Environmental, Social and Governance & Municipal Bonds

Breakout Session 2 (11:00-11:50)

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ESG Topics

ESG

- Why is ESG Here to Stay?
- Broad Market View of ESG

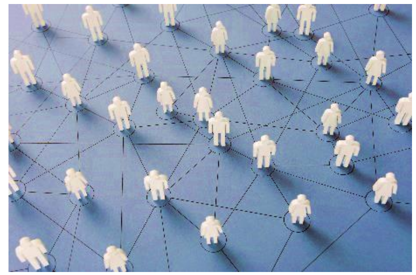
MUNI MARKET TRENDS DUE TO ESG

- ESG Bonds
- ESG Bond Examples

What is ESG?

Environmental

- Climate/Environmental Impacts
- Water/Sewer
- Pollution
- Carbon Emissions



Social

- Demographics
- Job Market/Income Levels
- Education
- Health and Safety
- Housing and Affordability
- Access to Services

Governance

- Institutional Framework
- Transparency
- Management; Budgetary Performance
- Governing Policies

Not a complete listing of ESG factors/topics.

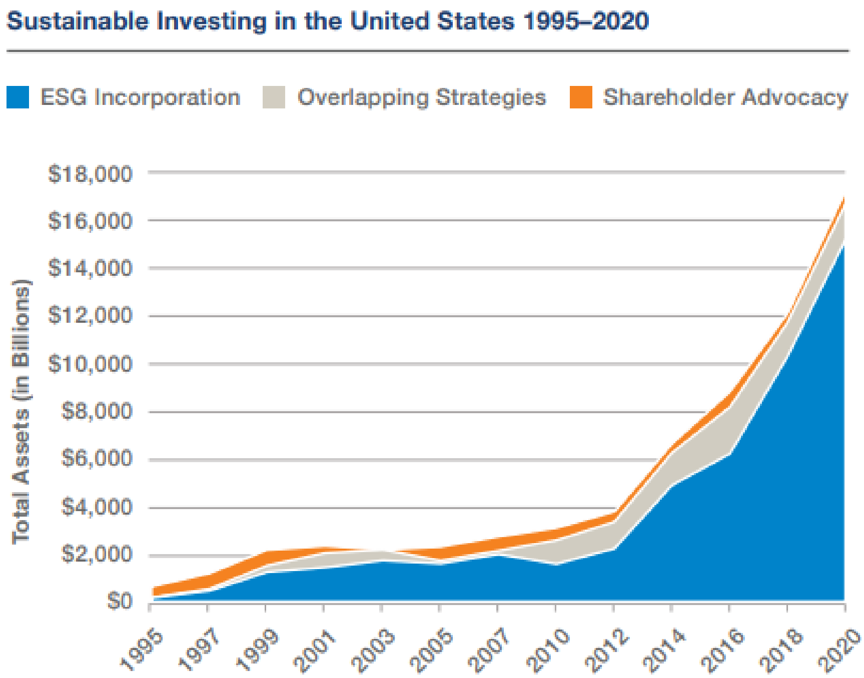
What is Not being Discussed on ESG

- Political views and decisions related to ESG.
- ESG Policies that have been adopted broadly, specifically, etc.

Why is ESG Here to Stay?

Investor Focus on ESG

- As an **investment** factor, ESG factors are taking on increased importance at an accelerating pace, driven in part by:
  - Growing costs and frequency associated with severe weather events
  - Social inequalities, heightened by the current health pandemic
- At the beginning of 2020, $16.6 trillion in US-domiciled assets were held by investment institutions that practice ESG incorporation, according to the Forum for Sustainable and Responsible Investment



SOURCE: US SIF Foundation.

Source: US SIF Foundation "Report on US Sustainable Responsible and Impact Investing Trends, 2020"

Who are ESG Investors?

nuveen
A TIAA Company

Payden&Rygel

Allstate

PIMCO

FRANKLIN TEMPLETON INVESTMENTS

CUMBERLAND ADVISORS

TIAA CREF

THE HARTFORD

Eaton Vance

Breckinridge CAPITAL ADVISORS

MFS

Vanguard

J.P.Morgan Asset Management

USAA

Liberty Mutual INSURANCE

charles SCHWAB

BlackRock

MELLON

Invesco

Fidelity INVESTMENTS

WELLINGTON MANAGEMENT

State Farm

Not a complete listing of ESG Investors.

Rating Agency Focus on ESG

- In April 2021, **Moody's released its General Principles for Assessing ESG Risks Methodology**, which is intended to increase transparency regarding their assessment of these risks.

- In July 2021, **Kroll Bond Rating Agency (KBRA) released its ESG Global Rating Methodology which considers ESG factors that may have a meaningful impact on credit in determining the appropriate issuer and/or issue rating**, with a focus on factors that affect the risk of default and/or recovery.

- In October 2021, **S&P Global Ratings released its ESG Principals In Credit Ratings** which is applicable to all issuers with a S&P rating.

- In May 2022, **In Fitch's Report "Where ESG Matters for US Public Finance"** referenced applying ESG Relevance Scores on how ESG factors affect US public finance tax-supported and revenue-supported issuer ratings.

Rating Agencies Approach to ESG

Rating Agency Approach to ESG	Examples
Increasing transparency regarding how these risks are incorporated into long-term credit ratings	Moody's June 28, 2021: • **New methodology** for addressing ESG risks S&P May 17, 2021: • Released **proposed principles for incorporating ESG credit factors** Fitch September 15, 2021: • **Launched Sustainable Fitch**, offering comprehensive range of ESG Ratings products
Increasing research and reporting by sector and by geography	Moody's 2019: • **Purchased** a majority stake in **Vigeo Eiris, a global leader in ESG research**, data and assessments • **Purchased** a controlling stake in the **climate data firm Four Twenty-Seven**, which measures physical risks of climate change Fitch's May 10, 2021: • Report identifying where ESG matters for U.S. Public Finance
Offering voluntary, **stand-alone services** separate from credit ratings, that incorporate ESG	S&P's November 12, 2020: • **Proposed Sustainable Finance External Reviews and Opinions** offers point-in-time analysis at the issuer's request • Offers a second opinion on a framework; a transaction; or the alignment of a transaction with specified principles

Sources: Moody's Investors Service "Cross-Sector Rating Methodology: General Principles For Assessing Environmental, Social and Governance Risks Methodology," June 28, 2021. S&P Global Ratings "Sustainable Finance External Reviews and Opinions Analytical Approach," November 12, 2020. Fitch Ratings "Fitch Group Announces Creation of Sustainable Fitch and Launches ESG Products" September 15, 2021. Fitch Ratings "Where ESG Matters for U.S. Public Finance," May 10, 2021. S&P Global Ratings "Request for Comment: Environmental, Social, & Governance Principles in Credit Ratings," May 17, 2021.

Broad Market View of ESG

GFOA – ESG Best Practices

- GFOA recommends issuers identify **ESG factors that may have a material impact on its credit quality** or the payment of its debt.
- If any are identified, such information should be **disclosed to rating agencies and investors**.
- Issuers should also explain how these [ESG] factors may affect the credit quality of its bonds and what **policies or programs it has to address these [ESG] factors**.

Where to start:

1. Identify an expertise in the area of climate, social or governance risks (i.e.. public works department, the emergency manager to natural disasters, health department; housing agency, etc.).
2. Identify the primary ESG risks for your area.
3. Environmental & Social risks can be regional: consult peers / neighboring governments for disclosure, policies, etc.
4. Can the risks be quantified or how they could impact the tax base, revenue streams or economy? If quantitative information is available, consider forward looking data or projections with appropriate cautionary language given the inherently unpredictable weather-related events.
5. Consider outside experts to assess risk, cost, etc. including state and federal agencies.

GFOA Best Practices - Environmental

- The increase in the number of extreme weather events in recent years has raised public awareness about weather changes and the significant impact such events can have on a community, industry, etc.
- Investors and rating analysts are not just looking to see if risks are present, but also want information regarding what plans a government has to address these risks.
- The “E” factors have evolved rapidly, and the industries’ expectations have too. Governments and its entities are expected to identify risk, establish policies and disclose such information on a timely basis.

Examples of Environmental Factors:

- Inland flooding, tornadoes, drought, snow and ice storms and other extreme weather events
- Climate change affecting agriculture, infrastructure, major industries and tax base
- Frequency and intensity of wildfires
- Frequency and strength of hurricanes and flooding
- Sea level rise in coastal communities
- Water supply, both in and quality and quantity
- Diversity of power generation sources and transition plans by providers

GFOA Best Practices - Social

- Social factors lack consensus about what factors would fall under the “S” umbrella. Social factors can be broad and challenging to identify and correlate to credit ratings.

Identifying Social Factors

- Look for trends that pose a challenge to population growth, property values, educational attainment, employment opportunities, or other factors that may impact the long-term growth and prosperity of your community and may provide the revenue source for debt service repayment.

Social Factors and Nexus to Credit

- Social factors can be complex, politically charged, amplified by the news media, and sensitive to address.
- Connecting the dots between the identified “S” factor and credit quality is particularly important as long-term financial impacts related to “S” factors may not be readily apparent.

Examples of Social Factors:

- Availability of affordable housing for vulnerable populations
- Demographic changes and population trends affecting demand for services or tax base
- Wealth/Income levels
- Affordability of government services, tax rates
- Labor relations challenges, union contracts
- Availability, access, and quality of community health services
- Quality of public education and vocational training; educational attainment
- Labor force, employment/unemployment, and job opportunities
- Internet access and affordability

GFOA Best Practices – Governance

- Governance factors have always been a part of government management, operations, and finances.
- Governance includes governmental decision-making, policies, legal requirements, organizational structure, and financial and budget management practices.

Examples of Governance Factors:

- Organizational structure
- Legal authority to issue debt
- Policy transparency
- Management and policy framework – board oversight, structure, internal controls
- Financial reporting
- Federal and State framework – how does your entity fit into the federal/state policy and legal framework?
- Risk culture and risk mitigation; including cybersecurity
- Budget controls, revenue forecasting, fiscal integrity of the longer term
- Relationship to federal and state funding streams
- Deferred maintenance

ESG Challenges and Concerns for Investors

- No universal definition of ESG
- Variations in disclosed information and reporting standards
- Inconsistant ESG risk assessment methodologies
- Implementation and monitoring can be complex

ESG Bonds

Addressing Investors' ESG Focus

- To meet investor demand for ESG investment, bond issuance of certain types of bonds - notably Green Bonds - has increased. To keep pace, Issuers can and have been:
  - Increasing **disclosure** regarding ESG risks and mitigation strategies and/or
  - Selling bonds that are **labeled** as "Green," "Social," "Sustainable," "Environmental Impact," or the like

Green Bonds

Projects with environmental benefits, such as:

- Energy Efficiency
- Clean Transportation
- Sustainable Water & Wastewater Management
- Green Buildings

Sustainable Bonds

Projects intended to reduce effects of climate change

- Storm Hardening
- Drought avoidance and management
- Sea-level rise mitigation

Social Bonds

Projects aimed to address a specific ***social issue*** *and/or seek positive social outcomes especially for a* ***target population***

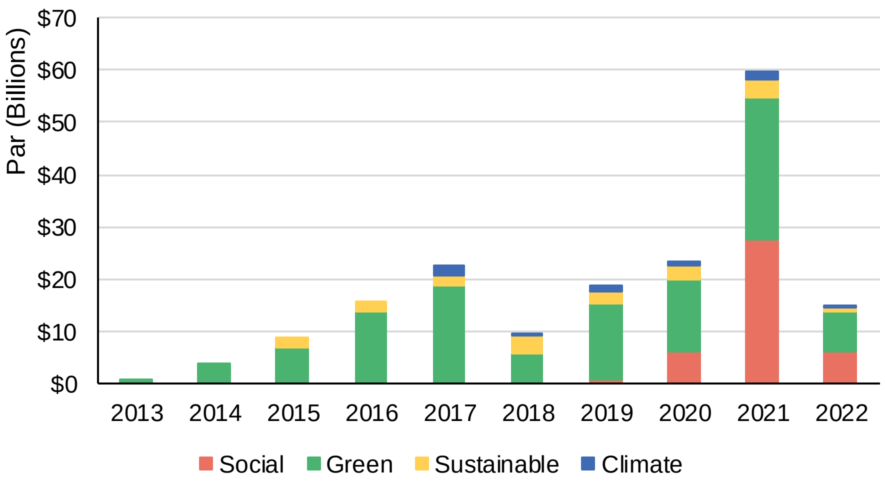
- Affordable Basic Infrastructure
- Access to Essential Services
- Affordable Housing

Sources: Sample project types from ICMA's Green Bond Principles, Social Bond Principles, and Sustainable Bond Principles

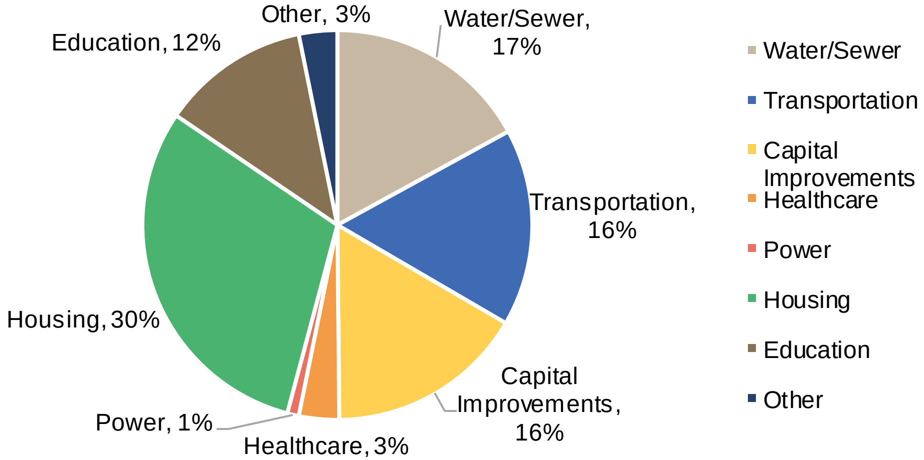
Municipal ESG Bond Market Overview

- U.S. municipal ESG bond issuance is growing rapidly, increasing 166% between 2017 and 2021
- S&P Global Ratings baseline projections show 2022 municipal ESG bond volume increasing 34% over 2021

US Municipal ESG Bond Issuance (2013 – Present)[1]



US Municipal ESG Bonds Use of Proceeds (2013 - Present)[1]



Sources: ESG bond issuance and use of proceeds data from Ipreo, bonds designated as both Green and Climate are categorized here as Green; 2022 YTD issuance through May 10, 2022; S&P's "U.S. Municipal Sustainable Debt Issuance Could Surpass $60B in 2022," dated Feb 10, 2022.

[1] 2022 data is YTD, through May 10, 2022

Municipal ESG Investors

- An increasing number of investors are creating municipal ESG-specific funds, implementing ESG strategies and policies, and/or repurposing existing funds to become sustainable funds

Top Bondholders*; $in Millions	Green Bonds	Social Bonds	Sustainable Bonds
Performance Trust Investment Advisors	-	-	$25,637
Vanguard Group	$7,068	$1,256	$1,523
Blackrock	$5,385	$1,624	$885
TIAA-CREF	$4,114	$2,234	$687
Invesco LTD	$2,147	-	-
Franklin Resources	$1,902	$1,190	$294
Capital Group Companies Inc	$1,644	$1,419	$324
Travelers Companies LLC	$1,542	-	-
FMR LLC	$1,332	$475	$257
New York Life Group	$1,220	-	-
Goldman Sachs Group Inc	$1,133	-	$349
Alliance Bernstein	-	$525	-
Massachusetts Financial Services	-	$368	-
JP Morgan Chase & Co	-	$318	$208
Olive Street Investment Advisors	-	-	$132

*Top bondholders sorted by Green bondholders
Source: Bloomberg as of May 18, 2022; reflects publicly reported bond holdings.

Pros and Cons of ESG Designated Bonds

- Generally speaking, at this time, PFM believes designating bonds with an ESG label has **no definite impact on pricing;** however, it may **increase investor attention (especially in a thin market) and in turn could increase demand**
- Some market participants contend there is a more discernable pricing benefit on taxable ESG bonds than tax-exempt (e.g., 5 – 10 basis points or 0.05%-0.10%)

Potential Benefits	Key Considerations
✓ Demonstrated commitment to ESG priorities	• Potentially, ongoing disclosure and reporting requirements
✓ Potential diversification and increased demand from investors	• Potentially, additional costs and time for external review of projects and / or framework
✓ Positive public relations and positive headlines in alignment with ESG-related trends	• Regulatory considerations related to disclosure on ESG designated bonds

Designating ESG Bonds: Summary of Common, Voluntary ESG Standards

	ICMA Principles: Green Bond Principles Social Bond Principles Sustainability Bond Principles Sustainability-Linked Bond Principles	Climate Bonds Standard	Sustainable Development Goals
Lead Organization	International Capital Markets Association (ICMA)	Climate Bonds Initiative (CBI)	United Nations (UN)
Description	• Global framework designed to promote environmental and social sustainability • Four core components: 1. Use of Proceeds 2. Process for Project Evaluation & Selection 3. Management of Proceeds 4. Reporting	• Bonds evaluated against sector-specific technical criteria • Methodology aligned with the Paris Agreement goals • Standards are more extensive and detailed than the ICMA GBP • Requires pre- and post- issuance report to be submitted to the CBI	• 17 Sustainable Development Goals (SDGs) • Issuers can communicate how the use of bond proceeds aligns with one ore more of the SDGs
Ongoing Reporting	Recommended until bond proceeds are expended	Required for the term of the bonds	-
External Review Required	No, but “Second Party Opinion” aka “SPO” is recommended	Yes; verification required from licensed verifier	No
External Review Cost*	$20 - 25k	$20 – 30k	-

* Approximation, costs can differ by company and issuer

Sources: ICMA’s “Green Bond Principles: Voluntary Process Guidelines for Issuing Green Bonds” dated June 2021 and “Social Bond Principles: Voluntary Process Guidelines for Issuing Social Bonds” dated June 2021; The Climate Bonds Standard Version 3.0.

Green Project Examples

- ICMA's Green Bond Principles (GBP) only provide a broad suggested and non-exhaustive list of eligible Green Project categories
- Issuers can reference existing standards and taxonomies and/or developer their own framework
- Issuers are encouraged to provide the thought process by which they evaluate the clear environmental benefits of all projects funded by the Green (or Sustainability) Bond issuance

Renewable Energy	Production, transmission, appliances & products
Environmentally Sustainable Management of Living Natural Resources & Land Use	Environmentally sustainable agriculture, environmentally sustainable animal husbandry, climate smart farm inputs such as biological crop protection or drip-irrigation, environmentally sustainable fishery and aquaculture; environmentally sustainable forestry including afforestation or reforestation, and preservation or restoration of natural landscapes
Circular Economy Adapted Products, Production Technologies & Processes	Design and introduction of reusable, recyclable and refurbished materials, components and products; circular tools and services
Energy Efficiency	New and refurbished buildings, energy storage, district heating, smart grids, appliances and products
Terrestrial & Aquatic Biodiversity	Protection of coastal, marine and watershed environments
Sustainable Water & Wastewater Management	Sustainable infrastructure for clean and/or drinking water, wastewater treatment, sustainable urban drainage systems and river training and other forms of flooding mitigation
Green Buildings	Meet regional, national or internationally recognized standards or certifications for environmental performance
Pollution Prevention & Control	Reduction of air emissions, greenhouse gas control, soil remediation, waste prevention, waste reduction, waste recycling and energy / emission-efficient waste to energy
Clean Transportation	Electric, hybrid, public, rail, non-motorized, multi-modal transportation, infrastructure for clean energy vehicles and reduction of harmful emissions
Climate Change Adaptation	Efforts to make infrastructure more resilient to impacts of climate change and information support systems, such as climate observation and early warning systems

Sources: ICMA's "Guidance Handbook" dated January 2022 and "Green Bond Principles: Voluntary Process Guidelines for Issuing Green Bonds" dated June 2021.

Social Project Examples

- ICMA's Social Bond Principles (SBP) only provide a broad suggested and non-exhaustive list of eligible Social Project categories
- Issuers can reference existing standards and taxonomies and/or developer their own framework
- Issuers are encouraged to provide the thought process by which they evaluate the clear social benefits of all projects funded by the Social (or Sustainability) Bond issuance

Social Projects directly aim to address or mitigate a specific social issue and/or seek to achieve positive social outcomes especially but not exclusively for a target population(s).

Social Project Categories

- Affordable basic infrastructure (e.g., clean drinking water, sewers, sanitation, transport, energy)
- Access to essential services (e.g., health, education and vocational training, healthcare, financing and financial services)
- Affordable housing
- Employment generation and/or alleviate unemployment stemming from socioeconomic crises
- Food security and sustainable food systems
- Socioeconomic advancement and empowerment

Target Population Examples

- Living below the poverty line
- Excluded and/or marginalized populations and/or communities
- People with disabilities
- Migrants and/or displaces persons
- Undereducated
- Underserved, owing to a lack of quality access to essential goods and services
- Unemployed
- Women and/or sexual and gender minorities
- Aging populations and vulnerable youth
- Other vulnerable groups, including as a result of natural disasters

Sources: ICMA's "Guidance Handbook" dated January 2022 and "Social Bond Principles: Voluntary Process Guidelines for Issuing Social Bonds" dated June 2021.

Summary of the Four Core Components of the Principles

Use of Proceeds	Process for Project Evaluation and Selection	Management of Proceeds	Reporting

• The cornerstone is the utilization of proceeds toward eligible projects, as described in legal documentation
• Projects should provide benefits, which will be assessed and where feasible, quantified
• If bond proceeds are used for refinancing, clarify the expected look-back period for refinanced projects
• Principles outline eligible project categories, but permit broad flexibility
	• Communicate to investors:
	  • ESG objectives
	  • Process by which the issuer determines how the projects fit within eligible categories
	  • Complementary information on processes by which the issuers identifies and manages perceived social and environmental risks associated with the project
	• Issuers are encouraged to share information in the context of the issuer's overarching objectives, strategy, policy and/or processes
	• Process to identify mitigants to known material risks of negative social and/or environmental impacts
		• Net proceeds should be tracked by the issuer and attested to by the issuer in a formal internal process
		• If the bonds are outstanding, the balance of tracked net proceeds should be periodically adjusted to match allocations to eligible projects
		• Proceeds can be managed per bond or aggregated for multiple designated bonds
		• Recommend that an issuer's management of proceeds be supplemented by the use of an external auditor or other third party
			• Information on the use of proceeds to be renewed annually until full allocation, and on a timely basis in case of material developments
			• Annual report should include a list of projects to which bond proceeds have been allocated, brief description of projects, amounts allocated, and their expected impact
			• Recommend the use of qualitative performance measures and where feasible, quantitative performance measures

Sources: ICMA's "Green Bond Principles: Voluntary Process Guidelines for Issuing Green Bonds" dated June 2021 and "Social Bond Principles: Voluntary Process Guidelines for Issuing Social Bonds" dated June 2021.

Climate Bond Standards & UN Sustainable Development Goals (SDGs)

Climate Bond Standards

- A key component of bonds that follow the Climate Bonds Standard is the Climate Bonds Initiative (CBI) "Certification Scheme"
- In contrast to bonds that follow the ICMA GBP, bonds that are "Climate Bond Certified" **require** adherence to specific standards and third-party verification

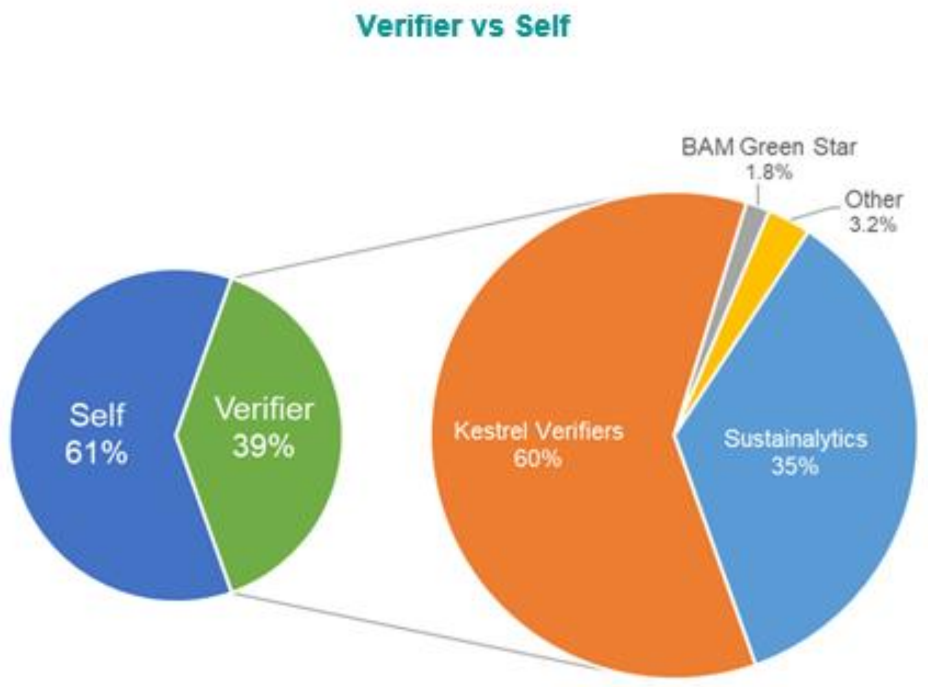
UN Sustainable Development Goals (SDGs)

- Investors generally map their strategies to the UN Sustainable Development Goals (shown to the right)

Sources: The Climate Bonds Standard Version 3.0 & United Nations Department of Economic and Social Affairs: Sustainable Development

Self Designation vs. External Review

- Issuers may label bonds as Green via a **self-designation** or secure an external opinion, certification, assurance, and/or verification
- Approximately 61% of municipal ESG issuance in 2021 was self verified
- Over $17B of issuance had a third-party verification agency, with Kestrel Verifiers rating the most at $10.3B



Source: IHS Markit, 2021.

External Review Options

- External reviews vary in scope and related requirements

External Review Options

Second Party Opinion (External party reviews against standards, typically ICMA Principles)	**Certification** (External party's verification is submitted to CBI for certification)
Third-Party Assurance / Verifiers (External party provides assurance or attestation of issuer report, tracking method, etc.)	**Rating** (S&P offers an opinion on alignment with ICMA Principles or on net project benefit)

Select External Review Providers

- KESTREL VERIFIERS™
- SUSTAINALYTICS
- vigeoeiris
- CICERO
- FIRST ENVIRONMENT
- S&P Global
- MOODY'S | ESG Solutions
- BAM* GREENSTAR

** At no additional cost and with no issuer required ongoing reporting, BAM will assess the suitability of every issue that it underwrites for GreenStar eligibility. With issuer approval, BAM will assign a BAM GreenStar, in compliance with the GBP or CBI.*

Source: buildamerica.com

ESG Bonds - Examples

Environmental Bond Example – Fairfax County, VA Green Bonds

- Nov. 2021, the Fairfax County Economic Development Authority issued $74.6M Fairfax County Facilities Revenue Bonds as designated **Green Bonds**
- The Bonds were Fairfax County's inaugural **Green Bond** issuance and the first independently verified **Green Bonds** in Virginia (verified by Kestrel Verifiers)
- The Bonds were issued to finance a consolidated Public Works complex for the County's stormwater and wastewater divisions
  - The Bonds were determined to be **Green Bonds** based upon the sustainable goals and environmentally friendly features of the Public Works complex
- The County is expected to report annually, through construction completion, on the expenditure of bond proceeds and construction progress

Series 2021A Bonds Benefits:

✓ Aligned with the County's environmental priorities and initiatives

✓ Proactively addressed investor interest in environmental factors

✓ Diversified the County's investor base (i.e., 10 new investors who previously reported no holdings of County bonds)

✓ Resulted in a pricing benefit (i.e., 1 to 3 basis points, compared to the non-green bonds sold simultaneously)

Social Bond Example – City of Memphis, TN Social Bonds

- In July 2021, the City of Memphis, through the New Memphis Arena Public Building Authority issued $163.7M Local Government Public Improvement Bonds as designated **Social Bonds**
- The Bonds were the City's inaugural ESG issuance and were self-designated as **Social Bonds** by the City
- The Bonds provided funding for the Accelerate Memphis project which represents the City's plan to invest approximately $200 million in community projects:
  - Improve the quality of life, promote equality and inclusion, improve connectivity and solve perennial problems within the City, with the ultimate goal of accelerating the City's growth
- The Bonds were self-designated as **Social Bonds** given the use of proceeds are consistent with ICMA's Social Bond Principles and certain of the United Nations Sustainable Development Goals

Series 2021 Bonds Benefits:

- ✓ Promoted the City's commitment to its communities and investment in future growth
- ✓ Diversified the City's investor base
- ✓ $2.7B of priority investment orders generated from 34 institutional accounts
- ✓ First labeled Social Bond issuance in the State of Tennessee

Questions for Your Organization

- Does your organization have an emergency response plan for a potential extreme weather event?
- Does your organization have access to systems/back up data in the event of an extreme weather event/cyber attack?
- What type of cyber infrastructure upgrades are being contemplated? How much of your cybersecurity do you control?
  - Response plan, training, vulnerability assessments, etc.
- Any notable initiatives related to employee development, diversity, and inclusion in the workforce? Do any of those initiatives carry-over to contracting, etc.?
- How accessible are essential services to your taxpayers, specifically neighborhoods with weaker socioeconomic demographics?
- Has there been an assessment of critical infrastructure and further needs related to water, sewer, stormwater, broadband, etc.?

Disclosures

The case studies herein are based on factual information from municipal advisory services provided by PFM. Case studies are provided for information purposes only and do not constitute specific advice or a recommendation. The results of individual projects will vary significantly depending on actual events or circumstances. Past performance does not necessarily reflect and is not a guarantee of future results.

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Questions

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