

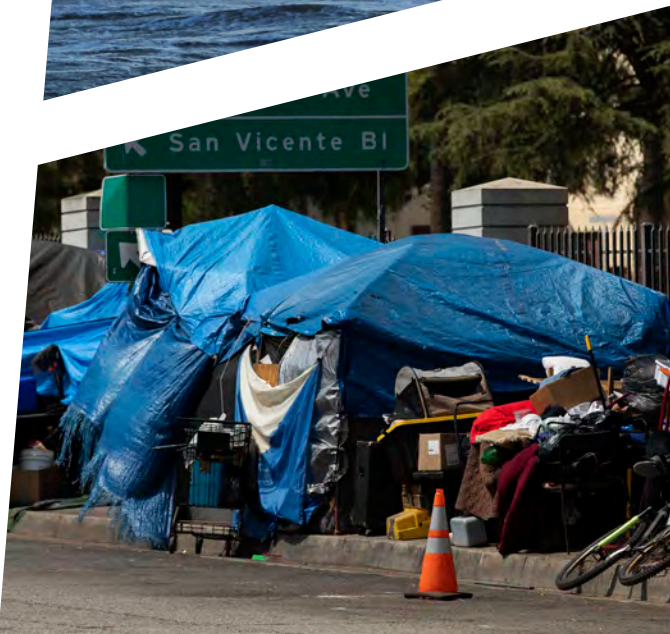


MILKEN
INSTITUTE

FINANCIAL INNOVATIONS LAB®

Integrating ESG Data to
Improve Risk Management
and Municipal Resilience

OCTOBER 2022



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The Milken Institute is a nonprofit, nonpartisan think tank focused on accelerating measurable progress on the path to a meaningful life. With a focus on financial, physical, mental, and environmental health, we bring together the best ideas and innovative resourcing to develop blueprints for tackling some of our most critical global issues through the lens of what's pressing now and what's coming next.

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The Center for Financial Markets (CFM) conducts research and constructs programs designed to facilitate the smooth and efficient operation of financial markets—to help ensure that they are fair and available to those who need them when they need them. Responding to the challenges and shortcomings of the public sector exposed during the COVID crisis, the CFM's Excellence and Equity in Public Finance program (PFIN) was created in late 2020. PFIN's targeted programming promotes cross-sectoral partnerships among innovators, investors, and issuers of bonds to improve the delivery of essential public services to all.

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INTRODUCTION

The last 20 years have been challenging for state and local governments, a \$3.3 trillion economic sector employing millions of Americans.¹ Severe budget shortfalls created by the 2008–2009 Great Recession, followed by the shock of the COVID-19 pandemic, have left their mark in disparate ways on the nearly 50,000 units of government that issue bonds to fund schools, health care, public safety, and other community infrastructure projects.² Local governments are critical to America’s physical and social infrastructure. County budgets, for example, directly fund 78 percent of public transit systems and manage 44 percent of public roads.³ Strained local resources are to the detriment of communities from coast to coast.

On top of all of this disruption, social and environmental issues have become two of the most pressing concerns for local governments across the United States. In the past two years alone, countless communities have contended with a dramatic increase in the number and severity of climate change-driven events. In February 2021, a series of winter storms devastated the state of Texas, killing hundreds and causing a power crisis that left homes and businesses without electricity for several days. In August 2021, Hurricane Ida carved a destructive path through Louisiana and Mississippi, becoming one of the strongest hurricanes in US history.⁴ In California, the Dixie Fire, the second largest in the state’s history, burned nearly 1 million acres and more than 1,300 structures.⁵ These climate risks are trending upward in quantity, size, economic impact, and geographic coverage across the nation, with an estimated \$145 billion in damages in 2021 alone.⁶

Climate risks are trending upward nationally; estimated damages in 2021 were \$145 billion.

Several key social issues are also significantly affecting local government budgets. Even before the COVID-19 pandemic, nearly 600,000 people were experiencing homelessness across the US,⁷ straining local resources nationwide.

That number is sure to increase when annual counts of the homeless resume in 2022. Meanwhile, counties experiencing high opioid mortality rates are seeing reductions in their credit rating.⁸ As a result of a multitude of factors, local budget allocations to policing increased 179 percent between 1977 and 2019.⁹ And increased scrutiny of police conduct over the last decade has led local governments to pay \$3 billion in misconduct lawsuits.¹⁰

As municipalities confront the costs and consequences of rising global temperatures and significant social challenges, capital planning, budgeting procurement, and public asset management must adequately account for and mitigate these risks. In addition to data-driven innovation and delivery system reform, many municipalities are starting to address their exposure to environmental, social, and governance (ESG)-related hazards by adopting policies and programs that improve their ability to anticipate, respond, and report material risk factors to municipal bond investors seeking this information. ESG risk assessment is crucial because it gauges vulnerabilities holistically and considers factors beyond traditional financial disclosure requirements. Local governments must integrate this information more effectively into their capital planning, budgeting, and asset management processes to avoid greenlighting or enabling projects with unexpected social and environmental costs and consequences.

Introducing ESG data during an infrastructure project's capital planning and budgeting stage can help reduce or prevent expensive restoration efforts down the line, which can further strain already stretched municipal funds.

Because annual budgets cannot fund significant resiliency improvements all at once, local governments will often issue municipal (muni) bonds to raise necessary investments. Muni bonds are tax-exempt debt securities issued by local governments or agencies to finance capital expenditures. In the wake of increasingly common climate change-driven weather events and a renewed focus on social issues in recent years, sustainable investing has grown in high demand. Many bond issuers argue that before the theme of sustainable investing took hold of financial markets, muni bonds were an early sustainable

finance tool since they were used to build projects for the general public, including wastewater treatment plants, recycling programs, and public transportation systems. As the pool of investors seeking sustainable investment opportunities grows, municipalities are keen to take advantage of the momentum to attract new capital sources to fund their resiliency efforts.

Capitalizing on this opportunity begins with designing projects informed by and in response to environmental and social factors that assess project resiliency. Unfortunately, local governments raising capital, or municipal issuers, currently have limited options to aggregate, analyze, and operationalize existing, or collect new, ESG datasets. Adding to the challenges are inconsistent investor requests for data, which makes the sustainable issuance process inefficient and convoluted for governments raising capital.

In April 2022, the Milken Institute's Innovative Finance and Center for Financial Markets teams held a Financial Innovations Lab in New York to identify solutions to streamline the integration of ESG data into capital planning and bond issuance. The Lab brought together issuers, credit rating agencies, data providers, investors, regulators, and underwriters to develop recommendations that will help advance the market. The Lab discussions focused on discerning and filling existing data gaps, establishing best practice centers, and developing partnerships and incentive programs for governments.

ISSUES AND PERSPECTIVES

The Costs and Opportunities of Assessing ESG Risks

As demand for sustainable debt continues to increase, municipalities and investors have a golden opportunity to work together to create safer communities. Though many municipalities inherently address ESG risks through various projects, often the bond issuances lack the dedicated disclosures sought by sustainability-minded investors. Overcoming this barrier requires a shared understanding among all stakeholders around the need to incorporate ESG risks into decision-

making and how to disclose these efforts effectively. For municipalities, this means proactively building resilience against these risks by thoughtfully designing projects accounting for ESG-related data points. On the investor side, standardized data requests could help simplify the process, encouraging greater issuer participation. And with sustainable debt demand increasing, municipalities and investors can work together to create safer communities.

ESG: Fact or Fiction?

The current dialogue around ESG has elicited varying opinions on the validity of integrating alternative factors other than financial into decision making. Critics argue that ESG investments do not outperform the broader market, that, at times, the underlying companies in these portfolios have ESG concerns of their own, and that calling out ESG is redundant to work already being undertaken.¹¹ On the other hand, champions point out that ESG cannot be condensed into a single descriptive indicator and that early identification of risks, such as extreme weather, can save taxpayers and investors. Their perspective is that non-traditional and newly emergent financial risk factors must be integrated into decision making processes to fully account for the range of risks around any type of investment.

Recently, the Milken Institute's Program for Excellence and Equity in Public Finance council members commented on these concerns as part of the Municipal Securities Rulemaking Board's request for information on ESG Practices. The council acknowledges that often sustainability, ESG risks, and community impact are conflated, when in reality they are separate, complex topics. Council members state "ESG is not an asset class"; the acronym refers to factors that can be used

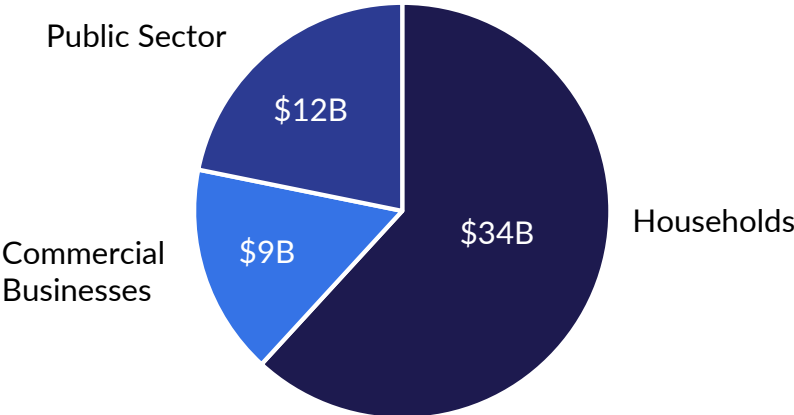
for distinct purposes: To identify risks associated with prospective or existing investments, and to disclose and measure the impact of activities and programs.¹² For the purpose of this work, and educating the market broadly, ESG should not be confused with a label. Rather, ESG factors should be leveraged by the municipal bond market as an opportunity to save taxpayers and public pensioners money by avoiding foreseeable costs.

ENVIRONMENTAL COSTS

Hurricanes, fires, floods, and tornadoes are nothing new. Local governments have always had to budget for these kinds of environmental calamities. But in recent decades, the intensity and frequency of extreme weather events have become much more pronounced. Described as financially material costs, this new normal is taking an outsized toll on municipalities, often affecting a community’s fiscal stability and/or its ability to repay investors.

Communities incur high costs from several kinds of environmental risks. The National Oceanic and Atmospheric Administration recorded 273 separate climate and weather disasters in the US with economic damages of \$1 billion or more between 1980 and 2020; hurricanes and tropical storms accounted for more than half the total of \$1.79 trillion.¹³ The Congressional Budget Office estimated that hurricanes and storm-related flooding alone cause more than \$54 billion in damages yearly in the US. Of that total, \$34 billion is borne by households, \$9 billion by commercial businesses, and \$12 billion by the public sector (Figure 1).¹⁴

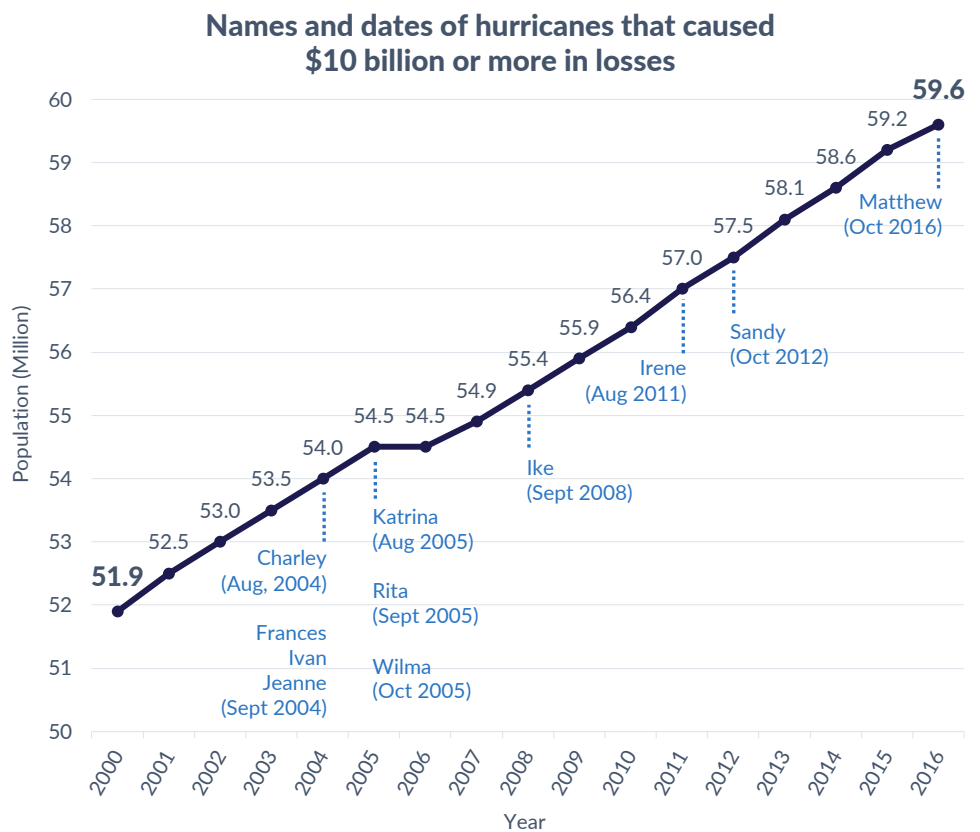
Figure 1: Annual Flood Damage Costs



Source: Milken Institute analysis (2022) of Congressional Budget Office data (2019)

Those figures will likely become even starker as the number of people living in coastal areas continues to grow. Figure 2 below shows that the Atlantic and Gulf of Mexico coasts saw a population increase of 15 percent between 2000 and 2016, even though hurricanes causing damages of \$10 billion or more walloped the region 11 times over that period. The federal government may pick up some of the tabs for these kinds of disasters, but they also have an impact on municipal budgets in the form of lost revenue, especially for communities that depend on tourism. Ultimately, fixed disaster preparedness spending and unguaranteed federal aid mean that much of the cost balance falls on municipalities.

Figure 2: Atlantic and Gulf of Mexico Coastline County Populations in Millions (2000-2016)



Source: Milken Institute (2022), adapted from National Climatic Data Center (2016)

For drought-ridden states such as California, the greatest threat posed by climate change is not too much rainfall but too little. Researchers at the Wharton Risk Management and Decision Processes Center estimated the economic damages from California’s 2018 wildfire season at \$148.5 billion.¹⁵ Those losses included direct capital costs such as incinerated buildings and health costs related to air pollution exposure, and indirect losses such as lost hours worked and disruption to supply chains.¹⁶ Wildfires have knock-on

effects as well that can cost cities dearly. In the aftermath of a big burn, the loss of trees destabilizes the soil, leading to mudslides with the season's first rains.

As climate-related disasters continue to increase in severity and frequency, the cost of restoring impacted areas puts municipalities in a financial bind: Take on additional debt or reallocate funds from everyday services such as police and fire departments, emergency medical services, public transportation, and public works. Reducing public services may exacerbate issues like crime, traffic, and housing insecurity. But taking on more debt can lower a city's credit rating, which assesses the likelihood it will be able to repay its debt. Having a lower credit rating makes it more expensive to borrow capital. Therefore, municipalities must more effectively assess ESG-related factors to enable local governments to protect their communities and budgets when climate-related disasters happen.

SOCIAL COSTS

Social issues, including the opioid epidemic and the lack of affordable housing, are putting a similar strain on municipal budgets. Even with the economy near full employment in 2019, nearly one-third of Americans paid more than 30 percent of their incomes on housing,¹⁷ and 17.6 million households spent more than half of their incomes on rent or mortgages.¹⁸ The affordable housing crisis will only intensify as inflation increases faster than wages.

According to the National Law Center on Homelessness & Poverty, "insufficient income and lack of affordable housing are the leading causes of homelessness."¹⁹ If this problem remains unaddressed, municipalities may find themselves with large homeless populations, which can discourage tourists from visiting and new businesses and residents from locating there. Large homeless populations also pose public health concerns, as unhoused people suffer from higher rates of HIV infection, alcohol and drug use disorders, mental illness, tuberculosis, and other conditions.²⁰ Consequently, they often require a disproportionate amount of intervention by first responders and other public resources, which generates expense instead of income. Municipalities that allow homelessness to become severe may find that these economic costs inflict a serious blow to their budgets.

Like homelessness, the opioid epidemic has evolved into an economic crisis for local governments. By one estimate, the total economic cost associated with opioid use disorders in the US topped \$1 trillion a year.²¹ Those expenses include health-care spending for individuals with opioid use disorder, police and protection services, criminal justice activities, government-funded child and family assistance programs, education programs, and lost productivity costs.²² For counties with high rates of fatal opioid overdoses, those obligations translate to increased borrowing costs, lower credit ratings, and a reduced number of bonds funded.²³ In all, counties with the highest rates of opioid use disorder saw a \$15 million reduction in yearly bond funding or about twice the price of a new

Research from 2021 found that New York City paid an average of \$170 million annually to settle police misconduct suits, Chicago paid \$46 million, and Los Angeles paid nearly \$33 million.

elementary school.²⁴ Unsurprisingly, counties that experience high rates of opioid overdose deaths also exhibit higher expenditures related to police and protection services.

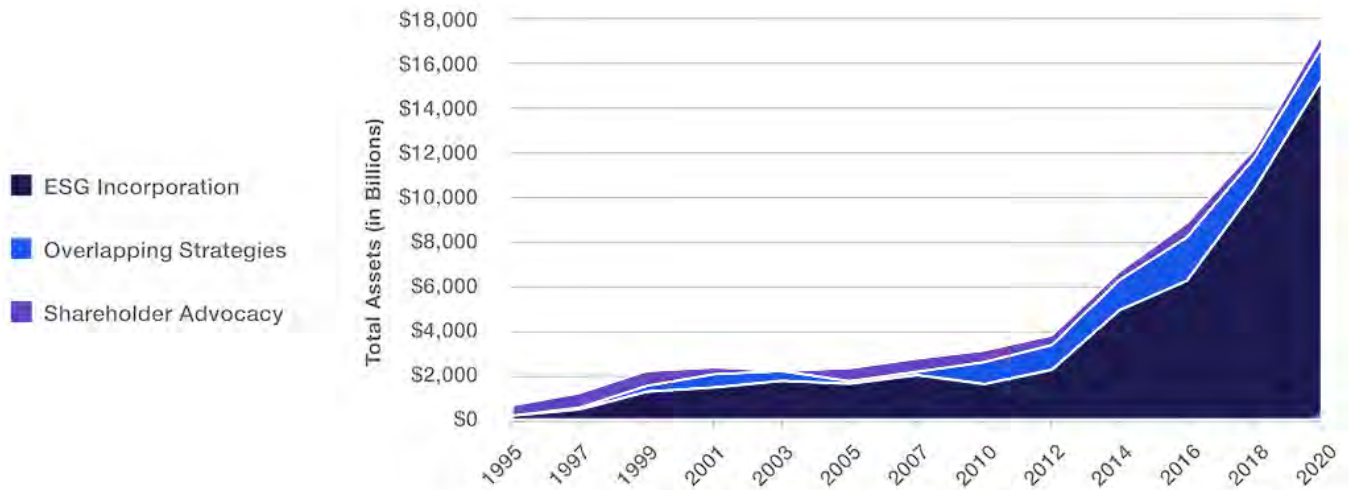
Police brutality has both direct and indirect impacts on municipal budgets. In March 2021, the city of Minneapolis paid a \$27 million settlement to the family of George Floyd, who was murdered by a city police officer 10 months earlier. Some of the money came from the city's general obligation fund, the primary budget for government operations.²⁵ But that wasn't the only cost. The riots that erupted almost immediately after Floyd's murder resulted in the destruction of more than 1,500 Minneapolis-area businesses. In response, S&P Global downgraded the city's general obligation debt outlook from stable to negative. The rating agency cited potential costs related to reforming its police department, liabilities from lawsuits pertaining to Floyd's death, and increased worker compensation claims related to the unrest as risks that impacted Minneapolis's ability to repay its debts.²⁶ The economic effects of police misconduct aren't limited to Minneapolis or other cities with high-profile brutality cases. Research compiled in 2021 by FiveThirtyEight and The Marshall Project found that New York City paid an average of \$170 million annually to settle police misconduct suits, Chicago spent \$46 million per year, and Los Angeles paid nearly \$33 million.²⁷

If local governments do not understand the expected costs associated with environmental and social risks, their budgets are in peril. Without factoring in robust ESG metrics, it is impossible to see the complete picture.

THE GROWING SUSTAINABLE INVESTMENT OPPORTUNITY

While the main driver for a more comprehensive understanding of ESG risks is to protect communities, there are trickle-down benefits to investors. Demand for sustainable investment instruments has never been higher. The Forum for Sustainable and Responsible Investment estimates that \$17.1 trillion, or one out of every three dollars under professional management in the US, was managed according to sustainable investing strategies in 2020 (see Figure 3). This amounts to a 42 percent increase from two years prior.²⁸

Figure 3: Sustainable Investing in the US (1995-2020)

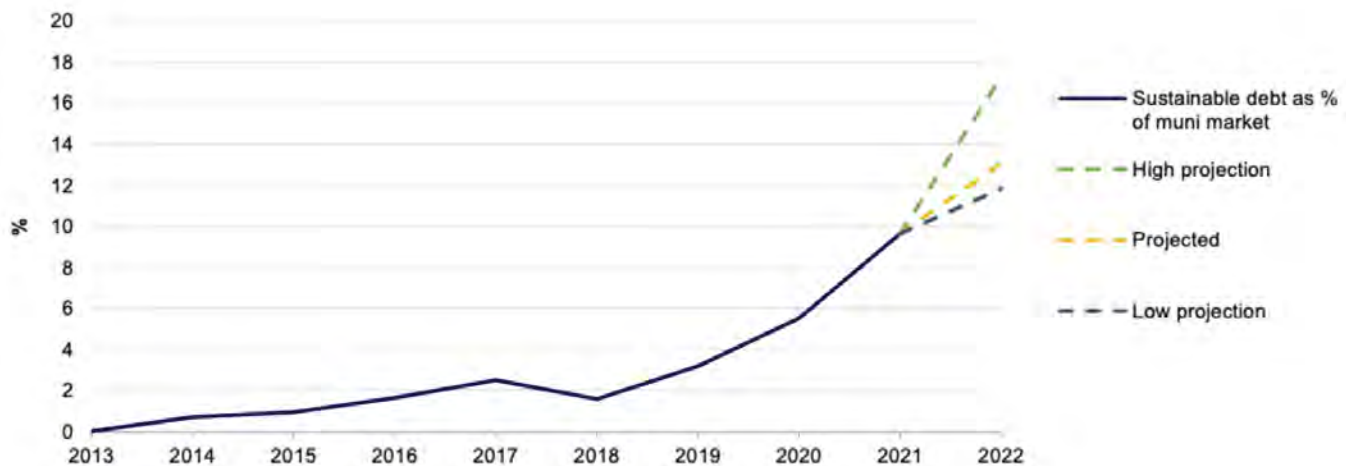


Source: Milken Institute (2022), adapted from US SIF Foundation

While labeled sustainable debt comprises only 9.7 percent of the US municipal bond market, as shown in Figure 4, that doesn't paint the complete picture.²⁹ Issuers at the Lab argued that municipal bonds have always financed projects to address sustainability; they are just not explicitly labeled as such. Sustainable debt, whose use of proceeds funds public projects with dedicated environmental or social benefits, has reached record highs every year since 2019.³⁰ Standard & Poor's anticipates it will top \$60 billion in the US and \$1.5 trillion worldwide in 2022.³¹

Each increase in the size of the sustainable bond market creates a virtuous circle, as greater awareness of these instruments helps bolster risk management. As such, issuers may expect to receive growing requests from investors for ESG data. On the other hand, issuers have abundant opportunities to fund their sustainability-aligned projects.

Figure 4: Sustainable Debt as a Percentage of the Total US Municipal Market (2013-2022)



Source: Milken Institute (2022), adapted from S&P Global Ratings (2022)

Current ESG Data Landscape

The marketplace for tools to systematically measure sustainability metrics has grown along with the expanding ESG landscape. The research consultancy Opimas reported that the market for ESG data surpassed \$1 billion in 2021 and may exceed \$1.3 billion by the end of 2022.³² The majority of ESG data (70 percent) comes in the form of research and analytics, but ESG indices, which account for the other 30 percent, are the fastest-growing segment of the market.³³ A flurry of mergers and acquisitions over the past decade has concentrated about 60 percent of the ESG data market in the three largest providers. But it is still an industry in its infancy, with numerous startup and boutique firms.³⁴ And as regulatory requirements around ESG risk assessment and disclosure continue to emerge, existing financial services firms will likely launch dedicated ESG data analysis units.

VOLUNTARY REPORTING FRAMEWORKS AND STANDARDS

There are two categories of voluntary ESG reporting: frameworks and standards. Frameworks identify the broad topics to include in disclosures and how the information is structured and communicated. Standards provide specific requirements and metrics that organizations can follow when reporting. Although frameworks and standards fulfill different purposes, they are complementary. Standards help communicate the impact of sustainability issues on a company's long-term value.³⁵ Those standards can then serve as a tool for companies seeking to implement a principles-based framework.³⁶

One of the most prevalent sets of standards is published by the Global Reporting Initiative (GRI). Its prescriptive rules create a shared, replicable reporting language that enables any organization to communicate its impact on people, the environment, and the economy. This information is often included in a corporate sustainability report or similar document shared with a broader

group of stakeholders. Industry-specific standards crafted by the Sustainability Accounting Standards Board (SASB) help organizations identify and communicate sustainability information that impacts financial performance and market valuation. These two sets of standards are intended to complement one another.

The framework created by the Taskforce on Climate-Related Financial Disclosures (TCFD), meanwhile, focuses solely on environmental issues. TCFD helps firms align their climate-related risk disclosures to investor needs and recommends ways organizations can communicate climate impacts on fiscal health. This information typically lives in an annual financial report. Nuances aside, all sustainability reporting mediums share a common purpose of providing actionable guidelines to encourage and facilitate more disclosure of ESG information in official documents. For municipalities in the early stages of assessing their ESG risks, understanding the types of data that feed into the existing frameworks and standards can help them understand the information they need to collect.

TRADITIONAL FINANCIAL REPORTING

Traditional metrics that evaluate earnings and cash flow are familiar to investors because corporations and governments legally must report them in annual filings to the US Securities and Exchange Commission (SEC). Municipal securities are exempt from these SEC regulations but are subject to oversight by the Municipal Securities Rulemaking Board (MSRB). The MSRB does not have strict mandatory reporting requirements, but it is a best practice for municipal issuers to publish an Official Statement to help investors make informed decisions. The purpose of an Official Statement is threefold: To provide a description of the transaction, to help market the issuance, and to disclose material information, including risks. This information is typically communicated by sharing details on the issuing agency's background and overall financial condition, how the bond's proceeds will be used, and the sources of securities

repayment. Since individual retail investors make up a considerable portion of municipal bond buyers, the Official Statement typically contains enough information that an investor does not need to do additional due diligence.³⁷

The MSRB has an existing publicly accessible platform to help aggregate available issuer-reported data. However, it is not ESG-specific, and more offerings are still needed.³⁸ Issuers looking for initial guidance or an example to follow can utilize the MSRB's Electronic Municipal Market Access (EMMA) platform. EMMA provides disclosure document data and indicates whether an issuance has been self-designated or independently certified as Green, Climate, Social, or Sustainable.

Similar platforms that create a central location for issuer disclosures can help investors quickly identify which bonds have been certified under sustainable frameworks or standards such as TCFD or SASB. Importantly, the public accessibility of these data facilitates market transparency, allowing issuers to feel more comfortable making disclosures without fear of legal repercussions.

DATA AGGREGATION PLATFORMS

Several municipal-specific data platforms and aggregators have emerged in tandem with the growing interest in ESG disclosure. These companies range from aggregators of data disclosed by issuers to firms that use proprietary algorithms to analyze and translate datasets into meaningful comparisons or projections. A questionnaire created by CDP (formerly known as the Carbon Disclosure Project) invites municipal issuers to report climate-related datasets such as emissions, renewable energy levels, and the water security measures in place.³⁹ CDP analyzes these data to produce a score that rates the city's performance and provides feedback on how to improve. By sharing information on a platform thousands of businesses use, local governments can find opportunities to collaborate with the private sector, compare datasets, realize areas of improvement, and ensure long-term prosperity.

Since reporting cities receive high-quality data back from CDP, it incentivizes them to contribute data to the marketplace. More than 1,000 cities have participated in CDP's platform, and 95 have received the organization's top ranking.

Issuers with more experience assessing ESG risks may opt for more sophisticated data analyses from providers like Urban Footprint or Intercontinental Exchange Data Services. These firms apply algorithms that model climate risk and help cities assess the social and environmental impacts of different climate risk scenarios. Scenario planning allows municipal market participants to understand the longer-term implications of ESG risk factors on community resilience and inform holistic and fluid climate adaptation plans.

ESG IN CREDIT RATINGS

In recent years, traditional credit rating agencies, including S&P Global, Moody's, and Fitch Ratings, have added ESG-specific scores to their evaluations. These scores rate issuers on their exposure to ESG-related factors and their alignment with various internationally recognized frameworks or standards. ESG-specific scores help fixed-income investors put a price on environmental and social risks and benefits over the long term. This shift in investor perspective may encourage issuers to think more broadly about the metrics they report on and utilize the range of options more effectively. However, the ultimate objective of credit rating agencies in their role in the public finance market is to continue to provide insight into the issuer's ability and likelihood of repaying debt. As long as current disclosures are deemed effective in rating an issuer's ability to pay back debt, rating agencies may not provide explicit reporting preferences to issuers.

Therefore, even with a wide range of frameworks and reporting tools, municipalities still struggle to understand exactly which datasets they need to gather or provide, and how they should present these data to rating agencies, underwriters, and investors. Most public ESG roadmaps define issues

of materiality from the perspective of corporations. Most of them fail to consider the issues and growth prospects relevant to communities, such as demographic trends and household incomes. While rating agencies and investors use in-house and proprietary evaluation criteria, there is often ambiguity around specific ESG-related data points in the public finance sphere. Additionally, since there is yet to be a central repository for municipal-level ESG data, any voluntarily reported information is most likely fragmented and challenging to track down efficiently. With ESG materiality varying by city and region, creating standards that apply across the board is challenging.

Barriers to Broader ESG Data Adoption by Muni Issuers

Participants at the Financial Innovations Lab generally agreed that the most significant barrier to broader ESG adoption was the lack of comprehensive empirical data. Where data are available, they may not be consistent with other cities' measurements. And because different agencies are responsible for measuring various impacts, the data may fail to tell the whole story.

INCOMPLETE AND INCONSISTENT DATA

While muni issuers have long financed projects and programs that support communities, an explicit focus on sustainability has not been a priority. Therefore, most local governments have not dedicated resources to tracking certain types of information. This has led to entire categories of environmental and social risk data not being readily available at the municipal level. Lab participants mentioned that property and casualty firms have been collecting data on weather events for years, yet this information isn't routinely integrated into municipal capital planning processes. Nor are data about biodiversity (which cities use to decide where to locate environmental interventions), programs that mitigate water leakage, or latitude and longitude information about the predictability of weather events and their effects on surface flooding and wastewater.

On the social front, key data types that require more robust reporting and tracking include gender equality, board diversity, conflict of interest policies, public health response capacity, and opioid use. Gaps in these data don't just impair a community's long-

Barriers to ESG Adoption

- **Incomplete data may impair a community's resiliency, preventing issuers from participating in the labeled sustainable bond market.**
- **Siloed risk management within local government is a major hindrance to data collection.**
- **ESG risks and reporting have historically been divorced from traditional financial documentation.**
- **Developing in-house expertise can be prohibitively expensive.**

term health and resiliency, they may prevent issuers from participating in the labeled sustainable bond market at all.

Lab participants at both issuer and investor entities also bemoaned a lack of consistency in how data are reported. Focusing on sustainable municipal bond issuances, which pay for many resiliency projects at a local level, most have yet to adhere uniformly to a single reporting framework. There are no requirements for what Official Statements must include. That makes it more difficult for investors to efficiently locate the data they need to evaluate and compare bonds. At the same time, a portfolio of investors all requesting unique data sets is not feasible for issuers to manage.

These inconsistencies in reporting don't just deter investors from buying green bonds and issuers from reporting; they also make it harder to trumpet the achievements of bonds, given the lack of post-issuance reporting on the use of proceeds and outcomes. In 2021 alone, there was a total of \$5.6 billion in bonds where issuers failed to track the environmental and social impact of the investments. The vast majority were US municipal bonds.⁴⁰ Without a standard framework telling municipalities what data to report and when, the ESG bond market has limited potential, and many issuers have opted out of reporting on voluntary sets of ESG data beyond what they see others disclosing.

Because so many social and environmental issues take decades to assess, climate change data must illustrate current concerns and analyze future risks. For example, Broward County's 100-year storm projections measure climate risks over longer timelines to better understand the community's risk exposure. Unfortunately, most regions are not taking such a long view.

The City of Virginia Beach

In 2015, the city of Virginia Beach initiated the Comprehensive Sea Level Rise and Recurrent Flooding Study, which quantified the economic losses of flooding from sea level rise in 2015, in the 2040s, and the 2070s. The study found that if the city took no action to combat a projected 1.5 feet of sea level rise, annual average flood-related losses would triple from \$26 million to \$77 million in the 2040s.⁴¹ By the 2070s, a projected rise of 3 feet would cause a 12-fold increase to \$329 million in damages every year.⁴² Collecting data that span extended periods gives both issuers and investors a valuable capital planning perspective on the perils of ESG-related risks, especially for environmental threats that worsen over time. Unfortunately, most municipalities don't have the advanced and customized scenario planning data capabilities to provide this kind of data.

A LACK OF STRATEGIC RISK MANAGEMENT

Enterprise risk management (ERM) offers a more holistic and inclusive way of considering hazards to an organization as a whole rather than in each of its silos. Unfortunately, too few municipalities have adopted such a strategic approach to risk management. A 2018 American Society for Public Administration analysis found that only seven out of 204 local governments surveyed (4 percent) had implemented some aspect of an ERM system.⁴³ While federal agencies and corporations have spent an enormous amount of time and resources designing and implementing ERM systems, local government has a unique implementation challenge due to its governance model, oversight authorities, and fragmented agency reporting mechanisms.⁴⁴

Lab participants underscored the problems caused by poor communication and siloed operations within local government as major hindrances to data collection and wider data sharing. This is particularly true for larger municipalities, where existing information is often disaggregated, and getting access from multiple agencies can be challenging. Agencies may have no option other than to report their disjointed data. Under these circumstances, projects may not reflect an investment's complete impact.

For example, Miami-Dade Water and Sewer, the agency responsible for upgrading water infrastructure, may calculate the reduction in flooding after improving sidewalk drainage. But those metrics might overlook the benefit to local businesses, which is measured by the Miami Downtown Development Authority. In other cases, issuers might not even know where to find data that could paint a more complete picture than a single agency reports. This lack of coordination makes it harder for issuers and investors to compare the outcomes of different projects.

In 2018, only 7 of 204 local governments surveyed had implemented an enterprise risk management system.

Even when agencies do share data, they don't automatically integrate that information into capital planning decisions, particularly if there is not a central risk management officer responsible for leveraging available insights for mitigation strategies. Participants discussed the London Mayor's Green New Deal Recovery plan, which focuses on updating infrastructure for frontline communities disproportionately impacted by climate change. Flood risk data provided by a handful of local agencies helped city leaders realize that 25 percent of subway stations and 20 percent of schools were at risk of flooding.⁴⁵ But these data weren't initially integrated into the considerable capital planning decisions accompanying the Green New Deal Recovery. Local leaders too often sign off on projects without a complete understanding of the ESG risks associated with an investment.

DISCLOSURES ARE INCONSISTENT

The lack of consistent disclosure requirements stems from the fact that ESG risks have historically been divorced from traditional financial risks. Forty-six percent of investors surveyed in EY's 2021 Global Corporate Reporting Survey agreed that this disconnect compromises the effectiveness of ESG disclosures.⁴⁶ The financial community is beginning to recognize ESG risks as material, but that hasn't yet translated into uniform reporting requirements.

46 percent of investors responding to EY's 2021 survey agreed: A disconnect between ESG risks and traditional financial risks compromises the effectiveness of ESG disclosures.

The Milken Institute mapped ESG risks to the underwriting criteria (not ESG-specific scores) of various rating agencies such as Moody's, S&P Global, and Fitch Ratings and the reporting frameworks or standards of CDP Cities Disclosures, TCFD, SASB, and GRI. The exercise found that current reporting options fail to comprehensively account for all material ESG risks,

whether voluntary or mandatory. For example, while most bond rating agencies regard physical risk and infrastructure adaptation as environmental risks, none considers the availability of insurance coverage. The lack of insurance led to rampant mortgage delinquency in Houston after Hurricane Harvey in 2017. Inconsistencies are an even greater problem in reporting social risks. GRI is one of the few agencies that account for racial justice concerns in their evaluations. Mandatory disclosure documents outlining specified ESG metrics would be invaluable to issuers and investors.

Several Lab participants expressed optimism about some rule changes recently proposed by the SEC. In March 2022, the agency floated rules requiring public companies to include certain climate-related disclosures in specific official documents, if the corporation believes they have a material impact on their business.⁴⁷ More recently, in May 2022, the SEC proposed updating the Names Rule to require asset managers to have at least 80 percent of their funds aligned with the strategy indicated by the product's name.⁴⁸ If implemented, it could significantly impact products labeled as sustainable or ESG. While many agree that both proposals are likely to see significant legal pushback, therefore delaying enactment, they are meaningful market signals nonetheless. Although these rules do not directly apply to municipal issuers and borrowers, both proposals are likely to help standardize the requirements around sustainable investing.

EDUCATION AND RESOURCE GAPS

Lab participants discussed the need to educate local governments about what information they should gather and share with potential investors. Many municipalities, for example, may not know how to distinguish material risks from nonmaterial ones. Others may fail to understand how investors use the data they provide, which can cause the agencies to waste time and money collecting data that fail to fulfill the intended need. But developing in-house business units equipped to provide the necessary analysis, interpretation, and

operationalization of data (or hiring third-party data services) can be prohibitively expensive, especially for smaller issuers. Advanced climate risk mapping and modeling, scenario planning over long-time horizons, and assessing pandemic preparedness all cost money—money that strapped municipalities may not have.

A recent Environmental Resources Management's SustainAbility Institute survey found that corporate issuers spend more than \$675,000 annually on climate-related disclosures.

The largest expenditure categories include greenhouse gas analysis and disclosure, climate scenario analysis, and internal climate risk management controls.⁴⁹

Translating key data points into language that a broad set of stakeholders can understand is difficult without experienced professionals. Issuers at the Lab highlighted projects they had financed with social or environmental benefits, but the underlying bonds were not labeled as sustainable due to a lack of resources. There are options available to help issuers enhance their technical capacity. However, without additional funds or resources for sustainable bond management, issuers have limited alternatives.

Investors must also spend considerable time and money evaluating sustainable opportunities and accessing independent verifications that show the proceeds are indeed allocated toward—and hopefully accomplish—the E, S, or G goals set. Although some data are already available, it is time-consuming and inefficient to mine through different publicly accessible websites or find creative ways to source the needed information.

The same SustainAbility Institute survey found that institutional investors spend an average of \$1.4 million to collect, analyze, and report climate data.⁵⁰ The priciest expenditures were for external ESG ratings, data providers and consultants, proxy analyses (both external and in-house), and internal climate-related investment analyses.⁵¹ Even cash-rich businesses like those in financial

services cannot afford to spend millions yearly to gather bespoke datasets. And even if they can, the additional costs may deter investors from participating.

Institutional investors spend an average of \$1.4 million to collect, analyze, and report climate data.

Lab participants also urged a greater understanding of the difference between risk and impact. Those who view ESG issues as risk evaluate the physical threat climate change poses to a municipality's ability to repay bondholders, and utilize the data to understand underwriting attributes in investment analysis. Those who view ESG issues in terms of impact consider municipalities' steps to mitigate their carbon footprint and are likely to look at impact-focused data to help clients burnish the ESG credentials of their choosing. Although related, the datasets required to fulfill each purpose are different. Given that the rating agencies and underwriters remain the most influential stakeholders in a muni bond issuance, municipalities may prioritize risk-related disclosures. Meanwhile, without price differentials

signaled by the market for non-financial-related outcomes (e.g., significant change in demand for impact on the side of investors), municipalities may deprioritize or fail to gather impact-related data due to capacity or cost constraints.

It is essential, therefore, to develop solutions that offset the costs of data collection, aggregation, and analysis. Creating a central platform for data aggregation, implementing regional best practice centers, and non-traditional partnerships or financial incentives to encourage greater data sharing among all stakeholders are needed.

Figure 5: ESG—A 360 Degree Approach to Manage Risk



Source: Milken Institute (2022)

INNOVATIVE SOLUTIONS

During the Lab, participants discussed various options to address the barriers currently hindering robust planning and funding of municipal ESG bonds. Many agreed that issuers must integrate ESG data as early as possible into assessment, budgeting, and project preparation to mitigate future shocks to their systems. Some of the most promising recommendations for upstreaming ESG and other risk mitigation efforts focused on opportunities to unearth the gaps in datasets, coordinate better collection and disclosure, establish best practice centers to coordinate resources into regional implementation plans, and develop partnerships to enable government incentive programs.



Establish a Risk Management System

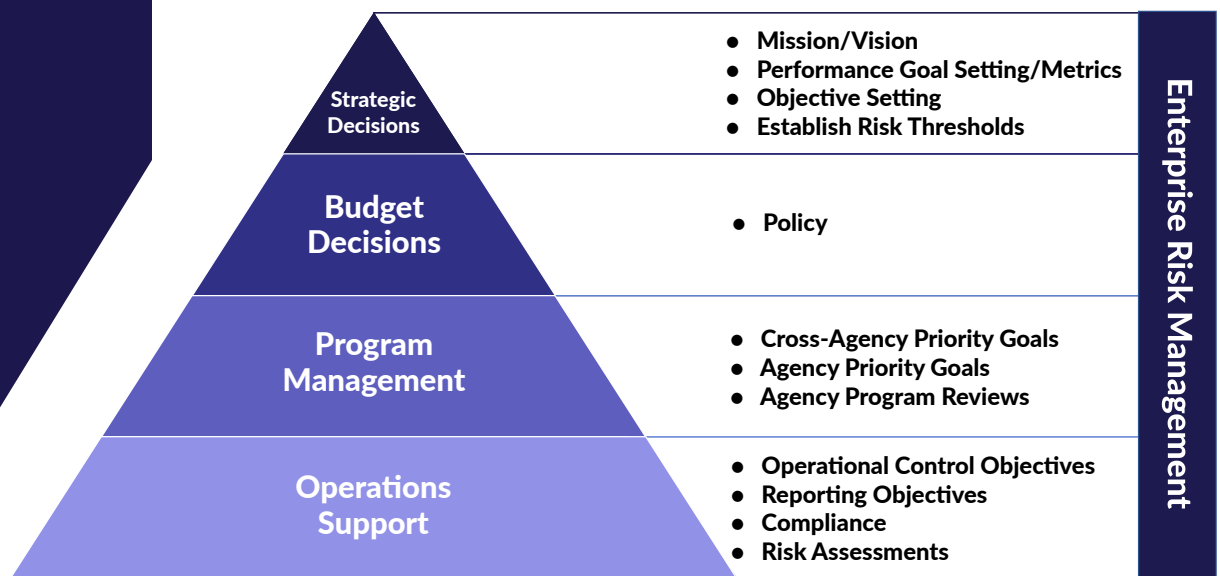
Municipal issuers must first and foremost shift how they integrate ESG factors into their assessment and budget planning. Before going to the capital markets to issue bonds or target investors who care about sustainability, the agencies need to better address existing and future shocks.

One tool discussed earlier is Enterprise Risk Management (ERM), which is the systematic approach to evaluating and addressing risks head-on.⁵² Strategically managing risk is beneficial because it helps identify vulnerable areas and potentially high-risk situations early and provides mitigation

strategies based on the profile and size of risk. It is often the most cost-effective way to address potential threats before they become disasters. Although some major cities have begun implementing ERM systems, in government, ERM systems have mostly been limited to the federal or state level with agencies that tend to have more consolidated oversight over the day-to-day operations of their portfolio.

As a demonstration of how centralization has supported federal agencies, in 2016, the US Office of Management and Budget (OMB) issued an updated circular requiring all federal agencies to implement ERM. With OMB's support, they were able to provide concrete best practices and guidance for federal agency implementation. Given the unique composition of local government, municipal ERM systems will require additional modification and design considerations based on size, leadership structure, and local needs.

Figure 6: Enterprise Risk Management Framework



Source: Milken Institute (2022)

An ERM system starts with a framework to outline goals, governance, methodologies, and implementation, as seen at the apex of the pyramid in Figure 6. The most significant constraint to municipal governments implementing ERM systems is local leadership that is unable to execute unilaterally. Therefore, a particular emphasis must be placed on establishing a strong governance framework that outlines risk sharing. Once there is a general structure, municipalities need to add detail to their budgets with specific examples of what type of data is required, how to collect it, what technology is necessary to aggregate the information, and how to operationalize all of this in day-to-day decisions.

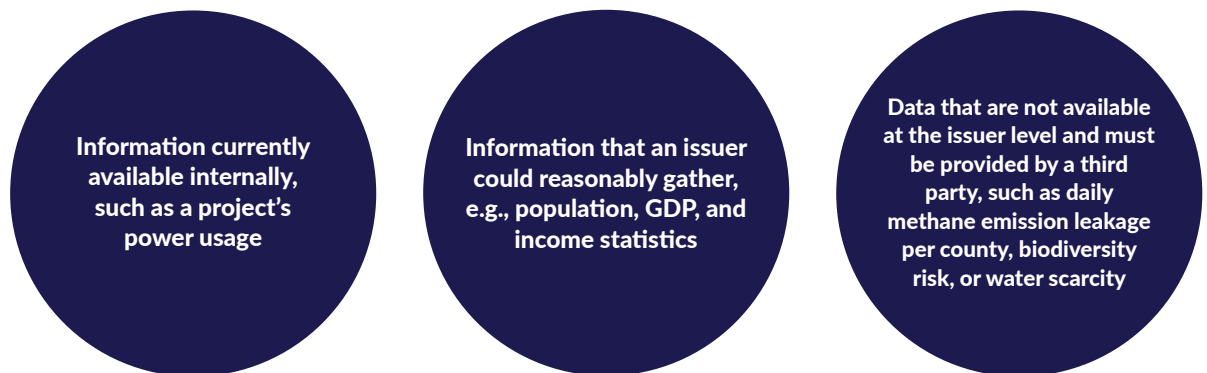
Academic institutions and consulting firms are starting to design “off-the-shelf” programs for municipalities to implement risk management at an agency level. The University of Washington is developing an open-source tool to outline an organizational framework for risk management that includes a set of metrics based on the entity’s exposure to environmental, social, and governance challenges. It allows for project assessment based on data that track various agreed-upon categories.

Any risk management system requires funding, technology, leadership, and long-term management. This may work for larger cities, but because smaller issuers may not have all of those necessary elements, Lab participants discussed an iterative deployment model that enables municipalities to develop a comprehensive ERM system over time.

CATEGORIZE TYPES OF DATA AND DEFINE THE USE CASE

The first action municipalities can undertake is a comprehensive ESG risk assessment. This type of review requires data. Many issuers have some kinds of information, like water usage or energy reduction, but may need to gather additional evidence to complete their overview. Lab participants discussed the easiest method for issuers to begin categorizing their data, as seen in Figure 7.

Figure 7: Levels of Data and the Associated Providers



Source: Milken Institute (2022)

Apart from existing data and project-level assessments, issuers will have to look to other government entities, NGOs, academic institutions, and third-party providers. As discussed, these gaps can be challenging to navigate, as entities don’t often naturally coordinate, and purchasing other intelligence can be expensive. For example, a town in California might want to assess the effects of pollution on the community and utilize a tool, CalEnviroScreen, which leverages statewide scientific models to map environmental risks. The program, however, requires quantitative add-ons to demonstrate specific impact metrics at a local level. Similarly, an NGO tracking educational attainment for school districts may be able to better aggregate information, like test scores and teacher turnover rates, that would otherwise be siloed in various agency departments. A city may be better served partnering with that NGO to save time and navigate bureaucracies.

Next Steps:

- Determine which issuers have the ability to create an organization-wide ERM system.
- Design the framework of the ERM system, including goals, governance, methodology, and implementation.
- Identify components of an ERM system that might be easier to execute without creating an entire system, especially for smaller issuers.
- Categorize metrics by availability and the cost and effort required to obtain them.
- Convene a follow-up working group to establish the use case of greater data transparency for all stakeholder parties.

Build a Technology Platform to Centralize Data

Coordinating and aggregating data was a priority conversation throughout the Lab. If the market can agree on which metrics to track, the next step is ensuring the information is easily warehoused and accessible. Lab participants debated whether a new, dedicated ESG data platform designed for municipal providers was the best route forward or if it was possible to improve technology already available, such as the Municipal Securities

Rulemaking Board's EMMA platform discussed earlier. The consensus was that a combination of new platforms and modifications to existing ones would be the most viable solution since technology continually changes, and it can be challenging to update legacy systems. Outlining data governance is critical because privacy and ownership remain hot-button issues. Any new platform must have clear boundaries, starting with specifying the information's use case.

SHARING INTERNAL DATA ALLOWS AGENCIES TO WORK SMARTER, NOT HARDER

The benefits of a collaborative platform that aggregates publicly available data are undeniable. Several participants pointed to the city of Phoenix as an example of how municipalities can leverage existing data for multiple purposes. Phoenix's chief sustainability officer (CSO) has collected various datasets for a city-wide sustainability report. In March 2020, the city's chief financial officer's (CFO) office realized it could point to data already available in the sustainability report to serve as sufficient disclosure of a sustainable bond issuance.⁵³ Collaboration between the CSO and CFO allowed their teams to share data



and leverage existing documentation in multiple formats. Developing a central data platform could ensure that the Phoenix example becomes the norm rather than the exception. It would also allow those who report data to see what their peers are submitting, improving both the quality and quantity of information.

ACCESSIBILITY IS ESSENTIAL

In developing a data aggregation platform, key factors are accessibility, usability, and quality. Unfortunately, too much of the available ESG data is locked in inaccessible documents in PDF form. There is no way for users to sort, manipulate, or export the metrics without manually transferring them to a spreadsheet.

Lab participants mentioned the potential for value creation if, at a minimum, users could access data in a sortable way, allowing them to integrate the information into their internal investment processes. This is particularly true for investors who need raw data that they can manipulate to evaluate their investment decisions. Technology allowing information to become “machine-readable” would be an ideal feature of any data platform. So would web-based technology that automatically updated data with the most recent reported figures.

THE EXTERNAL USE CASE

All participants agreed that municipal agencies must be assured of the use case before committing to store data on a platform that might be viewed outside of the organization. Issuers noted that published data often represent only a subset of the project-level data collected. Agencies may be reluctant to share information if it opens them up to increased scrutiny and possible legal repercussions.

Risk events with constantly changing cost estimates put municipalities in a tricky position to report on the total impact. In 2017, for example, Florida’s governor initially projected damages from

Hurricane Irma at \$5.4 billion. On the other hand, the insurance market assessed losses at just \$2.6 billion.⁵⁴ Five years later, both those estimates proved woefully incomplete. After factoring in litigation, insurance fraud, and other processes, the Florida Hurricane Catastrophe Fund priced the total cost of the hurricane at \$9.25 billion.⁵⁵ Current loss estimates for September 2022’s Hurricane Ian range between \$41 billion and \$70 billion.⁵⁶

Fully understanding the use case of various stakeholders may encourage municipalities to publish holistic and in some cases changing datasets. To access the platform, stakeholders should be required to acknowledge the fluid nature of reporting on current risks. Leveraging systems like Google’s Federated Learning, which allows the computer to search and learn from data without recognizing the owner, may help to reduce the risks for data providers.⁵⁷

BUDGETING FOR A CENTRALIZED SOLUTION

While there was general agreement on the need for a centralized technology platform to track ESG risk factor data, the challenge remains of how to pay for it without burdening cash-strapped municipalities, especially in the face of a potential recession. One option might be to use existing federal funding streams. For example, Florida used federal COVID-19 relief money to help fund a coastal resilience study.

Additionally, local governments could investigate the potential to leverage funding from the Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act, which allocates federal resources to invest in American technology.⁵⁸ However, it is important that any resources, whether federal, state, or local, be allocated through multiyear budget agreements rather than a one-time injection. According to the National Association of State Budget Officers’ most recent Proposed Budget Summaries report, 17 states enacted multiyear budgets.⁵⁹ This signals that local

officers are thinking strategically over the long term. Capitalizing on that mentality is critical to move the consideration and tracking of ESG risks upstream in the decision-making process.

Another avenue would be to monetize the data, creating a revenue source to fund at least a portion of the platform. Investors at the Lab said their firms spend tens of millions of dollars purchasing data every year. Few would object to paying for complete and consistent sets of municipal-level data. If the platform were governed externally, as it would be through EMMA, there might even be a way to provide grants for issuers who need financial assistance in implementing the technology. There could also be pricing tiers to the data, allowing users to access open-source information for free while keeping more proprietary data behind a paywall.

Create Centers of Excellence for Coordination

Because the risks and potential impacts of different ESG factors differ from one part of the country to another, a regional approach can help municipalities, especially smaller ones, develop

more accurate risk assessment frameworks. The risks and potential impacts of different ESG factors will not be standard across the country. For example, assessing hurricane risk and potential impacts on local communities will be far more material to the Southeastern United States than the West Coast. Establishing regional best practice centers will create clear definitions of risk and impact and help develop implementation plans that communities can use throughout the region.

A handful of regional best practice centers already exist and can serve as models. For example, the Sonoma County Regional Climate Protection Authority consists of representatives from the county and each of its nine cities, collaborating to reduce carbon emissions county-wide.⁶⁰ The Puget Sound Climate Preparedness Collaborative is a network of counties, tribal governments, and municipalities (including the city of Seattle) working together to ensure that the local community remains resilient to the impacts of climate change. The collaborative aims to “build a shared understanding of regional climate impacts, and to facilitate access to climate preparedness tools, research, recommendations, and best practices.”⁶¹ At the opposite end of the country, Miami-Dade, Broward, Monroe, and Palm Beach counties

Next Steps:

- **Survey stakeholders on the ideal format and key components for a technology platform.**
- **Establish safeguards for municipalities reporting on ongoing risk scenarios that convey the changing nature of these metrics.**
- **Determine whether it is more prudent to establish a new technology platform, enhance an existing system, or use some combination of the two.**
- **Estimate upfront and ongoing costs to keep a robust platform in operation and determine whether it is cost-effective to charge for using the data.**
- **Analyze research and deployment potential in the CHIPS and Science Act to establish a centralized technology solution for municipal governments.**

created the Southeast Florida Regional Climate Change Compact in 2009 to reduce greenhouse gas emissions and build climate resilience across the entire region. The Compact's Regional Climate Action Plan shares best practices and helps local communities implement adaptation strategies.⁶² More municipalities need to band together to assess and address ESG risks specific to their regions.

Lab participants also broached the idea of establishing function-based alliances—for example, a collaboration of waste management agencies whose material business risks are likely to be consistent. Function-based groups could also form a subset within a broader regional best practice center. Other coalitions might unite agencies in cities or counties that leverage the same public infrastructure systems. Metropolitan Planning Organizations (MPOs) are one such example. They were established in 1962 to give local elected officials input into planning and implementing federally funded transportation projects in cities with populations over 50,000.⁶³

While the lion's share of the work should be executed at the regional level, there are

opportunities to layer on federal incentives for successful regional coordination. As discussed, the funds approved in 2021 through the American Rescue Plan Act and the Infrastructure Investment and Jobs Act allocate unprecedented capital to enhancing muni bond capacity. New funding for energy, climate, and economic development innovation in the Inflation Reduction Act and the Creating Helpful Incentives to Produce Semiconductors (CHIPS) Act, passed in the summer of 2022, will also establish new regional technology hubs. These will place a particular emphasis on underserved and capacity-challenged communities, often those most directly affected by climate risks. In work alongside this Financial Innovations Lab, the Milken Institute has recommended some of this funding be deployed through a Predevelopment Fund executed by either the US Department of the Treasury or the US Department of Commerce. Building on the proposed municipal regional best practice centers is an opportunity for the federal government to establish Regional Deployment Accelerators. These groups would help communities access federal predevelopment capital or technical assistance to improve data tracking and outcomes.

Next Steps:

- **Suggest groupings of municipal agencies and counties, potentially leveraging the coordination of MPOs, to begin designing regional best practice centers.**
- **Understand baseline and material risk factors for each center.**
- **Communicate the opportunity to federal leaders at the Department of the Treasury or the Department of Commerce to enhance regional coordination through access to federal dollars to support predevelopment or technical assistance capacity.**
- **Define data reporting requirements through a regional implementation plan.**
- **Integrate capacity-building benefits for issuers participating in a regional approach.**

Utilize New and Existing Disclosure Platforms

ENCOURAGE THE USE OF ENGAGEMENT LETTERS

One of the most demanding challenges for bond issuers is responding to the myriad data requests from different investors. There is no ESG equivalent of the generally accepted accounting principles (GAAP) information required for financial statements. That creates a headache for issuers.

Some investors at the Lab highlighted the effectiveness of an engagement letter: a document published by investors that tells municipalities exactly which metrics are essential to their investment strategy. Engagement letters can also request risk metrics that incorporate a holistic set of underwriting attributes and impact reporting

to help investors measure progress over time. Engagement letters typically ask for a standard set of metrics, streamlining the type of information issuers need to collect. Designing sector-specific engagement letter templates would standardize the process even more. Lab participants agreed that power utilities and water authorities were well-positioned to take the lead in this arena, as their reporting requirements are already somewhat uniform. This sector approach can serve as a proxy SASB-materiality map for the investment community to align.

CREATE AN ANNUAL RISK AND IMPACT STATEMENT

Another tool that can facilitate a more transparent disclosure of ESG data is an annual Risk and Impact Statement. By assessing their performance at regular intervals, issuers will be better equipped to show investors how each project does or

Navigating What Investors Want

There is an inherent tension between what investors want to know about a bond issuance and what issuers are willing to share. The municipal bond market is often described as made up of snowflakes because each issuance is unique. The diversity of issuers and use of proceeds makes it difficult for investors to make apples-to-apples comparisons of different bonds. But despite the strong demand for standardized metrics and reporting to address these market dynamics, a solution seems unlikely in the near term.

Lab participants also discussed grouping metrics by the type of issuer. The corporate market offers examples of a different way of classifying bonds. Many corporations and communities pledged to reach net-zero carbon emissions by a certain date. Some investors now classify their corporate bond portfolio based on whether a company has made such a promise and, if so, how likely it is to keep it. Investors in the municipal market could create classifications for similar pledges by cities and agencies, not just for net-zero emissions pledges but for the panoply of environmental and social goals.

However, it's worth noting that a classification is not the same as a full risk assessment; it is simply a means of comparing issuers to one another. More work would need to be done to see if net-zero or other similar classifications could benefit investors and issuers.

does not address material ESG risks. Many municipalities already produce a similar document when assessing infrastructure life-cycle costs. Integrating ESG concerns into these evaluations could be a natural extension of work that CFOs do already. By articulating a long-term, strategic approach to new project procurement, Risk and Impact Statements can be seen as the first step toward adopting a comprehensive Enterprise Risk Management system.

A report by Georgetown University's Beek Center for Social Impact + Innovation argues that all infrastructure budgets should adopt a performance-based approach. This way of budgeting moves away from the lowest estimated cost of upfront construction to understanding the best overall value to taxpayers.⁶⁴ Included in a CFO's Risk and Impact Statement should be performance-based budgeting for all local infrastructure projects to account for ESG risks more adequately in life-cycle costs. This will help indicate to investors how each project does or does not address material ESG risks. The goal of the Risk and Impact Statement should be to provide additional transparency on how local government manages and finances risk factors.

Next Steps:

- **Create sector-specific off-the-shelf engagement letters that investors can adapt, as needed, to communicate ESG data information requests more effectively to municipalities.**
- **Require annual Risk and Impact statements that address budgeting, procurement, risk management, and performance components.**

Key Points:

- Engagement letters will help to standardize investor requests for information.
- Risk and Impact Statements will improve outcome tracking.

Recognize and Reward Innovation and Excellence

Without incentives, there is a risk that municipal governments may not regard any of the above recommendations as worth their time or investment. With that in mind, Lab participants debated several options that would encourage partnership and promote excellence. Many agreed that nothing motivates like a prize competition, which the Milken Institute PFIN Council could coordinate with interested partners. Working group conversations at the Lab eagerly outlined the rudiments of an award recognizing cooperation and coordination among government agencies.

Most of these conversations concluded that a city or county government should spearhead any team applying for such a prize. But the roster should also include representatives from regional agencies such as a utility or transportation authority, as well as a non-government organization (NGO) to encourage each coalition to articulate social and/

or environmental impacts on its community. Some Lab participants also urged including representatives from the private sector because a region's large private employers can likely contribute robust, relevant data. Adding investors to a team might also be a boon.

To qualify for the prize, an entry would need to identify the region's most important environmental and social governance goals, and provide an implementation plan outlining how the coalition would address those risks. Since not all regions have the same capacity or resources, there must be differentiated standards based on economic conditions (based on either median income or GDP ranges). Teams representative of higher-income areas should be judged to a higher standard given their available resources.

Figure 8: Best Practice Examples of Municipal Innovation



Sources: *The Port of Cincinnati* (2022)⁶⁵; *San Francisco Public Utility Commission* (2022)⁶⁶

A good model for such an award might be Bond Buyer’s annual Deal of the Year, which recognizes innovatively structured issuances that address a community’s full diversity of needs.⁶⁷ Another example to emulate might be the Leadership in Energy and Environmental Design (LEED) program, which has tiers of accreditation, ranging from basic certification to platinum status. Announcing the recipients at high-profile events like the Bond Buyers Dinner or Milken Institute Public Finance Forum would bring attention to the winning entries and the importance of cooperation and coordination within the municipal bond space overall. Moreover, as the award becomes established over time, a leadership council of past winners would highlight a new class of sustainability experts who could share best practices and lessons learned during the process. Creating such a repository of information helps all stakeholders improve their methods and is critical to moving the market forward.

Figure 9: Sample Prize-Qualifying Criteria

Prize-Qualifying Criteria	
Team member representatives must include:	City/county government, regional agencies, NGO, private sector (extra points for investors)
Submission Criteria	<ul style="list-style-type: none"> • E, S, and G factors material to the region • Regional implementation plan
Tiered Standards	Based on median income or GDP ranges
Certification Scheme	Awarded to regional centers that made progress
Leadership Council	Winning regional team leader inducted to participate in invite-only events

Source: Milken Institute (2022)

Next Steps:

- **Define competition guidelines, including team makeup, timing, scoring, and awards.**
- **Promote the opportunity for participation through relevant network channels and encourage regional groups to form as an impetus for participation.**
- **Organize an inaugural award ceremony at a high-profile event to excite participants.**

CONCLUSION

Sustainable debt investments and the market for ESG data continue to expand. But without effective measuring and tracking of the ESG risks specific to each community, there is a limit to that growth. What's unmeasured can't be managed. If the municipal bond market is to capitalize on this momentum, it will require coordinated efforts from all stakeholders to standardize data about material risks and look at ways to "upstream" ESG risk detection by embedding these concerns into existing government practices on budgeting, asset management, planning, and procurement.

Developing a centralized data repository and sector-specific guidelines for municipal issuers is the first step toward increased transparency. Since the risks and metrics material to an issuer are inherently dependent on geography, establishing regional best practice centers will have the most utility. Doing so will provide issuers with a tailored set of local-level best practices and facilitate data aggregation and standardization among issuers within the same region. And an annual prize recognizing cooperation and coordination among agencies will also encourage friendly competition in the sustainable issuance sphere. The environmental and financial health of municipalities may depend on how well communities adopt all of these recommendations.



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