THE BOND VILLAINS OF GREEN INVESTMENT: WHY AN UNREGULATED SECURITIES MARKET NEEDS GOVERNMENT TO LAY DOWN THE LAW

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ABSTRACT

Green bonds are widely regarded as being part of the solution to the massive amount of investment needed to address climate change. Green bonds function largely like regular bonds, except that they have a dual purpose of achieving an environmental goal in addition to the financial gains. The sector remains, however, broadly unregulated, leading to questionable funding of projects under the premise of being "green" bonds. This Article provides an introduction into the nascent green bond industry and the current regulatory regimes in place. Furthermore, this Article argues that the regulations currently in place are insufficient to create the market stability necessary to grow green investments quickly enough to address the challenges presented by climate change. To successfully grow the green bond market to finance climate action, stakeholders must learn the lessons offered by the 2008 Financial Crisis and problematic green bond issuances to date. To implement the lessons learned by the financial crisis and problematic bond issuances, this Article covers the benefits to be gained from a regulatory body that ensures the environmental integrity of green investments.

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INTRODUCTION

Green bonds are critical to addressing climate change. The most recent Intergovernmental Panel on Climate Change (IPCC) report shows that unless dramatic corrective action is taken in the next decade, humanity could see mass migrations, food scarcity, and instability as early as 2040.[1] To mitigate greenhouse gas emissions and prevent the most serious harms requires unprecedented levels of investment from the private sector and regulatory agility from government entities.[2] Green bonds from public, private, and multilateral organizations are critical because they can serve to finance the large-scale infrastructure changes needed to transition to a zero-

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1. Coral Davenport, *Major Climate Report Describes a Strong Risk of Crisis as Early as 2040*, N.Y. TIMES (Oct. 7, 2018), https://www.nytimes.com/2018/10/07/climate/ipcc-climate-report-2040.html; *see Summary for Policymakers of IPCC Special Report on Global Warming of 1.5ºC Approved by Governments*, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (Oct. 8, 2018), https://www.ipcc.ch/2018/10/08/summary-for-policymakers-of-ipcc-special-report-on-global-warming-of-1-5c-approved-by-governments/ (overviewing the conclusions of the IPCC Special Report and the impact of a 1.5ºC temperature increase on potential future risks to local interests).

2. *Private Investments Are Crucial to Achieve Paris Goals*, U.N. FRAMEWORK CONVENTION ON CLIMATE CHANGE (Nov. 2, 2017), https://unfccc.int/news/private-investments-are-crucial-to-achieve-paris-goals.

emissions economy.[3] Government regulation of the green bond sector is critical to its success because regulations provide stakeholders with certainty as to the applicable legal standards and investor expectations.[4] Furthermore, government regulation could help implement the lessons learned from past financial *faux pas* in the investment and issuer arenas. To apply the lessons of the past and ensure the prosperity of the green bond market in the future, governments should consider implementing a green standards committee as a simple and efficient way of meeting the financing challenges posed by climate change.[5]

First, this Article introduces the reader to the history of green bonds and the role they currently play in the market.[6] Second, the Article explores the lessons from past financial regulatory failures, in particular the inflated credit rating bundles that led to the 2008 Financial Crisis and the headline-grabbing green bonds with questionable environmental benefits.[7] Third, a comparison of green market regulations between the U.S., the E.U., and China underscores the inadequacy of current U.S. standards.[8] China's current regulation supports the environmental integrity of investments through a national green standards committee *vis-à-vis* no systemic regulatory assurances for investors interested in environmental responsibility in the U.S.[9] Lastly, this Article argues the U.S. could expand the green bond market by adopting a national green standards committee that goes beyond the precedent set in China to keep issuers accountable to investors and to provide issuers with the clarity needed to comply with U.S. law.[10]

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3. *See* Enrico Lo Giudice, *The Green Bond Market, Explained*, WORLD ECON. F. (July 25, 2017), https://www.weforum.org/agenda/2017/07/what-are-green-bonds-explainer (showing how countries and organizations alike have turned to green bonds for support in transitioning to renewable energy sources through sustainable infrastructure projects).

4. *Cf. id.* (highlighting the "high degree of transparency" associated with green bonds, which greatly benefits investor stakeholders).

5. *See infra* Part V (making the case for a U.S. Green Standards Committee).

6. *See infra* Part I (providing an overview of green bonds as unique financial mechanisms).

7. *See infra* Part II.A (cautioning regulators to take particular note of necessary restrictions or allowances where credit-rating agencies and green bond markets diverge by looking to the lessons learned from the 2008 Financial Crisis for guidance).

8. *See infra* Parts IV.A, IV.C (comparing green bond practices in the U.S. and China).

9. *See infra* notes 175–82 and accompanying text (outlining China's green standards, current and forthcoming, for green bonds); *see infra* notes 153–62 and accompanying text (discussing the limited regulation of green bonds in the U.S.).

10. *See infra* Part V (making the case for creating a green standards committee in the U.S. to add oversight and transparency to U.S. green bond laws).

I. GREEN BONDS INTRODUCTION

At the 21st Conference of Parties (COP21) of the United Nations Framework Convention on Climate Change (UNFCCC), all but two countries agreed to sign on to the Paris Agreement.[11] The Paris Agreement is hailed as one of the greatest diplomatic successes because the nations of the world agreed to take action on climate change.[12] The Paris Agreement set out the international two degree Celsius (2°C) threshold for global greenhouse emissions, accompanied with emission reduction pledges by participant countries.[13] The objective of the Paris Agreement was to provide an international greenhouse gas threshold, so that stakeholders would be spurred into action.[14]

The Paris Agreement goes beyond just setting an emissions goal however—it also acknowledges the critical role that financing climate projects plays in successfully addressing this issue.[15] To achieve the global transformation necessary to meet the 2°C goal, multi-stakeholder projects will need access to funding to support technological innovation, include vulnerable communities, and invest in climate-resilient infrastructure.[16] Beyond governmental and non-governmental entities, members of the private sector cite the Paris Agreement as the basis for climate action.[17]

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11. Liam Stack, *Only U.S. and Syria Now Oppose Paris Climate Deal, as Nicaragua Joins*, N.Y. TIMES (Oct. 24, 2017), https://www.nytimes.com/2017/10/24/world/americas/nicaragua-paris-climate-agreement-us.html (noting that originally Syria and Nicaragua were the only countries choosing to not sign-on to the Paris Agreement).

12. *See* Framework Convention on Climate Change Conference of the Parties, *Adoption of the Paris Agreement*, U.N. Doc. FCCC/CP/2015/L.9/Rev.1 (Dec. 12, 2015) [hereinafter *Adoption of the Paris Agreement*]; Raymond Clémençon, *Two Sides of the Paris Agreement: Dismissal Failure or Historic Breakthrough*, 25 J. ENV. & DEV. 3, 7 (2016), https://journals.sagepub.com/doi/full/10.1177/1070496516631362.

13. Clémençon, *supra* note 12, at 8.

14. *See Adoption of the Paris Agreement*, *supra* note 12 ("Agreeing to uphold and promote regional and international cooperation in order to mobilize stronger and more ambitious climate action by all Parties and non-Party stakeholders . . . .").

15. *Id.* at art. 2(1)(c) ("Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.").

16. Press Release, Bridging Climate Action and Finance Gaps, U.N. FRAMEWORK CONVENTION ON CLIMATE CHANGE (Nov. 13, 2017), https://unfccc.int/news/bridging-climate-ambition-and-finance-gaps. *See Why Does Climate Change Matter?*, U.N. ENV'T PROGRAMME, https://www.unenvironment.org/explore-topics/climate-change/why-does-climate-change-matter (last visited Apr. 27, 2019) (naming financing diverse responses to climate change as a U.N. priority).

17. *See, e.g.*, Gareth Hutchens, *Largest Ever Group of Global Investors Call for More Action to Meet Paris Targets*, GUARDIAN (Dec. 9, 2018), https://www.theguardian.com/environment/2018/dec/10/largest-ever-group-of-global-investors-call-for-more-action-to-meet-paris-targets (providing a private company signatory to the Paris Agreement, which, along with its investors, is pushing to move away from coal power); *see also, e.g.*, Andrew Winston, *U.S. Business Leaders Want to Stay in the Paris Climate Accord*, HARV. BUS. REV. (May 31, 2017), https://hbr.org/2017/05/u-s-business-leaders-

In addition to expanding climate change awareness for policy reasons, the financial sector increasingly has focused on green investing as a way to increase returns.[18] Recent studies show indices that incorporate environmental considerations outperform those without the same social and environmental criteria.[19] Furthermore, investment portfolios that take into account environmental considerations are better able to manage risk.[20] Because of the benefits to society and shareholders alike, the financial sector saw a 97% increase in environmental, social, and governance investment over the past 20 years.[21]

Investments by the private and public sectors in green finance projects take a variety of forms. Green finance refers to financing made available for projects that provide an environmental benefit.[22] Among the green finance projects recognized as providing an environmental benefit are: adaptation; carbon capture and storage; energy efficiency; environmental protection; waste management; water; transport; sustainable land management; and green buildings, products, and materials.[23]

Bonds are one way of financing projects, including projects with a dual environmental purpose. A bond is a loan where the issuer promises to pay back the bondholder with regular interest payments during a fixed amount

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want-to-stay-in-the-paris-climate-accord ("[T]he business community does not want to leave the Paris climate agreement.").

18. *See, e.g.*, Winston, *supra* note 17 (noting how there are hundreds of companies, including Dow Jones, pledging to commit to renewable energy); *see also Socially-Responsible Investing: Earn Better Returns from Good Companies*, FORBES (Aug. 16, 2017), https://www.forbes.com/sites/moneyshow/2017/08/16/socially-responsible-investing-earn-better-returns-from-good-companies/#151f9a2b623d ("Sustainable investing is an opportunity to make money and make a difference in the world.").

19. *See* Caroline Flammer, *Green Bonds Benefit Companies, Investors, and the Planet*, HARV. BUS. REV. (Nov. 22, 2018), https://hbr.org/2018/11/green-bonds-benefit-companies-investors-and-the-planet (summarizing the findings that green bonds show high financial performance across several metrics); Candace C. Partridge & Francesca Romana Medda, The Creation and Benchmarking of a Green Municipal Bond Index 22 (Sept. 12, 2018) (unpublished study) (on file with the University College London) (finding that municipal indices that incorporated climate considerations pay a 4.5% compound annual growth rate compared to 3% in non-climate municipal indices).

20. Christopher P. Skroupa, *In ESG We Trust: The Risk And Rewards of ESG Investing*, FORBES (Aug. 8, 2017), https://www.forbes.com/sites/christopherskroupa/2017/08/08/in-esg-we-trust-the-risk-and-rewards-of-esg-investing/#4cf3a9f8677f ("Having identified and dealt with these risks, the company will not only have acted responsibly towards society by reducing their environmental impact, for example, but also managed risks relating to these ESG areas for the company and its business . . . .").

21. *Id.*

22. INT'L FIN. CORP., GREEN FINANCE: A BOTTOM-UP APPROACH TO TRACK EXISTING FLOWS 9 (2016), https://www.ifc.org/wps/wcm/connect/70725d70-b14a-4ffd-8360-cb020258d40a/Green+Finance_Bottom+up+approach_ConsultDraft.pdf?MOD=AJPERES.

23. *Id.* at 10.

of time.[24] A bond can be bought or sold between parties.[25] Bonds provide an alternative form of lending when the amount being sought is too large for banks to cover.[26] Green bonds are a type of bond issued by a private, public, or multilateral institution to finance a climate friendly or environmental goal for the issuer and create revenue for the investor.[27] In case of default, green bonds are backed by an issuer's balance sheet,[28] use of proceeds,[29] or cash flow from other assets or investments.[30]

Green bonds traditionally differ from regular bonds in that additional steps are generally taken to ensure their environmental purpose.[31] The most common way a regular bond is deemed green is through a second-party opinion.[32] The second party evaluates the debt contract and certifies the security as having a legitimate purpose.[33] The second parties charge the issuer a premium for the review, which contributes to the notion that green bonds are less profitable than "sinful" bonds.[34] A prospective green bondholder can also purchase securities on specific green bond indices that have different criteria to be listed and can provide additional security to the investor.[35] To be listed in a green bond index, the issuer must first list the

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24. *What is a Bond?*, WALL ST. J., http://guides.wsj.com/personal-finance/investing/what-is-a-bond/ (last visited Apr. 27, 2019).

25. WORLD BANK, WHAT ARE GREEN BONDS? 7, 50 (2015), http://documents.worldbank.org/curated/en/400251468187810398/pdf/99662-REVISED-WB-Green-Bond-Box393208B-PUBLIC.pdf.

26. *See What is a Bond?*, *supra* note 24 (providing examples such as a city "rais[ing] money to build a bridge").

27. JOHN CHIANG, CAL. STATE TREASURY, GROWING THE U.S. GREEN BOND MARKET: VOLUME 1: THE BARRIERS AND CHALLENGES 7 (2017), http://www.treasurer.ca.gov/greenbonds/publications/reports/green_bond_market_01.pdf.

28. *Green Bonds*, LUX. STOCK EXCHANGE, https://www.bourse.lu/green-bonds (last visited Apr. 27, 2019). The Luxembourg Stock Exchange was the first to list green bonds and is regarded as a leader in this arena. *Id.*

29. Stephen Kim Park, *Investors As Regulators: Green Bonds and the Governance Challenges of the Sustainable Finance Revolution*, 54 STAN. J. INT'L L. 1, 16 (2018).

30. *Id.* at 17.

31. *See, e.g.*, *Displaying Bonds on LGX*, LUX. STOCK EXCHANGE, https://www.bourse.lu/displaying-bonds-on-lgx (last visited Apr. 27, 2019) (describing the transparency and disclosure components of green bond issuance).

32. Park, *supra* note 29, at 28.

33. *Id.*

34. *See, e.g.*, Paul Rose, *Certifying 'Climate' in Climate Bonds*, 14 CAP. MAR. L.J. 59, 60–61 (2019) (identifying credit-rating agencies as these third parties); *Displaying Bonds on LGX*, *supra* note 31 (listing the exhaustive steps to the third-party verification process). *See also* Jeff Brown, *8 Facts You Need to Know About Green Bonds*, U.S. NEWS (May 31, 2017), https://money.usnews.com/investing/articles/2017-05-31/8-facts-to-know-about-green-bonds (noting that green bonds have a comparable yield to traditional bonds).

35. *E.g.*, *Mauritius to Embark on Ambitious Green Bond Strategy*, PARTNERSHIP FOR ACTION ON GREEN ECON., https://www.un-page.org/mauritius-embark-ambitious-green-bond-strategy (last

security on the regular market and declare the bond as a green, social, or sustainability bond.[36] Then issuers must describe the framework used to classify the bond, the use of the proceeds, and provide external verification of the bond.[37] In the absence of an independent verification, the index sometimes provides review of the environmental quality of the bond.[38]

The first entities to issue green bonds were the European Investment Bank and the World Bank.[39] In 2007, the European Investment Bank issued its climate awareness bond to finance energy efficiency and renewable energy projects.[40] Similarly, the World Bank has issued green bonds to finance clean transportation, water, solid waste management, land-use, and infrastructure projects, in addition to energy efficiency and renewable energy.[41] Today, the green bond market continues to grow exponentially in the diversity of stakeholders and the quantity of the investment.[42]

While different countries developed different regulatory structures for their green bond markets, international standards are available to guide in the consistency of their development.[43] The most prominent guidelines are the Green Bond Principles (GBP) established by the United Nations Program on the Environment to help guide issuers in setting up credible green bonds.[44] The GBP suggested a four-part process to setting up a green bond:

visited Apr. 27, 2019) (explaining the Mauritian Stock Exchange launched a sustainability index to identify sustainable companies).

36. *Displaying Bonds on LGX*, *supra* note 31.

37. *Id.*

38. *Id.*

39. *See Climate Awareness Bonds*, EUR. INV. BANK, http://www.eib.org/en/investor_relations/cab/index.htm (last visited Apr. 27, 2019) (noting that the European Investment Bank released the world's first green bond in 2007); *see also* Press Release, World Bank, World Bank Marks 10-Year Green Bond Anniversary with Landmark Issuance US$1.3 Billion Issuances Bring World Bank Green Bond Program to US$12.6 Billion (Nov. 13, 2018), https://www.worldbank.org/en/news/press-release/2018/11/13/world-bank-marks-10-year-green-bond-anniversary-with-landmark-issuance-us-1-2-billion-issuances-bring-world-bank-green-bond-program-to-us-12-6-billion (indicating that the World Bank issued its first green bond in November 2008).

40. *Climate Awareness Bonds*, *supra* note 39.

41. WORLD BANK, GREEN BOND IMPACT REPORT 2018, at 8 (2018), http://pubdocs.worldbank.org/en/632251542641579226/report-impact-green-bond-2018.pdf.

42. *See Capital Markets, Climate Finance*, INT'L FIN. CORP., https://www.ifc.org/wps/wcm/connect/news_ext_content/ifc_external_corporate_site/news+and+events/news/perspectives/perspectives-i1c2 (last visited Apr. 27, 2019) (listing the ambit of green bond stakeholders as well as the emerging growth of the green bond market).

43. CLIMATE BONDS INITIATIVE, BONDS AND CLIMATE CHANGE: THE STATE OF THE MARKET IN 2015, at 15 (2015) [hereinafter BONDS AND CLIMATE CHANGE: THE STATE OF THE MARKET IN 2015], https://www.climatebonds.net/files/files/CBI-HSBC%20report%207July%20JG01.pdf.

44. *See* UNITED NATIONS DEVELOPMENT PROGRAMME (UNDP), GREEN BONDS (Feb. 26, 2016) [hereinafter UNDP, GREEN BONDS], http://www.sdfinance.undp.org/content/sdfinance/en/home/solutions/green-bonds.html (laying out the framework for reliable green bonds).

- "Define criteria for a green project";
- "Define processes for evaluation and selection of the green project";
- "Have systems to trace the green bond proceeds"; and,
- "Report, at least annually, on the use of the proceeds."[45]

In addition to these steps, the GBP also recommended an independent verification of the project by a second party consultant, audit, or third-party verification.[46]

Similar in purpose, the Climate Bond Initiative (CBI) has sector-specific standards for issuers to meet and a structure under which they can be certified.[47] CBI, however, goes a step beyond the GBP and listing requirements by demanding an issuer include physical assets associated with the green bond.[48] The issuer must also ensure that the "proceeds are not contaminated by activities inconsistent with [a] low carbon economy and must disclose the environmental and social aspects of chosen projects."[49] Lastly, where green bonds become non-compliant, the standards require the issuer to self-report.[50]

Both the GBP and the CBI are market responses to the absence of green bond regulation. In the past, the market has sought to address the vacuum left by regulatory agencies without success.[51] The most notable example of market self-regulation comes from the 2008 Financial Crisis, where credit agencies, playing a similar role to green bond second opinion verifiers, failed to give ratings adequately reflecting the investment risk. Below is a summary of the role of credit agencies in the 2008 Financial Crisis and the lessons to extract for the regulation of second opinion verifiers of green bonds.

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45. ERNST & YOUNG LLP, GREEN BONDS: A FRESH LOOK AT FINANCING GREEN PROJECTS 5 (2016).

46. *Id.*

47. UNDP, GREEN BONDS, *supra* note 44.

48. CLIMATE BONDS, CLIMATE BONDS STANDARD 4, 9 (2017), https://www.climatebonds.net/files/files/Climate%20Bonds%20Standard%20v2_1%20-%20January_2017.pdf.

49. ERNST & YOUNG LLP, *supra* note 45.

50. *Id.*

51. *See infra* Part II.A (showing how the market has not had success addressing the vacuum left by regulatory agencies).

II. Historical Precedent for the Need to Regulate the Market

Critics of regulating the green bond market often cite the need to allow the nascent security to grow before imposing restrictions.[52] Critics of green bond regulation further assert that current market-based processes sufficiently provide assurances to investors of the quality of the investments that are being undertaken.[53] Historical precedent, however, suggests that in other instances when the market was left unchecked, self-regulation proved insufficient.[54] First, this Part summarizes the relationship between credit rating agencies and the Financial Crisis.[55] For regulators of second-party verifiers of green bonds there are several lessons to be drawn between the similarities and differences between the reviewers of different instruments. Next, this Part highlights green bond issuances with problematic projects or reporting structures.[56] The lessons learned from previous experiences with credit rating agencies and current green bond issuers can help guide governments on regulation for future issuances.

A. The 2008 Financial Crisis: A Cautionary Tale for Green Bond Verifiers

During the Financial Crisis, investment banks bundled individual mortgages so as to be bought and later sold to investors, much like bonds.[57] To purchase the mortgages, investment banks relied on exceptional ratings from credit agencies, which would incent investors to purchase the bundles.[58] Similarly, high credit ratings would allow issuers access to institutional investors who can only invest in assets with high credit ratings due to their fiduciary responsibilities.[59] A 2011 study by the Financial Crisis Inquiry Commission ultimately concluded that the credit-rating agencies were key enablers of the Financial Crisis because of their inflated

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52. *See, e.g.*, IGOR SHISHLOV ET AL., INSTITUTE FOR CLIMATE ECONOMICS, BEYOND TRANSPARENCY: UNLOCKING THE FULL POTENTIAL OF GREEN BONDS 4 (June 2016), https://www.cbd.int/financial/greenbonds/i4ce-greenbond2016.pdf (noting the various risks attendant with premature regulations and their effect on the green bond market).

53. *See* Park, *supra* note 29, at 30–34 (critiquing the challenges of private governance for green bonds); *see also infra* Part IV.C (analyzing the strengths of the current processes in the Chinese green bond framework).

54. *See infra* Part III (discussing the repercussions of a self-regulated market).

55. *See infra* Part III (listing governmental as well as corporate issuances of green bonds).

56. *See infra* Part IV (discussing the national governments and corporate actors who have questioned such offerings).

57. Matt Krantz, *2008 Crisis Still Hangs Over Credit-Rating Firms*, USA TODAY (Sept. 13, 2013), https://www.usatoday.com/story/money/business/2013/09/13/credit-rating-agencies-2008-financial-crisis-lehman/2759025/.

58. *Id.*

59. *Id.*

ratings of risky investments.[60] Regulators concerned with preventing a similar outcome in the green bond market should evaluate the parallels between the credit-rating agencies and the green bond market and take preventive measures. Where credit-rating agencies and green bond markets diverge, regulators should also take note as particular restrictions or allowances may be necessary.

1. Similarities Between Green Bond Verifiers (GBV) and Credit-Rating Agencies (CRA)

Green bond certifiers and credit agencies present three primary similarities as information intermediaries, owners of regulatory licensure, and business model stewards.[61] First, green bond certifiers and credit agencies both function as information intermediaries between issuers and investors.[62] Within the vast universe of information, green bond certifiers and credit agencies receive, analyze, and condense information in order to make it more accessible for investors.[63] Second, both green bond certifiers and credit agencies rely heavily on the reputation of their businesses.[64] Next, green bond verifiers and credit agencies both rely on an issuer pays business model.[65] Under the issuer pays model, the issuer of the financial instrument pays the credit agency or green bond certifier in exchange for a rating.[66] Lastly, the reputational concerns of CRAs and GBVs has proven an insufficient counterweight to the conflicts of interest represented by the issuer pays model, as proven by investigations of CRAs in the aftermath of the Financial Crisis. The similarities between credit rating agencies and green bond verifiers underscore the importance of ethical rules and processes needed to improve the reliability of these financial offerings.

i. Problems as Intermediaries of Information

Second opinions provide streamlined information on investments. The reliability of the streamlined information provided by second opinion verifiers is subject to some debate.[67] During the 2008 Financial Crisis,

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60. *Id.*
61. Rose, *supra* note 34, at 70–71.
62. *Id.* at 70.
63. *Id.*
64. *Id.*
65. *Id.* at 71.
66. *Id.*
67. *See* Park, *supra* note 29, at 30 (indicating some limitations of second-opinion reviews, including the time restrictions prior to issuance).

bankers, fund-managers, and investors backed mortgages for risky investments, in part because a "staggering proportion" of these investments were AAA rated.[68] Ratings range from AAA, being the highest and safest, to lower grades, moving down to double and single letters.[69] While the financial crisis started with homeowners, it quickly spread to other segments of the economy because of the banks and investors that backed these kinds of investments.[70] Financial actors depended on ratings as a way to fulfill fiduciary responsibilities and efficiently evaluate different investments, but ultimately these entities suffered an economic loss as a result of their reliance.[71] Some investors also used ratings to study risk and engage in regulatory arbitrage.[72]

Certification markets for green bonds function in a substantially similar manner to credit agencies.[73] "[CRAs] are firms that offer judgments about the creditworthiness," i.e., a debt instrument's likelihood of default.[74] In the 1930s, financial regulation mandated that credit ratings agencies "be the central source of information about the creditworthiness of bonds in U.S. financial markets."[75] CRAs became central to whether a corporation would be able to issue a bond or not because only companies with certain scores would be able to issue bonds.[76] Similarly, the green bond market relies heavily on second-party opinions to substantiate the environmental integrity of the offering.[77] Both the CRAs and GBVs function in the same way in that they take complex data, analyze it, and approve it.[78] After CRAs and GBVs issue their recommendations, the public then relies on this insight for investment decisions.

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68. Patrick Kingsley, *How Credit Ratings Agencies Rule the World*, GUARDIAN (Feb. 15, 2012), https://www.theguardian.com/business/2012/feb/15/credit-ratings-agencies-moodys (explaining that the AAA rating means that the issuer has a high likelihood of paying the investment back).

69. *The Credit Rating Controversy*, COUNCIL ON FOREIGN RELATIONS, https://www.cfr.org/backgrounder/credit-rating-controversy (last updated Feb. 19, 2015).

70. Kingsley, *supra* note 68.

71. *See id.* (outlining the reasons for the Financial Crisis spread, which was, in part, "because of the rating agencies' failure to warn [bankers and fund-managers] of the risks involved" in backing those mortgages).

72. Altman et al., *Regulation of Rating Agencies*, *in* COOLEY ET AL., REGULATING WALL STREET: THE NEW ARCHITECTURE OF GLOBAL FINANCE 452 (2010), https://www.fdic.gov/regulations/reform/altman1.pdf.

73. Rose, *supra* note 34, at 70.

74. Altman et al., *supra* note 72, at 443.

75. *Id.*

76. *See id.* at 444 (noting the potential conflict of interest caused by the financial incentive to rate high in order to be the chosen rater).

77. Park, *supra* note 29, at 28 ("Second opinions are the predominant form of external assurance in the green bond market.").

78. *See* Rose, *supra* note 34, at 61, 70 (describing the functional similarities between GBV and CRA data measurement and approval).

ii. Reputational Concerns

Private governance regimes, like those put forth by GBVs and CRAs, must ensure the legitimacy of their processes to satisfy stakeholder and firm expectations.[79] Because private governance regimes lack the political processes that give legitimacy to democratic states, private governance regimes must find ways to build the credibility of their institutions.[80] To gain legitimacy, private governance regimes must find different ways to identify, contest, and resolve differences.[81] GBVs and CRAs share the legitimacy challenge because both depend on the public perception of legitimacy to make their business model viable.

The green bond market relies heavily on the legitimacy of the review that GBVs bring to the table.[82] The risk associated with GBVs is that the public perceives the second-opinion providers as "greenwashing," i.e., rubber-stamping bonds with questionable environmental value.[83] If GBVs are perceived as greenwashing bonds, it could lead to a vicious cycle of rule breaking by market participants.[84] Similarly, investors are strongly influenced by CRAs to determine a particular security's creditworthiness.[85] CRAs during the Financial Crisis failed to take into account the potential for a decline in housing prices and its effects on loan defaults.[86] As a result of the legitimacy issues CRAs suffered after the Financial Crisis, Congress passed the Dodd–Frank Act in addition to creating an Office of Credit Ratings at the Securities and Exchange Commission (SEC).[87]

iii. Issuer-Pays Model Problems

The similarities between green bond verifiers and credit agencies are problematic because they present a potential conflict of interest with the "issuer-pays" business model.[88] In the SEC's 2017 annual report, the agency noted that an issuer-pays business model "is subject to a potential conflict in that the credit rating agency may be influenced to determine more favorable (*i.e.*, higher) ratings than warranted in order to retain the

79. Park, *supra* note 29, at 33.
80. *Id.* at 34.
81. *Id.*
82. *Id.* at 32.
83. *Id.*
84. *Id.*
85. *The Credit Rating Controversy*, *supra* note 69.
86. *Id.*
87. *Id.*
88. Rose, *supra* note 34, at 71 (critiquing the "issuers-pays" model).

obligors or issuers as clients."[89] Furthermore, the agency warned that inaccurate ratings could impact entire asset classes when a credit agency "becomes known for issuing higher credit ratings with respect to such class, resulting in that [ratings agency's] retaining or attracting business from most or all issuers of securities in such class."[90] Conflicts of interest driven by the desire to retain issuer-clients are also relevant to green bond verifiers, who rely on the continued purchase by corporate issuers to be profitable.[91] While international standards seek to limit conflict risks by requiring green bond verifiers to go through a conflict of interest process, the fact that green bond verifiers do not have to abide by any particular set of rules in the environmental finance market produces questions on enforceability.[92]

iv. Conflicts of Interest

Another concern of the similarities between green bond verifiers and credit agencies is the critical role that the reputation of these firms has on the integrity of the market. The certifiers rely on their reputation with both issuers and investors to help give credibility to their ratings; credibility in this market then equates to profitability.[93] Reputation with issuers and investors is not equally distributed, however, with studies pointing to certifiers tipping the balance of importance towards issuers who pay for the certifications.[94] The testimony of employees at rating agencies to regulatory and congressional committees following the Financial Crisis suggested that profit margins took center stage over quality.[95] In fact, the testimony further stated that the ratings methodologies in these institutions were changed in response to ratings purchasers choosing a competitor over their ratings.[96]

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89. U.S. SEC. & EXCH. COMM'N, ANNUAL REPORT ON NATIONALLY RECOGNIZED STATISTICAL RATING ORGANIZATIONS 29 (2017), https://www.sec.gov/ocr/reportspubs/annual-reports/2017-annual-report-on-nrsros.pdf.

90. *Id.*

91. Rose, *supra* note 34, at 64, 71.

92. Kate Allen, *Boom in Green Bonds Attracts Green Ratings Agencies*, FIN. TIMES (May 13, 2018), https://app.ft.com/content/c27b1276-47a3-11e8-8ae9-4b5ddcca99b3 ("Although some of these organisations' broader activities are regulated, third-party verifiers of green bonds do not have to abide by any particular rules in the environmental finance market.").

93. Rose, *supra* note 34, at 72.

94. Bo Becker & Todd Milbourn, *How Did Increased Competition Affect Credit Ratings?*, 101 J. FIN. ECON. 493, 494, 501 (2011).

95. Altman et al., *supra* note 72, at 450–51.

96. *Id.* at 451.

The Financial Crisis is evidence that certification firms competing for reputation is not a guarantee against questionable practices.[97] Before the 2008 Financial Crisis, certification firms competed with each other for more payments from issuers, not for better reputation from investors.[98] In response to the role of CRAs in the Financial Crisis, the U.S. Securities & Exchange Commission recommended reducing reliance on credit rating agencies as a way to mitigate potential impacts on investment decisions.[99]

A number of lawsuits after the financial crisis also call into question the importance certifiers give to reputational standing. The U.S. Department of Justice settled actions against two prominent rating agencies, Standard & Poor's and Moody's.[100] In the Standard & Poor's case, the Department alleged the CRA "engaged in a scheme to defraud investors in structured financial products."[101] The Department found that on several occasions the credit agency had given top ratings to financial products that were failing to perform as advertised.[102] Similarly, the Department pursued an $864 million settlement with Moody's—one of the U.S.'s primary credit agencies—for misleading investors through its issuer ratings.[103] The litigation ultimately found, and Moody's acknowledged, that Moody's used more lenient standards than the company itself published; investors in turn relied on these inaccurate ratings to inform their investments.[104]

Many scholars and regulators continue to argue, however, that reputational capital of verifiers and credit agencies are sufficient deterrents from certifying risky investments.[105] These scholars and regulators argue that the fraudulent and corrupt practices from the financial crisis serve to

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97. Rose, *supra* note 34, at 72.

98. *Id.*

99. U.S. SEC. & EXCH. COMM'N, REPORT TO CONGRESS ON ASSIGNED CREDIT RATINGS 23–24 (2012), https://www.sec.gov/news/studies/2012/assigned-credit-ratings-study.pdf. One way the agency has deemphasized the role of CRAs is by eliminating their names from their regulations. *Id.*

100. Press Release, U.S. Justice Dep't, Justice Department and State Partners Secure $1.375 Billion Settlement with S&P for Defrauding Investors in the Lead up to the Financial Crisis (Feb. 3, 2015) [hereinafter $1.375 Billion S&P Settlement], https://www.justice.gov/opa/pr/justice-department-and-state-partners-secure-1375-billion-settlement-sp-defrauding-investors; Press Release, U.S. Justice Dep't, Justice Department and State Partners Secure Nearly $864 Million Settlement with Moody's Arising From Conduct in the Lead up to the Financial Crisis (Jan. 13, 2017) [hereinafter $864 Million Moody's Settlement], https://www.justice.gov/opa/pr/justice-department-and-state-partners-secure-nearly-864-million-settlement-moody-s-arising.

101. $1.375 Billion S&P Settlement, *supra* note 100.

102. *Id.*

103. $864 Million Moody's Settlement, *supra* note 100.

104. *Id.*

105. Rose, *supra* note 34, at 72.

better tailor regulation moving forward.[106] Furthermore, according to a recent report by the SEC, credit rating entities have improved in compliance, information technology resources, and continued competition.[107] There is some evidence that the optimism is merited with a number of securities rules enacted with the response of Dodd–Frank[108] and certain stipulations[109] resulting from the settlements with the CRAs.[110] The lack of personal accountability by the people running these institutions and the current trend towards financial deregulation, however, suggests that investors can expect pre-Financial Crisis conduct by market actors.

2. Differences Between GBVs and CRAs

Despite the many ways that GBVs are similar to CRAs, they differ in the transparency requirements. CRAs are required to disclose methodologies, data assumptions, and consistency of ratings application whereas GBVs are not subject to such requirements.[111]

Accuracy Rating Standards

Private governance regimes, such as GBVs and CRAs, can suffer from challenges related to the accuracy of the rating standards they are purported to enforce. Both GBVs and CRAs have specific methodologies and processes for developing their ratings.[112] CRAs differ to GBVs, however, because they are required to:

> [P]roduce annual reports on their internal control[] systems, police conflicts of interest in their sales practices, impose fines and penalties for violations, require disclosure of the performance of the CRAs ratings, require disclosure of ratings methodologies and of the data and assumptions underlying those

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106. *Id.*; $1.375 Billion S&P Settlement, *supra* note 100; $864 Million Moody's Settlement, *supra* note 100.

107. Press Release, U.S. Sec. & Exch. Comm'n, Annual Staff Reports on Credit Rating Agencies Show Improvements (Dec. 29, 2017), https://www.sec.gov/news/press-release/2017-238.

108. Rose, *supra* note 34, at 75 (noting that the Dodd–Frank Act "require[s] CRAs to produce annual reports on their internal controls systems, police conflicts of interest in their sales practices, impose fines and penalties for violations, [and] require disclosure of the performance of the CRAs ratings").

109. *See, e.g.*, $864 Million Moody's Settlement, *supra* note 100 (noting that the settlement included a "compliance agreement to prevent future violations of [the] law").

110. *Id.*

111. Rose, *supra* note 34, at 75.

112. *See, e.g.*, ERNST & YOUNG GLOB. LLP, *supra* note 45 (explaining the GBV's process for developing its ratings).

> credit ratings, and require consistency in the application of ratings.[113]

The regulations require CRAs to disclose these methodologies in response to the Financial Crisis, where "CRAs did not seem to fully understand the products that they rated and did not take default correlations into account."[114] Furthermore, investors during the pre-Financial Crisis were not able to assess the quality of the ratings because investors lacked information about the methodologies.[115] GBVs and CRAs differ in the amount of disclosure required as to their methodologies, but perhaps GBVs would also benefit from similar transparency requirements to allow investors to better assess the quality of the ratings.

Given the limited differences between GBVs and CRAs and the problems presented by these characteristics, it is unsurprising to discover the number of problems with green bond issuances by corporate and government entities.

III. BOND VILLAIN EXAMPLES: BORN TO BE BAD OR DISCLOSURE MISCONSTRUED?

The role of the GBV is supposed to insulate the green bond market from issuances of securities that call into question the environmental benefits of projects. Despite the assurances that GBVs provide to the public of the issuers they service, the projects identified below present problems because either their purpose is not widely regarded as serving an environmental end or their structure lacks the necessary transparency safeguards.

To qualify as a green bond under the Green Bond Principles (GBP), issuers select a project from a list.[116] Selecting a project with an environmental purpose alone may not be enough for stakeholders in industries where it does not represent a significant improvement in the company's practice.[117] The most famous green *bond villain* is Repsol, with its green bond issuance for an energy efficiency and carbon emission

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113. Rose, *supra* note 34, at 75.

114. Altman et al., *supra* note 72, at 451.

115. *Id.*

116. *See* Rose, *supra* note 34, at 69 (fleshing out the CBI standards for selecting projects to put on the selection list).

117. *See, e.g.*, *Green Bond Comment, June – of Repsol and Reputation*, ENVTL. FIN. (June 7, 2017), https://www.environmental-finance.com/content/analysis/green-bond-comment-june-of-repsol-and-reputation.html (noting criticism that Repsol's green bonds only represented an incremental change in the company's business model) [hereinafter *Green Bond Comment*].

reduction program.[118] Repsol was the first fossil-fuel company to issue green bonds to help finance energy efficiency and carbon emission reductions.[119] The 2018 offering collected €500 million for energy efficiency and carbon reduction projects anticipated to reduce emissions by 1.2 metric tons.[120] Before issuing the bond, Repsol obtained a second-party certification from Vigeo Eris that the bond was green.[121] Vigeo Eris certified Repsol's green bond based on the company's commitment to reduce waste by 50 kilotons, carbon emissions by 1.9 million tons, and investments in offshore wind power.[122] Despite receiving this certification, most major green indices declined to have the bond listed.[123] Critics of Repsol's issuance assert the bond did not represent a fundamental change in Repsol's business model, only an incremental one.[124] The difference in judgment calls between certifiers underscores the need to have government set baseline criteria for green bond qualifications.

Even when governments intervene to set green bond standards, it is not a given that there will be stakeholder consensus as to their environmental benefits. China's decision to issue green bonds for *clean coal* energy generation facilities garnered negative attention.[125] Greenpeace East Asia found that for the 2016–2017 period, China used green bonds to fund five coal-fired power plants and one coal-to-chemical plant.[126] China would contribute 13 million metric tons of carbon emissions annually from those six facilities alone.[127] In response to mounting pressure and controversy, China recently announced it would disqualify "clean coal" from its green bond guidelines in an effort to align its own definitions to international

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118. Lidia Montes, *Así son los bonos verdes de Repsol: 500 millones de euros para reducer 1,2 toneladas de emisiones de CO2* [These are Repsol's Green Bonds: 500 Million Euros for Reducing 1.2 Tons of CO2 Emissions], BUS. INSIDER ESPAÑA (Aug. 23, 2018), https://www.businessinsider.es/asi-son-bonos-verdes-repsol-500-millones-euros-reducir-12-toneladas-emisiones-co2-293687.

119. *Id.*

120. *Id.*

121. *See* VIGEO EIRIS ENTER., SECOND PARTY OPINION ON THE SUSTAINABILITY OF REPSOL'S GREEN BOND 1 (May 2017) (verifying that Repsol's bond is a green bond), https://www.repsol.com/imagenes/global/en/Repsol_GreenBond_Second_Party_Opinion_tcm14-71044.pdf.

122. *Id.* at 3.

123. *Green Bond Comment*, *supra* note 117.

124. *Id.*

125. *See, e.g.*, Michael Edesess, *Chinese Bonds Struggle to Go Green*, NIKKEI ASIAN REV. (Dec. 19, 2018), https://asia.nikkei.com/Opinion/Chinese-bonds-struggle-to-go-green ("'Green' for Beijing often does not mean green for international buyers.").

126. Michael Standaert, *China Support for 'Clean Coal' Gives Green Bonds a Touch of Gray*, BLOOMBERG ENV'T (Jan. 22, 2018), https://www.bna.com/china-support-clean-n73014474369/ [https://web.archive.org/web/20180205221752/https://www.bna.com/china-support-clean-n73014474369/].

127. *Id.*

standards.[128] China's choice to use green bond instruments to finance projects emphasizes the lack of global consensus as to the scope of projects that qualify for the label.

Another irregular issuance of green bonds came from Southern Power, who issued millions of dollars in securities without a second-party opinion certifier.[129] Southern Power, an electricity generator issued its second round of green bonds in 2016.[130] Southern Power states that the funds are destined for renewable energy projects.[131] The power company had major financial institutions underwriting the green bond issuance, including Barclays, BNP Paribas, Bank of America, Merrill Lynch, and UBS.[132] The interest by these major institutions was combined with the intense investor interest in the project, upgrading the total offering from $750 million to $1 billion.[133] The underwriting by major institutions and investor interest comes despite the fact that Southern Power had not obtained a second-party opinion that the bonds were actually destined for "green" projects.[134] The ability of issuers to choose whether to undergo the certification process could endanger investors purchasing securities without an assurance as to their benefits.

IV. GREEN BOND REGULATION IN THE U.S. & ABROAD

Regulation of green bonds around the world is heavily influenced by the financial instrument's origins in public multilateral development banks.[135] Because of the reliance in the structures set out by international regimes, most of the regulatory structures for green bonds emphasize transparency, reporting, and verification as fundamental regulatory pillars.[136] Best practices, as developed by private governance regimes in the green bond market, have largely set the standard for what is a green

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128. *China Disqualifies 'Clean Coal' Technology From Green Bond Funding*, INST. FOR ENERGY ECON. & FIN. ANALYSIS (Dec. 14, 2018), http://ieefa.org/china-disqualifies-clean-coal-technology-from-green-bond-funding/.

129. Graham Cooper, *US Power Company Issues Second Benchmark-Sized Green Bond*, ENVTL. FIN. (June 14, 2016), https://www.environmental-finance.com/content/news/us-power-company-issues-second-benchmark-sized-green-bond.html.

130. *Id.*

131. *Id.*

132. *Id.*

133. *Id.*

134. *Id.*

135. Park, *supra* note 29, at 14.

136. Echo K. Wang, *Financing Green: Reforming Green Bond Regulation in the United States*, 12 BROOK. J. CORP. FIN. & COM. L. 467, 475 (2018).

bond.[137] Countries and regulatory regimes, however, are not bound by these standards. Regulation of green bonds remains scarce worldwide.[138]

Green bonds enjoy exponential growth, now being available in 23 countries.[139] As of September 2017, China, India, Brazil, and Morocco all released policy and guideline requirements for their country-specific green bond issuances.[140] Below, we will evaluate the regulatory regimes currently in place in the U.S., E.U., and China.

A. United States

In the U.S., green bond issuers can come from both the public and private sector. In the public sector, green bond issuers are comprised primarily of municipal, local, and state governments seeking funding for local infrastructure improvements and water and sewage management.[141] In the private sector, in turn, green bonds in the U.S. have been primarily related to the real estate market and Fannie Mae's mortgages.[142] In the U.S., a number of companies issued green bonds in recent years, including Apple, Unilever, Bank of America,[143] Fannie Mae,[144] Southern Power,[145] and Verizon.[146]

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137. ERNST & YOUNG GLOB. LLP, *supra* note 45.

138. Wang, *supra* note 136, at 477.

139. IFC & CLIMATE BONDS INITIATIVE, CREATING GREEN BOND MARKETS – INSIGHTS, INNOVATIONS, AND TOOLS FROM EMERGING MARKETS, at xv, 14–15 (2018).

140. *Id.*

141. *See* Baker et al., *Financing the Response to Climate Change: The Pricing and Ownership of U.S. Green Bonds* 14 (Nat'l Bureau of Econ. Research, Working Paper No. 25194, 2018) (noting that municipal green bond projects often include infrastructure, water, and sewer projects); *cf.* CLIMATE BONDS INITIATIVE, BONDS AND CLIMATE CHANGE: THE STATE OF THE MARKET IN 2014, at 3 fig. 3 (July 2014) (illustrating that the U.S. is the third largest issuing country of climate-themed bonds), https://www.climatebonds.net/files/post/files/cb-hsbc-15july2014-a3-final.pdf.

142. *See* Kate Allen, *Strict US Market Rules Limit Corporate Sellers of Green Bonds*, FIN. TIMES (Feb. 20, 2018), https://www.ft.com/content/baa217c4-157c-11e8-9376-4a6390addb44 [hereinafter *Market Rules*] (stating that in 2017, Fannie Mae mortgages were among those topping the U.S. private market).

143. Flammer, *supra* note 19.

144. Alicia Jones, *Fannie Mae Wins Recognition as Largest Issuer of Green Bond by the Climate Bonds Initiative*, FANNIE MAE, http://www.fanniemae.com/portal/media/corporate-news/2018/green-bond-award-6680.html (last visited Apr. 27, 2019) ("In 2017, Fannie Mae issued $27.6 billion in Green Mortgage-Backed Securities (MBS) backed by either green building certified properties or properties targeting a reduction in energy or water consumption, up from $3.6 billion in 2016 and $111 million in 2015.").

145. *Southern Power Green Bonds*, SOUTHERN POWER, https://investor.southerncompany.com/information-for-investors/Green-Bonds/Southern-Power/default.aspx (last visited Apr. 27, 2019).

Regulation of environmental, social, and governance (ESG) practices, including green bond standards, in the U.S. is limited to disclosure. The Securities and Exchange Act of 1934 is the primary regulatory tool for a firm's ESG practices.[147] The hope is that when firms disclose ESG practices it will result in pressure from shareholders and other market actors.[148] A recent addition to this is the SEC's guidance on climate change, where the agency began requiring firms to disclose climate change risks and impacts if they represent a material impact to the business.[149] SEC Rule 144(a) on initial offerings regulates green bonds like any other bond; green bonds, however, differ in liability because green bond documents must be incorporated into filings.[150]

At the state level, different governments began regulating the green equity sector. Delaware, best known for its corporate law structure, recently passed a law regulating the ESG disclosure of companies incorporated within the State.[151] Effective July 2018, the State of Delaware developed a Sustainability and Transparency Standards bill for Delaware businesses.[152] The law, however, "does not contemplate or require that State officers determine qualitatively whether an entity has been operated in a sustainable and responsible manner."[153] Furthermore, the law does not "in and of itself, create any right of action on the part of any person or entity or otherwise give rise to any claim for breach of any fiduciary or similar duty owed to any person or entity" for failure to disclose an issuer's sustainability practices.[154]

Aside from the aforementioned regulations, the environmental quality of U.S. green bonds remains unregulated.[155] The voluntary nature of green bond disclosure in the U.S. creates a lag in the markets growth because investors lack certainty in how the financial instruments will be treated.[156] While the U.S. continues to ignore advancements in green equity

146. Emily Chasan, *Verizon Has Bond Market Seeing Green After Billion Dollar Deal*, BLOOMBERG (Feb. 6, 2019), https://www.bloomberg.com/news/articles/2019-02-06/verizon-has-bond-market-seeing-green-after-billion-dollar-deal.

147. Park, *supra* note 29, at 18.

148. Cynthia A. Williams, *The Securities and Exchange Commission and Corporate Social Transparency*, 112 HARV. L. REV. 1197, 1211 (1999).

149. Disclosure Related to Climate Change: Guidance for Public Companies, 75 Fed. Reg. 6290, 6295 (Feb. 8, 2010) (to be codified at 17 C.F.R. pts. 211, 231, 241).

150. *Market Rules*, *supra* note 142.

151. H.B. 310, 149th Gen. Assemb. (Del. 2018).

152. *Id.*

153. *Id.*

154. *Id.*

155. *See generally* Rose, *supra* note 34, at 76 (discussing possible regulation strategies for the U.S.).

156. Wang, *supra* note 136, at 481.

regulation, China and the E.U. continue to move forward shaping the language and the future of the green investment space.[157] A green bond framework similar to the one currently in place in China could help address some of the concerns that investors have regarding the quality of the green equity products.

B. European Union

In the E.U., where green bonds originated, green bond labeling is voluntary and unenforceable.[158] The E.U. has sought to remedy this by issuing recommendations on how to regulate and integrate the European green bond market.[159] Both the European and U.S. markets remain voluntary and largely self-regulated through GBP guidelines.[160] European markets differ from their U.S. counterparts in that institutional investors, such as pension funds, interested in investing in green bonds focus on European securities because of their better information transparency.[161] Green bond information scarcity manifests in three ways: (1) investors are not familiar with the financial products; (2) investors believe that green bonds are risky and will yield lower profits; and (3) investors are nervous about the absence of regulation surrounding the products.[162]

C. China

China currently ranks among the top two green bond producers in the world—in both quantity and quality of green bond issuances.[163] While North America and Western Europe constitute established markets, the largest driver of green bond growth is China, who dominates one-third of

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157. *See* Susanna Rust, *China, EIB Collaboration Seeks 'Common Language' for Green Finance*, INV. & PENSIONS EUR. (Nov. 17, 2017), https://www.ipe.com/news/esg/china-eib-collaboration-seeks-common-language-for-green-finance/www.ipe.com/news/esg/china-eib-collaboration-seeks-common-language-for-green-finance/10021810.fullarticle (describing China's and E.U.'s shared efforts to develop a framework and standards to enable a global green bond market).

158. Wang, *supra* note 136, at 477.

159. HIGH LEVEL EXPERT GROUP ON SUSTAINABLE FINANCE, FINAL REPORT OF THE HIGH-LEVEL EXPERT GROUP ON SUSTAINABLE FINANCE 33 (2018), https://ec.europa.eu/info/sites/info/files/180131-sustainable-finance-final-report_en.pdf.

160. Wang, *supra* note 136, at 481.

161. *Id.*

162. *Id.*

163. Karen Yeung, *China Loses Top Billing as Green Bond Issuer to US*, SOUTH CHINA MORNING POST (Feb. 1, 2018), https://www.scmp.com/business/money/wealth/article/2131623/china-slips-second-biggest-green-bond-market-after-us.

the global market.[164] While the Chinese domestic green bond market has been subject to criticism for lax and inconsistent green standards,[165] this stands in stark contrast to the approval its green bond products received from leading stakeholders, like the Climate Bond Initiative.[166] Although the Climate Bond Initiative has several Chinese partners, it is worth noting that the organization is not funded by Chinese entities, thereby potentially compromising the certification.[167] The graph below illustrates the number of green bonds issued by alignment with the Climate Bond Principles; green bonds that are strongly aligned are represented by the right column, fully aligned bonds are represented by the middle column, and other green bonds issued are represented by the right column, for each country.[168]

164. *See* BONDS AND CLIMATE CHANGE: THE STATE OF THE MARKET IN 2015, *supra* note 43 (attributing 33% of the climate-aligned bond market to China, 12% to the U.S., and 9% each to the U.K. and France).

165. Park, *supra* note 29.

166. *See* BONDS AND CLIMATE CHANGE: THE STATE OF THE MARKET IN 2015, *supra* note 43, at 12 (noting China is the top issuer for climate-aligned bonds).

167. *See Our Funders*, CLIMATE BONDS INITIATIVE, https://www.climatebonds.net/about/funders (last visited Apr. 27, 2019) (listing 22 funders, none of which are Chinese entities).

168. CLIMATE BONDS INITIATIVE, BONDS AND CLIMATE CHANGE: THE STATE OF THE MARKET 2018, at 5 (2018).

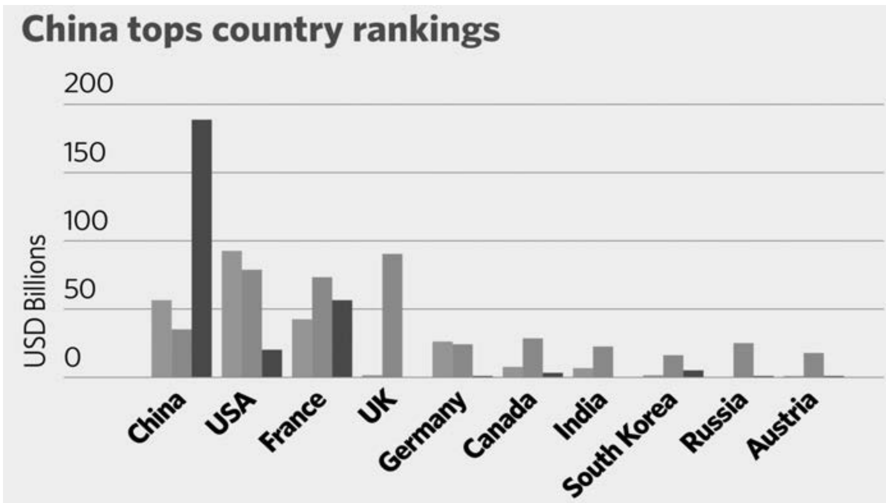

Figure 1. Climate Bonds Initiative, 2018 State of the Market.

China's leadership in green bond issuance does not stop at the portion of the green market that it dominates, but extends to its innovative approach to regulation of the market. The People's Bank of China and China Securities and Regulatory Commission released green bond guidelines.[169] The Chinese agencies' guidance on green bonds aimed to provide "guidance on the development of the green bond market certification system, aimed at streamlining, regulating and promoting the growing market."[170] The guidelines require Chinese banks to provide quarterly reports on how green bond proceeds are used, while the guidelines require corporate issuers to provide annual or semi-annual reports.[171] This reporting frequency is greater than the international standard, which only requires issuers to report on an annual basis.[172] The rigorous Chinese regulatory process helps ensure that issuers obtain third-party verifications at a faster rate than U.S. issuers.[173] While third-party verification in China remains

169. *Id.*

170. Flora McFarlane, *People's Bank of China Releases Green Bond Certification Guidelines*, DESK (Jan. 9, 2018), https://www.fi-desk.com/peoples-bank-of-china-releases-green-bond-certification-guidelines/.

171. Wang, *supra* note 136, at 479.

172. *Id.*

173. *Id.* ("[I]n fact, 80% of Chinese issuers publicly disclose post-issuance information, whereas in contrast, only 50% of U.S. issuers do so."); *see* Sean Kidney, *Myth Buster: Why China's Green Bond Market is More Orderly Than You Might Think. An Overview from Climate Bonds Initiative*, CLIMATE BONDS INITIATIVE (June 21, 2017), https://www.climatebonds.net/2017/06/myth-buster-why-

optional under the guidelines, over 93% of Chinese green bonds have obtained such reviews in contrast to the 85% global average.[174]

Furthermore, the People's Bank of China and China Securities and Regulatory Commission issued a joint statement announcing the creation of a new Green Standards Committee that would "stipulate required qualifications and credentials, verification methods, and reporting requirements" that verifiers would have to comply with in order to certify a green bond.[175] The robust regulation of the green bond sector in places like the E.U. and China create the regulatory environment to increase the issuances of green bonds. The investment sector simply needs the support of government regulation and benefits to continue to grow.[176]

V. THE CASE FOR A U.S. GREEN STANDARDS COMMITTEE

The international community agreed through the Paris Agreement, the Paris Green Bond Statement, and subsequent pledges on the need for all stakeholders to support all the financial tools available to combat climate change—be it through regulation, investment, or advocacy.[177] As it pertains to green bonds, the call remains unanswered in the U.S.

> If it is uncertain or unclear whether green bonds do in fact contribute to environmental sustainability, the entire regulatory fabric of the green bond market may suffer from systemic legitimacy deficits in the eyes of investors, stakeholders, and regulators. If left unaddressed, a lack of legitimacy will hinder

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china%E2%80%99s-green-bond-market-more-orderly-you-might-think-overview-climate (summarizing China's rigorous regulation and verification of green bonds).

174. Wang, *supra* note 136, at 479; *see* Kidney, *supra* note 173 (explaining the benefits of China's regulatory structures).

175. Andrew Whiley, *Chinese Regulators Introduce Supervisory Scheme for Green Bond Verifiers - Further Step in Building Market Frameworks*, CLIMATE BONDS INITIATIVE (Jan. 15, 2018), https://www.climatebonds.net/2018/01/chinese-regulators-introduce-supervisory-scheme-green-bond-verifiers-further-step-building.

176. *See* Nena Stoiljkovic, *The Paris Agreement is a $23 Trillion Investment Opportunity. How Can We Unlock It?*, WOLRD ECON. F. (Jan. 31, 2017), https://www.weforum.org/agenda/2017/01/unlocking-23-trillion-of-climate-investment-opportunities-is-mission-possible/ (proposing priorities for countries hoping to attract green investment that include supportive policies and measures to unlock the potential of the private sector).

177. *Adoption of the Paris Agreement*, *supra* note 12, at art. 2(1)(c); Rose, *supra* note 34, at 61–62; *see also* CLIMATE BONDS INITIATIVE, PARIS GREEN BONDS STATEMENT (2015), https://www.climatebonds.net/files/files/Paris_Investor_Statement_9Dec15.pdf (describing the signatories as "substantial investors in the . . . global bond market").

> the growth of the green bond market and, indeed, stall the sustainable finance revolution.[178]

Regulating green bonds through a Green Standards Committee (GSC) could help resolve some of the structural challenges that the market currently faces. Like the GSC model currently does in China, such a committee could provide oversight to green bond projects. The areas listed below are some of ways in which an oversight commission could benefit the green securities market.

A. Defining Green Bonds

Having a clear definition of which projects constitute green bonds is an important first step in providing more clarity on the green bond market. While the GBPs provide a definition of green bonds that issuers and governments have used, it is not binding on issuers.[179] Countries like China and India have codified similar versions of the GBP as part of an effort to standardize the kinds of projects to be approved.[180]

First, there is a question of defining *greenness*, which ultimately depends on the objectives of the use of green bonds.[181] At the very minimum, the market actors will need to explicitly lay out the objectives of standards in order to provide a clear definition of *greenness*.[182] The lack of explicit and shared objectives for the green bond market is a source of misunderstanding that could eventually harm the market through accusations of greenwashing and potentially higher transaction costs.[183] Governments could facilitate this process by clarifying investment priorities that are coherent with long-term climate and sustainable development strategies or endorsing standards that are aligned with them.[184] By establishing clear standards of the parameters of a green bond, governments and regulatory agencies can reduce the transactional costs of operating in this space and give confidence to the sector.[185]

Similarly, defining green bonds could provide consistency in the types of green bond projects businesses market to the public. As explored in the

178. Park, *supra* note 29, at 7.

179. *See* Wang, *supra* note 136, at 469 (explaining that both the GBPs and the Climate Bond Standard are voluntary).

180. *Id.* at 478–90.

181. SHISHLOV ET AL., *supra* note 52, at 23.

182. *Id.* at 25.

183. *Id.* at 5.

184. *Id.*

185. *Id.* at 4–5.

sections above, a lack of communal understanding of what is within the spectrum of a green bond leads to companies approving projects where the climate benefit may be unclear.[186] Furthermore, inaction in defining what types of financial instruments will qualify as green bonds will embolden issuers with questionable projects to come to the fore.[187] One recent example is Rusal, a Russian aluminum company currently contemplating issuing green bonds despite not being clear on the environmental benefit of potential projects.[188] Green bond issuance of projects with questionable environmental impacts could erode investor confidence in the market, making it more difficult for projects with clear environmental benefits to get the necessary funding.[189]

B. Oversight & Monitoring

Increases in oversight and monitoring could improve the reliability of available information on green bonds. Although international standards and independent second-party verifiers have propelled progress on green bond disclosure; current green bond disclosure is insufficiently meaningful to provide a realistic picture about the environmental quality of the financial products being offered.[190] For example, in Ernst & Young's evaluation of the China Development Bank's 2017 green bond issuance, the company enumerated several ways in which the disclosure was limited, including that the report did not "express an opinion on the effective [sic] and performance of [China Development Bank]'s management system and procedure[s]," did not express an audit opinion, and did not include statutory financial statements.[191] The limited scope of the verifications being currently provided, especially in instances such as Ernst & Young's evaluation of the green bonds issued by the China Development Bank, do not inspire confidence in the environmental integrity of the bonds given the scarce detail provided.[192] A regulating entity, however, could require

186. *See* Standaert, *supra* note 126 (providing the example that China used green bonds for "clean coal").

187. Thomas Hale, *The Green Bond That Wasn't*, FIN. TIMES ALPHAVILLE (Jan. 24, 2018), https://ftalphaville.ft.com/2018/01/24/2198049/the-green-bond-that-wasnt/.

188. *Id.*

189. SHISHLOV ET AL., *supra* note 52.

190. *Id.* at 16–17.

191. ERNST & YOUNG HUA MING LLP, INDEPENDENT LIMITED ASSURANCE REPORT TO THE DIRECTORS OF THE CHINA DEVELOPMENT BANK 4 (2017), https://www.climatebonds.net/files/files/China%27s%20Development%20Bank%27s%202017%20Green%20Bond%20Pre-issuance%20Assurance%20Report.pdf.

192. Rose, *supra* note 34, at 69–70.

similar bonds to submit to additional monitoring and disclosures so as to keep issuers accountable to environmental goals.[193]

C. Ethical Concerns

As of the date of this publication, four of the largest second-opinion green bond certifiers were contacted to comment on negative recommendations for green bond issuance—none had ever issued a negative recommendation for a green bond.[194] Although various factors could influence the reasons for the absence of negative recommendations, such as issuer preparedness and early refusal by verifiers, a regulating entity, such as a GSC, could also provide assurances to the public that there are no ethical conflicts of interest between the second-opinion providers and the issuers that purchase their services. As credit agencies did before them, green bond issuers and the firms that verify them must grapple with the same concerns raised by the issuer-pays business model.[195] Similarly to how credit agencies during the Financial Crisis were incented to put issuer interests before that of the investors that relied on the ratings in order to gain market share, second-party verifiers, absent regulation, could engage in the same problematic behavior that provoked the Financial Crisis.[196] A GSC, which could oversee the market and provide assurances that the verifiers are not engaging in risky behavior, could help prevent the challenges encountered by the equity market previously.

D. Absence of Accountability & Litigation Exposure

A regulating entity, such as a GSC, could also promulgate rules to protect investors' interests by creating rules on liability. While the financial system is well-versed in looking at bond default from a financial

193. SHIVLOV ET AL., *supra* note 52, at 22–23.

194. Correspondence with the top second-party verifiers on file with author. The top second-party verifiers were contacted during the production of this Article to comment on any negative recommendations issued on green bond projects. Sustainalytics responded on January 7, 2019: "In all cases so far, we have not had to publish a Second-Party Opinion that gives a negative opinion, as Issuers will typically revise their framework to exclude those uses of proceeds that we have a negative opinion of, or they forgo seeking a Green Bond." Similarly, Cicero responded on January 8, 2019: "Generally, those that request a review from us are self-selecting and already doing quite a bit in terms of green activities. So we have never had to rate anyone 'brown.'" Vigeo Eiris and Ernst & Young did not respond to the requests. ISS-ESG was not contacted because of the potential perception of conflicts of interests with the author.

195. Rose, *supra* note 34, at 71.

196. *See supra* Parts II & III (highlighting similarities between markets, which leaves green bonds vulnerable to verifier corruption).

perspective, it is less clear what the environmental responsibilities and liabilities would be for default from an environmental perspective.[197] Because green bonds are not only assuring financial proceeds, but also environmental benefits, it remains difficult to quantify public trust damages in the case of default.[198] Similar to the difficulties presented by offset programs in climate change cap-and-trade regimes, without appropriate oversight before, during, and after a project is completed, how can investors be assured that companies in fact produced an environmental benefit?[199] Relying on the possibility that investors or the government later bring suit does nothing to protect the integrity of the green market or the public's interest in transparency at the present.[200]

CONCLUSION

Whether you consider the *villains* of the green bond story to be the issuers or the second-opinion certifiers, the fact remains that the market needs regulation to prevent similar past harms and support future growth.[201] Regulating green bonds would help define the types of qualifying projects, increase transparency, and correct the challenges that triggered the financial crisis. As this Article explored, regulating green bonds would grow the green bond market as stakeholders are better able to make decisions with information as to liability and risk. Governments contemplating green bond regulation will find a valuable resource in China's extensive green bond regulatory regime, which requires more frequent and extensive updates on green projects and which is subject to the oversight of China's Green Standards Committee.

Regulating green bonds, however, will not only be good for the market, it will be good for the environment. Green bonds are a powerful instrument to combat climate change as they open a plethora of investment opportunities to decarbonize the economies of the world. This investment instrument, however, is beginning to be misused, with some issuers

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197. Rose, *supra* note 34, at 77.

198. CLIMATE BONDS INITIATIVE, SCALING UP GREEN BOND MARKETS FOR SUSTAINABLE DEVELOPMENT: A STRATEGIC GUIDE FOR THE PUBLIC SECTOR TO STIMULATE PRIVATE SECTOR MARKET DEVELOPMENT FOR GREEN BONDS 8, 49 (2015), https://www.climatebonds.net/files/files/GB-Public_Sector_Guide-Final-1A.pdf.

199. *Offsets*, CARBON TAX CTR., https://www.carbontax.org/carbon-tax-vs-the-alternatives/offsets/ (last visited Apr. 27, 2019).

200. Lawsuits have proven insufficient for deterrence. *See, e.g.*, Rose, *supra* note 34, at 76 (proposing that lawsuits were only effective after "the largest financial crisis in a generation").

201. *See, e.g.*, *supra* notes 100–04 and accompanying text (discussing the U.S. Department of Justice's lawsuits against Standard & Poor's and Moody's). *But see supra* notes 105–10 and accompanying text (noting that regulations and settlements have deterred risky investments).

diverting funds from *bona fide* green bond issuances to those with questionable or uncorroborated benefits. In the absence of regulation, oversight, and environmental benefit assurances, society runs the risk that trillions of dollars in carbon-reduction investment will ultimately do little to meet the 2°C goal set out by the Paris Agreement. A Green Standards Committee could provide the assurances that the investor community needs: that by purchasing a green bond security they are financing a sustainable future.