THIRD WAY

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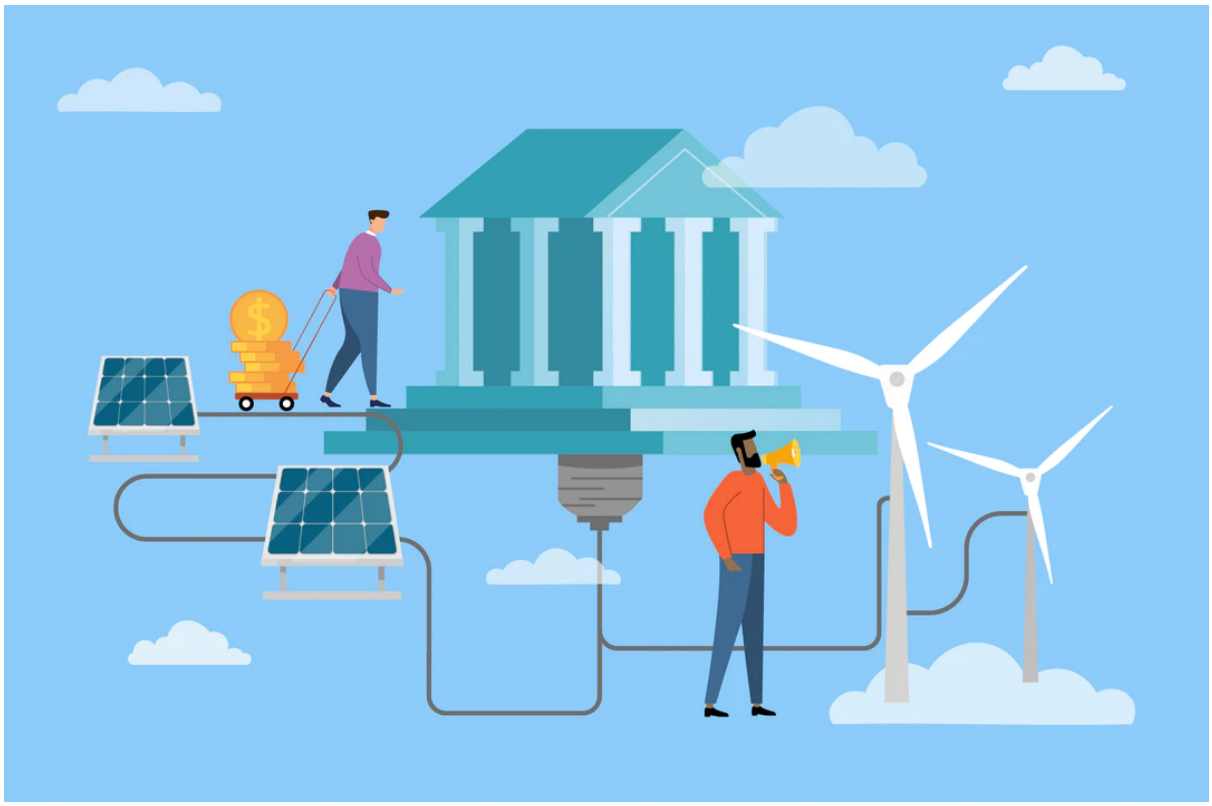
Financial Markets Help Pave the Way to Clean Energy Future



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To achieve net zero emissions by 2050, we need massive investment in clean energy technologies. A recent report by the Intergovernmental Panel on Climate Change estimated that global capital spending would need to be $2.4 trillion annually to accomplish our climate goals. [1] And on July 14, 2020, Vice President Biden announced a bold and action-packed vision of an accelerated investment of $2 trillion in clean energy innovation that will catapult the U.S. to climate leadership with fast and fair job creation. Numerous financial tools, combined with this direct government support, will be needed to support this vision, and one of these is starting to get more attention: green bonds. But what exactly are they?

Green bonds operate like any other fixed-income security. Government or corporate entities

can issue bonds to investors. The proceeds are then used to finance green projects. Over time, the bond issuers repay those investors with added interest over the lifetime of the bond. However, the capital raised by green bonds must fund climate mitigation, adaptation projects, or operations that reduce carbon footprints. Green bonds also abide by high standards of transparency so investors can guarantee proceeds are earmarked exclusively for low-carbon investments.

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From an environmental perspective, bonds fall into the following three categories:

Green Bonds – Fund projects such as carbon-neutral energy development, energy efficiency projects, clean public transportation, pollution prevention and control, conservation, sustainable water and wastewater management, and certified green buildings.[2]

Vanilla Bonds – Fund projects with indeterminate environmental impact. U.S. Treasury bonds and conventional bonds issued by companies and other governmental entities fall into this category.

Brown Bonds – Fund projects with negative environmental impact, such as fossil fuel extraction or fuel-inefficient automobiles. However, fossil fuel companies and automakers can issue green bonds (also referred to as transition bonds in this instance) to fund projects that mitigate negative environmental impact.

"About Green Bonds." Municipal Securities Rulemaking Board, 2018, http://www.msrb.org/~/media/Files/Resources/About-Green-Bonds.ashx?. Accessed 15 July 2020. [2]

What's the size of the market?

Since the World Bank issued the first green bonds in 2007, the total market has grown to roughly $800 billion. In 2019 alone, over $250 billion in green bonds were issued, a 49% increase from the previous year. [3] But while this asset class has grown rapidly, it still represents less than 1% of the $100+ trillion global debt market.

Who uses them?

In 2019, the top countries issuing green bonds were the United States, China, France,

Germany, and the Netherlands. [4] The top three individual issuers were Fannie Mae ($22.9 billion), the German state-owned development bank (kfW), and the Dutch State Treasury Agency. In recent years, the Industrial and Commercial Bank of China, Republic of France, Kingdom of Belgium, and the National Treasury Management Agency of Ireland have issued green bonds. [5]

Major U.S. companies have also joined the ranks, with Apple, Unilever, and Bank of America among those issuing green bonds in recent years. [6] In October 2019, PepsiCo issued its first green bond with $1 billion in proceeds to fund reducing plastic use, decarbonizing its supply chain, and improving water-efficiency in its manufacturing processes. [7] According to credit analysts, these bonds not only provided PepsiCo with a favorable public relations opportunity to explain its sustainability efforts, they were priced in line with the company's other debt. [8] Crucially, investors will not incur any comparative loss of return when funding environmentally beneficial initiatives by purchasing these bonds.

What can green bonds help with?

Green bonds can finance a broad range of low carbon assets. The two largest sectors where green bonds are issued today are 1) low carbon electricity sources and enabling infrastructure, and 2) low carbon buildings and sustainable build environments. Together they account for over about 60% of the market. Fannie Mae, the U.S. government-sponsored housing finance agency, is the largest issuer of green bonds. The proceeds from these bond sales are used to improve the energy efficiency of multi-family housing units across the U.S. Any multi-family property that uses the proceeds of Fannie Mae green bonds must either possess a green building certification or document that they are making property improvements that target reductions in energy and/or water use.

After electricity and buildings, the next largest sector for green bonds is the low carbon transportation sector (about 20% of the market). This includes electric vehicles, rail, public transit, and other related investments. Green bonds have the potential to boost the electric vehicles market. Last month, Livent, a major lithium producer, issued a $225 million green bond. A green bond from a lithium producer is new, but the company is following the strategy it laid out in "Facilitating the Growth of Electrification with Focus on the Transport Sector." Under this framework, Livent can use the green bond proceeds for its ongoing production activities, as well as for batteries for electric vehicles or energy storage.

Other sectors that can be financed through green bonds include agriculture, water infrastructure, industry, waste, and broadband.

Who buys green bonds?

Buyers for green bonds include institutional investors, pension funds, insurance companies,

and asset managers. [9] Central banks are also major investors, including the European Central Bank and central banks for France and Hungary. [10] [11] The relatively small size of the overall market currently limits liquidity and therefore limits the overall pool of investors. As the market continues to grow and a secondary market for green bonds emerges, investor demand could accelerate, as a viable secondary market allows investors to sell their bond holdings to a third party before maturity and therefore limits their risk.

Despite the benefits provided by green bonds, investors are not willing to lose any returns by purchasing them as compared to the conventional, non-green bonds in the capital markets, for example a bond issued by General Electric. In a 2019 Stanford University study of municipal bond investors, investors demanded exactly the same returns for green municipal bonds as for virtually identical non-green bonds issued on the same day by the same municipality. [12] However, policy support and disclosure of climate risks can change this and shift capital to green bonds more rapidly.

Institutional investors and large endowments can begin to demand the inclusion of green bonds in their investment portfolios. The University of California system made news last year by announcing its intention to divest $150 million in fossil fuel assets from its $80 billion portfolio. "We believe hanging on to fossil fuel assets is a financial risk," wrote Jagdeep Singh Bachher, the UC's chief investment officer, and Richard Sherman, chair of the UC Board of Regents' Investments Committee. [13]

The green bond market stands poised to grow to meet the demand for financial products that fund environmentally sustainable ventures. Large institutional investors can mitigate their exposure to climate risks without sacrificing returns in the long term. According to UBS, investors may not need to sacrifice financial returns in deciding to purchase green bonds over vanilla bonds. [14] Bond underwriters can reinforce this trend by pricing climate-negative bonds to reflect the risk of climate change in addition to issuer creditworthiness.

How can policy help? Look at the Biden Climate Plan.

The Biden Climate Plan issued on July 14, 2020 focuses squarely on investments in clean energy across multiple sectors as the critical stepping stone to growth in good paying jobs and an aggressive approach to environmental justice. Green finance – from green bonds to better measurement and disclosures of climate risks embedded in our economic activities – will help to accelerate the growth of this promising climate and clean energy financing tool. Our green finance policy recommendations are consistent with and will support the Biden Climate Plan.

For example, the Plan includes a **15-year clean electricity standard**, targeting 2035 as the date

by which the U.S. will enjoy a zero-emissions power sector. In order to accomplish this, substantial investment in renewables and other clean energy will be needed in the power sector. Many of these investment projects can and should be financed with green bonds.

The Biden Climate Plan is also recommending significant investment in the auto sector and its supply chain in order to transition to **clean energy vehicles and good paying jobs**. Vehicle emissions standards and the increasing demand for electric vehicles [15] will require auto manufacturers to increase their investment in low and zero-emission vehicles.

There are substantial efforts to cut the carbon content of materials used in construction. These so-called **Buy Clean policies** like the California state government procurement regulations, will increase investment in low carbon building materials. Industrial emissions targets will reinforce incentives to issue green bonds in order to meet these targets as they are developed more broadly across the U.S. While the private sector is moving in that direction, federal and state policymakers can accelerate the transition to a carbon-free economy and expand the green bond market in the process.

Federal Response

In order to reinforce the clean energy vision in the Biden Climate Plan, policymakers should amend the tax code to provide added **financial incentives to green bond issuers**. Exempting interest income from capital gains tax will effectively lower the price of green bonds and attract a larger investor pool.

Green bond issuers must agree on a **classification framework and harmonize cross-border green bond standards** to facilitate the growth of this capital market globally. While investor appetite for these products continues to increase, green bonds do not have a universal standard that determines the "greenness" of the bond, which can lead investors to suspect "greenwashing." "Greenwashing" in this context refers to projects that are only superficially climate or environmentally friendly. These projects usually intend to improve an issuer's green credentials but lack genuine efforts to decarbonize.

Central banks and financial regulatory agencies should **increase transparency of climate related risk**s. The U.S. Federal Reserve should follow the example of the Bank of England (BoE) and incorporate climate change considerations in its mandate to promote full employment and price stability. Former BoE Governor Mark Carney said in an interview last year that the financial sector is moving too slowly to divest from fossil fuels and risks instability by keeping climate-negative assets on balance sheets. [16]

The U.S. Federal Reserve has only recently begun to address climate-related risks for the U.S. economy, holding its first climate research conference in November 2019. It has also declined to join the Central Banks and Supervisors Network for Greening the Financial System (NGFS),

a global network of 55 central banks and 12 international finance organizations dedicated to studying climate risk management in the financial sector. Given the potential damage posed by droughts, floods, and other climate-change induced disasters, the Federal Reserve has a responsibility to **study our climate vulnerabilities and make recommendations to promote economic and financial stability**, which fits within its present Congressional mandate. Members of the Senate Committee on Banking, Housing, and Urban Affairs and House Committee on Financial Services should capitalize on their opportunity to discuss this with Federal Reserve Chair Powell during his required semi-annual Congressional testimony. Reps. Sean Casten (D-IL), Jesús García (IL-04), and Frank Lucas (R-OK) raised these issues during Powell's February 2020 testimony, but it was not discussed during his most recent hearings in June 2020.

Finally, **ratings agencies should disclose climate risk considerations in bond ratings**. In November 2019, Moody's downgraded the credit rating of ExxonMobil, citing risks in its adjustment to a carbon-constrained economy. [17] S&P Global recently introduced the ESG Evaluation platform to assess long-term sustainability, as well as the S&P 500 ESG Index, to facilitate index investment in companies with high ESG standards. By increasing the transparency of environmental risk exposure, ratings agencies can encourage investors to reallocate capital to companies with stronger sustainability standards and practices. Representatives from these credit ratings agencies can be valuable intellectual resources for Congress as it evaluates methods to increase investor participation in sustainable finance.

Conclusion

Green bonds are not the end-all-solution for climate finance, but rather one of the many tools we can use to increase investment in climate solutions. The clean energy investments outlined in the Biden Climate Plan can and should be funded with a contemporary financial market that rewards green bond investors. It's important to keep in mind that, despite the improving financial performance and growing interest in clean energy industries, we are still critically underinvesting in low carbon assets. To properly address climate change, we need all hands on deck as we look forward to the broad vision embodied in the Biden Climate Plan. The financial sector, along with our regulators, can help make these climate risks more transparent. This will be a critical part of the pathway to fully decarbonize the economy.

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