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Echo Kaixi Wang

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# FINANCING GREEN: REFORMING GREEN BOND REGULATION IN THE UNITED STATES

## ABSTRACT

*In recent years, green bonds have emerged as a way for the financial industry to contribute to environmentally friendly projects, combat climate change, and provide funds for green infrastructures across the world. While the green bond market has expanded drastically across large nations in Europe and Asia, market growth has stalled in the United States, in part due to a lack of promising regulations in the United States. Existing regulations on green bond issuance in the United States only exists in the form of non-binding international guidelines. This Note reviews the benefits and potentials of green bonds both as an investment tool and a tool for green growth, through the lens of existing international and domestic guidelines. This Note argues that for the green bond market to further expand in the United States, mandatory regulatory support must be imposed on bond issuers through the use of a tiered green bond system, mandated quarterly reports by bond issuers to investors, and imposition of stricter penalties for issuers who misuse the bond money.*

## INTRODUCTION

In December of 2015, 196 parties attended the Twenty-First Conference of Parties to the United Nations Framework Convention on Climate Change (UNFCCC), and adopted the Paris Agreement on climate change, setting a target to achieve full decarbonization in the global economy by the end of the twenty-first century.<sup>1</sup> The goal remains ambitious—with an aim to maintain the average global temperature under two degrees Celsius above the pre-industrial level; nations across the world voluntarily pledged to curb emissions and sought out ways to achieve this goal.<sup>2</sup> Each nation has established its own objectives to reach this level: for the United States, which accounts for one-fifth of the world’s carbon emission, this means a 26–28% reduction of greenhouse gas emission by 2025, while for the European Union, this means a 40% cut in emissions by 2030.<sup>3</sup> Successfully limiting the temperature increase to two degrees Celsius will require an estimated global cumulative investment of \$53 trillion by 2034.<sup>4</sup> Among the various solutions

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1. See IGOR SHISHLOV ET AL., INST. FOR CLIMATE ECON., BEYOND TRANSPARENCY: UNLOCKING THE FULL POTENTIAL OF GREEN BONDS 7 (June 2016) (citation omitted), [https://www.i4ce.org/wp-core/wp-content/uploads/2016/06/I4CE\\_Green\\_Bonds-1.pdf](https://www.i4ce.org/wp-core/wp-content/uploads/2016/06/I4CE_Green_Bonds-1.pdf) [hereinafter I4CE REPORT].

2. See Brad Plumer, *Meeting the Paris Climate Goals Was Always Hard. Without the U.S., It Is Far Harder*, N.Y. TIMES (June 2, 2017), <https://www.nytimes.com/2017/06/02/climate/climate-goals-paris-accord.html>.

3. *Id.*

4. See Org. for Econ. Co-operation & Dev. et al., *Green Bonds: Country Experiences, Barriers and Options* 5 (unpublished input paper) (citation omitted), available at <https://www.oecd.org/envi>

to implement this goal, the green bond market has emerged as a promising method of green investment that can help nations achieve their emission standard.<sup>5</sup>

Green bonds are a growing category of debt securities that are issued by corporations, governments, and institutional banks to raise capital in support of projects beneficial to climate change adaptation and environmental initiatives.<sup>6</sup> The marketplace for green bonds has rapidly expanded since it was first introduced a decade ago, and financial forecasts suggest that its popularity will continue to increase as more institutions hear demands from client-investors who desire investments with positive environmental impacts.<sup>7</sup> After all, climate change carries negative impacts that not only cause extreme weather patterns, but can also have large economic consequences on investments.<sup>8</sup> Between 1990 and 1996, twenty-two floods in the United States led to losses exceeding \$1 billion each, and studies predict that damages from extreme weather patterns will increase in frequency, thereby increasing the damage incurred, and introducing previously unforeseeable risks to investors.<sup>9</sup> It would not be unreasonable to say that it is in an investor's best interest to invest in climate finance such as green bonds, and help mitigate climate changes.<sup>10</sup>

In both international and domestic capital markets, green bonds can be used to mobilize resources for climate change adaptation, renewable energy, and other environmentally friendly projects.<sup>11</sup> Specifically, green bonds allow companies to contribute toward global efforts in reducing greenhouse

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ronment/cc/Green\_Bonds\_Country\_Experiences\_Barriers\_and\_Options.pdf [hereinafter *Barriers and Options*].

5. *See id.*

6. *See* Scott Breen & Catherine Campbell, *Legal Considerations for A Skyrocketing Green Bond Market*, 31 NAT. RESOURCES & ENV'T 16, 16 (2017).

7. *See* Gerrard Cowan, *Investors Warm to 'Green Bonds'*, WALL ST. J. (Apr. 9, 2017, 10:56 PM), <https://www.wsj.com/articles/investors-warm-to-green-bonds-1491790201>.

8. *See* Brianna Baily, *An Institutional Truth: Increasing Institutional Investor Involvement in Climate Finance*, 27 GEO. INT'L ENVTL. L. REV. 447, 454 (2015).

9. It is predicted that the economic impact for Hurricane Harvey ran as high as \$190 billion. While climate change did not cause the hurricane, scientists argue that the effect of climate change made the storm far deadlier and destructive than it would have been in previous decades. *See* Wayne Drash, *Yes, Climate Change Made Harvey and Irma Worse*, CNN (Sept. 19, 2017, 9:59 AM), [www.cnn.com/2017/09/15/us/climate-change-hurricanes-harvey-and-irma/index.html](http://www.cnn.com/2017/09/15/us/climate-change-hurricanes-harvey-and-irma/index.html); *see also* Frank Holmes, *We Looked Into the Effects of Hurricane Harvey and Here's What We Found*, FORBES (Sept. 5, 2017, 1:25 PM), <https://www.forbes.com/sites/greatspeculations/2017/09/05/we-looked-into-the-effects-of-hurricane-harvey-and-heres-what-we-found/#301505f876f1>; *see also* RORY SULLIVAN, CLIMATE CHANGE: IMPLICATIONS FOR INVESTORS AND FINANCIAL INSTITUTIONS 6 (June 2014), *available at* [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2469894](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2469894).

10. *See* SULLIVAN, *supra* note 9, at 9.

11. *See* *Green Bonds*, U.N. DEV. PROGRAMME, <http://www.undp.org/content/sdfinance/en/home/solutions/green-bonds.html> (last visited Feb. 24, 2018).

gas emissions.<sup>12</sup> However, green bond regulations are largely lacking in the United States, and existing regulations in most nations are enforced only on a voluntary basis.<sup>13</sup> This can be problematic, since a corporation can sell self-labeled green bonds to take advantage of the bond's special benefits and tax exemptions, but then "greenwash" the bond by investing the proceeds for purposes that do not serve to benefit the environment.<sup>14</sup> In addition, there are limited mandated transparency requirements on how green bonds are used, and even fewer ways to exert recourses against issuers who misappropriate green bond proceeds.<sup>15</sup>

Today, there are two international regulatory systems that bond issuers can refer to when issuing the security.<sup>16</sup> First, there is the Green Bond Principles (GBP), which was published in 2014 by the International Capital Market Association (ICMA) and several large investment banks.<sup>17</sup> Second, there is the Climate Bond Standard (CBS), which established recommendations for sector-specific standards that climate bonds should meet before they are certified.<sup>18</sup> Both guidelines are voluntary, and there are no monitoring mechanisms in place to enforce them.<sup>19</sup> In the last few years, both China and India established more concrete official regulations, yet the majority of compliance regulations are still voluntary.<sup>20</sup>

This Note argues that in order for the green bond marketplace to continue its growth and expansion in the United States, the United States must establish clear-cut regulation for green bonds, and prevent corporations from greenwashing bonds or otherwise deceiving green bond investors of the purported climate related benefits. Part I will examine the history of green bonds, their benefits, the types of green bonds available, and the prospective

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12. See VanEck, *How Investors Can Evaluate the Impact of a Green Bond*, MKT. REALIST (May 9, 2017, 8:22 AM), <http://marketrealist.com/2017/05/u-s-corporate-green-bonds-faring> (Apple, Inc., for example, issued green bonds following the 2016 Paris Climate Agreement, in an effort to demonstrate how businesses can lead the efforts to reduce global greenhouse gas emissions.).

13. See, e.g., INT'L CAPITAL MKTS. ASS'N, THE GREEN BOND PRINCIPLES 2017 (June 2, 2017), <https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/GreenBondsBrochure-JUNE2017.pdf>.

14. See Torsten Ehlers & Frank Packer, *Green Bond Finance and Certification*, BIS Q. REV., Sept. 17, 2017, at 89, [https://www.bis.org/publ/qtrpdf/r\\_qt1709h.htm](https://www.bis.org/publ/qtrpdf/r_qt1709h.htm).

15. See Kevin M. Talbot, Note, *What Does "Green" Really Mean?: How Increased Transparency and Standardization Can Grow the Green Bond Market*, 28 VILL. ENVTL. L.J. 127, 136 (2017); see also Mark Howe, *Preventing Greenwash with Green Bonds*, SOURCEABLE (Mar. 14, 2016), <https://sourceable.net/preventing-greenwash-with-green-bonds>.

16. See *Green Bonds*, *supra* note 11.

17. See CLIMATE BONDS INITIATIVE, CLIMATE BONDS STANDARD 2–3 [https://www.climatebonds.net/files/files/Climate%20Bonds%20Standard%20v2\\_1%20-%20January\\_2017\(1\).pdf](https://www.climatebonds.net/files/files/Climate%20Bonds%20Standard%20v2_1%20-%20January_2017(1).pdf) (last visited Feb. 1, 2018); see also *What are the Green Bond Principles*, WORLD BANK GREEN BONDS, <http://treasury.worldbank.org/cmd/htm/Chapter-2-Green-Bond-Principles.html> (last visited Feb. 21, 2018).

18. See CLIMATE BONDS INITIATIVE, *supra* note 17, at 3.

19. See Chris Floods, *Green Bonds Need Global Standards*, FIN. TIMES (May 8, 2017), <https://www.ft.com/content/ef9a02d6-28fe-11e7-bc4b-5528796fe35c>.

20. See I4CE REPORT, *supra* note 1, at 16, 21.

development of green bonds. Part II will examine existing green bond regulations among global companies, utilities, and banks.<sup>21</sup> Part II will also analyze the two existing international principles, GBP and CBS, and compare them with the national regulations recently implemented in China and India, as well as address the current U.S. green bond regulation system. Part III will identify problems and challenges facing the use of green bonds, specifically pertaining to the problems of greenwashing and the lack of transparency, as well as the general lack of an industrial standard.

In Part IV, this Note will argue that current U.S. regulations are insufficient for managing green bonds because investors have too much leeway to define and label their own bond as “green;” absent regulations that provide otherwise, the risks of greenwashing and abuse of power are great, which further threatens to deter investors from expanding their investment into the green bond market. Since green bonds are growing increasingly popular, this Note will present potential solutions for the green bond industry and suggest ways to implement tighter regulatory rules. Specifically, a formal and binding guideline for the regulation of green bonds should exist to: 1) provide heightened transparency requirements imposed on green bond issuers to release periodic updates for investors and disclose how bond proceeds are spent, 2) impose penalties for issuers that tamper with the bond use for non-green purposes, and 3) establish a clear categorization system through a tiered system, which can be used to determine whether a given bond is “green” enough for the purposes of a green bond.

## I. GREEN BOND PRIMER

### A. WHAT IS A GREEN BOND?

A green bond is a debt instrument issued to holders to support or finance environmentally friendly projects, such as public transportation, renewable energy, energy efficiency, clean water, and sustainable land use.<sup>22</sup> Green bonds are like traditional bonds in their structure, risks, and returns; but unlike regular bonds, green bonds specifically serve a positive environmental impact, such as financing projects with environmental benefit or low-carbon transportation systems.<sup>23</sup> Green bonds belong to a broader classification of bonds known as the climate-aligned bonds, which is a category of bonds used

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21. See Justin Pugsley, *Regulators Starting to Catch Up with Green Bond Boom*, GLOBAL RISK REGULATOR (Sept. 13, 2016), <https://www.globalriskregulator.com/Subjects/Capital/Regulators-starting-to-catch-up-with-green-bond-boom>.

22. See Breen & Campbell, *supra* note 6, at 16; see also *Green Bonds*, *supra* note 11.

23. See *Green Bonds*, *supra* note 11; see also Chaoni Huang, *ASEAN Has Chance to Rival China in Green Bonds*, NIKKEI ASIAN REV. (Jan. 31, 2018, 7:00 AM), <https://asia.nikkei.com/Viewpoints/Chaoni-Huang/ASEAN-has-chance-to-rival-China-in-green-bonds>.

to finance low carbon infrastructures.<sup>24</sup> There are two categories of green bonds: green labeled bonds and green unlabeled bonds. Green labeled bonds proceeds are used to finance green assets and are labeled as green by their issuers; on the other hand, green unlabeled bonds finance green projects and promote low carbon economy, but they are not labeled as “green” by their issuers.<sup>25</sup> As of July 2016, 17% of the outstanding climate-aligned bonds, or \$118 billion, are labeled green bonds, while \$576 billion outstanding are unlabeled green bonds.<sup>26</sup> Originally, green bonds were demanded by and catered to attract socially responsible investors and climate change activists, but they have expanded to attract investors beyond those categories.<sup>27</sup> Today, green bonds are used by governments and private firms worldwide to finance green projects, ultimately lowering the cost of capital for green infrastructures.<sup>28</sup>

## B. BENEFITS OF GREEN BONDS

From an investor’s perspective, green bonds are popular because they are often bundled together with certain tax benefits, serve a beneficial purpose to the socially conscious, and tend to have high investment grade ratings.<sup>29</sup> Certain green bonds are coupled with tax incentive policies.<sup>30</sup> For example, policy makers can provide bond investors with tax credits rather than interest payments, which benefits both the investors and the bond issuers, creating a win-win situation for both parties.<sup>31</sup> The green bond investors will not be required to pay income tax for the green bonds they hold, while the issuer

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24. See CLIMATE BONDS INITIATIVE, BONDS AND CLIMATE CHANGE: THE STATE OF THE MARKET IN 2016 1, 4 (July 2016), <https://www.climatebonds.net/files/files/CBI%20State%20of%20the%20Market%202016%20A4.pdf> [hereinafter BONDS AND CLIMATE CHANGE].

25. See *Green Bonds*, *supra* note 11; see also Andrew Whiley, *Climate Bonds State of the Market Report 2017: Green Bonds & Climate-Aligned Universe Now Stands at \$895bn: Launch Today at Climate Week NYC Event*, CLIMATE BONDS INITIATIVE (Sept. 18, 2017), <https://www.climatebonds.net/2017/10/climate-bonds-state-market-report-2017-green-bonds-climate-aligned-universe-now-stands-895bn>.

26. See BONDS AND CLIMATE CHANGE, *supra* note 24, at 2.

27. See *Green Bonds*, *supra* note 11.

28. See Henry M. Paulson Jr., *How to Raise Trillions for Green Investments*, N.Y. TIMES (Sept. 20, 2016), [https://www.nytimes.com/2016/09/20/opinion/how-to-raise-trillions-for-green-investments.html?\\_r=0](https://www.nytimes.com/2016/09/20/opinion/how-to-raise-trillions-for-green-investments.html?_r=0).

29. See *Investment Grade*, INVESTOPEDIA, <http://www.investopedia.com/terms/i/investmentgrade.asp> (last visited Feb. 22, 2018) (A bond with high investment grade is a bond with a rating at or above “BBB,” which means that the bond has a relatively low default risk, making it an attractive investment for investors.); see also Ehlers & Packer, *supra* note 14, at 89.

30. See RBC CAPITAL MKTS., GREEN BONDS: FIFTY SHADES OF GREEN 19 (Mar. 26, 2014), [http://www.rbc.com/community-sustainability/\\_assets-custom/pdf/Green-Bonds-Fifty-Shades-of-Green.pdf](http://www.rbc.com/community-sustainability/_assets-custom/pdf/Green-Bonds-Fifty-Shades-of-Green.pdf).

31. See *id.* (An example of this tax incentive is seen in the Green Funds Scheme in the Netherlands, which “allows individual investors to buy bonds or shares in the ‘Green Fund,’ accepting a lower interest rate in exchange for 2.5% tax credit.”).

will not have to pay interests for their green bond issuances.<sup>32</sup> Policy makers can also provide governmental cash rebates to green bond issuers to subsidize their net interest payment.<sup>33</sup> The Chinese government utilized this form of financial incentive as a tactic to promote green bond issuance. For instance, the Futian District of Shenzhen City announced that it would provide a “2% interest subsidy for corporate green bonds and 1% for central [organizations].”<sup>34</sup> It is fair to expect other incentives will be introduced in the near future.<sup>35</sup>

Green bonds are also popular because they are frequently oversubscribed; their popularity makes these bonds easy to sell but difficult to buy on the secondary market.<sup>36</sup> This demonstrates a high demand but low supply for green bonds, which allows green bond investors to sell at higher prices than conventional bonds, sometimes exceeding five or six times the initial issuance.<sup>37</sup> In addition, by issuing green bonds, a corporation can signal to its investors that it is developing long-term strategic approaches to address climate change risks, and further attract more investors.<sup>38</sup> While the current green bond market is only a small fraction of the global bond market, there is a rise in demand of investors seeking lower-carbon investments.<sup>39</sup> Specifically, green bonds appeal to many investors who are committed to having their bond proceeds used for Environmental Social Governance (ESG) purposes.<sup>40</sup>

Lastly, green bonds are desirable because they are usually classified as high quality bonds that share similar risks and return characteristics as bonds in the broader global bond market.<sup>41</sup> As a result, it is easy for investors to replace portions of their core bond allocation with green bonds, with little impact on the investor’s portfolio.<sup>42</sup> This provides investors with a hedging

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32. See *Tax Incentives for Issuers and Investors*, CLIMATE BONDS INITIATIVE, <https://www.climatebonds.net/policy/policy-areas/tax-incentives> (last visited Feb. 22, 2018).

33. *Id.*

34. CLIMATE BONDS INITIATIVE, *STUDY OF CHINA’S LOCAL GOVERNMENT POLICY INSTRUMENTS FOR GREEN BONDS* (Apr. 2017), [https://www.climatebonds.net/files/reports/chinalocalgovt\\_02\\_13.04\\_final\\_a4.pdf](https://www.climatebonds.net/files/reports/chinalocalgovt_02_13.04_final_a4.pdf).

35. *Id.*

36. See JOHN CHIANG, CAL. STATE TREASURER, *GROWING THE U.S. GREEN BOND MARKET: VOLUME 1: THE BARRIERS AND CHALLENGES* 11 (Jan. 23, 2017), [http://www.treasurer.ca.gov/greenbonds/publications/reports/green\\_bond\\_market\\_01.pdf](http://www.treasurer.ca.gov/greenbonds/publications/reports/green_bond_market_01.pdf).

37. See *What Are the Benefits of Issuing Green Bonds and the Potential of the Green Bond Market?*, WORLD BANK TREASURY, <http://treasury.worldbank.org/cmd/htm/Chapter-3-Benefits-and-Potential.html> (last visited Feb. 23, 2018); Breen & Campbell, *supra* note 6, at 17.

38. See Floods, *supra* note 19.

39. *See id.*

40. See HSBC, *SOCIAL BONDS*, [www.gbm.hsbc.com/-/media/gbm/reports/insights/social-bonds.pdf](http://www.gbm.hsbc.com/-/media/gbm/reports/insights/social-bonds.pdf).

41. See VanEck, *The Investment Case for Green Bonds*, SEEKING ALPHA (Mar. 27, 2017, 2:03 PM), <https://seekingalpha.com/article/4058210-investment-case-green-bonds>.

42. *See id.*

tool against climate risk.<sup>43</sup> The overall prospect of the green bond market is positive, and the strong surplus in demand for green bonds signals a clear need to grow the issuer base, and meet this demand.<sup>44</sup>

### C. GREEN BOND MARKET AND EXPANSION

Green bonds first emerged in the market in 2007 when the European Investment Bank issued a “climate awareness bond” as a way to fund renewable energy projects across the world.<sup>45</sup> Since then, the global market for green bonds has expanded rapidly and the bonds are in constant demand. In March 2013, the International Finance Corporation (IFC) issued their first \$1 billion green bond, which completely sold out within an hour of issuance.<sup>46</sup> Similarly, when the Zhejiang Geely Group, a Chinese owner of London Taxi Company, issued \$400 million of green bonds in May 2017 to help develop zero-emission cabs, those bonds were grossly oversubscribed by eager investors.<sup>47</sup> In 2012 the global issuance of green bonds was merely \$3 million, but by 2016 issuance reached \$97 billion, and then nearly doubled to \$150 billion in 2017.<sup>48</sup> The popularity of green bonds is quickly growing as a part of a trend in “do-good investments,” which allows investors to invest and make an environmentally-positive impact at the same time.<sup>49</sup> Not surprisingly, then, green bonds are especially attractive for countries emitting some of the largest quantities of pollution and looking for remedies.<sup>50</sup> For example, China, which only issued \$1 billion of green bonds in 2015, now accounts for over two-thirds of total emerging market green issuance, issuing \$23 billion of green bonds in 2016.<sup>51</sup>

While governments and multilateral development banks originally issued green bonds, there has been an increase in issuance by global companies,

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43. See Rochelle J. March, *6 Benefits to Companies That Issue Green Bonds*, GREENBIZ (May 5, 2017, 3:45 AM), <https://www.greenbiz.com/article/6-benefits-companies-green-bonds>.

44. See Floods, *supra* note 19.

45. See Richard Willis, *EIB Highlights 10th Anniversary of the EIB Issuing the World's First Green Bond and Confirms New Green Bond Tree Planting Scheme*, EUR. INV. BANK (June 30, 2017), [www.eib.org/infocentre/press/releases/all/2017/2017-173-eib-highlights-10th-anniversary-of-the-eib-issuing-the-worlds-first-green-bond-and-confirms-new-green-bond-tree-planting-scheme.htm](http://www.eib.org/infocentre/press/releases/all/2017/2017-173-eib-highlights-10th-anniversary-of-the-eib-issuing-the-worlds-first-green-bond-and-confirms-new-green-bond-tree-planting-scheme.htm).

46. Joel Makower, *GreenFin Funds the Sustainability Transition*, GREENBIZ (Feb. 5, 2018, 2:00 AM), <https://www.greenbiz.com/article/greenfin-funds-sustainability-transition>.

47. See Pugsley, *supra* note 21.

48. See *Green Bonds Channel Private-Sector Funding to the Climate*, ECONOMIST (June 10, 2017), <https://www.economist.com/news/finance-and-economics/21723138-questions-persist-about-proliferation-green-standards-green-bonds>; Tim Gray, *Cutting Carbon Emissions While Earning Cash*, N.Y. TIMES (Jan. 12, 2018), <https://www.nytimes.com/2018/01/12/business/cutting-carbon-emissions-earning-cash.html>.

49. Cowan, *supra* note 7.

50. See Pugsley, *supra* note 21.

51. See Claire Milhench, *Emerging Climate Bonds Boom, But Are They Really Green?*, REUTERS (Aug. 18, 2017, 9:37 AM), <https://www.reuters.com/article/us-emerging-bonds-green/emerging-climate-bonds-boom-but-are-they-really-green-idUSKCN1AY1F4>.



private firms, and utility service providers.<sup>52</sup> In fact, by March 2016, forty-five corporations and banks have emitted green bonds, in comparison to only thirty in 2013, and only ten in 2012.<sup>53</sup> In Mexico, for example, private firms use green bonds to finance private wind parks, while in India, South Africa, and Morocco, funds go toward building solar panels.<sup>54</sup> Green bond issuances are expanding into the U.S. markets as well. In 2016, Apple, Inc. issued “the biggest green bond ever sold by a U.S. corporation” to finance energy efficiency projects, and recently it issued another \$1 billion worth of green bonds for the same purpose, with a goal to eventually run 100% of its operations on renewable energy.<sup>55</sup> Starbucks Corporation has also issued a total of \$1.2 billion between 2016 and 2017 to help finance the purchase of sustainable coffee.<sup>56</sup> The issuance of green bonds is just as popular in the transportation industry.<sup>57</sup> The San Francisco Bay Area Rapid Transit agency issued their first green bonds in May 2017, with the purpose of providing “low carbon transportation alternatives.”<sup>58</sup> Even financial regulators have begun to show an interest in the benefits of this type of green bond; the Australian Prudential Regulation Authority, recognizing that climate change may be an ongoing material risk economically, pushed financial institutions and businesses to address this concern in future transactions.<sup>59</sup> The stock markets also reacted positively, with the Oslo Stock Exchange, Stockholm Stock Exchange, London Stock Exchange, Mexico Stock Exchange, Luxembourg Stock Exchange, and Borsa Italiana all adopting a dedicated segment for green bonds.<sup>60</sup>

The green bond market largely operates on a “market-driven approach,” whereby allowing issuers the freedom to label bonds as green, investors can agree or disagree with the labeling, and green bonds that investors agree with and invest in will thrive in the market.<sup>61</sup> This approach can then be regulated

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52. See Pugsley, *supra* note 21.

53. See Olivier D. Zerbib, *The Green Bond Premium 3* (Oct. 17, 2017) (unpublished manuscript), available at <https://ssrn.com/abstract=2889690>.

54. See Paulson Jr., *supra* note 28.

55. Alex Webb, *Apple Issues a Second Green Bond to Finance Clean Energy*, BLOOMBERG (June 13, 2017, 9:59 AM), <https://www.bloomberg.com/news/articles/2017-06-13/apple-issuing-a-second-green-bond-to-finance-clean-energy>.

56. See Nina Chestney, *UK Water Utility's Green Bond is Start of a "New Wave": ING*, REUTERS (Oct. 2, 2017, 7:06 AM), <https://www.reuters.com/article/us-green-bonds-ing/uk-water-utilitys-green-bond-is-start-of-a-new-wave-ing-idUSKCN1C716Q>.

57. See Luca Morreale, *The Coming Backlash to 'Greenwashing' of Bonds*, BLOOMBERG BUSINESSWEEK (Aug. 11, 2017, 12:00 AM), <https://www.bloomberg.com/news/articles/2017-08-11/the-coming-backlash-to-greenwashing-of-bonds-quicktake-q-a>.

58. *Id.*

59. See *Evolving Disclosure Standards in Green Bonds*, ASHURST (May 12, 2017), <https://www.ashurst.com/en/news-and-insights/legal-updates/evolving-disclosure-standards-in-green-bonds/> [hereinafter ASHURST REPORT].

60. *See id.*

61. See Aaron Franklin et al., *Green Bonds: Financing a Sustainable Future*, PLC MAG. (July 2017), <https://www.lw.com/thoughtLeadership/green-bonds-financing-sustainable-future>.

by non-governmental organizations and other market stakeholders, who serve as *de facto* gatekeepers that can label an issuer as greenwashing their bond, thereby harming the marketability of the bond, or exclude the company's issuance from the green bond database altogether.<sup>62</sup>

Although green bonds can have a positive impact on the environment, “[t]he direct impact of green bonds on the environment largely depends on the quality and performance of the underlying projects financed by the proceeds.”<sup>63</sup> The World Bank data has an estimated impact of its portfolio, and as one example, revealed that “two energy saving projects in China expect to save 12.6 million tons of CO<sub>2</sub> equivalent annually through \$400 million of financing from green bonds.”<sup>64</sup> Furthermore, the quality and impact of the project funded by green bonds can be strengthened over time, through a “deeper integration of environmental and climate factors into the project design,” market incentives, and other regulatory means.<sup>65</sup>

## II. EXISTING GREEN BOND REGULATIONS

### A. INTERNATIONAL GUIDELINES: THE GBP AND CBS

Currently there are two international certification mechanisms that are available to any issuer who wishes to issue green bonds.<sup>66</sup> The GBP and the CBS principles are used as guidelines to assess the eligibility and credentials of green bonds.<sup>67</sup> Since green bond issuers come from a wide variety of business sectors, ranging from banks and companies to sovereign states, the GBP and CBS principles apply to all bond issuers alike.<sup>68</sup> Furthermore, many jurisdictions have developed their own national taxonomies regarding what constitutes eligibility as a green bond.<sup>69</sup>

The GBP is one of the guidelines outlining recommendations on how to issue and certify green bonds.<sup>70</sup> It was originally published in 2014 by ICMA, an organization that conducts research and publications to adopt better government practices around the globe.<sup>71</sup> The GBP has undergone two updates, the most recent in 2017.<sup>72</sup> The GBP was established to promote integrity in the green bond market by establishing guidelines and recommending “transparency, disclosure, and reporting” by issuers to

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62. *See id.*

63. *Green Bonds*, *supra* note 11.

64. *Id.*

65. *Id.*

66. *See Ehlers & Packer*, *supra* note 14, at 92–93.

67. *See id.*

68. K.K., *What Makes Bonds “Green”?*, *ECONOMIST* (July 4, 2017), <https://www.economist.com/blogs/economist-explains/2017/07/economist-explains-1>.

69. *See Ehlers & Packer*, *supra* note 14, at 91–92.

70. *See THE GREEN BOND PRINCIPLES 2017*, *supra* note 13.

71. *See Who We Are*, ICMA, <https://icma.org/who-we-are> (last visited Feb. 2, 2018).

72. *See ASHURST REPORT*, *supra* note 59.

stakeholders.<sup>73</sup> To be considered a green bond under the GBP: 1) the bond must fulfill requirements in the use of proceeds, 2) the bond must be processed for project evaluation and selection, 3) there must be management of the bond proceeds, and 4) the bond must comply with reporting requirements.<sup>74</sup> The GBP lists nine broad categories of projects that are eligible as green projects: renewable energy, energy efficiency, pollution prevention and control, environmentally sustainable management for living natural resources and land use, terrestrial and aquatic biodiversity conservation, clean transportation, sustainable water and wastewater management, climate change adaptation, eco-efficient and/or circular economy adapted product, and green buildings that meet standards of certification at the regional, national, or international level.<sup>75</sup> However these categories are not extensive, meaning that projects outside of these categories may also qualify because the categorical definitions may vary “depending on sector and geography.”<sup>76</sup> In addition, under the GBP, green bond issuers should provide clear information to its investors about the environmental objective of the bond, how the project fits the categories listed under the GBP, and how it plans to fulfill the objective.<sup>77</sup> The GBP further advises that in managing the proceeds, issuers should hire auditors or third parties to verify and track the allocation of the funds, as a way to encourage a higher level of transparency.<sup>78</sup>

The GBP encourages issuers to use qualitative performance indicators to record the positive environment outcomes that result from the program, including information such as the energy capacity, energy generated, and amount of greenhouse gas emissions reduced.<sup>79</sup> In addition to fulfilling the four conditions, the GBP also suggests that the bond issuers utilize external third party reviews to confirm that their bonds are in accordance with the GBP.<sup>80</sup> The external review may be a partial review, which covers only some aspects of the GBP, or a full review that assesses the bond under all four requirements of the GBP.<sup>81</sup> The review can be conducted through consultant review, verification by an independent party, or the bond can be green bond certified, or ranked and rated by a rating agency.<sup>82</sup>

In addition to the GBP, the CBS is the second voluntary standard that provides a method to assess the validity of green bonds and instill confidence

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73. THE GREEN BOND PRINCIPLES 2017, *supra* note 13.

74. *See id.*

75. *See id.*

76. *Id.*

77. *See id.*

78. *See id.*

79. *See id.*

80. *See id.*

81. *See id.*

82. *See id.*

in investors regarding the credentials of the green bonds.<sup>83</sup> The CBS was developed by the Climate Bonds Initiative (CBI), an international not-for-profit organization that works solely for the purpose of mobilizing “the \$100 trillion bond market, for climate change solutions[,]” and offering accreditation and certifications.<sup>84</sup> The CBS incorporated key components of the GBP, and thus issuers whose green bonds comply with the CBS standard automatically qualify under the GBP.<sup>85</sup>

There are certain differences between the CBS and the GBP; the CBS is directed at green bonds focused on low-carbon emission projects, while the GBP applies to a broader range of projects.<sup>86</sup> The CBS contains a more extensive list of low-carbon emission project types, including forty-six sectors of project types that can be financed with green bond proceeds.<sup>87</sup> The CBS contains both pre-issuance requirements and post-issuance requirements, a categorical list of projects the proceeds can be used for, provides mandated procedures for ways to track the use of proceeds, requires bond issuers to issue annual reports regarding where the proceeds are spent, and recommends that bonds are approved by an external verifier to check that the relevant green bonds comply with standardized criteria.<sup>88</sup> Once an eligible project is identified, the CBS requires issuers to obtain third party verification from verifiers that have already been approved by the CBS Board.<sup>89</sup> Examples of companies that have been approved as verifiers include Ernst & Young, Sustainalytics, and First Environment.<sup>90</sup>

## B. NATIONAL AND DOMESTIC GREEN BOND REGULATIONS

Aside from the intentional standards, most individual nations have imposed limited to no formal regulations or guidelines on the green bond market. Even in places with large green bond markets such as China and Europe, the regulation of the green bond market is still scarce. In fact, in the European Union, where the green bonds originated, labeling bonds as green is still voluntary and unenforceable.<sup>91</sup> With that said, there has been a push by the High-Level Expert Group on Sustainable Finance to create mandatory standards and product labels for green bonds to create greater clarity to

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83. See Barriers and Options, *supra* note 4, at 14.

84. *About Us*, CLIMATE BOND INITIATIVE, <https://www.climatebonds.net/about> (last visited Feb. 2, 2018); Kate Allen, *Sellers of Green Bond Face a Buyer's Test of Their Credentials*, FIN. TIMES (May 25, 2017), <https://www.ft.com/content/467b5778-3fd7-11e7-82b6-896b95f30f58>.

85. See CLIMATE BONDS INITIATIVE, *supra* note 17, at 3.

86. See *id.*

87. See *Climate Bonds Taxonomy*, CLIMATE BONDS INITIATIVE, <https://www.climatebonds.net/standards/taxonomy> (last visited Oct. 20, 2017).

88. See CLIMATE BONDS INITIATIVE, *supra* note 17, at 3–14.

89. See Breen & Campbell, *supra* note 6, at 18.

90. See *id.*

91. See Pugsley, *supra* note 21.

investors.<sup>92</sup> A few countries have also taken steps to create local green bond regulations. Specifically, as of September 2017, China, India, Brazil, and Morocco all released policy and guideline requirements for the issuance of green bonds in their respective countries.<sup>93</sup> This Note compares the existing regulations in China and India with current U.S. regulations.

### 1. Green Bond Regulation in China

Green bonds play a significant role in China's economy, accounting for 2% of all bonds issued through China's domestic institutions and corporations.<sup>94</sup> While it only accounts for 0.2% internationally,<sup>95</sup> 80% of China's green bond issuance in 2016 was issued by financial institutions.<sup>96</sup> For example, in 2017, the Shanghai Pudong Development Bank and Industrial Bank topped the list for issuing green bonds, each allocated \$7.4 billion for issuance.<sup>97</sup> In 2016, China-based issuers accounted for \$32.9 billion of green bonds in total.<sup>98</sup>

Not only is China active in the green bond market, it is also one of the leaders in the global efforts to regulate and harmonize green standards.<sup>99</sup> In December 2015, the People's Bank of China (PBoC), China's central bank, and the National Development and Reform Commission published two sets of guidelines for green bond issuance, covering both green financial bonds in the inter-bank market<sup>100</sup> as well as green enterprise bonds.<sup>101</sup> Furthermore, the Chinese Securities Regulatory Commission (CSRC) issued a guiding opinion in March 2017 to support the development of green bonds.<sup>102</sup> What is particularly interesting is that the PBoC rule made disclosure a key component of the guideline.

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92. See Morreale, *supra* note 57.

93. ASHURST REPORT, *supra* note 59.

94. See Lucy Hornby, *China Leads World on Green Bonds But the Benefits are Hazy*, FIN. TIMES (May 3, 2017), <https://www.ft.com/content/84ac893a-028e-11e7-aa5b-6bb07f5c8e12>.

95. See *id.*

96. See *id.*

97. See *id.*

98. See *Moody's Says Green Bond Issuance Set for Another Record Year*, REUTERS (Jan. 19, 2017, 12:49 AM), [www.reuters.com/article/bonds-greenfinance/moodys-says-green-bond-issuance-set-for-another-record-year-idUSL4N1F91C0](http://www.reuters.com/article/bonds-greenfinance/moodys-says-green-bond-issuance-set-for-another-record-year-idUSL4N1F91C0).

99. 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-china's-green-bond-market-more-orderly-you-might-think-overview-climate>.

100. See *China's Bond Market*, CSOP ASSET MGMT., <https://csopasset.us/markets/bond-market> (last visited Feb. 20, 2018) (noting that the Chinese Interbank market is regulated by the People's Bank of China, and covers 90% of the Chinese bond market).

101. See Andrew Whiley, *China Issues Special Green Bonds Guidelines for Listed Companies + New China Local Govt Green Bond Policy Recommendations*, CLIMATE BONDS INITIATIVE (May 3, 2017), <https://www.climatebonds.net/2017/05/china-issues-special-green-bonds-guidelines-listed-companies-new-china-local-govt-green-bond>.

102. See ASHURST REPORT, *supra* note 59.

Under the guideline, Chinese banks are required to provide quarterly reports on how the green bond proceeds are used, while corporate issuers must provide annual or semi-annual reports.<sup>103</sup> This reporting frequency is far greater than the current international standard, which merely requires annual reporting.<sup>104</sup> Enforcing a mandatory and rigorous reporting requirement also encourages bond issuers to obtain third party verification prior to labeling a bond green, as well as increased post-issuance public disclosures; in fact, 80% of Chinese issuers publicly disclose post-issuance information, whereas in contrast, only 50% of U.S. issuers do so.<sup>105</sup> Finally, the PBoC and CSRC guidelines encourage issuers to obtain external review for their green bonds.<sup>106</sup> Over 93% of Chinese green bonds have obtained such external reviews, compared to an 85% global average.<sup>107</sup> However, external verification by a third party is only optional, and not mandatory, under the Chinese regulations.<sup>108</sup>

## 2. Green Bond Regulation in India

India has been a part of the green bond market since 2015, and has issued upwards of \$1.1 billion of green bonds.<sup>109</sup> In 2016, the Securities and Exchange Board of India (SEBI) finalized its official green bond requirements, which largely resembles the GBP guidelines.<sup>110</sup> The requirements aim to harmonize domestic and international guidelines, such as requiring issuers to disclose reasons for the eligibility of projects, and the benefits and impacts raised by funds.<sup>111</sup> The SEBI regulations provide a categorical list of eligible green bond project types, resembling the list enumerated in the GBP guideline, but it contains an additional provision giving the SEBI board discretion to approve other categories on a case-by-case basis.<sup>112</sup> SEBI imposes additional disclosure requirements for issuers, requiring issuers to provide a statement regarding the environmental objective of the green bond, how the proceeds will be used, the system that issuers will employ to track the deployment of the proceeds, and what projects the proceeds will be used on.<sup>113</sup> Additional annual and financial

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103. See Kidney, *supra* note 99.

104. See *id.*

105. See *id.*

106. See *id.*

107. See *id.*

108. See STUDY OF CHINA'S LOCAL GOVERNMENT POLICY INSTRUMENTS FOR GREEN BONDS, *supra* note 34.

109. See Barriers and Options, *supra* note 4.

110. See Pugsley, *supra* note 21.

111. See ASHURST REPORT, *supra* note 59.

112. See *Disclosure Requirements for Issuance and Listing of Green Debt Securities*, SEC. & EXCH. BOARD OF INDIA (May 30, 2017), [www.sebi.gov.in/legal/circulars/may-2017/disclosure-req-uirements-for-issuance-and-listing-of-green-debt-securities\\_34988.html](http://www.sebi.gov.in/legal/circulars/may-2017/disclosure-req-uirements-for-issuance-and-listing-of-green-debt-securities_34988.html).

113. See Breen & Campbell, *supra* note 6, at 19; see also *Disclosure Requirements for Issuance and Listing of Green Debt Securities*, *supra* note 112.

reports are required to provide updates on how the proceeds are used, a list of projects that the bond proceeds have been used to finance, and qualitative performance measures of the environmental impact of the projects.<sup>114</sup> Finally, issuers may appoint a third party reviewer to verify its green credentials, but this step is only optional.<sup>115</sup>

The SEBI regulations are likely to open up new opportunities for financial companies and banks to raise funds through green bonds.<sup>116</sup> For example in 2017, L&T Infrastructure Finance Company (L&T) issued the first green bonds approved under the new SEBI regulations, which were meant to help develop solar power projects.<sup>117</sup> The IFC subsequently invested \$103 million into L&T's green bonds,<sup>118</sup> which may suggest that the SEBI requirements are sufficient to be recognized by a branch of the World Bank. Since the SEBI regulation was only formalized on May 30, 2017, it will take some time before it can be determined how effective the SEBI regulations actually are. However, the SEBI has explicitly expressed that it views the green bond market as a crucial tool to meet India's Intended Nationally Determined Contribution (INDC) target, which it established for COP21, serving essentially as India's climate change action plan.<sup>119</sup> With such a view point, the SEBI demonstrates the potential for other countries and investors to utilize its green bond market.

India has a promising future in green finance. A report published by the CBI in 2016 revealed that India has \$15.7 billion of unlabeled climate-aligned bonds used toward low carbon transport assets and renewable hydro energy, all of which can now be validated and labeled under the SEBI requirements.<sup>120</sup>

### 3. Green Bond Regulation in the United States

While green bond markets have rapidly expanded in Europe and Asia, it has lagged in the United States, despite the fact that the United States is the second largest greenhouse gas producer.<sup>121</sup> Apple, Inc. has issued the largest green bond issuance by a U.S. corporation, with the goal of funding green

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114. See *Disclosure Requirements for Issuance and Listing of Green Debt Securities*, *supra* note 112.

115. See *id.*

116. See Saurabh Mahapatra, *First Regulator-Approved Green Bond in India Attracts \$103 Million from IFC*, CLEANTECHNICA (July 17, 2017), <https://cleantechnica.com/2017/07/17/first-regulator-approved-green-bond-india-attracts-103-million-ifc/>.

117. See IANS, *IFC Subscribes to L&T Finance Green Bonds for Solar Projects*, ET ENERGYWORLD (July 6, 2017), <https://energy.economictimes.indiatimes.com/news/renewable/ifc-subscribes-to-lt-finance-green-bonds-for-solar-projects/59474272>.

118. See Mahapatra, *supra* note 116.

119. See *Barriers and Options*, *supra* note 4.

120. See CLIMATE BONDS INITIATIVE, *BONDS AND CLIMATE CHANGE: THE STATE OF THE MARKET INDIA* (Oct. 2016), <https://www.climatebonds.net/files/files/-CBI%20India%20SotM%202016%20Web%20version.pdf>.

121. See CHIANG, *supra* note 36, at 5.

buildings, renewable energy projects, and “robotic technology to disassemble used iPhones and preserve high-quality components.”<sup>122</sup> In addition, other banks and corporate giants including Bank of America, Morgan Stanley, and a number of energy companies have begun to issue green bonds to fund initiatives including financing the adoption of LED lighting in their office buildings, building wind farms to generate electricity, and development of residential solar systems.<sup>123</sup> However, like the European green bond market, the U.S. green bond market practice and regulatory systems remain entirely voluntary, and the regulatory systems are largely self-regulated through the GBP guidelines.<sup>124</sup> As such, the United States has yet to offer an official definition for green bonds, nor has it created regulation on green bonds aside from the voluntary compliance with the GBP and CBS.<sup>125</sup>

The U.S. green bond market is primarily driven through sustainable, responsible, and impact investing (SRI) funds, but compared to Europe, where large insurance companies and pension funds sought high investment in green bonds, U.S. pension funds are only beginning to venture into green bond investments.<sup>126</sup> One reason for this is that many U.S.-based investors do not understand enough about green bonds to commit to such investments. For example, some U.S. firms that do not take on green bonds believe that green bonds will result in a lower yield, even though going green does not necessarily mean losing yield.<sup>127</sup> After all, rather than being high-risk investments as many American investors assume, 89% of green bonds are investment-grade, meaning that they have lower risks of default.<sup>128</sup> Furthermore, some American investors are skeptical about the lack of formal regulations in the green bond market, and as one institutional investor stated, “[t]here is no definition, no standardization, no quantification of good beyond calling it green, and [it is] hard to track.”<sup>129</sup> This provides more evidence that it is imperative for the United States to establish its own regulations and referencing frameworks, similar to those promulgated in China and India, so that investors who are considering investing in green bonds will have more confidence in the reliability and safety of their investments.

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122. VanEck, *supra* note 12.

123. *See id.*

124. *See* Pugsley, *supra* note 21.

125. *See id.*

126. *See* CHIANG, *supra* note 36, at 9.

127. *See id.* at 13.

128. *See* *Climate Bonds for Beginners*, CLIMATE BONDS INITIATIVE, <https://www.climatebonds.net/resources/overview/climate-bonds-for-beginners> (last visited Oct. 20, 2017); *see also* *Investment Grade*, *supra* note 29.

129. *See* CHIANG, *supra* note 36, at 15.



### III. CHALLENGES IN REGULATING THE GREEN BOND MARKET

Despite the optimistic potential of green bonds, their expansion is limited due to a lack of regulation and investor skepticism about variations in standards.<sup>130</sup> First, green bonds can be self-labeled as “green” by their issuers—while the better practice is for green bonds to go through independent reviewers to validate their “greenness,” this is not a mandated requirement.<sup>131</sup> Second, there is little transparency regarding how green bonds are used, therefore they run the risk of inaccurate profiling and greenwashing.<sup>132</sup> To tackle this problem, international guidelines like the GBP and CBS have been published to provide a broad categorization of green projects and promote transparency.<sup>133</sup> However, these are at most subscribed to on a voluntary basis, with no enforcement mechanism.<sup>134</sup> Ultimately, uncertainty over the regulation of green bonds will deter institutional investors, who may see the inconsistent labeling as a barrier to their ability to predict the risk and return profile of their investments.<sup>135</sup>

#### A. LACK OF INDUSTRIAL STANDARDS: WHAT IS GREEN?

Ultimately, the biggest question that investors and bond issuers ask is the same: What makes a bond green? Theoretically, green bonds are green if the bond proceeds are used to fund environmentally friendly projects like clean energy or clean transportation.<sup>136</sup> However, due to a lack of binding regulations, the answer to this question falls in a gray zone, and the judgment is ultimately left to the issuers themselves.<sup>137</sup> For example, in 2015, the Massachusetts State College Building Authority sold green bonds to fund a 725-space parking garage near the university.<sup>138</sup> The college promoted the garage as having spaces reserved for carpoolers and electric-car charging stations, and further stated that the garage would reduce pollution by limiting the number of students circling campus looking for parking spots.<sup>139</sup> However, debate ensued regarding whether the garage would be detrimental to the environment since it would encourage students to drive.<sup>140</sup>

Even though green bond markets have rapidly expanded in recent years, it is still regulated on a voluntary, rather than an internationally binding

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130. See Baily, *supra* note 8, at 463.

131. *Id.* at 458, 463.

132. See *id.*

133. See THE GREEN BOND PRINCIPLES 2017, *supra* note 13.

134. See Baily, *supra* note 8, at 463.

135. See *id.* at 458.

136. See K.K., *supra* note 68.

137. See *id.*

138. See Mike Cherney, ‘Green Bonds’ for a Parking Garage?, WALL ST. J. (Mar. 12, 2015, 12:04 PM), <https://www.wsj.com/articles/green-bonds-for-a-parking-garage-1426176294>.

139. See *id.*

140. See *id.*

standard.<sup>141</sup> As a result, even where an issuer subscribes to one of the international standards, there are no enforcement mechanisms to keep them in check.<sup>142</sup> The problem is even more significant when investors seek to invest in international green bonds. For example, in 2015, China formed its own green bond standard, which permits the use of green bonds to fund clean coal projects.<sup>143</sup> Under one of these projects, the Tianjin SDIC Jinneng Electric Power Co. Ltd announced in August 2017 that it had issued \$150 million worth of green bonds to finance coal-fired power plants.<sup>144</sup> The new plant will implement technologies to cut fuel consumption and reduce emission, as a part of China's goal to reduce its overall coal power emission and encourage "cleaner modes of growth."<sup>145</sup> While such a project may serve to improve the overall emission efficiency of coal-fired power plants, clean coal projects are mostly rejected because they are insufficiently "green" under existing international standards, and have been heavily criticized by environmental groups.<sup>146</sup> In another example, the "Bangchak Petroleum Public Co. Ltd., a Thai oil refiner and gas station operator . . . sold about \$90 million of green bonds, prompting a debate about whether oil companies should be allowed to issue green bonds."<sup>147</sup>

Without an industrial standard for green bond regulation, some financial analysts fear that it would cause uncertainties for investors and slow the future growth of the market.<sup>148</sup> Disparities in international standards also threaten to throttle cross-border investments in green bonds.<sup>149</sup> Furthermore, there is no central database of issued bonds available, thus analysts must painstakingly go through multiple sources to look at individual bonds and draw a complete picture from their research.<sup>150</sup>

## B. LACK OF TRANSPARENCY AND GREENWASHING

A major problem with the lack of adequate green bond regulations is the risk of greenwashing. Greenwashing occurs where an issuer promotes green bonds by advertising green initiatives, but instead operates in a way that

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141. See Breen & Campbell, *supra* note 6, at 16.

142. See Morreale, *supra* note 57; see also Kerry Hannon, *Should You Invest In 'Green Bonds?'*, FORBES (June 29, 2017, 1:05 PM), <https://www.forbes.com/sites/nextavenue/2017/06/29/should-you-invest-in-green-bonds/#11223a0048a4>.

143. See Pugsley, *supra* note 21.

144. See *China Coal-Fired Power Plant Issues Green Bonds*, REUTERS (Aug. 4, 2017, 4:21 AM), <https://www.reuters.com/article/china-power-financing/china-coal-fired-power-plant-issues-green-bonds-idUSL4N1KP3RQ>.

145. *Id.*

146. See *id.*; Pugsley, *supra* note 21.

147. Breen & Campbell, *supra* note 6, at 18.

148. See Floods, *supra* note 19.

149. See Milhench, *supra* note 51 (arguing that market disparities are evident by the fact that most investors of Chinese green bonds are Asian).

150. See Pugsley, *supra* note 21.

damages the environment.<sup>151</sup> It may also occur when issuers make misleading claims about how beneficial their project is to an environmental cause, or where they fail to establish supporting evidence for the green claims they make.<sup>152</sup> For example, several years ago Coca Cola advertised their new “plant bottle,” consisting of up to 30% plant-based material, as having substantial environmental benefits in reducing carbon emission.<sup>153</sup> The bottle was promoted extensively during the 2009 Climate Summit in Copenhagen.<sup>154</sup> However, in a 2013 ruling under the Danish and European Marketing Practice Act, Coca Cola’s “plant bottle” was deemed greenwashed after Coca Cola failed to provide any documentation in support of the claim that its “plant bottles” are greener than other soda bottles.<sup>155</sup> While there was no assessment of damages resulting from the Coca Cola judgment, one can certainly imagine that a “‘headline risk’ from a large, negative environmental impact . . . [may pose] a risk of share price losses to issuers.”<sup>156</sup> Credible environmental disclosure, therefore, may be critical when it comes to issuing green bonds.<sup>157</sup> The lack of transparency and risk of greenwashing lowers the integrity of green bonds, and risks lowering the credibility of the green bond market as a whole.<sup>158</sup> Ultimately, without strong universal regulations, a market that loses credibility through greenwashing may never recover.<sup>159</sup>

In addition, sometimes when green bonds are issued, they are accompanied by statements that contain unpromising language. To illustrate, in 2015, the East Bay Municipal Utility District in San Francisco Bay issued \$74 million tranches labeled as green bonds.<sup>160</sup> Its official statements seemed promising; it contained a description of the criteria used to select eligible green projects, and provided that the bonds followed the GBP to require

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151. See Milhench, *supra* note 51.

152. See Morreale, *supra* note 57; Phillip Ludvigsen, *Advanced Topics in Green Bonds: Risks*, ENVTL. FIN. (Nov. 24, 2015), <https://www.environmental-finance.com/content/analysis/advanced-topics-in-green-bonds-risks.html>.

153. David Goldman, *New Coke Bottle Made Entirely from Plants*, CNN TECH (June 4, 2015, 10:38 AM), <http://money.cnn.com/2015/06/04/technology/coke-plastic-plant-bottle/index.html>.

154. See Christopher Zara, *Coca-Cola Company (KO) Busted For ‘Greenwashing’: PlantBottle Marketing Exaggerated Environmental Benefits, Says Consumer Report*, INT’L BUS. TIMES (Sept. 3, 2013, 3:18 PM), [www.ibtimes.com/coca-cola-company-ko-busted-greenwashing-plantbottle-marketing-exaggerated-1402409](http://www.ibtimes.com/coca-cola-company-ko-busted-greenwashing-plantbottle-marketing-exaggerated-1402409).

155. See Ludvigsen, *supra* note 152.

156. Christa Clapp, *Climate Finance: Capitalising on Green Investment Trends*, in THE WAY FORWARD IN INTERNATIONAL CLIMATE POLICY: KEY ISSUES AND NEW IDEAS 2014 46 (2014), available at [https://www.researchgate.net/publication/265793548\\_Climate\\_Finance\\_Capitalising\\_on\\_Green\\_Investment\\_Trends](https://www.researchgate.net/publication/265793548_Climate_Finance_Capitalising_on_Green_Investment_Trends).

157. See *id.*

158. See Sophie Robinson-Tillett, *Green Bond Market Ends 2015 on a High as it Breaks Records*, ENVTL. FIN. (Jan. 6, 2016), <https://www.environmental-finance.com/content/news/green-bond-market-ends-2015-on-a-high-as-it-breaks-records.html>.

159. See Luke Trompeter, *Green Greed Is Good: How Green Bonds Cultivated into Wall Street’s Environmental Paradox*, 17 SUSTAINABLE DEV. L. & POL’Y 4, 7 (2017); see also Robinson-Tillett, *supra* note 158.

160. Ludvigsen, *supra* note 152.

management-approval for issuing green bonds.<sup>161</sup> However, the document went on to state that:

The terms “green bonds” and “green project” are neither defined in nor related to provisions in the Indenture. The use of such terms herein is for identification purposes only and is not intended to provide or imply that an owner of the Series 2015B “Green Bonds” is entitled to any additional security other than as provided in the Indenture. The purpose of labeling the Series 201B Bonds as “green bonds” is, as noted, to allow owners of the Series 2015B Bonds to invest directly in bonds that will finance environmentally beneficial projects. *The District assumes no obligation to ensure that these projects comply with the principles of green projects as such principles may hereafter evolve.*<sup>162</sup>

Such a statement carries the risk of environmental non-performance, even though it is advertised to fall within the four prongs of the GBP.<sup>163</sup> The fear surrounding greenwashed bonds has deterred and inhibited the growth of the green bonds market on a global scale.<sup>164</sup> For example, in 2016, Lombard Odier’s Global Climate Bond fund did not purchase Poland’s sovereign green bond due to fear of greenwashing, especially in consideration of Poland’s consistent veto of climate policies to protect its coal industry.<sup>165</sup>

Finally, as noted by Anna-Marie Slot, a financial partner at Ashurst LLP, clear and transparent disclosure is key to the evolution of the market as it will allow investors to “compare bonds on a like for like basis on day one of the issuance,” and “ascertain the use of proceeds of the bond.”<sup>166</sup> However, the absence of transparency on how a fund is used leaves investors in a vulnerable position when bond proceeds are used in a way that does not match the investor’s expectation.<sup>167</sup> Investors have little legal recourse when this happens due to a lack of rules that regulate the bonds.<sup>168</sup> Currently, the voluntary standards under the GBP and CBS only suggest that issuers release annual reports, meaning that investors who have any uncertainty as to the spending of their bond proceeds must wait a long time before they can obtain disclosure on what projects were financed through their bonds.<sup>169</sup> Also, because neither the GBP nor CBS clarify whether certain green projects or

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161. *See id.*

162. EAST BAY MUN. UTIL. DIST., WATER SYSTEM REVENUE BONDS, SERIES 2015 B GREEN BONDS 7 (June 1, 2015), available at [https://www.ebmud.com/index.php/download\\_file/force/2810/789/?OS\\_Series\\_2015\\_B\\_Green\\_Bonds\\_\\_2015C.pdf](https://www.ebmud.com/index.php/download_file/force/2810/789/?OS_Series_2015_B_Green_Bonds__2015C.pdf) (emphasis added).

163. *See* Ludvigsen, *supra* note 152.

164. *See* Milhench, *supra* note 51.

165. *See id.* (noting that even with this worry, Poland’s green bonds were still oversubscribed because they were labeled green).

166. ASHURST REPORT, *supra* note 59.

167. *See* Breen & Campbell, *supra* note 6, at 19.

168. *See id.*

169. *See* Kidney, *supra* note 99.

categories are better than others in terms of providing sustainable or environmental benefits; issuers are receiving the same tax benefits where available, even though their projects may not guarantee equally substantial results.<sup>170</sup> Additionally, under the GSP, the third party verification process is only required on a voluntary basis, and there is little standardization on what types of verification are valid.<sup>171</sup> Without clarification, problems can ensue whereby issuers may obtain second-party opinions from a consultant that belongs to the same company or organization that is issuing the bond, and subsequently claim that the opinion is independent and professional.<sup>172</sup>

#### IV. SUGGESTION FOR HEIGHTENING REGULATORY STANDARDS

The market for green bonds is strong, but for the United States to take advantage of the green bond market, it needs to establish regulations that will increase investor trust in this novel bond. Such regulation should be issued by the U.S. Securities Exchange Commission (SEC), similar to how the Chinese green bond regulation was published by the CSRC, the Chinese equivalent to the SEC.<sup>173</sup> A guideline by a federal regulator will be difficult to ignore, and serves to further incentivize bond issuers to obtain external reviews to verify that their bonds are compliant with existing guidelines.<sup>174</sup> A U.S.-based regulatory guideline should set a more comprehensive categorization on what projects qualify as green bonds. A proper U.S. regulatory guideline should utilize a tiered system, promote heightened transparency by requiring bond issuers to update their investors on a quarterly basis about how proceeds are spent, and impose penalties for bond issuers who tamper with the bond for non-green purposes.

##### A. TIER-BASED SYSTEM OF GREEN BOND CLASSIFICATION

First, the SEC should establish a regulation aimed at developing a clear definition of what qualifies as green to deter greenwashing. The regulation should provide a solution to the problem that not all green bonds are equally green. The easiest way to do so is to borrow and adopt the categorization under the GBP and the CBS, which already contain a list of qualified project

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170. See Graham Cooper, *Green Bond Market Needs Dialogue with Policymakers, Says Think Tank*, ENVTL. FIN. (June 8, 2016), <https://www.environmental-finance.com/content/news/green-bond-market-needs-dialogue-with-policymakers-says-think-tank.html>.

171. See THE GREEN BOND PRINCIPLES 2017, *supra* note 13.

172. See Ludvigsen, *supra* note 152.

173. See *About CSRC*, CHINA SEC. REG. COMM'N, [www.csrc.gov.cn/pub/csrc\\_en/about](http://www.csrc.gov.cn/pub/csrc_en/about) (last visited Oct. 21, 2017) (The CSRC is the main regulator of the Chinese securities industry. It performs a “unified regulatory function, according to the relevant laws and regulations,” and is responsible for supervision and administration of the securities market.).

174. See Kidney, *supra* note 99.

types.<sup>175</sup> However, that alone might not be enough given the existing divergent views on what constitutes a green project, and the lack of global consensus on which projects are green enough to be labeled as such.

The GBP offers a good foundation for what green bond regulations should be, and provides a broad range of projects that companies can take on that qualify as green bonds. The GBP lists nine categories of green project types, which are renewable energy, energy efficiency, pollution prevention and control, sustainable management of living natural resources, terrestrial and aquatic biodiversity conservation, clean transportation, sustainable water management, climate change adaptation, and eco-efficient or circular economy adapted products, and green buildings that meet regional, national, or internationally recognized standards or certification.<sup>176</sup> However, it fails to explicitly rule anything out as green, and it does not take a stance on which projects will produce the most sustainable results or provide the greatest environmental benefit.<sup>177</sup> Under such a regulatory scheme, bond issuers can essentially receive the same tax benefits and green bond premiums, without a way to guarantee that the projects funded will produce substantial environmentally beneficial results.<sup>178</sup>

For example, China allows clean coal projects to have the green bond label, and advertises them as being 70% cleaner than traditional coal.<sup>179</sup> However, under international standards, clean coal is not considered green.<sup>180</sup> The line is also unclear about how bond proceeds can be spent. The Calvert Green Bond Fund (CGAFX), launched in 2013, takes a broad approach and allows green bond proceeds to buy bonds issued by Apple, because of Apple's effort to reduce its carbon footprint, which is seen as an indirect way to contribute to the environment.<sup>181</sup>

One way to address this problem is through a tier-based approach to green bond classification. Under this approach, it would be possible to establish several classes, or tiers, of projects that may have green bond labels, to which different classes or different tax exemption benefits apply. This solution will allow for a gradient of project types to be implemented to avoid an all-or-nothing approach. This solution will also allow certain industries to move at a slower pace, and toward greener solutions. After all, each industry and each nation has a different standard and environmental need, thus a universal standard or bright line rule may not be plausible for every actor. For example, China's clean coal projects, which account for anywhere

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175. See THE GREEN BOND PRINCIPLES 2017, *supra* note 13; CLIMATE BONDS INITIATIVE, *supra* note 17, at 15.

176. See THE GREEN BOND PRINCIPLES 2017, *supra* note 13.

177. See, e.g., Cherney, *supra* note 138; THE GREEN BOND PRINCIPLES 2017, *supra* note 13.

178. See Cooper, *supra* note 170.

179. See Trompeter, *supra* note 159.

180. See *id.*

181. See Cowan, *supra* note 7.

between 3–12% of China’s green bond issuances,<sup>182</sup> are controversial as a green bond under the current system, but it nonetheless is better than using traditional coal power, and provides a transitional pathway to decrease carbon emission as technology evolves.<sup>183</sup> Under the current GSP standard, it may not qualify as a green bond. However, under a multi-tiered system, China’s clean coal projects may qualify for a lower tiered green bond, which is still offered a specific tax benefit, perhaps at a lower rate than a higher ranked bond, such as one used exclusively to finance clean energy. This is advantageous because projects like this would still promote transitioning to a more sustainable society. Furthermore, under a U.S. green bond regulation, not only should there be a tiered system, but the regulation should also include explicit prohibitions that enumerate what cannot be considered green. For example, this would resolve whether the CGAFX can purchase bonds from companies that issue green bonds, and whether such a bond would be green.<sup>184</sup>

## B. MANDATORY INDEPENDENT VERIFICATION SYSTEM

Verification by independent, third parties should be mandatory, so that the legitimacy of the green bonds can be evaluated before they are labeled green. The GBP and CBS guidance both have third party verification as an optional step for companies and institutional banks, making it almost impossible to monitor and verify on an ongoing basis.<sup>185</sup> Having a mandatory verification step will allow more transparency in how bonds are used, and give investors more assurance as to the legitimacy of their bonds. In addition to mandating third party verifiers, the SEC should implement a new regulation that imposes a due diligence standard for companies to abide by. Companies issuing green bonds should also be required to offer periodic disclosures that state what funds are being used for, and include information such as spending efficiency, progress and updates on projects, and impact performances.<sup>186</sup> Accordingly, it would be beneficial for the United States to adopt the quarterly reporting requirement like the one imposed by China’s PBoC green bond regulation.<sup>187</sup> Frequent reporting will allow investors to

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182. See Michael Standaert, *China Support for ‘Clean Coal’ Gives Green Bonds Touch of Gray*, BLOOMBERG (Jan. 22, 2018), <https://www.bna.com/china-support-clean-n73014474369>.

183. See Michael Forsythe, *China Cancels 103 Coal Plants, Mindful of Smog and Wasted Capacity*, N.Y. TIMES (Jan. 18, 2017), [https://www.nytimes.com/2017/01/18/world/asia/china-coal-power-plants-pollution.html?\\_r=0](https://www.nytimes.com/2017/01/18/world/asia/china-coal-power-plants-pollution.html?_r=0) (While China relies heavily on coal-fired power plants to generate electricity, an immediate and instantaneous switch to cleaner options may not be plausible given the rapid population growth and demand. Thus, turning to a lower-carbon emission system may be a valid solution while new and cleaner sources of power are developed and replace coal power altogether. In 2017, China has already canceled plans to build more than 100 coal power plants, helping it meet its goal to “limit total coal-fired power generation” by 2020.).

184. See Cowan, *supra* note 7.

185. See Ehlers & Packer, *supra* note 14, at 93–94.

186. See Barriers and Options, *supra* note 4, at 7.

187. See Kidney, *supra* note 99.

monitor how their proceeds are spent, and serve as a way to motivate bond issuers to steer clear of greenwashing their bonds.<sup>188</sup> Investors should be apprised throughout the year regarding what projects their money was used to finance, and such quarterly reports would allow the investors to raise the complaint with the appropriate entity, such as the SEC, or file a lawsuit if they believe that the company is greenwashing.<sup>189</sup>

### C. OFFER ADEQUATE REMEDIES FOR INVESTORS FOR GREENWASH VIOLATION

Once a standardized regulation scheme is formed in the United States, it would be possible to promote green bond compliance through one additional method: class action lawsuits brought by investors against violators who greenwash their bonds.<sup>190</sup> After all, class action litigation often acts as a deterrent against similar violations.<sup>191</sup> One method would be giving investors more opportunities to bring class action lawsuits for omissions and/or misstatements by bond issuers that greenwash the bonds.<sup>192</sup> This will deter future issuers from greenwashing their projects and misleading their bondholders.<sup>193</sup> However, this remedy will only be effective if there is a clear standard for determining what qualifies as a green bond; under the current system where compliance with regulations is voluntary, there is no way for the investor to determine whether the issuer engaged in an “extreme departure from a reasonable standard of care,” hindering the investor’s claim for damages because of greenwashing.<sup>194</sup> Clearly the market for green bonds would benefit greatly from a uniform standard that is enforced through a global rating agency.<sup>195</sup>

In addition, serious considerations should be made to permit litigation based on a due diligence standard for the analysis and review of environmental green bonds. The due diligence process here would involve investigations on whether the issuers complied with relevant green bond regulations, whether the proceeds are used toward environmentally beneficial projects that match any public statements or bond description issued to investors, and also measure the ESG outcome.<sup>196</sup> Furthermore, bond issuers

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188. *See id.*

189. *See* Trompeter, *supra* note 159, at 8 (suggesting class action lawsuits as a method to deter against greenwashing).

190. *See id.* at 10.

191. *See* James J. Park, *Bondholders and Securities Class Action*, 99 MINN. L. REV. 585, 631–33 (2015).

192. *See* Trompeter, *supra* note 159, at 9.

193. *See id.*

194. Ludvigsen, *supra* note 152.

195. *See* Baily, *supra* note 8, at 464.

196. *See* Aaron Franklin, *How to Minimise the Legal Risks of Green Bonds*, ENVTL. FIN. (May 29, 2017), <https://www.lw.com/thoughtLeadership/minimize-legal-risks-green-bonds-environmental-finance>.



should also have the responsibility to disclose important information about the markets to their investors to fulfill their “fair disclosure” obligations.<sup>197</sup>

While the green bond market’s legitimacy is a large concern among market participants and stakeholders, some have argued that excessive regulations in green bonds may inhibit or even halt the growth of the green bond market.<sup>198</sup> This may be the reason why the GBP and CSB are only voluntary standards, rather than strict rules. However, such a concern is misplaced considering the current trend in green financing and sustainability efforts in general, especially in developed countries, where even coffee consumers are concerned about where their beans are harvested, and choose their products based on certain practices.<sup>199</sup> Furthermore, there are heightened global regulations on carbon emission standards, as evidenced by the Kyoto Protocol, Paris Agreement, and the expansion of international organization funds, such as the Green Climate Funds established by the UNFCCC.<sup>200</sup> These global efforts have pushed toward a tightening emission regulation, which will, in turn, promote investors to shift their focus to environmental finances.

## CONCLUSION

The green bond market offers a variety of benefits to environmental protection by providing a source for green financing. For green bond efforts to develop in a fruitful way, additional steps must be taken to improve their social impact.<sup>201</sup> As the United Nations Development Programme has stated, “[i]nterested parties should not only progressively enhance the Green Bond Principles to better address environmental impacts and concerns, but should also introduce reporting on social outcomes according to international standards.”<sup>202</sup> Incentivizing investors to purchase green bonds and other green financing products can play a large role in the future of climate finance and help nations meet the Paris Agreement. As the green bond market expands, investors will expect more regulation and transparency, and such must be offered if investors are to feel comfortable and confident that the green bond marketplace will operate properly.<sup>203</sup>

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197. *Id.*

198. See ORGANISATION FOR ECON. CO-OPERATION & DEV., GREEN BONDS, MOBILISING THE DEBT CAPITAL MARKETS FOR A LOW-CARBON TRANSITION 4–6 (Dec. 2015), <https://www.oecd.org/environment/cc/Green%20bonds%20PP%20%5Bf3%5D%20%5Blr%5D.pdf>.

199. See Baily, *supra* note 8, at 449.

200. See *id.* at 451–52.

201. See *Green Bonds*, *supra* note 11.

202. *Id.*

203. See Baily, *supra* note 8, at 463; Alison Moodie, *Can Apple’s \$1.5bn Green Bond Inspire More Environmental Investments?*, THE GUARDIAN (Mar. 20, 2016, 12:19 AM), <https://www.theguardian.com/sustainable-business/2016/mar/20/apple-green-bond-environment-energy-toyota-climate-change>.

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\* B.Sc., McGill University, 2014; J.D. Candidate, Brooklyn Law School, 2019.