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Green Gatekeepers

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Abstract

Products are routinely labeled “carbon neutral,” “recycled,” “biode¬gradable,” “ocean-friendly,” and “sustainable.” Bonds are marketed as “green” and mutual funds as “ESG,” while firms may pledge to become “net zero.” But are statements concerning environmental qualities re-liable? It is often hard for consumers and investors to tell. Environmental qualities tend to have credence attributes; they cannot be verified even after consumption. Green gatekeepers constitute an increasingly important response to this problem. Occasionally required by law but more often enlisted voluntarily by firms, green gatekeepers certify claims made about the green qualities of products or firms, promising to significantly mitigate information asymmetries between firms and certification users. After distinguishing green gatekeepers from highly reputation-sensitive traditional gatekeepers in financial markets, we argue that green gatekeepers face weaker reputational constraints than traditional ones. Consequently, they are more likely to issue inaccurate certifications. We hand-code data on over 450 green gatekeepers, and we show that many of these gatekeepers are opaque, as in many instances they do not even disclose the standards they follow. We then propose a framework for regulation based on a classification that allows us, first, to identify which green gatekeepers are unlikely to be adequately constrained by reputational mechanisms and, second, to discern instances in which policymakers might be able to craft appropriate regulatory responses. From this framework, we derive several policy strategies and explore how they may apply to a sample of prominent green gatekeepers.

Keywords: Credence attributes, Ecolabels, FTC Green Guides, Gatekeepers, Greenwashing, third-party certification, warm glow, wiggle room
JEL Classifications: G18, G41, H20, K20, K32, L30, Q54, Q55, Q58

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Article

Green Gatekeepers

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Products are routinely labeled "carbon neutral," "recycled," "biodegradable," "ocean-friendly," and "sustainable." Bonds are marketed as "green" and mutual funds as "ESG," while firms may pledge to become "net zero." But are statements concerning environmental qualities reliable? It is often hard for consumers and investors to tell. Environmental qualities tend to have credence attributes; they cannot be verified even after consumption. Green gatekeepers constitute an increasingly important response to this problem. Occasionally required by law but more often enlisted voluntarily by firms, green gatekeepers certify claims made about the green qualities of products or firms, promising to significantly mitigate information asymmetries between firms and certification users.

After distinguishing green gatekeepers from highly reputation-sensitive traditional gatekeepers in financial markets, we argue that green gatekeepers face weaker reputational constraints than traditional ones. Consequently, they are more likely to issue inaccurate certifications. We hand-code data on over 450 green gatekeepers, and we show that many of these gatekeepers are opaque, as in many instances they do not even disclose the standards they follow. We then propose a framework for regulation based on a classification that allows us, first, to identify which green gatekeepers are unlikely to be adequately constrained by reputational mechanisms and, second, to discern instances in which policymakers might be able to craft appropriate regulatory responses. From this framework, we derive several policy strategies and explore how they may apply to a sample of prominent green gatekeepers.

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INTRODUCTION

As people become more aware of the climate crisis, firms have started making a myriad of sustainability-related claims.[1] Products are "recycled" or "responsibly sourced," financial instruments are "green" or "ESG,"[2] firms promise to become "carbon neutral" or "net-zero."[3] However, the recipients of such claims can rarely assess whether they are true.[4]

One response to this information asymmetry between claim makers and claim recipients is third-party certification by "green gatekeepers."[5] Green gatekeepers perform two functions: standard setting and verification.[6] In setting standards, gatekeepers specify the requirements for certification, deciding what constitutes, for example, a responsibly sourced natural gas, or a scientifically sound net-zero target.[7] For its part, verification refers to the process of assuring or validating that these standards have been met in any given instance.[8] These roles—standard setter and verifier—need not be performed by a single gatekeeper.

Green gatekeepers play a crucial role for three reasons. First, their certifications may prevent market failures from arising in interactions between informed sellers and buyers who cannot otherwise assess product quality.[9] As the attribute of sustainability becomes more central for

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1. *See, e.g.*, Quinn Curtis et al., *Do ESG Mutual Funds Deliver on Their Promises?*, 120 MICH. L. REV. 393, 395 (2021) (highlighting the "rapidly expanding number of mutual funds that purport to consider ESG factors in their investment and voting decisions").

2. ESG stands for environmental, social, and governance, and funds with this label promise to invest mainly in companies that pay special attention to those factors. *See, e.g.*, *id.*

3. *See generally, e.g.*, Maïmouna Yokessa & Stephan S. Marette, *A Review of Eco-labels and Their Economic Impact*, 13 INT'L REV. ENV'T & RES. ECON. 119 (2019) (describing the large increase in environmental labeling that has occurred throughout firms in recent years).

4. *See infra* Part II.A.

5. *See infra* notes 68–69 and accompanying text (discussing asymmetry challenges and positing that consumers turn to third-party certifications to assess the credibility of environmental claims).

6. Green gatekeepers may therefore be likened to traditional gatekeepers or information intermediaries, which vouch for information disclosed by issuers or their own information products. *See generally* JOHN ARMOUR ET AL., PRINCIPLES OF FINANCIAL REGULATION 139 (2016) (theorizing that the value of intermediaries "lies in their preparedness to pledge their costly to build, easy to lose reputation to vouch for an issuer's disclosures or their own information products.").

7. *See infra* Part II.A.

8. *See infra* Part II.A.

9. Markets in which buyers cannot tell a product quality even after they experience the product are prone to market failures. *See, e.g.*, George A. Akerlof, *The Market for "Lemons": Quality Uncertainty and the Market Mechanism*, 84 Q.J. ECON. 488, 499–500 (1970) (referring to "certification" as an institution that "counteracts the effects of quality uncertainty"); Ariel Katz, *Pharmaceutical Lemons: Innovation and Regulation in the Drug Industry*, 14 MICH. TELECOMMS. & TECH. L. REV. 1, 29 (2007) ("[T]rusted third parties may alleviate the market failures that result from information asymmetry by certifying the quality of credence goods."); Steve Holland, *Lending Credence: Motivation, Trust, and Organic Certification*, 4 AGRIC. & FOOD ECON., 2016, at 1, 2 ("In short, consumers have a problem determining the quality of credence goods, producers have a problem convincing consumers that the goods have credence characteristics and are priced appropriately, and as a result, there appears to be a substantial risk that markets will fail and exchange will be thwarted.").

consumers, the information asymmetry between sellers and buyers becomes pervasive.[10] So long as consumers and investors are willing to pay a premium for products that appear to align with their environmental awareness,[11] firms have opportunities and incentives to engage in "greenwashing:" marketing products or entire firms on the basis of misleading or false sustainability claims.[12] Without accurate green gatekeepers' certifications, consumers and investors—unable to tell fact from fiction—may inadvertently pay a premium for greenwashed products, dulling firms' incentives to adopt truly green strategies.

Second, by enabling consumers to identify truly sustainable products, green gatekeepers may support demand-side mitigation strategies, blunting the impact of climate change. According to the Intergovernmental Panel on Climate Change (IPCC), "demand-side mitigation strategies," including managing and altering lifestyles and patterns of consumption,[13] can play a fundamental role in reducing greenhouse gas emissions across all sectors of the economy, combating climate change.[14] But demand-side mitigation strategies can only realize their potential if consumers are able to identify truly sustainable options, a condition that green certifications may help satisfy.

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10. *See, e.g.*, Holland, *supra* note 9 (highlighting the potential for market failure as a result of persistent information asymmetries).

11. Empirical evidence shows that consumers are often willing to pay a premium for green-labeled products. *See, e.g.*, Yokessa & Marette, *supra* note 3, at 121 (highlighting studies showing the willingness of consumers to pay more for green-certified products); Charles F. Mason, *The Economics of Eco-Labeling: Theory and Empirical Implications*, 6 INT'L REV. ENV'T & RES. ECON. 31, 32 (2013) ("There is abundant evidence that consumers express a willingness to pay a premium to 'protect the environment.'"); Sherry Frey et al., *Consumers Care About Sustainability—and Back it Up with Their Wallets*, MCKINSEY & CO. (Feb. 2023), https://www.mckinsey.com/industries/consumer-packaged-goods/our-insights/consumers-care-about-sustainability-and-back-it-up-with-their-wallets [https://perma.cc/SN2X-QWZ2] (finding in many consumer categories, "a clear and material link between ESG-related claims and consumer spending"). *But see* Katherine White et al., *The Elusive Green Consumer*, HARV. BUS. REV., July–Aug. 2019, at 125, 127 (reporting that of the sixty-five percent of consumers who claimed to be willing to buy sustainable products, only about twenty-six percent did so).

12. *See, e.g.*, Amanda Shanor & Sarah E. Light, *Greenwashing and the First Amendment*, 122 COLUM. L. REV. 2033, 2037 (2022) (defining greenwashing and highlighting the difference between product-level and firm-level claims); William S. Laufer, *Social Accountability and Corporate Greenwashing*, 43 J. BUS. ETHICS 253, 253 (2003) (describing greenwashing as a form of misinformation intended to rehabilitate or at least positively shape a business's reputation). The literature we refer to in note 11 does not, understandably, consider whether the relevant products' green claims are real or mere greenwashing.

13. *See* Felix Creutzig et al., *Towards Demand-Side Solutions for Mitigating Climate Change*, 8 NATURE CLIMATE CHANGE 260, 260 (2018) ("Demand-side solutions for mitigating climate change include strategies targeting technology choices, consumption, behaviour, lifestyles, coupled production–consumption infrastructures and systems, service provision and associated sociotechnical transitions.").

14. Felix Creutzig et al., Intergovernmental Panel on Climate Change, *Demand, Services and Social Aspects of Mitigation*, *in* CLIMATE CHANGE 2022: MITIGATION OF CLIMATE CHANGE. CONTRIBUTION OF WORKING GROUP III TO THE SIXTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE 503, 505 (2023), https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_Chapter05.pdf [https://perma.cc/G2VP-FDKX] (identifying demand-side pressure as a potentially key factor in climate change mitigation and estimating that demand-side strategies can reduce greenhouse gas emissions in key sectors by up to seventy percent globally by 2050).

Third, the green transition requires enormous financial resources that the public sector is unlikely to provide.[15] At least in principle, green gatekeepers could help environmentally conscious investors direct their financial resources towards projects that contribute to mitigating climate change.[16]

In this Article, we tackle two crucial questions: whether green gatekeepers have the right incentives to issue accurate certifications and, if not, how policymakers should respond. Our analysis is informed by an in-depth investigation of five categories of prominent green gatekeepers and a database of 456 green gatekeepers across twenty-five industries, the largest database of its kind.[17]

While other scholars have examined the role of green gatekeepers, they have done so in a piecemeal fashion and, in some cases, by making assumptions we regard as unrealistic. Legal scholarship concerning environment-focused third-party verification programs tends to focus on the extent to which third parties assess compliance with federal regulation.[18] And, no differently than legal studies of nonfinancial gatekeepers more broadly, it has ignored factors that may lead to gatekeeper failures[19] and overlooked the voluminous law and economics literature on gatekeeper control strategies. This literature, in turn, has never, to our knowledge, considered applications in

15. Derek Baraldi et al., *The Public Sector Can't Finance Net Zero Alone. Here's How It Can Scale Climate Investment*, WORLD ECON. F. (Jan. 16, 2023), https://www.weforum.org/agenda/2023/01/public-sector-net-zero-investment
-davos23 [https://perma.cc/H8DV-L6TD] (estimating that four to six trillion dollars would be required for a global net zero transformation and discussing the public sector's financial constraints).

16. *See, e.g.*, Baraldi, *supra* note 15.

17. *See infra* notes 241–243 and accompanying text.

18. *See, e.g.*, Lesley K. McAllister, *Regulation by Third-Party Verification*, 53 B.C. L. REV. 1, 2 (2012) [hereinafter McAllister, *Regulation by Third-Party Verification*] (examining systems in which "governmental agencies rely on . . . third parties to verify regulatory compliance"); Lesley K. McAllister, *Harnessing Private Regulation*, 3 MICH. J. ENV'T & ADMIN. L. 291, 324 (2014) [hereinafter McAllister, *Harnessing Private Regulation*] (examining the role of third-party verifiers in assessing compliance of regulated entities with federal regulation).

19. *See, e.g.*, Errol Meidinger, *The Administrative Law of Global Private-Public Regulation: The Case of Forestry*, 17 EUR. J. INT'L L. 47 (2006) (examining certification problems without considering, for example, the effects on gatekeeper effectiveness of market structure or regulatory licenses); Neil Gunningham & James Prest, *Environmental Audit as a Regulatory Strategy: Prospects and Reform*, 15 SYDNEY L. REV. 492 (1993) (examining the use of environmental audits, without assessing risks of auditor or gatekeeper failure); *see also* Margaret M. Blair et al., *The New Role for Assurance Services in Global Commerce*, 33 J. CORP. L. 325 (2008) (analyzing the emerging role of providers of third-party assurance services in global commerce beyond the environmental law domain, without examining the risks and reasons for assurance failure); IAN AYRES & JOHN BRAITHWAITE, RESPONSIVE REGULATION: TRANSCENDING THE DEREGULATION DEBATE 158–59 (1992) (proposing that "certain regulatory tasks might be delegated to private parties," a notion consistent with gatekeeping, without pursuing the insight further other than giving the examples of auditors, insolvency practitioners, and "environmental engineers"). *See generally* Asaf Eckstein & Roy Shapira, *Compliance Gatekeepers*, 41 YALE J. REGUL. 469 (2024) (providing a recent analysis of potential reasons for gatekeeper failure); Stavros Gadinis & Colby Mangels, *Collaborative Gatekeepers*, 73 WASH. & LEE L. REV. 797 (2016) (same).

the environmental context.[20] At the same time, discussions of environmental policy treat green gatekeeping as an afterthought.[21] And while economists have done valuable research, modeling optimal rules for ecolabeling, they have given little apparent attention to existing regulatory frameworks and the possibility of gatekeeper failures.[22]

The starting point for our analysis is that gatekeeper certifications have value only to the extent that the relevant gatekeeper possesses a reputation for being trustworthy.[23] One might assume, therefore, that market mechanisms would induce gatekeepers to set appropriate standards, diligently verify compliance and, as an outcome, issue accurate certifications. However, in fact, those mechanisms may be insufficient to provide gatekeepers with the incentives to do so.

Market mechanisms may fail because certification users often lack the ability and/or the incentives to identify and punish false certifications. First, green gatekeepers' certifications help users *feel* that they are behaving morally even if they are acting selfishly, which in this setting increases users' incentives to take certifications at face value, making reputational harm less likely.[24] Second, users of green gatekeepers' certifications often face limited to no private costs when they accept inaccurate certifications, weakening their incentives relative to those of their counterparts in traditional gatekeeper markets to investigate the gatekeeper's conduct.[25] Third, even assuming that users of green gatekeepers' services have sufficient incentives to investigate gatekeepers' conduct, in many instances they are unlikely to be able to do so because the science underlying the

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20. Prominent analyses of gatekeeper regulation primarily examine gatekeepers in financial markets. *See, e.g.*, JOHN C. COFFEE, JR., GATEKEEPERS: THE PROFESSIONS AND CORPORATE GOVERNANCE 3 (2006) (identifying auditors, attorneys, securities analysts, and ratings agencies as examples of "the principal gatekeeping professions"); Jennifer Payne, *The Role of Gatekeepers*, *in* THE OXFORD HANDBOOK OF FINANCIAL REGULATION 254 (Niamh Moloney et al. eds., 2015) (focusing on gatekeepers in financial markets). In his pioneering work, Reinier Kraakman does not mention environmental applications for gatekeepers other than to refer in passing to "the role of insurance companies in environmental regulation." Reinier H. Kraakman, *Gatekeepers: The Anatomy of a Third -Party Enforcement Strategy*, 2 J.L. ECON. & ORG. 53, 65 (1986).

21. The topic of eco-labels typically attracts brief discussion in prominent publications that give extensive treatment to other instruments of environmental law. *See, e.g.*, David Driesen, *Instrument Choice*, *in* THE OXFORD HANDBOOK OF INTERNATIONAL ENVIRONMENTAL LAW 102, 103–07 (Lavanya Rajamani & Jacqueline Peel eds., 2d ed. 2021) (discussing eco-labels in two paragraphs under the catchall heading "Other Instruments," after earlier discussing "Traditional Standards" and "Market-Based Standards"); PHILIPPE SANDS & JACQUELINE PEEL, PRINCIPLES OF INTERNATIONAL ENVIRONMENTAL LAW 716–17 (4th ed. 2018) (discussing eco-labelling for less than a full page).

22. *See, e.g.*, Soham Baksi & Pinaki Bose, *Credence Goods, Efficient Labelling Policies, and Regulatory Enforcement*, 37 ENV'T & RES. ECON. 411 (2007) (comparing optimality of self-labeling and third-party labeling programs without assessing the possibility of errors made by the latter); Stephen F. Hamilton & David Zilberman, *Green Markets, Eco-Certification, and Equilibrium Fraud*, 52 J. ENV'T ECON. & MGMT. 627 (2006) (confining attention to fraud committed by producers).

23. Stephen Choi, *Market Lessons for Gatekeepers*, 92 NW. U. L. REV. 916, 961 (1998) (noting that the value of gatekeeper certifications rests on perceptions among purchasers of their accuracy); Claire A. Hill, *Regulating the Rating Agencies*, 82 WASH. U. L.Q. 43, 50 (2004) ("If markets think a firm can get a high rating just by paying for it, ratings won't be valued.").

24. *See infra* Part II.B.1.a.

25. *See infra* Part II.B.1.b.

certification might simply be too complex.[26] Finally, we show that private players that may help expose inaccurate certifications in traditional markets, such as traders, nongovernmental organizations (NGOs), and the media, may be less effective in green gatekeeper settings.[27] The result is that reputational constraints are less likely to discipline green gatekeepers than those of traditional gatekeepers, such as underwriters or stock exchanges.[28]

With these reputational issues in mind, we provide a framework to address the question of whether green gatekeepers should be regulated and, if so, how.[29] Recognizing that gatekeeper regulation may supplement primary liability as a control strategy, we consider the effectiveness of primary liability for false green claims, namely the liability of firms themselves under consumer protection and securities laws for inaccurate claims made toward their consumers and investors.[30] We argue that primary liability is unlikely to effectively deter greenwashing and that gatekeeper regulation holds greater promise than merely increasing the magnitude or probability of sanctions on firms.[31] Given the weaknesses in gatekeepers' reputational constraints but also the wide variety of green gatekeeper certifications out there, we recommend that the question of which green gatekeepers should be regulated, and how, be answered also on the basis of a classification of green gatekeepers along two dimensions: (1) the significance of private costs incurred by users who rely on inaccurate certifications and (2) the verifiability of green certifications by policymakers.[32]

This article proceeds as follows. Part I provides a primer on gatekeeper functions, examining the importance of reputational constraints and the role of these constraints in assessing whether and how gatekeepers should be regulated. In Part II, the article focuses on green gatekeepers specifically and illustrates their role by describing the work of key gatekeepers in five distinct areas of certification. We also contrast green gatekeepers with traditional gatekeepers, identifying specific weaknesses in green gatekeepers' reputational incentives. Part II finally identifies organizational choices gatekeepers may make to mitigate these weaknesses and provisionally assesses these choices using the available data. Part III develops the recommended regulatory framework, illustrated using the five gatekeeper categories discussed earlier.

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26. *See infra* Part II.B.1.c.
27. *See infra* Part II.B.2.
28. *See infra* Part II.B.2.
29. *See infra* Part III.
30. *See infra* Part III.A.
31. *See infra* Part III.B.
32. *See infra* Part III.B.

I. A PRIMER ON GATEKEEPERS: THEORY AND PRACTICE

Gatekeepers serve a key economic function by acting as information and reputation intermediaries.[33] These actors process and verify a firm's information claims or certify the quality of its products, reducing informational frictions between firms and their investors and customers.[34] Gatekeepers thus relieve users of such information from the burden of verification.[35] They are well suited to the task since they enjoy economies of scale, scope, and expertise, allowing them to save on information processing and verification costs.[36] Moreover, gatekeepers are perceived as trustworthy: they develop reputations for accurate information processing and verification, which they "rent" or "pledge" to their customer firms,[37] effectively asserting that they have evaluated those firms' claims and staking their reputations on the accuracy of their evaluations.[38] Their reputations—the risk of losing or damaging them—discipline gatekeepers' conduct. In this part, we consider the importance of reputational constraints and the role of these constraints in assessing whether and how gatekeepers should be regulated.

A. GATEKEEPERS AND MARKET MECHANISMS

The term "gatekeeping" has traditionally been used to describe roles performed, among others, by securities underwriters, auditors, and lawyers.[39] These actors verify the claims of corporate issuers of securities.[40] By assuring investors that issuers do not mislead them, they encourage investment.

Gatekeepers' reputations are instrumental in assuring the accuracy of the claims they certify. Because their financial success rests on their reputations, gatekeepers have strong incentives to perform their gatekeeping function assiduously, serving the interests of information users.[41] In many markets, gatekeepers are repeat players, which subjects them to stronger reputational

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33. *See* Ronald J. Gilson & Reinier H. Kraakman, *The Mechanisms of Market Efficiency*, 70 VA. L. REV. 549, 618 (1984) (referring to information and reputational intermediaries).

34. *See, e.g.*, *id.* at 619–20 (explaining the importance of information and reputation intermediaries by reference to investment banking).

35. *See id.*

36. *See id.* at 597 (highlighting how information intermediaries' expertise can allow parties to save on verification costs); *see also* Andrew F. Tuch, *Multiple Gatekeepers*, 96 VA. L. REV. 1583, 1593 (2010) (discussing how gatekeepers' economies of experience can mitigate production costs).

37. *See* COFFEE, *supra* note 20 at 2–3 ("Central to this model is the concept of reputational capital and the subsidiary idea that it can be pledged or placed at risk by the gatekeeper's vouching for its client's assertions or projections."); Gilson & Kraakman, *supra* note 33, at 620 ("[T]he investment banker rents the issuer its reputation.").

38. Gilson & Kraakman, *supra* note 33, at 620 ("The investment banker represents to the market (to whom it, and not the issuer, sells the security) that it has evaluated the issuer's product and good faith and that it is prepared to stake its reputation on the value of the innovation.").

39. COFFEE, *supra* note 20, at 2 (2006).

40. *See* Tuch, *supra* note 36, at 1594 (noting that "[b]y associating themselves with a transaction by acting for the corporate issuer, gatekeepers certify that corporation's disclosures").

41. *Cf.* COFFEE, *supra* note 20, at 4 ("[S]o long as the gatekeeper has reputational capital at risk whose value exceeds the expected profit that it will receive from the client, it . . . should be faithful to investors.").

constraints than issuers, who may be occasional market players willing to sacrifice their reputations for a one-off financial gain.[42] In these settings, gatekeepers have "less of an incentive to deceive" than issuers do.[43]

In assessing the force of reputational constraints, consider that gatekeepers are typically private organizations: they need to generate revenue. A seemingly straightforward way to do so is to charge consumers or investors for certifications, as it is these users who realize benefits. However, this "user-pays" model may be infeasible due to a collective action problem: the information gatekeepers produce often must be made publicly available, which means that individual users lack exclusive access to it.[44] Under these circumstances, users cannot be expected to foot the bill.[45] For instance, listed firms periodically disclose financial statements, the reliability of which is attested by an outside auditor.[46] No individual investor would be willing to pay directly for the auditor's services, as such an investor would not be granted any exclusive benefit and instead would be paying for benefits that accrue to free riders.[47] In response to this collective action problem, many gatekeepers adopt a "firm-pays" model, under which they receive their principal source of revenue from the firms whose claims or products must be certified.[48]

Some commentators have argued that the firm-pays-model creates a conflict of interest, as the gatekeepers are paid by the firm they have to rate.[49] However, market forces—the ability of users to detect and punish inaccurate certifications—can push gatekeepers to issue accurate certifications regardless of the business model they adopt. While the firm-pays model would seem to push gatekeepers to cater to the preferences of firms and thus soften their own evaluations,[50] certification users would not be willing to pay a premium for a certified product or investment unless they trust

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42. Tuch, *supra* note 36, at 1595 (contrasting the incentives of gatekeepers and corporate issuers to build and preserve reputations for diligence and honesty).

43. ARMOUR ET AL., *supra* note 6, at 121–22.

44. *Id*.

45. *See id*. (noting that where gatekeeper information is made public "no one will be willing to pay for it").

46. *Id*. at 136 (describing U.S. law that requires companies to disclose audited financial statements).

47. *Id*. at 121 ("[B]ecause it will be hard to exclude others from information . . . each investor will try to free-ride on other investors' efforts to gather information . . . .").

48. In the context of financial markets, this model is known as the "issuer-pays" model, because the firms paying for the gatekeepers' services are issuers of securities. *Id*. at 131.

49. *See, e.g.*, Deryn Darcy, *Credit Rating Agencies and the Credit Crisis: How the "Issuer Pays" Conflict Contributed and What Regulators Might Do About It*, 2009 COLUM. BUS. L. REV. 605, 622–42 (2009) (discussing the conflict of interest created by the issuer pays model); *see also* Paul Krugman, *Berating the Raters*, N.Y TIMES (Apr. 25, 2010), https://www.nytimes.com/2010/04/26/opinion/26krugman.html [https://perma.cc/M88R-EL8V] (discussing how, before the 2008 financial crisis, issuers of debt sought certification from whichever firm was most likely to give a favorable rating and would threaten to "pull business from an agency that tried too hard to do its job").

50. Marco Pagano & Paolo Volpin, *Credit Ratings Failures and Policy Options*, 25 ECON. POL'Y 403, 404 (2010) (arguing that when certification providers are paid by issuers, their incentives are more aligned with those of the issuers than with those who rely on the certification).

gatekeepers' certifications as accurate.[51] Hence, under either firm-pays or user-pays models, gatekeepers should have the incentives to develop and preserve reputations for trustworthiness.

Crucially, however, this conclusion rests on the key assumption that certification users derive benefits only from accurate certifications. For example, investors who rely on inaccurate due diligence by underwriters when deciding to buy shares in an initial public offering face a private cost, because they will overpay for their shares. The potential mismatch gives investors clear incentives to value only due diligence assurances they have reason to consider as trustworthy.

This assumption may not hold, though, when regulations confer benefits on issuers/firms that obtain a particular gatekeeper certification. In these cases, gatekeepers can confer a "regulatory license" or benefit.[52] To illustrate, consider Securities and Exchange Commission ("SEC") rules that for decades restricted money market mutual funds' bond investments. Funds were allowed to invest only in those bonds with a rating of at least BBB-, as determined by any of a small number of credit rating agencies identified by the SEC itself.[53] For these gatekeepers, the constraint imposed by reputation may have weakened: investors conceivably found value in inaccurate certifications since, without any certifications, they could not invest in high-yield bonds. In such a setting, what mattered to gatekeepers became their reputation not with investors but with the body that conferred the power to grant regulatory licenses.[54] A key question thus becomes whether the regulator can detect and punish defects in certification quality. And even if the regulator can do so, regulations may be "sticky" after being adopted, allowing gatekeepers to retain their regulatory licensing power, especially if gatekeepers have sway over the political process.[55]

Another reason reputational mechanisms may fail to assure gatekeepers' accuracy stems from the concentrated nature of many gatekeeper markets. Because gatekeeper reputations are costly to

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51. *See* Choi, *supra* note 23, at 961.

52. *See* Frank Partnoy, *The Siskel and Ebert of Financial Markets?: Two Thumbs down for the Credit Rating Agencies*, 77 WASH. U. L.Q. 619, 684 (1999) (noting that "[i]f the applicable regulation imposes costs, and a favorable rating eliminates or reduces those costs, then rating agencies will sell regulatory licenses to enable issuers and investors to reduce their costs.").

53. *See* 17 C.F.R. § 270.2a-7 (2014) (defining "eligible securities" for money market funds as, inter alia, "[a] Rated Security with a remaining maturity of 397 calendar days or less that has received a rating from the Requisite NRSROs in one of the two highest short-term rating categories"); *see also* Partnoy, *supra* note 52, at 706 (clarifying that the second highest short-term credit rating category includes ratings between BBB+ and BBB-). The reference to ratings in Rule 2a-7 was removed in 2015. *See* Removal of Certain References to Credit Ratings and Amendment to the Issuer Diversification Requirement in the Money Market Fund Rule, 80 Fed. Reg. 58,124, 58,124 (Sept. 25, 2015) (codified at C.F.R. pts. 270, 274) (discussing the amendment of rule 2a-7 pursuant to the Dodd-Frank Act, which mandated the removal of references to credit ratings in certain regulations).

54. Partnoy, *supra* note 52, at 685 (noting that under the regulatory license view of ratings, "the limitation on the raters' behavior is not the raters' reputation in the market, it is the raters' reputation with the [regulator]").

55. Frank Partnoy suggests that "political pressure on regulators, perhaps from a public outcry over [weaker certifications], may lead to regulatory changes," but that gatekeepers may be able to keep favorable regulations in place through their influence over the political process. *Id.*

build and regulations may impede access to markets, barriers to entry may be high.[56] In concentrated markets, reputational constraints on gatekeepers may be insufficient, especially where gatekeeper reputations have become "noisy and indistinct."[57] Put differently, in such markets, gatekeepers might face weak market discipline when they engage in practices that, while troubling, are not out of step with those of their rivals, in turn weakening incentives to protect their reputations.

B. WHEN TO REGULATE GATEKEEPERS

When market mechanisms do not work well to deter gatekeepers' misconduct, are legal controls on gatekeepers warranted? Not necessarily.

To begin with, policymakers need to have sufficient information to determine the standards with which gatekeepers must comply and to spot and sanction any violations.[58] In addition, access to this information is a necessary but insufficient condition for effective gatekeeper deterrence. Gatekeepers exist within a larger regulatory framework that also encompasses the firms whose products and information claims they certify. The optimal regulation of gatekeepers cannot be divorced from the regulation of these firms, which may themselves bear liability for inaccurate claims, whether certified by a gatekeeper or not. For example, the Federal Trade Commission Act may impose penalties for the misrepresentations conveyed by a product's certification, but it is typically the firm itself—the producer of the item certified—that is the primary target of liability.[59] After all, it is usually the firm, rather than the gatekeeper, that issues or markets the relevant claim to users, disclosing it on its packaging or website.

Gatekeeper regulation is premised on the insufficiency of direct regulation and/or liability—namely, of the firm and its managers—to effectively deter the making of inaccurate claims.[60] In

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56. *See, e.g.*, James D. Cox, *The Oligopolistic Gatekeeper: The US Accounting Profession*, *in* AFTER ENRON: IMPROVING CORPORATE LAW AND MODERNISING SECURITIES REGULATION IN EUROPE AND THE US 295, 296–99 (John Armour & Joseph A. McCahery eds., 2007) (discussing the oligopolistic nature of accounting industry); COFFEE, *supra* note 20, at 284 (examining the market structure of the credit rating agency industry, regarding it as "dominated by a duopoly"); Kathryn Judge, *Intermediary Influence*, 82 U. CHI. L. REV. 573, 618 (2015) (noting that commercial and investment banks "often operate in industries dominated by a small number of players").

57. COFFEE, *supra* note 20, at 3. Coffee suggests that this is only true so long as "entry to new firms into the market is restricted." *Id.*

58. STEPHEN BREYER, REGULATION AND ITS REFORM 109 (1982) ("The central problem of the standard-setting process and the most pressing task facing many agencies is gathering the information needed to write a sensible standard."); *see* THOMAS A. LAMBERT, HOW TO REGULATE: A GUIDE FOR POLICYMAKERS 31 (2017) ("[Command-and-control regulation] unrealistically assumes that regulators can know and effectively process a tremendous amount of information.").

59. *See infra* notes 254–264 and accompanying text.

60. *See* Reinier H. Kraakman, *Corporate Liability Strategies and the Costs of Legal Controls*, 93 YALE L.J. 857, 868 (1984) ("[Gatekeeper liability] serves to remedy enforcement insufficiencies . . . ."); *id*. at 888 ("Enforcement insufficiency occurs when both enterprise and individual penalties fail to elicit sufficient compliance at an acceptable cost."); *cf.* Kraakman, *supra* note 20, at 87–88 ("Gatekeeping might yield enforcement benefits and still be a poor strategy if, for example, additional penalties directed against wrongdoers could avert the same harm more cheaply."). The producer or firm's asset insufficiency is the basis on which an analysis of gatekeeper liability typically proceeds.

this sense, gatekeeper regulation is secondary or collateral regulation.[61] The task for policymakers is to select the mix of legal controls—direct and collateral—that minimizes the sum of the expected social costs of the wrongdoing, the costs of precautions, and the administrative costs associated with enforcement.[62]

II. INTRODUCING GREEN GATEKEEPERS

In Part I, we examined the function of traditional gatekeepers and the key role of reputational mechanisms in deterring them from issuing inaccurate certifications. In this part, we focus on green gatekeepers, detailing their services in five prominent domains, including carbon offsets, appliance efficiency, and net-zero certifications. We then show why market-based reputational mechanisms are likely to weakly constrain these and other green gatekeepers, dampening incentives to issue accurate certifications. Finally, we study organizational choices made by some green gatekeepers, which may signal their intention to issue accurate certifications.

A. THE ROLE AND IMPORTANCE OF GREEN GATEKEEPERS

Imagine that you want to purchase a new pair of shoes. You go to the local store, check out the shoes, and buy the pair you like most. Shoes constitute what economists call a *search good* because you can assess whether the shoes match your preferences by conducting a search and trying them on before making your purchase.[63] Imagine now that you want to enjoy an espresso. You can confirm whether its aroma and taste meet your preferences by drinking it. Economists call this kind of product an *experience good* because its quality can be assessed after consumption.[64] While there can be information asymmetries in markets for search and experience goods, consumers can confidently assess whether a given product does indeed match their preferences.

Now, say the consumer is environmentally conscious. For this consumer, shoes are not merely a search good, espresso not just an experience good. Trying on shoes and drinking the espresso

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Howell E. Jackson, *Reflections on Kaye, Scholer: Enlisting Lawyers to Improve the Regulation of Financial Institutions*, 66 S. CAL. L. REV. 1019, 1047–48 (1993) (observing that gatekeeper liability "makes sense" when a corporation "becomes insolvent or otherwise judgment-proof before [its] wrongdoing comes to light"); Assaf Hamdani, *Gatekeeper Liability*, 77 S. CAL. L. REV. 53, 56–57 (2003) ("The basic need to expand liability to third parties is generally justified by the failure of primary liability to produce sufficient deterrence.").

61. *See* Jackson, *supra* note 60, at 1048 (describing gatekeeper liability in the field of financial regulation as "at most, a supplement to the dominant form of regulation in the field: direct controls over financial intermediaries").

62. Kraakman, *supra* note 20, at 61 ("The general problem remains one of selecting the mix of direct and collateral enforcement measures that minimizes the total costs of misconduct and enforcement."); *see* STEVEN SHAVELL, ECONOMIC ANALYSIS OF ACCIDENT LAW 1–3 (Harvard Univ. Press 2007) (1987); GUIDO CALABRESI, THE COSTS OF ACCIDENTS: A LEGAL AND ECONOMIC ANALYSIS 26 (5th ed. 1977).

63. *See* Alan Schwartz, *How Much Irrationality Does the Market Permit?*, 37 J. LEGAL STUD. 131, 137 n.9 (2008) (defining search goods as "goods all of whose features the buyer can observe before purchase"). The term was introduced in Phillip Nelson, *Information and Consumer Behavior*, 78 J. POL. ECON. 311 (1970).

64. *See* David Dranove, *Health Care Markets, Regulators, and Certifiers*, *in* 2 HANDBOOK OF HEALTH ECONOMICS 639, 643 (Mark V. Pauly et al. eds., 2011) (ebook) (noting that for experience goods "consumers may not be able to evaluate their utility until after consuming the good"); *see also* Nelson, *supra* note 63, at 312 (noting that experience goods are those that "it will pay the consumer to evaluate by purchase rather than by search").

discloses their product quality but gives no reliable indication about the carbon footprint of the shoes or the coffee. These very products thus gain a *credence attribute* because one cannot assess their environmental virtues even after consumption.[65] Shoe and coffee companies can make claims about environmental virtues. For instance, Nike describes its progress on a number of sustainability metrics in its 2022 Impact Report, including greenhouse gas emissions and use of banned chemicals, while Lavazza claims that its coffee cups are carbon neutral.[66] But the average consumer cannot confirm these claims just by trying Nike shoes on and drinking Lavazza coffee. Consumers can only choose to take the corporation's word at face value—or not, as is their prerogative.

To generalize, increased attention to environmental attributes injects into virtually every product a credence attribute because environmental qualities are hard to observe for consumers, even ex post. ESG-conscious investors face a similar problem. It can be hard for them to tell whether a green bond is truly invested in projects that are beneficial to the environment or a sustainability-linked bond actually achieves its targets.[67]

The more sustainability features become central in consumers' and investors' preferences, the more important the credence attribute becomes; hence, the more plagued by information asymmetries *all* markets become. As economists have long recognized, markets with asymmetric information are prone to inefficiencies.[68] A well-functioning market for green gatekeepers' services may help avoid the ensuing market failures. In addition, by enabling consumers and investors to screen green products, green gatekeepers can help environmentally conscious agents make sustainable choices,[69] thereby also enhancing demand-side climate change mitigation strategies and directing financial resources to green activities.

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65. *See, e.g.*, Michael R. Darby & Edi Karni, *Free Competition and the Optimal Amount of Fraud*, 16 J.L. & ECON. 67, 68–69 (1973) ("Credence qualities are those which, although worthwhile, cannot be evaluated in normal use."); Uwe Dulleck & Rudolf Kerschbamer, *On Doctors, Mechanics, and Computer Specialists: The Economics of Credence Goods*, 44 J. ECON. LITERATURE 5, 7 (2006) ("The key feature of credence goods is that consumers do not know which quality of a good or service they need.").

66. *See FY22 NIKE, Inc. Impact Report*, NIKE (2022), https://about.nike.com/en/impact-resources/fy22-nike-inc-impact-report [https://perma.cc/855X-MWXX] (download the file "FY22 NIKE, Inc. Impact Report"); *Excellence with CO_2 Emissions Offset*, LAVAZZA, https://www.lavazza.com/en/zero-co2-impact [https://perma.cc/5VYY-423D].

67. On green bonds and sustainability-linked bonds see, respectively, Caroline Flammer, *Corporate Green Bonds*, 142 J. FIN. ECON., 499 (2021) (examining green bonds and arguing that they allow companies to "credibly signal their commitment toward the environment"), and Tony Berrada et al., *The Economics of Sustainability-Linked Bonds*, (Eur. Corp. Governance Inst. Working Paper Series in Fin. No. 820/2022, 2024), https://ssrn.com/abstract=4059299 [https://perma.cc/WWC7-AQ7Y] (finding that sustainability-linked bonds have "meaningful implications for firms' decarbonization and financial markets").

68. *See, e.g.*, Dulleck & Kerschbamer, *supra* note 65, at 5–6 (noting that informational asymmetries can be exploited by experts to defraud customers); Pierre T. Léger & Erin Strumpf, *Physician Market, in* ENCYCLOPEDIA OF HEALTH ECON. 68 (Anthony J. Culyer et al. eds., 2014) (noting that asymmetric information between informed sellers and uninformed buyers leads to inefficient outcomes).

69. Nicole Darnall et al., *Third-Party Certification, Sponsorship, and Consumers' Ecolabel Use*, 150 J. BUS. ETHICS 953, 954 (2018) (noting that certifications of environmental attributes help consumers overcome information

Hundreds of green gatekeepers have emerged in response to sustainability awareness.[70] These information intermediaries set the standards for certifying the environmental attributes of firms and products and/or certify them. For instance, Nike has signed over 25 sustainability commitments with organizations that undertake to assess signatories' adherence to specific ecologically minded promises.[71]

In the remainder of this Section, we describe the role that green gatekeepers can play in facilitating sustainable consumer choices and green investing by focusing on the role of green gatekeepers in regard to five important environmental attributes, namely the veracity of carbon offsets, the responsible sourcing of gas, the consistency of net zero targets with science-based criteria, products' energy efficiency, and respect for animal welfare. In doing so, we also provide some information about how the main players in each segment organize themselves and perform their tasks.

Our discussion is not intended to be exhaustive; green gatekeepers may engage in the sorts of standard setting and verification services we describe, but they may also conduct environmental audits on an ad hoc basis for a range of purposes, including to gauge legal compliance, identify environmental risks, and provide comfort to lenders or insurers.[72] In addition, many other players populate these markets and, hence, organizational and transparency choices may vary among them. We shall provide further information about the characteristics of green gatekeepers based on a combination of hand-coded data and data from a widely used database in Section II.C.

1. The Voluntary Carbon Market

According to the Intergovernmental Panel on Climate Change, reaching the target set in the Paris Agreement requires carbon removal projects.[73] The U.S. federal government, for instance, is

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asymmetries "by signaling information to consumers about a product's environmental impact"); *see* Carolyn Fischer & Thomas P. Lyon, *A Theory of Multitier Ecolabel Competition*, 6 J. ASS'N ENV'T & RES. ECONOMISTS 461, 464 (2019) (noting that, because environmental quality is a credence good, consumers rely on ecolabels to provide information about a product's climate impact).

70. *See, e.g.*, *infra* note 241 and accompanying text.

71. *See Impact Partnerships and Collaborations*, NIKE, https://about.nike.com/en/impact-resources/impact-partnerships-and-collaborations [https://perma.cc/NUE7-RUDC] (listing Nike partnerships with NGOs and industry groups that focus on sustainability projects).

72. *See, e.g.*, Terrell E. Hunt & Timothy A. Wilkins, *Environmental Audits and Enforcement Policy*, 16 HARV. ENV'T L. REV. 365, 366 (1992) (noting that environmental audits can "take many forms"); Gunningham & Prest, *supra* note 19, at 495–97 (noting organizations' varied purposes in conducting environmental audits).

73. Intergovernmental Panel on Climate Change, *Summary for Policymakers*, *in* IPCC SPECIAL REPORT ON IMPACTS OF GLOBAL WARMING OF 1.5°C ABOVE PRE-INDUSTRIAL LEVELS AND RELATED GLOBAL GREENHOUSE GAS EMISSION PATHWAYS IN THE CONTEXT OF STRENGTHENING THE GLOBAL RESPONSE TO THE THREAT OF CLIMATE CHANGE, SUSTAINABLE DEVELOPMENT, AND EFFORTS TO ERADICATE POVERTY 17 (2018) (ebook), https://www.ipcc.ch/site/assets/uploads/sites/2/2022/06/SPM_version_report_LR.pdf [https://perma.cc/5T4E-ADNW] ("All pathways that limit global warming to 1.5°C . . . project the use of carbon dioxide removal . . . ."); *see also* U.N. Framework Convention on

devoting significant resources to the development of such projects.[74] But reaching a sufficient scale also requires private capital.[75] The voluntary carbon market (VCM) can help provide such capital.

On the VCM, agents who want to reduce their carbon footprint purchase carbon offsets.[76] A carbon offset is "a reduction in [greenhouse gas] emissions—or an increase in carbon storage (e.g., through land restoration or the planting of trees)—that is used to compensate for emissions that occur elsewhere."[77] For example, a corporation might purchase carbon offsets from a project developer that has protected a forest area that otherwise would have been destroyed.[78] It is thanks to such offsets that Lavazza can claim to produce carbon neutral coffee pods.[79]

One obvious problem, however, is that for consumers it is virtually impossible to assess whether Nespresso has purchased carbon offsets that correspond to true reductions in emissions and therefore whether its products are truly carbon neutral. To put it differently, the carbon neutrality of a product is a credence attribute.[80]

The response to this problem is a so-called standard setter. Standard setters are green gatekeepers whose job is to certify that offsets truly correspond to an emission reduction and that the

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Climate Change, Rep. of the Conference of the Parties on its Twenty-First Session, Dec. 1/CP.21, *Adoption of the Paris Agreement*, at 22, U.N. Doc. FCCC/CP/2015/10/Add.1 (Jan. 29, 2016) (setting a goal to balance anthropogenic emissions with equivalent "removals by sinks of greenhouse gases in the second half of this century").

74. For instance, as part of the Bipartisan Infrastructure Law, the Department of Energy committed up to $1.2 billion in August 2023 to further the development of two direct air capture facilities in Texas and Louisiana. *See* Off. of Fossil Energy & Carbon Mgmt., *Funding Notice: Bipartisan Infrastructure Law: Regional Direct Air Capture Hubs*, DEP'T OF ENERGY, https://www.energy.gov/fecm/funding-notice-bipartisan-infrastructure-law-regional-direct-air-capture-hubs [https://perma.cc/2S3E-9YEL] (last updated Aug. 11, 2023).

75. *See* Christopher Blaufelder et al., *How the Voluntary Carbon Market Can Help Address Climate Change*, MCKINSEY SUSTAINABILITY (Dec. 17, 2020), https://www.mckinsey.com/capabilities/sustainability/our-insights/how-the-voluntary-carbon-market-can-help-address-climate-change [https://perma.cc/T8SQ-KV2E] (noting that even under the most optimistic scenarios for decarbonization, financing projects for the removal of carbon dioxide (negative emissions) will be necessary).

76. For an in-depth analysis of the functioning of the voluntary carbon market, see Vittoria Battocletti et al., *The Voluntary Carbon Market: Market Failures and Policy Implications*, 95 U. COLO. L. REV. 519 *passim* (2024).

77. Derik Broekhoff et al., *Securing Climate Benefit: A Guide to Using Carbon Offsets*, STOCKHOLM ENV'T INST. & GREENHOUSE GAS MGMT. INST. 6 (Nov. 13, 2019), http://npm.pixeledge.io.s3.amazonaws.com/images/2828fa14-963b-41eb-85d0-9a02fc27ae0d/1605018809-guide-to-buy-carbon-offsets.pdf [https://perma.cc/MQT8-LYKB].

78. An important example of this type of project is the Katingan Mentaya Project, which aims to protect 149,800 hectares of tropical forest peatland. *See* KATINGAN MENTAYA PROJECT, https://www.katinganmentaya.com [https://perma.cc/7YVQ-SB4T].

79. *See* LAVAZZA, *supra* note 66.

80. *See* Anna Kristina Edenbrandt & Jonas Nordström, *The Future of Carbon Labeling – Factors to Consider*, 52 AGRIC. & RES. ECON. REV. 151, 153 (2023) (noting how information asymmetry inhibits consumers from accurately judging products most aligned with their preferences).

emissions-reduction project does not "negatively impact the natural environment or [local] communities."[81] Thus, if standard setters perform their role correctly, consumers will be able to identify which carbon neutral claims rely on offsets that correspond to true reductions in emissions. In turn, this will give corporations incentives to purchase offsets from project developers who have truly reduced the amount of greenhouse gas in the atmosphere.

The largest standard setters are Verra and Gold Standard, which together cover well over eighty percent of the VCM.[82] The basic features of the Verra and Gold Standard business models are very similar. For one thing, both are non-profit organizations,[83] which means that they face stringent limitations on how they can dispose of their earnings.[84]

Verra and Gold Standard are also similar in adopting a firm-pays model: it is the project developers that pay them.[85] Moreover, their fees depend on the number of offsets they certify, so they can increase their revenues by certifying more offsets.[86] In principle, standard setters that constantly certify offsets that do not correspond to true reductions in emissions might develop a poor reputation. The weaker their reputation, the less valuable their certifications should become.[87] Yet, as we discuss in Section II.B, there are good reasons to believe that market-based reputational mechanisms are often unlikely to work in the case of green gatekeepers.

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81. *See VCS Standard*, VERRA 45 (Dec. 11, 2023), https://verra.org/wp-content/uploads/2023/08/VCS-Standard-v4.5-updated-11-Dec-2023.pdf [https://perma.cc/J6GQ-75FE].

82. *See 2022 Overview Voluntary Carbon Market*, CLIMATE FOCUS, https://climatefocus.com/wp-content/uploads/2023/01/VCM-Dashboard-2022-Overview-1.pdf [https://perma.cc/A2J4-9HX8] ("Carbon credits certified under Verra's VCS represented 72% of total issuance recorded in 2022, followed by the Gold Standard at 16%.").

83. *See Who We Are*, VERRA, https://verra.org/about/overview/#:~:text=Verra%20is%20registered%20as%20a,the%20U.S.%20Internal%20Revenue%20Code [https://perma.cc/4AXD-ZP6S]; *Governance*, GOLD STANDARD, https://www.goldstandard.org/about-us/governance [https://perma.cc/BSF4-FZCJ] (noting that Verra and Gold Standard are registered non-profit organizations in their respective countries).

84. For an in-depth discussion of the non-distribution constraints faced by non-profits, see Henry B. Hansmann, *Reforming Nonprofit Corporation Law*, 129 U. PA. L. REV. 497, 574 (1981); Peter Molk & D. Daniel Sokol, *The Challenges of Nonprofit Governance*, 62 B.C. L. REV. 1497, 1508–12 (2021). Although state laws for non-profits vary in important respects, all impose a non-distribution constraint. *See* Molk & Sokol, *supra*, at 1508; Peter Molk, *Where Nonprofits Incorporate and Why It Matters*, 108 IOWA L. REV. 1781, 1795 (2023) (citing Henry B. Hansmann, *The Role of Nonprofit Enterprise*, 89 YALE L.J. 835, 838 (1980)).

85. *See* Battocletti et al., *supra* note 76, at 551 (noting that the issuer-pays model characterizes the relationship between the project developer and the standard setter within the VCM).

86. *See Program Fee Schedule*, VERRA 2 (Apr. 9, 2020), https://stg.verra.org/wp-content/uploads/Program-Fee-Schedule_v4.1.pdf [https://perma.cc/X7A2-DK9G]; *Gold Standard Fee Schedule*, GOLD STANDARD (Sept. 9, 2023), https://globalgoals.goldstandard.org/standards/GS-fee-schedule-2023.pdf [https://perma.cc/YU2N-8T3B] (highlighting examples of fee schedules).

87. *See* Choi, *supra* note 23, at 961 (noting that the value of certifications provided by gatekeepers rests on the perception among purchasers that they are accurate).

Neither Verra nor Gold Standard directly audits the projects generating the offsets. Instead, they delegate this task to a so-called verification-and-validation body, which is selected (and paid) by the project developer from among those bodies accredited by the standard setter.[88] The standard setters' job is then also to ensure that verification-and-validation bodies carry out audits following the procedures that the former have developed.

Finally, both Verra and Gold Standard keep public registries in which they report a wide range of information on the projects they certify, including information exchanges with verification-and-validation bodies and project developers as well as audit-related documentation.[89] Their methodologies are publicly available on their websites, and they often engage in public consultations, allowing stakeholders to contribute to the improvement of their methodologies.[90]

Smaller market players, such as Plan Vivo System, share many features with Verra and the Gold Standard, including the not-for-profit nature and the issuer-pays model.[91]

2. Responsibly Sourced Gas

Natural gas is by far the largest source of energy produced in the United States.[92] More than three times as much energy is generated from natural gas than from coal.[93] This is certainly good news as natural gas is considerably cleaner than coal and some alternatives, such as oil.[94]

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88. *See* Battocletti et al., *supra* note 76, at 542–44 (discussing how standard setters, in order to certify a project, use validation and verification services provided by external auditors).

89. *See id*. at 542 (noting the important role standard settlers play in fostering an orderly offsets market by maintaining public registries, especially when seeking to prevent the double counting of credits).

90. *See Consultations*, VERRA, https://verra.org/consultations [https://perma.cc/LKZ8-MQX9] (offering opportunities for the public to comment on projects as well as methodological issues); *Consultation*, GOLD STANDARD, https://www.goldstandard.org/consultations [https://perma.cc/56MY-DP4H] (listing projects with open consultations as well as results from past consultations).

91. For an overview of the main features of some of the smaller standard setters, see *Independent Crediting Programs*, CARBON OFFSET GUIDE, https://offsetguide.org/understanding-carbon-offsets/carbon-offset-programs/voluntary-offset-programs [https://perma.cc/4MC2-964U].

92. *See U.S. Energy Facts Explained*, U.S. ENERGY INFO. ADMIN., https://www.eia.gov/energyexplained/us-energy-facts/#:~:text=U.S.%20total%
20annual%20energy%20production,primary%20energy%20production%20in%
202022 [https://perma.cc/BT9J-QW8V] (last updated July 15, 2024) (finding that natural gas accounted for 38% of total United States primary energy production in 2023, whereas petroleum and coal only accounted for 34% and 11%, respectively).

93. *Id*.

94. *Natural Gas Explained*, U.S. ENERGY INFO. ADMIN., https://www.eia.gov/energyexplained/natural-gas/natural-gas-and-the-environment.php [https://perma.cc/Y29G-EQR3] (last updated Apr. 16, 2024) ("Burning natural gas for energy results in fewer emissions of nearly all types of air pollutants and carbon dioxide (CO_2) than burning coal or petroleum products to produce an equal amount of energy.").

However, natural gas can be a risky proposition. Not only is it a nonrenewable energy source, but it is also mostly composed of methane, which is a powerful greenhouse gas.[95] Over a hundred-year horizon, methane's global-warming potential is still thirty times greater than that of CO_2.[96] Moreover, many of the chemicals used in natural gas operations pose a significant health hazard as they can cause cancer and genetic mutations and affect a variety of bodily systems, including the cardiovascular and nervous systems.[97] The good news is that, according to the International Energy Agency, it is possible to achieve a seventy-five percent reduction in methane emissions from gas and oil production by exploiting existing low cost technologies.[98] Yet, the same agency observes a "lack of industry action" to reduce these emissions.[99]

Given the significant environmental benefits of energy generated from gas sourced with the use of technologies that minimize environmental impact, environmentally conscious consumers are likely to be willing to pay a premium for it. In turn, this willingness to pay would provide industry actors with the necessary incentives to adopt such technologies and eventually develop even better ones. However, consumers cannot easily put their money where they might wish because it is impossible for them to observe the eco-friendliness of gas operations.[100] Green gatekeepers can aid consumers in this task by setting standards for responsible gas sourcing and verifying that these standards have been met.

The two dominant green gatekeepers in the market for responsibly sourced gas, MiQ and Project Canary,[101] have very different characteristics. MiQ's business model resembles that of Verra

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95. Sankalp Garg et al., *A Critical Review of Natural Gas Emissions Certification in the United States*, ENV'T RSCH. LETTERS, Feb. 10, 2023, at 1, 1 ("[M]ethane that escapes into the atmosphere has a global warming potential (GWP) that is 82.5 times greater than CO_2 over a 20 year horizon and about 29.8 times greater over a 100 year horizon and causes additional local air quality impacts.").

96. *Id.* at 2.

97. Theo Colborn et al., *Natural Gas Operations from a Public Health Perspective*, 17 HUM. & ECOLOGICAL RISK ASSESSMENT: INT'L J. 1039, 1039 (2011) (noting that forty to fifty percent of chemicals used in natural gas operations affect the nervous system, immune system, cardiovascular system and kidneys).

98. *Methane Emissions Remained Stubbornly High in 2022 Even as Soaring Energy Prices Made Actions to Reduce Them Cheaper than Ever*, INT'L ENERGY AGENCY (Feb. 21, 2023), https://www.iea.org/news/methane-emissions-remained-stubbornly-high-in-2022-even-as-soaring-energy-prices-made-actions-to-reduce-them-cheaper-than-ever [https://perma.cc/W5U3-BJGG].

99. *See id*. (highlighting the noticeable lack of industry action, considering that less than three percent of the income generated by global oil and gas companies in 2022 would be required to fund the $100 billion investment needed to achieve this 75% reduction).

100. Garg et al., *supra* note 95, at 3 ("[P]roduction var[ies] immensely within the industry in ways that are not observable to buyers such as industrial firms, electric and gas utilities and their customers, and other end users of gas.").

101. *See* Brad Handler & Felix Ayaburi, *The Cleaning of U.S. Natural Gas; Evolution of Differentiated Gas and Related Crediting Mechanisms*, RES. POL'Y, March 2024, at 1, 5 (2024) (reporting that out of a selection of ten larger/longer duration responsibly sourced gas transactions with end users, eight have Project Canary or MiQ as certifiers).

and Gold Standard: MiQ is a non-profit;[102] it adopts a firm-pays model; its fees depend on the quantity of gas certified;[103] and it delegates the auditing to a third party paid by the gas provider seeking certifications.[104] However, while MiQ does keep a registry of certification information, this registry is not publicly available.[105] MiQ therefore is considerably less transparent than Verra and Gold Standard.[106]

Project Canary, the other dominant player in the gas-certification market, is incorporated as a for-profit benefit corporation,[107] therefore it faces no limitations on distributions to shareholders. Like MiQ, Project Canary adopts a firm-pays model, with fees that depend on the quantity of gas certified.[108] But Project Canary does not rely on independent auditors; instead, verification is performed by Project Canary staff dispatched to gas facilities.[109] Moreover, Project Canary discloses "very little information" about how the monitoring is carried out.[110] Most of this information is treated as confidential,[111] and its methodologies have not been subject to independent review.[112]

Project Canary and MiQ operate in a booming market for responsibly sourced gas.[113] In November 2022, 25% of all gas in use was certified as responsibly sourced, while it is estimated that just a few months later, by January 2023, that figure had reached 30%.[114] Oil giants such as

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102. *See Our Vision*, MIQ, https://miq.org/about [https://perma.cc/ZJY8-WAYQ] ("MiQ is an independent not-for-profit established by RMI and SYSTEMIQ .").

103. *See Digital Registry Fee List*, MIQ (Jan. 2024), miq.org/document/miq-fee-list [https://perma.cc/BA49-8SCG] (highlighting how MiQ's fee structure is organized).

104. *See* Garg et al., *supra* note 95, at 17 (detailing how MiQ has third-party companies conduct audits to evaluate methane intensity before the certification and at year-end).

105. In order to access the registry, one must complete an application. *See MiQ Registry User Guide UG-01 – Organisation Onboarding*, MIQ (June 2022), https://miq.org/document/miq-registry-onboarding-user-guide [https://perma.cc/56F7-EEJN] (detailing the procedure to apply for access to the registry).

106. *Id.*

107. Garg et al., *supra* note 95, at 19 (noting that Project Canary is established as a public benefit corporation (B-Corp)).

108. *See id.* at 19.

109. *Id.* at 17 (reporting that the verification process is conducted by Project Canary staff.).

110. Jonathan Stern, *Greenhouse Gas Emissions from LNG Trade: From Carbon Neutral to GHG-Verified*, THE OXFORD INST. FOR ENERGY STUD. 6–7 (Sept. 2022), https://www.oxfordenergy.org/wpcms/wp-content/uploads/2022/09/Insight-124-Greenhouse-Gas-Emissions-from-LNG-Trade.pdf [https://perma.cc/QM9F-YFMJ].

111. *See id*.

112. *See* Lorne Stockman et al., *Certified Disaster: How Project Canary & Gas Certification Are Misleading Markets & Governments*, EARTHWORKS 28 (Apr. 2023), https://earthworks.org/wp-content/uploads/2023/04/certified_disaster_report_FINAL_04_14_2023.pdf [https://perma.cc/6GN5-WENB] (explaining how Project Canary's data and methodologies are neither available for public verification nor subjected to peer review).

113. *See id.* at 10.

114. *Id.*

Chevron and Exxon Mobil have joined the market for responsibly sourced gas by purchasing gas certified by Project Canary and MiQ, respectively.[115]

3. Certifying Net-Zero: The Science-Based Target Initiative

A number of companies have voluntarily disclosed "net-zero targets," that is, their plans or ambition to offset any emissions their production process or supply chain produce.[116] Some of these targets and plans are based on rigorous assumptions and credible business strategies, and many are not.[117]

There are at least two reasons why investors might prefer to invest in a company that has a credible strategy to transition to net-zero emissions. First, environmentally conscious investors might have a genuine preference for companies that prioritize environmental sustainability.[118] Second, investors might believe that companies with a credible net-zero plan have better long-term business prospects, for instance because they are less exposed to climate risk.[119] The key problem lies in assessing which companies actually have a credible transition strategy.

The Science-Based Target initiative (SBTi) aims to provide this assessment—or, more precisely, helps companies signal that they have a science-based net zero transition plan in place.[120]

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115. *See* Press Release, Chevron, Chevron Achieves Top Certification Scores for Environmental Performance (June 29, 2022), https://www.chevron.com/
newsroom/2022/q2/chevron-achieves-top-certification-scores-for-environmental
-performance [https://perma.cc/MVS7-7YKA]; Press Release, ExxonMobil, ExxonMobil Receives Top Certification for Methane Emissions Management for Natural Gas from Permian Basin (Apr. 26, 2022), https://corporate.exxonmobil
.com/news/news-releases/2022/0426_exxonmobil-receives-top-certification-for
-methane-emissions-for-natural-gas-in-permian [https://perma.cc/UXT7
-UDM9].

116. *See* Daniel C. Esty & Nathan de Arriba-Sellier, *Zeroing in on Net-Zero: From Soft Law to Hard Law in Corporate Climate Change Pledges*, 94 U. COLO. L. REV. 635, 639–40 (2023) (detailing how private sector net-zero commitments have increased due to the growing pressure on businesses to implement changes).

117. Thomas Day et al., *Corporate Climate Responsibility Monitor 2022: Assessing the Transparency and Integrity of Companies' Emission Reduction and Net-Zero Targets*, NEWCLIMATE INST. 5 (Feb. 2022), https://newclimate.org/wp
-content/uploads/2022/02/CorporateClimateResponsibilityMonitor2022.pdf [https://perma.cc/AA96-BJJW] (scrutinizing the climate pledges of twenty-five major multinational companies representing a cross-section of industries and finding that only three of them are planning for "decarbonisation of over 90% of their full value chain emissions by their respective target years," and that thirteen of the twenty-five provide detailed plans, but their implementation would, on average, only curb emissions by forty percent over the next few decades).

118. *See* John Armour et al., *Green Pills: Making Corporate Climate Commitments Credible*, 65 ARIZ. L. REV. 285, 301 (2023) (discussing investors with nonfinancial "green preferences—that is, a taste for low-emissions firms").

119. *Id.* at 301–02 (highlighting that investors may place a higher valuation on firms that they deem better prepared for the net zero transition).

120. We focus on the SBTi only due to its dominant role. Even other green gatekeepers operating in the same space as SBTi follow its lead. For instance, Carbon Trust advertises that it "helps organizations "set targets that are aligned

To accomplish this, the SBTi has developed scientific standards that corporations must meet to obtain the initiative's certification of their climate targets. The main feature of SBTi standards is that they require corporations to "deeply reduce emissions,"[121] and ultimately to reduce their "scope 3 emissions" by at least ninety percent.[122] Through a separate entity, the SBTi then validates corporations' science-based targets, "to ensure their alignment with the Paris Agreement to limit global warming to 1.5C."[123] According to the SBTi, more than 5,000 businesses around the world, including Nike,[124] have set science-based targets under the SBTi framework.[125]

The SBTi is incorporated in the United Kingdom and has been recognized as a charity.[126] Therefore, like VCM standard setters, it faces significant constraints on how it can dispose of profits. Like the other green gatekeepers we consider for illustration purposes, the SBTi adopts a firm-pays model, receiving forty-eight percent of its funding from "validation service fees"—that is, the fees it receives from certifying corporations' compliance with its standards.[127] The SBTi routinely holds consultations with stakeholders and is fairly transparent: its website provides ample information about the organization and its methodologies.[128]

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with the latest climate science and the requirements of the Science Based Targets initiative." *See Target setting*, CARBON TRUST, https://www.carbontrust.com/en-eu/what-we-do/net-zero-emissions-transition-planning-and-delivery/target-setting [https://perma.cc/7DLH-TTDS].

121. *SBTi Corporate Net-Zero Standard*, SCI. BASED TARGETS INITIATIVE 12 (Mar. 2024), https://sciencebasedtargets.org/resources/files/Net-Zero-Standard.pdf [https://perma.cc/N3J4-VLSU].

122. *Id.* at 30. The corresponding figure for scope one and two emissions is ninety-five percent. *Id*. Scope three emissions are all indirect emissions that occur in a company's value chain, excluding scope two emissions, that is, "indirect emissions from the generation of purchased energy consumed by the . . . reporting company." *See Corporate Value Chain (Scope 3) Accounting and Reporting Standard*, GREENHOUSE GAS PROTOCOL 5 (Sept. 2011), https://ghgprotocol.org/corporate-value-chain-scope-3-standard [https://perma.cc/VET8-RTTL]. Scope three emissions typically represent a company's largest greenhouse gas impacts. *See FAQ*, GREENHOUSE GAS PROTOCOL, https://ghgprotocol.org/sites/default/files/standards_supporting/FAQ.pdf [https://perma.cc/SL3Q-DQH4].

123. *See About Us*, SCI. BASED TARGETS INITIATIVE, https://sciencebasedtargets.org/about-us#who-we-are [https://perma.cc/P2FS-DUDW].

124. *See Companies Taking Action*, SCI. BASED TARGETS INITIATIVE, https://sciencebasedtargets.org/companies-taking-action [https://perma.cc/Q7AT-LLK4] (listing companies that have set or committed to developing science-based targets, including Nike).

125. *See Ambitious Corporate Climate Action*, SCI. BASED TARGETS INITIATIVE, https://sciencebasedtargets.org [https://perma.cc/EMZ6-F5CY] ("Over 5,000 businesses . . . have set emissions reduction targets grounded in climate science through the [SBTi].").

126. *See* CHARITY COMMISSION FOR ENGLAND AND WALES, https://register-of-charities.charitycommission.gov.uk/charity-search/-/charity-details/5225773/full-print [https://perma.cc/763Y-82F9].

127. *See, e.g.*, *How We Are Funded*, SCI. BASED TARGETS INITIATIVE, https://sciencebasedtargets.org/about-us/funders [https://perma.cc/A6KP-GDGM].

128. *See, e.g.*, *The SBTi Launches Six-Week Public Consultation on Beyond Value Chain Mitigation*, SCI. BASED TARGETS INITIATIVE (June 19, 2023), https://sciencebasedtargets.org/news/the-sbti-launches-six-week-public-consultation-on-beyond-value-chain-mitigation [https://perma.cc/2WNH-JRKY].

4. Energy Star Certification

Improving energy efficiency increases national energy supply security and contributes to mitigating climate change.[129] As the residential sector accounts for over twenty percent of the energy consumed in the U.S.,[130] ensuring that consumers have access to energy-efficient products is a priority. Consumers have incentives to pay a premium for energy-efficient products because doing so promises environmental benefits and long-term savings in the form of lower energy costs. Yet, for most of us, energy efficiency is a credence attribute because we cannot realistically assess how much energy any given appliance in our homes use. With environmental protection in mind, in 1992 the EPA launched the Energy Star certification.[131] Products may display the Energy Star logo if they satisfy energy-efficiency standards promulgated by the EPA or Department of Energy.[132] Dozens of product categories are eligible for Energy Star certification, including kitchen appliances, lighting, air conditioners, electronics, and office equipment.[133] Buildings, including new and existing homes, commercial buildings, and industrial plants, may also be certified.[134] Hundreds of millions of products sold annually and around ten percent of all United States homes have the Energy Star seal of approval.[135]

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129. Mohamed Farghali et al., *Strategies to Save Energy in the Context of the Energy Crisis: A Review*, 21 ENV'T CHEMISTRY LETTERS 2003, 2004 (2023) ("Energy savings from energy efficiency and conservation offer additional co-benefits and contribute to national energy supply security and climate change mitigation.").

130. Ctr. for Sustainable Sys., *U.S. Energy System Factsheet*, UNIV. OF MICH. (Aug. 2023), https://css.umich.edu/publications/factsheets/energy/us-energy-system-factsheet [https://perma.cc/52FX-8J2K].

131. *See Our History*, ENERGY STAR, https://www.energystar.gov/about/how-energy-star-works/history [https://perma.cc/NWY2-V536] (describing how the EPA's Energy Star program was created to dismantle market barriers preventing progress in fighting climate change).

132. *What Makes a Product ENERGY STAR?*, ENERGY STAR, https://www.energystar.gov/products/what_makes_product_energy_star#:~:text=ENERGY%20STAR%20products%20are%20the,the%20US%20Department%20of%20Energy [https://perma.cc/7T87-EYYW]. For instance, a refrigerator should be at least fifteen percent more efficient than the minimum federal efficiency standard in order to qualify for the certification. *Id*. For a detailed discussion of the certification program, see McAllister, *Harnessing Private Regulation*, *supra* note 18, at 363–67.

133. *See, e.g.*, *Energy Efficient Products*, ENERGY STAR, https://www.energystar.gov/products [https://perma.cc/2W37-72W3] (listing categories of products available with Energy Star certifications).

134. *See How ENERGY STAR Works*, ENERGY STAR, https://www.energystar.gov/about/how_energy_star_works [https://perma.cc/92YS-WT3V] (listing the five key areas for which Energy Star provides labelling).

135. *Energy Star® Impacts—2022*, ENERGY STAR, 1–2 (Apr. 2023), https://www.energystar.gov/sites/default/files/2022_Overview_of_Achievements.pdf [https://perma.cc/6AVZ-3V5M] ("Americans purchased more than 300 million ENERGY STAR certified products and more than 500 million ENERGY STAR certified light bulbs in 2021 . . . . More than 2.4 million ENERGY STAR certified single-family, multifamily, and manufactured new homes and apartments have been built to date, including more than 120,000 in 2021, representing more than 8.5% of all U.S. homes built.").

For almost two decades, Energy Star was a self-certification program and participation was voluntary.[136] This changed in 2011.[137] Participation remains voluntary, but now the Energy Star program relies heavily on multiple third-party gatekeepers for testing and certification.[138] Under this system, a "[b]rand owner[] must identify an EPA-recognized laboratory to test its product and an EPA recognized certification body . . . to certify the results and submit product information to EPA."[139] To gain EPA recognition, laboratories and certification bodies must be accredited by an EPA-recognized accreditation body.[140] This body decides whether laboratories and certification bodies meet various EPA criteria, including compliance with standards published by the International Organization for Standardization, widely known as the ISO.[141] For their part, accreditation bodies gain EPA recognition by meeting other EPA criteria.[142]

In a system relying on many actors, certification bodies function as the primary gatekeepers.[143] They have sole authority to "determine that a product meets the Energy Star criteria or grant use

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136. McAllister, *Regulation by Third-Party Verification*, *supra* note 18, at 18–19 (explaining that from its launch in 1992 to 2011, Energy Star operated on a self-reporting basis where manufacturers declared to the EPA whether their products met the Energy Star certification requirements).

137. *See id.* ("As of 2011, Energy Star requires that products carrying the label be certified by third parties.")

138. *See id.* The EPA reinforced its third-party certification requirements after the United States Government Accountability Office published adverse findings following an investigation. *See* U.S. GOV'T ACCOUNTABILITY OFF., GAO-10-470, ENERGY STAR PROGRAM: COVERT TESTING SHOWS THE ENERGY STAR PROGRAM CERTIFICATION PROCESS IS VULNERABLE TO FRAUD AND ABUSE (2010) ("GAO found that for our bogus products, certification controls were ineffective primarily because Energy Star does not verify energy-savings data reported by manufacturers.").

139. *Certifying Products*, ENERGY STAR, https://www.energystar.gov/partner_resources/products_partner_resources/brand_owner_resources/certifying_products#:~:text=Partners%20must%20certify%20product%20models,submit%20product%20information%20to%20EPA [https://perma.cc/2M58-JXMT].

140. *See Accreditation Body Resources*, ENERGY STAR, https://www.energystar.gov/partner_resources/products_partner_resources/third_party_cert/abs [https://perma.cc/MFC2-QQ4U] ("EPA-recognized accreditation bodies (ABs) provide accreditation for laboratories and certification bodies (CBs). ABs must be recognized by EPA to accredit laboratories.").

141. *See id.* (describing the responsibilities of an accreditation body, which include accrediting and auditing certification bodies and laboratories as per Energy Star's recognition requirements); *Can I Use Any Laboratory for ENERGY STAR Certification or Verification Testing?*, ENERGY STAR (May 20, 2021), https://energystar.my.site.com/ENERGYSTAR/s/article/Must-I-use-an-accredited-laboratory-1600088478835 [https://perma.cc/FC5R-WETW] (explaining that laboratories typically must be accredited to ISO/IEC 17025 for the relevant test procedures); *Certification Body Resources*, ENERGY STAR, https://www.energystar.gov/partner_resources/products_partner_resources/third_party_cert/cbs [https://perma.cc/M6SV-SCDK] (explaining that certification bodies are responsible for maintaining accreditation to ISO/IEC 17065).

142. *See Accreditation Body Resources*, *supra* note 140 (stating that accreditation bodies may gain EPA recognition by complying with EPA criteria and operating in conformance with ISO/IEC 17011).

143. *Cf. What Is the Difference Between an EPA-Recognized Certification Body (CB) and an EPA-Recognized Testing Laboratory?*, ENERGY STAR (May 20, 2021), https://energystar.my.site.com/ENERGYSTAR/s/article/What-is-the

of the Energy Star mark."[144] These gatekeepers operate on a firm-pays basis, with brand owners paying them directly.[145] Certification bodies evaluate testing done by laboratories, audit these laboratories,[146] and review their results.[147] Certification bodies also oversee post-market testing of a sampling of Energy Star products in an effort to assure the ongoing effectiveness of their certifications.[148]

Among the schemes considered in this Section, the Energy Star program is distinctive because its certification standards are set by regulators, not private actors.[149] Nevertheless, the scheme is voluntary for producers.[150] The program is transparent: regulators maintain a detailed public registry of recognition standards applied to accreditors, laboratories, and certification bodies as well as the certification standards these gatekeepers apply to products.[151] The registry discloses all certified

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-difference-between-an-EPA-recognized-certification-body-CB-and-an-EPA
-recognized-testing-laboratory-1600088479165 [https://perma.cc/9WN2-3YK2] (describing certification bodies' role in awarding Energy Star certifications).

144. *See id.* ("[A] laboratory is not authorized to make claims about a product's eligibility for Energy Star certification.").

145. *See EPA ENERGY STAR® Enhanced Testing and Verification Frequently Asked Questions (FAQ)*, ENERGY STAR, https://www.energystar.gov/ia/partners/downloads/mou/ETV_FAQ.pdf [https://perma.cc/ZVD8-HSGA] ("The new testing and verification procedures will be partner-funded. Partners will pay laboratories and [certification bodies] directly.").

146. *See Laboratory Resources*, ENERGY STAR, https://www.energystar.gov/partner_resources/products_partner_resources/third_party_cert/laboratory [https://perma.cc/M3L5-9EQV] (describing certification bodies' oversight over the testing process in laboratories)

147. *See Conditions and Criteria for Recognition of Certification Bodies for the ENERGY STAR® Program*, ENERGY STAR (Dec. 2021), https://www.energystar.gov/sites/default/files/asset/document/Conditions%20and%20Criteria%20for%20Recognition%20of%20Certification%20Bodies.pdf [https://perma.cc/4NHZ-97TW] (listing review of laboratory test reports as one of the required duties of a certification body).

148. *See Verification Testing Roles and Responsibilities*, ENERGY STAR, https://www.energystar.gov/partner_resources/products_partner_resources/third_party_cert/responsibilities [https://perma.cc/PX8J-YNPR] (describing the supervisory role certification bodies play in verification testing).

149. *See How Energy Star Works*, *supra* note 134 ("The ENERGY STAR program is administered by the U.S. Environmental Protection Agency (EPA) . . . . [The] EPA sets energy efficiency specifications . . . . ").

150. *See id.* ("ENERGY STAR is a voluntary labeling program . . . those that meet [the EPA's energy efficiency specifications] can choose to display the ENERGY STAR logo.").

151. As to criteria for gatekeeper recognition, see *Third-Party Certification*, ENERGY STAR, https://www.energystar.gov/partner_resources/products_partner_resources/third_party_cert [https://perma.cc/P7AT-57NY] (providing an overview of the third-party certification process and linking to more detailed guidance on each third-party's responsibilities). As to specifications for products, see *Product Specifications & Partner Commitments Search*, ENERGY STAR, https://www.energystar.gov/products/spec [https://perma.cc/P84L-WZUV] (cataloging the Energy Star certification requirements for each type of product).

products[152] as well as the identities of recognized gatekeepers.[153] Despite this openness, neither the regulators nor gatekeepers themselves publicly disclose fee structures.[154] Nor is the organizational nature of gatekeepers disclosed.[155] However, public searches suggest that the handful of accreditors are non-profits, while the numerous laboratories and certification bodies may be either for-profits or non-profits.[156]

5. Certified Animal Welfare

Surveys consistently show that people care about farm animal welfare[157] and that they prefer products whose manufacture respects animal welfare.[158] However, when a consumer sees meat on a supermarket shelf, they have no way of verifying whether the animal from which the meat derives was treated well prior to slaughter.[159] Green gatekeepers can provide consumers with this information.

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152. *See Energy Efficient Products*, *supra* note 133 (linking to lists of products divided by category that Energy Star has certified).

153. *See EPA-Recognized Certification Bodies (CBs) and Laboratories*, ENERGY STAR https://www.energystar.gov/partner_resources/partner_list/epa_recognized_cbs_and_laboratories [https://perma.cc/6UBB-DTH7]; *EPA-Recognized Accreditation Bodies*, ENERGY STAR, https://www.energystar.gov/partner_resources/products_partner_resources/third_party_cert/abs/epa_recognized_abs [https://perma.cc/ZDH7-V98K].

154. *See generally EPA-Recognized Certification Bodies (CBs) and Laboratories*, *supra* note 153 (linking to the websites of EPA-recognized accreditation bodies), Instead, the websites of these gatekeepers often invite producers to seek a quote. *See, e.g., EPA ENERGY STAR Accreditation Program*, AM. ASS'N FOR LAB'Y ACCREDITATION (A2LA), https://a2la.org/accreditation/epa-energystar [https://perma.cc/56MC-S3H9] (omitting information about fees associated with Energy Star certification and instead containing a "Get a Quote" option").

155. *Cf. EPA-Recognized Certification Bodies (CBs) and Laboratories*, *supra* note 153 (lacking any information about the organizational nature of EPA-recognized certification bodies and laboratories); *EPA-Recognized Accreditation Bodies*, *supra* note 153 (lacking any information about the organizational nature of EPA-recognized accreditation bodies).

156. *See, e.g.*, ASS'N OF HOME APPLIANCE MFRS, https://www.aham.org/AHAM [https://perma.cc/S28G-VN8A] (serving as an example of a trade association that functions as a laboratory and advocacy group for home appliance manufacturers).

157. *See, e.g.*, *Opinion Surveys on Food & Farming Systems,* AM. SOC'Y FOR THE PREVENTION OF CRUELTY TO ANIMALS, https://www.aspca.org/protecting-farm-animals/aspca-surveys [https://perma.cc/Q2MM-4R8K] ("Surveys reliably show that the American public cares deeply about farm animals and wants them to be protected from suffering.").

158. *See* Amelia Rose Cornish et al., *The Price of Good Welfare: Does Informing Consumers About What On-Package Labels Mean for Animal Welfare Influence Their Purchase Intentions?*, APPETITE, May 1, 2020, at 1, 2 (2020) ("[R]esearch has confirmed a willingness by consumers to pay premiums for farm animal welfare and higher welfare products . . . . ").

159. *See, e.g.*, Nicole J. Olynk et al., *Verifying Credence Attributes in Livestock Production*, 42 J. AGRIC. & APPLIED ECON. 439, 440 (2010) ("For example, at no point before, after, or during consumption of a pork chop is the consumer able to determine the housing system used to raise the hog. Along the same lines, at no point before, during, or after consumption could a consumer of milk determine if the cows that produced that milk had access to pasture.").

The non-profit A Greener World provides the Certified Animal Welfare certification.[160] It charges a variety of fees to the farmers who want to obtain the certification for their products, including an application fee and an audit fee.[161] In order to receive the certification, farmers must comply with a series of standards by, for instance, ensuring that animals have sufficient space,[162] and establishing a long-term relationship with a qualified expert such as a veterinarian.[163] The terms of A Greener World's standards are all available on the gatekeeper's website, but we have found no way to access the outcome of the specific audits the organization carries out.[164]

B. THE ROLE OF REPUTATION IN THE MARKETS FOR GREEN GATEKEEPER SERVICES

Recall that reputational constraints are crucial in assuring the accuracy of gatekeepers' certifications.[165] To be a gatekeeper implies having reputational capital that can be "pledged" to issuers or producers[166] and that is put at risk if certified claims prove inaccurate.[167] In at least some traditional gatekeeper settings, such as in primary capital markets, these reputational constraints tend to be stronger than those of issuers because gatekeepers are repeat actors, whereas issuers are more likely to be occasional market players who might sacrifice their reputations for one-off financial gain. In other words, gatekeepers have "less of an incentive to deceive" than issuers do.[168] A similar logic should apply to green gatekeepers operating in financial markets.

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160. *See Certified Animal Welfare Approved by AGW*, A GREENER WORLD, https://agreenerworld.org/certifications/animal-welfare-approved [https://perma.cc/8SXU-SLD7] (outlining the Certified Animal Welfare certification and application process).

161. *See A Greener World Schedule of Fees*, A GREENER WORLD, https://agreenerworld.org/wp-content/uploads/2023/03/AGW-Fee-Schedule-NA-v12.pdf [https://perma.cc/Q6P5-S25N] (outlining the fees associated with each type of certification, including the application and audit fee for the Certified Animal Welfare certification).

162. *See Certified Animal Welfare Approved by AGW Standards for Beef Cattle*, A GREENER WORLD 18–19 (2024), https://agreenerworld.org/wp-content/uploads/2024/09/AWA-Beef-Cattle-Standards-2024-v1.pdf [https://perma.cc/4G5P-CFTZ] (stating spacing requirements for cattle of varying sizes).

163. *Id.* at 4.

164. *Cf. Certified Animal Welfare Approved by AGW*, *supra* note 160 (lacking access to or information about the organization's audit reports).

165. *See supra* Part II.A.1.

166. *See* COFFEE, *supra* note 20, at 2–3 ("Central to this model is the concept of reputational capital and the subsidiary idea that it can be pledged or placed at risk by the gatekeeper's vouching for its client's assertions or projections."); Gilson & Kraakman, *supra* note 33, at 620–22 (describing the market effects of an investment bank that "rents" its reputation to the issuer of securities).

167. *See* Gilson & Kraakman, *supra* note 33, at 620 ("The investment banker represents to the market (to whom *it*, and not the issuer, sells the security) that it has evaluated the issuer's product and good faith and that it is prepared to stake its reputation on the value of the innovation.").

168. *See* ARMOUR ET AL., *supra* note 6, at 121–22 (explaining that investors face a decreased risk of fraud when there is an intermediary who is a repeat player and whose reputational capital is at stake).

One might reason that in consumer markets, green producers are themselves repeat players—they need to continue selling their products. Their incentives not to deceive might thus seem to be stronger than their counterparts' in the capital markets setting and prevent them from purchasing inaccurate certifications: if they got caught, they would suffer reputational harm that diminishes their capacity to attract future customers. Hence, one might be tempted to conclude that producers have the incentives to buy only accurate green gatekeeping services, which would make green gatekeeper regulation, other things equal, less justified than capital market gatekeeper regulation.

Yet green producers' repeat-player status only engenders strong reputational incentives if customers are both able and motivated to detect inaccurate or deceptive claims. This is unlikely to be the case for three reasons. First, green gatekeepers' certifications may "work" even when they are inaccurate. Certified green labels enable environmentally conscious consumers to feel well about their product choices, irrespective of how actually green the chosen products are. In other words, to enjoy the "warm glow" of being responsible consumers, they may be inclined to take certifications at face value. Second, even consumers who actually care about green claims' accuracy often face limited to no private costs when they accept inaccurate certifications. Third, environmentally conscious consumers are often unable to identify inaccurate green certifications due to the complexity of the issues underlying them.

Each of these explanations helps explain weaknesses in consumers' ability and motivation to detect and punish false green claims. As we also explore below, these reasons also apply to investors, explaining their frequent inability or unwillingness to deter greenwashing by corporate issuers. Since sanctions imposed by consumers and investors may be felt more immediately by gatekeepers than by ancillary actors, we refer to such sanctions as *direct* reputational constraints.

After exploring each of these three explanations, we show how even ancillary private players helping expose inaccurate certifications, such as traders in producers' shares, journalists, scientists, and NGOs, may be less effective than in traditional markets. We refer to the reputational sanctions these actors impose as *indirect* reputational constraints.

1. Direct Reputational Constraints

In examining gatekeepers' direct reputational constraints, we first consider the factors influencing the capacity and motivation of certification users.

a. Wiggle Room and Warm Glow

Decades of research in psychology and economics suggests that people tend to process information in a way that allows them to *feel* morally upright, even when they are acting egoistically.[169] People place significant value on retaining a positive image of themselves.[170] To that end, they

169. *See* Francesca Gino et al., *Motivated Bayesians: Feeling Moral While Acting Egoistically*, 30 J. ECON. PERSP. 189, 189–90 (2016) ("[P]eople who appear to exhibit a preference for being moral may in fact be placing a value on feeling moral, often accomplishing this goal by manipulating the manner in which they process information to justify taking egotistic actions while maintaining this feeling of morality.").

170. *See id.* at 191 ("[P]eople care about their self-concept and expend a great deal of effort maintaining a positive image of the self . . . .").

often engage in motivated reasoning.[171] Motivated reasoning refers to the tendency to reason in a way that leads to one's preferred conclusions, influencing how people gather evidence, process information, and recall memories.[172] However, one fundamental aspect of motivated reasoning is that one's ability to reach the preferred conclusion is not unlimited.[173] As Kunda notes, "people motivated to arrive at a particular conclusion attempt to be rational and to construct a justification of their desired conclusion that would persuade a dispassionate observer. They draw the desired conclusion only if they can muster up the evidence necessary to support it."[174] Put differently, motivated reasoning leads people to reach their preferred conclusion only if the information to which they have access leaves sufficient "wiggle room" to allow them to feel that they are behaving morally even if they are acting selfishly.[175]

Green gatekeepers' certifications may provide buyers with the wiggle room they need to justify their purchasing habits while also feeling moral. Consumers might be induced to think that they are doing something good—or at least harmless—for the environment if, for example, they purchase a plastic water bottle with a carbon neutral label.[176] Similarly, when consumers purchase gas that has been certified as "platinum," in terms of its environmental impact, they might feel free to consume more energy than they otherwise would. The truth, however, is that reducing consumption—rather than consuming green-certified products—would be the most environmentally friendly decision.[177] Absent the green certifications, the consumer would have little to no wiggle room to perceive their consumption as a sustainable choice. To generalize, green certifications suggest to consumers that they can "buy their way to sustainability,"[178] giving them the wiggle room to keep purchasing products while feeling good about themselves. Importantly, green certifications would leave them with little incentive—relative to users of traditional gatekeeper certifications—to investigate and punish inaccurate ones.

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171. See Claude M. Steele, *The Psychology of Self-Affirmation: Sustaining the Integrity of the Self*, 21 ADVANCES EXPERIMENTAL SOC. PSYCH. 261, 263–265 (1988) (showing that people are more willing to provide help when they perceive that their positive self-image is at stake).; Gino et al., *supra* note 169, at 191 (stating that people engage in motivated reasoning in order to maintain a positive self-image).

172. *See* Nicholas Epley & Thomas Gilovich, *The Mechanics of Motivated Reasoning*, 30 J. ECON. PERSP. 133, 133 (2016) ("People generally *reason* their way to conclusions they favor, with their preferences influencing the way evidence is gathered, arguments are processed, and memories of past experience are recalled.").

173. *See* Gino et al., *supra* note 169, at 192 (explaining that people only arrive at conclusions they can reasonably justify).

174. Ziva Kunda, *The Case for Motivated Reasoning*, 108 PSYCH. BULL. 480, 482–83 (1990).

175. *See* Jason Dana et al., *Exploiting Moral Wiggle Room: Experiments Demonstrating an Illusory Preference for Fairness,* 33 ECON. THEORY 67, 69 (2007) (describing experiments where the test subjects behaved more selfishly when the experiments decreased transparency, thus increasing subjects' wiggle room).

176. *See* Dror Etzion, *The Proliferation of Carbon Labels*, 12 NATURE CLIMATE CHANGE 770, 770 (2022) ("[C]arbon labels may also make consumers feel that they are actually doing a positive thing when buying a product.").

177. *See* Etzion, *supra* note 176, at 770 (arguing consumers can best protect the environment by consuming less rather than consuming so-called environmentally friendly products); Zink & Geyer, *supra* note **Error! Bookmark not defined.**, at 29 (describing some of the unintended consequences of consuming green products, including increasing overall consumption).

178. Etzion, *supra* note 176, at 770.

Other studies suggest that people are likely to derive value even from lax certifications. To begin with, a body of literature shows that both consumers and investors are largely indifferent to the concrete environmental effects of the products they purchase.[179] Instead, they are more interested in the "expressive value" of the purchase, which is the utility derived from expressing one's identity through consumer choices.[180] Consumers' willingness to pay for green products merely reflects their attitude toward societal issues.[181] This conclusion is supported by the evidence showing that people are willing to pay a significant premium to generate an environmental benefit but are not willing to pay significantly more to generate greater environmental benefits. For instance, Desvousges and coauthors found that there are no statistically significant differences in people's willingness to pay to save 2,000, 20,000 or 200,000 waterfowls.[182] More recently, Heeb and coauthors have shown that investors are willing to pay a substantial premium for sustainable investments but are not willing to pay significantly more for financial assets that generate substantially greater environmental benefits.[183]

Relatedly, evidence shows that when people contribute voluntarily to a public good, they receive utility from the very act of giving itself[184]—suggesting that consumers and investors may buy green-certified products for the utility they receive from the purchase, even if the actual environmental benefits are questionable. This utility is known as a "warm glow."[185] In a widely cited study, Crumpler and Grossman devise an experiment in which they invited participants to select a charity that would receive a donation from the study proctor.[186] Participants were then given a

179. *Cf.* Klaas van 't Veld, *Eco-Labels: Modeling the Consumer Side*, 12 ANN. REV. RES. ECON. 187, 193 (2020) (describing studies implying that "green consumers may care only about the act of purchasing a product and may be largely indifferent to the environmental benefit generated by that act.").

180. *See* Robert Sugden, *Public Goods and Contingent Valuation*, *in* VALUING ENVIRONMENTAL PREFERENCES: THEORY AND PRACTICE OF THE CONTINGENT VALUATION METHOD IN THE US, EU AND DEVELOPING COUNTRIES 131, 143 (Ian J. Bateman & Kenneth G. Willis eds., 1999) ("[D]ecisions about private contributions to public goods may reveal much more about the expressive value of contributions than they do about the instrumental value of those goods.").

181. *See* Ilana Ritov & Daniel Kahneman, *How People Value the Environment: Attitudes Versus Economic Values*, *in* ENVIRONMENT, ETHICS, AND BEHAVIOR: THE PSYCHOLOGY OF ENVIRONMENTAL VALUATION AND DEGRADATION 33, 35–40 (Max H. Bazerman et al. eds., 1997) (explaining that willingness to pay is roughly proportional to support for an issue and anticipated moral satisfaction from contributing to that issue).

182. *See* William H. Desvousges et al., *Measuring Natural Resource Damages with Contingent Valuation: Tests of Validity and Reliability*, *in* CONTINGENT VALUATION: A CRITICAL ASSESSMENT 91, 101 (Jerry A. Hausman ed., 1993) ("[T]he distributions of [willingness to pay] values are not statistically different across the three levels of waterfowl protection.").

183. *See* Florian Heeb et al., *Do Investors Care About Impact?*, 36 REV. FIN. STUD. 1737, 1738–39 (2023) (finding that "investors are willing to pay a substantial amount for a sustainable investment with some impact," but also that "investors' [willingness to pay] does not respond significantly to the level of impact that a sustainable investment offers").

184. *See* Heidi Crumpler & Philip J. Grossman, *An Experimental Test of Warm Glow Giving*, 92 J. PUB. ECON. 1011, 1011 (2008).

185. *See id.*

186. *Id.* at 1014–15

separate endowment and asked to divide it between themselves and their chosen charity.[187] Crucially, the experimenters also explained to participants that the amount the charity would receive was fixed, regardless of how much the participants donated: for each dollar a participant donated from their personal endowment, the same amount was deducted from the sum donated by the proctor.[188] Under these conditions, choosing to donate more to the charity would have no effect, so altruism—that is, benefit to the charity—would provide no incentive to donate.[189] Participants could have taken the whole endowment for themselves, and their charity of choice would receive no less money.[190] Yet Crumpler and Grossman found that most participants still donated consequential amounts to the charity, suggesting that the act of donating—not the altruistic consequence, of which there was none—was itself desirable.[191] That is the warm glow in action. The authors conclude that, while givers are motivated by both altruism and warm glow, warm glow motivates a substantial proportion of all giving.[192] In the environmental setting, this finding suggests that consumers and investors may buy a product certified as green to experience a warm glow, even when the environmental benefits are dubious. Intuitively, no investor in shares or bonds would similarly draw positive moral feelings from the fact that an auditor has provided a clean opinion on an issuer's financial statements or a triple-A rating on a given bond; they will value those certifications as useful information to price shares and bonds, not as a basis for feeling better as individuals.

As importantly, empirical evidence suggests that some buyers might actively avoid learning whether certifications are accurate because learning about the negative impact of consumption would constrain behavior.[193] In fact, consumers who care about the environment are especially likely to under-investigate products' environmental attributes.[194] More generally, a large body of research shows that people display an "ostrich effect" and hide their heads in the sand to avoid learning information they might not like,[195] even when that information is freely available and would lead people to make better decisions.[196] There is good reason, then, to anticipate that

187. *See id.* at 1012.

188. *Id.*

189. *See id.*

190. *See id.* at 1014.

191. *Id.* at 1012 ("[P]articipants donated, on average, 20% of their endowment and . . . approximately 57% of the participants made a donation.").

192. *Id*. at 1012, 1018.

193. *See* Gino, Norton & Weber, *supra* note 169, at 208 ("Because learning about negative environmental impact would constrain purchase, motivated Bayesian consumers avoid the chance of learning in order to allow them to feel good about purchasing behavior.").

194. Kristine R. Ehrich & Julie R. Irwin, *Willful Ignorance in the Request for Product Attribute Information*, 42 J. MKTG. RSCH. 266, 267 (2005) (showing that people are "especially likely to [under-request information on a given ethical issue] when they care about the ethical issue in question").

195. For a review of the literature, see Russell Golmanet al., *Information Avoidance*, 55 J. ECON. LITERATURE 96 (2017) (discussing evidence of information avoidance).

196. For studies finding evidence of information avoidance, see *id*. at 99–104.

consumers and investors will often take certifications at face value, even actively avoiding information on their reliability.

Ultimately, users of green gatekeeper certifications don't necessarily need certifications to be accurate in order to derive benefits, as they may content themselves with products that merely *appear* sustainable and make them *feel* they are acting in a sustainable manner. The result is that they have little incentive—at least compared to users of traditional gatekeepers—to investigate and punish inaccurate certifications. Green gatekeepers, in turn, face correspondingly weaker reputational constraints, suggesting that market mechanisms are not an effective deterrent to inaccurate certifications.

b. Private Cost of Inaccurate Green Certifications

Investors who rely on an underwriter's due diligence when deciding whether to buy shares in an initial public offering (IPO) incur a private cost if the due diligence process is later found to be flawed, because they overpay for the IPO shares. This mismatch gives investors relatively strong incentives to monitor the accuracy of gatekeeper services and punish inaccurate certifiers, exerting discipline on underwriters.[197] We argue that this market mechanism works less effectively for many green gatekeepers because certification users suffer insignificant private costs when relying on inaccurate certifications, limiting their incentives to question certification accuracy.

For an instance of insignificant private costs limiting certification users' incentives to discipline gatekeepers, consider the case of people who purchase carbon offsets when buying an air ticket. If they never discover that the offsets they purchased do not actually reduce emissions, they face no private costs. While their flight's emissions will contribute to global warming, the flight experience will be no less comfortable. To put it differently, inaccurate certifications from VCM standard setters have negative consequences on the environment but limited concrete effects on those who use the certifications.

A similar dynamic characterizes responsibly sourced gas, weakening gatekeeper discipline. While gas that has been incorrectly labeled as responsibly sourced will contribute to climate change, user experience will remain identical. Facing private costs only if they become aware of the falsity of a certification, consumers have weak incentives to monitor the accuracy of gatekeeper services. In these instances, the verification of green gatekeepers' certifications has an exclusively public-good nature. As such, it will be undersupplied.[198]

To be sure, there are cases where users of inaccurate certifications by green gatekeepers face considerable private costs. One case is inaccurate SBTi certifications. Recall that SBTi certifies firms' net-zero pledges.[199] Climate-conscious investors, whether because of their green preferences or because they place a higher expected cost on climate risk, are more inclined to invest in firms

197. *See supra* Part I.A.

198. *See generally* ROBERT COOTER & THOMAS ULEN, LAW AND ECONOMICS 114–15 (6th ed. 2012) (ebook) (noting that "private markets often undersupply public goods" because public goods are "nonrivalrous" and "nonexcludable"); William H. Oakland, *Theory of Public Goods*, *in* 2 HANDBOOK OF PUBLIC ECONOMICS 485, 509 (Alan J. Auerbach & Martin Feldstein eds., 1987) (observing that "few generalizations can be made [about the private provision of public goods] beyond the observation that private markets will tend to underprovide public goods . . . .").

199. *SBTi Corporate Net-Zero Standard*, *supra* note 121.

with credible net-zero pledges.[200] If this kind of investor has a sufficient presence on the market, firms may have the incentives to pursue net-zero targets with a view to lowering their cost of capital.[201] However, if a firm can induce investors to perceive it as net-zero just by purchasing an inaccurate SBTi certification, it may engage in greenwashing and actually do nothing, or not enough, to achieve net-zero. Those who invest in it because they consider an SBTi certification a signal that the company is less exposed to climate risk bear a private cost, because their portfolio will have a different risk profile than the one they would have selected had they had access to accurate information.

When the inaccurate certifications of green gatekeepers generate private costs, their users' incentives to verify the accuracy of the gatekeeper services and punish inaccurate certifiers will be stronger than if they bear no private costs.

c. Complexity/Verifiability

Green gatekeepers often deal with information characterized by a higher degree of complexity and uncertainty than that processed by traditional information intermediaries.[202] Accordingly, verifying the accuracy of certifications can be incredibly hard, even for users who are genuinely interested in identifying green products.[203]

Carbon offsets are a case in point. As discussed in Section II.A.1, the job of a standard setter on the VCM is to certify the carbon offsets, providing assurance to buyers that: (1) each offset corresponds to actual greenhouse gas emissions avoided and (2) the certified project does not "negatively impact the natural environment or communities."[204] Both assessments require complex estimations. Consider the case of a project aiming to protect a forest. The certifier needs to ensure that the project is additional—that is, the certifier must estimate the portion of the forest that would have been destroyed absent the project.[205] As this is a counterfactual matter, even ex-post it is impossible to assess with certainty whether the certifier's estimates were correct.[206] Another complicated issue is leakage. While the area protected by the project might indeed be preserved, another

200. *See* Armour et al., *supra* note 118, at 300–02 (explaining that a growing number of investors place a higher value on environmentally conscious firms).

201. *See id*. at 303–05 (discussing the circumstances under which investors' green preferences may have an impact on share prices).

202. *See id.* at 298 (explaining that determining what environmentally conscious investments are the best is made thorny by uncertainty over key variables).

203. *See* Garg et al., *supra* note 95, at 4 (explaining the complexity and asymmetry involved in verifying the social and environmental certifications in emissions data)

204. *VCS Standard, supra* note 81, at 40.

205. *See* Battocletti et al., *supra* note 76, at 531–33 (discussing the concept of additionality).

206. *See id.* at 531–32 (explaining that CO_2 reduction claims rely on making the counterfactual assertion that the reduction of CO_2 would not have occurred but for the CO_2 reduction project); *see also* Nicole Franki, Note, *Regulation of the Voluntary Carbon Offset Market: Shifting the Burden of Climate Change Mitigation from Individual to Collective Action*, 48 COLUM. J. ENV'T L. 177, 186 (2022) ("Additionality is often measured against a predicted scenario of what *would* have happened without the offset project. Counterfactuals create an inherent uncertainty in how much carbon emissions are *actually* avoided, but offsets are nonetheless sold as definitive emissions credits.").

area of the forest might be destroyed instead. Once again, the certifier faces a counterfactual and can only estimate how many other areas of the forest would have been destroyed if not for the project.

More generally, ecosystems are characterized by complex interdependencies, so it is often hard to predict the effects of a given action.[207] For instance, it may seem obvious that planting a large number of trees well suited to CO_2 trapping might appear like a desirable solution, as it would contribute to reduced CO_2 in the atmosphere. However, planting lots of one kind of tree can have harmful effects, for instance by reducing biodiversity, marring existing ecosystems, and altering habitats in ways detrimental to animals and other plants.[208] Decades could elapse before it is clear that a project does not "negatively impact the natural environment."[209] How is a Verra or a Gold Standard to certify today what might be unknown for years?

Similarly, estimating methane emissions from natural gas systems is an intricate process, rife with opportunities for error and bias to creep in.[210] A fundamental issue is that the U.S. natural gas supply chain is vast and heterogeneous, with hundreds of thousands of wells and more than a million miles of transmission and distribution pipelines.[211] Polluting events like venting and flaring of gas, fugitive emissions, or the release of formation fluids can take place in a manner that is hard to predict and can originate from virtually every corner of this complex network.[212] It is no wonder that, according to an influential study, methane emissions from U.S. natural gas systems are sixty percent higher than estimated by the EPA.[213] It is hard to even know how much methane is being emitted, and even harder to discern accurately which emitters are effectively curbing emissions.[214]

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207. *See* David Tilman, *Causes, Consequences and Ethics of Biodiversity*, 405 NATURE 208, 209 (2000) (explaining that the interdependencies between factors such as soil, climate, and species composition play a major role in ecosystem function).

208. Alice Di Sacco et al., *Ten Golden Rules for Reforestation to Optimize Carbon Sequestration, Biodiversity Recovery and Livelihood Benefits*, 27 GLOB. CHANGE BIOLOGY 1328, 1328 (2021) ("[T]ree planting that is poorly planned and executed could actually . . . have long-term, deleterious impacts on biodiversity, landscapes and livelihoods."). On the consequences deriving from a loss of biodiversity *see* Tilman, *supra* note 207, at 209 ("[B]iodiversity . . . has now been shown to impact significantly upon many aspects of ecosystem functioning.").

209. *VCS Standard*, *supra* note 81, at 45.

210. Garg et al., *supra* note 95, at 10 ("Differences in spatial and temporal coverage, or in data collection and estimation methodologies, potential measurement errors, or simply different perspectives against established threshold values for health risks can partially affect the findings.").

211. *Id*.

212. *See id.* ("Venting and flaring of gas, fugitive emissions that originate from pipelines, operational devices, and system components all contribute to the GHG emissions of the industry.").

213. Ramón A. Alvarez et al., *Assessment of Methane Emissions from the U.S. Oil and Gas Supply Chain* 361 SCIENCE 186, 186 (2018) (finding that "[m]ethane emissions from the U.S. oil and natural gas supply [are] . . . ~60% higher than the U.S. Environmental Protection Agency inventory estimate"). Other studies reached similar conclusions. *See e.g.*, Jeffrey S. Rutherford et al., *Closing the Methane Gap in US Oil and Natural Gas Production Emissions Inventories*, 12 NATURE COMMC'NS, no. 4715, 2021, at 1, 1 (finding that emissions are approximately 1.8 times those reported by official estimates).

214. *See* Rutherford et al., *supra* note 213, at 1 (noting the conflicting data different methane emission studies produced).

The complexity of SBTi-certification standards is possibly even greater than that of responsible-gas certifiers. All SBTi targets need to be "in line with what the latest climate science says is necessary to meet the goals of the Paris Agreement—to limit global warming to well-below 2°C above pre-industrial levels and pursue efforts to limit warming to 1.5°C."[215] A key step in setting an SBTi target is allocating the share of global emissions that an individual entity is allowed to generate across its value chain.[216] Yet there is no "right" way to allocate emissions to single entities, and in fact the SBTi allows for the use of different procedures that lead to different results.[217] The consequences of choosing one or another allocation procedure can be huge. A methodology that allocates limited emissions to a given sector might result in massive layoffs in that sector. The allocation problem is therefore a contentious one, with ecological concerns vying against other important demands.[218] In other words, many factors will be at play in establishing what constitutes a viable, scientifically sound net-zero target, and users will be poorly positioned to interrogate them.

The complexity of the issues determines, to a large extent, whether users can verify the accuracy of green gatekeepers' certifications. For instance, investors are in a better position to verify the accuracy of certifications characterized by low complexity (e.g., Energy Star[219]) than of those characterized by high complexity (e.g., carbon offset certifications[220]). At the same time, for some certification users (i.e., consumers), it will be hard to assess the accuracy of certifications even in markets characterized by low complexity.[221]

d. Direct Reputational Constraints: Summary and Application

The discussion so far has highlighted three factors that weaken the ability and/or incentives of certification users to detect and punish false green certifications, diminishing their disciplining of green gatekeepers. First, psychological phenomena like "warm glow" and "wiggle room" increase

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215. *Science-Based Target Setting Manual. Version 4.1*, SCI. BASED TARGETS INITIATIVE 9 (Apr. 2020), https://sciencebasedtargets.org/resources/legacy/2017/04/SBTi-manual.pdf [https://perma.cc/M362-462B].

216. *See* Joachim Peter Tilsted et al., *Corporate Climate Futures in the Making: Why We Need Research on The Politics of Science-Based Targets*, ENERGY RSCH & SOC. SCI., Sept. 2023, at 1, 2 ("All SBT methods are based on global mitigation scenarios with varying regional and sectoral resolutions and one or more allocation principles that translate global (or regional or sectoral) emissions in the mitigation scenario to allowable emissions for the company in question.").

217. Anders Bjørn et al., *From the Paris Agreement to Corporate Climate Commitments: Evaluation of Seven Methods for Setting 'Science-Based' Emission Targets*, ENV'T RSCH. LETTERS, May 2021, at 1, 1 (noting that the methods approved by the SBTi "vary greatly with respect to emission allocation principles").

218. *See* Bjørn et al., *supra* note 216, at 2 ("[T]he ethical foundation for allocating global allowable emissions to individual entities is rarely clearly stated in the method documentation.").

219. Without oversimplifying things too much, the verification of Energy Star certifications requires one to measure the energy performance of a given product, something that a professional investor may delegate a verifier to do at relatively low cost. *What Makes a Product ENERGY STAR?*, *supra* note 132.

220. *See supra* notes 204–209 and accompanying text (discussing the complexity of carbon offset certifications).

221. *See* Darnall et al., *supra* note 69, at 954 (explaining the difficulty that consumers have in assessing green certifications).

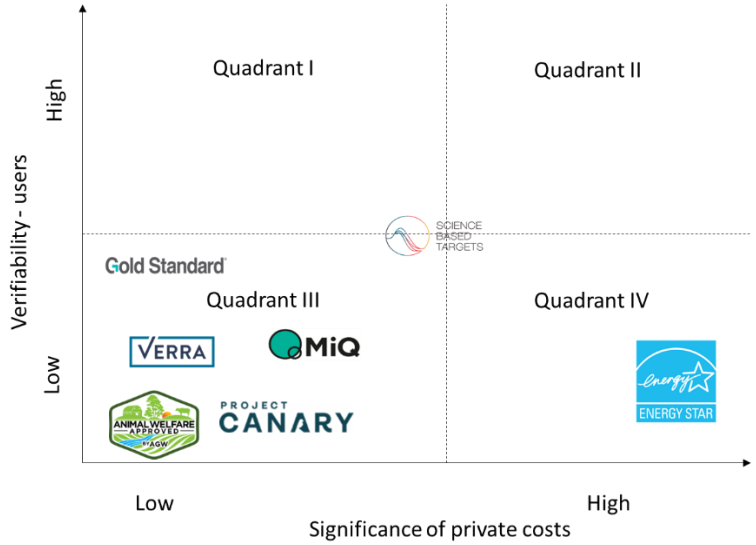
users' incentives to take green certifications—even those of dubious veracity—at face value. Second, for many of the green certifications, users suffer insignificant private costs when relying on inaccurate ones, limiting their incentives to question certification accuracy. Finally, in many cases certification users may not be able to assess the accuracy of green certifications, even ex-post. Importantly, for direct reputational sanctions to operate effectively, certification users need to have *both* the incentives and the ability to assess the accuracy of certifications. It hardly matters that certification users have the incentives to assess the accuracy of the certification if they lack the ability to do so. Similarly, it matters little that certification users can assess the quality of certifications if they lack incentives to do so. Accordingly, in Figure 1 we classify green gatekeepers based on two dimensions: (1) the significance of private costs for users relying on inaccurate certifications and (2) the verifiability of green certifications by users, which is inversely correlated to their complexity. Direct reputational mechanisms are likely to work effectively only for those green gatekeepers that belong to Quadrant II in Figure 1, namely those for which verifiability by users and private costs are high. However, we suggest that very few green gatekeepers belong to Quadrant II.

Rather than belonging to Quadrant II, green gatekeepers will generally belong to Quadrants III and IV. For instance, it is virtually impossible for consumers to verify animal welfare certifications.[222] At the same time, consumers purchasing animal welfare-certified products bear no private cost if they unknowingly rely on inaccurate claims and are likely to feel a sense of warm glow—or at least will have more wiggle room. This suggests that green gatekeepers might have incentives to apply lax standards and "sell" wiggle room and warm glow feelings instead of expending resources in monitoring whether animals are truly treated well. A similar conclusion applies to responsibly sourced gas certifications and carbon offsets,[223] since certification users face no private costs and have no means to verify the certified claims. These gatekeepers belong to Quadrant III in Figure 1.

222. *See* Olynk et al., *supra* note 159, at 440.

223. Carbon offsets are generated by activities carried outside the value chain of the corporation purchasing them to achieve its net zero targets. Therefore (absent regulatory licenses), they are unlikely to affect a corporation's transition risk and hence to affect the risk faced by investors who purchase shares in the corporation.

Figure 1:
Classification of green gatekeepers based on the verifiability of their certifications *by certification users* and the significance of private costs



On the contrary, reliance on inaccurate Energy Star certifications entails a private cost for users, because it results in higher energy costs.[224] If this private cost is substantial,[225] certification users would have incentives to assess the accuracy of these energy efficiency certifications. However, most users, such as consumers and retail investors, would still lack the ability to do so. Such users would struggle to isolate the incremental effect of an inefficient appliance on their electricity bill, and they are unlikely to succeed in identifying inaccurate certifications. As a result, direct reputational sanctions may also be ineffective in this context. That explains why we assign gatekeepers under the Energy Star rating system to Quadrant IV in Figure 1.

Reputational sanctions may work slightly better for the SBTi certifications. They are mostly aimed at investors, which, we suggest, tend to be more sophisticated than consumers and, correspondingly, modestly better able to verify certification accuracy. Accordingly, we would position users' capacity to verify SBTi certifications as between low and high. In addition, inaccurate

224. As discussed in Part I.B.1.b, while users commonly incur insignificant private costs when relying on false green certifications, this is not universally the case; variations do exist.

225. According to recent estimates, annual energy costs per capita were $3,967, which suggests that even small percentage savings can have a significant impact on a household's budget. *See* Ctr. for Sustainable Sys., *supra* note 130.

certifications may lead investors to underestimate transition risk and, hence, to make portfolio choices misaligned with their (climate) risk management models.[226]

In sum, various factors diminish the ability and incentives of users to punish false gatekeeper certifications. Applying these factors allows us to distinguish among green gatekeepers. We build on these distinctions in Part III to frame the question of whether and, if so, how gatekeepers should be regulated.

2. Indirect Reputational Constraints: Ancillary Private Players

In capital markets, sophisticated actors like informed traders are powerfully motivated to scrutinize gatekeepers' certifications. Seeking to protect their self-interest, these ancillary players increase the likelihood that gatekeeper failures come to light, giving force to reputational constraints.[227] Moreover, researchers and the media can report scandals that would tarnish the reputation of gatekeepers. We argue that in many instances the action of these private players may not effectively discipline green gatekeepers.

For one thing, as discussed above,[228] green certifications are often too complex to police effectively. Indeed, we need not rely on speculation alone: real cases demonstrate the limitations of relying on ancillary private players to police green gatekeepers.

Two research groups recently analyzed two subsets of projects certified by Verra and coincidentally analyzed twelve of the same projects.[229] One study found that deforestation or degradation was lower than certified by Verra in four of these twelve projects, whereas the other found that deforestation was lower than certified by Verra in eleven of these projects.[230] Then, a group of

226. Suppose that an investment fund's risk management models suggest allocating 90 percent of its assets to shares of companies that align to a 2050 net zero target, based on reasonable assumptions on the likelihood of transitioning to a net-zero economy around that date. If SBTi certifications are inaccurate, the fund may end up investing more than it had planned in companies with a higher transition risk. Allocating assets in a way that is inconsistent with an investor's risk management choices entail a cost because it increases the likelihood of unintended exposure to risks that are not adequately managed or anticipated. This can lead to potential losses, higher volatility, and reduced portfolio performance. Additionally, such misalignment might require corrective actions later, which could incur additional transaction costs and lost opportunities. *See* Armour et al., *supra* note 118, at 290.

227. *See* Holger Spamann, *Indirect Investor Protection: The Investment Ecosystem and Its Legal Underpinnings*, 14 J. LEG. ANALYSIS 16, 34–38 (2022) (explaining mechanisms investors use to protect themselves).

228. *See supra* Part II.B.3.

229. *See* Thales A. P. West et al., *Overstated Carbon Emission Reductions from Voluntary REDD+ Projects in the Brazilian Amazon*, 117 PROCEEDINGS NAT'L ACAD. SCIS. 24188 (2020); *see also* Thales A.P. West et al., *Action Needed to Make Carbon Offsets from Tropical Forest Conservation Work for Climate Change Mitigation*, 381 SCIENCE 873 (2023); *see also* Alejandro Guizar-Coutiño et al., *A Global Evaluation of the Effectiveness of Voluntary REDD+ Projects at Reducing Deforestation and Degradation in the Moist Tropics,* CONSERVATION BIOLOGY, Dec. 2022, at 1 (2022).

230. *Technical Review of West et al. 2020 and 2023, Guizar-Coutiño 2022, and Coverage in Britain's Guardian*, VERRA 16–17 tbls.4 & 5 (2023) [hereinafter *Technical Review of Studies*], https://verra.org/wp-content/uploads/2023/03/
Technical-Review-of-West-et-al.-2020-and-2023-Guizar-Coutino-2022-and

leading environmental scientists released a vehement rebuttal of the findings of one of these studies, in which they concluded that "flawed analysis of 24 projects unfairly condemned all . . . REDD projects, and risks cutting off finance for protecting vulnerable tropical forests from destruction at a time when funding needs to grow rapidly."[231]

Based on the studies finding flaws in Verra's certifications, in January 2023, The Guardian, Die Zeit, and SourceMaterial, a non-profit investigative outlet, published an extremely influential exposé of Verra, reporting that over ninety percent of rainforest carbon offsets it had certified "[did] not represent genuine carbon reductions."[232] This report overlooked the nuances embedded in the academic studies and thus painted an inaccurate and overly pessimistic description of Verra's work.

As this example shows, for the media it is virtually impossible to navigate the complexity and uncertainty associated with green gatekeepers' certifications. In turn, this dilutes their ability to incentivize green gatekeepers to issue accurate certifications. To understand why, consider the case in which complexity is so high that the media would be no more accurate than a coin flip when assessing the accuracy of green gatekeepers' certifications. In this context, the green gatekeeper has two strategies, neither of which involves accurately vetting environmental claims. If the cost of the expected reputational sanction is higher than the fees the gatekeeper can collect,[233] then it will issue no certifications. If, instead, the cost of the expected reputational sanction is lower than the fees the gatekeeper can collect, then it could certify all green claims irrespective of their accuracy.

To put it differently, effectively deterring greenwashing requires that ancillary market players can discriminate genuine certifications from bad with a good degree of accuracy. In many cases, this condition may not hold.

Even in instances where complexity is lower, and hence we can expect a higher rate of agreement concerning which certifications are inaccurate, we should not expect scientific evidence of greenwashing to be dispositive in fostering accountability. This is because evidence does not accomplish anything on its own. It must reach certification users and influence them. Yet, as we have seen, certification users might have weak incentives to learn about inaccurate certifications.[234]

-coverage-in-Britains-Guardian-Verra.pdf [https://perma.cc/EL5V-LA3M] (table showing findings of REDD+ projects).

231. Edward T.A. Mitchard, et al., Serious Errors Impair an Assessment of Forest Carbon Projects: A Rebuttal of West et al. (2023) (Swiss Fin. Inst., Research Paper Series No. 23-120, 2023), https://papers.ssrn.com/sol3/papers.cfm ?abstract_id=4661972 [https://perma.cc/73NV-2EXM]; Edward Mitchard et al., *Don't Just Focus on Emissions Removal*, NATURE, Apr. 4, 2024, at 36, 36. "REDD" stands for "Reducing emissions from deforestation and forest degradation in developing countries." *See What is REDD+?*, UNITED NATIONS CLIMATE CHANGE, https://unfccc.int/topics/land-use/workstreams/redd/what-is-redd [https://perma.cc/CCG6-5C4B].

232. Patrick Greenfield, *Revealed: More Than 90% of Rainforest Carbon Offsets by Biggest Certifier Are Worthless, Analysis Shows*, GUARDIAN (Jan. 18, 2023), https://www.theguardian.com/environment/2023/jan/18/revealed-forest
-carbon-offsets-biggest-provider-worthless-verra-aoe#:~:text=The%20research
%20into%20Verra%2C%20the,companies%20–%20are%20likely%20to%20be%
20 [https://perma.cc/7Z5D-HEDG].

233. In the case of media, the sanction would be reputational in nature.

234. *See supra* Part II.B.1.a.

A further challenge is that for scientists, journalists, and NGOs, detailed investigations of green certifications can be costly and time-consuming and provide limited financial benefits. Consider, again, the case of Verra, which relies on a complex combination of satellite imaging, remote sensing and ground-truthing in order to construct its certifications.[235] Replicating these methods may prove prohibitively costly for researchers. Hence, Verra will have plenty of room to defend itself on the grounds that critics are not adopting sufficiently advanced methods. This will deter investigators in the first place. Moreover, the financial benefits that researchers can reap are limited, further discouraging expensive inquiries. A scholar who publishes a scientific article exposing greenwashing may at best earn some prestige and possibly a modest increase in expected salary. But these benefits are likely small and uncertain compared to the cost of the research itself. Therefore, there is likely to be an under-supply of inquiries into the activity of green gatekeepers.[236]

In sum, other ancillary private players, among them NGOs, media, and scientists, will often lack the incentives or ability to do so. To the extent these actors fail to reveal inaccurate green certifications, they cannot effectively prop up the ability of certification users to discipline gatekeepers.

C. MAPPING THE ORGANIZATIONAL CHOICES OF GREEN GATEKEEPERS

In the previous Section, we explained why market-based reputational mechanisms are likely to weakly constrain green gatekeepers.[237] We suggest that green gatekeepers therefore often have weak incentives to issue accurate certifications.

That said, green gatekeepers can make some organizational choices to signal their intention to issue accurate certifications instead of profiting from the imperfect market-based reputational mechanisms they face. First, green gatekeepers can adopt a non-profit form. The non-profit form is particularly appropriate for organizations whose products consumers cannot assess.[238] This is because those in charge of non-profits have relatively weak incentives to exploit information asymmetries due to the limitations they face in reaping any resulting profits.[239] For this reason, a non-profit green gatekeeper may be less inclined to apply lax standards to its certifications, which would facilitate greenwashing and thus increase its profits thanks to higher revenues and lower costs. That

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235. *Setting the Standard: Verra's Revolutionary New REDD Methodology*, VERRA (Nov. 27, 2023), https://verra.org/program-notice/setting-the-standard
-verras-revolutionary-new-redd-methodology [https://perma.cc/76RV-A5BU] (explaining Verra's new REDD methodology).

236. To be sure, this is not to say that scientists, journalists and NGOs investigating green gatekeepers do not perform an important function. Scientific studies and investigative journalism absolutely can uncover greenwashing and, as we suggest in Part III, in some cases subsidies in their favor may be justified. However, even in such cases, their activities would be no panacea. *See infra* text preceding note 305.

237. *See supra* Part II.B.

238. Henry B. Hansmann, *The Role of Nonprofit Enterprise*, 89 YALE L.J. 835, 843–44 (1980) (discussing the advantages of the non-profit form when consumers cannot asses the quality of the product).

239. *Id*. at 844).

is more likely to be true in those cases where certification users suffer no private costs and therefore are less likely to react to inaccurate claims.[240]

Further, green gatekeepers can involve a wide array of stakeholders (such as relevant community members and workers' associations) when defining the standards. Finally, they may disclose both the standards they apply and/or the results of the verification carried out to determine whether such standards are met. In particular, disclosing information about the standard setting and verification processes may allow academics, NGOs, and the media to assess the quality of certifications and identify ways to improve their functioning.

Essentially, by choosing to be non-profit and open, a green gatekeeper can adopt constraints that the market is unlikely to adequately provide. So, how many green gatekeepers have chosen non-profit status and, even more importantly, transparency? To ascertain whether green gatekeepers self-regulate in these ways, we rely on the widely used Ecolabel Index, which contains information on 456 green gatekeepers operating in twenty-five industries,[241] and on hand-coded data. While the dataset is not exhaustive,[242] it offers a high-resolution snapshot of a wide array of green gatekeepers. We note that, among the green gatekeepers listed on Ecolabel Index, significantly more adopted the non-profit form (225) than the for-profit form (95).[243]

To assess the openness of the indexed gatekeepers, we create a transparency score. We assign one point to green gatekeepers when their standards are defined after consultations with external stakeholders like communities, workers' associations, unions, and so on, and zero points otherwise. Further, we assign one point to green gatekeepers that publicly disclose their standards, and zero points to those that do not. Finally, we assign one point to those that publicly disclose verification audits, and zero points to those that do not.

We observe that non-profit green gatekeepers tend to be more transparent than their for-profit counterparts. Over 42% of for-profit green gatekeepers received a transparency score of zero, as compared to 26.2% of non-profits. Not one of the ninety-six for-profit green gatekeepers received a perfect score of three, whereas eight non-profit ones received such score. Overall, about 21.8% of non-profits received a score of two or three, compared to 12.5% of for-profits.

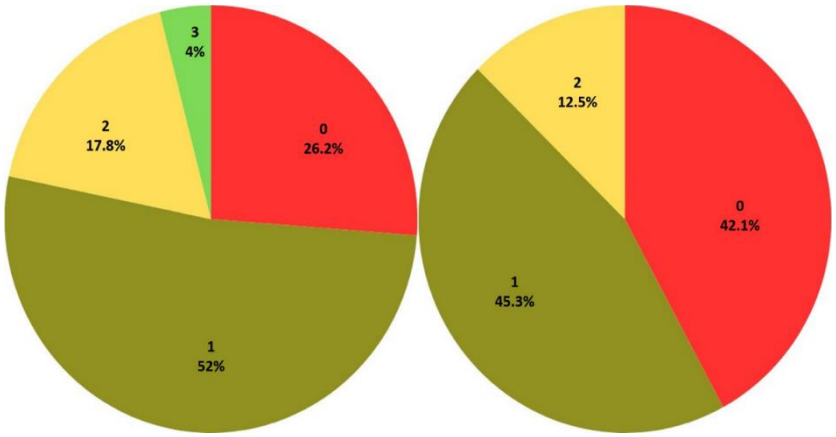
240. When the opposite is true, and complexity is low, even shareholders in for-profit firms may well have sufficient incentives to make sure that accuracy is not compromised.

241. ECOLABEL INDEX, https://www.ecolabelindex.com/ecolabels [https://perma.cc/H4F8-UTGU].

242. For instance, it does not include important green gatekeepers such as ESG rating agencies, carbon rating agencies, or even the SBTi.

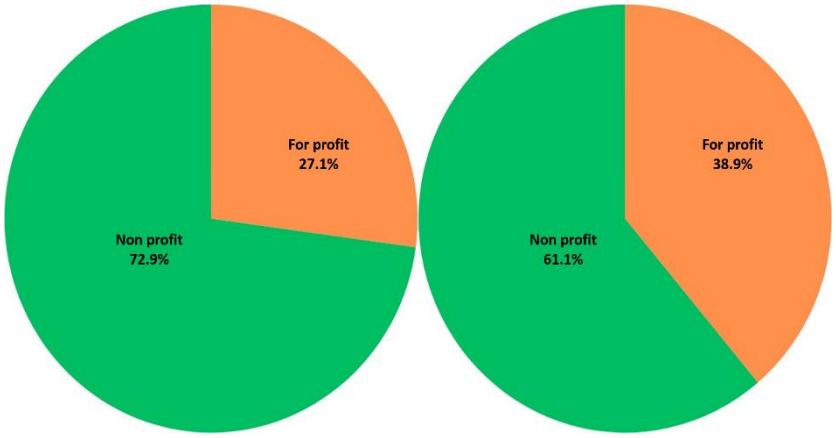
243. The remaining green gatekeepers are either governmental or industry associations. ECOLABEL INDEX, *supra* note 241.

Figure 2:
Transparency Scores of Non-Profit Green Gatekeepers (Left Panel) and of For-Profit Green Gatekeepers (Right Panel)



Further, we hand-coded all green gatekeepers depending on whether a certification user who unknowingly relies on an inaccurate certification can be expected to bear a private cost. We code certifications as having significant private costs whenever the respective green claim relates to health (e.g., lower indoor volatile organic compound emissions or less pesticide used in food) or when they indicate that there are cost savings associated with the respective green claim (e.g., energy-efficient appliances) and as having no significant private costs whenever the certification exclusively relates to environmental claims (e.g., carbon footprint, preserving sea species).[244] Tellingly, as Figure 2 shows, the non-profit form is chosen more frequently by green gatekeepers issuing certifications that do not impose significant private costs on users relying on inaccurate certifications (72.4% versus 61.1%).

Figure 3:



Percentage of Green Gatekeepers that have adopted a non-profit and a for-profit form among those whose inaccurate certifications impose a private cost (left panel) and those whose inaccurate certifications do not impose a private cost (right panel)

244. Note that we code organic certifications as having no significant private costs because the health benefits of organic food are, to the best of our knowledge, heavily disputed. *See, e.g.*, Anne Lise Brantsæter et al., *Organic Food in The Diet: Exposure and Health Implications*, 38 ANN. REV. PUB. HEALTH 295, 296–97 (2017) (reviewing studies on the health implications of organic food and concluding that the health benefits are "not clear").

Table 1 confirms that for-profit green gatekeepers are significantly less transparent than non-profit ones. Further, it suggests that there are only marginal differences in average transparency between the cases in which inaccurate certifications impose private costs and the cases in which they do not.

Table 1. Average Transparency Scores of Green Gatekeepers

Type	Average Transparency Score
For profit—no private costs	0.7
For profit—private costs	0.75
Non-profit—no private costs	0.98
Non-profit—private costs	1.05

III. WHETHER AND HOW TO REGULATE GREEN GATEKEEPERS: THE STATUS QUO AND A FRAMEWORK FOR (IN)ACTION

Part II has highlighted the circumstances in which reputational constraints may be insufficient to deter firms' greenwashing and inaccurate green certifications. With that analysis in mind, we now ask: under what conditions is the regulation of green gatekeepers justified? And, if and when it is justified, what shape(s) should it take?

We begin our analysis by briefly describing the existing regulatory framework governing firms that make green claims, including claims certified by gatekeepers, arguing that direct regulation (that is, firm liability) is unlikely to effectively deter the making of inaccurate green claims. We then propose policy-relevant dimensions for distinguishing among green gatekeepers. Based on this framework, we propose a mix of policy responses and explore how they would apply to the sample of green gatekeepers services markets introduced in Section II.A.

A. WHETHER TO REGULATE GREEN GATEKEEPERS: THE STATUS QUO

Claims certified by green gatekeepers can be aimed at consumers, investors, or both. This will determine the laws that are applicable to those claims and to the certifications issued by the green gatekeepers.

1. Claims Aimed at Consumers

When green claims are aimed at consumers, Section 5 of the Federal Trade Commission Act, which forbids "unfair or deceptive acts or practices in or affecting commerce,"[245] is critical. This prohibition applies to all persons engaged in commerce and accordingly governs environmental claims marketed to consumers. The Federal Trade Commission (FTC) has set out its "current thinking" on the provision's application to environmental marketing claims in its "Green Guides,"[246] which provide general principles and specific guidance, together with examples of impermissible conduct concerning the use of certifications in environmental marketing. Although the Guides are non-binding on the FTC,[247] conduct inconsistent with them may qualify as "unfair or deceptive" under the statute and therefore warrant FTC enforcement action.[248] The Guides, therefore, help fix the bounds of permissible conduct under federal law for the environmental marketing of products.

The Guides warn marketers against making "broad, unqualified general environmental benefit claims, like 'green' or 'eco-friendly'" and caution that marketers should be able to "substantiate all reasonable interpretations" of their claims.[249] Under the Guides, third-party certifications do "not eliminate a marketer's obligation to ensure that it has substantiation for all claims reasonably communicated by the certification."[250] Having a reasonable basis for claims "often requires competent and reliable scientific evidence," consisting of "tests, analyses, research, or studies that have been conducted and evaluated in an objective manner by qualified persons and are generally accepted in the profession to yield accurate and reliable results."[251] The Guides also require marketers to disclose "material connections" with certifiers that might undermine the credibility of certifications.[252] These connections do not include fees paid by firms to certifiers for the purpose of certification, which consumers would expect the certifier to charge.[253]

Importantly for our purposes, the statute directly deters inaccurate green claims by issuers as opposed to inaccurate certifications by gatekeepers. Since the Guides cover green claims in *marketing* materials, they apply overwhelmingly to producers, the primary promoters of products to

245. Federal Trade Commission Act § 5, 15 U.S.C. § 45. The FTC is itself empowered "to prevent persons, partnerships or corporations . . . from using . . . unfair or deceptive acts or practices in or affecting commerce." 15 U.S.C. § 45(a)(2).

246. 16 C.F.R. §§ 260.1–.17 (2024); FTC, *Environmentally Friendly Products: FTC's Green Guides*, https://www.ftc.gov/news-events/topics/truth-advertising/green-guides [https://perma.cc/V7WW-KBMX].

247. 16 C.F.R. § 260.1(a).

248. The FTC must then prove that the conduct is unfair or deceptive in violation of Section 5. *See* 15 U.S.C. § 45; 16 C.F.R. § 260.2.

249. Guides for the Use of Environmental Marketing Claims, 77 Fed. Reg. 62,122, 62,122 (codified at 16 C.F.R. pt. 260) ("The final Guides caution marketers not to make unqualified general environmental benefit claims because 'it is highly unlikely that marketers can substantiate all unreasonable interpretations of these claims.'" (quoting 16 C.F.R. 260.4(b))).

250. 16 C.F.R. § 260.6(c).

251. 16 C.F.R. § 260.2.

252. 16 C.F.R. § 260.6 (example 8).

253. Guides for the Use of Environmental Marketing Claims, 60 Fed. Reg. at 62,122.

consumers. The obligations are stated to be those of the firm marketing the products.[254] Unless gatekeepers are considered to make green statements themselves, they are unlikely to run afoul of the Guides.

The Guides have little real-world capacity to deter greenwashing. The fact is that FTC enforcement against firms has been limited, as the Commission is reluctant to be seen as setting environmental policy and may lack expertise in environmental matters.[255] Between 2000 and 2010, the FTC brought only three enforcement actions for violation of the Guides, all of them against producers.[256] And when updating the Guides in 2012, the Commission declined to define "net zero," "carbon neutral," "low carbon," and other commonly used carbon-related terms, despite acknowledging that producers had been misrepresenting their products using these terms.[257] The FTC based its decision in part "on a concern that doing so would exceed its authority and result in environmental policy-making."[258] The Commission brought forty-two enforcement actions for violations

254. 16 C.F.R. § 260.6 (each example concerning third-party certifications suggests that only the marketer faces the risk of violating Section 5).

255. *See* Jessica E. Fliegelman, *The Next Generation of Greenwash: Diminishing Consumer Confusion Through a National Eco-labeling Program*, 17 FORDHAM URB. L.J. 1001, 1037–45 (2010) (explaining why the FTC tends to stay out of enforcing violations related to green claims); *see also* Robin M. Rotman et al., *Greenwashing No More; The Case for Stronger Regulation of Environmental Marketing*, 72 ADMIN. L. REV. 417, 422 (2020) (noting that the FTC has "problems" with enforcement and suffers from "limited investigation, enforcement, and legal resources").

256. Fliegelman, *supra* note 255, at 1042.

257. States of CA et al., Comment Letter on Green Guides Review 15 (Apr. 24, 2023) https://www.doj.state.wi.us/sites/default/files/news-media/Comments %20to%20FTC%20re%20Green%20Guides%204.24.23.pdf [https://oag.ca.gov/system/files/attachments/press-docs/Comments%20to%20FTC%20re%20Green%20Guides%204.24.23.pdf] [https://perma.cc/HT5T-28XD] ("[T]hough the FTC recognized in 2012 that, in many instances, marketers may be improperly claiming something akin to a carbon offset by touting either a specific product or their entire operation as carbon neutral, the FTC declined to provide definitions for such carbon-related terms.").

258. *Id.*; *see also* Fed. Trade Comm'n, *The Green Guides: Statement of Basis and Purpose* 70 (2012), https://www.ftc.gov/sites/default/files/attachments/ press-releases/ftc-issues-revised-green-guides/greenguidesstatement.pdf [https ://perma.cc/VQ4W-8DEC] ("The Commission agrees with commenters that more detailed guidance [on carbon offsets] would place the FTC in the inappropriate role of setting environmental policy.").

of the guides from 2013 to 2020,[259] although since 2014, such actions have "steadily dwindled,"[260] with the FTC bringing two to five cases annually from 2015-19 and no cases in 2020.[261] Since 2020, the FTC appears to have brought only two actions,[262] namely against Kohl's and Walmart, that resulted in fines of $2.5 million and $3 million, respectively—"by far," in the FTC's own words, the largest penalties it has ever imposed for deceptive environmental claims but quite modest relative to the sizes of these firms.[263] In December 2022, the Commission announced that it would update the Guides in response to consumers' greater interest in environmentalism and the

259. The FTC brought forty-two such actions between 2013 and 2020. *See* Cases Tagged with Environmental Marketing, FED. TRADE COMM'N, https://www.ftc.gov/enforcement/cases-proceedings/terms/1408?page=0 [https://perma.cc/8BED-G6YZ]. According to a prominent law firm, "[i]n the typical enforcement action under Section 5 [of the FTC Act], the FTC will seek to enjoin the allegedly deceptive or misleading marketing material. Ordinarily, the FTC will only demand monetary penalties if an existing order or agreement is breached." *Is Your Green Marketing Deceptive? Look to the FTC Green Guides to Limit the Risk of an FTC Enforcement Action*, VINSON & ELKINS (March 24, 2021), https://www.velaw.com/insights/is-your-green-marketing-deceptive-look-to-the-ftc-green-guides-to-limit-the-risk-of-an-ftc-enforcement-action [https://perma.cc/69T6-WYNK]. Outlier cases exist, such as the multi-billion Volkswagen settlement in the wake of its 2017 emissions scandal. *Id.*

260 Christian Robledo, *An American Dream Gone Green: A Discussion of Existing Environmental Marketing Regulations and the Need for Stricter Regulation*, 38 TOURO L. REV. 937, 957 (2022) ("For approximately two years after the 2012 revision of the FTC Green Guides, the FTC was rather active in its enforcement actions, at least compared to the present. … Since then, however, the number of enforcement actions has, unfortunately, steadily dwindled.").

261 *Id*. ("From 2015-2019, the FTC only filed between two to five cases per year. In the years 2020 and 2021, the FTC did not file a single case against corporate greenwashers.").

262 In its list of cases brought under the Green Guides, the FTC reports no actions since 2022. FED. TRADE COMM'N, https://www.ftc.gov/enforcement/cases-proceedings/terms/1408?page=0 [https://perma.cc/8BED-G6YZ].

263. Press Release, Fed. Trade Comm'n, FTC Uses Penalty Offense Authority to Seek Largest-Ever Civil Penalty for Bogus Bamboo Marketing from Kohl's and Walmart (Apr. 8, 2022), https://www.ftc.gov/news-events/news/press-releases/2022/04/ftc-uses-penalty-offense-authority-seek-largest-ever-civil-penalty-bogus-bamboo-marketing-kohls [https://perma.cc/CAF8-LU2Q] ("The Commission has asked the court to order Kohl's and Walmart to stop making deceptive green claims or using other misleading advertising, and pay penalties of $2.5 million and $3 million, respectively, by far the largest penalties in this area."); *see* Complaint at 3–12, United States v. Walmart Inc., No. 1:22-00965 (D.D.C. Apr. 8, 2022) (describing Walmart's false bamboo claims in promoting sheets, towels, blankets, and nursing bras, deceptively marketing them as environmentally sustainable); *see also* Stipulated Order and Judgment for Civil Penalties, Permanent Injunction, and Other Relief at 4–5, 9, United States v. Kohl's Inc., No. 1:22-cv-00964 (D.D.C. Apr. 8, 2022) (ordering Kohl's to pay $2.5 million in fines after falsely advertising a number of its products as environmentally friendly and made from bamboo, as opposed to made of rayon). As to the sizes of these companies, Kohl's generated over $16.5 billion in revenue and $317 million in profit in 2023. *See* Kohl's Corporation, Form 10-K for the fiscal year ended Feb. 3, 2024, 40, https://d18rn0p25nwr6d.cloudfront.net/CIK-0000885639/7a0ff164-ef68-4fc8-816c-63a21ee54860.pdf. The corresponding figures for Walmart in 2023 are $648 billion and $15.5 billion. *See* Walmart Inc., Form 10-K for the fiscal year ended Jan. 31, 2024, at 54, https://d18rn0p25nwr6d.cloudfront.net/CIK-0000104169/b9745621-712b-43d0-b8e9-5cf33db255e3.pdf.

credence quality of claims.[264] But given the extreme complexity of environmental issues, the sheer number of green claims, and the FTC's understandable reluctance to engage in environmental policymaking by defining the standards that green claims should meet, it is unreasonable to expect the agency to make significant strides toward deterring inaccurate green claims or false certifications.

Other laws may also target inaccurate green claims; for example, state consumer protection laws may also govern green claims.[265] Dedicated regimes may apply to specific green claims, such as those regarding organic foods.[266] Common law rights of action may also exist.[267] Yet, commentators regard the FTC regime as the strongest broadly applicable regulation that directly deters inaccurate green claims.[268]

In sum, firm liability appears unlikely to effectively deter the making of inaccurate green claims aimed at consumers. Although the FTC Act and Guides target greenwashing, the FTC has appeared reluctant to bring enforcement actions for violating the Guides and be seen as setting environmental policy, resulting in the Guides having little practical capacity to deter greenwashing. Other consumer laws do not appear to have picked up the slack.

2. Claims Aimed at Investors

False green claims aimed at investors are also probably insufficiently deterred by producer or firm liability.

Liability for such claims would arise under provisions intended to ensure the accuracy and completeness of information provided to investors. Section 11 of the Securities Act imposes strict liability on firms for material misstatements in or omissions from registration statements,[269] which are documents used by firms to offer securities to the public.

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264. Statement of Chair Lina M. Khan Regarding the Regulatory Review of the Guides for the Use of Environmental Marketing Claims, Commission File No. P954501, FED. TRADE COMM'N (Dec. 14, 2022), https://www.ftc.gov/system/files/ftc_gov/pdf/statement_of_chair_lina_m._khan_re_green_guides_-_final.pdf [https://perma.cc/9GNV-4L5X] ("[One of the drivers of consumers' choice] increasingly seems to be environmental impact . . . . For the average consumer, it's impossible to verify these claims. People who want to buy green products generally have to trust what it says on the box . . . . That's why the Commission is commencing a regulatory review of the guides.").

265. For a recent overview of these laws, *see* Shanor & Light, *supra* note 12, at 2070 (describing state consumer protection laws prohibiting false and deceptive advertising).

266. The National Organic Program in the Organic Foods Product Act establishes standards for the production of organic foods. Organic Foods Production Act, 7 U.S.C. §§ 6501–6524. Administered by the US Department of Agriculture (USDA), the statute also creates an organic certification scheme. *See id*.

267. Consumers might allege, for example, misrepresentation, breach of contract, and unjust enrichment. *See, e.g.*, Munoz v. LG Electronics U.S.A., Inc., No. 17-cv-01176, 2017 WL 11549981 (N.D. Cal. Nov. 10, 2017).

268. *See generally* Shanor & Light, *supra* note 12, at 2061–75 (describing the FTC's regulatory scheme and broad reaching legal authority); Nick Feinstein, Note, *Learning from Past Mistakes: Future Regulation to Prevent Greenwashing*, 40 B.C. ENV'T. AFF. L. REV. 229, 241–42, 255–56 (2013) (detailing the broad power under the FTC Act granted to the FTC and the agency's Green Guides regulations as "the most feasible and appropriate choice for future regulations").

269. *See* Securities Act of 1933 § 11(a), 15 U.S.C. § 77k(a).

Imposing strict liability on firms ought to optimally deter the making of false claims, leaving no justification for gatekeeper regulation. However, Section 11 has significant limitations, especially regarding green claims. First, the provision's scope is limited to disclosure errors in registration statements.[270] This leaves the vast majority of claims by issuers—on websites, in sustainability reports, and other materials—beyond reach. Indeed, because Section 11 covers only registration statements, firms have incentives to avoid disclosing sustainability matters in registration statements in the first place. For instance, rather than disclosing their ESG ratings in registration statements, firms disclose them to investors in other materials, sidestepping Section 11 altogether.[271] While recently adopted climate-related disclosure rules require new environmental disclosures in registration statements, the legality of these rules is in doubt, and their operation has been stayed by the SEC pending resolution of their legality.[272]

A second reason Section 11 insufficiently deters false green claims is that if expressed as projections or estimates, as they often are, green claims may be protected from liability for securities fraud by statutory safe harbors.[273] If forward-looking statements are identified as such and accompanied by meaningful cautionary language, they fall within the bounds of a safe harbor.[274] Such cautionary language is "routinely found in corporate disclosures relating to climate risk."[275]

Finally, false green claims may lack materiality, a requirement under Section 11. To be material, information must be "viewed by the reasonable investor as having significantly altered the 'total mix' of information made available."[276] Even misleading claims may lack materiality. As explained above, the exposure of false green claims may not harm shareholders at all or may not cause harm sufficient to satisfy the materiality threshold.[277] Environmental claims may be treated as puffery, opinion, vague, or lacking in specificity and thus immaterial to investor decision-

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270. *Id*.

271. Under Section 11, issuers are generally not subject to liability for accurately reporting third-party opinions such as credit ratings in registration statements "so long as the ratings were honestly made, had some basis, and did not omit critical information." Plumbers' Union Local No. 12 Pension Fund v. Nomura Asset Acceptance Corp., 632 F.3d 762, 775-76 (1st Cir. 2011). Nevertheless, issuers and underwriters have not included their ESG ratings in registration statements in order to avoid the threat of Section 11 liability. *See* Alexander Coley, *ESG Ratings: A Blind Spot for US Securities Regulation*, 43 NW. J. INT'L L. & BUS. 1, 32-34 (2022). *See also id*., at 46-47 (claiming that "underwriters can rest easy about their … statutory liability exposure [under Section 11]" as long as "ESG ratings are excised from the registration statement").

272. *See* The Enhancement and Standardization of Climate-Related Disclosures for Investors, 89 Fed. Reg. 21,668, 21,668 (Mar. 28, 2024) (to be codified at 17 CFR pts. 210, 229, 230, 232, 239, 249); The Enhancement and Standardization of Climate-Related Disclosures for Investors; Delay of Effective Date, 89 Fed. Reg. 25,804, 25,804 (Apr. 12, 2024) (announcing the final SEC rules "requir[ing] registrants to provide certain climate-related information in their registration statements and annual reports" would be "delayed pending the completion of judicial review in consolidated proceedings in the Eighth Circuit").

273. Securities Act of 1933 § 27A, 15 U.S.C. § 77z-2.

274. *See* Armour et al., *supra* note 118, at 312 n.127.

275. *Id.* at 312.

276. Basic Inc. v. Levinson, 485 U.S. 224, 232 (1988).

277. *See supra* Part II.B.1.b.

making.[278] If that occurs, then the claim would not be subject to Section 11 liability, even if it is demonstrably false. Thus, false green claims may often escape liability under Section 11.

Firms may also face liability for inaccurate green claims under Section 10(b) of the Securities Exchange Act[279] and the rule through which it is implemented, Rule 10b-5.[280] As the broadest rule in the securities regulatory arsenal, Rule 10b-5's reach extends well beyond registration statements, including statements made by means of the financial media, but its force is limited by both a scienter requirement—requiring recklessness or an intent to deceive, manipulate, or defraud[281]—and a materiality requirement.[282] And just as meaningful cautionary language protects forward-looking statements from liability under Section 11, so too does such language ensure the statutory safe harbors protect forward-looking statements from liability under Rule 10b-5.[283]

How forcefully does the federal securities regime deter false green claims? In practice, neither Section 11 nor Rule 10b-5 would seem to have a sufficiently strong deterrent effect on firms to remove a potential role for gatekeeper liability. Indeed, federal securities law appears to recognize this: its structure implies that gatekeeper liability is justified, which is also an implicit admission that primary liability fails to optimally deter securities fraud.[284] Recognizing the need for gatekeeper liability—that is, the insufficiency of primary liability in deterring securities fraud—Section 11 imposes liability not only on firms but also on specified third parties, including underwriters, auditors, and other experts "whose profession gives authority to a statement made by [them]."[285] Nothing in the terms of Rule 10b-5 prevents it from applying to gatekeepers, although their conduct infrequently attracts liability under the rule.[286]

In summary, whether aimed at consumers or investors, greenwashing appears inadequately deterred. To be sure, this conclusion is less robust for claims affecting both groups, as when a

278. *See* Shanor & Light, *supra* note 12, at 2071–72.

279. Securities Exchange Act of 1934 § 10(b), 15 U.S.C. § 78j(b) (prohibiting "any manipulative or deceptive device" "in connection with the purchase or sale of any security" in violation of the codified SEC rules).

280. 17 C.F.R. § 240.10b–5 (2024) (prohibiting fraud or deceit in connection with the purchase or sale of any security).

281. *Id*.; Ernst & Ernst v. Hochfelder, 425 U.S. 185, 193 n.12 (1976) ("In this opinion the term 'scienter' refers to a mental state embracing intent to deceive, manipulate, or defraud.").

282. 17 C.F.R. § 240.10b-5 (forbidding, among other things, the making of "any untrue statement of a material fact . . . in connection with the purchase or sale of any security"). The requirement that fraud be "in connection with" the purchase or sale of a security is satisfied if a corporation releases fraudulent statements "to its shareholders or to the investing public," including through news media. Sec. & Exch. Comm'n v. Tex. Gulf Sulphur Co., 401 F.2d 833, 861–62 (2d Cir. 1968). Accordingly, Rule 10b-5 is violated if the statements are made "in a manner reasonably calculated to influence the investing public." *Id*. at 862.

283. Securities Exchange Act of 1934 § 21E(i)(1)(B), 15 U.S.C. § 78a (defining the term "forward-looking statement").

284. Section 11 imposes liability on the issuer and certain gatekeepers jointly and severally. Securities Act of 1933 § 11(f), 15 U.S.C. § 77k(f). The imposition of gatekeeper liability is typically justified by the failure of primary liability to produce sufficient deterrence, specifically when a corporation "becomes insolvent or otherwise judgment-proof before [its] wrongdoing comes to light." *See* Jackson, *supra* note 60, at 1048.

285. *See* Securities Act of 1933 § 11(a), 15 U.S.C. § 77k(a).

286. *See* Tuch, *supra* note 36, at 1641–45 (examining impediments to gatekeeper liability under Rule 10b-5).

consumer suit reveals harm to investors, who bring their own suit for securities fraud, piggybacking on the consumer suit. But, where claims affect only one group or the other, firm liability may well be inadequate.

To address this likely under-deterrence, policymakers might increase the severity and/or likelihood of sanctions on firms for greenwashing. Barring a major shift by the FTC or reform to federal securities law, neither seems likely. Moreover, firm liability has its limits. As the severity and likelihood of sanctions increase, firms face an increased risk of asset insufficiency, which dulls the deterrent force of sanctions; managerial agency costs inevitably have a similar effect.

To sum up, direct regulation would seem ineffective in deterring false green claims, a premise we accept moving forward.

B. How to Regulate Green Gatekeepers

Section III.A has argued that, in our setting, direct deterrence (that is, producer or firm liability for greenwashed claims) is unlikely to work. In Part II, we have argued that policy intervention is more likely to be justified when reputational constraints do not provide gatekeepers with sufficient incentives to set appropriate standards and issue accurate certifications. We have also explained why reputational mechanisms are unlikely to work effectively for green gatekeepers.[287] Their certifications provide users with "wiggle room" to feel that they are behaving morally, even when they are acting selfishly, and might also generate a sense of warm glow.[288] In other words, users may derive utility from green certifications, so to speak, no-questions-asked. We have also seen that the failure of reputational mechanisms might be particularly severe when users who unknowingly rely on inaccurate certifications bear no private costs[289] and when the complexity of certification is such that even well-intentioned users cannot verify their accuracy.[290]

To be sure, there may be circumstances in which the strength of reputational constraints is sufficient to ensure effective green gatekeeping. But, whether this is true in a specific setting is an empirical question to be assessed on a case-by-case basis. In general, the above reasons provide a sound basis to doubt the adequacy of green gatekeepers' reputational constraints under certain conditions.

We suggest that, *other things equal*,[291] the appropriate policy mix for various types of green gatekeepers should be a function of (1) the significance of private costs for users relying on inaccurate certifications and (2) the verifiability of green certifications by policymakers, which is mainly a function of the complexity of the methodologies underlying green certifications.

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287. *See supra* Part II.B.

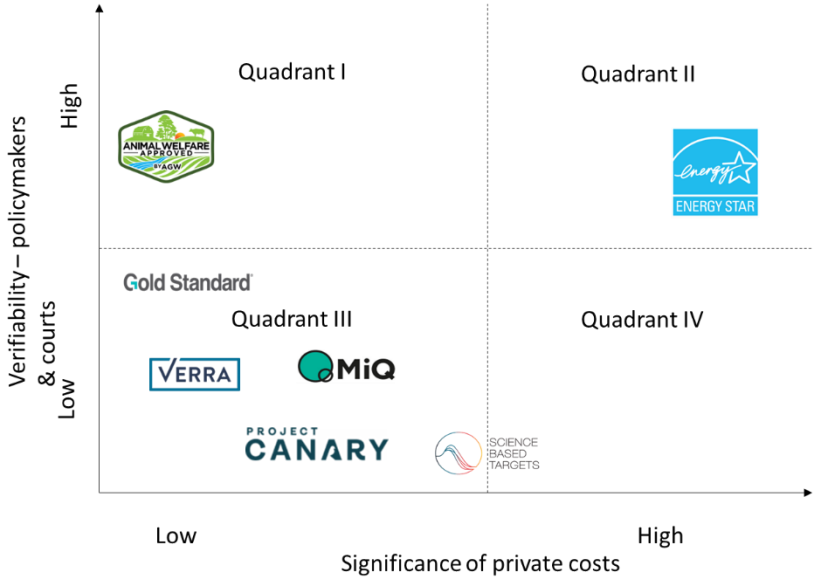
288. *See supra* Part II.B.1.a.

289. *See supra* Part II.B.1.b.

290. *See supra* Part II.B.1.c.

291. As we have suggested, other things are *not* equal, because of the variation in the characteristics of the multiple segments of the green gatekeeping services market. Yet, a higher degree of detail would make our discussion of policy choices unwieldy. *See generally supra* Part II.A.

Figure 4. Classification of green gatekeepers based on the verifiability of their certifications *by policymakers* and the significance of private costs



While the cost-benefit assessment for regulating individual green gatekeepers hinges mainly on the features of each specific green certification,[292] we argue that inclusion in any of the quadrants justifies the application of a specific policy mix. Table 2 indicates the set of policies we suggest are appropriate for gatekeepers falling within each quadrant (Figure 4).

292. Green gatekeepers should face regulation if the benefits of any such regulation—as reflected in increased deterrence and decreased expenditure by users in protecting themselves—outweigh the costs of imposing that regulation. *See* Victor P. Goldberg, *Accountable Accountants: Is Third-Party Liability Necessary?*, 17 J. LEGAL STUD. 295, 304 (1988) (performing this analysis and determining that the costs outweigh the benefits in requiring "accountant[s] to provide a specific guarantee as a matter of tort or securities law"). *See also* Choi, *supra* note 23, at 920 ("The value of certification depends on a comparison of the relative costs and benefits of these alternate antifraud mechanisms.").

Table 2. Summary of Policy Options

Verifiability by policymakers and courts	**Significance of Private Costs**		
		Low	**High**
	High	Quadrant I: • Ex-ante regulations: high-effectiveness • Ex post-liability: low-effectiveness (unless punitive damages are awarded, for the latter) • Regulatory licenses: high likelihood they increase certification accuracy • Ancillary private players: mid-high effectiveness	Quadrant II: • Ex-ante regulations: high-effectiveness • Ex post-liability: high-effectiveness • Regulatory licenses: medium-high likelihood they increase certification accuracy • Ancillary private players: high effectiveness
	Low	Quadrant III: • Ex-ante regulations: low effectiveness • Ex post-liability: low effectiveness • Regulatory licenses: medium-high likelihood they reduce certification accuracy • Ancillary private players: low effectiveness • Other: mandated transparency, incentives for non-profits	Quadrant IV: • Ex-ante regulations: low effectiveness • Ex post-liability: low effectiveness • Regulatory licenses: high likelihood they reduce certification accuracy • Ancillary private players: mid-low effectiveness •Other: mandated transparency, incentives for non-profits

1. Ex-Ante Regulation

Ex-ante regulations are a traditional way of addressing market failures. They are public in nature and refer to standards and prohibitions imposed ex-ante by policymakers.[293] Ex-ante regulations are likely to be more effective when policymakers have better information on the optimal standards and can effectively identify deviations from such standards.[294]

For these reasons, ex-ante regulations are more effective when policymakers are better positioned to verify the accuracy of the certifications (Quadrants I and II), that is, when complexity is low. The cases in which ex-ante regulation is more likely to be warranted are those in which private costs are low (because direct reputational sanctions are weaker when users face low private costs) and verifiability by policymakers is high (Quadrant I).

2. Ex-Post Liability

Ex-post liability is private in character and aims to deter injurers from causing harm through actions for monetary damages that are brought after the occurrence of the harm.[295]

Liability rules can provide incentives to issue more accurate certifications if and only if courts can identify inaccurate certifications with a certain level of accuracy,[296] which is unlikely to be the case for highly complex certifications.

Moreover, when the private costs of inaccurate certifications are low, plaintiff lawyers may have limited incentives to pursue litigation because compensation—and hence their fee—would be limited. However, sufficiently high punitive damages may limit the severity of this concern.

Against this background, ex-post liability is likely to achieve better results when verifiability by courts is high, and the private costs of inaccurate certifications are high. In those instances, courts will generally punish only inaccurate certifications, and compensation would be sufficiently high to motivate plaintiff lawyers to pursue and deter misconducts (Quadrant II). When verifiability by courts is high, but the private costs associated with inaccurate certifications are low (Quadrant I), ex-ante liability can be effective only if courts award punitive damages.

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293. Steven Shavell, *Liability for Harm Versus Regulation of Safety*, 13 J. LEGAL STUD. 357, 357 (1984) ("Standards, prohibitions, and other forms of safety regulations . . . are public in character and modify behavior in an immediate way through requirements that are imposed before, or at least independently of, the actual occurrence of the harm.").

294. *Id*. at 359 (finding that when private parties have superior knowledge, liability rules and ex–ante regulations are preferable as they motivate individuals to balance risk reduction costs with potential savings).

295. Charles D. Kolstad et al., Ex Post *Liability for Harm vs.* Ex Ante *Safety Regulation: Substitutes or Complements?*, 80 AM. ECON. REV. 888, 888 (1990) (defining ex post liability).

296. When the harm is easily observable, strict liability can provide injurers with efficient incentives, even when courts cannot determine the optimal care level or assess the level of care adopted by the injurer. *See* Hayne E. Leland, *Quacks, Lemons, and Licensing: A Theory of Minimum Quality Standards*, 87 J. POL. ECON. 1328, 1330 (1979) (casting doubt on the effectiveness of ex post liability to address information asymmetry in markets unless "product failure is readily evident ex post"); Ariel Katz, *Pharmaceutical Lemons: Innovation and Regulation in the Drug Industry*, 14 MICH. TELECOMM. TECH. L. REV. 1, 32 (2007) ("[I]n the case of credence goods, whose quality is inherently difficult to ascertain, even in retrospect, courts may only suboptimally impose liability, potentially leading to under- or over-deterrence.").

3. Regulatory Licenses

In some cases, policymakers attach regulatory benefits to certifications. For example, in several countries, firms that purchase carbon offsets from Verra or other standard setters operating on the voluntary carbon markets can enjoy a tax discount.[297] As discussed in Section I.A, policymakers should generally refrain from granting regulatory licenses to green gatekeepers because they displace reputational mechanisms.[298]

There is, however, one important exception. When market mechanisms are already broken and verifiability by policymakers is high, regulatory licenses may actually *increase* the accuracy of certifications (Quadrant I). When the private costs of relying on inaccurate certifications are low, certification users are unlikely to punish green gatekeepers for inaccurate certifications. Thus, if such certifications generate warm glow and provide users with wiggle room to behave selfishly while also feeling moral, it is plausible that in equilibrium green gatekeepers will certify inaccurate green claims.

At the same time, if policymakers can easily verify the quality of certifications, they can credibly threaten to withdraw the power to issue regulatory licenses. As issuing regulatory licenses is generally profitable for green gatekeepers, this threat might prove to have a stronger disciplining effect than weak or non-existent reputational sanctions by certification users.

4. Other Interventions

All the tools discussed thus far require policymakers and courts to be able to verify the accuracy of certifications. Hence, they are less effective when verifiability by such players is low. However, many key green gatekeepers operate in markets characterized by both low verifiability and low private costs of relying on inaccurate certifications (Quadrant III). Can other regulatory tools mitigate market failures in markets such as these?

One option is transparency requirements. As highlighted in Section II.C, many green gatekeepers are opaque and do not disclose their methodologies or the results of their audits.[299] Requiring green gatekeepers to disclose such information may help improve the verifiability of their certifications over time, especially by ancillary market players, and increase accountability.

Absent mandatory disclosure, market pressure might not always generate enough information. To appreciate this, consider the unusual case of Verra, which has been voluntarily engaging in comprehensive consultations with stakeholders and providing ample information on its standards and the verification process for the projects it certifies. For this reason, scholars, NGOs, and media outlets have found flaws in Verra's conduct.[300] This kind of criticism is the only way to achieve significant improvements in contexts characterized by extreme complexity, but it can tarnish the reputation of the green gatekeeper, which might thus be reluctant to disclose information.

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297. *See* Battocletti et al., *supra* note 76, at 547–48 (describing the process through which emitters can reduce their carbon tax liability by purchasing carbon offsets certified by Verra).

298. *See supra* Part I.A.

299. *See supra* Part II.C.

300. *See e.g.*, West et al., *supra* note 229 (discussing some limitations of Verra's certification process).

Unsurprisingly, Verra is an outlier: many green gatekeepers' transparency standards are very low.[301] For instance, Project Canary discloses very little information on its standards and audits. Therefore, it is extremely hard for NGOs, media outlets, and scholars to scrutinize its activity.

A further option available to policymakers is to subsidize green gatekeepers that adopt the non-profit form, thereby reducing their incentives to exploit ineffective market-based reputational sanctions. One policy lever could be granting tax breaks to employees of non-profit gatekeepers. So long as accurate gatekeeper certifications generate positive externalities, such a subsidy can be justified as a matter of economic theory.

To be sure, these solutions are unlikely to eliminate greenwashing in Quadrant III markets, characterized as they are by low verifiability and low private costs. However, we suggest that they may contribute to ameliorating the functioning of such markets.

C. Regulating Green Gatekeepers: Some Recipes

To illustrate how our framework can be used to improve the incentives of green gatekeepers to issue accurate certifications, we now discuss how it can be applied to the green gatekeepers we have described in Section II.A.[302]

1. Animal Welfare

As discussed in Section II.B.1.d, direct reputational mechanisms are likely to fail for animal welfare certifiers.[303] Indirect reputational mechanisms may also be imperfect. As certification users face limited private costs, they have limited incentives to seek the information produced by ancillary private players and may even actively avoid it. [304]

At the same time, policymakers can verify whether certifications are accurate and have information on which practices respect animal welfare. Therefore, policymakers may increase certification accuracy by defining the criteria that must be met in order to certify that animal welfare is respected and by sanctioning deviations from such standards. Whether this intervention would increase social welfare depends not only on the cost of monitoring but also, of course, on the value that society assigns to animal welfare.

A counterintuitive implication of our analysis is that granting animal welfare certifiers a regulatory license might improve their incentives to issue accurate certifications, whether they are paid by firms or users. For instance, certified meat might be subject to a marginally lower value-added tax. Because a regulatory license of this kind would be profitable, animal welfare certifiers would have incentives to preserve their reputation towards the regulator. In fact, because the regulator has enough information to monitor animal welfare certifiers, it can credibly threaten to withdraw the regulatory license if the green gatekeeper issues inaccurate certifications. Hence, assuming

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301. While our transparency score for Verra is a perfect 3, the average transparency score for non-profit green gatekeepers is only 1.05. *See supra* Part II.C.

302. *See supra* Part II.A.

303. *See supra* Part II.B.1.d.

304. *See supra* notes 193–**Error! Bookmark not defined.** and accompanying text (discussing the likelihood of under-investigation into products' environmental attributes by certification users, and willingness to accept certifications at face value).

regulators can monitor compliance and credibly threaten to withdraw licenses, a regulatory license would provide green gatekeepers with stronger incentives to issue accurate certifications where market-based reputational concerns are unlikely to work to the same effect.

A complementary route to ex-ante regulation would involve enhancing the role played by ancillary private actors. For instance, policymakers might allocate public funds to subsidize NGOs and researchers investigating instances of greenwashing and/or dissemination of their findings. While we believe such an approach could improve certification accuracy, it could not replace ex-ante regulations entirely. As we have just noted, certification users would have limited incentives to seek this information generated by ancillary private actors or might even actively avoid learning about it.[305]

2. Energy Efficiency

Direct reputational constraints on energy efficiency certifiers are unlikely to be effective because users are unlikely to be able to verify the accuracy of certifications.[306] On the contrary, indirect reputational sanctions may play a role for two reasons. First, the relatively low complexity of energy efficiency certifications implies that NGOs and scientists can identify greenwashing more easily.[307] Second, because certification users face significant private costs when relying on inaccurate certifications, they have stronger incentives to seek out the information produced by NGOs and scientists and disseminated in the media.[308]

Importantly, energy efficiency is easily verifiable by policymakers, making ex-ante regulation effective. For this reason, the implementation of the Energy Star certification is coherent with our framework.

Regulatory licenses may also increase the accuracy of certifications because, given high verifiability on their part, policymakers can credibly threaten to withdraw licenses from green gatekeepers issuing inaccurate certifications. In this case, given the enormous impact of energy consumption on global warming, the benefits deriving from more accurate certifications may outweigh the monitoring costs required to ensure this outcome. Thus, granting regulatory licenses associated with Energy Star's certification might increase social welfare. Consistent with this suggestion, many states and municipalities include Energy Star specifications in their new buildings or appliances regulations and mandate the purchase of Energy-Star-certified products in their procurement protocols.[309]

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305. *Id.* 193–196

306. *See supra* Part II.B.1.

307. *See supra* notes 219–221 and accompanying text.

308. *See supra* Part II.B.1.b.

309. *See* PATRICIA E. SALKIN, NEW YORK ZONING LAW & PRACTICE § 32A.14 (4th ed. 2023), Westlaw ("The New York State Energy Research and Development Authority ("NYSERDA"), for example, requires installation of Energy Star qualified heating, ventilating, and air-conditioning equipment in its Green Residential Building Program."). Moreover, most states' energy codes require new and existing buildings undergoing major renovations to meet minimum energy efficiency requirements. Alexandra B. Klass, *State Standards for Nationwide Products Revisited: Federalism, Green Building Codes, and Appliance Efficiency Standards*, 34 HARV. ENV'T L. REV. 335, 344–45 (2010) ("[A]t least

Moreover, regulators may want to incentivize the activity of ancillary private players by subsidizing research into green gatekeepers' practices and dissemination of findings. In fact, as we have just noted, ancillary private players may play an important role.

3. Science-Based Targets

Given the enormous complexity surrounding assessments of net zero targets,[310] policymakers and courts are unlikely to be effective in defining standards or verifying certifications, respectively.[311] Therefore, both ex-ante regulation and ex-post liability are unlikely to produce satisfying results.

Moreover, policymakers should abstain from granting regulatory licenses.[312] As policymakers cannot easily identify inaccurate certifications, the threat of withdrawing gatekeepers' regulatory-licensing power in response to inaccurate certifications would lack credibility. Moreover, granting regulatory licenses would displace private reputational sanctions. Imperfect as they are, these sanctions may well have some beneficial effect, given that certification users relying on inflated certifications bear a private cost. For the same reason, encouraging ancillary private players—through subsidies, for example—might prove effective, as certification users have relatively strong incentives to seek out their findings.

To be fair, current policy trends appear to be moving in the direction of providing de facto regulatory licensing power to the SBTi and organizations doing similar work. Norway already requires its state-owned companies to have science-based targets.[313] And in the United States, the Biden Administration has proposed the Federal Supplier Climate Risks and Resilience Rule, which would require "major" federal contractors to have science-based emission targets.[314] This would grant the SBTi the ability to issue valuable regulatory licenses.

The logic underlying regulatory licensing in favor of the SBTi is understandable, as governments have two important reasons to purchase from contractors that have sustainable business practices. First, by rewarding businesses that pledge to act in a sustainable manner, the government

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forty states have enacted building energy codes requiring new and existing buildings undergoing major renovations to meet minimum energy efficiency requirements.").

310. *See supra* Part II.A.

311. *See supra* Part II.B.1.c.

312. *See supra* notes 52-54 and accompanying text (recommending policymakers refrain from granting regulatory licenses because they displace reputational mechanisms).

313. Emily Shain, *Norway to Require State-Owned Companies to Set Science-Based Climate Targets*, ESGTODAY (Oct. 25, 2022), https://www.esgtoday.com/norway-to-require-state-owned-companies-to-set-science-based-climate-targets [https://perma.cc/4XPF-VW77] (discussing Norway's new report "set[ting] out climate, nature and ecosystem-related expectations for the companies, including setting targets and implementing measures to reduce greenhouse gas emissions (GHG) . . . targets are expected to be science-based, when possible, and to report on target achievement").

314. *Federal Supplier Climate Risks and Resilience Proposed Rule*, OFF. OF THE FED. CHIEF SUSTAINABILITY OFFICER, https://www.sustainability.gov/federalsustainabilityplan/fed-supplier-rule.html [https://perma.cc/T6BJ-4CU6] (defining "major contractor" as "Federal contractors receiving more than $50 million in annual contracts").

also incentivizes other businesses to do the same, which should ultimately result in an overall reduction of greenhouse gas emissions. Second, purchasing only from firms with sustainable business models renders the government's supply chains more resilient in the face of climate-related risks.[315] Thus, relying on the certifications of the largest green gatekeeper in this space may appear to be a sensible strategy.

Nevertheless, if regulatory licensing in favor of SBTi and its ilk become significant, these organizations might start to find it profitable to issue lax certifications and sell regulatory licenses instead of expending resources on verifying and monitoring corporations' net-zero targets.[316] Thus, the certifications will become less accurate, and they will no longer help governments and market players identify firms with sustainable business practices.

4. Responsibly Resourced Gas and Carbon Offsets

Project Canary and MiQ operate in a market (responsibly resourced gas) characterized by low private costs for inaccurate certifications. The same is true for Verra and Gold Standard (voluntary carbon offsets). Moreover, as certifications in these markets are very complex, all relevant actors are ill-equipped to verify their accuracy. At the outset, it must be stated that the combination of low verifiability and lack of private costs on the part of certification users implies that the rate of inaccurate certifications will likely be high. Even the actions of well-intentioned and sophisticated ancillary private players can send conflicting messages[317]—messages that, in any case, certification users have weak incentives to internalize, as they bear no significant private costs.

In this setting, policymakers should not set standards because they lack sufficient information to improve on gatekeepers' efforts and subsequently monitor compliance. Regulatory licenses should also be avoided whenever possible. That is because, while private reputational sanctions are already likely to be largely ineffective due to the absence of significant private costs for relying on inaccurate certifications, the low verifiability of certifications, even by policymakers, means that the threat of removing regulatory licenses as a consequence of inaccurate certifications would lack credibility. Thus, the provision of regulatory licenses would only fuel green gatekeepers' incentives to issue inaccurate certifications.

Given these obstacles, policymakers could instead implement the additional policies discussed in Section III.B.3 and require transparency from these green gatekeepers about both the details of their standards and the verification activity behind certification decisions, including disclosure of

315. *See* Press Release, The White House, Fact Sheet: Biden-Harris Administration Proposes Plan to Protect Federal Supply Chain from Climate-Related Risks (Nov. 10, 2022), https://www.whitehouse.gov/briefing-room/statements
-releases/2022/11/10/fact-sheet-biden-harris-administration-proposes-plan-to
-protect-federal-supply-chain-from-climate-related-risks [https://perma.cc/
KAT5-4X7U] (noting that this proposal is part of a framework aiming to "protect the Federal Government's supply chains from climate-related financial risks").

316. Christian C. Opp et al., *Rating Agencies in The Face of Regulation*, 108 J. FIN. ECON. 46, 48 (2013) (showing that when a gatekeeper can grant valuable regulatory licenses it will prefer to engage in regulatory arbitrage instead of truthfully verifying claims).

317. *See supra* Part II.B.2.

their methodologies, models, and data. This could help ancillary market players, among them NGOs, scientists, and traders, discipline the gatekeepers. A further option is to subsidize gatekeepers that adopt the non-profit form, thereby reducing their incentives to exploit ineffective market-based reputational sanctions.[318] We reiterate, however, that we believe such policies will only matter at the margin.

CONCLUSION

This article has analyzed the market for green-gatekeeper services and assessed whether and, if so, how it should be regulated. By certifying claims about the eco-qualities of products, green gatekeepers do with respect to sustainability claims what gatekeepers have long done in the traditional context of financial markets, where their main function is to certify the accuracy of claims made by securities issuers. By certifying the accuracy of green claims, green gatekeepers promise to significantly mitigate information asymmetries between firms, on the one hand, and consumers and investors, on the other hand. Green gatekeepers thereby enhance firms' incentives to adopt truly green strategies, unlock the effectiveness of demand-side strategies to combat climate change and channel the financial resources of environmentally conscious investors where they are needed.

In assessing the merits of regulating green gatekeepers, we have argued that direct deterrence by imposing liability or other controls on firms is unlikely to assure the accuracy of green certifications. And while traditional gatekeepers typically face strong reputational concerns that might obviate the need for gatekeeper regulation, green gatekeepers have significantly weaker constraints. The fact is that many users of green certifications engage in motivated reasoning;[319] they benefit from the belief that they have acted in accordance with their values, so they have little incentive to confirm the accuracy of certifications. Users often incur minimal private costs when relying on green certifications that prove false, further diminishing their incentives to investigate certifications. The high complexity inherent in green certifications limits users' capacity to verify certification accuracy. And ancillary private actors, including NGOs and the media, cannot be relied upon to effectively discipline green gatekeepers either. Accordingly, there is sound reason to doubt the adequacy of green gatekeepers' reputational constraints. However, gatekeepers do often make organizational choices that may mitigate their weak reputational constraints.

In response, then, to the varied circumstances of green gatekeepers, we suggest that, other things equal and assuming that the social benefits of accurate certifications are higher than the costs of regulatory intervention, different regulatory solutions may be justified for different green certifications, based on two variables: first, the significance of private costs for users relying on inaccurate certifications; second, the verifiability of green certifications by policymakers. Both factors bear on the force of gatekeepers' reputational constraints, while verifiability also bears specifically on the ability of policymakers to intervene effectively. Classifying green gatekeepers according to these variables, we suggest a mix of policies designed to deter inaccurate green certifications at a reasonable cost.

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318. *See supra* notes 238–240 and accompanying text.

319. *See supra* notes 171-175 and accompanying text.

A policy framework like the one we propose is of the utmost importance because a great deal is at stake in the work of green gatekeepers. From firms' perspectives, there is money to be made from eco-friendly claims: firms have powerful incentives to trumpet the environmental credentials of their products and operations. But if firms market inaccurate credentials, consumers and investors—who cannot be relied on to verify green claims—may be misled. Worse still, the promise of demand-side climate change mitigation strategies may be squandered. Green gatekeepers, then, may have an outsized role in driving the climate transition itself. As such, they are worthy of careful scrutiny and also, depending on the type of certifications they issue, appropriately tailored regulation.

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