

Center for American Progress



# A Framework for Strengthening Municipal Market Green Bond Labeling

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# Introduction and summary

Climate change is an existential threat to humanity. According to the Intergovernmental Panel on Climate Change, human activity has already caused global temperatures to rise by 1 degree Celsius compared with preindustrial levels.<sup>1</sup> Rising global average temperatures will cause more devastating storms, floods, and fires as well as rising sea levels. Taken together, these climatic changes will reduce economic productivity,<sup>2</sup> cause large-scale and politically destabilizing migration,<sup>3</sup> and threaten food supplies,<sup>4</sup> among other serious challenges. Unfortunately, the world is on track to surpass 1.5 degrees Celsius above preindustrial levels by as early as 2030.<sup>5</sup> The world must rapidly decarbonize every facet of economic activity and daily life to avoid the worst effects of climate change; there is no time to waste.

Rewiring the global economy to become sustainable and circular won't happen on its own.<sup>6</sup> Governments, businesses, community groups, and households need access to capital to implement the sustainable and climate-resilient infrastructure projects necessary to eliminate local pollution and carbon emissions as well as to recycle productive inputs. This underscores the need to pursue green finance—defined broadly as any investing that supports projects and activities that provide clear environmental benefits.

The logic of green finance is straightforward: Labeling investment products that meet certain criteria as “green” allows investors to effectively channel capital toward their progressive environmental, social, and governance (ESG) goals.<sup>7</sup> Green finance is an attempt to leverage the structures and efficiency of capital markets to mitigate and adapt to climate change, as well as to provide other environmental and environmental justice benefits as quickly as possible. The green bond market has grown rapidly in recent years. According to data compiled by the Climate Bond Initiative (CBI), municipal green bond issuances grew by 450 percent from roughly \$2 billion in 2014 to almost \$9 billion in 2019.<sup>8</sup>

**TABLE 1**  
**Growth of U.S. municipal green bond issuances from 2013 to 2019**

Year	Issuance volume	Count
2013	100M	1
2014	1.9B	13
2015	4.2B	35
2016	7.7B	48
2017	11.5B	59
2018	3.8B	51
2019	9B	91

Source: Milken Institute, "Growing the US Green Bond Market: Lab 2" (Santa Monica, CA: 2020), available at [https://milkeninstitute.org/sites/default/files/reports-pdf/ML\\_GreenBondsLab\\_FINAL%20WEB.pdf](https://milkeninstitute.org/sites/default/files/reports-pdf/ML_GreenBondsLab_FINAL%20WEB.pdf).

However, the extent to which green finance achieves climate sustainability and environmental justice goals rests on the integrity and robustness of the standards used to determine which securities qualify as green, as well as on the underlying data and methodologies used to calculate whether the investment meets the standard. Unfortunately, the current approach to labeling financial products suffers from two problems. First, not all green bond frameworks include environmental performance standards grounded in climate science or environmental justice performance standards developed through robust community input. In fact, many bond issuances are labeled green based either on general environmental principles or bespoke frameworks that were developed by the issuers themselves. This de facto self-certification is problematic because it is difficult for investors to sort through one-off frameworks to determine their efficacy or to compare one green bond with another. Additionally, frameworks that lack a basis in climate science are more likely to label as green projects and programs that will have little meaningful impact on climate change and environmental justice.

Second, the current approach to green bond labeling is binary: Either a bond qualifies as green, or it doesn't. This binary approach to securities labeling fails to differentiate offerings that will support truly exceptional projects from those that will result in only modest environmental benefits. As a result, investors intent on addressing climate change are as likely to direct capital to projects with little merit as to those that will make meaningful contributions to a sustainable future. A green ratings hierarchy would capture the true range of sustainable debt offerings. Moreover, the hierarchy could serve as an incentive for issuers to design bond



offerings that support financed activities that are more aggressively sustainable in order to secure a higher ranking and, by extension, the interest of investors with high environmental standards.

**Green bonds:** Moody's Investors Service defines green bonds as "fixed-income securities, both taxable and tax-exempt, that raise capital for use in financing or refinancing projects and or activities with specific climate or environmental sustainability purposes."<sup>9</sup>

**Greenwashing:** According to Investopedia, greenwashing is an "attempt to capitalize on the growing demand for environmentally sound products" that is more concerned with sustainable branding and public perception than substantive sustainability.<sup>10</sup>

This report will review the strengths and weaknesses of several of the most common green bond labeling frameworks, including the International Capital Markets Association's (ICMA) Green Bond Principles (GBPs); the Climate Bond Initiative's (CBI) Climate Bond Standards and associated sector criteria; the European Union's Green Bond Standard and associated economic activity taxonomy and Technical Screening Criteria (TSC); and finally, Moody's Investors Service (Moody's) Green Bond Assessment. The review will highlight the importance of grounding any labeling framework in climate science and environmental justice priorities.

Next, the report calls for adding a hierarchical ranking to green bond labeling to differentiate offerings based on the degree of expected environmental performance and the quality of issuer governance, financial controls, and reporting, as well as to provide one possible approach for ranking bonds. Adding a ranking to green bonds would reduce greenwashing, provide retail investors with additional information to make informed decisions, and allow institutional investors to design more sophisticated portfolios and products.

Finally, the report profiles three recent green municipal bond issuances and evaluates them against the proposed ranking framework. The three projects include an issuance by the New York State Energy Research and Development Authority (NYSERDA) to finance the installation of residential solar panel systems and energy-efficient appliances; an issuance by the District of Columbia Water and Sewer Authority (D.C. Water) for capital projects associated with the D.C. Clean Rivers Project; and a parking deck at Salem State University financed by an issuance of the Massachusetts State College Building Authority (MSCBA).

# Green bond frameworks

There are many green bond labeling frameworks, and each has unique elements. In general, the different elements can be grouped into two broad categories: financed activities and governance, financial controls, and reporting. Financed activities are the infrastructure projects, programs, and other activities that bond proceeds will support. The issuer must clearly state how the bond proceeds will address one or more of the challenges of climate change. Importantly, green bond labeling is based on the activities that the proceeds of the issuance will finance and not the underlying characteristics of the issuer. This means that a company or government that otherwise engages in activities that are considered unsustainable can nonetheless successfully and legitimately issue a green bond provided that the proceeds will be used to finance projects and programs that address climate change.

The vetting of green bonds does not stop with a description of how the issuer intends to use the proceeds. Simply having green intentions is not enough. The issuer must also provide details on its organizational structure, process for selecting projects, financial controls, and ongoing reporting, including performance metrics tied to the financed activities, among other elements. Green bonds are not general organizational financing—sometimes called balance sheet financing. This means that the proceeds from a green bond issuance are not comingled with general organizational revenues and do not flow to basic operational expenditures. Organizational governance, financial controls, and reporting are the elements that ensure the integrity and credibility of the green bond market. Without strong organizational and financial governance, potential investors cannot have confidence that their money will actually address climate change. Investing involves a high degree of trust. Moreover, strong organizational governance improves the “prospects for achieving the stated environmental objectives.”<sup>11</sup>

This section reviews the strengths and weaknesses of ICMA’s Green Bond Principles, CBI’s Climate Bond Standards and associated sector criteria, the European Union’s Green Bond Standard, and the Moody’s Green Bond Assessment.

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## International Capital Markets Association

The ICMA's Green Bond Principles is one of the most commonly used frameworks for labeling green bonds. According to Moody's, "[G]reen bonds have generally been issued pursuant to a set of voluntary guidelines or framework known as the Green Bond Principles."<sup>12</sup> ICMA states that its GBPs "are voluntary process guidelines that recommend transparency and disclosure and promote integrity in the development of the Green Bond market."<sup>13</sup>

The GBPs have four core components: use of proceeds, process for project evaluation and selection, management of proceeds, and reporting. The GBPs recognize that financed activities will advance one of five broad environmental objectives—mitigation, adaptation, natural resource conservation, biodiversity conservation, and pollution prevention and control. ICMA states in its Guidance Handbook that financed activities will typically fall within one or more of 10 project categories that range from renewable energy to green buildings. According to ICMA, the list of 10 project categories is a "non-exhaustive list of eligible Green Project categories," and financed activities may touch on "several categories or fall into categories that are not explicitly listed by the GBP."<sup>14</sup> In this way, the environmental objectives and project categories are highly flexible and allow issuers to make a case to potential investors for why their issuance will in some way address climate change and sustainability. Given the complexity of modern economic activities, this flexibility is a welcome feature of the GBPs.

However, the most important feature—and greatest weakness—of the GBPs is that they focus on process but do not set environmental performance standards of any kind. ICMA notes in its Guidance Handbook that when it comes to the expected environmental performance of financed activities, issuers are free to "reference existing standards and taxonomies ... and/or develop their own framework."<sup>15</sup> This amounts to a form of self-certification. Under the GBPs, an issuer could develop its own sustainability framework with weak goals and qualitative criteria untethered to climate science and still label the bond as green. Even when the financed activities will provide de minimis environmental benefits, a bond is considered "in alignment" with the GBPs and eligible for a green label provided that the issuer has followed the procedural requirements set forth by ICMA.

Because the GBPs lack environmental performance standards, they are ripe for issuers to engage in greenwashing. On the other side of the transaction, a fund may advertise that it only invests in securities that align with the GBPs. Yet in

the absence of performance standards, it isn't clear what this would mean for the environment. And while fund managers and retail investors alike have the freedom to scrub individual issuances—and always have—the reality is that people use the shortcuts that labels provide. That is why labels exist.

Ideally, the green labeling framework that becomes the market standard-bearer should be grounded in rigorous climate science and environmental justice priorities. For example, the Equitable and Just National Climate Platform—co-authored by environmental justice and national environmental groups, including the Center for American Progress—identifies priorities such as addressing the harmful cumulative impacts of pollution concentrated historically in low-income communities and communities of color, improving access to pollution-free energy and transportation options, and building resilient affordable housing and sustainable infrastructure.<sup>16</sup> Ultimately, environmental justice goals for a municipal bond should be rooted in the needs and priorities of the community and developed with input from local environmental justice advocates and community groups.

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## The European Union

In March 2018, the European Commission—the executive branch of the European Union—published a plan to help “reorient capital flows towards sustainable investment in order to achieve sustainable and inclusive growth” in line with the 2015 Paris Agreement.<sup>17</sup> Importantly, the commission recognized from the outset that shifting capital flows “has to be underpinned by a shared understanding of what ‘sustainable’ means.”<sup>18</sup> To this end, the commission started developing a detailed classification system of sustainable economic activities known as the EU Taxonomy. Unlike ICMA’s framework, which is built around broad environmental goals, the commission took the position that “clear guidance on activities qualifying as contributing to climate change mitigation and adaptation, environmental and social objectives will help inform investors” and that the taxonomy must provide “detailed information on the relevant sectors and activities, based on screening criteria, thresholds and metrics.”<sup>19</sup>

The EU Taxonomy is based on the Statistical Classification of Economic Activities in the European Community; this mouthful is commonly referred to as NACE, an acronym formed by the classification name in French. The NACE system has four levels of increasingly granular classification of economic activities. An essential



element of the EU Taxonomy is the Technical Screening Criteria (TSC) for each category of economic activity. In November 2020, the European Commission published in draft form its first set of TSC for various categories of economic activity.

The TSC contain three elements: an underlying rationale for how an activity will address climate change; a description of the metric used to measure performance; and a threshold—either qualitative or quantitative—that the activity must meet in order to qualify as sustainable. In short, the TSC are how the European Commission translates its environmental goals into specific, measurable environmental performance standards for actions that issuers may undertake to advance sustainable economic activities. Importantly, the TSC have been developed to “require a substantial improvement in environmental performance compared with ... the industry average, but at the same time avoid environmentally harmful lock-in effects, including carbon-intensive lock-in effects during the economic life of the funded economic activity.”<sup>20</sup> Because the TSC are grounded in climate science and are in line with the 2015 Paris Agreement, they avoid the pitfalls of self-certification and dramatically reduce the possibility of greenwashing.

Proceeds from a green bond must finance projects or programs that advance at least one of six EU environmental objectives, including climate change mitigation; climate change adaptation; sustainable use and protection of water and marine resources; transition to a circular economy; pollution prevention and control; and protection and restoration of biodiversity and ecosystems.<sup>21</sup> In addition, the financed activities must “not significantly harm any of these objectives.”<sup>22</sup>

The TSC translate these goals into specific sustainable actions. For instance, the draft TSC establish an emissions threshold for transit vehicles. If a public transportation authority wanted to finance the acquisition of new buses, under the EU Taxonomy and draft TSC for public transport, those vehicles would have to emit not more than 95 grams of carbon dioxide (CO<sub>2</sub>) equivalents per passenger kilometer.<sup>23</sup> In addition, the draft TSC mandate that the authority comply with all applicable regulations for the proper handling and disposal of any hazardous materials associated with vehicle maintenance as well as an “end-of-life of vehicles” directive, which sets standards for the dismantling and recycling of vehicle components, among other requirements.<sup>24</sup>

For intercity passenger train locomotives, the EU Taxonomy and draft TSC set an emissions threshold of not more than 50 grams of CO<sub>2</sub> equivalents per passenger kilometer before 2025 and zero emissions for any new locomotives

built thereafter.<sup>25</sup> The same emissions threshold applies to passenger cars and light commercial vehicles. Because low- and no-emission buses are a less well-developed technology than zero-emission passenger cars and light commercial vehicles, the taxonomy adopts a different emissions threshold. In this way, the taxonomy and related draft TSC are tailored to the technological capacity of each economic activity to address climate change. Moreover, the taxonomy and TSC are not static. As science and technology advance, the commission clearly states that “screening criteria that are currently high but will ratchet down over time.”<sup>26</sup>

The scientific foundation, alignment with the 2015 Paris Agreement, and substantive environmental performance criteria of the EU Taxonomy make it a superior green bond labeling framework when compared with ICMA’s Green Bond Principles.

One weakness of the EU Taxonomy, however, is that it does not yet incorporate social and environmental justice objectives within its TSC. Currently, the taxonomy requires that financed activities do no significant harm (DNSH) to the other five environmental objectives.<sup>27</sup> In effect, issuers are responsible for ensuring that the proposed financed activities will not produce substantial environmental harms. After all, reducing carbon emissions or building climate-resilient infrastructure cannot be considered progress if it simultaneously results in significant ecological damage. Yet the DNSH requirement fails to adequately incorporate consideration of potential social harms. And the TSC do not include performance criteria for projects and programs that would produce social and environmental justice benefits tied to addressing climate change. To its credit, the European Union recognizes the limitations of the current taxonomy. In a recent report, the commission states: “[A] fully realized Taxonomy should incorporate the following additional dimensions ... [s]ocial objectives, in addition to environmental objectives, to identify substantial contributions in addition to minimum safeguards.”<sup>28</sup>

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## Climate Bond Initiative

The Climate Bond Initiative’s Climate Bond Standard and Certification Scheme and related Sector Eligibility Criteria were first developed in 2014 and helped to shape the EU Taxonomy. As a result, CBI’s Climate Bond Standard and Sector Eligibility Criteria are similar to the taxonomy in several ways.

First, the CBI's Sector Eligibility Criteria are "science-based" and designed to identify projects and assets that are "consistent with achieving the goals of the Paris Climate Agreement and the rapid transition to a low-carbon & climate resilient future."<sup>29</sup>

Second, the Sector Eligibility Criteria include metrics and thresholds for different economic activities. According to the CBI, the criteria set "climate change benchmarks for that sector that are used to screen assets and capital projects so that only those that have climate integrity, either through their contribution to climate mitigation, and/or to adaptation and resilience to climate change, will be certified."<sup>30</sup>

Third, the CBI's Climate Bond Standard includes robust requirements related to governance, financial controls, and both pre- and post-issuance disclosures. The issuer must document its environmental goals and overall project rationale; the intended use of proceeds; the project selection process; how bond proceeds will be managed, tracked, and allocated; and implementation plan and environmental performance, among many other elements.<sup>31</sup>

Like the EU Taxonomy, many of CBI's Sector Eligibility Criteria include quantitative environmental performance standards. For instance, within the building sector, the Sector Eligibility Criteria require buildings to have declining emissions per square meter over time, reaching zero emissions in 2050.<sup>32</sup> The baseline performance and rate of decline is unique to each region to account for large differences in climate zones. The building sector criteria work by first establishing an energy performance baseline for a given region by measuring the energy use of the top 15 percent of residential and commercial buildings. Once this baseline has been established, CBI requires building emissions to decline on a straight-line basis, reaching zero in 2050.<sup>33</sup>

For some sectors, CBI's Standards and Eligibility Criteria combine quantitative thresholds and qualitative assessments. For instance, within the water infrastructure sector—which includes everything from drinking water and wastewater treatment to flood and drought management, mining, and manufacturing,<sup>34</sup> among other economic activities—CBI's Sector Eligibility Criteria establish both quantitative greenhouse gas (GHG) mitigation and qualitative climate change adaptation and resilience requirements.<sup>35</sup> With respect to mitigation, the issuer must demonstrate that the financed activities will either produce "no net GHG emissions impact" or result in a "negative net GHG emissions impact" when compared with business as usual.<sup>36</sup> Moreover, the

criteria suggest several acceptable methodologies for calculating GHG emissions and require the issuer to describe their calculations and assumptions, project emissions over the life of the facility, and credibly track emissions over time.<sup>37</sup>

To meet the adaptation and resilience requirements for the water infrastructure sector, the issuer must conduct CBI's vulnerability assessment and present an adaptation plan. The assessment is intended to determine how the issuer will deal with water allocation, governance, and technical diagnostics, which will determine "how water will be shared, negotiated, governed and allocated among different stakeholders."<sup>38</sup>

As the building and water sector examples show, CBI's Climate Bond Standard and Sector Eligibility Criteria are a rigorous and science-based standard in line with the Paris Agreement. Like the EU Taxonomy, CBI's standards ensure that bonds that receive a green label will meaningfully address the challenge of climate change.

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## Moody's Investors Service

In 2016, Moody's Investors Service launched a Green Bond Assessment (GBA) methodology that provides a hierarchical ranking of green bonds on a scale from 5 (poor) to 1 (excellent).<sup>39</sup> The GBA ranking "provides an evaluation of the bond issuer's management, administration, allocation of proceeds to and reporting on environmental projects financed with the proceeds derived from green bond offering." Importantly, the rating is not a measure of expected environmental performance, but rather a judgement about governance and the "prospects for achieving the stated environmental objectives" outlined in the bond offering.<sup>40</sup> In general, the higher the ranking, the greater the likelihood the issuance will achieve its stated objectives regardless of the degree of environmental benefit.

According to Moody's, a driving force behind the creation of the ranking system was "variations around the interpretation and application of the Green Bond Principles, including the potential use of and reliance upon internal or external assurances in the form of second-party reviews and consultation, audits and third-party certifications which are recommended but not mandated by the Green Bond Principles." In other words, the degree to which issuers may engage in self-certification based on weak governance, financial controls, and reporting undermines the integrity of the green bond market. The Moody's ranking system is intended as a corrective to this market deficiency.

The Moody's Green Bond Assessment ranking is based on five weighted factors: 40 percent for use of proceeds; 20 percent for ongoing reporting; 15 percent for organization; 15 percent for management of proceeds; and 10 percent for the disclosure on the use of proceeds.<sup>41</sup> A bond's final ranking depends on how the issuer scores on the assessment questions tied to each factor. For instance, within the organizational factor, Moody's reviews the issuer's "structure and decision-making process, its process for determining the eligibility of projects, as well as its framework for setting impact goals, measuring results relative to specific project-level objectives, and impact reporting."<sup>42</sup> The score for the use of proceeds factor is based on the share of bond proceeds dedicated to financing sustainable projects and programs. An issuer that devotes 95 percent or more of the bond proceeds receives a lower (i.e., better) score than an issuer that will devote less of the proceeds to sustainable projects and programs.

A ranking score of GB1 indicates that the "[g]reen bond issuer has adopted an excellent approach to manage, administer, allocate proceeds to and report on environmental projects financed with proceeds derived from green bond offerings."<sup>43</sup> Additionally, the GB1 ranking indicates that "[p]rospects for achieving stated environmental objectives are excellent."<sup>44</sup> Conversely, a GB5 ranking indicates that the issuer has adopted poor governance and controls and that "[p]rospects for achieving stated environmental objectives are poor."<sup>45</sup>

In October 2020, Moody's decided to terminate its Green Bond Assessment program.<sup>46</sup> Overall, the ranking methodology was a valuable contribution to the green bond market and demonstrated the importance of governance to the integrity of the market and the likelihood that an issuer would accomplish its stated goals. However, in the absence of a consideration of the degree of expected environmental benefit as well as social and environmental justice benefits, the ranking fell short. A more robust green bond ranking framework that accounts for governance as well as the degree of expected social and environmental performance would further strengthen the green bond market.

### Moody's green bond ranking scale

**GB1: Excellent**

**GB2: Very good**

**GB3: Good**

**GB4: Fair**

**GB5: Poor**



# Ranking green bonds

The goal of green bond labeling is to discern meaningful differences among investment opportunities, thereby empowering investors to effectively direct capital toward ecologically and socially sustainable projects and programs.<sup>47</sup> Of course, green bond labeling is not the only tool available to accomplish environmental and social goals. Other strategies such as disclosure of financed emissions, fair trade certification protocols, and fossil fuel divestment campaigns are helping to advance ESG goals as well.

Given the incredible diversity of debt offerings that purport to advance climate and environmental justice projects, green bond labels have an important role to play in summarizing and differentiating these offerings. Unfortunately, existing frameworks offer overly broad and binary “green” or “not green” labels that fail to distinguish the degree of expected environmental or social improvement. Adding an environmental performance ranking to green bond labels would strengthen the municipal bond market by accurately categorizing different offerings and reducing the ability of issuers to engage in greenwashing.

The challenge with any hierarchy is that it must be flexible enough to accommodate the enormous diversity of climate and environmental justice projects while also providing investors with meaningful, standardized information.<sup>48</sup> This report proposes a ranking system with three levels: bronze, silver, and gold. All bonds must demonstrate that the financed activities will not significantly harm any category of environmental or social performance. Beyond this universal characteristic, bonds are ranked based on four factors: governance, financial controls, and reporting; the breadth of the proposed financed activities; the degree of expected environmental performance; and the scientific basis for the green bond framework used by the issuer. In addition, any bond seeking a ranking must not result in significant harm to any category of environmental or social performance.

One strength of the proposed ranking system is that it does not attempt to set specific environmental or social performance standards for any category of economic activity. Instead, this ranking methodology allows the bond issuer to choose which green bond framework to follow. The caveat is that an issuance intended to achieve minimum environmental regulatory compliance or based on a green bond framework that is not grounded in science and aligned with the Paris Agreement can only achieve a bronze ranking.

Another strength of this approach is that the silver and gold rankings require bond issuers to choose a science-based green bond framework, such as the EU Taxonomy or CBI’s standard. Importantly, these frameworks are evolving, and the environmental performance thresholds will tighten over time in response to technological advances and additional scientific research. Thus, both the underlying green bond frameworks and the hierarchical ranking system proposed in this paper are not static; they will remain at the vanguard of sustainability by evolving along with scientific knowledge and technological advancement.

**Green bond ranking framework**

Bronze	Silver	Gold
Meets minimum regulatory compliance or adherence to framework that is not aligned with the Paris Agreement	Exceeds minimum quantifiable regulatory or framework standard by at least 20 percent or achieves the maximum possible performance—if applicable—in at least one category	Exceeds minimum quantifiable regulatory or framework standard by at least 50 percent or achieves the maximum possible performance—if applicable
Offers a single-purpose issuance	Advances two categories of environmental benefit with at least 10 percent of proceeds dedicated to each environmental category	Advances at least three categories of environmental benefit, including addressing environmental justice, with at least 10 percent of proceeds dedicated to each environmental category
Maintains adequate governance, financial controls, and reporting	Maintains strong governance, financial controls, and reporting	Maintains strong governance, financial controls, and reporting
Does not significantly harm any category of environmental or social benefit	Does not significantly harm any category of environmental or social benefit	Does not significantly harm any category of environmental or social benefit

The first factor relates to the strength of the issuer's governance, financial controls, and reporting. Fortunately, Moody's has already developed an excellent framework for assessing this factor. To receive a bronze rating, an issuer would need to demonstrate governance and controls equivalent to a GB3 or GB4 on the Moody's ranking framework prior to its discontinuation, which corresponds to a governance approach of good and fair, respectively. To receive a silver or gold rating, an issuer would need to demonstrate governance and controls equivalent to GB1 or GB2, which corresponds to a governance approach of excellent or very good. Strong issuer governance is a necessary but not sufficient feature of a green bond ranking framework that is able to both garner investor trust and channel capital to its highest and best environmental use.

The second ranking factor relates to the breadth of the activities financed by the issuance. Climate change is a complex, multifaceted problem that requires investments in mitigation, adaptation, restoration, resource conservation, pollution prevention and control, and environmental justice, among other categories of sustainable activity. The green bond ranking rewards those issuances that address more than one category of sustainable activity. In this way, the ranking treats issuances that make progress on multiple aspects of climate change as inherently more sustainable than those that are narrowly targeted. Single-purpose issuances will receive a bronze ranking. To receive a silver ranking, the issuance will need to address at least two categories of sustainable activity with not less than 10 percent of proceeds flowing to each activity.

To receive a gold ranking, the issuance will need to address at least three sustainability categories, including environmental justice. Research shows that low-income communities and communities of color will bear the brunt of negative social, economic, and public health effects from climate change and environmental pollution.<sup>49</sup> This will include risks from floods, fires, and rising seas as well as an unequal pollution burden and excess heat exposure from outdoor labor during summer months, to name only a few. Importantly, the list of environmental justice-financed activities must be developed through sustained engagement with affected front-line communities.<sup>50</sup> Issuers should take the time to develop meaningful relationships with local community leaders to define the challenges and solutions that will advance environmental justice and redress historical environmental racism.<sup>51</sup> While issuers may have good intentions, they should never simply assume that their project mix will advance the needs of disadvantaged, front-line communities. Determining the most appropriate environmental justice investments can only come through ongoing, respectful collaboration and listening.

In the same way that multipurpose issuances are treated as inherently more sustainable, so too are issuances that incorporate environmental justice. The reason for this choice is a mixture of practical, political, and ethical considerations. Climate change represents the greatest collective action problem in human history. On a practical level, everyone must contribute—and have the ability to contribute—to the wholesale reform of our systems of economic production and resource conservation to ensure a sustainable future for humanity. Similarly, as stated in the Equitable and Just National Climate Platform, “[A]ll people and communities have the right to breathe clean air, live free of dangerous levels of pollution, access healthy food, and share the benefits of a prosperous and vibrant clean economy.”<sup>52</sup> On a political level, any societal response that exacerbates existing sociopolitical and economic cleavages risks destabilizing the political system. And finally, on an ethical level, it is unacceptable to leave behind those individuals and communities with the fewest resources to face the burdens and dangers of climate change alone. In short, equity is a necessary component of a shared sustainable future.

### Buying a way out

Climate change is happening everywhere, but its effects on people will be highly disparate. As raging fires, rising seas, and powerful storms move from gloomy predictions in dusty government reports to terrifying everyday occurrences, people with means are taking extreme measures to ensure their own health, safety, and comfort. Wealthy families are purchasing climate-controlled bunkers, “personalized cooling devices that can be worn like bulletproof vests under clothes,”<sup>53</sup> and contracting with private firefighters to protect luxury properties. These examples may seem like outliers, but they point to the fact that wealthy elites will use every means—including shaping public policy and government expenditures—to their benefit. Moreover, the legacy of segregation and racist policies such as redlining mean that many low-income communities and communities of color have settled in places that are the most vulnerable to flooding, fires, and pollution.<sup>54</sup>

Decisions about where to place and how to finance sea walls, resilient evacuation routes, and pump stations, among many other investment and infrastructure decisions, must be inclusive. To avoid a future of climate apartheid, environmental justice—including deep consultation with affected front-line communities—must be a part of any green financing framework.<sup>55</sup>

Advancing environmental justice and equity involves both procedural and substantive elements. The state of California—though far from perfect on these issues—defines environmental justice as “the fair treatment of people of all races, cultures and income with respect to the development, adoption, implementation and enforcement of environmental laws, regulations and policies.”<sup>56</sup> Environmental justice and equity can take many forms. Environmental justice projects and programs can involve reducing or eliminating disparate pollution burdens; providing access to pollution-free energy and transportation options and resilient affordable housing; creating good jobs in environmental justice communities and equitable access to economic opportunities; providing equal access to natural resources; ensuring healthy communities; and providing access to capital or other resources to disadvantaged or marginalized groups to ensure their full participation in the economic transition to a sustainable future, to name only a few examples. In short, environmental justice is not only a procedural consultation requirement but a mandate to actually improve people’s lives.

The third ranking factor relates to the degree of expected environmental or social performance of the financed activities. This factor applies to those activities that are tied to a quantitative performance metric—either one codified in law or regulation or as part of a green bond labeling framework. Examples of social or environmental justice performance could include the number of affordable and resilient housing units built in disadvantaged communities, the number of jobs created for environmental justice/disadvantaged community members, the amount of pollution reduced or remediated in environmental justice communities, energy bill savings for low-income households, and so on. To receive a bronze ranking, the financed activities need to achieve minimum regulatory compliance or adherence to a labeling framework or set of green principles that are not grounded in climate science. For instance, a bond issuance that would finance projects and activities designed to achieve minimum wastewater effluent limitations or air pollution emissions limitations would qualify for a bronze ranking. Similarly, an issuance that aligned with ICMA’s Green Bond Principles would qualify for a bronze ranking.

To achieve a silver or gold ranking, the financed activities would need to exceed either the regulatory or framework minimum standard. Moreover, the labeling framework must be grounded in climate science and in line with the goals of the Paris Agreement. To achieve a silver ranking, the financed activities must result in a performance improvement that exceeds the regulatory or framework minimum by 25 to 50 percent. For a gold ranking, the performance improvement



must be greater than 50 percent. For instance, the EU Taxonomy and the TSC establish an emissions threshold for transit vehicles of not more than 95 grams of CO2 equivalents per passenger kilometer. For an issuer using the EU Taxonomy, achieving a gold rating would require purchasing buses that either had emissions below 47 grams per passenger kilometer or zero emissions.

For an issuer using the Climate Bonds Sector Eligibility Criteria for buildings, achieving a silver ranking would mean reaching zero emissions by 2044 from the regional energy use baseline, and a gold ranking would mean reaching zero emissions by 2035. CBI's criteria for the water infrastructure sector require, at a minimum, that the financed activities have "no net GHG emissions impact." To receive a silver ranking, the issuer would need to finance projects and activities that resulted in at least a 25 percent reduction in GHG emissions compared with the baseline. And for a gold ranking, the issuer would need to reduce GHG emissions by at least 50 percent. In addition, the issuer would still need to comply with the remaining qualitative requirements.

By focusing on governance, breadth of sustainable activities, and the degree of expected environmental improvement, this ranking framework is flexible enough to accommodate projects and programs across sectors while also clearly differentiating those bond offerings that are grounded in climate science and that will make substantial progress in addressing climate change from those that will deliver de minimis benefits wrapped in a flashy green veneer. Moreover, because the silver and gold levels incorporate science-based frameworks, the hierarchy will evolve along with technology and scientific understanding over time.

# Muni green bond examples

There are three recent green municipal bond issuances that deal with renewable energy generation and efficiency, clean water, and parking, respectively. Each issuance is then evaluated against the proposed green bond ranking framework with an explanation of the ranking determination, including a review of the three main components: governance, breadth of issuance, and expected environmental performance. At first pass, the ranking system may appear relatively easy. Yet as these examples show, achieving a silver or gold ranking is challenging, which is an indication of the efficacy of hierarchical framework to screen for greenwashing.

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## New York State Energy Research and Development Authority

The New York State Energy Research and Development Authority (NYSERDA) is a public benefit corporation established by the state legislature to administer “energy efficiency and renewable energy programs funded by charges imposed on electric and gas ratepayers, proceeds from the auction of carbon allowances, and Federal grants.”<sup>57</sup> The authorizing legislation that created NYSEDA allows it to issue bonds to finance its activities.

NYSERDA runs a program called Green Jobs – Green New York, which was authorized by the state to “promote energy efficiency, energy conservation, and the installation of clean energy technologies; reduce energy consumption and energy costs; [and] reduce greenhouse gas emissions,” among other purposes.<sup>58</sup> To achieve these goals, the authority uses the proceeds from its bond offerings to provide loans to homeowners and small businesses to finance the installation of residential solar electric systems and energy-efficient appliances.<sup>59</sup>

The bonds issued by NYSEDA are “limited obligations of the Authority” and not a general obligation of the state of New York.<sup>60</sup> This means that investors do not have recourse to the tax revenues of the state of New York. Instead, investors are repaid with the payments that NYSEDA receives from its residential solar and energy-efficient appliance loan program.

NYSERDA is permitted to make loans of up to \$25,000 with a repayment term of five, 10, or 15 years and an interest rate between 3.49 and 7.49 percent, depending on the household income of the borrower compared with the median household income in the county of residence.<sup>61</sup> Currently, NYSERDA has 21,440 residential, 54 small business, and seven multifamily energy loans outstanding, with a total balance of more than \$200 million.<sup>62</sup>

The authority has issued multiple series of green bonds to finance its residential solar and energy efficiency program using different labeling frameworks over time. For instance, the “Residential Solar Financing Green Revenue Bonds, Series 2018A” are certified climate bonds based on the standards established by the Climate Bond Initiative.<sup>63</sup> NYSERDA used First Environment Inc. to provide independent verification that the Series 2018A bonds met CBI’s requirements, including the sector criteria for solar energy. For solar installations, the CBI sector criteria require that “a minimum of 85% of electricity generated from the facility is derived from solar energy resources.”<sup>64</sup> Since the residential solar projects financed with NYSERDA loans do not involve any backup fossil fuel generating capacity, as might be the case with a commercial-scale power station, the program easily clears this sector performance threshold.

How would this issuance score on the proposed green bond hierarchy? The Series 2018A bonds use CBI’s science-based standards, which align with the Paris Agreement and involve strong governance, financial controls, and reporting requirements both pre- and post-issuance. Additionally, the issuance supports projects that will achieve the maximum possible performance for the sector set by CBI. Unfortunately, the bonds are a single-purpose issuance, financing solar installations that reduce GHG emissions. For this reason, the Series 2018A bonds would receive a bronze rating.

Recently, the authority has adopted a policy to broaden access to solar financing to lower-income households with poor credit history by “reducing credit score requirements and substituting satisfactory energy bill and mortgage payment history, allowing for a higher level of debt-to-income, and requiring a shorter period for any prior bankruptcies.”<sup>65</sup> These loans are grouped together under the label “Tier 2.”<sup>66</sup>

This policy—assuming these set-aside funds actually reach the intended lower-income beneficiaries—qualifies as environmental justice under the ranking framework and, when combined with the GHG mitigation from the solar panels, would broaden the issuance to be multipurpose, thus qualifying for a silver

ranking. However, the proceeds from the Series 2018A bonds are dedicated exclusively to residential solar loans that meet a higher underwriting standard known as “Tier 1.” According to the official statement for the Series 2018A bonds, “Payments from Tier 2 loans issued to date are not pledged to support the Series 2018A Bonds. Only Payments from Tier 1 Smart Energy Loans and On-Bill Recovery Loans are pledged to support the Series 2018A Bonds.”<sup>67</sup>

In 2019, the authority issued the “Residential Solar and Energy Efficiency Financing Green Revenue Bonds, Series 2019A.” The proceeds from this issuance will support environmental justice Tier 2 loans as well as energy efficiency appliance upgrades.<sup>68</sup> However, the Series 2019A bonds are labeled green using ICMA’s Green Bond Principles, which are not a science-based framework aligned with the Paris Agreement and which have weaker governance, financial controls, and reporting standards. For this reason, the Series 2019A bonds would also receive a bronze ranking.

According to information provided by NYSERDA, the decision to switch from CBI’s science-based framework to ICMA’s principles for the Series 2019A bond was driven by program requirements that do not mandate percentage qualifying levels under CBI’s energy efficiency standard. CBI’s sector criteria require a certain level of energy efficiency improvement for appliances or other building system components. NYSERDA’s energy efficiency program does not require the same level of performance improvement as CBI’s sector criteria. Thus, the authority shifted to the Green Bond Principles because the existing program performance standards meant their bond could still secure a green label. And since the market does not effectively differentiate among science and nonscience-based green labeling conventions, there was no real incentive to pursue the certified climate bond label from CBI.

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## District of Columbia Water and Sewer Authority

The District of Columbia Water and Sewer Authority (D.C. Water) is responsible for distributing drinking water and treating wastewater. Additionally, D.C. Water has certain responsibilities with respect to stormwater management in conjunction with the District Department of Energy and Environment and other departments and administrative units of the government of the District of Columbia.<sup>69</sup>

In the early 2000s, D.C. Water faced multiple federal civil lawsuits alleging that the authority “failed to comply with the District of Columbia Water Quality Standards, effluent limitations and other conditions established in the National Pollution Discharge Elimination System (“NPDES”) Permit” issued to D.C. Water by the U.S. Environmental Protection Agency (EPA).<sup>70</sup> In short, D.C. Water was accused of violating the Clean Water Act.

The federal suits alleged that D.C. Water had failed to properly operate and maintain its systems for the collection, pumping, and treatment of wastewater prior to discharge into local receiving waters, including the Anacostia River and the Potomac River as well as Rock Creek. The District of Columbia operates a wastewater system that also collects stormwater in roughly 30 percent of the city.<sup>71</sup> This is known as a combined sewer system. The problem with combined sewer systems is that they become overwhelmed during heavy rains, leading to discharges of untreated water into local receiving waters in violation of federal law. These untreated discharges are known as combined sewer overflows (CSOs).

In March 2005, D.C. Water signed onto a consent decree—a negotiated settlement that resolves pending civil actions—that required the district to implement a series of projects to all but eliminate CSOs in the future.<sup>72</sup> As part of this decree, including subsequent revisions and amendments, D.C. Water agreed to implement a series of infrastructure improvement projects. Part of this capital program is known as the Clean Rivers Project. According to D.C. Water, the infrastructure improvements will “reduce combined sewer overflow volume annually by 96 percent system-wide.”<sup>73</sup>

From 1996 to 2018, D.C. Water has expended \$1.7 billion on Clean Rivers and other combined sewer projects.<sup>74</sup> From 2019 to 2028, D.C. Water anticipates spending an additional \$1.3 billion on Clean Rivers and other combined sewer projects.<sup>75</sup> D.C. Water issued its first green bond in 2014. This issuance was the first independently certified green bond offered in the United States by any issuer, either municipal or corporate. Prior to Moody’s termination of the Green Bond Assessment rating program, D.C. Water’s green bonds had received a rating of GB1—the highest possible rating for green bond monitoring, disclosure, and management of proceeds, among other governance elements.<sup>76</sup> Similarly, a 2017 D.C. Water green bond received a governance score of E1 from the S&P Global Ratings Green Evaluation program.<sup>77</sup>



D.C. Water issued the green bond “District of Columbia Water and Sewer Authority Public Utility Subordinate Lien Revenue Bonds, Series 2019A (Green Bonds)” to finance a portion of the Clean Rivers Project work. This is the fifth series issued by D.C. Water to fund the Clean Rivers program. According to the bond offering documents, “The DC Clean Rivers Project includes a variety of capital improvement projects throughout the System including three large tunnel systems which will accommodate the storage of combined sewer overflows (“CSOs”) from storm events until they can be conveyed to Blue Plains for treatment.”<sup>78</sup> The Blue Plains facility is the wastewater treatment works for D.C. Water.

Additionally, the Clean Rivers program includes green infrastructure, which is a constructed feature that mimics natural processes: “Green infrastructure technologies capture, infiltrate, treat and reuse polluted stormwater runoff before it enters the sewer system.”<sup>79</sup> To date, D.C. Water has implemented 79 green infrastructure projects principally within the Rock Creek sewershed.<sup>80</sup> Finally, heavy rainstorms not only produce CSOs that pollute local receiving water but also lead to sewer backups that flood local streets as well as area businesses and homes. The Clean Rivers program is designed to address environmental justice by reducing flooding in historically low-income communities and communities of color within the District of Columbia.

If this bond were issued today, how would it score under the proposed green bond hierarchy? The bonds issued for the Clean Rivers program are first and foremost about regulatory compliance. D.C. Water was required to develop a capital plan to meet its obligations under the Clean Water Act and the terms of its negotiated consent decree. Yet the issuance clearly advances multiple climate goals, including environmental justice and adaptation to increasingly severe climate-induced rainstorms. For instance, the bond offering documents note that the tidal gates and tunnels system “has been oversized by 20% and the pumping system is easily expendable to cope with more intense flood in the future (adaptation).”<sup>81</sup> Moreover, as the bond offering statement notes, “When completed, the DC Clean Rivers Project will reduce the combined sewer overflows by at least 96% (exceeding the EPA standard of 85%).”<sup>82</sup> Thus, the issuance is multipurpose, and the environmental performance substantially exceeds the regulatory standard.

However, the bond would only receive a bronze rating because D.C. Water chose to use ICMA’s Green Bond Principles, which are not a science-based framework in alignment with the Paris Agreement. D.C. Water used a firm called Vigeo Eiris to provide the second-party opinion (SPO) on the alignment of the offering with

ICMA's GBPs. According to Vigeo, "no formalized [climate] Framework has been established by the Issuer."<sup>83</sup> Instead, through a number of different public documents, D.C. Water has outlined its sustainability intentions. Vigeo's review determined that the Series 2019A issuance advances the "strategic sustainability priorities and sector issues and contributes to achieving the Issuer's sustainability commitments and targets."<sup>84</sup>

Yet because D.C. Water has not adopted a formalized framework—or relied on an outside third-party framework—that is science-based and in line with the Paris Agreement, it is unclear what it means for them to achieve their "sustainability commitments and targets." For instance, a central component of CBI's water industry sector criteria is a clear modelling of the energy use and GHG emissions of financed activities compared with the baseline. To qualify as a certified climate bond using CBI's science-based standards, D.C. Water would have to demonstrate either level or falling GHG emissions. According to Vigeo, "[W]e have no information regarding the reporting on the carbon footprint of the project (mitigation) nor sufficient information supporting the exhaustiveness and the update of the assumptions/scenarios used to calibrate the climate change adaptation features."<sup>85</sup> This is not a small matter. After all, building the tunnels to capture and treat large volumes of mixed wastewater and stormwater may very well increase D.C. Water's energy use and GHG emissions.<sup>86</sup>

Nearly eliminating CSOs and neighborhood flooding will produce clear environmental and social benefits, but truly addressing climate change requires comprehensive solutions grounded in climate science. The standards embedded in the ranking framework are challenging by design.

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## Massachusetts State College Building Authority

The Massachusetts State College Building Authority (MSCBA) was established by the commonwealth's legislature in 1963. The MSCBA is responsible for the financing, planning, design, construction, and long-term management of residence halls, student activity centers, and other facilities on the nine campuses of the Massachusetts state university system, including Salem State University.<sup>87</sup>

The MSCBA is authorized by law to issue revenue bonds and does not receive an appropriation from the legislature. All debts issued by the MSCBA are limited obligations of the authority that are repaid by student and facility user fees. Since

2008, the MSCBA has completed 18 structures that were certified by Green Business Certification Inc. (GBCI), including six that received a silver-level and 11 that received a gold-level certification.<sup>88</sup> These certifications are part of a broader effort by the MSCBA to advance sustainable buildings.

In 2014, the MSCBA issued “Project Revenue Bonds Series 2014B (Green Bonds)” to finance a new structured parking deck at Salem State University, among other projects. The parking deck includes 725 spaces within a two-bay garage with four supported levels.<sup>89</sup> The MSCBA submitted information about the materials, designs, operational policies, and other elements of the parking deck to the Green Parking Council’s Green Garage Certification Program (GGCP). This certification program has since been absorbed by the GBCI. Today, GGCP has been rebranded as Parksmart.

The Series 2014B issuance was labeled as green based on the bronze rating the parking deck received from GGCP. As part of the issuance process, the MSCBA clearly informed investors through the bond’s official statement and other documentation about the features of the garage and the nature of the GPC certification. The MSCBA delivered the project it promised to investors.

The GGCP/Parksmart rating is based on a scorecard that awards points based on the features of the parking structure. The deck at Salem Sate includes a number of sustainable elements. For instance, more than “30 percent of the materials used to construct the garage were recycled.”<sup>90</sup> The deck includes “five EV charging stations ... to provide EV owners free vehicle charging.”<sup>91</sup> Moreover, “All of the light fixtures in the facility are controlled by occupancy sensors. An additional 50% are controlled by daylight sensors. Only about 6% are always on located on stair towers for passive security.”<sup>92</sup> Additionally, the structure has 37 bicycle parking spaces and 15 spaces reserved for “low-emitting and fuel-efficient vehicles,” as well as a tire pump station.<sup>93</sup>

How would this issuance score on the proposed green bond hierarchy? The original GPC scorecard was developed prior to the Paris Agreement. However, its elements have been substantially retained by GBCI’s Parksmart certification program. If the Series 2014B bonds were issued in 2020, they would receive a bronze rating. The issuance is multipurpose, including both mitigation in the form of electric vehicle charging infrastructure and resource conservation with the use of recycled materials—though it is unclear if the expenditure levels for each category would meet or exceed the 10 percent threshold.

However, the Parksmart scorecard is not a science-based framework aligned with the Paris Agreement, but rather a list of industry best practices. The Parksmart certification program is thorough and clearly a valuable guide for improving the sustainability of parking facilities. However, the scorecard ultimately falls short.

The value of science-based frameworks that align with the Paris Agreement is that they start with the goal of keeping GHG emissions under a specific global limit and work backward to determine performance thresholds for each industry sector. For instance, the Climate Bonds Initiative's Sector Criteria for buildings require that they have zero emissions by 2050, with the rate of emissions decline determined by an assessment of regional building performance in a baseline year. As a result, the rate of decline varies from region to region, but the requirement of zero emissions by midcentury never changes. This is fundamentally different—and more aggressive—than encouraging industry best practices.

More broadly, to understand the contradictions embedded in the idea of green parking facilities, it helps to consider a few of the Parksmart scorecard elements. One of the elements for which the Salem State deck received full points toward its bronze rating is “shared parking.” Shared parking is defined as offering parking to “patrons with offsetting demand peaks.”<sup>94</sup> This is a fancy way of saying that the owner of a parking facility should let anyone who wants to park—typically for a fee—be allowed to. For instance, office workers demand vehicle storage during weekday business hours. By comparison, diners demand space on nights and weekends. A surface lot or structured deck can maximize its use by allowing both sets of drivers to park.

Shared parking is considered a green operational practice because it reduces the total amount of parking needed in a given area when compared with the alternative of building facilities for each set of unique users (i.e., one garage for office workers and a separate garage for diners). This concept of use efficiency is fine as far as it goes, but it is essential to remember that regardless of whether or not a given area has one parking facility or more, car storage infrastructure is inherently supportive of driving. And transportation is now the largest source of GHG emissions in the United States.<sup>95</sup> Stated differently, investments that make it easier to drive should be treated as carbon infrastructure.

The Parksmart program rewards applicants with six points for using a shared parking model. This is the same number of points as installing electric vehicle charging stations, which is a confounding scoring choice for two reasons. First,

a vehicle trip made in an internal combustion engine vehicle pollutes the same amount regardless of the number of parking decks in a given area. Second, simply because a parking deck operator chooses to allow shared parking is not a guarantee that additional parking will not be added to a given area. In fact, local regulations often require parking regardless of the operational choices of incumbent lots and decks, resulting in an overbuilt sector.<sup>96</sup> Parksmart rewards applicants for shared parking on the assumption that this choice results in resource efficiency even though there is scant evidence to suggest any such efficiency results are obtained in the real world.

Additionally, the Parksmart assessment rewards applicants six points for charging a fee to park. The reason for rewarding applicants for charging a fee is simple: “Charging the true cost of parking for patrons is perhaps the most sustainable action a parking facility can take.”<sup>97</sup> The reason is that “[u]npriced parking is not really free: consumers ultimately bear parking costs through higher taxes and retail prices, and reduced wages and benefits.”<sup>98</sup> Unfortunately, the Parksmart assessment score is binary for the pricing element, rewarding applicants the full six points if they charge for parking without differentiating fee regimes. This matters because charging a flat annual fee raises revenue but does not reduce parking demand—and, by extension, driving and GHG emissions—the same as charging for each individual parking session.<sup>99</sup> According to its application, the Salem State parking deck charges flat fees for year and semester passes.<sup>100</sup>

The MSCBA points out that the structured deck at Salem State replaced several surface lots and was not new parking capacity. Moreover, the consolidation of surface parking lots into a deck reduced some intersection congestion at campus access points and allowed the university to build additional student and educational facilities, making the campus more walkable.<sup>101</sup> These positive secondary effects of building the deck are fair and should be taken into consideration when judging the overall sustainability of the facility.

Yet they must be weighed against the main secondary effect: driving and parking of internal combustion engine vehicles. In an age still dominated by gas-powered cars, having the greenest parking deck is a bit like having the greenest oil derrick. The idea of sustainability only remains coherent when assessing the facility in and of itself. Addressing climate change demands consideration of the downstream effects of financed activities. And the downstream effect of a parking deck is driving and GHG emissions.



# Conclusion

The green bond market is growing rapidly. Investor demand for sustainable securities has attracted the attention of bond issuers, including state and local governments. Yet in the absence of environmental performance and governance standards, the green finance movement risks becoming an exercise in marketing gloss and greenwashing. The proposed green bond ranking framework would strengthen sustainable finance by providing investors with the information necessary to ensure that capital flows to the most sustainable and transformative projects and programs. Moreover, because the silver and gold rankings incorporate existing science-based labeling frameworks, the hierarchy will evolve over time as these underlying frameworks are strengthened in response to technological advances and additional scientific research. Thus, the ranking does not represent a static understanding of what constitutes the vanguard of sustainability at one point in time, but rather a fluid measure that will continue to evolve.

Ideally, widespread adoption of the proposed framework would push issuers to design debt offerings to achieve a higher ranking with greater climate and environmental justice benefits than would otherwise occur under the current binary labeling approach.

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