



# U.S. Municipal Sustainable Bonds:

Projecting Moderate Growth In 2024

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**S&P Global**  
Ratings

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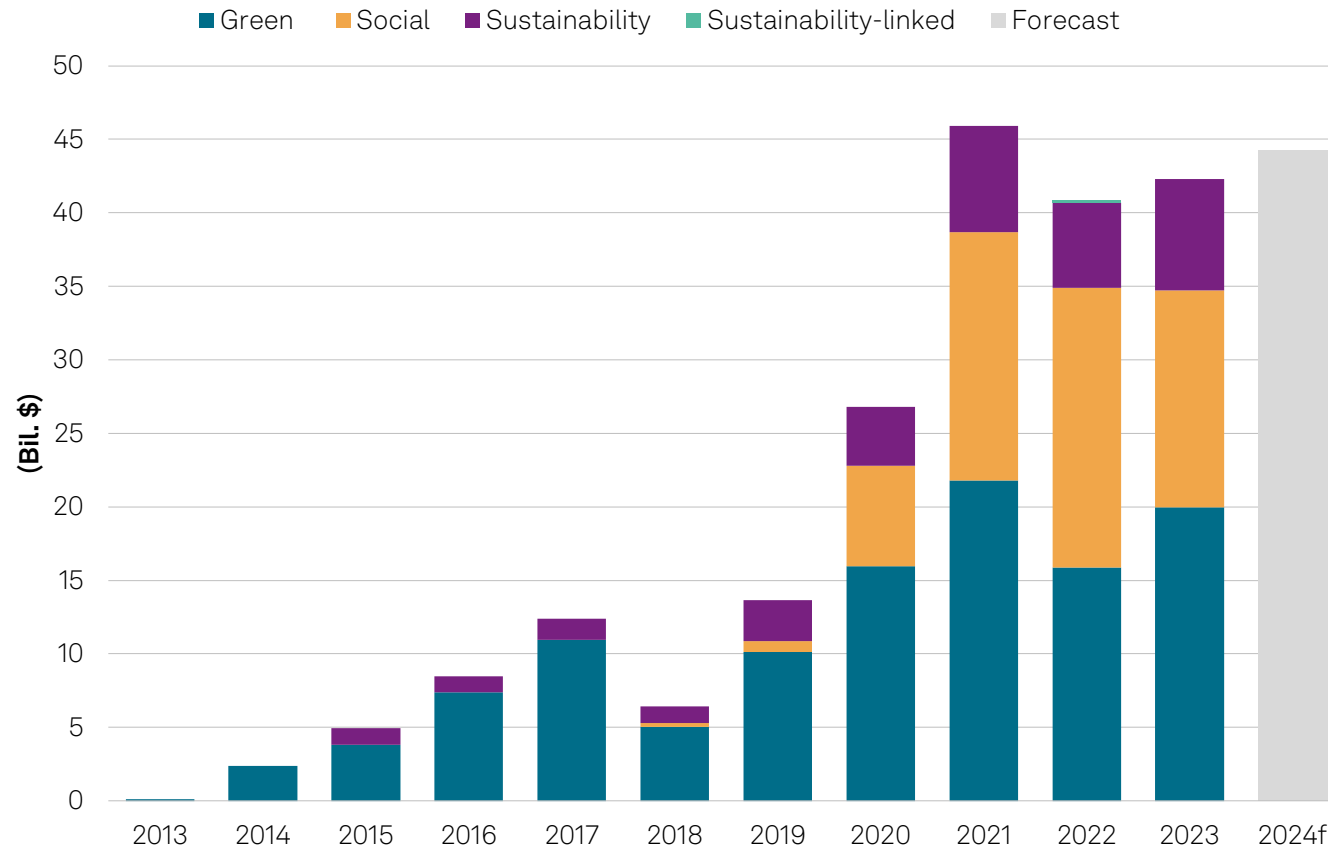
Americas, U.S. Public Finance

Feb. 15, 2024

*This report does not constitute a rating action*

# U.S. municipal GSSSB issuance could increase by 5% in 2024

S&P Global Ratings estimates total U.S. municipal sustainable bond issuance could reach \$44 billion



f--Forecast. Source: S&P Global Ratings.

## Key Takeaways

- Moderate growth: We anticipate 5% U.S. municipal GSSSB issuance growth in 2024, modestly outpacing the broader municipal market and reflecting pent-up demand.
- Affordable housing will lead: GSSSBs are especially well suited for such projects, particularly as housing affordability hit a low in 2023.
- Prominence of large and frequent issuers: A concentration of several large issuers will likely continue to embrace GSSSBs but could also produce volatility.
- Green energy and transportation as likely areas of growth: State mandates for renewable power supply will support momentum in green bond financing while mass transit operators will continue tapping the market to fund capital-intensive systems.
- For our 2024 outlook on U.S. municipal GSSSB issuance, see "[U.S. Muni Sustainable Bonds: Moderate Growth In 2024](#)", Feb. 15, 2024

# U.S. municipal GSSSB issuance trends

## Total U.S. municipal GSSSB

**\$40.9 bil.**

2022

**3%**  
change

**\$42.3 bil.**

2023

U.S. municipal GSSSB issuance grew by 3% in 2023 to \$42.3bil. from \$40.9bil. in 2022, compared to a 3% decline in total municipal bond issuance in 2023.

**49**



**States with at least one GSSSB issuance 2013-2023**  
Includes Washington, D.C.

In 2023, Delaware and Idaho witnessed GSSSB issuers for the first time.

## GSSSB-labeled issuances declined 17% in 2023

2023

**315**

2022

**383**

## Funds raised



**Green**

**\$20 bil.**

**26%**  
annual change



**Social**

**\$15 bil.**

**-22%**  
annual change



**Sustainability**

**\$8 bil.**

**32%**  
annual change

**\$134 mil.**

Municipal GSSSB average par amount per transaction.

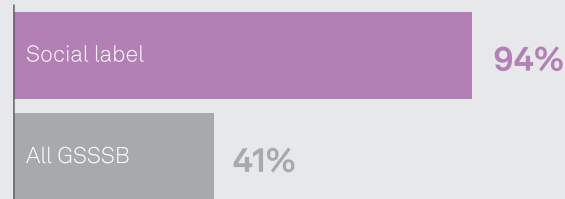
**\$48 mil.**

Municipal market average bond issuance size.

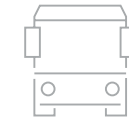
Average municipal GSSSB amount is 2.8x larger than average U.S. municipal bond.

**2.8x**

Affordable housing sector leads U.S. municipal GSSSB issuance.



**\$2 bil.**



**New York Transportation Development Corporation** issued largest labeled issuance in the U.S. municipal market's history. Total issuance from issuers in New York accounted **27%** of total municipal GSSSB in 2023.

**70%**

New money % of total issuance.

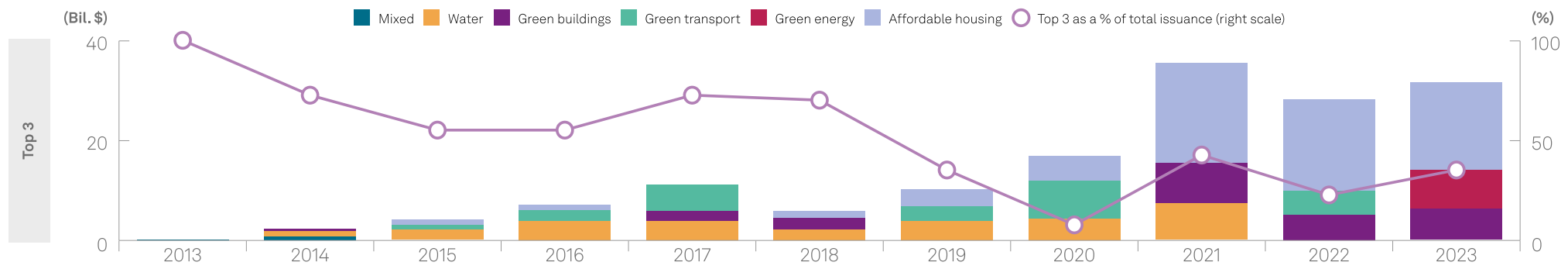
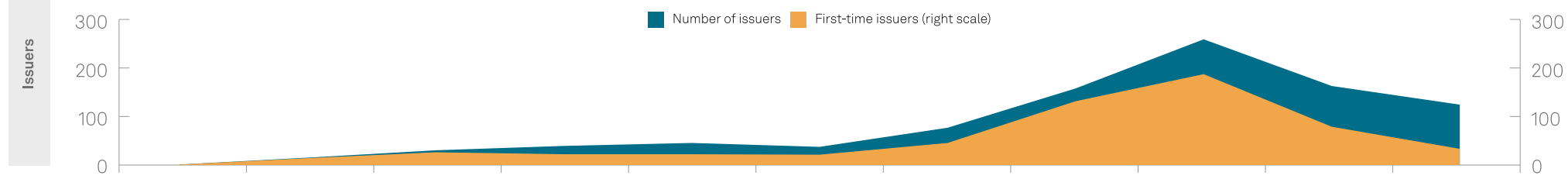
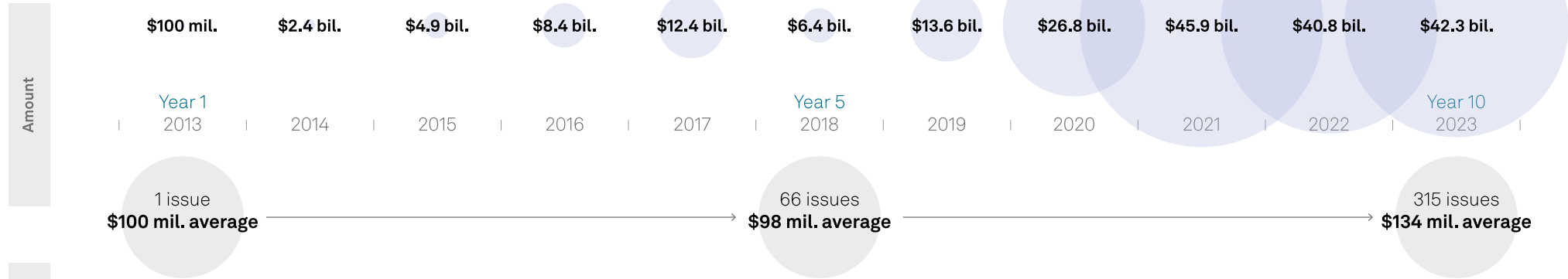


**-51%**

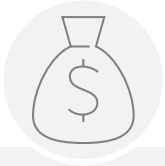
First-time issuers declined in 2023 from 2022.

# A decade of GSSSB in U.S. public finance - 2013-2023 evolution

Total U.S. municipal GSSSB issuance over the last ten years exceeded \$204 billion



# 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 issuance.



## Affordable housing's embrace

The sector's embrace of GSSSBs remains strong, although we note housing finance agencies in five states ceased labeling their bonds in 2023. Housing affordability reached an all-time low in 2023, and a recovery is unlikely in 2024, so we expect robust issuance in the housing sector. Housing finance agencies will continue leading GSSSB issuance, motivated by the larger pool of investors who do not normally purchase municipal bonds.



## Policy and funding support

We expect municipal issuers to continue seeking federal matching funds made available by the U.S. Inflation Reduction Act and Infrastructure Investment and Jobs Act that could be leveraged to finance green projects in areas such as renewable energy and mass transit. In addition, state programs encouraging renewable energy projects are expanding, potentially creating incentives for more green bond investments.



## Green transportation

We expect transportation issuers to bolster green bond totals in 2024, despite financial challenges for fare-dependent mass transit issuers. As they exhaust federal stimulus funds, transit agencies will likely return to the municipal market for infrastructure funding, even as some entities struggle to balance operating budgets following pandemic-driven declines in ridership that have yet to fully recover.



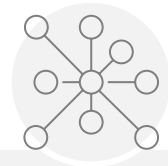
## Political sentiment and policy actions

Political sentiment is evolving around the considerations deemed to fall under the umbrella of environmental, social, and governance (ESG). At least one state enacted legislation that prohibits the sale of bonds designated or labeled to finance a project with an ESG purpose or to promote an ESG-related objective. As in 2023, we expect political sentiment and policy actions in parts of the country to significantly dampen U.S. municipal GSSSB issuance growth in 2024.



## Rising costs from physical risks

Municipal issuers' fixed geographies and the need to protect economic activity and the health and well-being of their constituents are likely to incorporate resilience and adaptation into capital programs over time. We expect support for municipal GSSSB issuance could come from adapting infrastructure to the physical risks exacerbated by climate change such as extreme temperatures, hurricanes, and wildfires.



## Evolving disclosure landscape

Progress toward disclosure norms and post-issuance regulatory guidance may clarify the market and solidify demand from investors. At the same time, complex disclosure requirements and penalties imposed for misrepresentation of sustainability issues, or greenwashing, could dampen growth.



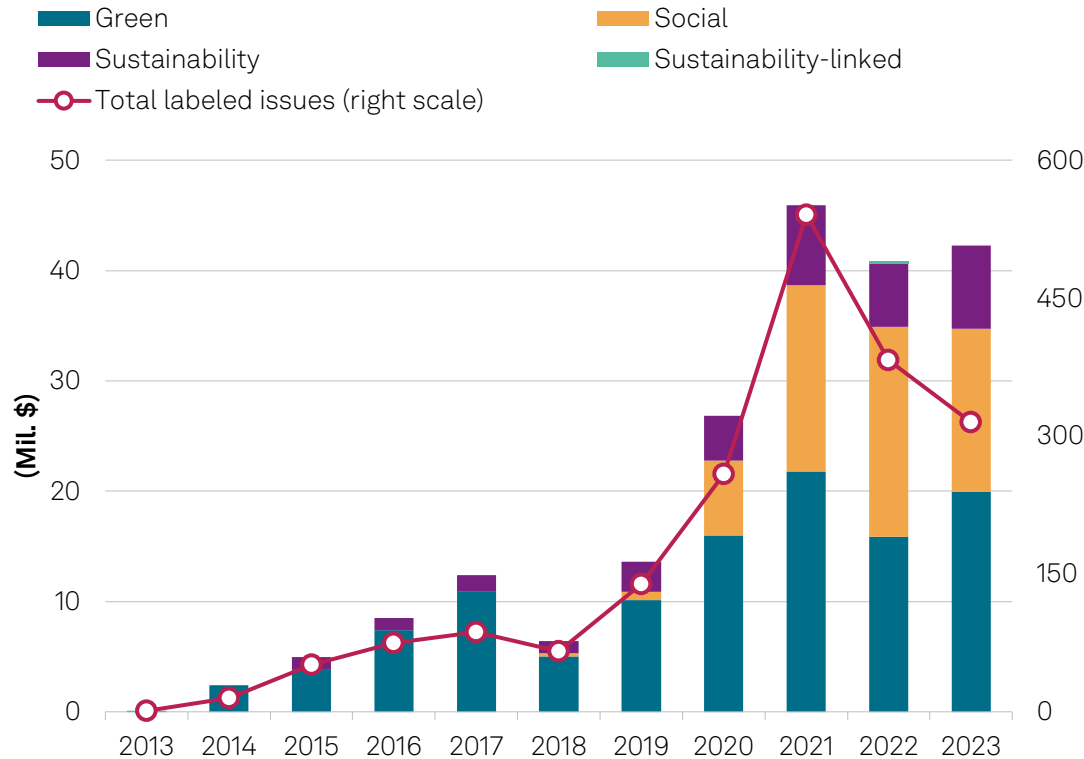
## Green energy

More than two dozen states have active renewable portfolio standards, so we believe green energy projects will lead to higher GSSSB issuance in 2024 as utilities face increasing pressure to shift supply mixes toward renewable energy.

# GSSSB issuance increases with growth in green bonds

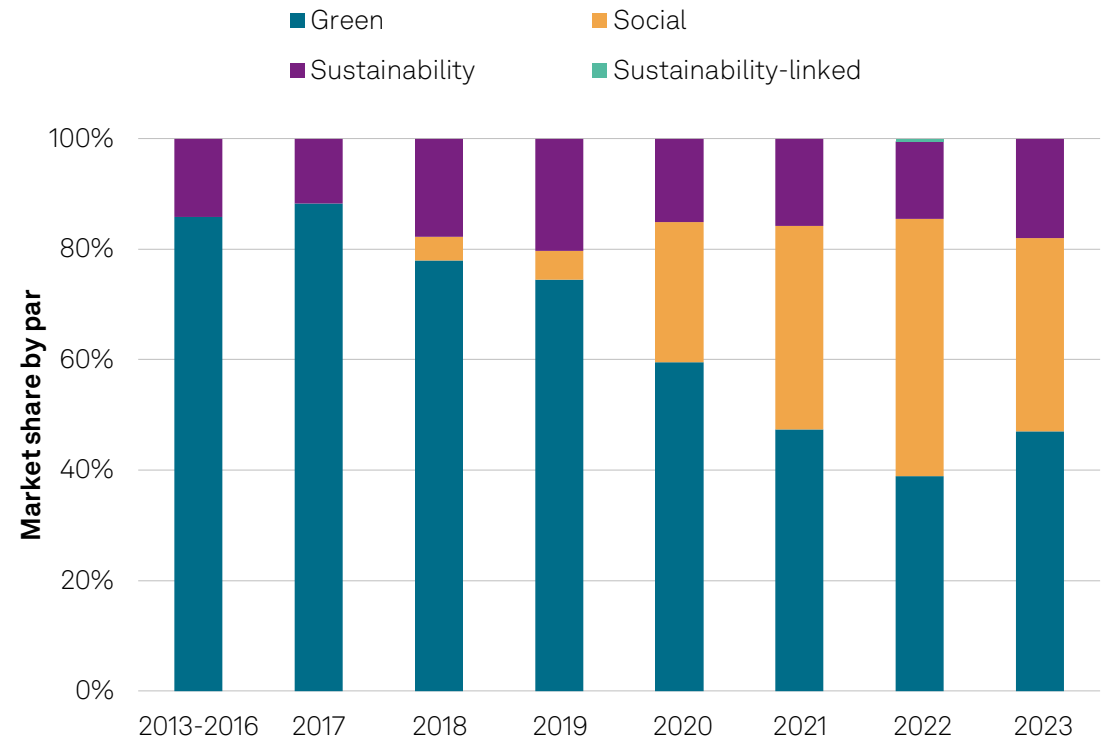
Green surpasses social for largest portion of U.S. municipal GSSSB issuance for the first time since 2020

Municipal GSSSB by label: Amount issued vs. number of issues



Source: S&P Global Ratings.

Municipal GSSSB: Issuance by label



Source: S&P Global Ratings.

# Largest issuers and sectors - 2023

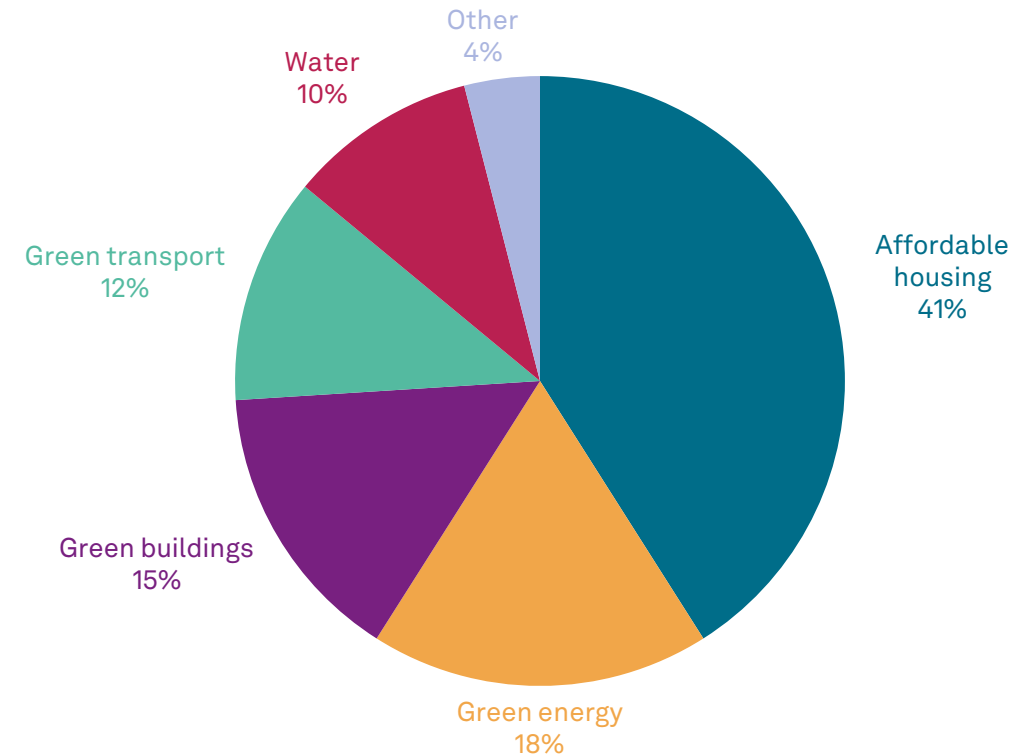
Affordable housing drives issuance again in 2023, followed by green energy and green buildings

## Top 10 U.S. municipal GSSSB issuers - 2023

YoY	Issuer	Par (Mil. \$)	Par (%)
↑ 6	California Community Choice Financing Authority	5,942	14.1
●	Triborough Bridge And Tunnel Authority	2,495	5.9
●	New York Transportation Development Corp.	2,135	5.0
↓ 2	New York City Housing Development Corp.	1,814	4.3
●	Illinois Housing Development Authority	1,353	3.2
●	Los Angeles Unified School District	1,234	2.9
●	Washington Metropolitan Area Transit Authority	1,190	2.8
●	San Francisco Public Utilities	1,183	2.8
↓ 3	New York State Housing Finance Agency	1,070	2.5
●	Maryland Department of Housing and Community Development	912	2.2
<b>Top 10</b>		<b>19,329</b>	<b>45.7</b>

● New compared to 2022 Rankings. ● First-time issuer. ● Issues annually. YoY--Year-over-year.  
 \*CSCDA--California Statewide Communities Development Authority. Source: S&P Global Ratings.

## Municipal GSSSB issuance by sector - 2023



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

# Largest issuers and sectors – 10-year review

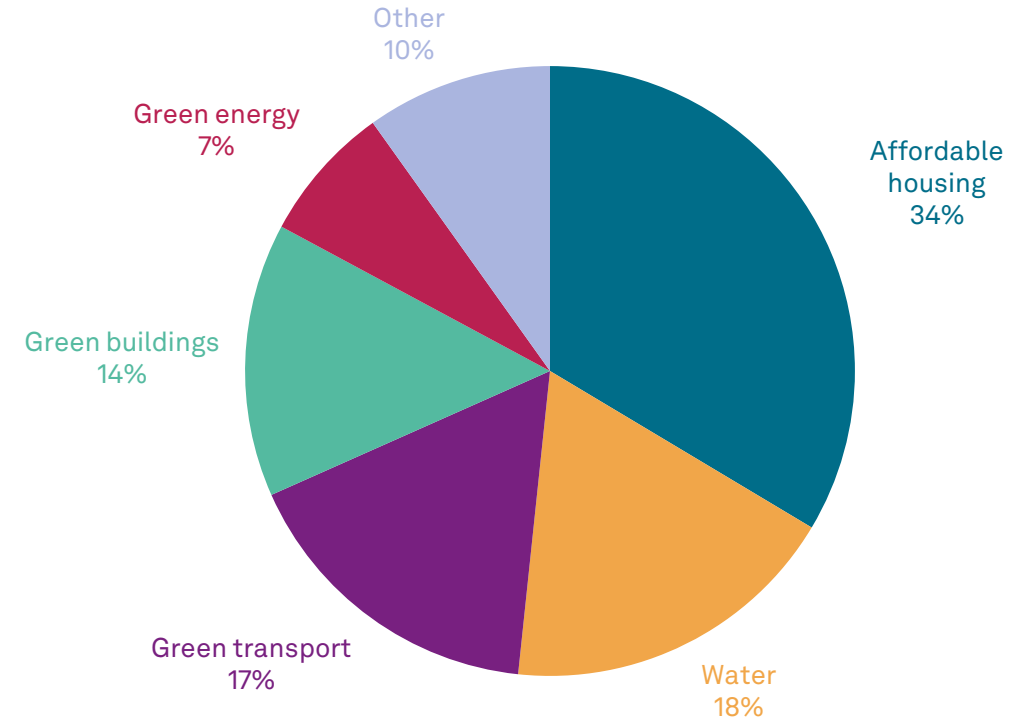
## Affordable housing remains ahead of water as leading sector for U.S. municipal GSSSB issuance

Top 10 U.S. municipal GSSSB issuers, 2013 -2023

Issuer	Par (Mil. \$)	Par (%)
New York City Housing Development Corp.	14,666	7.2
New York Metropolitan Transportation Authority	12,476	6.1
California Community Choice Financing Authority	8,711	4.3
New York State Housing Finance Agency	6,348	3.1
San Francisco Public Utilities	4,426	2.2
CSCDA Community Improvement Authority	4,422	2.2
Massachusetts (State of)	4,168	2.0
Indiana Finance Authority	3,662	1.8
Iowa Finance Authority	3,191	1.6
San Francisco Bay Area Rapid Transit District	2,694	1.3
<b>Top 10</b>	<b>64,764</b>	<b>31.69</b>

\*CSCDA--California Statewide Communities Development Authority. Source: S&P Global Ratings.

U.S. municipal GSSSB issuance by sector, 2013-2023



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

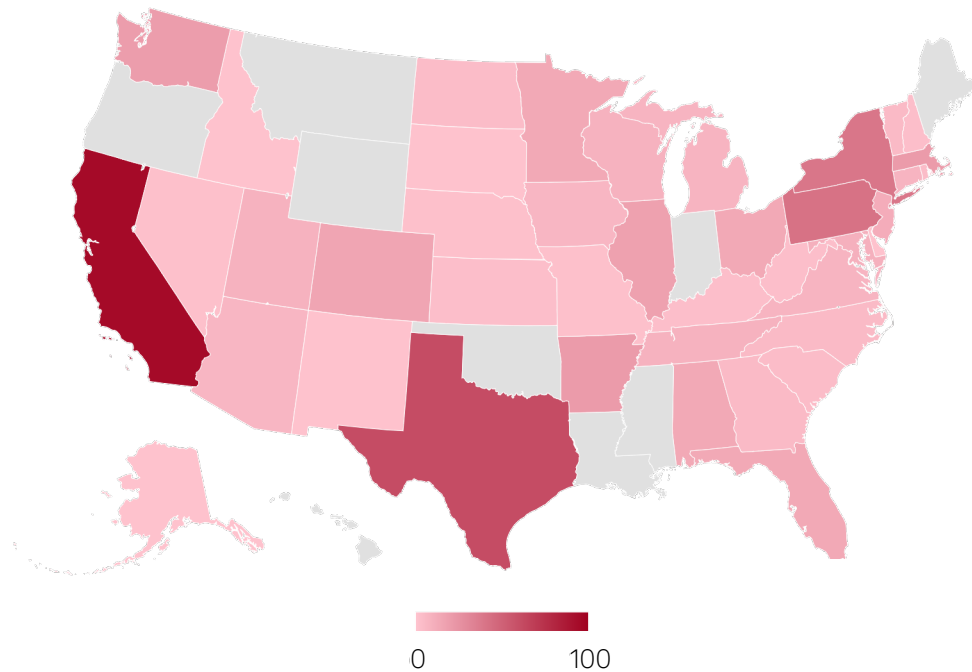


# Nearly all states have seen GSSSB issuance – 2023

States with at least one GSSSB issuer, by issuance and by number of issuers

2013 -2023: 577 unique issuers

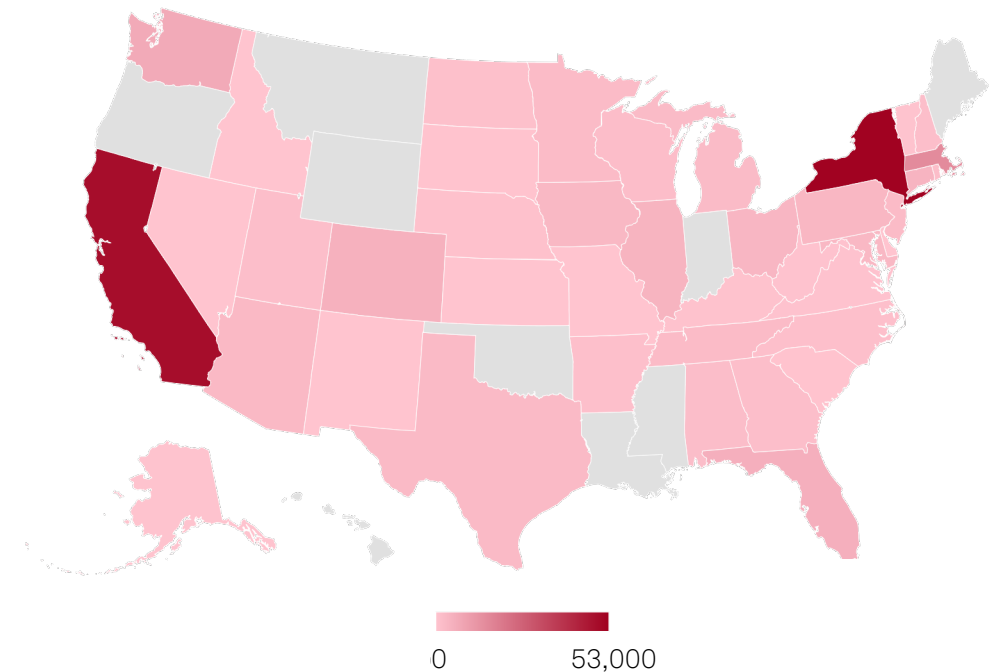
Number of unique issuers



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

2013-2023: 49 states and Washington, D.C.

Issuance (bil. \$)

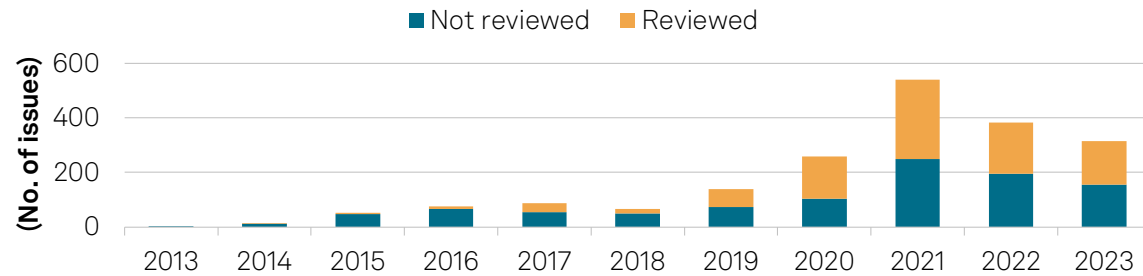


Includes Washington, D.C. Source: S&P Global Ratings.

# U.S. municipal GSSSB issuance with external review

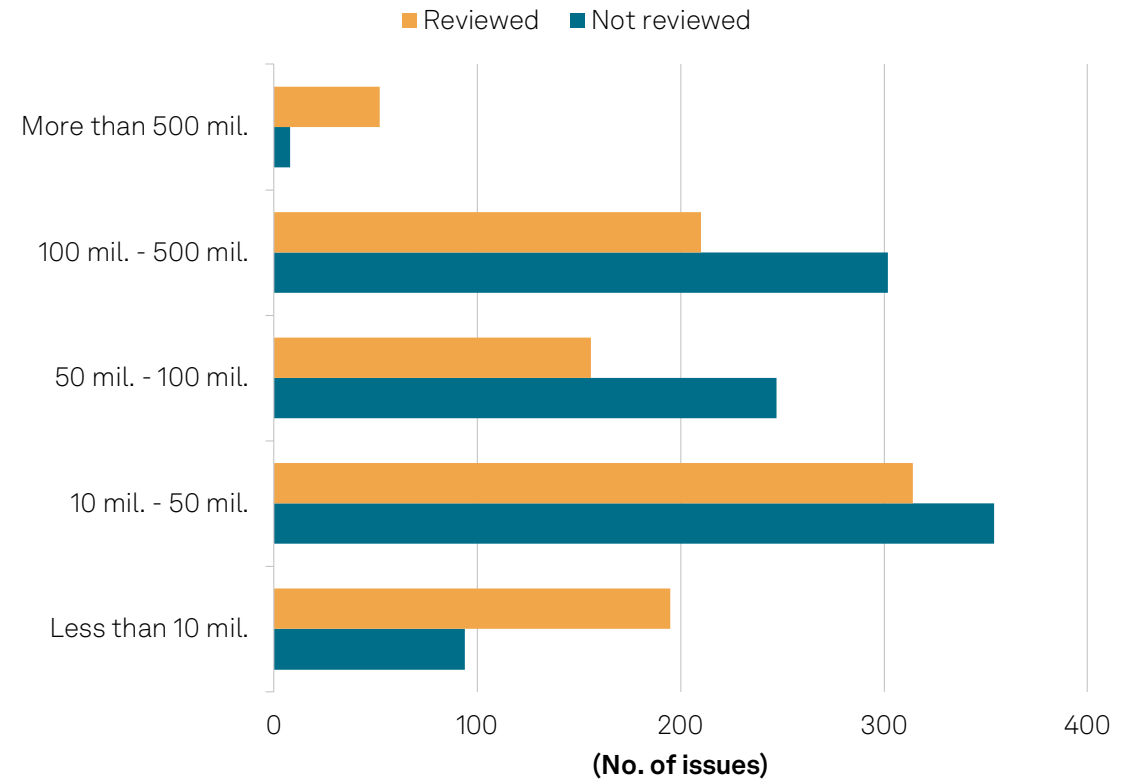
Largest drop in reviewed issuance was in 2023; issuance not reviewed remains flat

Total U.S. municipal GSSSB with external review



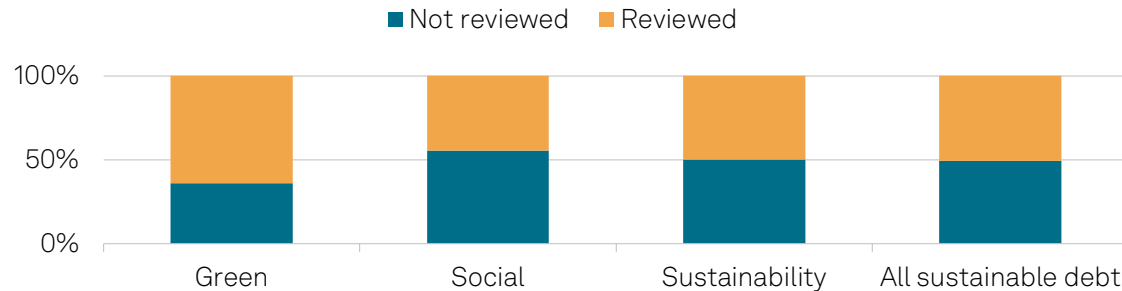
Source: S&P Global Ratings.

External review by issuance size, 2013-2023



Source: S&P Global Ratings.

External review by label - 2023

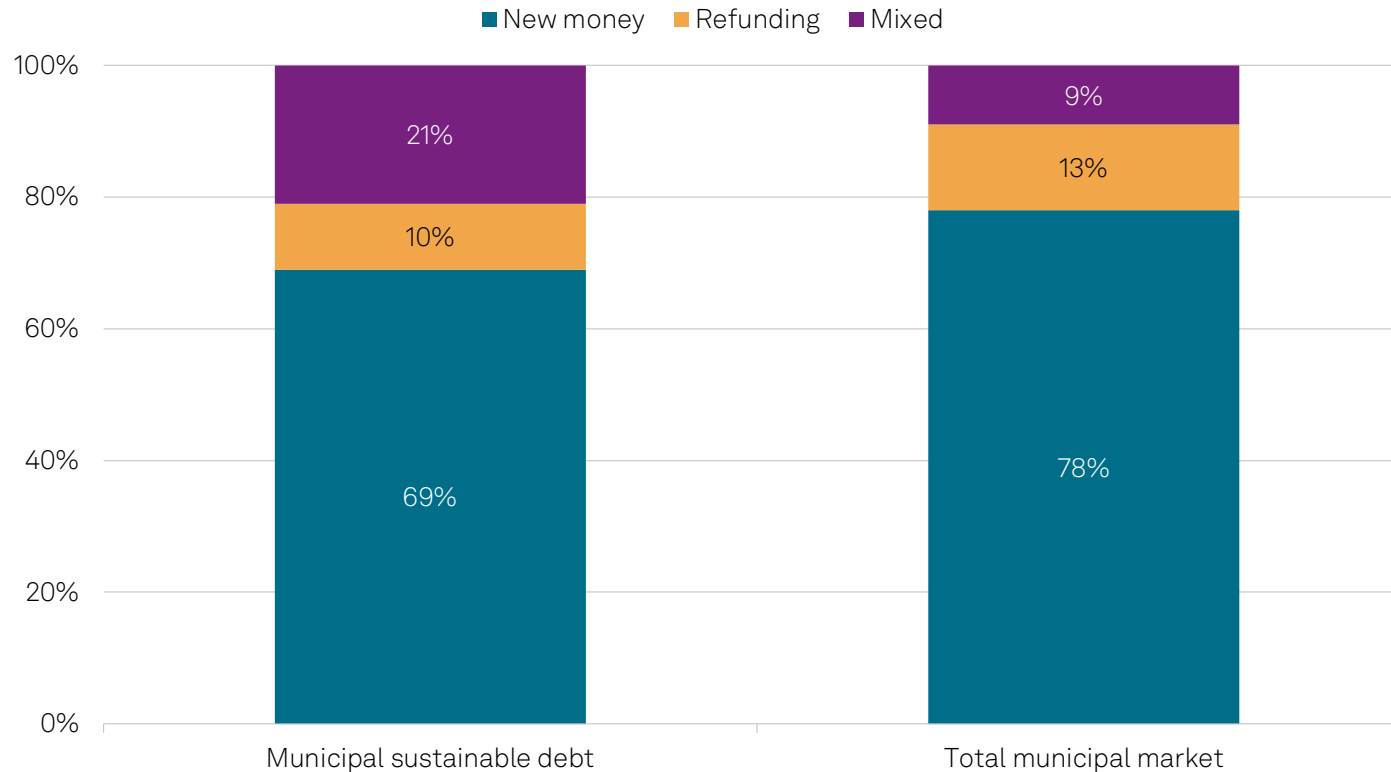


Source: S&P Global Ratings.

# New money versus refunding - 2023

New money continues to drive U.S. municipal GSSSBs

U.S. municipal GSSSB by type

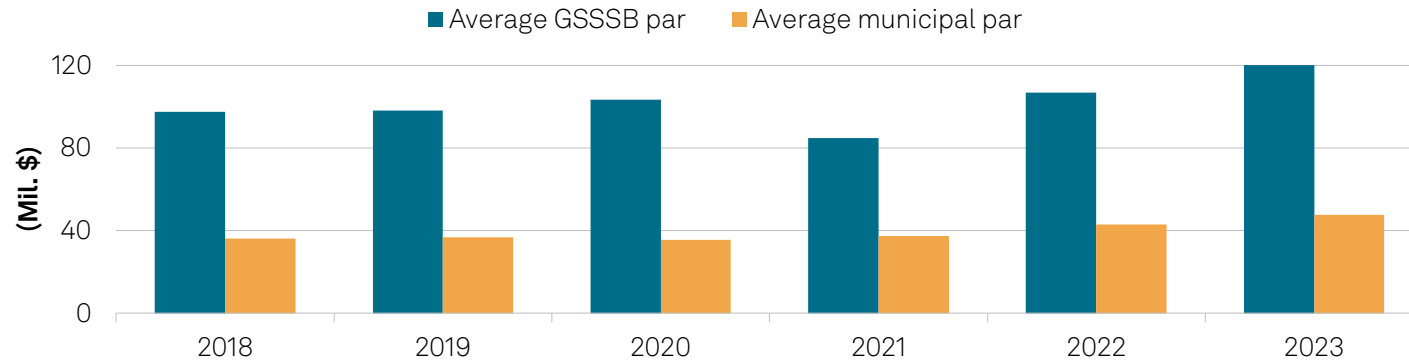


Sources: The Bond Buyer. S&P Global Ratings.

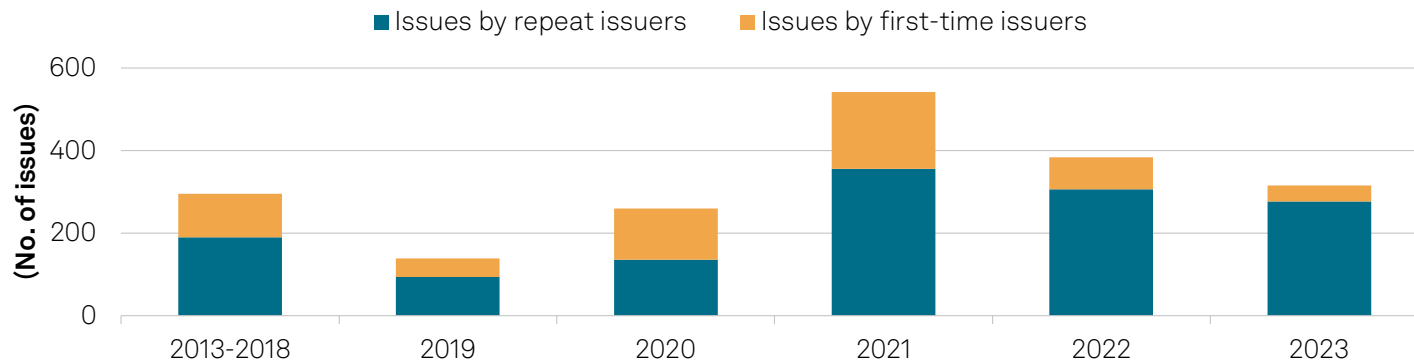
- New money continues to lead U.S. municipal GSSSB issuance.
- With \$29.2 billion, new money accounted for the largest portion of U.S. municipal GSSSB issuance in 2023.
- High interest rates likely will continue limiting refinancing activity through at least the first half of 2024.
- However, expected federal funds rate cuts beginning in mid-2024 and dwindling federal COVID-19 pandemic aid will likely bolster GSSSB issuance in 2024.
- Issuers of GSSSBs take advantage of refunding opportunities as they go to market to raise new funds, with mixed use of proceeds more common than in the broader U.S. municipal market.

# Average issuance size and first-time issuers

Average par amount per U.S. municipal GSSSB issuance



Comparing first-time and repeat U.S. municipal GSSSB issuers



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

- GSSSB issuance size continues to exceed the average municipal bond transaction.
- The average U.S. municipal GSSSB issuance totaled \$134.3 million in 2023 (2.8x the average bond issuance in the overall U.S. municipal market), a 25.9% increase from \$106.7 million in 2022.
- The increase in average municipal market issuance reflects, in part, fewer first-time U.S. municipal GSSSB issuers in 2023, as first-time labelers' issuances trend smaller than the overall average U.S. municipal GSSSB issuance.
- In 2023, 38 new GSSSB issuers entered the U.S. municipal market, down from 77 new issuers in 2022.
- The largest shares of new issuers in 2023 were in **California and New York (18% each)**, and Arkansas (11%).

# Select notable transactions – 2023

Issuer	Label	Amount	Sector	Purpose
New York Transportation Development Corp.	Green	<b>\$2 billion</b> Special facilities revenue bonds, series 2023	Airport	Financing and refinancing a portion of loans used to fund phase A of the new Terminal One at JFK Airport.
Long Island Power Authority	Sustainability-linked	<b>\$400 million</b> General Revenue Bonds, Series 2023E	Green energy	Bond proceeds will be used to finance grid improvements to accommodate more renewable energy, strengthen infrastructure to withstand extreme weather, and facilitate the shift to carbon-free grid.
City of Detroit	Social	<b>\$75 million</b> Unlimited Tax GO Bonds, series 2023A (\$52.5 million) and 2023B (\$22.5 million) (tax-exempt) (Social Bonds)	Mixed	Proceeds will be used pursuant to a neighborhood improvement plan for property rehabilitation, demolition and other blight remediation activities, including demolition of vacant houses and the rehabilitation of vacant houses, which will reduce residential blight, create affordable housing, increased property values, and create employment opportunities for Detroit-based construction companies.
City of Alameda, Calif.	Green	<b>\$17.5 million</b> Special Tax Bonds (Green Bonds), Series 2023	Land conservation	Proceeds will be used to fund costs of sea level rise and resilience and adaptive improvements authorized by the district.
Delaware State Housing Authority (first issuance from Delaware)	Social	<b>\$43.4 million</b> Multifamily tax-exempt revenue bonds, series 2023	Affordable housing	Proceeds will finance acquisition, rehabilitation, and equipping of a low- and moderate-income housing facility.
California Community Choice Financing Authority	Green	<b>\$1 billion</b> Clean Energy Project revenue bonds, series 2023G-1	Green energy	Finance prepayment of renewable and carbon-free electricity.

Source: S&P Global Ratings.

# Appendix

## Breakdown By U.S. Municipal GSSSB Segment

# U.S. municipal green bonds - 2023

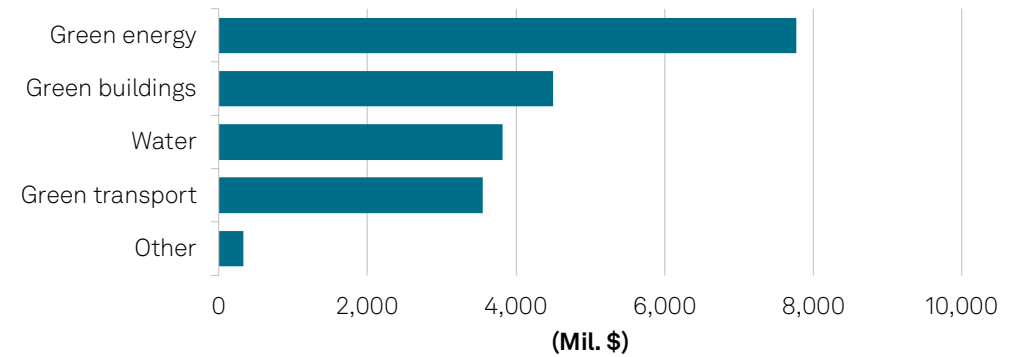
## Top 10 green bond issuers in U.S. public finance, 2023

YoY	Issuer	Issuance (mil.\$)	Green (%)
↑ 2	California Community Choice Financing Authority	5,942	30
•	Triborough Bridge And Tunnel Authority	2,495	12
•	New York Transportation Development Corp.	2,000	10
•	San Francisco Public Utilities	1,183	6
↑ 4	Power Authority of the State of New York	734	4
•	Ohio Water Development Authority	600	3
•	Port of Portland	566	3
•	City of Atlanta	502	3
•	New York Urban Development Corp.	489	2
•	Iowa Finance Authority	472	2
<b>Top 10</b>		<b>14,984</b>	<b>75</b>

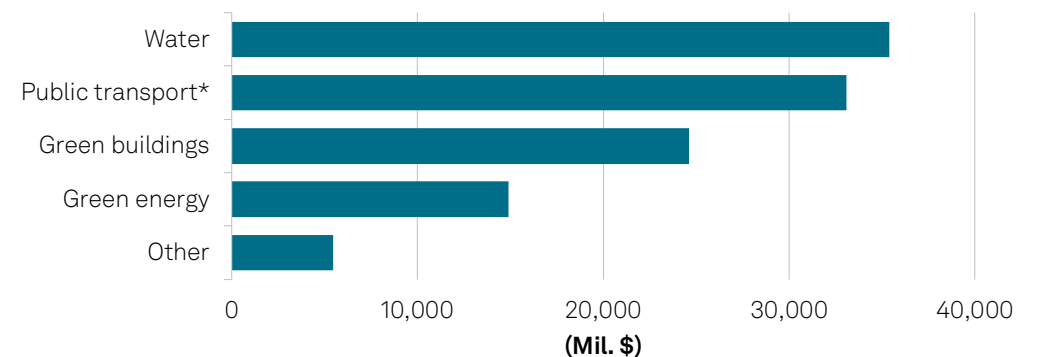
## Top 10 green bond issuers in U.S. public finance, 2013-2023

Issuer	Issuance (mil.\$)	Green (%)
New York Metropolitan Transportation Authority	12,476	11
Indiana Finance Authority	8,711	8
San Francisco Public Utilities	4,426	4
California Community Choice Financing Authority	3,662	3
San Francisco Bay Area Rapid Transit District	2,694	2
Massachusetts Water Resources Authority	2,635	2
Los Angeles County Metropolitan Transportation Authority	2,577	2
Central Puget Sound Transit Authority	2,495	2
Greater Orlando Aviation Authority	2,257	2
Power Authority of the State of New York	2,246	2
<b>Top 10</b>	<b>44,179</b>	<b>39</b>

## U.S. municipal green bond issuance by sector, 2023



## U.S. municipal green bond issuance by sector, 2013-2023



• Refers to new entrants in the top 10 list in 2023 versus 2022. \*Public transportation 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.

# U.S. municipal social bonds - 2023

## Top 10 social bond issuers in U.S. public finance, 2023

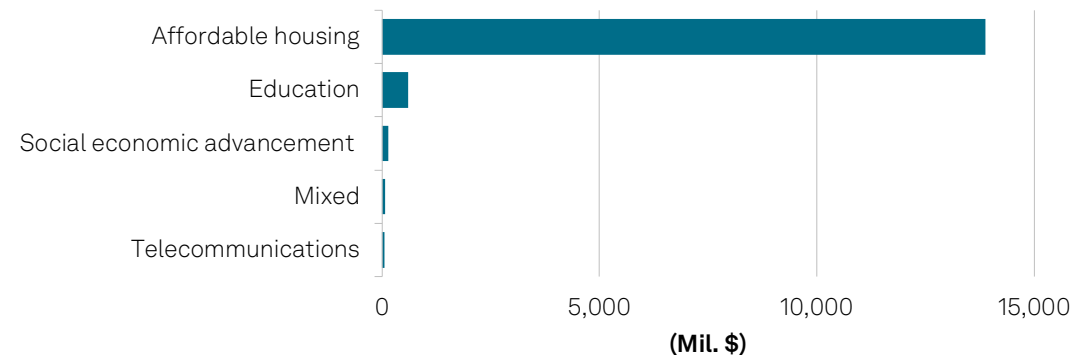
YoY	Issuer	Issuance (mil.\$)	Social (%)
↑ 4	Illinois Housing Development Authority	1,324	9
●	Maryland Department of Housing and Community Development	850	6
↑ 6	Pennsylvania Housing Finance Agency	798	5
●	Washington State Housing Finance Commission	793	5
●	Tennessee Housing Development Agency	735	5
↓ 2	Minnesota Housing Finance Agency	725	5
↓ 1	Michigan State Housing Development Authority*	708	5
●	City of New York	700	5
●	North Carolina Housing Finance Agency	689	5
↓ 2	National Finance Authority	561	4
<b>Top 10</b>		<b>7,882</b>	<b>53</b>

## Top 10 social bond issuers in U.S. public finance, 2013-2023

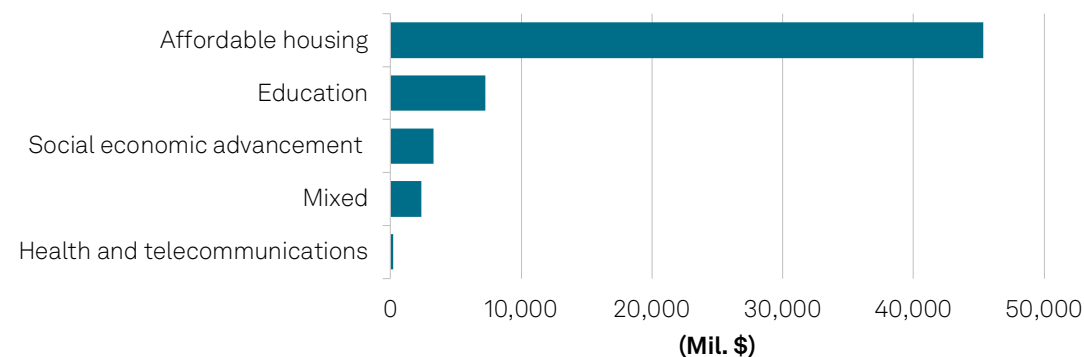
Issuer	Issuance (mil.\$)	Social (%)
CSCDA Community Improvement Authority	4,422	8
Massachusetts (State of)	2,681	5
Illinois Housing Development Authority	2,427	4
Pennsylvania Housing Finance Agency	2,239	4
Washington State Housing Finance Commission	2,098	4
California Health Facilities Financing Authority	2,040	3
Minnesota Housing Finance Agency	1,850	3
State of New York Mortgage Agency	1,757	3
Michigan State Housing Development Authority	1,669	3
Connecticut Housing Finance Authority	1,527	3
<b>Top 10</b>	<b>22,709</b>	<b>39</b>

● Refers to new entrants in the top 10 list in 2023 versus 2022. \*CSCDA--California Statewide Communities Development Authority. Source: S&P Global Ratings.

## U.S. municipal social bond issuance by sector, 2023



## U.S. municipal social bond issuance by sector, 2013-2023





# U.S. municipal sustainability bonds - 2023

## Top 10 sustainability bond issuers in U.S. public finance, 2023

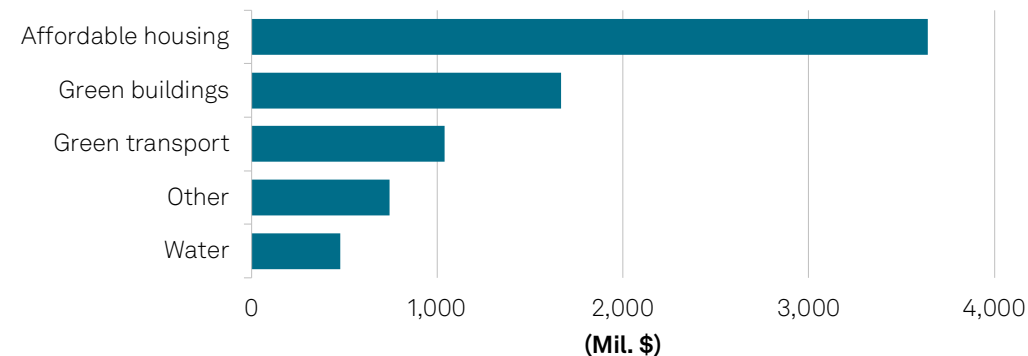
YoY	Issuer	Issuance (mil.\$)	Sustainability (%)
→	New York City Housing Development Corp.	1,814	24
↑ 1	Los Angeles Unified School District	1,234	16
●	New York State Housing Finance Agency	1,070	14
●	Washington Metropolitan Area Transit Authority	798	11
●	Battery Park City Authority	349	5
●	San Diego Unified School District	320	4
↓ 1	Massachusetts (State of)	300	4
↓ 3	Harris County Flood Control District	211	3
↓ 5	Massachusetts Housing Finance Agency	177	2
↓ 3	State of Oregon	176	2
<b>Top 10</b>		<b>6,450</b>	<b>85</b>

## Top 10 sustainability bond issuers in U.S. public finance, 2013-2023

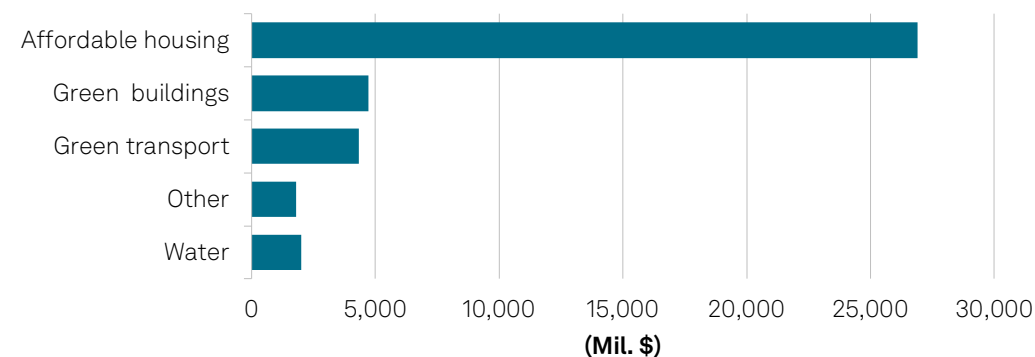
Issuer	Issuance (mil.\$)	Sustainability (%)
New York City Housing Development Corp.	14,666	46
New York State Housing Finance Agency	4,645	14
Los Angeles Unified School District	1,734	5
Massachusetts Housing Finance Agency	1,167	4
Massachusetts Bay Transportation Authority	1,002	3
Washington Metropolitan Area Transit Authority	798	2
Massachusetts (State of)	687	2
State of Oregon	604	2
California Infrastructure and Economic Development Bank	543	2
Massachusetts Clean Water Trust	464	1
<b>Top 10</b>	<b>26,311</b>	<b>82</b>

● Refers to new entrants in the top 10 list in 2023 versus 2022. Source: S&P Global Ratings.

## U.S. municipal sustainability bond issuance by sector, 2023



## U.S. municipal sustainability bond issuance by sector, 2013-2023



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