
ENFORCING GREEN-BOND COMMITMENTS

*John Patrick Hunt**

Green bonds are issued with the stated intention of using the proceeds for green purposes. This Article is the first in-depth analysis of contractual rights to enforce performance of that intention. Perhaps surprisingly, U.S. corporate green bonds do not appear to grant investors any such rights. The Article proposes a combination of two complementary contract rights that would be triggered by green nonperformance: a “green put” that would allow investors to sell their bonds back to the issuer and a “step-up” that would increase the amount of coupon or principal that investors could collect.

The Article demonstrates, drawing on analysis of holder data from Bloomberg, that green bonds likely attract both investors motivated by the bonds’ green nature and traditional investors who buy the bonds primarily for financial reasons. The remedies the Article proposes target these two constituencies. Green-minded investors for whom it is important to provide capital only for green projects may want to exit their investment and withdraw capital from the issuer if it does not follow through. The put should be attractive to them. By contrast, investors with traditional financial objectives may prefer compensation for financial loss over exit. Insofar as green nonperformance may signal increased financial risk, such loss is plausible. The step-up provides an approximate remedy for that loss and, incidentally, acts as an issuer commitment device that reduces the likelihood of green nonperformance.

The Article’s proposal has advantages over simply making green non-performance an event of default that could trigger acceleration. Different green-bond constituencies likely would disagree in many cases over whether to accelerate. Perhaps more importantly, issuers resist adding a green event of default because it could trigger cross-default clauses. As individually enforceable, non-default remedies, the put and step-up avoid these problems.

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Contract remedies protect green-bond investors. They also help enhance the credibility of green bonds, which currently do not command a “greenium,” or premium over non-green bonds. Remedies could help induce a greenium, which would allow green bonds to attract additional capital for green transition and fulfill their purpose.

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I. INTRODUCTION

A green-minded investor who asks Google, “What are green bonds?” will find among the definitions assertions that “the money raised from investors is used exclusively to finance projects that have a positive environmental impact,”¹ that the funds are “slated” for use in green projects,² and that proceeds are “earmarked” for such projects.³ Such an investor might be surprised to learn that, as this Article shows, enforceable commitments to use green-bond proceeds for green purposes appear rare to nonexistent, at least in the market for U.S. corporate green bonds.⁴

Other green investors, should they dive into bond prospectuses and indenture documents, may discover the absence of commitment and shun the market altogether. Despite rapid growth in the U.S. corporate green bond market in recent years,⁵ the bonds do not sell at an appreciable “greenium.”⁶ That is, investors do not pay more for green than non-green bonds, which means in turn that green bonds do not offer a significantly cheaper source of financing green projects.⁷ As a result, the bonds may not be attracting additional capital to green investment.⁸ In this respect, U.S. corporate green bonds may be failing to achieve their essential purpose.⁹ Indeed, scholars have found that green-credibility issues are holding back the market’s development globally.¹⁰

The lack of a greenium may be tied to the perhaps-surprising fact that in the market for U.S. corporate green bonds, contractual commitments to use the proceeds as intended appear to be rare or nonexistent.¹¹ This is in stark contrast

1. Patrick Henry & Madeleine North, *What Are Green Bonds and Why Is This Market Growing So Fast?*, WORLD ECON. F. (Nov. 22, 2024), <https://web.archive.org/web/20250227205825/https://www.weforum.org/stories/2024/11/what-are-green-bonds-climate-change/> [https://perma.cc/AG8S-QY84].

2. *What Are Green Bonds?*, U.S. DEP’T OF ENERGY BETTER BUILDINGS, <https://betterbuildingssolution-center.energy.gov/financing-navigator/option/green-bonds> [https://perma.cc/9PFB-MAQF] (last visited Jan. 2, 2026).

3. Troy Segal, *Understanding Green Bonds: Benefits and Buying Guide*, INVESTOPEDIA (Aug. 30, 2025), <https://www.investopedia.com/terms/g/green-bond.asp> [https://perma.cc/RC7A-R4VD].

4. See discussion *infra* Section II.A.

5. The Bloomberg Financial Information Service reports \$32 billion in issuance in this market in the twelve months ended May 31, 2024. See discussion *infra* Section II.B.

6. See discussion *infra* Section II.C.

7. See discussion *infra* Section II.C.

8. See discussion *infra* Section II.C.

9. See discussion *infra* Section III.A.

10. See discussion *infra* Section III.A.

11. See discussion *infra* Section II.A.

to the right to payment, which is not just contractually enforceable, but supported by many ancillary commitments.¹²

Some investors may not buy green bonds, or may not pay a greenium, because they know that contractual commitments do not exist, and they do not find the bonds' green nature credible.¹³ Moreover, investors who do buy green bonds risk disappointed expectations, because they may incorrectly assume that issuers commit to greenness.¹⁴

Thus, analysis of contract remedies that could help build the market's credibility and protect investors is important. The subject has attracted scholars' and other commentators' attention,¹⁵ but this Article is the first full-length treatment of contract remedies for failure to use green bond proceeds as intended (for "green nonperformance").

The Article argues that green bonds should include contract remedies.¹⁶ But the most straightforward approach to doing so—making green nonperformance a breach of the bond indenture that would ripen into an event of default if uncured—suffers from serious drawbacks,¹⁷ including that bond defaults historically have been underenforced and that "green" investors in the bonds could split

12. Examples of such covenants appearing in the ABA's Model Negotiated Covenants for corporate bonds include limitations on indebtedness, limitations on restricted payments, limitations on sales of assets and subsidiary stock, limitations on liens, limitations on affiliate transactions, and others. ABA Comm. on Tr. Indentures and Indenture Tr., *Model Negotiated Covenants and Related Definitions*, 61 BUS. L. 1439, 1442 (2006) (listing covenants).

13. See discussion *infra* Section III.A.

14. See discussion *infra* Section III.B.

15. See Sergio Gilotta, *Green Bonds: A Legal and Economic Analysis*, in RESEARCH HANDBOOK ON ENVIRONMENTAL, SOCIAL AND CORPORATE GOVERNANCE 237–42 (Thilo Kuntz ed., 2024) (briefly discussing contract remedies for green default, focusing on coupon step-up and liquidated damages); Quinn Curtis, W. Mark C. Weidemaier & Mitu Gulati, *Green Bonds, Empty Promises*, 102 N.C. L. REV. 131, 143 (2023) (stating, "[a]t a minimum . . . we would expect a credible green bond to include (i) an express promise committing the issuer to green practices . . . and (ii) a contractual enforcement mechanism" and briefly discussing possible mechanisms); Paul Rose, *Sustainability Verification*, 72 AM. U. L. REV. 1017, 1027–32 (2022) (briefly reviewing potential contractual remedies for green breach and concluding that making green breach an event of default would "be seen as too draconian and face too much resistance" from issuers") (quoting Michael Doran & James Tanner, *Critical Challenges Facing the Green Bond Market*, INT'L FIN. L. REV. (Sep. 23, 2019), <https://www.iflr.com/article/2a639yzxejjn11mpf9q80/critical-challenges-facing-the-green-bond-market> [<https://perma.cc/HB9Z-V68T>]); Ryan Chan, *Ensuring Impactful Performance in Green Bonds and Sustainability-Linked Loans*, 42 ADEL. L. REV. 221, 249, 256 (2021) (observing that green bonds typically do not have contractual remedies for green nonperformance and suggesting incorporation of "performance-based provisions into green bond documentation, similar to specified SPTs [sustainability performance targets] in their SLL [sustainability-linked loan] counterparts"); Lloyd Freeburn & Ian Ramsay, *Green Bonds: Legal and Policy Issues*, 15 CAP. MKTS. L.J. 418, 442 (2020) (describing as "unresolved issue" whether "there should be consequences . . . for 'green defaults,' where the green promises made in relation to a bond are not fulfilled"); Doran & Tanner, *supra* (arguing that green use of proceeds should be made "actionable via an agreed put event (we recognize that a related event of default will be seen as too draconian and face too much resistance)"); Krystian Czerniecki & Sam Saunders, *Green Bonds: An Introduction and Legal Considerations*, BL (Feb. 11, 2016, at 23:00 CT), <https://news.bloomberglaw.com/environment-and-energy/green-bonds-an-introduction-and-legal-considerations> [<https://perma.cc/6NG7-TVYT>] (briefly reviewing potential contractual remedies for green breach, including a use-of-proceeds covenant and a put option and noting that a covenant would "need to be drafted such that the issuer has sufficient flexibility to avoid immaterial defaults").

16. See discussion *infra* Part III.

17. See discussion *infra* Section V.B.

with financial investors over whether to call a default and accelerate.¹⁸ The most serious such drawback may be issuers' resistance to the idea of "green default," arising specifically from the risk that green default would trigger cross-default and cross-acceleration clauses and render most or all of the issuer's debt due immediately.¹⁹

The Article thus analyzes an approach to remedies that does not rely on making green nonperformance a default. The Article proposes (1) making such nonperformance a "put event" that would give bondholders the individual right to sell their bonds back to the issuer,²⁰ and (2) including in the bond contract a "step-up," an increase in the coupon or principal the issuer owes the bondholders, triggered by green nonperformance.²¹

Each approach protects the interest of a different group of bondholders. The put provides green-minded investors the opportunity to exit the investment and withdraw the capital represented by the bond when the issuer fails to use the bond proceeds for green purposes.²² The step-up offers compensation for investors who want to remain in the investment but suffer financial loss because green nonperformance signals an increase in the financial risk of the bond.²³ As the Article demonstrates using the Bloomberg Financial Information Service's bondholder data, both "green" and "pure financial" investor types appear important to the market.²⁴

The put-and-step-up approach has advantages beyond not triggering cross-default clauses. Event-driven puts analogous to the green put have found market acceptance,²⁵ as have step-ups.²⁶ Because the put is individually exercisable²⁷ and investors are unlikely to disagree on whether they want the step-up,²⁸ the put and step-up avoid conflicts between financial and green investors that could stymie use of the typical acceleration remedy for default.²⁹ Although there is room for debate on the level at which the put's exercise price³⁰ and the step-up amount³¹ should be set, together these remedies can provide meaningful investor protection and commitment to green objectives in a way that should be palatable to issuers.³²

The Article proceeds as follows. Part II of the Article describes relevant features of the U.S. corporate green-bond market. Section II.A presents the

18. See discussion *infra* Section V.B.

19. See discussion *infra* Subsection V.B.3.

20. See discussion *infra* Section VI.A.

21. See discussion *infra* Section VI.B.

22. See discussion *infra* Subsection VI.A.1.

23. See discussion *infra* Subsection VI.B.1.

24. See discussion *infra* Section II.D.

25. See discussion *infra* Subsection VI.A.3.

26. See discussion *infra* Subsection VI.B.3.

27. See discussion *infra* Subsection VI.A.2.

28. See discussion *infra* Subsection VI.B.2.

29. See discussion *infra* Subsection VI.B.2.

30. See discussion *infra* Subsection VI.A.4.

31. See discussion *infra* Subsection VI.B.4.

32. See discussion *infra* Part VII.

results of the author's original survey of all available indentures for U.S. corporate green bonds over the twelve-month period ended May 31, 2024. The survey confirms that contract commitments to green performance are rare to nonexistent in this market.³³ Section II.B uses data from the Bloomberg Financial Information Service ("Bloomberg") to show that U.S. corporate green-bond issuance grew rapidly in recent years, although it still makes up a relatively small portion of the U.S. corporate bond market.

Section II.C surveys the literature on the greenium and concludes that the premium for green bonds appears to be small to nonexistent. Section II.D describes the diversity of the green-bond market, arguing that both investors who are strongly motivated by environmental concerns and those who are less strongly motivated by such concerns are important to the market. In doing so, the Article relies on published studies of the global market and on information gathered from Bloomberg.

Part III makes the case for contract remedies for green nonperformance. Section III.A argues that remedies could attract a greenium, and Section III.B argues that remedies could protect existing reasonable investor expectations. Section III.C addresses the counterargument that remedies are unneeded because green nonperformance has been rare.

Part IV introduces the reader to the distinctive way corporate-bond contracts protect investors and handle breach. Section IV.A introduces terminology. Section IV.B describes bond covenants, or promises that protect the promise to pay, and discusses use-of-proceeds covenants. A covenant to use green-bond proceeds for green purposes would be a use-of-proceeds covenant.³⁴ Section IV.C discusses how bond covenants are enforced, noting that enforcement is collective and is generally delegated to a trustee. Section IV.D describes remedies for corporate-bond default. It emphasizes that the primary remedy is acceleration, declaring the entire bond principal due immediately.³⁵

Part V discusses the benefits and drawbacks of creating a bond covenant promising green performance, with a potential remedy of acceleration by the bond trustee for uncured breach of the covenant. Section V.A discusses strengths, including that green nonperformance is arguably analogous to other events that are designated as defaults and that acceleration is the most commonly used remedy in the bond market. Section V.B discusses weaknesses of the default-and-acceleration approach, including that bond covenants generally are underenforced by trustees, that green and financial investors may be in conflict over whether to invoke the remedy, and, most importantly, that issuers are likely to reject such a remedy because they are unwilling to risk triggering cross-default and cross-acceleration clauses.

Part VI discusses non-default remedies for green nonperformance. Section VI.A addresses the first such remedy, the green put. The green put would give

33. See discussion *infra* Section II.A.

34. See discussion *infra* Section IV.B.

35. See discussion *infra* Section IV.D.

bondholders the right to sell their bonds back to the issuer upon green nonperformance.³⁶ As described, it would be targeted at green investors who want to exit the investment and withdraw capital upon nonperformance.³⁷ Section VI.B discusses the second proposed non-default remedy, the step-up. The step-up is targeted at remedying financial harm from green nonperformance and thus is likely to interest financial investors.³⁸ A brief conclusion follows.

A word about terminology. “Green nonperformance” refers to failure to use bond proceeds for green purposes, whether the issuer has promised to do so or not. “Green breach” refers to failure to use bond proceeds for green purposes when the issuer has contractually promised to do so. “Green default” refers to green breach that has become an event of default.

II. THE U.S. CORPORATE GREEN BOND MARKET TODAY

This Part describes several salient features of the U.S. market for dollar-denominated green bonds issued by corporations. The bonds typically do not offer contractual protection against green nonperformance.³⁹ The market itself has been growing but is small, and green-bond investors appear to pay at most a small greenium.⁴⁰ An analysis of Bloomberg bondholder data indicates that some green-bond buyers probably find greater intrinsic value in the “green” nature of the bonds than others.⁴¹

A. Few or No “Green Default” Terms

Green bonds typically are “green” because the issuer states an intention to use the proceeds for “green” purposes, such as building renewable energy generation plants or upgrading buildings so they are more energy-efficient.⁴² Observers have noted that issuers’ statements of green intention often are not contractually enforceable,⁴³ but no empirical work on the subject focuses specifically on the U.S. corporate market.

To examine the status of green default terms in the American market, the author reviewed all 42 U.S. corporate bonds⁴⁴ issued between June 1, 2023 and

36. See discussion *infra* Section VI.A.

37. See discussion *infra* Subsection VI.A.4.

38. See discussion *infra* Section VI.B.

39. See discussion *infra* Section II.C.

40. See discussion *infra* Section II.B.

41. See discussion *infra* Section II.D.

42. See INT’L CAP. MKT. ASS’N, GREEN BOND PRINCIPLES 4 (2021), <https://www.icmagroup.org/assets/documents/Sustainable-finance/2021-updates/Green-Bond-Principles-June-2021-140621.pdf> [<https://perma.cc/BS9E-4G5C>].

43. For example, in a recent study, Curtis, Weidemaier, and Gulati find that around half of green bonds in their dataset make some type of green promise, but that this promissory language is often highly vague or undercut. See Curtis et al., *supra* note 15, at 146–51.

44. The author defined a U.S. corporate bond as one that is: (1) U.S.-dollar-denominated; (2) has a U.S. “Country of Issuer” on the Bloomberg Financial Information Service; (3) has a “CORP” designation on Bloomberg; and (4) is not designated on Bloomberg as a “Reg S” bond. Sales of bonds issued under Regulation S are

May 31, 2024, and designated as “green” on the Bloomberg Financial Information Service. The author searched Bloomberg Law’s collection of indentures using the issuer name for each green bond.⁴⁵ Sixteen indentures and indenture supplements were located.⁴⁶ The author then searched each indenture document for the word “proceeds.” Because each indenture document also contained the form of the notes issued, these searches would pick up promises in the notes as well as in the indentures.⁴⁷ The research team supplemented this review of indentures with a review of prospectuses. Twenty-six prospectuses were located.⁴⁸

None of the indenture documents, notes, or prospectuses contained any promissory commitment relating to the green use of proceeds.⁴⁹ Prospectuses typically stated an intention to use bond proceeds for green purposes, but most prospectuses affirmatively stated that failure to use bond proceeds for green purposes would not result in default.⁵⁰ None of the indenture documents or notes discussed green use of proceeds at all.⁵¹ Indenture documents for three bonds from the same issuer did contain covenants not to use the bond proceeds to fund business with targets of sanctions.⁵² Eight indenture documents expressly provided that the indenture trustee was *not* accountable for the company’s use of proceeds.⁵³ Because indenture documents were located for less than half the issues, and prospectuses were located for just over half, this research cannot be considered conclusive. However, it suggests that, at least for U.S. corporate

limited to “non-U.S. buyers or securities markets.” WILLIAM W. BRATTON, *CORPORATE FINANCE CASES AND MATERIALS* 349 (9th ed. 2021).

45. The searches were performed in the Transactional Precedents database in Bloomberg Law with the “Indentures” filter on and were conducted in May and June 2024. The author searched each issuer name and looked for indentures with dates at or near the date of issuance of each bond. The author then reviewed each candidate indenture to ensure that it in fact corresponded to the bond in question.

46. See workpapers on file with author.

47. See *id.*

48. *Id.*

49. *Id.*

50. *Id.*

51. *Id.*

52. See *Twelfth Supplemental Indenture Establishing and Creating 5.300% First Mortgage Bonds Due 2055, MidAmerican Energy Company and The Bank of New York Mellon Trust Company, N.A.*, JUSTIA 1, 4 (Jan. 24, 2024), <https://contracts.justia.com/companies/midamerican-funding-llc-2077/contract/1265198/> [<https://perma.cc/SSC7-ZK5Q>]; MidAmerican Funding, LLC & MidAmerican Energy Co., Annual Report (Form 8-K) (Sep. 5, 2023).

53. See *Subordinated Indenture Between The AES Corporation and Deutsche Bank Trust Company Americas dated May 21, 2024*, JUSTIA 2, 37 (May 21, 2024), <https://contracts.justia.com/companies/aes-corp-34/contract/1284967> [<https://perma.cc/4R28-GFZF>]; Nikola Corp., First Supplemental Indenture, at 68 (Dec. 12, 2023); HAT Holdings I LLC & HAT Holdings II LLC, Indenture, at 51 (Dec. 7, 2023), <https://www.sec.gov/Archives/edgar/data/1561894/000119312523290724/d28046dex41.htm> [<https://perma.cc/72FL-USW7>]; Rivian Automotive, Inc., Indenture, at 79 (Oct. 11, 2023), <https://www.sec.gov/Archives/edgar/data/1874178/000119312523254132/d465548dex41.htm> [<https://perma.cc/BQC8-LKT8>]; Sunnova Energy Corp., Indenture, at 86 (Sep. 26, 2023), <https://www.sec.gov/Archives/edgar/data/1772695/000119312523242484/d909440dex41.htm> [<https://perma.cc/CA6U-A8M2>]; PureCycle Techs., Inc., Indenture, at 42 (Aug. 24, 2023) (covers two bond series), <https://ir.purecycle.com/sec-filings-reports/all-sec-filings/content/0001830033-23-000067/0001830033-23-000067.pdf> [<https://perma.cc/9PUA-KUPL>]; HAT Holdings I LLC & HAT Holdings II LLC, Indenture, at 44 (Aug. 11, 2023), <https://www.sec.gov/Archives/edgar/data/1561894/000119312523210880/d513938dex41.htm> [<https://perma.cc/W4AT-EDKD>].

green bonds, green promises may not be just rare, but nonexistent. This corroborates the existing literature, which has called attention to the weakness of contract remedies for green bonds in general.⁵⁴

B. Growing, But Still Small

As shown in Table 1, U.S. corporate green bond issuance has grown significantly since mid-2019, both in dollar volume and in share of the market. Green bonds' share of the market tripled from the twelve months ended May 31, 2020 to the twelve months ended May 31, 2023.⁵⁵ Green bonds' market share did fall in the twelve months ended May 31, 2024,⁵⁶ but it is too early to tell whether this portends a long-term decline. Despite the rapid growth, green bonds remain a fairly small part of the U.S. corporate bond market, with green market share reaching its peak to date at 2.4% in the twelve months ended May 31, 2023.⁵⁷

TABLE 1: U.S. CORPORATE GREEN BOND ISSUANCE BY VOLUME AND SHARE

Issuance Period	Green Amount Issued (\$ billion)	Green Amount Issued Index (6/1/19-5/31/20 = 100)	Green Share of Total U.S. Corporate USD Issuance	Green Share Index (6/1/19-5/31/20 = 100)
6/1/2019 to 5/31/2020	\$19.6	100	0.8%	100
6/1/2020 to 5/31/2021	\$28.9	147	1.0%	125
6/1/2021 to 5/31/2022	\$42.9	219	2.0%	250
6/1/2022 to 5/31/2023	\$35.8	183	2.4%	300
6/1/2023 to 5/31/2024	\$31.9	163	1.7%	213

54. See Curtis et al., *supra* note 15, at 146–51.

55. See *infra* Table 1.

56. See *infra* Table 1.

57. See *infra* Table 1.

C. *Small or No Greenium*

Whether green bonds sell at a premium to “vanilla” bonds has been called the “most-researched” question about green bonds.⁵⁸ The research is commonly described as “mixed”⁵⁹ or “inconclusive,”⁶⁰ but recent studies across green bond markets usually find either no greenium or a small one.⁶¹

The most recent study of the corporate bond market, and the only study the author located that specifically addresses the U.S. market, finds “no significant average greenium in the domestic dollar market,”⁶² although it does find a greenium for “local euro and foreign U.S. dollar issuers.”⁶³ Other corporate-bond studies, covering the global green-bond market, have found greeniums ranging from 7 basis points of yield (0.07%) to zero.⁶⁴

A recent study of the U.S. municipal (not corporate) green bond market by Malcolm Baker, Daniel Bergstresser, George Serafeim, and Jeffrey Wurgler

58. Malcolm Baker, Daniel Bergstresser, George Serafeim & Jeffrey Wurgler, *Annual Review of Financial Economics: The Pricing and Ownership of US Green Bonds*, 14 ANN. REV. FIN. ECON. 415, 419 (2022).

59. Ivan Sangiorgi & Lisa Schopohl, *Why Do Institutional Investors Buy Green Bonds: Evidence from a Survey of European Asset Managers*, 75 INT’L REV. FIN. ANALYSIS 1, 4 (2021).

60. Baker et al., *supra* note 58, at 419.

61. A meta-analysis of fifteen greenium studies published from 2015 to 2019 found that 56% of the studies found a greenium in the primary market and 70% found a statistically significant premium in the secondary market. See S. MacAskill, E. Roca, B. Liu, R.A. Stewart & O. Sahin, *Is There a Green Premium in the Green Bond Market? Systematic Literature Review Revealing Premium Determinants*, 280 J. CLEANER PROD. 127, 131 (2021). The authors, however, conclude based on an analysis of the correlation between bond type and the existence *vel non* of a greenium in a particular study that green bonds “issued by government/municipal organisations, were found to be determinants of a green premium.” *Id.* at 11. Given that the authors divided bond types into “government/municipal” and “corporate” categories, their interpretation suggests that corporate-issuers status was not a determinant of a green premium. *Id.* at 8.

62. John Caramichael & Andreas C. Rapp, *The Green Corporate Bond Issuance Premium*, 162 J. BANKING & FIN. 1, 2 (2024) (reporting on results of fixed-effects regression study of corporate green bonds issued 2014–2021).

63. *Id.*

64. See Caroline Flammer, *Corporate Green Bonds*, 142 J. FIN. ECON. 499, 514 (2021) (reporting on analysis of global sample of green bonds issued from 2013 to 2018: “[F]or a given issuer, there is no noticeable difference between the yields of green versus brown bonds.”); Dragon Yongjun Tang & Yupu Zhang, *Do Shareholders Benefit from Green Bonds?*, 61 J. CORP. FIN. 1, 2, 3, 5 (2018) (reporting on analysis of a global sample of green bonds issued from 2007 to 2017 by publicly listed green bond issuers: “[W]e find a green premium . . . a yield spread that is 6.94 basis points lower than corporate bonds issued by similar firms. However, if we compare yield spread within the same issuing firm in the same year, we do not find any significant pricing difference.”). Some studies sample multiple bond types but break their results down by type. See Serena Fatica, Roberto Panzica & Michela Rancan, *The Pricing of Green Bonds: Are Financial Institutions Special?*, 54 J. FIN. STABILITY 1, 5–6 tbl. 3 (2021) (examining global primary market for green bonds from supranational, financial, and non-financial corporate issuers issued from 2007–2018 and finding statistically significant greenium of twenty-one basis points for non-financial corporate issuers’ green bonds, but a statistically insignificant negative greenium of ten basis points for financial issuers’ green bonds); Olivier David Zerbib, *The Effect of Pro-Environmental Preferences on Bond Prices: Evidence from Green Bonds*, 98 J. BANKING & FIN. 39, 39–40, 47 tbl. 8 (2019) (finding a “small, albeit significant” 2-basis-point greenium across entire global, multi-sector sample of green bonds issued from July 2013 to December 2017, with financial bonds showing a greater greenium and industrial and utility bonds actually showing a negative greenium); Gianfranco Gianfrate & Mattia Peri, *The Green Advantage: Exploring the Convenience of Issuing Green Bonds*, 219 J. CLEANER PROD. 1, 19–20 (2019) (finding 5-basis-point greenium on secondary market as of December 2017 for corporate subsample of sample of European green bonds issued between 2013 and 2017).

finds a small greenium, on the order of 0.5% of the typical bond's value.⁶⁵ The authors' ultimate conclusion, after evaluating pricing and concentration of holdings, is that "it appears that, faced with a supply-demand imbalance, a subset of investors sacrifice a small amount of yield in the municipal bond market to hold green bonds."⁶⁶

Another recent study, a qualitative survey probing asset managers' motives for buying green bonds, states that "most investors are impacted by their non-pecuniary environmental preferences in their green bond purchasing decisions but, at the same time, are not willing to invest in bonds that are not competitively priced, i.e., carry a large premium."⁶⁷ The researchers find no strong evidence of a significant greenium,⁶⁸ that is, of willingness to sacrifice promised returns for the green value of existing bonds, whether that value be in the form of reduced risk, intrinsic environmental value, or something else.

D. Diverse Investors

Information about the motives of green-bond investors is hard to come by, but the available evidence suggests that current green investors are a diverse group, motivated by varying combinations of financial and environmental concerns.⁶⁹ Theoretical models of green investment often assume as much. Specifically, a common premise for such models is that some investors derive nonpecuniary value from green investment and others invest purely for financial reasons.⁷⁰ There may be legal limits on some investors' ability to consider environmental, social, and governance ("ESG") factors apart from their relevance to financial risk and return.⁷¹

The author could not find any study of green bondholder motives in the U.S. corporate bond market, but the empirical record that exists is broadly consistent with the theoretical assumption of diverse motives.⁷² A global Internet

65. Baker et al., *supra* note 58, at 417.

66. *Id.* at 434.

67. Sangiorgi & Schopohl, *supra* note 59, at 3. The conclusion is principally based on the survey finding that "investors rank competitive pricing relative to plain vanilla bonds as one of the most important factors when investing in green bonds, together with satisfactory green bond credentials at issuance." *Id.*

68. *See id.* at 12 ("In this case, while our findings support the existence of non-pecuniary preferences of investors, the equally high consideration of financial factors would only support the existence of a very small greenium . . . or an insignificant greenium . . .") (citations omitted).

69. *See, e.g.*, Baker et al., *supra* note 58, at 416.

70. *Id.* at 425–26 (presenting such a model and citing other works using a similar approach).

71. *See* Alexander L. Norman, *The ESG War: Public Pension Fiduciaries and Anti-ESG Laws*, 74 WASH. U. J.L. & POL'Y 245, 254 (2024) (explaining that current Department of Labor regulation on ERISA plan fiduciaries and ESG provides that "a fiduciary's duty of prudence must be based on factors that the fiduciary reasonably determines are relevant to a risk and return analysis and that such factors may include the economic effects of climate change and other ESG considerations on the particular investment"); Max M. Schanzenbach & Robert H. Sitkoff, *Reconciling Fiduciary Duty and Social Conscience: The Law and Economics of ESG Investing by a Trustee*, 72 STAN. L. REV. 380, 382 (2020) (arguing that "ESG investing is permissible under American trust fiduciary law" if the trustee reasonably concludes ESG investing "will . . . improv[e] risk-adjusted return" and other conditions are met).

72. Amir Amel-Zadeh & George Serafeim, *Why and How Investors Use ESG Information: Evidence from a Global Survey*, 74 FIN. ANALYSTS J. 87, 91 (2018).

survey distributed to investment professionals in 2016 (and not limited to bond investors) found that 32.6% of respondents used ESG information in investment decisions because they saw doing so as an “ethical responsibility,”⁷³ suggesting the existence of nonfinancial motives. The same study found that 82% of respondents said they use ESG information in general “because it is financially material to investment performance.”⁷⁴

A study of the European green-bond market by Ivan Sangiorgi and Lisa Schopohl illustrates the potential heterogeneity among green bondholders.⁷⁵ The researchers surveyed ninety-two European fixed-income asset managers.⁷⁶ 13% of the respondents were willing to admit that they would buy green bonds despite unclear reporting on use of proceeds.⁷⁷ 55% of respondents said they would sell a green bond if there was poor post-issuance reporting, presumably referring to poor reporting on use of proceeds.⁷⁸ There are reasons that these results might not apply to the American market.⁷⁹ The 13% who seem indifferent to green use of proceeds when buying a bond and the 45% who are open to holding on to a bond when there are doubts about green nonperformance, however, suggest diverse views about whether the “greenness” of a green bond is important, financially or nonfinancially.

Further support for the notion of diverse investor motives comes from considering different types of holders. Complete holder data on green bonds does not appear to be available, but Bloomberg has partial information.⁸⁰ Bloomberg presents this information at various levels of holder specificity. For instance, the service reports what percentage of each green bond issue it knows to be held by the fund manager Vanguard Group Inc. (the “ultimate parent”), and it also breaks the Vanguard holdings down by individual fund, such as “Vanguard ESG Corporate Bond Index Fund” and “Vanguard Total Bond Market ETF.”⁸¹ The author used the ultimate-parent information to measure the percentage of holdings on which Bloomberg had information for each bond and selected the ten bonds for which Bloomberg had identified the highest percentage of holdings.⁸²

73. *Id.* Sangiorgi and Schopohl’s finding that 24% of their respondents said that they were more likely to buy another bond from a company that had issued a green bond can be taken as indirect support for the notion of green financial investors. Sangiorgi & Schopohl, *supra* note 59, at 2. This likelihood could arise from a perception that green-committed companies have better performance prospects. Caroline Flammer finds that green bonds have a sort of “halo effect” on company’s stock price. See Flammer, *supra* note 64, at 514.

74. See Amel-Zadeh & Serafeim, *supra* note 72, at 88.

75. See Sangiorgi & Schopohl, *supra* note 59, at 2.

76. *Id.* at 5.

77. *Id.* at 13.

78. See *id.* at 13 tbl. 9 (2021) (reporting that twenty-six of forty-seven respondents (55%) said they would sell a green bond for poor reporting, that fourteen (30%) said they were “more likely to sell and/or to engage,” and that seven (15%) said they would not sell).

79. The authors posit that Europe has one if the most ESG-focused bond markets globally, and they note: “US-based managers exhibit[] a more sceptical view towards the benefits of responsible investing compared to European managers.” *Id.* at 4.

80. See E-Mail from Bloomberg Support to John Hunt (July 25, 2024, at 15:46 CT) (on file with author).

81. See workpapers on file with author.

82. See *infra* Table 2.

The author then reviewed Bloomberg's holder information on each bond at the most granular level available, the individual fund or insurer level.⁸³ The author coded each holder based on its name as a non-ESG fund, an ESG fund,⁸⁴ an insurer, or unidentifiable. Table 2 presents the results of this review.

TABLE 2: GREEN BOND HOLDERS BY TYPE

Bond (with coupon and year of maturity)	Non-ESG Fund %	ESG Fund %	Insurer %	Unidentifiable %	Total % with Holder Info
American Homes 4 Rent 5.5 2034	33.8	7.5	22.6	0.3	64.2
Wisc. Power & Light 5.375 2034	31.9	3.9	21.3	0.0	57.1
HAT 8 2027	44.2	3.6	7.8	0.3	55.9
NYSE&G 5.65 2028	11.5	5.6	35.0	0.0	52.1
Air Prods. & Chems. 4.75 2031	18.5	1.1	31.4	0.1	51.0
Air Prods. & Chems. 4.85 2034	18.5	1.5	26.8	0.0	46.8
Dow 5.15 2034	22.1	5.5	15.2	0.7	43.4
SDG&E 4.95 2028	25.0	5.8	12.1	0.0	42.9
Dow 5.6 2054	18.4	1.6	21.7	0.6	42.3
MidAmerican 5.35 2034	23.9	1.0	14.9	0.0	39.8
Average (equally weighted)	24.8	3.7	20.9	0.2	49.5

Because Bloomberg had holder information on only about 40–65% of each bond,⁸⁵ the holder information by category must be regarded as a minimum. For instance, ESG funds held at least 7.5% of the American Homes 4 Rent bond but could potentially hold more.⁸⁶ Bloomberg provides only limited information on how it acquires holder data,⁸⁷ but the main sources appear to be public filings by insurance companies and fund managers.⁸⁸ The author observed no holder information on Bloomberg for pension funds, hedge funds, or individual investors. These types of holders may account for much of the 35–60% of holdings not reported on the service.⁸⁹

Because the Bloomberg holder information is incomplete, it supports only limited conclusions about green bond holders. But it does indicate that non-ESG funds and insurers were significant holders of the bonds in the sample.⁹⁰ Non-

83. See workpapers on file with author.

84. The author coded as “ESG funds” those that contained “ESG,” “screened,” “sustainability,” “green,” and the like. See workpapers on file with author.

85. See *supra* Table 2; workpapers on file with author.

86. See *supra* Table 2.

87. Bloomberg indicated that the holding information “is partial because the holdings data is self-reported, meaning that our data team automatically scrapes any holding reports that come in.” See E-Mail from Bloomberg Support, *supra* note 80.

88. See workpapers on file with author.

89. See *id.*

90. See *supra* Table 2.

ESG funds held an average of at least around 25% and insurers held an average of at least around 21%.⁹¹ The floor for ESG funds was much lower: the equally weighted average of ESG fund holdings by issue was 3.7%.⁹²

The exercise just conducted identifies different types of green-bond investors. It is worthwhile to consider the “green” orientation of different classes of green-bond investors. Each type of investor is discussed in turn.

ESG funds have commanded scarcely over 1% of the overall U.S. fund market—\$323 billion of \$26 trillion at the end of 2023, according to Morningstar.⁹³ Sustainability-focused funds apparently owned a somewhat higher proportion of the bonds reviewed here: the average, equally weighted by issue, is 3.7%.⁹⁴ One might expect ESG-centric fund managers to value performance of a green promise for its own sake, at least if they are allowed to take such considerations into account⁹⁵ and live up to their billing.⁹⁶

Non-ESG funds are on average the largest investor group for green bonds in the sample.⁹⁷ They own an average of at least around 25%⁹⁸ of each bond issue. It is possible that a fund that is not designated an ESG fund by name might nevertheless have an ESG focus. As a simple test of this idea, the author examined the investment objectives of the largest non-ESG-fund holders of the American Homes 4 Rent bond, the bond for which the most holder information is available.⁹⁹ These funds describe their objectives exclusively in financial

91. See *supra* Table 2.

92. See *supra* Table 2.

93. See Alyssa Stankiewicz, *U.S. Sustainable Funds Register First Annual Outflows in 2023*, MORNINGSTAR (Jan. 17, 2024), <https://www.morningstar.com/sustainable-investing/us-sustainable-funds-register-first-annual-outflows-2023> [<https://perma.cc/HP23-N9DV>].

94. See *supra* Table 2. Another study finds that 15.5% of U.S. municipal green bonds by outstanding principal can be associated with funds that have names suggesting a socially responsible focus. See Baker et al., *supra* note 58, at 432. The authors find, by contrast, that 0.6% of “average ordinary” bonds in the relevant subsample of municipal bonds can be associated with a socially responsible fund. See *id.*

95. A number of states have enacted “anti-ESG” that prohibit consideration of ESG factors by some actors in some circumstances. See Madeleine G. Clahane, *North Carolina’s Anti-ESG Statute and the State Treasurer’s Fiduciary Duty*, 28 N.C. BANKING INST. 503, 510–11 (2024) (describing state “prohibition on ESG consideration” legislation). A detailed discussion of these statutes is beyond the scope of this Article, but the laws reportedly have not so far changed fund managers’ “investment processes, engagement with portfolio companies, and firm-level commitments.” Emile Hallez, *Big Asset Managers Silent over ESG Backlash*, INVESTMENTNEWS (May 2, 2024), <https://www.investmentnews.com/esg/news/asset-managers-silent-over-esg-backlash-252921> [<https://perma.cc/WRK4-9MHU>].

96. See Ryan Clements, *Why Comparability Is a Greater Problem than Greenwashing in ESG ETFs*, 13 WM. & MARY BUS. L. REV. 441, 457 (2022) (noting that “[a] scan of recent headlines suggests greenwashing is a major issue” for ESG-focused funds but concluding that “[t]here is little evidence that greenwashing is pervasive in asset management or ETFs”).

97. See *supra* Table 2.

98. See *supra* Table 2.

99. See workpapers on file with author.

terms.¹⁰⁰ The same is true of the largest bond funds generally.¹⁰¹ This suggests that these funds' managers may have relatively little interest in ESG factors, apart from their impact on financial performance.

Insurance companies are said to be the institutional investor class that holds the most U.S. corporate bonds,¹⁰² and they hold an average of at least around 21% of the bonds in the sample examined here.¹⁰³ Insurance companies are said to invest in corporate bonds primarily for "asset-liability matching," to secure a flow of investment revenue timed to coincide with demands that (primarily) life insurance policies make on them.¹⁰⁴ This financial motive suggests that these investors may have limited interest in green performance for its own sake.

Bloomberg does not have information on individual holders, but recent scholarship finds that individual investors hold 28% of corporate bonds overall.¹⁰⁵ This suggests that individual investors are likely to be an important source

100. The three largest fund holders of the American Homes 4 Rent green bond reported on Bloomberg are Fidelity Real Estate Income Fund, Vanguard Intermediate Term Corporate Bond ETF, and Janus Henderson Flexible Bond Fund. See workpapers on file with author. Fidelity states that the objective for its Real Estate Income Fund is as follows: "Seeks higher than average income. As a secondary objective, the fund also seeks capital growth." See *Fidelity Real Estate Income Fund*, FIDELITY, <https://institutional.fidelity.com/app/funds-and-products/833/fidelity-real-estate-income-fund-frifx.html> [<https://perma.cc/L2D9-GJQT>] (last visited Jan. 2, 2026). Vanguard's "Product Summary" for the Intermediate Term Corporate Bond ETF describes the funds' goals in financial terms. See *Vanguard Intermediate-Term Corporate Bond ETF*, VANGUARD, <https://investor.vanguard.com/investment-products/etfs/profile/vcit> [<https://perma.cc/5LAB-2YDF>] (last visited Jan. 2, 2026) ("Seeks to provide a moderate and sustainable level of current income."). Janus Henderson states that with the Flexible Bond Fund, "we strive to exploit fixed income market inefficiencies" and "aim to generate outperformance through sector rotation and security selection and by seeking to take the right amount of risk at each point in the cycle." See *Flexible Bond Fund*, JANUS HENDERSON INVS., <https://www.janushenderson.com/en-us/advisor/product/flexible-bond-fund/> [<https://perma.cc/3X5L-ZFGP>] (last visited Jan. 2, 2026).

101. The largest U.S. bond mutual fund is reportedly the Vanguard Total Bond Market Index Fund (\$302 billion assets under management), and the largest actively managed fund is the PIMCO Income Fund (\$132 billion AUM). See Bella Albrecht, *How the Largest Bond Funds Did in 2023*, MORNINGSTAR (Jan. 4, 2024), <https://www.morningstar.com/funds/how-largest-bond-funds-did-2023> [<https://perma.cc/BMU6-MGF7>]. The largest U.S. bond ETF is reportedly the Vanguard Total Bond Market ETF (\$139 billion AUM). *Bond ETFs*, ETF.COM, <https://www.etf.com/topics/bond> [<https://perma.cc/CC9F-LW2W>] (last visited Jan. 2, 2026). The Vanguard mutual fund's "investment objective" is "to track the performance of a broad, market-weighted index" and its "investment strategy" does not mention ESG concerns. See *Fact Sheet, Vanguard Total Bond Market Index Fund*, VANGUARD (Sep. 30, 2025), https://institutional.vanguard.com/assets/corp/fund_communications/pdf_publish/us-products/fact-sheet/F0850.pdf [<https://perma.cc/94CX-RGRJ>]. PIMCO states that its fund "[t]argets high, consistent income" and is "[d]esigned to provide investors with steady and attractive income" without mentioning ESG considerations. *Fact Sheet, PIMCO Income Fund*, PIMCO (Dec. 31, 2025), <https://www.pimco.com/us/en/investments/mutual-fund/pimco-income-fund/inst-usd> [<https://perma.cc/XN8F-YJSF>]. The Vanguard ETF's "Product Summary" indicates that its "investment objective" is "to track the performance of a broad, market-weighted index." *Vanguard Total Market Bond ETF*, VANGUARD, <https://investor.vanguard.com/investment-products/etfs/profile/bnd#overview> [<https://perma.cc/8DUE-4R5B>] (last visited Jan. 2, 2026).

102. See Ralph S.J. Koijen & Motohiro Yago, *Understanding the Ownership Structure of Corporate Bonds*, 5 AM. ECON. REV. 73, 73 (2023) ("Insurers are the largest institutional investors of corporate bonds.").

103. See *supra* Table 2.

104. See Robert F. Weber, *Combating the Teleological Drift of Life Insurance Solvency Regulation: The Case for a Meta-Risk Management Approach to Principles-Based Reserving*, 8 BERKELEY BUS. L.J. 35, 68 (2011) (noting that the "chief task of an insurer" is "asset-liability matching" and that "[i]nsurers match assets to long-term liabilities to ensure they are able to pay claims as they come due.").

105. See Ed deHaan, Jiacui Li & Edward M. Watts, *Retail Bond Investors and Credit Ratings*, 76 J. ACCT. & ECON., no. 1, 2023, at 5.

of demand for green bonds. Given the name “green bonds,” and the way green bonds are described in sources readily available to individual investors,¹⁰⁶ it seems reasonable to suppose that many individual investors would find green performance important to the decision to buy green bonds. Even if individual investors are themselves poorly situated to make use of contractual remedies, their interests can be protected to some extent by providing such remedies to other investors who are better-placed to employ them.¹⁰⁷

Thus, individual investors hold a large percentage of all U.S. corporate bonds, and there are probably individual green-bond investors with a strong interest in green performance for its own sake. ESG-centered funds may hold a relatively small fraction of green bonds, but they are also likely to have such an interest in green performance.¹⁰⁸ Non-ESG funds and insurance companies hold a large fraction of green bonds in the sample here,¹⁰⁹ and they seem likely to have less interest in green performance apart from its financial effect.

III. THE CASE FOR CONTRACTUAL REMEDIES FOR GREEN NONPERFORMANCE

As discussed, U.S. corporate green bonds currently do not provide a contractual remedy for green nonperformance.¹¹⁰ This Part describes arguments that such remedies are not needed and argues that some contractual recourse for green nonperformance could help increase greeniums and induce green investment.

A. Remedies Could Attract a Greenium

The social purpose of green bonds is to attract new investment in green projects.¹¹¹ The most straightforward way to do that is to attract investors to pay a “greenium” for green bonds, so issuers can use the bonds to raise capital for green projects more cheaply than they otherwise could.¹¹² Economists’ models indicate that when some investors want investments with particular nonpecuniary features, investments that actually have those features will command a

106. See, e.g., Segal, *supra* note 3 (“Green bonds are fixed-income investments specifically used to fund environmentally beneficial projects.”); *What Are Green Bonds?*, *supra* note 2 (“A green bond is a fixed income debt instrument in which an issuer . . . borrows a large sum of money from investors for use in sustainability-focused projects [T]he funds are slated for use in . . . projects that meet certain sustainability requirements”). The cited sources were the first two answers to the Google query “What are green bonds?,” conducted by the author on July 30, 2024.

107. See *infra* Part III.

108. See Clements, *supra* note 96, at 450–51 (discussing rise of ESG-branded mutual funds).

109. See *supra* Table 2.

110. See discussion *supra* Section II.A.

111. Freeburn & Ramsay, *supra* note 15, at 429.

112. See Caramichael & Rapp, *supra* note 62, at 1–2.

premium.¹¹³ U.S. corporate green bonds, however, command only an insignificant greenium.¹¹⁴

The bonds may lack a greenium because some investors are deterred from paying one precisely because the bonds lack a contractual remedy.¹¹⁵ As described in Parts V–VI, contract remedies could attract investors by providing them (1) a way to exit the investment and withdraw their capital from the issuer if green performance does not occur, (2) compensation for financial and nonfinancial loss suffered due to failure of green performance, and (3) a credible issuer commitment device to help assure investors that green performance will happen.

Research suggests that increasing the “green quality” of green bonds could attract a premium.¹¹⁶ In their survey of European institutional investors, Sangiorgi and Schopohl find that “the three main factors that respondents base their green bond investment decision on are satisfactory green credentials at issuance, competitive pricing, and satisfactory credentials post issuance.”¹¹⁷ They report that “green bond investors strongly care about the ‘green’ feature of the bonds, with 79% of respondents stating that they would not buy a bond with unclear use of proceeds (“UoP”) and 55% indicating that they would sell a green bond if post-issuance reporting was poor.”¹¹⁸

Beyond that, the researchers asked asset managers what factors would promote growth of the green market and what obstacles were holding development back.¹¹⁹ The researchers found that respondents “point[ed] towards ‘greenwashing’ as an obstacle for the green bond market.”¹²⁰ This suggests a demand for increased green credibility. This conclusion is buttressed by what respondents said when asked what would make managers more likely to invest in green bonds.¹²¹ Although the researchers did not provide legally enforceable green promises as an answer choice here, leading contenders among the candidates they mentioned were credibility-related, including “issuer transparency and disclosure,” “post-issuance transparency and detailed UoP [use of proceeds] disclosure,” and “external reviews.”¹²²

113. See Baker et al., *supra* note 58, at 425–26 (describing such a model and noting, “When some investors have an additional nonpecuniary preference for a security, they bid up its price.”); Eugene F. Fama & Kenneth R. French, *Disagreement, Tastes, and Asset Prices*, 83 J. FIN. ECON. 667, 668 (2007) (presenting a similar model cited by Baker et al.).

114. See discussion *supra* Section II.C.

115. This Article uses the term “remedy” loosely to mean a device for relief, provided either in the contract or under contract law, that is triggered by green nonperformance. The Article does not use the term in a technical sense requiring that green nonperformance be designated a breach. For example, if an issuer contractually promises to pay higher interest after green nonperformance but does not promise green performance itself, this Article will term the higher interest rate a “remedy.”

116. Sangiorgi & Schopohl, *supra* note 59, at 3.

117. *Id.*

118. *Id.*

119. *Id.* at 16.

120. *Id.*

121. *Id.* at 13.

122. *Id.*

Studies have found that external review of the greenness of green bonds significantly increases the greenium in various markets.¹²³ Despite questions about the reliability of some green external reviews,¹²⁴ such findings indicate a demand for green credibility and provide indirect support for the idea that enforceable green promises could attract investors willing to pay extra for green bonds.

Contractual remedies could motivate green-minded investors to pay a greenium.¹²⁵ Such investors are not the only such clientele, however. Investors with primarily financial motives might find that an enforceable commitment to green use of proceeds signals an issuer that presents a lower financial risk, justifying a greenium on purely economic grounds.¹²⁶

B. Remedies Could Protect Existing Reasonable Expectations

Some investors may be deterred from paying a greenium from green bonds because of the absence of contract remedies.¹²⁷ Others may be investing in green bonds because of a mistaken belief that such remedies exist.¹²⁸ Contract remedies could protect these investors' expectations, which are at least arguably reasonable.¹²⁹

Materials that describe green bonds today—along with the name “green bonds”—suggest that issuers enforceably commit to using the proceeds for green purposes.¹³⁰ The green-bond issuer may disclaim such expectations in the bond documents, but that does not make them less real, and arguably does not make them unreasonable. And securities fraud law may not vindicate such expectations if they are disappointed.¹³¹ Even if investor expectations of green commitment

123. See Gregor Dorfleitner, Sebastian Utz & Rongxin Zhang, *The Pricing of Green Bonds: External Reviews and the Shades of Green*, 16 REV. MANAGERIAL SCI. 797, 799–800 (2022) (finding, for sample of “almost all green bonds” trading between 2011 and 2020, a 1 basis-point greenium but finding that bonds with a second-party opinion and a verification enjoy a 3-4-basis-point greenium and that bonds found to be “dark green” or “medium green” in a second-party opinion that uses shades of green enjoy 5- and 4-basis-point greeniums, respectively); Fatica et al., *supra* note 64, at 7 (reporting statistically significant 43-basis-point increase in greenium at issuance associated with external review of non-financial green bonds, but no statistically significant difference in greenium associated with external review of financial green bonds).

124. See Paul Rose, *Certifying the “Climate” in Climate Bonds*, 14 CAP. MKTS. L.J. 59, 70 (2019) (stating, on the basis of review of external reviews of sovereign green bonds, “the texts of the verifications studied above do not themselves inspire confidence in the ‘climate’ nature of the climate bonds verified thereunder”).

125. See Gilotta, *supra* note 15, at 9–10.

126. See, e.g., Susan N. Gary, *Best Interests in the Long Term: Fiduciary Duties and ESG Integration*, 90 U. COLO. L. REV. 731, 779–84 (2019) (arguing that taking issuer ESG factors into account can produce financial benefits, particularly over the long term).

127. See Gilotta, *supra* note 15, at 9.

128. See Curtis et al., *supra* note 15, at 151.

129. See Gilotta, *supra* note 15, at 9.

130. See sources cited *supra* note 106 (sources readily available to investors stating that green bond proceeds are “used to fund” green projects and that green-bond proceeds “are slated for” such projects).

131. In particular, a securities fraud claim often requires a representation that is false or misleading when made and that is made with some level of deceptive intent, or scienter. See 1 SECURITIES PRACTICE GUIDE § 11.02 (2024) (listing elements of Rule 10b-5 claim). Strict liability does apply to an untrue statement of material fact in a registration statement or prospectus and to an omission of material fact necessary to make statements in a registration statement or prospectus not misleading. See 15 U.S.C. § 77k; 77l(2). The requirement of an untrue

do not themselves create contractual obligations,¹³² such expectations provide a normative reason to adopt such obligations.¹³³

C. *Counterargument—Green Nonperformance Appears Rare to Date*

Opponents of contractual remedies for green nonperformance might argue that such remedies are not needed because green nonperformance appears to be rare today. It might be argued that potential securities fraud liability for false or misleading statements¹³⁴ and issuers' concern for reputation¹³⁵ are enough to secure an acceptable level of green performance.

One answer is that apparently there have been instances of such nonperformance in the U.S. markets for green bonds and similar instruments.¹³⁶ The Syracuse Industrial Development Agency failed to deliver on the green aspects of its bond, which were to build “a sustainable power plant, solar panels, and fuel cells as part of a shopping centre development.”¹³⁷

In what appears to be another aspect of the same development scheme, developer Destiny USA issued tax-exempt bonds that were in some respects similar

statement of or omission of material fact would seem to preclude purely promissory liability as imposed by contract. Paul Rose has discussed securities fraud liability in connection with green bonds. *See* Rose, *supra* note 15, at 1032–34. The materiality of ESG information in the securities fraud context has attracted particular attention. *See* Joan Macleod Heminway, *The Materiality of ESG Information: Why It May Matter*, 84 LA. L. REV. 1354, 1365–91 (2024).

132. *Cf.* CORBIN ON CONTRACTS § 1.1 (2024) (section heading, “The Main Purpose of Contract Law Is the Realization of Reasonable Expectations Induced by Promises”).

133. *See* Sangiorgi & Schopohl, *supra* note 59, at 12.

134. Green bond documents often state a present intention to use proceeds for green purposes. *See, e.g., Prospectus Supplement (To Prospectus Dated January 22, 2021)*, INTEL CORP., S-11 (Aug. 2, 2022), <https://www.intc.com/filings-reports/all-sec-filings/content/0001193125-22-211356/d521218d424b5.htm> [<https://perma.cc/63P6-E2EP>] (“We intend to allocate an amount equal to the net proceeds of from the sale of the green bonds specifically to finance or refinance, in whole or in part . . . Eligible Projects.”); *Prospectus Supplement (To Prospectus Dated April 11, 2022)*, JPMORGAN CHASE & CO., S-10 (Oct. 16, 2023), <https://www.jpmorganchase.com/content/dam/jpmc/jpmorgan-chase-and-co/investor-relations/documents/jpm-prospectus-supplement-october-16-2023-green-bond.pdf> [<https://perma.cc/AA2L-ULD5>] (“We intend for the notes offered by this prospectus supplement to be issued in accordance with the Green Bond Principles, as updated in June 2021 . . .”). If a green issuer were lying about its intention and the other elements of securities fraud could be proven, presumably it would be exposed to liability.

135. *See, e.g.,* Curtis et al., *supra* note 15, at 166–67 (discussing and rejecting the possibility that reputation provides a “credible, extralegal means” of enforcing green commitments).

136. Other examples of green bond failure that are sometimes mentioned are the issuance of green bonds by an oil company (Repsol) or the issuance of bonds for reforestation of trees that the issuer’s joint venture had cut down (Michelin). Both cases involved non-U.S. companies and neither appears to have involved failure to use green bonds other than for the announced purposes. *See* John Patrick Hunt, *Green Bond Reporting*, 2024 COLUM. BUS. L. REV. 201, 270.

137. Freeburn & Ramsay, *supra* note 15, at 440 n.156. The bonds were issued to finance the Destiny USA project, which has been described as “an outsize and extremely unusual mega-mall” that had the green features mentioned in the text. Chris Cheatham, *The Destiny USA Debacle*, GREEN BLDG. L. UPDATE, at 2–3, <https://www.greenbuildinglawupdate.com/files/2011/04/DestinyUSAe-book4.pdf> [<https://perma.cc/3AFE-BNGG>] (last visited Jan. 2, 2026). The green-bond funds apparently were used to build the project, but without the green features. *Id.* at 7–8.

to green bonds.¹³⁸ Destiny issued the instruments under a special federal program for demonstrating new alternative energy technologies.¹³⁹ Destiny reportedly promised “enough solar power to cover six football fields, the largest fuel cell installation in the nation, and a power generator running on biofuels.”¹⁴⁰ The issuer provided none of these things, pleading changed economic conditions.¹⁴¹

Few instances of green nonperformance may be known, but there are questions about whether green nonperformance generally would come to light, given imperfections in green bond reporting.¹⁴² And a low rate of nonperformance cuts both ways: it suggests that issuers as a group have little to fear from offering remedies for such nonperformance.

The argument based on issuer reputation proves too much, as it applies to any legal remedy for any nonperformance, including, for example, the right to sue for nonpayment. Securities fraud, with its requirement of false or misleading statements or omissions, does not cover cases of simple green nonperformance and is in any event difficult to prove.¹⁴³ Contract law, by contrast, provides for liability without fault for nonperformance without proof of a false or misleading statement or omission.¹⁴⁴

As the name “green bonds” indicates, greenness appears to be a central and material aspect of how at least some investors understand such products.¹⁴⁵ Apart from difficult-to-prove cases of fraud, investors currently take all the risk of future green performance—a risk that is not eliminated by the apparently low past rate of green nonperformance.¹⁴⁶ As noted, the situation is in jarring contrast to the right to payment, which is not just contractually guaranteed, but supported by many enforceable ancillary commitments,¹⁴⁷ while greenness gets no contractual protection whatsoever.¹⁴⁸ Investors should not have to depend on the goodwill or reputational capital of issuers to deliver on green intentions.

Finally, the green-bond community should consider that their product, on a fundamental level, does not appear to be working. Low rates of green nonperformance have not been enough to attract a significant greenium in the U.S. corporate market.¹⁴⁹ Meaningful remedies for green nonperformance are not just a

138. See Nathan Bishop, *Green Bond Governance and the Paris Agreement*, 27 N.Y.U. ENV'T L.J. 377, 395–96 (2019).

139. See *id.*

140. *Id.*

141. *Id.*

142. See generally Hunt, *supra* note 136 (describing weaknesses in reporting on whether green bond issuers use proceeds for green purposes).

143. *Id.* at 215–16.

144. See RESTATEMENT (SECOND) OF CONTS. § 235(2) (AM. L. INST. 1981) (“When performance of a duty under a contract is due any non-performance is a breach.”).

145. See Sangiorgi & Schopohl, *supra* note 59, at 12.

146. Hunt, *supra* note 136, at 214–15.

147. See *supra* note 12 and accompanying text.

148. See discussion *supra* Section II.B.

149. See *supra* Section II.C.

matter of fairness to and protection of investors, but also a matter of basic credibility for the market itself.¹⁵⁰

IV. BOND DEFAULT

This Part reviews the basics of U.S. corporate bond contracts, including terminology, covenants in the contract, procedural and institutional aspects of covenant enforcement, and remedies. Corporate bonds are somewhat unusual contracts, and they depart from “ordinary” contracts in some respects, particularly because they generally do not provide for expectation damages for breach of promises where performance has not yet come due.¹⁵¹

A. Introduction to Bond Contract Terminology

The contractual relationships in a corporate bond issue¹⁵² arise from the “indenture,” a contract between the issuer and a trustee who acts for the bondholders,¹⁵³ and from the bonds themselves, each of which is a contract between the issuer and a particular investor consisting of a promise to pay.¹⁵⁴ An “indenture trustee,” often a bank,¹⁵⁵ has the exclusive power to enforce bondholder rights in many circumstances, as described below.

Although specific bond terms vary from indenture to indenture, the general typology of terms is standardized.¹⁵⁶ The following discussion is based on the Revised Simplified Model Indenture presented in the *Handbook for Indenture and Trust Indenture Act Interpretation*, prepared by the ABA’s Trust Indentures and Indenture Committee.¹⁵⁷

A key distinction is between “events of default” and other breaches of contractual promises in the bond.¹⁵⁸ If an “event of default” occurs, either the trustee

150. *Cf.* Hunt, *supra* note 136, at 217 (arguing green nonperformance could lead to a loss of investor confidence in the issuer).

151. *See infra* Section IV.D.

152. The term “bonds,” when used generically, as in “green bonds,” refers to long-term debt securities in general. *See* BRATTON, *supra* note 44, at 344.

153. *See id.* at 345. The promises in the indenture run to the individual bondholders as third-party beneficiaries. *Id.* at 346. Courts have also held that contractual obligation can result when an issuer makes an undertaking in an SEC filing. *See* Northstar Fin. Advis., Inc. v. Schwab Invs., 779 F.3d 1036, 1052 (9th Cir. 2015) (rejecting contention that “undertakings in SEC filings themselves cannot reflect contractual obligations that can be enforced in a suit for breach of contract”) (citing *Lapidus v. Hecht*, 232 F.3d 679 (9th Cir. 2000)).

154. *See* BRATTON, *supra* note 44, at 345–46.

155. *See* Steven L. Schwarcz & Gregory M. Sergi, *Bond Defaults and the Dilemma of the Indenture Trustee*, 59 ALA. L. REV. 1037, 1038 n.6 (2008) (“Indenture trustees are typically financial institutions.”).

156. *See* BRATTON, *supra* note 44, at 346.

157. *See* ABA TRUST INDENTURES AND INDENTURE TRUSTEES CMTE., HANDBOOK FOR INDENTURE AND TRUST INDENTURE ACT INTERPRETATION 5–49 (2017) [hereinafter ABA INDENTURE HANDBOOK]. For an account consistent with the one in the text, also relying on the Revised Simplified Model Indenture as a source of typical enforcement provisions, see Marcel Kahan & Edward Rock, *Hedge Fund Activism in the Enforcement of Bondholder Rights*, 103 NW. U. L. REV. 281, 298–99 (2009).

158. ABA INDENTURE HANDBOOK, *supra* note 157, at 16–17 (Revised Model Simplified Indenture § 6.01).

or a quorum of 25% of bondholders may accelerate the bond.¹⁵⁹ Acceleration makes the bond principal due immediately.¹⁶⁰ Breaches that are not events of default do not carry with them the right to accelerate.¹⁶¹

A failure to pay principal when due, or interest within thirty days of the due date, is typically an event of default immediately.¹⁶² Other issuer breaches of promises in the bond or indenture, including covenant breaches, typically ripen into events of default only if the trustee or a specified quorum of bondholders¹⁶³ notifies the issuer of the default and the issuer does not cure the default within a specified period.¹⁶⁴

When a bondholder seeks to act as an individual, rather than through the trustee or in a body large enough to meet the quorum, a “no-action” clause sharply limits the bondholder’s right to enforce the promises in the bond contract.¹⁶⁵ The no-action clause bars suit unless (1) holders of 25% of the bond principal request that the trustee pursue a remedy, (2) the trustee declines to pursue the remedy or fails to act for a specified time, and (3) a majority of bondholders does not direct the trustee not to pursue the remedy.¹⁶⁶

“Payment defaults” are excluded from the no-action clause.¹⁶⁷ If the issuer defaults by failing to pay principal or interest on time, the individual bondholder may sue.¹⁶⁸ For bonds covered by the Trust Indenture Act, this exclusion is required by statute.¹⁶⁹

159. See ABA INDENTURE HANDBOOK, *supra* note 157, at 17–18 (Revised Model Simplified Indenture § 6.02); BRATTON, *supra* note 44, at 391.

160. See ABA INDENTURE HANDBOOK, *supra* note 157, at 17–18 (Revised Model Simplified Indenture § 6.02).

161. See *id.* (providing for acceleration “[i]f an Event of Default occurs and is continuing”); BRATTON, *supra* note 44, at 390.

162. See ABA INDENTURE HANDBOOK, *supra* note 157, at 16–17 (Revised Simplified Model Indenture § 6.01).

163. The Revised Model Simplified Indenture suggests bondholders holding 25% of the bond principal as the quorum. See *id.* at 17.

164. See *id.* The ABA’s Revised Model Simplified Indenture suggests a cure period of sixty days. See *id.*

165. JAMES D. COX & THOMAS LEE HAZEN, 3 TREATISE ON THE LAW OF CORPORATIONS § 18:3 (4th ed. 2024) (“The bondholder’s suit against the issuer for an alleged breach of the indenture is customarily subject to the conditions of the indenture’s ‘no action’ clause.”); Stephen J. Lubben, *Holdout Panic*, 96 AM. BANKR. L.J. 1, 7 (2022) (“Quite often the . . . bonds will contain so-called ‘no-action clauses,’ under which the trustee is given powers to take action on behalf of, and instead of, the individual bondholders.”); William W. Bratton & Adam J. Levitin, *The New Bond Workouts*, 166 U. PENN. L. REV. 1597, 1655 (2018) (describing no-action provisions as “the lawsuit baffle that is universal in trust indentures”).

166. See ABA INDENTURE HANDBOOK, *supra* note 157, at 18–19 (Revised Simplified Model Indenture § 6.06).

167. See *id.*

168. See *id.*; see also ADAM J. LEVITIN, BUSINESS BANKRUPTCY: FINANCIAL RESTRUCTURING AND MODERN COMMERCIAL MARKETS 83 (2d ed. 2019).

169. See 15 U.S.C. § 77ppp(b) (2024) (“Notwithstanding any other provision” of an indenture of a bond covered by the TIA, “the right of any holder of any indenture security . . . to institute suit” for nonpayment of principal or interest “shall not be impaired or affected without the consent of such holder . . .”).

B. Bond Covenants, Including Use-of-Proceeds Covenants

Covenants are promises in the bond indenture.¹⁷⁰ They can be distinguished from the bond's financial terms and from miscellaneous provisions providing bondholder rights.¹⁷¹ The purpose of bond covenants reportedly is to protect the issuer's promise to pay interest and principal.¹⁷² For example, if the firm took on more debt at the same seniority as this bond debt, that could reduce the firm's ability to pay principal and interest on the bond, because the new creditors would also have a claim on the firm's resources.¹⁷³ Accordingly, a common covenant limits the issuer's ability to take on more indebtedness.¹⁷⁴

The most straightforward way to make green promises enforceable would be for the issuer to include a covenant in the indenture to use the bond proceeds for specified green purposes. Following market practice, the covenant would probably be worded negatively; it would prohibit the use of proceeds other than for green purposes.¹⁷⁵ This would be a "use-of-proceeds" covenant.¹⁷⁶

Use-of-proceeds covenants are said to be rare in U.S. corporate bond indentures.¹⁷⁷ Such covenants do reportedly show up in loan agreements,¹⁷⁸ for

170. See ABA INDENTURE HANDBOOK, *supra* note 157, at 105 ("Negotiated covenants are the undertakings included in the indentures for debt securities where the investors in the securities are not satisfied to rely only on the issuer's promise to pay the principal of and interest on the securities when due.").

171. See Marcel Kahan, *Rethinking Corporate Bonds: The Trade-off Between Individual and Collective Rights*, 77 N.Y.U. L. REV. 1040, 1044 (2002).

172. See ABA INDENTURE HANDBOOK, *supra* note 157, at 105 (stating that covenants "protect the investors by limiting the issuer's right to take steps that may impair its ability to pay"); Kahan, *supra* note 171, at 1045 (describing protective covenants as "[d]esigned to protect the bondholders' entitlement to receive payments from the company"); see also BRATTON, *supra* note 44, at 396 (section heading: "Business Covenants: Promises That Protect the Value of the Promise to Pay").

173. See ABA INDENTURE HANDBOOK, *supra* note 157, at 105.

174. See *id.* at 17–80 (providing and explaining model negotiated covenant limiting incurrence of indebtedness).

175. Professor William Bratton argues that covenants drafted as affirmative promises "are thought to hold out a cognizable possibility of traversing the doctrinal line to impinge on borrower control" unless they are limited to ministerial matters. William W. Bratton, *Bond and Loan Covenants, Theory and Practice*, 11 CAP. MKTS. L.J. 461, 463 (2016). As a result, "[p]romises that materially constrain borrower management's discretion to do business are invariably phrased in the negative—the borrower promises not to do something." *Id.* Bratton explains that the use of such negative phrasing suffices to avoid lender liability. See *id.* ("Courts . . . respect the formal distinction between affirmative and negative and lenders' counsel proceed with confidence in the negative framework.").

176. See ALAN S. GUTTERMAN, BUSINESS TRANSACTIONS SOLUTIONS § 121:9 (2025).

177. See Bratton, *supra* note 175, at 463 ("A careful lender will not even extract an affirmative promise to bind the borrower to invest the proceeds of the loan in the projects outlined during the negotiation. The borrower, instead of making a promise concerning investment in the project, will formally represent its present intent to make the investment."); see also Jeremy McClane, *Reconsidering Creditor Governance in a Time of Financial Alchemy*, 2020 COLUM. BUS. L. REV. 192, 223 (2020) ("[C]orporate bonds which, unlike loans, have typically lacked any sort of ongoing monitoring covenants.").

178. See GUTTERMAN, *supra* note 176, at § 121:9 ("[I]t is common for loan agreements to cover all of the following Use of proceeds: Permitted uses and restrictions on use").

example in the DIP financing¹⁷⁹ and venture-capital¹⁸⁰ contexts. Commentators have recommended that sovereign bonds employ use-of-proceeds covenants,¹⁸¹ although it does not appear that the device is commonly used at present.¹⁸² Covenants restricting incurrence of indebtedness may permit incurrence to refinance existing debt; this can be seen as a sort of use-of-proceeds covenant.¹⁸³ Outside these contexts, however, use-of-proceeds covenants appear rare.¹⁸⁴

The author has been unable to locate an explanation for why use-of-proceeds covenants in particular are rare for U.S. corporate bonds. That use-of-proceeds covenants are uncommon may reflect that many corporate bonds are issued to raise funds for general corporate purposes rather than any one particular purpose.¹⁸⁵ The disuse of use-of-proceeds covenants in corporate bonds may also suggest that departing from the planned use of bond proceeds generally is not a strong sign of financial distress and does not strongly indicate that the issuer will not pay as agreed.

Despite the absence of a definitive explanation of why use-of-proceeds covenants are rare in this context, an extensive literature addresses why corporate bond covenants in general constrain a relatively limited class of issuer behavior.¹⁸⁶ As discussed in the next Section, the explanations it posits could apply to use-of-proceeds covenants in general.

C. Covenant Enforcement

The literature notes a polar opposition between private borrowing via loans and public borrowing in the bond market.¹⁸⁷ Private borrowing has featured tighter covenants than borrowing on the public markets.¹⁸⁸ The main reason is

179. See Norman L. Pernick, Jonas McCray, Risa M. Rosenberg & Brian K. Tester, *2nd Annual Understanding the Nonbankruptcy Part of the Deal: DIP Financing Agreements*, CONCURRENT SESSION AM. BANKR. INST. 17, 18 (2014).

180. See ALAN S. GUTTERMAN, BUSINESS COUNSELOR'S TRAINING MATERIALS: VENTURE CAPITAL FINANCING § 156:403.

181. See Caroline M. Gentile, *The Market for Odious Debt*, 73 L. & CONTEMP. PROBS. 151, 171–72 (2010); Virginia M. Brown, *Felonious, Erroneous, It's All Odious: A Story of Debt Gone Wrong*, 84 FORDHAM L. REV. 725, 761 (2015).

182. See Gentile, *supra* note 181, at 172; Mitu Gulati & George Triantis, *Contracts Without Law: Sovereign Versus Corporate Debt*, 75 U. CIN. L. REV. 977, 991 (2007).

183. See ABA INDENTURE HANDBOOK, *supra* note 157, at 175–76 (providing language for and commentary on such an exception to the limitation on incurrence of indebtedness).

184. See *supra* note 177 and accompanying text.

185. See *Prospectus Supplement*, *supra* note 134, at S-11 (describing “[u]se of proceeds for the notes other than the green bonds” as follows: “We intend to use the net proceeds from the offering of the notes . . . for general corporate purposes, including, but not limited to, refinancing of outstanding debt, funding for working capital and capital expenditures”).

186. See *infra* Section IV.C.

187. See *infra* note 188 and accompanying text.

188. See McClane, *supra* note 177, at 223 (“[C]orporate bonds . . . unlike loans, have typically lacked any sort of ongoing monitoring covenants.”); Elisabeth de Fontenay, *Do the Securities Laws Matter? The Rise of the Leveraged Loan Market*, 39 J. CORP. L. 725, 737 (2014) (“paradigm” case is that bank loans have “tight” covenants and public bonds have “loose” covenants); Ningzhong Li, Yun Lou & Florin P. Vasvari, *Default Clauses in Debt Contracts*, 20 REV. ACCT. STUDS. 1596, 1596 (2015) (“We find that default clauses in public bond contracts are less restrictive than those in syndicated loan contracts.”); Yakov Amihud, Kenneth Garbade & Marcel

that a loan generally has far fewer lenders than a bond does bondholders.¹⁸⁹ The lenders are thus better situated than bondholders to monitor compliance with covenants, to renegotiate them, and if necessary, to enforce them.¹⁹⁰ Although recent scholarship notes convergence between covenant protection for bonds and loans, the movement seems to have been toward lighter covenants for loans, rather than tighter covenants for bonds.¹⁹¹ Thus, covenant protections for bond investors remain skimpy.

For corporate bonds, an indenture trustee performs the monitoring and renegotiation functions, at least to some extent: the trustee has a rudimentary monitoring function, in that it reviews conclusory certificates of compliance.¹⁹² The trustee rarely has the power to renegotiate bond terms, with an exception for technical matters.¹⁹³ After a default occurs, enforcement is largely vested in the trustee's prudent judgment through affirmative grants of power to the trustee¹⁹⁴

Kahan, *A New Governance Structure for Corporate Bonds*, 51 STAN. L. REV. 447, 462 (1999) ("Private debt contains more extensive covenants and carries more extensive monitoring rights than public bonds.").

189. See Amihud et al., *supra* note 188, at 458.

190. See David Min, *Corporate Political Activity and Non-Shareholder Agency Costs*, 33 YALE J. ON REG. 423, 480 (2016) ("Corporate bonds face costly loan monitoring problems, which results either in duplication of effort or a free rider problem.") (citing Douglas W. Diamond, *Financial Intermediation and Delegated Monitoring*, 51 REV. ECON. STUD. 393, 393–94 (1994)); de Fontenay, *supra* note 188, at 744 ("While bank loans were always characterized by highly restrictive covenants, this feature could not peacefully coexist with funding by dispersed, unrelated creditors. Tight bank loan covenants often must be amended over the course of the loan, which is easy when the loan is between a single bank and a borrower With a dispersed creditor base, collective action and holdout problems among the creditors make amendments difficult, time-consuming, and often very costly."); Amihud et al., *supra* note 188, at 469 ("Since monitoring, amending and enforcing covenants is difficult, the bond indenture will contain few covenants; and those that appear entail little monitoring, are rarely breached, and, if breached, can be property enforced without intimate knowledge of the issuer.").

191. See Vincent S.J. Buccola, *Sponsor Control: A New Paradigm for Corporate Reorganization*, 90 U. CHI. L. REV. 1, 18 (2023) ("[I]t is only a slight exaggeration to say that today's syndicated loans resemble traditional bond indentures as much as they do the restrictive loans of the 1990s or 2000s."); de Fontenay, *supra* note 188, at 744–45 (noting that although "bond covenants were traditionally looser than bank loan covenants the latter have loosened dramatically since the onset of loan syndication and trading.").

192. See ABA INDENTURE HANDBOOK, *supra* note 157, at 15 (Revised Simplified Model Indenture § 4.03) (obligating issuer to deliver annual "brief certificate" signed by a specified officer "as to the signer's knowledge of the Company's compliance with all conditions and covenants contained in this Indenture"); Stewart M. Robertson, *Debtenture Holders and the Indenture Trustee: Controlling Managerial Discretion in the Solvent Enterprise*, 11 HARV. J.L. & PUB. POL'Y 461, 477 (1988) ("[D]ebenture holders do have the protection of indenture provisions requiring the issuer to file annual certificates of compliance with the indenture trustee. It should be remembered, however, that the trustee is entitled to rely in good faith on the accuracy of such opinions. The indenture holder is left with little protection against an issuer who either knowingly or negligently prepares a compliance certificate."); see also 15 U.S.C. § 7700o(a)(2) (2024) (providing that, in the absence of trustee bad faith, "the indenture trustee may conclusively rely" on the compliance certificate).

193. See Schwarcz & Sergi, *supra* note 155, at 1066 ("[I]ndenture trustees do not usually have authority to waive defaults in, or to amend, substantive covenants without bondholder consent."); Amihud et al., *supra* note 188, at 474 ("[T]he indenture trustee . . . lacks authority to consent on behalf of bondholders to substantive changes in the bond indenture."); see also ABA INDENTURE HANDBOOK, *supra* note 157, at 26–27 (Revised Model Simplified Indenture § 9.01) (conferring limited authority on trustee to consent to amendments without consent of holders). Amihud and his coauthors cite the 1983 *Model Simplified Indenture*, 38 BUS. L. 741, 763 (1983), in support of their assertion. Amihud et al., *supra* note 188, at 474 n.93. The most recent model indenture, The Revised Model Simplified Indenture, closely tracks the 1983 version.

194. See ABA INDENTURE HANDBOOK, *supra* note 157, at 17–18 (Revised Model Simplified Indenture § 6.02) (providing that upon occurrence of an event of default "the Trustee" may accelerate the securities and

and the “no-action” clauses discussed above.¹⁹⁵ Thus, individual bondholders have relatively limited rights to enforce the few bond covenants that protect them.¹⁹⁶

D. Remedies for Default

Typical corporate bond indentures provide expressly for acceleration as a remedy for default¹⁹⁷ and do not provide explicitly for any other named remedy.¹⁹⁸ Commentators have called acceleration the principal remedy for bond default.¹⁹⁹

With standard acceleration, “the [p]rincipal of and accrued and unpaid interest” on the bonds is “due and payable immediately.”²⁰⁰ The bondholder gets back money that it or the original bond buyer provided the issuer,²⁰¹ and the bondholder is not compensated for unrealized gain expected under the bond; that is, there is no award of unmatured interest.²⁰² The bond is repaid at “par,” its principal value.²⁰³

The acceleration remedy can be seen as more or less vindicating general contract law’s “restitution interest,” which the *Restatement (Second) of Contracts* defines as the injured promisee’s interest “in having restored to him any benefit that he has conferred on the other party.”²⁰⁴ This is the case because

“pursue any available remedy” to collect principal or interest “or to enforce the performance of any provision of the Securities or this Indenture” (§ 6.03)). As for the bondholders, holders of 25% of principal may accelerate the debt, *see id.* at 17–18 (§ 6.02), and holders of a majority of principal may waive default, *id.* at 18 (§ 6.04), or “direct the time, method and place of conducting any proceeding for any remedy available to the Trustee,” *id.* at 18 (§ 6.05).

195. *See supra* Section IV.A.

196. *See supra* notes 192–95 and accompanying text.

197. *See* ABA INDENTURE HANDBOOK, *supra* note 157, at 17 (Revised Model Simplified Indenture § 6.02) (authorizing acceleration “[i]f an Event of Default occurs and is continuing”).

198. *See* Kahan & Rock, *supra* note 157, at 302 (“Acceleration is . . . the only remedy specifically stated to be available and the only remedy regularly sought if an event of default has occurred.”).

199. *See, e.g., id.* (“Acceleration is the principal remedy provided for defaults . . .”). Some commenters have stated that the effectiveness of contract remedies for green default “would be based on the ability of bondholders to accelerate the repayment of principal” upon such default. Czerniecki & Saunders, *supra* note 15, at 4.

200. ABA INDENTURE HANDBOOK, *supra* note 157, at 17–18 (Revised Model Simplified Indenture § 6.02).

201. JONATHAN BERK & PETER DEMARZO, CORPORATE FINANCE 176 (3d ed. 2014) (“Most issuers of coupon bonds choose a coupon rate so that the bonds will *initially* trade at, or very close to, par (i.e., at face value).”).

202. *See* Mitu Gulati & Marcel Kahan, *Cash America and the Structure of Bondholder Remedies*, 13 CAP. MKTS. L.J. 570, 575 (2018).

203. *See id.* (“[P]ar acceleration is the classic exit remedy in publicly issued bonds . . .”). Even so, for a sample of privately placed bonds issued between 1986 and 1990, Marcel Kahan and Bruce Tuckman reportedly found that most of the bonds provided for “the higher of par and the discounted value of future interest and principal payments at a specified discount rate.” *Id.*

204. *See* RESTATEMENT (SECOND) OF CONTS. § 344(c) (AM. L. INST. 1981); *see also* Orlander v. Staples, Inc., 802 F.3d 289, 299 (2d Cir. 2015) (“It is well settled that if the plaintiff has made money payments to the defendant, and there is a failure of consideration whereby defendant materially breaches the contract, the plaintiff can maintain an action for restitution of the money so paid to the defendant.”) (quoting *In re Men’s Sportswear, Inc.*, 834 F.2d 1134, 1141 (2d Cir. 1987)). With acceleration, the issuer is entitled to interest accrued through the time of acceleration, ABA INDENTURE HANDBOOK, *supra* note 157, at 17–18 (Revised Model Simplified Indenture § 6.02). This is generally consistent with the principle of compensation for the use value of money where

investors generally pay the issuer approximately the par value of the bonds to purchase them in the first instance.²⁰⁵ Where the bondholder has bought the bond in the secondary market, the bondholder has not conferred a direct pecuniary benefit on the issuer.²⁰⁶ The buyers from the original bondholder, however, can be thought of as standing in the shoes of that bondholder,²⁰⁷ so that acceleration can still be seen as restitutionary.²⁰⁸

In addition to the standard remedy of acceleration, the typical indenture authorizes the trustee to pursue “any available remedy”²⁰⁹ in the event of default. Courts have found in recent cases that this phrase allows the pursuit of specific performance of a specific type of clause found in some bond indentures, the “make-whole” clause.²¹⁰ Make-whole clauses are said to be designed to compensate the bondholder for losing interest payments when a bond contract is terminated before maturity.²¹¹ Specific performance of a make-whole upon default thus resembles enforcement of a provision liquidating expectation damages.²¹²

Expectation, or “benefit of the bargain,”²¹³ damages, are said to be the primary remedy for breach of contract in American law.²¹⁴ Despite this, and despite

restitution is available. See RESTATEMENT (THIRD) OF RESTITUTION AND UNJUST ENRICHMENT § 53(1) (AM. L. INST. 2011).

205. See *Everything You Need to Know About Bonds*, PIMCO, <https://www.pimco.com/us/en/resources/education/everything-you-need-to-know-about-bonds> [<https://perma.cc/6RQW-MFQQ>] (last visited Jan. 2, 2026) (“Most bonds are issued slightly below par . . .”).

206. See *infra* note 309 and accompanying text.

207. Cf. RESTATEMENT (SECOND) OF CONTS. § 317 (AM. L. INST. 1981) (defining assignment as transfer by which assignee acquires the assignor’s right to performance, effectively stepping into the assignor’s shoes).

208. Cf. RESTATEMENT (THIRD) OF RESTITUTION AND UNJUST ENRICHMENT § 1 (AM. L. INST. 2011) (“A person who is unjustly enriched at the expense of another is subject to liability in restitution.”).

209. See ABA INDENTURE HANDBOOK, *supra* note 157, at 18 (Revised Model Simplified Indenture § 6.03) (titled “Other Remedies,” which authorizes indenture trustee to “pursue any available remedy” in addition to acceleration if event of default occurs and is continuing, but not specifying any other remedies).

210. See, e.g., *Sharon Steel Corp. v. Chase Manhattan Bank, N.A.*, 691 F.2d 1039, 1053 (2d Cir. 1982) (requiring payment of redemption premium (make-whole fee) where default “stemmed from the plan of voluntary liquidation . . . followed by the unsuccessful attempt to invoke the successor-obligor clauses”); *Wilmington Sav. Fund Soc’y, FSB v. Cash Am. Int’l, Inc.*, 15-CV-5027, 2016 WL 5092594, at *6 (S.D.N.Y. Sep. 19, 2016) (requiring payment of make-whole premium after issuer’s “voluntary” default).

211. See, e.g., *Wilmington Sav. Fund Soc’y, FSB*, 2016 WL 5092594, at *5 (describing make-whole fee as “compensat[ing] the lender for the cessation of the stream of interest payments running to the original maturity date of the loan” (quoting *In re MPM Silicones, LLC*, No. 14-22503-RDD, 2014 WL 4436335, at *12–13 (Bankr. S.D.N.Y. Sep. 9, 2014)). Some commenters have argued that in practice, make-whole clauses tend to be supra compensatory. See Theresa Arnold, Amanda Dixon, Madison Sherrill & Mitu Gulati, *The Myth of Optimal Expectation Damages*, 104 MARQ. L. REV. 141, 151 (2020).

212. See Douglas G. Baird, *Making Sense of Make-Wholes*, 94 AM. BANKR. L.J. 567, 569 (2020). An order of specific performance to pay under a make-whole does differ from an award of liquidated damages equal to the amount provided by the make-whole in that the former is potentially enforceable by contempt. See Yonathan A. Arbel, *Contract Remedies in Action: Specific Performance*, 118 W. VA. L. REV. 369, 383–84 (2015) (discussing Israeli law).

213. *Young v. Rosenberg*, 14cv9377, 2017 WL 3267769, at *1 (S.D.N.Y. Aug. 1, 2017) (citation omitted); RESTATEMENT (SECOND) OF CONTS § 344(a) (AM. L. INST. 1981) (defining expectation interest). A peculiarity of bonds is that absent contrary agreement there is no right to claim expectation damages for lost interest payments to be received in the future. See *infra* note 221 and accompanying text.

214. See RESTATEMENT (SECOND) OF CONTS. § 344 cmt. a (AM. L. INST. 1981) (expectation interest “[o]rdinarily” the one protected upon breach of contract); as to the primacy of damages over specific performance, see

the “any available remedy” language of the typical indenture, unliquidated expectation damages do not seem to play an important role in remedies for breach of U.S. corporate bond contracts.²¹⁵ Bondholders do enjoy an individual right to sue to recover unpaid interest and principal that has come due,²¹⁶ a type of expectation remedy.

The seemingly more important expectation remedy would be the right, upon default, to sue for principal and interest payments due in the future.²¹⁷ In a typical contract, uncured material breach eventually ripens into “total breach,”²¹⁸ which confers the right to sue on all unperformed promises in the contract.²¹⁹ For corporate bonds, that would seem to correspond to a right, once a breach matured into an event of default, to sue for payment of unmatured interest and repayment of not-yet-due principal.²²⁰ Such a right to terminate the contract and sue for unliquidated expectation damages for total breach does not appear to exist for U.S. corporate bondholders.²²¹

The *Restatement (Second) of Contracts* denies a default right to declare total breach where the breaching party’s obligations are exclusively “[to pay] money in installments not related to one another.”²²² Although corporate bond issuers are obligated to comply with covenants and not just to pay money in installments, the corporate bond closely resembles the situation the *Restatement* describes.²²³

id. § 359(1) (1981) (“Specific performance . . . will not be ordered if damages would be adequate to protect the expectation interest of the injured party.”).

215. See Kahan & Rock, *supra* note 157, at 302.

216. See ABA INDENTURE HANDBOOK, *supra* note 157, at 19 (Revised Simplified Model Indenture § 6.07); see also 15 U.S.C. § 77ppp(b) (prohibiting impairment of individual right to sue for unpaid interest or principal in indenture for covered bonds).

217. See Yehuda Adar, *The Damages Puzzle in Government Bonds*, 17 CAP. MKTS. L.J. 468, 487 (2022).

218. See RESTATEMENT (SECOND) OF CONTS. § 243(1) (AM. L. INST. 1981) (stating when remedies for “total breach” are available).

219. See *id.* § 236(1) (“[D]amages based on all of the injured party’s remaining rights to performance.”). For bonds, however, the default is that the bondholder cannot accelerate absent an explicit right to do so. See Gulati & Kahan, *supra* note 202, at 574–75. Presumably, absent an acceleration clause, the bondholder must wait for the issuer to fail to make future payments and, ultimately, the principal payment, suing for those payments only when they are missed. See *id.* The *Restatement (Second) of Contracts* recognizes an exception to this rule for contracts where the only remaining duties of performance are the payment of money in unrelated installments. See RESTATEMENT (SECOND) OF CONTS. § 243(3) (AM. L. INST. 1981). Despite the issuer’s various nonpayment duties under bond covenants, corporate bonds apparently follow this rule. See *id.*

220. On expectation damages for bond default, see Adar, *supra* note 217, at 487–88 (surveying various approaches to calculating damages for total breach of a bond contract and finding discounting coupon payments to present value to be the most plausible).

221. See Gulati & Kahan, *supra* note 202, at 574–76 (describing bondholder exit remedies as acceleration, and, if expressly contracted for, a “make-whole” clause); Curtis et al., *supra* note 15, at 142 n.46 (citing Joseph K. Gilligan, Note, *Acceleration Clauses in Notes and Mortgages*, 88 U. PA. L. REV. 94, 94 (1939)).

222. RESTATEMENT (SECOND) OF CONTS. § 243(3) (AM. L. INST. 1981). The *Restatement* does not state a rationale for this rule, other than to note that it is “well established.” *Id.* cmt. c.

223. See *id.*

V. GREEN BREACH AS EVENT OF DEFAULT

The most straightforward way to provide contract remedies for green non-performance would be to provide that such nonperformance could ripen into an event of default.²²⁴ As discussed, the standard remedy in that case would be acceleration.²²⁵ This Part discusses the strengths and weaknesses of making green nonperformance such an event of default.

A. *Strengths of Green Breach as Event of Default*

1. *Green Breach May Indicate Financial Default*

The typical bond covenant protects the promise of payment by prohibiting actions associated with an increased risk of nonpayment.²²⁶ If green nonperformance strongly indicates nonpayment, then there is an argument by simple analogy that a covenant should require green performance, and that green nonperformance should ripen into an event of default.

There is evidence that investors find ESG information relevant in general to financial performance.²²⁷ Green breach could be seen as increasing the likelihood of ultimate payment default in at least two ways.

First, green breach could signal financial distress. The issuer might breach its green commitment because of inability to honor the commitment. If an electric-vehicle manufacturer issues a \$1 billion green bond to build an electric-vehicle plant²²⁸ and instead spends the proceeds to pay trade creditors, it is reasonable to ask whether the issuer is in good financial shape.

Second, green nonperformance that does not indicate inability to pay could reveal an issuer's unwillingness to keep its commitments, increasing financial risk.²²⁹ The Moody's credit rating agency considers "commitment to a strong credit profile" in issuing corporate credit ratings.²³⁰

Green nonperformance need not signal distress. For example, the issuer may simply have found a more attractive way to invest the proceeds.²³¹ Even so,

224. See *supra* Section IV.D.

225. See *supra* Section IV.D.

226. See *supra* notes 172–74 and accompanying text.

227. See discussion *supra* Section II.D.

228. See, e.g., Edward Ludlow, *Rivian Slides on \$1.3 Billion Green Convertible Bond Plan*, BLOOMBERG (Mar. 7, 2023, at 09:04 CT), <https://www.bloomberg.com/news/articles/2023-03-06/rivian-drops-on-plan-to-offer-1-3-billion-in-green-convertibles> [<https://perma.cc/DDZ5-9JXY>] (reporting that the company "will use proceeds from the offering to finance, refinance or invest in current and future green projects").

229. See *Moody's Investors Service, Corporate Methodology Overview* 12, <https://web.archive.org/web/20250429071057/https://methodologies.moodys.com/corporate-methodology-overview/content/index.html#/lessons/y-H012f6XasvuM8DQ7rmBfS9SesVgWs-> [<https://perma.cc/RCD5-3SKU>] (last visited Oct. 5, 2025).

230. See, e.g., *id.* (noting that "risk and liquidity management" and "commitment to a strong credit profile" are two of five factors that in combination are responsible for only 15% of a corporate credit rating).

231. Cf. Joseph M. Perillo, *Misreading Oliver Wendell Holmes on Efficient Breach and Tortious Interference*, 68 *FORDHAM L. REV.* 1085, 1091 (2000) ("The theory of efficient breach holds that if a party breaches, and is still better off after paying damages to compensate the victim of the breach . . . [then] considered as a unit, the parties are better off because of the breach and the breach makes no party worse off.").

it is reasonable to suppose that markets would look negatively on an issuer's failure to fulfill its green intentions.²³²

2. *Green Nonperformance Is Likely Material to Some Investors for Nonfinancial Reasons*

Apart from its financial consequences, green nonperformance—perhaps unlike a traditional covenant breach—is probably material to some investors for nonfinancial reasons.²³³ The evidence cited above on the diversity of green-bond investors suggests that green performance is important for nonfinancial reasons to at least some investors who own green bonds now or who would be candidates for paying a greenium if remedies were stronger.²³⁴ This is a reason to provide a remedy for green nonperformance over and above its status as a financial indicator.²³⁵ And if a remedy is to be provided, the standard vehicle would be a covenant that could ripen into an event of default.²³⁶

3. *Acceleration Is a Standard Bond Remedy*

If there should be a covenant of green performance for the same financial reasons that other bond covenants exist, then perhaps the analogy continues: the proper remedy for green breach that becomes default is acceleration, the same remedy as for other covenant breaches that ripen into defaults.²³⁷

If a remedy is not justified by green default's status as a financial indicator but is justified by the nonfinancial materiality of green default, then one must look beyond a simple analogy to other covenants. Here, general contract law is helpful. Restitution is a contract remedy that is typically available for total breach²³⁸—material breach that is incurable or that the promisor has failed to cure for a reasonable time.²³⁹ Thus, a restitutionary remedy such as acceleration arguably is appropriate where the green breach is material.²⁴⁰

232. See *supra* notes 226–30 and accompanying text.

233. See discussion *supra* Section II.D.

234. See discussion *supra* Section II.D.

235. See discussion *supra* Section II.D.

236. See discussion *supra* Sections IV.B., IV.D.

237. See discussion *supra* Section IV.D.

238. See RESTATEMENT (THIRD) OF RESTITUTION AND UNJUST ENRICHMENT § 37 cmt. c. (AM. L. INST. 2011). Although, as a default rule, total breach is not available for breach of a contract solely to pay money in unrelated installments, see RESTATEMENT (SECOND) OF CONTS. § 243(3) (AM. L. INST. 1981), this exception would not cover a green bond that obligates the issuer to use proceeds for green projects.

239. See RESTATEMENT (SECOND) OF CONTS. § 243 (AM. L. INST. 1981) (action for total breach available only if injured promisee's duties discharged); *id.* § 242 (material failure to perform required for discharge of injured promisee's duties); *id.* cmt. a (injured promisee's duties "[o]rdinarily" not discharged until expiration of cure period unless breach is incurable).

240. See discussion *supra* Section IV.D.

B. Weaknesses of Green Breach as Event of Default

1. Bond Covenants Generally Are Underenforced

As shown, it could be argued by analogy that a covenant should protect bondholders against green nonperformance, just as covenants protect investors against other events of equal seriousness.²⁴¹ One problem with this approach is that traditional covenants may not do the job all that well.

The literature on corporate bond trustees and covenants concludes, by and large, that indenture trustees have tended to underenforce bond covenants.²⁴² As Yakov Amihud, Kenneth Garbade, and Marcel Kahan have pointed out, indenture trustees (1) have “no legal or contractual obligation to monitor actively the company’s finances in order to detect a breach of a covenant,”²⁴³ (2) have “no access to non-public information,”²⁴⁴ and (3) are “permitted to rely on conclusory compliance certificates provided by the company.”²⁴⁵ These authors also note that indenture trustees are not paid enough to engage in extensive monitoring and enforcement.²⁴⁶ Thus, assuming contractual remedies are appropriate, perhaps some type of enforcement other than through traditional default is desirable.

2. Acceleration Remedy May Lead to Inter-Investor Conflicts

Acceleration will only sometimes be attractive to financially-minded investors. If investors who find green breach material for nonfinancial reasons are in the mix, they may clash with investors who are concerned primarily with financial valuation.²⁴⁷ If acceleration is the only remedy, its collective nature implies

241. See discussion *supra* Section V.A.

242. See, e.g., Min, *supra* note 190, at 480 n.312 (“In practice, the covenants of publicly offered bonds are enforced by the bond’s trustee, who is appointed and paid by the borrowing firm and thus is not a particularly strong monitor or enforcer of investor interests.”); James J. Park, *Bondholders and Securities Class Actions*, 99 MINN. L. REV. 585, 592 (2014) (“Bondholder covenants are rarely enforced because bond trustees have insufficient incentive to monitor for breaches.”); de Fontenay, *supra* note 188, at 744–45 (“With a dispersed creditor base, however, collective action and holdout problems among the creditors make amendments difficult, time-consuming, and often very costly This explains why bond covenants were traditionally looser than bank loan covenants,” (footnote omitted)); Richard Squire, *Shareholder Opportunism in a World of Risky Debt*, 123 HARV. L. REV. 1151, 1162 (2010) (“[B]ond covenants designed to deter debtor opportunism are regularly underenforced because monitoring costs for individual bondholders are high and bondholders face collective action problems.”).

243. See Amihud et al., *supra* note 188, at 473.

244. *Id.*

245. See *id.* See also 15 U.S.C. § 7700o(a)(2) (2024) (“[T]he indenture trustee may conclusively rely, as to the truth of the statements and the correctness of the opinions expressed therein, in the absence of bad faith on the part of such trustee, upon certificates or opinions conforming to the requirements of the indenture.”).

246. See Amihud et al., *supra* note 188, at 479 n.111 (noting that as of 1998, “[i]ndenture trustee fees for an unsecured bond generally range from \$5,000 to \$10,000 per year” and arguing that their proposed “supertrustee,” which would engage in monitoring and enforcement should receive fees “materially higher than those paid to the indenture trustee”).

247. See *supra* notes 73–74 and accompanying text.

that investors who find green default material for nonfinancial reasons may have no recourse at all.²⁴⁸

When a bond is “accelerated,” the bond principal is due immediately.²⁴⁹ This results in repayment at “par,” or the face principal value of the bond, without adjustment for the fact that the bond might be trading above or below par at the time of acceleration.²⁵⁰

Marcel Kahan and Edward Rock have explained that whether acceleration is financially attractive depends on fortuitous events, which can increase bond prices above par and make acceleration a money-losing proposition.²⁵¹ Such events could include changes in interest rates²⁵² or changes in perceptions of issuer creditworthiness other than the green default.²⁵³

Consider a ten-year bond with principal \$100 and a 5% semiannual coupon. Assume it is issued at par, that is, that investors pay \$100 for the promise of ten coupon payments of \$2.50 over the next five years and the return of the \$100 principal at the end of the five years. Assume that one year later, interest rates have fallen so that the bond now yields 3.5% and assume that the company has failed to spend the bond proceeds on green projects during the year, thus defaulting on a green promise. The bond will trade at \$105.55.²⁵⁴ Accelerating the bond and receiving \$100 is not attractive to investors who are concerned only with financial returns because of the interest rate change.²⁵⁵ Even if they now distrust the issuer and want to exit the investment, they will prefer to sell the bond for \$105.55 rather than accelerate it for \$100.²⁵⁶

Acceleration may not be attractive even if the market finds that “green default” decreases the bond value.²⁵⁷ A standard way of capturing bond payment risks is through an upward adjustment to yield called the “credit spread.”²⁵⁸ Assume that the “green default” means that the market demands an additional 1% of credit spread from the bond, so that it yields 4.5%. Now the bond will trade at \$101.81,²⁵⁹ and acceleration for \$100 is still unattractive.²⁶⁰

248. See *infra* notes 251–53 and accompanying text.

249. See *Neuhauser v. Rep. of Arg.*, No. 22 CV 768 (LAP), 2023 WL 2663956, at *1 (S.D.N.Y. Mar. 28, 2023).

250. See discussion *supra* Section IV.D.

251. See Kahan & Rock, *supra* note 157, at 301–06.

252. See BERK & DEMARZO, *supra* note 201, at 178–79.

253. See *id.* at 188 (defining “credit spread” as difference between a corporate bond’s yield and a corresponding Treasury bond yield and noting “[c]redit spreads fluctuate as perceptions regarding the probability of default change”).

254. See *id.* at 182. The calculation can be replicated by using PV(0.0175, 8, 2.5, 100) in a standard spreadsheet program. The values represent the bond yield (1.75% per six-month period), the number of remaining coupon payments (8), the amount of each coupon payment (\$2.50), and the amount of principal to be received after 4 years (\$100).

255. Cf. Kahan & Rock, *supra* note 157, at 305–06 (discussing incentives to accelerate based on factors related and unrelated to breach).

256. See *id.*

257. See *id.*

258. See BERK & DEMARZO, *supra* note 201, at 188.

259. See *id.* at 182. The calculation here can be accomplished with PV(0.0225, 8, 2.5, 100) in a spreadsheet.

260. Cf. Kahan & Rock, *supra* note 157, at 305–06.

If acceleration is the only recourse, pure financial investors have lost \$3.74 due to green default. Investors who find green default material for subjective reasons are even worse off.²⁶¹ One possibility for such investors is that they may not care to try to place a financial valuation on the subjective loss they suffer because their “green” investment turned out not to be green.²⁶² They may simply want the issuer to give their money back.²⁶³ They are likely to be opposed in this by the financial investors, who may be unhappy that their bonds are now worth \$101.81 rather than \$105.55 because of the green default, but who are not interested in accelerating their \$101.81 bonds and receiving \$100.

Another possibility for green-minded investors is that they may place a monetary value on not supporting non-green investment.²⁶⁴ Say a green investor values not supporting non-green investment at \$3. With acceleration, the investor’s money is no longer going to non-green purposes, so acceleration effectively yields that investor a value of \$103 (the \$100 cash plus the \$3 value of not supporting non-green investment). This green investor will want to accelerate but will probably be opposed by financially minded investors.²⁶⁵

Who are the green investors in this example? They might be individual investors; recall that such investors hold 28% of corporate bonds generally.²⁶⁶ They also might be ESG-focused investment funds willing to trade off financial returns for green purity.²⁶⁷ At least one commentator has suggested that this tradeoff is not legally barred, but a final answer awaits further research.²⁶⁸

Thus, the classic and primary bond default remedy of acceleration is of only fortuitous usefulness. And, because its usefulness to investors who are not

261. See *supra* notes 73–74 and accompanying text.

262. See, e.g., Gunnar Gutsche, Heike Wetzel & Andreas Ziegler, *Determinants of Individual Sustainable Investment Behavior - a Framed Field Experiment*, 209 J. ECON. BEHAV. & ORG. 491, 499 (2023).

263. See, e.g., Luke Trompeter, *Green Is Good: How Green Bonds Cultivated into Wall Street’s Environmental Paradox*, 17 SUSTAINABLE DEV. L & POL’Y 4, 8 (2017).

264. See Gutsche et al., *supra* note 262, at 499.

265. See Freeburn & Ramsay, *supra* note 15, at 441.

266. See discussion *supra* Section II.D.

267. Cf. Rose, *supra* note 124, at 61.

268. The ESG literature has featured arguments that considering ESG factors in investment can improve risk-adjusted returns, or least need not diminish them. See Schanzenbach & Sitkoff, *supra* note 71, at 448 (“[A] fair reading of the current theory and evidence admits of the possibility that risk-return ESG could financially benefit beneficiaries.”); Gary, *supra* note 126, at 746 (“As evidence mounts that consideration of ESG factors can improve risk-adjusted returns, more financial analysts use some form of ESG integration.”). But see Bryce C. Tingle, *What Do We Know About Shareholders’ Potential to Solve Environmental and Social Problems?*, 58 GA. L. REV. 169, 208 (2023) (reviewing evidence on ESG fund behavior and concluding, “[i]t is very hard to make sense of these facts if ESG investing is, in fact, connected to higher risk-adjusted returns”). The author has been unable to find work addressing whether an ESG mutual fund manager may consciously sacrifice immediate returns to promote green outcomes. Although mutual fund investment advisors owe a fiduciary duty to investors “in respect of such compensation” paid to the adviser, this provision appears to be directed toward fees, not toward creating a nonwaivable duty to maximize risk-adjusted returns. 15 U.S.C. § 80a-35(b) (2024). The only work the author has located that addresses investment managers’ fiduciary duties in connection with ESG investing is a student note arguing that advisors of ESG funds have a fiduciary duty to pursue ESG objectives, as well as financial ones. See Zachary Barker, Note, *Socially Accountable Investing: Applying Gartenberg v. Merrill Lynch Asset Management’s Fiduciary Standard to Socially Responsible Investment Funds*, 53 COLUM. J.L. & SOC. PROBS. 283, 283 (2020).

willing or able to take financial losses for the sake of greenness depends on the bond's market price, investors who *are* willing to sacrifice in order not to support non-green investment may face an uphill battle in invoking the remedy.

3. *Issuer Resistance—Cross-Default Clauses*

Market participants have observed that issuers are likely to resist adoption of green nonperformance as an event of default in green bonds.²⁶⁹ Reportedly, issuer reluctance to meet investor demand for enforceable targets has recently been “[o]ne of the biggest drags” on the green-bond-adjacent market for sustainability-linked bonds.²⁷⁰

Perhaps the biggest obstacle to issuer acceptance of a green default term is the possibility of cross-default.²⁷¹ A “cross-default” provision in a debt contract makes default on some other debt into a default under the loan or bond contract containing the provision.²⁷² A “cross-acceleration” clause is similar, but is triggered by acceleration of the other debt due to default rather than by the default itself.²⁷³ Studies report that 95% of syndicated loans to SEC filers²⁷⁴ have cross-default or cross-acceleration clauses²⁷⁵ and half of corporate bonds have cross-acceleration clauses.²⁷⁶ Even if an issuer might accept the possibility of acceleration or other remedies being applied to the green bond itself, the possibility of having its entire debt accelerated could be daunting.²⁷⁷ Market participants have described issuer unwillingness to risk cross-default in interviews with scholars²⁷⁸ and in their own writings.²⁷⁹

269. See *supra* note 15.

270. Kristin Broughton, *Corporate Bond Issuance Is Booming—but Not Sustainability-Linked Bonds*, WALL ST. J. (Mar. 13, 2024, at 06:00 ET), <https://www.wsj.com/articles/corporate-bond-issuance-is-booming-but-not-sustainability-linked-bonds-4ec3279c> [<https://perma.cc/AR3U-HPNQ>].

271. See, e.g., Kristina Forsbacka, *Climate Finance and the Point of Green Bonds* 413 (2021) (PhD, Lulea University of Technology) (on file at <https://www.diva-portal.org/smash/get/diva2:1517127/FULLTEXT03.pdf> [<https://perma.cc/FFM9-WJW8>]). (“Issuers of green bonds are reluctant to include “green” undertakings in the Contract as a breach may result in cross-defaults of other loan agreements.”).

272. See Li et al., *supra* note 188, at 1598 n.2.

273. See Sattar A. Mansi, Yaxuan Qi & John K. Wald, *Bond Covenants, Bankruptcy Risk, and the Cost of Debt*, 66 J. CORP. FIN. 101799, at 5 (2021).

274. See Li et al., *supra* note 188, at 1597, 1604 (describing construction of sample of 9361 syndicated loan contracts).

275. See *id.* at 1598 (reporting that 95% of loan contracts in their sample have cross-default clauses); *id.* at 1609 (explaining that their study combines cross-acceleration and cross-default clauses).

276. See Mansi et al., *supra* note 273, at 7 tbl. 2 (reporting that of 13,973 firm-year observations of bond covenants of 2072 firms from 1984 to 2014, 46.1% of observations had cross-acceleration clauses and 6% had cross-default clauses); see also Li et al., *supra* note 188, at 1597–98 (reviewing 4,627 bond prospectuses issued by public nonfinancial firms in the United States from 1996 through 2009 and reporting that 52% of bond contracts have cross-acceleration clauses).

277. See Li et al., *supra* note 188, at 1609 (“The cross-default to other debt is probably one of the most serious events-of-default clauses” because cross-default could “seriously weaken the borrower’s financial position.”).

278. See Curtis et al., *supra* note 15, at 162 (quoting market participant as saying, “[f]or there to be an Event of Default [or a] Cross Default . . . would undermine the entire market”).

279. See Doran & Tanner, *supra* note 15 (arguing that making green nonperformance an event of default would be “seen as too draconian and face too much resistance”).

The strong opposition to a green event of default, rooted in the risk of triggering cross-default and cross-acceleration clauses, is a significant obstacle to the default-and-acceleration solution to the problem of green-bond remedies.²⁸⁰ If green nonperformance is comparable to other events covered by bond covenants, then perhaps investors could be mobilized to demand a green covenant. But, as just noted, the remedy has drawbacks for investors as well.²⁸¹ It is worth considering remedies that should not trigger cross-default and cross-acceleration clauses and that are not collective in nature.

VI. A NON-DEFAULT APPROACH TO GREEN BOND REMEDIES

Making green nonperformance an event of default for green bonds may not be feasible because of issuer resistance to the idea based on the risk that green default can trigger cross-default and cross-acceleration clauses.²⁸² Thus, it is worth considering remedies that do not involve adding an event of default to the bond documentation. This Article proposes a combination of two such remedies. Investors should be able to choose between (1) exercising a “green put” that would allow them to exit their investment and withdraw the capital that their bonds contributed to the issuer,²⁸³ and (2) a coupon or principal step-up that would provide investors who remained in the investment with financial compensation for the issuer’s breach of a green promise.²⁸⁴

The green put and the step-up are likely to appeal to different types of investors. Investors who are motivated by the “greenness” of green bonds and who do not want to contribute capital to non-green projects are likely to find the green put attractive.²⁸⁵ Investors who are financially motivated are likely to find the step-up more attractive.²⁸⁶ They may not want to exit the investment because of green default, especially if the step-up more or less compensates them for any additional financial risk the green nonperformance reveals.²⁸⁷ Referring to the discussion of different types of investors in green bonds,²⁸⁸ individual green bond holders and ESG funds may be more likely to be of the first type, while nonfinancial investors and insurers may be more likely to be of the second type.²⁸⁹

The approach proposed here is consistent in its general outline with the structure of general contract law. As a default, contract law gives the injured promisee a choice between exiting the contract and keeping it in place and receiving compensation for breach.²⁹⁰ Upon material breach, after waiting for cure

280. *See id.*

281. *See* discussion *supra* Subsection V.B.2.

282. *See* Doran & Tanner, *supra* note 15.

283. *See* discussion *infra* Section VI.A.

284. *See* discussion *infra* Section VI.B.

285. *See* discussion *infra* Subsection VI.A.1.

286. *See* discussion *infra* Subsection VI.B.1.

287. *See* discussion *infra* Section VI.B.

288. *See* discussion *supra* Section II.D.

289. *See* discussion *supra* Section II.D.

290. *See* RESTATEMENT (SECOND) OF CONTS. § 236 cmt. b, 356 (AM. L. INST. 1981).

if appropriate, the injured promisee may treat a breach as “total,” terminate the contract,²⁹¹ and sue for the value of all unperformed promises²⁹² or receive restitution of the value of its own performance.²⁹³ Alternatively, the injured promisee may treat the breach as partial, keep the contract in place, and sue for the loss in value relative to full performance caused by the breach.²⁹⁴

Here, the green put allows the investor to exit the bond contract, which is similar to termination under the *Restatement*.²⁹⁵ If the amount the issuer must pay the bondholder upon exercise (the “exercise price”) is set at the amount the issuer originally received for the bond, the monetary consequences of the remedy resemble restitution.²⁹⁶ As explained later, the exercise price might be set at a different level to target the green-motivated investor more precisely.²⁹⁷

The step-up, by contrast, resembles the alternative of treating the breach as partial.²⁹⁸ The bond contract remains in place, but the investor receives a payment that is set at a level designed to compensate approximately for the loss due to green nonperformance.²⁹⁹ Because the amount of the payment would be specified in advance, the step-up is akin to liquidated damages for partial breach.³⁰⁰

This Article does not discuss in depth two other potential remedies, unliquidated expectation damages and specific performance. Two important reasons for the omission are that, unlike put events and step-ups, these remedies are not

291. *See id.* § 242 cmt. a.

292. *See id.*

293. *See* RESTATEMENT (THIRD) OF RESTITUTION AND UNJUST ENRICHMENT § 38(2)(b) (AM. L. INST. 2011). *See* E. Empire Constr., Inc. v. Borough Constr. Grp., LLC, 156 N.Y.S. 3d 148, 152 (App. Div. 2021) (“[A] material breach that goes to the root of the matter or the essence of the contract constitutes grounds for rescission.”).

294. *See* RESTATEMENT (SECOND) OF CONTS. § 242 cmt. a (AM. L. INST. 1981); *see also* E. Coast Res., LLC v. Town of Hempstead, No. CV 07-2954, 2010 WL 11629319, at *3 (E.D.N.Y. July 19, 2020) (explaining election between partial and total breach).

295. *See* RESTATEMENT (SECOND) OF CONTS. § 242 cmt. a (AM. L. INST. 1981);

296. *See supra* note 293 and accompanying text; *see* discussion *infra* Subsection VI.A.4.

297. *See* discussion *infra* Subsection VI.A.4.

298. *See infra* notes 372–76 and accompanying text.

299. *See infra* notes 383–84 and accompanying text.

300. *See* RESTATEMENT (SECOND) OF CONTS. § 356 (AM. L. INST. 1981) (discussing liquidated damages).

standard in bond documentation³⁰¹ and have not been advocated by green-bond market participants.³⁰²

In addition, unliquidated expectation damages for green breach would be difficult to determine,³⁰³ and difficulty in ascertaining actual expectation damages is a standard reason for using liquidated-damages provisions such as the step-up.³⁰⁴ As for specific performance, it is an equitable remedy and therefore unpredictable in application.³⁰⁵ Moreover, specific performance probably is not feasible as an individual remedy, as issuers are unlikely to be willing to vest each bondholder with the power to compel investment of the entire proceeds of a green bond issue.³⁰⁶ If implemented as a collective remedy, specific performance would, like the standard default remedy, suffer from the problems of underenforcement and inter-investor conflict described above.³⁰⁷

301. The Revised Simplified Model Indenture would seem not to bar suits for unliquidated damages or specific performance for breach. It authorizes the trustee to seek “any available remedy” for default. *See* ABA INDENTURE HANDBOOK, *supra* note 157, at 18 (Revised Model Simplified Indenture § 6.03). Nevertheless, unliquidated expectation damages have played only a limited role in bond litigation. *See* discussion *supra* Section IV.D. Specific performance does not seem to be commonly used today in bond contract disputes outside the specialized context of ordering the performance of make-whole provisions, provisions that require payment of amounts specified in the indenture to compensate investors for lost interest upon early termination of the bond contract. *See* *Sharon Steel Corp. v. Chase Manhattan Bank, N.A.*, 691 F.2d 1039, 1053 (2d Cir. 1982) (“We see no bar . . . to the Indenture Trustees seeking specific performance of the redemption [make-whole] provisions.”); *Wilmington Sav. Fund Soc’y, FSB v. Cash Am. Int’l, Inc.*, No. 15-CV-5027, 2016 WL 5092594, at *6–7 (S.D.N.Y. Sep. 19, 2016) (finding indenture trustee entitled to specific performance of payment of make-whole premium). There is at least one precedent for the use of specific performance to enforce an ancillary covenant, which is arguably analogous to enforcing a promise to use proceeds for green purposes. *See* *Marine Midland Tr. Co. of N.Y. v. Alleghany Corp.*, 28 F. Supp. 680, 683–84 (S.D.N.Y. 1939) (granting preliminary injunction in suit to enforce covenant to maintain collateral at 150% of bond principal amount and holding that “a suit for damages for the breach of the covenant to post or maintain collateral security would be inadequate”). *Midland* has been cited twenty-four times by courts, mostly in the context of suretyship arrangements. *See, e.g.,* *Safeco Ins. Co. of Am. v. Schwab*, 739 F.2d 431, 433 (9th Cir. 1984).

302. *See* *Doran & Tanner, supra* note 15, at 25 (reviewing remedial options for green bonds and not suggesting unliquidated expectation damages or specific performance); *Czerniecki & Saunders, supra* note 15, at 4 (same).

303. *See* *Curtis et al., supra* note 15, at 142 (in case of green default, “it would likely prove impossible to quantify the harm to an investor, leaving the investor without a damages remedy”).

304. *See* *Priebe & Sons v. United States*, 332 U.S. 407, 411 (1947) (liquidated damages provisions “serve a particularly useful function when damages are uncertain in nature or amount or are unmeasurable”); *Truck Rent-A-Ctr. v. Puritan Farms 2d*, 41 N.Y.2d 420, 424 (1977) (“Provisions for liquidated damage have value in those situations where it would be difficult, if not actually impossible, to calculate the amount of actual damage.”); *RESTATEMENT (SECOND) OF CONTS.* § 356 (AM. L. INST. 1981) (“Damages . . . may be liquidated in the agreement but only at an amount that is reasonable in light of the . . . loss caused by the breach and the difficulties of proof of loss.”).

305. *See* E. ALLAN FARNSWORTH, *CONTRACTS* 783 (3d ed. 1999) (referencing “limited availability of specific performance”); *Curtis et al., supra* note 15, at 142 (arguing that specific performance probably is unhelpful to green-bond investors: “equitable relief is rarely granted under the best of circumstances”). In particular, specific performance will be granted only if damages are inadequate and other tests are met, including judicial manageability of the order. *See* *RESTATEMENT (SECOND) OF CONTS.* §§ 359(1), 366 (AM. L. INST. 1981). If a green bond requires the issuer to use the proceeds to construct a power plant or fund an electric-vehicle program, the latter requirement could be difficult to satisfy.

306. *RESTATEMENT (SECOND) OF CONTS.* § 357 cmt. a (AM. L. INST. 1981) (providing that order of specific performance “usually . . . orders a party to render the performance that he promised”).

307. *See* discussion *supra* Subsections V.B.1, V.B.2.

A. *The Put Remedy for Green Nonperformance*

1. *Description and Purpose*

The put remedy for green nonperformance is a right, triggered by green nonperformance, to “put” (sell) their bonds back to the issuer for a limited time. The price the issuer would pay for the bonds (the “exercise price”) could be set either at the bond’s market value at the time of its exercise or at par.

The green put is designed to vindicate the interests of investors for whom the green nature of the bond is material³⁰⁸ and who prefer not to provide capital³⁰⁹ to the issuer if the issuer will not honor a commitment to use the capital for green purposes. Green investors may prefer exiting their investment and withdrawing capital from the issuer to receiving additional monetary compensation.³¹⁰ Such investors are likely to choose to exercise the green put instead of the step-up.³¹¹

2. *Not a Default*

Green nonperformance would not be defined as a default, although failure to honor the put right could ripen into one. Puts in credit agreements need not be triggered by events of default.³¹² For example, a covenant included as an option in the Revised Simplified Model Indenture for corporate bonds gives the bondholder the right to put the bonds to the issuer upon a change in control of the issuer, but does not make a change in control an event of default.³¹³ Thus, the green put should not trigger cross-default clauses or bring about other consequences of default, and it should be more palatable to issuers and therefore more likely to be offered.

Other lenders might object to a green bond issuer’s inclusion of a green-put remedy, especially if they view green nonperformance as financially material. A green put that does not trigger cross-default and cross-acceleration clauses may be seen as an end-run around such clauses, granting green bondholders a remedy while denying one to other affected lenders and investors.³¹⁴ But given the small

308. See discussion *supra* Section II.D (discussing investor motives).

309. Bond purchasers on the secondary market do not provide capital to issuers, but the existence of the secondary market supports the primary market, and secondary-market investors could buy green bonds out of a desire to support green uses of capital. See Frank J. Fabozzi & Frank J. Jones, *The Primary and Secondary Bond Markets* 31, 39–40, in *THE HANDBOOK OF FIXED INCOME SECURITIES* (Frank J. Fabozzi ed., 7th ed. 2005) (explaining how secondary market aids primary-market issuers, for example by providing liquidity).

310. See discussion *infra* Subsection VI.B.1.

311. See discussion *infra* Subsection VI.B.1.

312. See J. SCOTT SHEEHAN & ROBIN RUSSELL, *FINANCIAL TRANSACTIONS TEXAS PRACTICE GUIDE* § 7:164 (2024) (“Practice Tip: It is not uncommon for a ‘change in control’ to be a mandatory prepayment event rather than an ‘event of default.’ This may be the case if the borrower has debt to another creditor that is cross defaulted to the debt owed to the lender.”).

313. See *ABA INDENTURE HANDBOOK*, *supra* note 157, at 197–98 (Committee on Trust Indentures and Indenture Trustees, Business Law Section § 4.07(a)).

314. See Li et al., *supra* note 188, at 1610.

role that green bonds likely play in most issuers' capital structures³¹⁵ and questions around whether green nonperformance really puts other lenders' investments at risk,³¹⁶ such opposition might not materialize. In any event, the objection is speculative and should not foreclose experimentation with green-bond remedies.

Because the green put is an individual remedy, like other puts,³¹⁷ it avoids the enforcement problems discussed earlier.³¹⁸ The green put does not suffer from the general problem of trustee underenforcement that affects bond covenants.³¹⁹ And investors for whom a green default is material for nonfinancial reasons can exercise the put on above-par bonds if they wish without resistance from investors who are unwilling or unable to lose money to pursue a green remedy.

What if the issuer simply declines to honor the put? Then investors would have to enforce their rights, and the typical mechanism for doing so would be to let the breach of the put obligation mature into an event of default and pursue acceleration.³²⁰ Thus, it might be argued that because the indenture trustee would be seeking remedies for default in this case, the green put suffers from the same problems of underenforcement and bondholder conflict as acceleration after all. But this concern is manageable, for both practical and legal reasons.

On the practical side, if the put does not itself trigger cross-default and cross-acceleration clauses, the issuer is likely to want to avoid the put's maturing into an event of default that would trigger such clauses.³²¹ It could do so by honoring the green put—which might be exercised by only a limited number of green-minded investors.

On the legal side, it is not clear that the put would have to be enforced by the trustee. Because the put is a right to payment that could be structured as a right to receive principal and interest in most cases, it arguably is enforceable through a lawsuit brought by a single bondholder.

As noted, no-action clauses exclude actions for failures to pay principal and interest on time, and this exclusion is mandated by statute for bonds issued under

315. As noted, green bonds represent only a few percent of total U.S. corporate bond issuance. *See supra* Section II.B. Bonds, in turn, are only one source of debt finance for companies. *Types & Sources of Debt Financing (The Complete List)*, SARATOGA INV. CORP., <https://saratogainvestmentcorp.com/articles/types-of-debt-financing/> [<https://perma.cc/PD4T-TVRR>] (last visited Jan. 2, 2026).

316. *See* discussion *supra* Subsection V.A.1 (discussing whether green nonperformance is financially material).

317. Consider the change-of-control put in the ABA's *Handbook for Indenture and Trust Indenture Act Interpretation*. *See* ABA INDENTURE HANDBOOK, *supra* note 157, at 197–99 (Committee on Trust Indentures and Indenture Trustees, Business Law Section § 4.07(a)). The sample language provides “each Holder” the right to exercise the put, *id.* at 197, provides that “Holders electing to have a Security purchased” must comply with certain procedures, *id.* at 198, and provides that the company must pay the purchase price of “all Securities purchased by the Company under this Section” to “the Holders entitled thereto.” *Id.* at 199.

318. *See* discussion *supra* Subsections V.B.1, V.B.2.

319. *See* discussion *supra* Subsection V.B.1.

320. *See* discussion *supra* Section IV.D.

321. *See* discussion *supra* Subsection V.B.3.

the Trust Indenture Act.³²² The put right could under most circumstances be defined as a payment of principal and interest,³²³ due at the date of exercise of the put option, and it would then at least arguably fall within the exclusion from no-action clauses.³²⁴

Admittedly, at least one case, *McMahan & Co. v. Warehouse Entertainment, Inc.*,³²⁵ seems to cut against this reading of the exclusion. *McMahan* held that a shareholder right to put bonds back to the issuer upon a change of control did not fall into the TIA payment-default exception.³²⁶ Notably, *McMahan* relied on an analogy between the put and an acceleration provision that is particularly inapt for a green put with an exercise price set at the market value of the bond.³²⁷ Subsection VI.A.4 discusses the exercise price for the green put.

322. See discussion *supra* Section IV.A.

323. If the exercise price for the put were par, it would be straightforward to characterize the put as a principal payment, as the par value of a bond is its principal amount. See *Everything You Need to Know About Bonds*, *supra* note 205. If the exercise price for the put were set at the bond's market price, and the market price were at or below par, the company's payment under the put could be characterized as a payment of principal for the same reason. See discussion *infra* Subsection VI.A.4.a. If the bond's market price were above par and (as commonly assumed) the bond price reflected the discounted present value of the coupons and principal, the market price could be greater than the total face amount of the coupons and principal only if the bond had a negative yield. See *BERK & DEMARZO*, *supra* note 201, at 172. Negative yields have been very uncommon for dollar-denominated U.S. corporate bonds, and they appear to have disappeared even in the broader corporate market. See Alice Gledhill, Tasos Vossos & Josyana Joshua, *Negative Yields Are Now Extinct in the World of Corporate Bonds*, BLOOMBERG (Apr. 25, 2022, at 04:24 CT), <https://www.bloomberg.com/news/articles/2022-04-25/negative-yields-are-now-extinct-in-the-world-of-corporate-bonds?embedded-checkout=true> [<https://perma.cc/UD6E-JV MZ>].

324. See *supra* notes 167–69 and accompanying text.

325. 859 F. Supp. 743 (S.D.N.Y. 1994), *aff'd in part, rev'd in part*, 65 F.3d 1044 (2d Cir. 1995). As relevant to the no-action clause, the Court of Appeals reversed the district court's finding that a contractual no-action clause could bar a federal securities action without addressing the district court's holding that the no-action clause covered the plaintiffs' contractual cause of action, which apparently was not appealed. *McMahan*, 65 F.3d at 1050–51.

326. *McMahan*, 859 F. Supp. at 748. The right-to-payment exception to the no-action clause in *McMahan* provided, as the court paraphrased it, that “debentureholders are excused from complying with the No Action Clause in suits based on nonpayment of principal and interest on or after the due dates expressed in the Debenture.” *Id.* at 747 n.4. The plaintiffs argued that the right-to-payment exception to the no-action clause applied because the merger-triggered right to payment “arose upon the occurrence of the merger.” *Id.* at 748. The court rejected the argument, finding that “[t]he only date of payment explicitly stated in the Debenture on which the right to payment becomes unconditional is the maturity date, July 1, 2006.” *Id.* The court drew an analogy to the bondholder remedy of acceleration, “the time of which is not certain and, indeed, may never come.” *Id.* Citing a precedent holding that acceleration “is a collection remedy provided in the Indenture and may not properly be considered a ‘payment default,’” the court in *McMahan* found that “[t]his reasoning holds true for the conditional right to tender, which is subject to a decision by the ‘Independent Directors,’ prior to the Debentures’ due date.” *Id.*

327. In *McMahan*, the put exercise price was 106.25% of par, while under the terms of the proposed merger, bondholders could tender at 50.72% of par. The strong financial incentive to exercise the put meant that all investors were likely to do so. The put was effectively a collective remedy, supporting the court's view that permitting exercise of the put was “analogous to an acceleration of payment of principal and interest.” *McMahan*, 859 F. Supp. at 745–56. The analogy to acceleration is weaker in the case of an at-market green put, where not all bondholders would be expected to exercise the option. See discussion *infra* Subsection VI.A.4.

A Westlaw search did not turn up cases following *McMahan*, so its status seems to be that of a district-court precedent from thirty years ago.³²⁸ *McMahan* was distinguished recently in *MeehanCombs Global Credit Opportunities, LP v. Caesars Entertainment Corp.*³²⁹ The court in *MeehanCombs* found that plaintiffs could sue over issuer actions that made payment of principal and interest less likely, and could do so in advance of the payments' due dates.³³⁰ The bases for its decision were that (1) actions that make payment of principal and interest less likely are "impairments" of the right to be paid,³³¹ and (2) the particular bond indenture in question did not limit the payment-impairment exception to the no-action clause to suits instituted "on or after [the] respective due dates."³³²

Although the first proposition may be a product of the now-defunct *Marblegate* era of expansive reading of TIA protections,³³³ the second proposition apparently stands: the scope of a no-action clause depends on the wording of that clause in the individual bond indenture.³³⁴

Bond indentures could be drafted with no-action clauses that permit individual exercise of the green put. Indeed, model bond indentures have at times recommended that no-action clauses exclude certain breaches other than a failure to pay coupons or principal upon the stated dates, such as failure to honor bond conversion rights.³³⁵

3. Market Acceptance of Put Rights

In general, when a bond provides for put rights, bondholders may exercise the rights on an individual basis.³³⁶ Event-based put rights appear to be accepted in the market, with puts exercisable upon change of control of the issuer being

328. See generally *McMahan*, 65 F.3d 1044 (2d Cir. 1995) (affirming district court in part and reversing in part, but not discussing relationship between put right and no-action clause).

329. 80 F. Supp. 3d 507, 514 (S.D.N.Y. 2015).

330. See *id.* at 517–20.

331. See *id.* at 515 (“[T]he Court finds [] unsatisfying the notion that Section 316(b) protects only against formal, explicit modification of the legal right to receive payment.”).

332. See *id.* at 518 (noting omission of quoted phrase from indentures at issue and concluding, “[t]his plain language does not limit the applicability of these provisions to suits for past due amounts”).

333. See Bratton & Levitin, *supra* note 165, at 1649–50. Bratton and Levitin describe the “rise and fall of the broad reading of section 316(b)” beginning with the decision of the U.S. District Court for the Southern District of New York in *Marblegate Asset Mgmt. v. Educ. Mgmt. Corp.*, 75 F. Supp. 3d 592 (S.D.N.Y. 2014), and ending with the reversal of *Marblegate* by the U.S. Court of Appeals for the Second Circuit, 846 F.3d 1, 17 (2d Cir. 2017). The “broad reading” that prevailed for this interlude was the view that “the impairment of the right to be paid encompasses any unconsented action under the trust indenture undertaken in connection with a restructuring that compromises the issuer’s ability to pay the bonds, even if the bond is not amended.” Bratton & Levitin, *supra* note 165, at 1650.

334. See *MeehanCombs*, 80 F. Supp. 3d at 517 (“The starting point is the language of the Indentures.”).

335. See *AG Oncon LLC v. Ligand Pharms. Inc.*, No. C.A. 2018-0556-JTL, 2019 WL 2245976, at *12 n.8 (Del. Ch. May 24, 2019) (noting that the American Bar Foundation’s 1971 *Commentaries on Model Debenture Indenture Provisions* treated the right of conversion “as an essential right which may not be amended without the consent of each holder affected thereby”).

336. See Kahan, *supra* note 171, at 1045 (“Put rights . . . obligate the company, in specified circumstances, to repay the bonds of those bondholders who have elected to exercise their rights.”). Individual exercise of the put right is distinguished from enforcement of the right if the issuer refuses to honor the put. See *id.* at 1049–50.

particularly common.³³⁷ The ABA's Revised Supplemental Model Indenture specifically provides for an individually enforceable put right exercisable upon change of control of the issuer.³³⁸

The author has not located examples of puts triggered by green nonperformance, so the proposal here would be an innovation. Although the bond market's extensive use of boilerplate in indentures may suggest conservatism,³³⁹ the market is not totally impervious to change and customization of indentures to meet circumstances.³⁴⁰ The addition of an individual put right upon green default is an incremental innovation that adds enforceability to green bonds with less momentous consequences than a standard default leading to acceleration and other remedies.³⁴¹ Such a remedy would seem to be a candidate for inclusion even in "sticky" bond indentures.³⁴²

Even if one believes, contrary to what much of the academic literature seems to imply,³⁴³ that the existing collective, trustee-based enforcement system works well, put rights are distinguishable from defaults. Consider the influential³⁴⁴ decision in *Feldbaum v. McCrory Corp.*³⁴⁵ The opinion states that no-action clauses "protect against the exercise of poor judgment by a single bondholder or a small group of bondholders, who might otherwise bring a suit against the issuer that most bondholders would consider not to be in their collective economic interest."³⁴⁶ Marcel Kahan has identified costs of individual bondholder rights in similar terms.³⁴⁷ As relevant to green-bond remedies, they include the risk of "conflicts of interest"—that an enforcement action is in the interest of some bondholders but not bondholders at large³⁴⁸—and frivolous suits.³⁴⁹

337. See Neil Dixon et al., *Dentons DCM Quick Guide to Change of Control Put Options*, DENTONS (Feb. 27, 2023), <https://www.dentons.com/en/insights/articles/2023/february/27/dentons-dcm-quick-guide-to-change-of-control-put-options> [<https://perma.cc/5U39-44FX>] ("CoC [change of control] put options are common.").

338. See, e.g., ABA INDENTURE HANDBOOK, *supra* note 157, at 197 (Committee on Trust Indentures and Indenture Trustees, Business Law Section § 4.07(a)) (providing that upon change in control, "each Holder" shall have the right to put its bonds to the issuer). Another possibility is that the right to exercise a put is a right to payment, the individual character of which is protected by law. See discussion *supra* Subsection VI.A.2.

339. See G. Mitu Gulati & Marcel Kahan, *Contracts of Inattention*, 46 L. & SOCIAL INQUIRY 1115, 1126–(2021); see also Frederick W. Lambert, *Path Dependent Inefficiency in the Corporate Contract: The Uncertain Case with Less Certain Implications*, 23 DEL. J. CORP. L. 1077, 1118 (1998) ("Some . . . terms recur in virtually every indenture; they are called boilerplate.").

340. See, e.g., Bratton & Levitin, *supra* note 165, at 1657 (documenting heterogeneity in indenture drafting in response to the Southern District of New York's *Marblegate* decision).

341. See discussion *supra* Section V.B.

342. Cf. Kahan, *supra* note 171, at 1083 (recommending amendments to bond indentures to allow individual enforcement of indenture provisions "conferring rights on bondholders under which only the rights of a subset may be infringed").

343. See discussion *supra* Subsection V.B.1 (discussing trustee underenforcement).

344. See, e.g., *Quadrant Structured Prods. Co. v. Vertin*, C.A. No. 6990–VCL, 2013 WL 3233130, at *9 (Del. Ch. June 20, 2013) ("Perhaps the most influential decision for no-action clause jurisprudence was *Feldbaum*.").

345. Civ. A. Nos. 11866, 11920, 12006, 1992 WL 119095 (Del. Ch. June 1, 1992).

346. *Id.* at *6.

347. See Kahan, *supra* note 171, at 1053–57 (identifying problems with individual bondholder rights).

348. *Id.* at 1053–54. The *Feldbaum* court's concern with suits brought because of "poor judgment" might be put under this heading.

349. *Id.* at 1056–57.

As compared to providing an individual bondholder right to put the issuer into default, both these concerns are substantially mitigated by the fact that each bondholder has only the right to put its own bonds.³⁵⁰ If some bondholders believe that the investors should ignore green nonperformance in order not to harm the issuer, and other bondholders believe remedies for the green nonperformance should be pursued, there is far less risk of harm to the issuer with a put event than a default event.³⁵¹ With the former, the consequence of pursuing the breach is repurchasing some of the bonds.³⁵² With the latter, the consequence is that all the green bonds subject to breach are accelerated, the issuer is placed in default, and cross-default clauses are triggered.³⁵³ Likewise, the plaintiffs in a frivolous suit will have less leverage if default is not in play.³⁵⁴

4. *Setting the Exercise Price*

If a green bond is to contain a green put, the bond documents would have to state how the price the issuer pays to repurchase the bond (the “exercise price”) is set.³⁵⁵ This Article considers two possibilities: (1) pricing at market, and (2) pricing at or near par. Pricing at market is in some ways preferable in that it precisely targets green-minded investors and avoids invocation of the put for fortuitous reasons.³⁵⁶ But market prices may not always be available; in that event, pricing at or near par is a second-best solution.³⁵⁷

a. Pricing at Market

If the exercise price for the green put were set at the bond’s market price, green nonperformance would give bondholders the right to put the bond back to the issuer at market price for some period of time.³⁵⁸ The market-price put gives investors no purely financial motive to invoke the remedy.³⁵⁹ Because the bondholder gives up the bonds and receives the market price for them, the remedy results in no financial gain or loss, at least from the difference between the amount received under the put and the bond’s market value.

The green put is targeted at a specific investor: the one who, in the event of green nonperformance, seeks not to receive financial compensation but rather to withdraw capital from the issuer. Setting the put exercise price at market

350. See discussion *supra* Subsection VI.A.2.

351. See discussion *supra* Subsection VI.A.2, VI.A.3.

352. See ABA INDENTURE HANDBOOK, *supra* note 157, at 197 (Committee on Trust Indentures and Indenture Trustees, Business Law Section § 4.07) (setting exercise price for change-of-control put at 101% of par).

353. See discussion *supra* Section IV.D.

354. See discussion *infra* Subsection VI.B.2.; Kahan, *supra* note 171, at 1065.

355. See ABA INDENTURE HANDBOOK, *supra* note 157, at 197 (Committee on Trust Indentures and Indenture Trustees, Business Law Section § 4.07) (setting exercise price for change-of-control put at 101% of par).

356. See discussion *infra* Subsection VI.A.4.a.

357. See discussion *infra* Subsection VI.A.4.b.

358. See discussion *supra* Subsection VI.A.1.

359. See discussion *supra* Subsection VI.A.1.

precisely targets this type of investor by removing the financial motive to exercise the put.

An advantage of the at-market put is that investors can vindicate an interest in not financing non-green investment without incurring a monetary cost. If the bond were trading above par, investors would not have to give up their investment gains in order to recover the original investment from the issuer because they would receive the bond market price upon exercise. This contrasts with the situation with acceleration or the at-par put.³⁶⁰

The at-market put seems less burdensome on the issuer *ex ante* than an at-par put. Exercise of the at-market put exposes the issuer to no direct financial gain or loss because the bonds are transferred at the market price.³⁶¹ The at-par put, by contrast, is more likely to be exercised when the bond price is below par, so the issuer typically will suffer a loss on exercise.³⁶² It also seems likely that fewer bondholders would exercise the at-market put, because there is no economic motive to do so.³⁶³ This reduced issuer burden is a benefit from the standpoint of motivating issuers to allow the remedy.

Putting the at-market put into practice does entail devising a mechanism for determining the bond's market price. Because many corporate bonds are thinly traded,³⁶⁴ there often is little data from which to determine the market price. For bonds that are expected to fall into this category, the put exercise price could be set at or near par as a second-best solution.

b. Pricing at or Near Par

A bond's "par" value is the principal amount of the bond, due at maturity.³⁶⁵ It is set in the bond contract and does not change due to market conditions.³⁶⁶ Most corporate bonds are issued at a price at or near their par value.³⁶⁷ Par value is thus an easily ascertainable amount, and that could be a reason to adopt par as the green put exercise price. Market prices might not be so easy to determine.³⁶⁸

Moreover, if the put exercise price is set at or near the par value of the bond, then upon exercise, the bondholder will receive an amount close to the capital

360. See discussion *supra* Subsection V.B.2.

361. Cf. discussion *supra* Subsection V.B.2.

362. See discussion *infra* Subsection VI.A.4.b.

363. Relative to the at-par put, the at-market put effectively excludes investors who are interested only in bonds' financial performance. These investors would not bother to exercise the at-market put. On the other hand, there are situations where investors who are with green interests would exercise the at-market put and not the at-par put. For example, an investor who places a small subjective value on not supporting an issuer that does not perform its green intention might not exercise the at-par put when the bond is trading above par, but presumably would exercise the at-market put. On balance, it seems likely that the at-market put is less likely to be exercised, although resolving the question would require more research. Cf. discussion *supra* Section II.D.

364. See Michael A. Goldstein & Edith S. Hotchkiss, *Providing Liquidity in an Illiquid Market: Dealer Behavior in U.S. Corporate Bonds*, 135 J. FIN. ECON. 16, 16 (2020) ("Despite the vast number and extremely large dollar volume of US corporate bond issues, many corporate bonds never or rarely trade.").

365. See *Everything You Need to Know About Bonds*, *supra* note 205.

366. See *id.*

367. See *id.* ("Most bonds are issued slightly below par . . .").

368. See *id.*

the issuer originally received when it issued the bond. Interest rates, changes in the issuer's overall creditworthiness, and market forces will not affect the amount the disappointed green investor receives. That the exercising bondholder withdraws from the issuer approximately what was originally contributed might be seen as an advantage of the at-par price.

The fact that par value does not fluctuate with the market price, however, means that bondholders will have an economic incentive or disincentive to exercise the put. If the bond is trading below par, bondholders will have a financial incentive to exercise the put, as they will receive more than the current market value of the bond if they do.³⁶⁹ Conversely, if the bond is trading above par, bondholders will have a financial disincentive to exercise the put.

Thus, setting the put price at par introduces arguably fortuitous factors into the exercise decision and makes the remedy less targeted to green investors, the ones who are actually concerned with green nonperformance for its own sake.³⁷⁰ For example, if green nonperformance occurs when the bond is trading significantly below par, financial investors can be expected to exercise their put rights, exposing the issuer to a flood of redemption requests from investors who are arguably seeking a large windfall. This possibility seems likely to spark issuer resistance to offering remedies without a corresponding benefit in attracting a greenium or protecting green investors.

For this reason, the at-par put seems like a second-best alternative to the at-market put. However, pricing the put at par might be necessary depending on anticipated liquidity of the bond.

B. *The Step-Up Remedy for Green Nonperformance*

1. *Description and Purpose*

The step-up is a non-default remedy for green nonperformance that complements the green put. It is a specified increase in the green bond's coupon or principal amount upon green nonperformance.³⁷¹

If acceleration and the put resemble the general contract-law remedy of termination for total breach,³⁷² and potentially that of restitution,³⁷³ the coupon step-up resembles liquidated damages for partial breach.³⁷⁴ That is, one party breaches, the contract is kept in place,³⁷⁵ but the other party pays an agreed

369. See discussion *supra* Subsection VI.A.4.a.

370. See *supra* Subsection VI.A.1.

371. See Frank J. Fabozzi, Steven V. Mann & Richard S. Wilson, *Corporate Bonds*, in *THE HANDBOOK OF FIXED INCOME SECURITIES* 305, 335 (Frank J. Fabozzi & Steven V. Mann eds., 7th ed. 2005).

372. See discussion *supra* Section IV.D., Part VI.

373. How closely the green put resembles a restitutionary remedy depends on how the exercise price for the put is set. See discussion *supra* Subsection VI.B.4.

374. See *RESTATEMENT (SECOND) OF CONTS.*, § 356 (AM. L. INST. 1981).

375. See *id.* § 236 cmt. b ("If the injured party elects to or is required to await the balance of the other party's performance under the contract, his claim is said instead to be one for damages for partial breach.").

amount for the value lost relative to full performance.³⁷⁶ The step-up thus can protect the expectation interest specifically in green performance.

The purposes of the step-up would be (1) to offer investors compensation for economic loss due to green nonperformance and, incidentally, (2) to act as a device to commit issuers to green performance. The step-up could also theoretically (3) be set at a high enough level to offer green investors compensation for noneconomic loss due to green nonperformance, although that might be difficult at this stage of the market's development. Each of these purposes is discussed in turn.

If green nonperformance indicates financial risk, as discussed,³⁷⁷ it could cause the bond's market value to fall.³⁷⁸ Financial investors might not want to exit the investment or withdraw capital from the company, but all investors presumably would be interested in compensation for the economic loss due to green nonperformance.³⁷⁹ This loss certainly would be difficult to determine with precision, but a step-up that reflects a good-faith effort to estimate the loss would serve the classic contract-remedy purpose of protecting expectation.³⁸⁰

The step-up does not just provide compensation for green nonperformance. By making nonperformance costly, it commits the issuer to perform and increases the likelihood that bond proceeds will be used as intended.³⁸¹ But under American law prohibiting contract penalties, the step-up probably cannot be designed primarily to commit the issuer to perform.³⁸²

Green nonperformance exposes green-minded investors not just to potential financial loss, but also to loss arising from the subjective value they place on green nonperformance.³⁸³ Because it is hard to measure, this loss of subjective value is potentially a good reason to use liquidated damages.³⁸⁴ Because all bondholders benefit from the step-up, however, setting it at a level that compensates green investors for subjective loss in addition to financial loss gives financial investors a windfall: They are compensated for subjective loss they do not actually suffer.³⁸⁵ Issuers could be reluctant to offer such a windfall, especially when remedies for green nonperformance are first being adopted. This Article

376. *See id.* § 356 (“Damages for breach . . . may be liquidated in the agreement but only at an amount that is reasonable in light of the anticipated or actual loss caused by the breach and the difficulties of proof of loss.”).

377. *See* discussion *supra* Subsection V.A.1.

378. *See, e.g.,* Morey W. McDaniel, *Bondholders and Stockholders*, 13 J. CORP. L. 205, 228 (1988) (“If business or operating risk increases . . . the risk of default increases and the value of the bonds decreases.”).

379. *See* discussion *supra* Subsection VI.A.1.

380. *See supra* notes 371–76 and accompanying text.

381. *See* discussion *supra* Subsection V.A.1.

382. *See, e.g.,* *Faulk v. Rhodes*, 62 So.3d 517, 522 (Ct. Civ. App. Ala. 2010) (providing that the impermissible penalty clause has been defined as “a security for performance designed to punish one party for breach of contract” (citation omitted)).

383. *See* discussion *supra* Subsection V.A.2.

384. *See* *Wassenaar v. Panos*, 331 N.W.2d 357, 365 (Wis. 1983) (upholding liquidated damages triggered by termination of employee because of possible “permanent injury to professional reputation, loss of career development opportunities, and emotional stress” and noting that damages for these harms probably would not be awarded absent liquidation because they are uncertain).

385. *See* discussion *supra* Subsection V.A.2.

advocates providing green investors a put remedy and deferring potential step-up compensation to later consideration.

2. *Not a Default*

The step-up does not require green nonperformance to be designated an event of default. Instead, the step-up could be structured as a conditional duty,³⁸⁶ as has been done in a related market.³⁸⁷ If green nonperformance (the event designated as the condition)³⁸⁸ occurs, the issuer owes a duty, namely paying the bondholders additional money. This structure avoids issuer resistance to the creation of a formal event of default that would trigger cross-default clauses.³⁸⁹ The step-up contrasts with the put in that it is not an individual remedy: all investors would receive the step-up.³⁹⁰ But the step-up does not present the problem of inter-investor conflict posed by acceleration because all investors who continue holding the bonds are likely to want to receive the step-up.³⁹¹

3. *Market Acceptance of Step-Ups*

Step-ups are already in use in a market adjacent to that for green bonds. “Sustainability-linked bonds” (“SLBs”) promise an increased coupon payment or payment at maturity³⁹² if the issuer fails to meet specified green goals, typically carbon-reduction goals.³⁹³ SLBs thus target a different type of green nonperformance from that discussed here: the trigger for SLBs’ failure to meet green goals, not failure to use proceeds for specified purposes.³⁹⁴ Nevertheless, SLBs are the closest analog of which the author is aware to a remedy for green nonperformance. They achieved popularity globally by 2021.³⁹⁵

386. Under this approach, the issuer would have a duty to pay the stepped up amount on condition of green nonperformance. See RESTATEMENT (SECOND) OF CONTS. § 224 (AM. L. INST. 1981) (defining contractual condition).

387. See John Armour, Luca Enriques & Thom Wetzer, *Green Pills: Making Corporate Climate Commitments Credible*, 65 ARIZ. L. REV. 285, 323 (2023).

388. See RESTATEMENT (SECOND) OF CONTS. § 224 (AM. L. INST. 1981) (“A condition is an event, not certain to occur, which must occur, unless its non-occurrence is excused, before performance under a contract becomes due.”).

389. See discussion *supra* Subsection V.B.3.

390. See discussion *supra* Subsection VI.B.1.

391. See discussion *supra* Subsection V.B.2.

392. Analysts report the step-up is to coupon in 85% of cases. See MITCH REZNICK, ROBIN USSON & SOPHIE DEMARE, DO SUSTAINABILITY-LINKED BONDS HAVE A STEP-UP PROBLEM? 4 (2021), https://www.hermes-investment.com/uploads/2022/04/15b2244e2bdb60da605fa8d00413bd1e/fhi_credit_take-note_sustainability-linked-bonds_march-2022-v2.pdf [<https://perma.cc/J4D9-EZ2V>].

393. See Armour et al., *supra* note 387, at 323.

394. See *id.*

395. See REZNICK ET AL., *supra* note 392, at 2 (reporting that SLB issuance has risen rapidly since introduction of SLBs in 2019 and that total SLB issuance had reached \$109 billion by late 2021). Admittedly, SLB issuance has declined more recently, and reportedly only three SLBs were issued in the U.S. in the first two and a half months of 2024. See Broughton, *supra* note 270 (reporting 51% less global issuance of SLBs through in 2024 through March 12 than in the corresponding period of 2023). The author is not aware of contentions that market rejection of step-ups per se is behind the decline.

Step-ups seemingly could be straightforwardly applied to the green-bond market. Green nonperformance must be defined, as would be the case for any remedy.³⁹⁶ Beyond that, the parties simply need to state the amount of the step-up. The step-up is flexible, in that the parties can specify a value for the step-up that seems appropriate to them, at least within some limits.³⁹⁷ Step-ups are also simple to perform: the issuer simply increases the coupon or principal payment.

4. *Setting the Step-Up Amount*

Although setting the precise level of the step-up is beyond the scope of this Article, the author offers some comments on the pertinent issues. The legal constraint on the step-up amount is that, under American law, it probably cannot be set too high.³⁹⁸

American contract law demands that contract remedies be compensatory and not penal.³⁹⁹ This principle has been understood to place an upper limit on liquidated-damages provisions.⁴⁰⁰ The New York version of this standard is that “the amount fixed” in a liquidated-damages provision may not be “plainly or grossly disproportionate to the probable loss.”⁴⁰¹ As noted,⁴⁰² the green step-up probably would not be designated as a damages remedy, but the prohibition on contract penalties cannot be evaded by calling a penalty something else.⁴⁰³ Even allowing latitude in the “reasonable” estimate for green investors’ difficult-to-estimate-but-real subjective damages from green default,⁴⁰⁴ very high liquidated damages amounts might be off the table. This prohibition limits the extent to which the step-up can act as an issuer commitment device.

396. See discussion *supra* Subsection V.A.2.

397. For a discussion of potential legal limits on the step-up, see *infra* Subsection VI.B.4.

398. See RESTATEMENT (SECOND) OF CONTS. §356(1) (AM. L. INST. 1981) (“A term fixing unreasonably large liquidated damages is unenforceable on grounds of public policy as a penalty.”)

399. See *id.* § 356 cmt. a (“[T]he parties to a contract are not free to provide a penalty for its breach.”); U.S. Naval Inst. v. Charter Commc’ns, Inc. 936 F.2d 692, 696 (2d Cir. 1991) (stating that “the purpose of damages for breach of contract is to compensate the injured party for loss” and “punitive awards are not part of the law of contract damages”).

400. See RESTATEMENT (SECOND) OF CONTS. § 356(1) (AM. L. INST. 1981) (“A term fixing unreasonably large liquidated damages is unenforceable on grounds of public policy as a penalty.”).

401. See *Of A Feather, LLC v. Allegro Credit Servs., LLC*, No. 21-960, 21-1107, 2023 WL 2415607, at *2 (2d Cir. Mar. 9, 2023) (difference between an enforceable liquidated damages provision and an unenforceable penalty is whether the “amount fixed is plainly or grossly disproportionate to the probable loss” (citation omitted)); *Lehman Bros. Special Fin., Inc. v. Branch Banking & Trust Co., et al. (In re Lehman Bros. Holdings Inc.)*, 970 F.3d 91, 105–06 (2d Cir. 2020) (same).

402. See discussion *supra* Subsection VI.B.2.

403. See, e.g., Larry A. DiMatteo, *An Examination of Judicial Reasoning—When a Penalty Is Not a Penalty*, 85 GEO. WASH. L. REV. 1846, 1854 (2017) (“Many liquidated damages clauses are disguised penalties that courts must then weed out and invalidate.”).

404. Cf. *Wechsler v. Hunt Health Sys., Ltd.*, 330 F. Supp. 2d 383, 426 (S.D.N.Y. 2004) (“There is no reason why parties . . . may not agree that certain elements of damage difficult to estimate shall be covered by a provision for liquidated damages”) (quoting *J.E. Hathaway v. United States*, 249 U.S. 460, 464 (1919)).

Apart from legal limits, an excessive step-up could harm investors. Market participants have noted that too-large step-ups can pose credit risk because the issuer might not be able to pay them.⁴⁰⁵

Despite the perils of step-ups set too high, the more pressing concern is that they will be set too low.⁴⁰⁶ Issuers may be expected to resist large step-ups.⁴⁰⁷ The SLB market, where step-ups are used, offers an example. SLBs have been criticized for offering “relatively small” premiums for failure to meet climate goals.⁴⁰⁸ A trio of financial analysts have offered a more nuanced, but still critical, assessment. They observe that as of late 2021, the market seemed to be coalescing around a 0.25% coupon step-up and note that while this might be material for some issuers, it would not be for others.⁴⁰⁹ The analysts argue that companies with large green-bond balances relative to cash flow and companies with low borrowing rates are the most likely to find a 0.25% coupon step-up material.⁴¹⁰ The argument implies that the SLB step-up is not a meaningful commitment in all cases.

The 0.25% step-up the market offers also may provide only modest monetary compensation. On January 30, 2025, the Federal Reserve Bank of St. Louis reported a credit “spread” (yield above Treasury bonds) of 0.81% for investment-grade corporate bonds.⁴¹¹ If a green bond were trading at par before green non-performance and green nonperformance led to a yield increase of 0.25%, or less than one-third of what a typical investment-grade corporate yields above Treasury bonds, that would cancel out the 0.25% coupon step-up.⁴¹²

A hypothetical green bond step-up could be set higher than the 0.25% that apparently has been standard in the SLB market. But the SLB market provides a reason to question whether issuers will grant a green step-up adequate for commitment or compensation.

Determining the right step-up will be challenging, even if the goal is limited to compensation for likely economic loss. Bondholders and issuers might not agree at issuance on the likelihood that market decline would follow green non-performance. Further complicating the exercise, market participants would have to decide whether the step-up applies to the bond’s coupon or its principal and how to account for the time value of money, although this issue could probably be handled.⁴¹³

405. If the step-up is set so high that it in itself risks throwing the firm into financial distress, there could be conflict among bondholders over whether to evoke it. *See* REZNICK ET AL., *supra* note 392, at 4 (discussing trade-off between step-up materiality (which investors want) and credit risk (which investors do not want)).

406. *See* Joe Rennison, *Sustainability-Linked Bonds Attract Cash and Scrutiny*, FIN. TIMES (2021), [<https://perma.cc/4MVW-G3H8>].

407. *See* REZNICK ET AL., *supra* note 392, at 4.

408. *See* Rennison, *supra* note 406.

409. *See* REZNICK ET AL., *supra* note 392, at 4–5.

410. *See id.*

411. Fed. Res. Bank of St. Louis, *ICE BofA US Corporate Index Option-Adjusted Spread*, FRED (Sep. 12, 2025, at 09:15 CT), [<https://fred.stlouisfed.org/series/BAMLC0A0CM>] [<https://perma.cc/DE8R-3WW2>].

412. *See id.*

413. A coupon step-up of fixed amount will dwindle in value over the bond’s life. For example, consider a corporate bond with face value of \$100 with ten years left in its life and a 5% coupon that is priced to yield 5%.

The goal, at least at first, however, need not be complete or exact compensation. Eventually, accumulating evidence on the financial consequences of green nonperformance may inform the exercise, and the step-up may even become a deal-specific term, like the bond coupon. For now, investors appear to enjoy no remedy for green nonperformance,⁴¹⁴ so even if the green-bond market follows the SLB market in using a small, round number as the step-up, that would be progress.

VII. CONCLUSION

Green bonds offer the hope of mobilizing private capital to finance the transition to a green economy.⁴¹⁵ U.S. corporate green bonds may not be fulfilling their promise because they do not appear to command a greenium.⁴¹⁶ Adding remedies to the green-bond contract could attract new investors and produce a greenium, as well as protecting expectations of existing investors.⁴¹⁷

Issuers might resist simply making green nonperformance into a covenant breach that could ripen into an event of default.⁴¹⁸ Thus, this Article has proposed combining two approaches that do not rely on making green nonperformance a default: a “green put” and a step-up. The green put protects the interests of green investors who want to exit the investment and withdraw capital upon green nonperformance.⁴¹⁹ The step-up compensates investors, such as financial investors, who wish to retain their bonds but suffer financial harm due to green nonperformance.⁴²⁰ The proposed remedy thus offers protection and green commitment to both major types of green-bond investors.

A 25-basis-point increase in the coupon would increase the value of the bond by \$1.95. If the bond had just one year left in its life, a 25-basis-point coupon increase would increase the value by \$0.24. Conversely, a principal step-up of fixed amount will become more valuable over the bond’s life, as the date when principal is repaid comes closer and the principal is discounted less. Consider the same \$100 principal bond yielding 5%. A 5% increase in principal would be worth \$3.05 if the bond had ten years left in its life and \$4.76 if the bond had just one year left. The problem can probably be tackled by using a principal step-up that escalates in value as the bond’s life goes on. Moreover, proceeds are to be invested in a relatively short period for most green bonds, mitigating the time-value problem. *See, e.g.*, VERIZON, GREEN BOND IMPACT REPORT FEBRUARY 2022 18 (Verizon 2022) (affirming management’s assertion that green-bond proceeds “were allocated” within ten months of issuance).

414. *See* discussion *supra* Section II.A.

415. *See* discussion *supra* Part I.

416. *See* discussion *supra* Section II.C.

417. *See* discussion *supra* Sections III.A, III.B.

418. *See* discussion *supra* Subsection V.B.3.

419. *See* discussion *supra* Subsection VI.A.1.

420. *See* discussion *supra* Subsection VI.B.1.