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Washington Business Dynamics

Green Bonds, Sustainable Infrastructure Investment, and Climate Financing

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May 2022

Introduction

The United Nations and other international bodies continue to issue dire warnings about the detrimental global impacts of climate change and rising temperatures. Meanwhile, capital investment and mobilization of finance to address the imminent crisis continues to lag. That is, money to tackle the pressing challenges facing the world — food security, water scarcity, quality infrastructure, climate change-driven displacement, and the creation of well-paying, sustainable jobs, among others. The World Economic Forum and the International Monetary Fund estimate there remains a $2-4 trillion annual funding shortfall to achieving the Sustainable Development Goals (SDGs), all of which are impacted by the global environmental crisis. Likewise, the G20's Global Infrastructure Hub forecasts a $15 trillion gap between projected investment and the amount required to provide adequate global infrastructure by 2040.

What has become more evident in recent years is that funding committed by governments and multilateral organizations — at current levels and generated via traditional mechanisms like tax revenues and public debt spending – is simply not enough to address these immense challenges. Governments around the world, multilateral organizations, the private sector, and everyday citizens — at least those with investable income — must be a part of the solution and work to proactively generate the financial resources to not only save the planet, but create a more sound, equitable, and lucrative global economy for all.

One tool is the **green bond** — a means for governments and private sector companies to procure financing to specifically invest in key environmental, sustainability, and climate-related projects.

What are Green Bonds?

Bonds are a common investment instrument, familiar to even passing investors and observers of international economics. A fixed-income commodity, bonds are a favorite of national and sub-national governments around the world. But they are also a popular source of financing among private enterprises, too. **When a government or a company finds itself in need of cash it can spend on priorities — like building a new highway or expanding a delivery fleet to service customers — they often turn to bonds as a simple means to attract the requisite funding.** Meanwhile, investors see bonds as virtually risk free because they are confident the government will honor its commitment to repay the debt.

Governments around the world, especially municipal governments, issue bonds to fund their operations and special projects, like infrastructure and other capital projects, and tend to garner significant interest from the international investment markets. There is even a history of "war bonds": The United States issued its first Defense Saving Bonds in 1941 to help fund its military operations.

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Investors, both institutional and individual, find bonds an attractive landing place for their money because they will receive back not only their principle after a predetermined amount of time, but also a profit in the form of interest. This certainty of repayment, plus a premium, albeit small in many cases, is often a draw for investors who want to avoid ever-changing geopolitical and economic variables that can drastically impact the performance of corporate stocks.

The United States Treasury Bonds are one of the most popular investments for Americans and non-Americans, as they are seen as a "premier safe asset" around the world. Often issued as a long-term commodity — not maturing for 10, 20, or 30 years — bonds are critical to the U.S. Government's ability to invest in projects.

Green bonds function in precisely the same manner as traditional bonds with one crucial difference — they raise funds to finance projects that have a positive environmental impact. For example, a municipal green bond aimed at enhancing citywide mass transit might seek to finance a fleet of electric buses, or it may even explore alternative options like electric rail. Just like a classic bond, the borrower will then make the investment, with the promise of paying back investors in the future. Often, with large capital investments like those in municipal infrastructure, the borrower will pay back the principle, with interest, by some combination of increasing taxes, charging user fees, and, ideally, through long-term costs savings — particularly as it becomes clear that renewables and sustainable investments are cheaper over time.

What does the Green Bond market look like today?

The World Bank released the first green bond in 2008. In 2010, the World Bank's sister institution, the International Finance Corporation (IFC), followed suit and soon led green bond market when they oversaw two separate $1B issuances in 2013.

Since the World Bank issued its first green bond, demand for these commodities has grown exponentially. In just the last ten years, estimates show a jump from $4.2B in 2012 to approximately $300B in 2020. This trajectory follows the international trend of investors, companies, and governments emphasizing environmental and climate considerations in how they spend money and plan for the future. Data from recent years indicates the vast majority of green bond issuance emanating from the United States, Asia, and Europe, with the U.S. accounting for the largest financial share of past and current green bonds. Europeans have proved to be the savviest in systematizing a strong green bond market by ensuring the EU plays a leading role in raising funds and spearheading investment.

Some observers are already projecting that 2022 may be the year global sales of green bonds officially hit the $1 trillion mark. More than half of sales are from private sector companies, while national and sub-national governments account for approximately 30 percent, and international financial institutions and development banks issue about 1 in every 5 green bonds. Some of the world's most recognizable brands and largest cities have contributed to the growth and popularity in green bonds as awareness and confidence in the commodity increases among all investor groups.

Examples of innovative and successful green bonds in recent years include:

Apple

The global technology provider issued three green bonds between 2016 and 2019, totaling approximately $4.7 billion to invest in new materials and processes that shrink the organization's carbon footprint. One of the key successes has been to develop new technologies that are environmentally friendly, like a new aluminum smelting process that does not create any direct carbon output. Apple's use of aluminum produced through this cleaner process in new iPhones and the popular MacBook has contributed to the company's 70 percent decrease in carbon emissions. Hundreds of millions of dollars raised by Apple through its green bonds have also supported clean energy projects around the world, including wind turbines to power their data centers and help suppliers shift to clean power.

City of Cape Town, South Africa

Cape Town, South Africa issued its first green bond in 2017 amidst a water and environmental crisis in the city. The bond issuance raised $76 million and the city's government paid for and refinanced key infrastructure projects across the municipality. Specifically, city leadership addressed concerns over water shortages and the drought due to inadequate rainfall in the

preceding years. This included large investments in new water metering technologies, rehabilitation of key coastal areas to protect potable water resources, and more robust sewage treatment capabilities. The city also used green bond funding to finance a strategic investment in clean transportation — a fleet of electric buses for the city's public transit system. Cape Town's bonds are set to mature in 2027, ten years after issuance.

Inter-American Development Bank / IDB Invest

In early-2021, the Inter-American Development Bank, through its private sector investment arm, IDB Invest, launched a new Sustainable Debt Framework initiative. Under the framework, IDB Invest has issued several investment opportunities on environmental and climate challenges, including a "Decarbonization Bond" issuance in October 2021 valued at just under $50 million. The funds raised are earmarked for distribution to clean energy and water conservation projects. For example, the funds support an IDB project in Chile to shift from fossil fuel power generation to sustainable energy platforms like wind power. Projections indicate the change could reduce greenhouse gas outputs by nearly 2,500 tons for each coal-fired or geothermal power plant shuttered in favor of wind-generated power.

Green bonds have become an increasingly popular destination for investors' money over the past decade, with individuals and organizations seeking safe and effective places to put their funds to work. Even with exponential growth in the market, the total share for these assets, approaching $1 trillion annually, is still just one percent of the colossal global commodities market. This is sure to tick up in forthcoming years. **Governments, the private sector, and global leaders should be strategically planning how to shift the trillions of investable dollars in the world economy toward combatting prevailing climate and other environmental crises.**

How is the U.S. Government engaging with green bonds?

Despite rapid growth in the international financial system, there is one surprising phenomenon about the green bond market: the United States Federal Government's (USG) absence of serious engagement in this investment area. **Even though the U.S. Government is the world's largest issuer of debt, they have yet to take advantage of the green bond as a strategic tool to tackle environmental and climate challenges.** In fact, none of the more than $23 trillion in U.S. Treasuries are explicitly tied to environmentally focused projects or priorities. The USG is well behind the curve in this regard, not only trailing behind progressive-minded countries like those in Scandinavia or investment-savvy nations in Asia, but also middle-income and developing states like Egypt, Chile, and Nigeria.

The United States is playing a key role in the global push to institutionalize proactive financing of environmental and climate-focused projects via green bonds, but the effort is led by the private sector and municipal governments.

In November 2021, while addressing the COP26 climate conference in Glasgow, Scotland, Treasury Secretary Janet Yellen announced that the United States would formally back the Climate Investment Funds' (CIF) Capital Market Mechanism, which will issue green bonds aimed at generating $50 billion for projects in developing countries. This indicates a serious interest on the part of the federal government, but still places the USG's immense financial and investment potential on the backburner, as it does not appear that any bonds will be issued by the U.S. government directly. The planned support for CIF also raises the question of the USG and the Biden Administration, which has positioned climate as a centerpiece of its policy agenda, of what role green bonds can play. Specifically, it is unclear if green bonds and other climate financing tools are seen as a means to support projects internationally — as the CIF initiative indicates — or if USG would consider leveraging them for large-scale investments in domestic infrastructure.

While the U.S. has maintained limited engagement with the green bond market, municipal and state governments, as well as the American private sector, have demonstrated leadership, spearheading ambitious efforts to transform energy production, mass transportation, and sanitation systems, among others. Massachusetts was the first sub-national government to issue a green bond in 2013, selling approximately $100 million worth to fund a statewide sustainable energy program. As of mid-2021, the municipal green bond market is valued at just over $65 billion according to Refinitiv and is growing rapidly — nearly 60 percent year over year. Approximately 90 percent of states, plus the District of Columbia and Guam, have issued green bonds, as well as dozens of American cities and counties, including both large municipalities like New York City and Atlanta, and small-to-medium sized governments like those in Hays County, Texas and Beauregard Parish, Louisiana.

The private sector has been at the vanguard of green bond issuance and adoption in the United States. The proactive policies and willingness of these private sector companies to dedicate time and resources toward the development of their own bonds has made the United States the largest green bond market in the world, despite resistance from the federal government and policymakers. This engagement with and use of green bonds by private enterprises has proven effective, with analyses of corporate green bonds indicating both a positive, long-term environmental impact and a financial return that often outpaces non-green investments. Despite a hands-off approach by the federal government, American corporations and other private businesses have spearheaded the growth of the market in the United States, helping push forward the role of the private sector in tackling environmental issues, namely the climate crisis.

The United States is playing a key role in the global push to institutionalize proactive financing of environmental and climate-focused projects via green bonds, but the effort is led by the private sector and municipal governments. More robust engagement on the part of the U.S. Federal government would enhance the U.S. green bond market and mobilize the trillions of dollars required to deal with the imminent global environmental crisis. Most importantly, **the USG should consider issuing its first-ever green Treasury bond — which all signs indicate would have no problem attracting buyers — as an initial move, while also developing regulations and a sufficient monitoring framework for issuing Treasury green bonds.**

Concerns and Risks Associated with Green Bonds

While green bonds have proven to be a popular commodity for both individual and institutional investors, questions remain about the efficacy and legitimacy of the financial tool. **Some investors and observers have suggested that green bonds do not do enough — or run the risk of doing too little — to affect the challenges they are designed to address.** These concerns stem from green bonds inherent design; they operate as a traditional bond, with only the promise of the issuer that the funding will tackle environmental, sustainability, or climate issues. Despite the continued growth of green bonds, there are still some who posit the environmental impact and benefits may be a veneer and achievements limited.

Specific concerns by analysts and critics include:

- **Greenwashing**
  At the heart of green bonds and climate investing is the assumption that money is being raised and spent on projects that will have a net positive impact on the environment. Since the advent of green bonds, critics have expressed concern over the possibility of "greenwashing" — exaggerating or providing false or misleading information about a project's potential environmental impact. This is especially true in China. Because there are no international standards (and in many cases, there are not even country- or industry-level standards) about what constitutes a "green" project, it can be challenging for investors to determine if their money will truly contribute to tackling environmental challenges. While more governments, multilateral organizations, and industry groups have published guidance on what qualifies for financing under a green bond, the lack of universal agreement on these terms may continue to raise suspicions in the market.

- **Impact Monitoring**
  Much like the lack of agreement and standardization over green bond financing qualifications, there are also questions and concerns about the monitoring and evaluation framework for green bonds and financed projects. Often, it is not evident how green bond funded projects are being assessed, particularly after they are operational and should be bringing about a net positive impact on the environment (i.e., providing "X" amount of renewable energy or decreasing "Y" tons of pollution). Lacking this important evaluation piece, green bonds may not be as attractive to investors who want assurance their money generating a positive impact and could result in market growth plateauing if left unaddressed.

- **Green Premium**
  Investors look to green bonds to deliver value for money while also producing a net good for the planet. It might seem the desired impact would carry additional costs, but many green bonds deliver as much, if not better, return for investors as traditional bonds, making them competitive in the investment landscape. Recent research suggests, though, that

investors may be paying a green premium, or "greenium," for green bonds, as demand for the commodities continues to significantly outpace supply. In short, those purchasing green bonds might be handing over more money on the front end for what is a fixed amount on the back end, meaning their net return may be smaller than a non-green bond. Many individuals may be comfortable paying this — especially knowing their money is contributing to a worthy cause — but it could pose a risk for continued growth if investors look to maximize their gains.

What's Next for Green Bonds?

Green bonds are only going to continue their exponential growth and positive trajectory in the years ahead. With warnings about the climate crisis and other existential environmental concerns — like water and food shortages, extreme storms, and more — growing more dire, governments, companies, and individuals will be looking to find a way to contribute to solutions. Green bonds and financing environmentally friendly projects, especially large capital infrastructure investments, is one of the most approachable ways to do just that. **It is now time for the U.S. Federal Government to take on a more active role in the global green bond market.** It is untenable for the world's largest sovereign debtor to remain on the green bond sidelines, especially as global supply continues to lag behind high demand while at the same time the USG intends to take a leading role in addressing climate change and pressing environmental challenges.

The issuance of green bonds would allow the federal government to generate large sums of investable funds for projects both domestic and international.

1 Here are three immediate actions the USG should take to strengthen the use of green bonds to tackle climate challenges: **The Department of the Treasury should issue green bonds for the first time.** The United States is already the largest issuer of bonds in the world, with nearly $21 billion in outstanding obligations. U.S. Treasuries are viewed as one of, if not the safest investment in the world today, given the United States' central position in the global economy and international leadership. Green Treasury Bonds would likely carry the same credit rating as existing bond offerings, making them an attractive commodity for investors, while filling the demand gap in the global green bond market. Most importantly, the issuance of green bonds would allow the federal government to generate large sums of investable funds for projects both domestic and international. The USG has been particularly innovative and visionary in recent years in identifying projects that could be transformative, for both the climate and the global economy, but financing them is another story. A U.S. Treasury Green Bond would be one powerful solution.

2 **The federal government should spearhead an effort to develop universal green bond standards.** The United States government is uniquely positioned to provide the necessary resources and legitimacy to standardize rules in the green bond market. While regulations and standards have improved in the last decade-and-a-half — thanks in part to leading organizations like the Climate Bonds Initiative (CBI) — stakeholders still need to agree on what precisely should qualify as "green." The USG, through appropriate agencies like the Treasury Department and the Securities and Exchange Commission, should work with key organizations, including CBI and the International Capital Market Association, as well as other leading

voices in this space. These might include U.S. municipal governments and the European Union — who released guidance in 2020 — to develop a universal set of standards that can help legitimize the global green bond market and quell potential concerns from investors about a green bond's efficacy.

3 **USG should create its own infrastructure bank and empower other agencies to leverage green bonds to tackle environmental and climate challenges.** One significant proposal is for the United States to establish a national infrastructure bank to help fund large capital investments in the U.S. and abroad. Policymakers might consider taking this a step further and labeling such an entity a green infrastructure bank and equip it with the ability to issue its own green bonds. This could substitute or complement proposed Green Treasury Bonds and provide an additional layer of confidence to investors that their investments will be spent on projects that will have an environmental impact.

U.S. federal agencies should utilize green bonds to help finance their own work. For domestic projects, this might look like the Department of Housing and Urban Development raising funds for construction of environmentally friendly affordable housing. Agencies like the Development Finance Corporation and the United States Agency for International Development (USAID) could also utilize green bonds to help finance critical infrastructure projects overseas, especially in developing countries that are still largely reliant on fossil fuels and in areas where the United States has a strategic interest, such as Southeast Asia.

The green bond market is here to stay, and the United States federal government can and should play an increasingly vital role in shepherding its continued growth to help combat the climate crisis. This requires immediate active steps on the part of USG and policymakers. **As the largest bond issuer in the world, the United States has an obligation to take a leading role in shaping the future of the green bond market and climate finance.** Based on current trends, it may be a strategic opportunity for the U.S. to spearhead yet another key piece of the global climate agenda.

How WBD is Helping

Washington Business Dynamics (WBD) is proud to help the United States Government make better decisions on climate and environmental challenges as a consultant for internationally focused federal agencies. Our team is actively working with the Development Finance Corporation, U.S. Agency for International Development (USAID), and the Millennium Challenge Corporation in key regions of the world — including South and Southeast Asia, Latin America, and West Africa — to address infrastructure financing and other development and climate-related challenges. **In India and Bangladesh, under the USAID-funded Cross-Border Infrastructure and Connectivity project, WBD is working to identify and secure financing for key waterway and shipping infrastructure projects that will enhance regional trade connectivity and integration while improving environmental outcomes.** For example, our team is assessing existing inland waterway fleets and spearheading new vessel designs that will shift transportation providers away from highly-pollutant diesel fuel to renewable energy, which will save not only money, but transit time in the long-term. This is the exact type of project that would benefit from financing via a green bond from the United States Government, the World Bank, or a regional state.