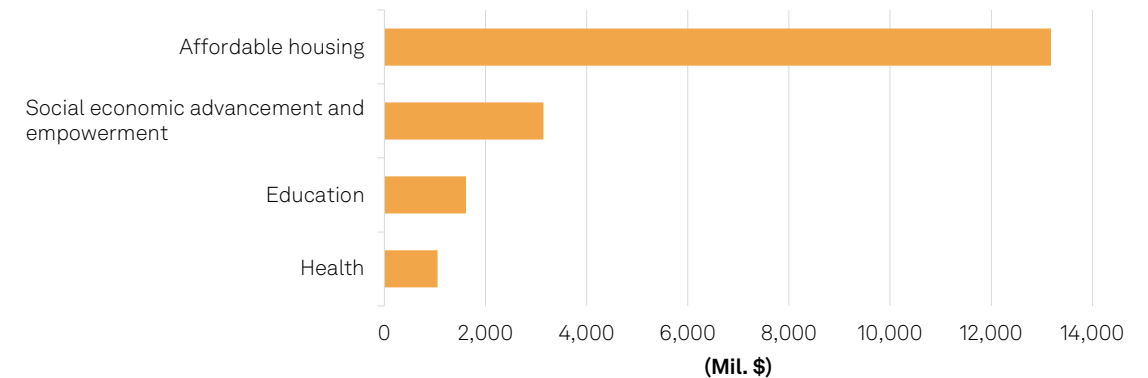
Issuer	Par (Mil. \$)	% Social
Massachusetts (State of)	2,681	14
California Health Facilities Financing Authority	1,050	6
Minnesota Housing Finance Agency	800	4
Texas Department of Housing and Community Affairs	720	4
Illinois Housing Development Authority	719	4
Michigan State Housing Development Authority	673	4
Connecticut Housing Finance Authority	668	4
National Finance Authority	633	3
Pennsylvania Housing Finance Agency	559	3
Connecticut (State of)	550	3
Top 10	9,053	48

Top 10 Social Bond Issuers In U.S. Public Finance 2013-2022

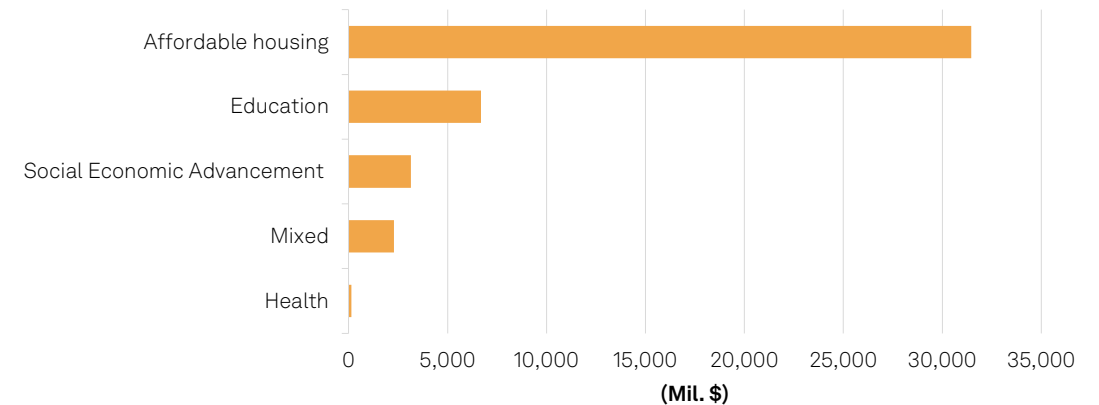
Issuer	Par (Mil. \$)	% Social
CSCDA* Community Improvement Authority	4,422	10
Massachusetts (State of)	2,681	6
California Health Facilities Financing Authority	2,040	5
Alabama Public School and College Authority	1,482	3
Massachusetts School Building Authority	1,445	3
Pennsylvania Housing Finance Agency	1,441	3
State of New York Mortgage Agency	1,357	3
Washington State Housing Finance Commission	1,306	3
Minnesota Housing Finance Agency	1,125	3
Illinois Housing Development Authority	1,102	3
Top 10	18,400	42

*CSCDA--California Statewide Communities Development Authority. Source: S&P Global Ratings. Copyright@ 2023 by Standard & Poor's Financial Services LLC. All rights reserved.

U.S. Municipal Social Bond Issuance By Sector - 2022



U.S. Municipal Social Bond Issuance By Sector 2013-2022



U.S. Municipal Sustainability Bonds - 2022

Top 10 Sustainability Bond Issuers In U.S. Public Finance - 2022

Issuer	Par (Mil. \$)	% Sustainability
New York City Housing Development Corporation	2,011	35
New York State Housing Finance Agency	1,037	18
Los Angeles Unified School District	500	9
Massachusetts Housing Finance Agency	366	6
Harris County Flood Control District	223	4
Massachusetts (State of)	200	3
State of Oregon	176	3
Gallatin County	160	3
Ohio Water Development Authority	150	3
Massachusetts Clean Water Trust	143	2
Top 10	4,966	86

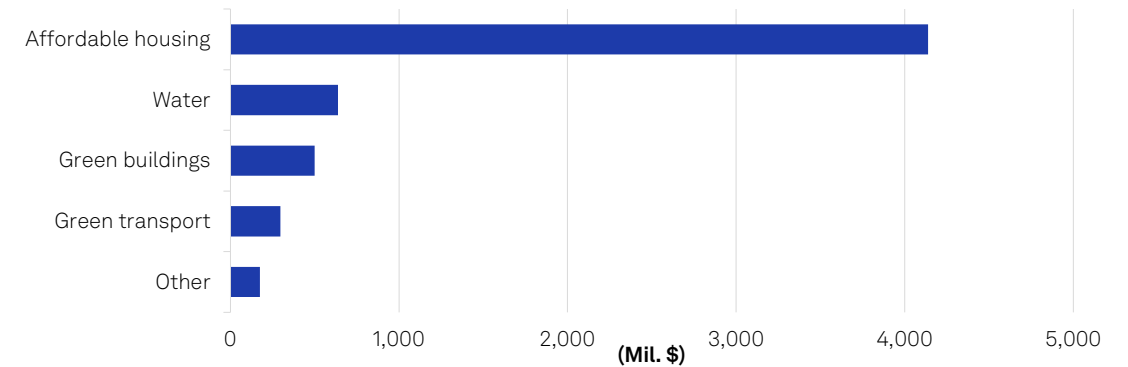
Top 10 Sustainability Bond Issuers In U.S. Public Finance 2013-2022

Issuer	Par (Mil. \$)	% Sustainability
New York City Housing Development Corporation	12,852	52
New York State Housing Finance Agency	3,575	14
Massachusetts Housing Finance Agency	989	4
Massachusetts Bay Transportation Authority	894	4
California Infrastructure and Economic Development Bank	543	2
Los Angeles Unified School District	500	2
State of Oregon	429	2
Massachusetts (State of)	387	2
Tri-County Metropolitan Transportation District of Oregon	361	1
Connecticut Housing Finance Authority	358	1
Top 10	20,888	85

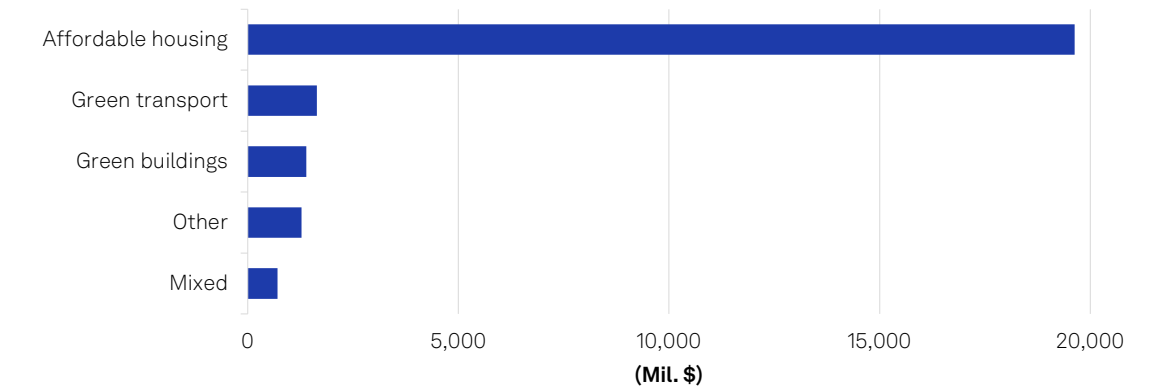
Source: S&P Global Ratings.

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U.S. Municipal Sustainability Bond Issuance By Sector - 2022



U.S. Municipal Sustainability Bond Issuance By Sector 2013-2022



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