NOTES

The Duty to Update Corporate Emissions Pledges

Facing both internal and external market pressures, a rapidly growing number of private companies are making public, voluntary, and ambitious pledges to reduce or outright eliminate by a certain date or benchmark their greenhouse gas emissions. Yet, ambition and necessity notwithstanding, nonfulfillment of these emission reduction targets ("ERTs") is a looming, if not an already realized, concern for markets, which are noticeably and increasingly attuned to the long-term value and climate performance of companies. In the absence of a comprehensive disclosure regime for climate performance and risk, this Note highlights the duty to update—a judicial doctrine that polices forward-looking statements, like ERTs, that become misleading over time—as a bulwark against unfulfilled ERTs that linger in the market and have the potential to mislead investors concerning a company's climate performance or reputation. In fact, ERTs—which convey clear expectations regarding the quantity of emissions to be reduced, the steps needed to achieve those reductions, and the timeframe of achievement—are uniquely suitable for the duty to update.

INTRODUCTION

Anthropogenic climate change is undeniably an era-defining challenge, with assessments of its causes and impacts growing evermore definitive.[1] Meanwhile, the window to avoid the worst effects

1. *See, e.g.*, LENNY BERNSTEIN ET AL., INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007 SYNTHESIS REPORT 5 (Core Writing Team, Rajendra K. Pachauri & Andy Reisinger eds., 2008), https://www.ipcc.ch/site/assets/uploads/2018/02/ar4_syr_full_report.pdf [https://perma.cc/NFB7-NPUV] ("Most of the observed increase in global average temperatures since the mid-20th century is *very likely* due to the observed increase in anthropogenic GHG concentrations."); INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *Summary for Policymakers*, *in* CLIMATE CHANGE 2014 SYNTHESIS REPORT 2, 4, 8 (2014), https://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf [https://perma.cc/78ZV-LB6R] (noting that anthropogenic greenhouse gas emissions "ha[ve] led to atmospheric concentrations of carbon dioxide, methane and nitrous oxide that are unprecedented in at least the last 800,000 years" and "[c]ontinued emission of greenhouse gases will cause further warming and long-lasting changes . . . increasing the likelihood of severe, pervasive and irreversible impacts for people and ecosystems"). There are assuredly many other reports issued by governments, academia, nongovernmental organizations ("NGOs"), and the private sector that highlight the connection

of climate change is quickly closing.[2] With the outlook admittedly bleak, the 2015 Paris Agreement provided a glimmer of hope, as almost two hundred nations made commitments to "hold[ ] the increase in the global average temperature to well below 2 °C above pre-industrial levels and pursu[e] efforts to limit the temperature increase to 1.5 °C."[3] At the time, the United States was viewed by many as a progressive player in the negotiations, pushing for more ambitious international targets,[4] a noticeable and game-changing departure from the country's prior reluctance to fully commit to similar international agreements.[5]

This glimmer of hope was dimmed—if not outright extinguished—when the Trump Administration reversed course by

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between human activities and climate change. But the question of climate change has long ceased to be one of problem definition, and lending credence to a nonexistent debate would only detract from devising and implementing necessary and aggressive climate action.

2. *See* MYLES ALLEN ET AL., INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, Summary for Policymakers, in SPECIAL REPORT: GLOBAL WARMING OF 1.5°C 1, 12 (V. Masson-Delmotte et al. eds., 2018), https://www.ipcc.ch/sr15/chapter/spm/ [https://perma.cc/NXP9-KRLH] (stating that in order to have a reasonable chance of not exceeding a 1.5˚C temperature increase, emissions must decrease "45% from 2010 levels by 2030").

3. United Nations Framework Convention on Climate Change, Paris Agreement, *in* Rep. of the Conf. of the Parties on the Twenty-First Session, U.N. Doc. FCCC/CP/2015/10/Add.1 (Dec. 12, 2015). It should be noted that the differences between a 1.5°C and a 2°C scenario are stark, to say the very least: heatwave duration (1.1 months vs. 1.5 months), reduction in freshwater availability in the Mediterranean and similar regions (9% vs. 17%), increase in global heavy precipitation intensity (5% vs. 7%), total global sea level rise by 2100 (40 cm vs. 50 cm), rate of sea level rise between 2081 and 2100 (4 mm/year vs. 5.5 mm/year), fraction of global reefs at risk of annual bleaching by 2050 (90% vs. 98%), decrease in global maize production (1% vs. 6%). Carl-Friedrich Schleussner et al., *Differential Climate Impacts for Policy-Relevant Limits to Global Warming: The Case of 1.5 °C and 2 °C*, 7 EARTH SYS. DYNAMICS 327, 345 (2016). Even worse, the effects will be more acute in "particularly vulnerable regions and societal groupings with limited adaptive capacity," such as the tropical regions of Africa and Southeast Asia, the Mediterranean, and North Africa. *Id.* at 344. An Intergovernmental Panel on Climate Change ("IPCC") report found similar differences in effects with respect to global species loss (4–8% vs. 8–18%), global land where ecosystems will shift to a new biome (7% vs. 13%), amount of Arctic permafrost at risk of thaw (4.8 vs. 6.6 million square kilometers), and reduction in global marine-fisheries production (1.5 vs. 3 million tons). *See* Kelly Levin, *Half a Degree and a World Apart: The Difference in Climate Impacts Between 1.5˚C and 2˚C of Warming*, WORLD RES. INST. (Oct. 7, 2018), https://www.wri.org/blog/2018/10/half-degree-and-world-apart-difference-climate-impacts-between-15-c-and-2-c-warming [https://perma.cc/RVQ7-7HKS] (summarizing the IPCC's report). Half a degree can make a bigger difference than one might think.

4. *See* Karl Mathiesen & Fiona Harvey, *Climate Coalition Breaks Cover in Paris to Push for Binding and Ambitious Deal*, GUARDIAN (Dec. 8, 2015, 3:19 PM), https://www.theguardian.com/environment/2015/dec/08/coalition-paris-push-for-binding-ambitious-climate-change-deal [https://perma.cc/QE4Y-HR5F] (discussing how the United States formed part of the "high ambition coalition" at the Paris talks that pushed for, among other things, a legally binding agreement, long-term goals in line with science, and a system to review and track each nation's progress).

5. *See generally* Joyeeta Gupta, *A History of International Climate Change Policy*, 1 WIRES CLIMATE CHANGE 636 (2010) (providing a detailed account of the United States' involvement in the early phases of international climate negotiations, particularly noting the United States' failure to ratify the Kyoto Protocol, preference for agreements with a limited set of nations, and underwhelming emissions reduction commitments in the Copenhagen Accords).

withdrawing the United States from the Paris Agreement[6] and rolling back the climate policies and regulations enacted under the Obama Administration.[7] Yet as the U.S. government took a lamentable step back, the private sector, alongside subnational governments, noticeably stepped forward. Publicly, major corporations, including Apple and Morgan Stanley, took out full-page advertisements in the *New York Times* urging President Trump to keep the United States in the Paris Agreement.[8] Behind the scenes, companies, usually working alongside nongovernmental organizations, have reaffirmed their commitment to the Paris Agreement, irrespective of the Trump Administration's decision on the matter.[9]

In affirming their commitment to combating climate change, many companies are utilizing an important but nevertheless surprising tool: voluntary emissions reductions targets ("ERTs"). An ERT is essentially a company's commitment to reduce or offset its greenhouse gas ("GHG") emissions,[10] entirely or by a certain percentage, by a

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6. Valerie Volcovici, *U.S. Submits Formal Notice of Withdrawal from Paris Climate Pact*, REUTERS (Aug. 4, 2017, 4:25 PM), https://www.reuters.com/article/us-un-climate-usa-paris/u-ssubmits-formal-notice-of-withdrawal-from-paris-climate-pact-idUSKBN1AK2FM [https://perma.cc/99WS-EUYZ].

7. *See, e.g.*, David Shepardson, *Trump Finalizes Rollback of Obama-Era Vehicle Fuel Efficiency Standards*, REUTERS (Mar. 31, 2020, 9:09 AM), https://www.reuters.com/article/us-usa-autos-emissions/trump-finalizes-rollback-of-obama-era-vehicle-fuel-efficiency-standards-idUSKBN21I25S [https://perma.cc/5B2M-9HR5]; Jeff Tollefson, *Trump Administration Relaxes Emissions Limits on Power Plants*, SCI. AM. (June 20, 2019), https://www.scientificamerican.com/article/trump-administration-relaxes-emissions-limits-on-power-plants/ [https://perma.cc/JLD5-X9WM].

8. *See* Daniel Victor, *'Climate Change Is Real': Many U.S. Companies Lament Paris Accord Exit*, N.Y. TIMES (June 1, 2017), https://www.nytimes.com/2017/06/01/business/climate-change-tesla-corporations-paris-accord.html [https://perma.cc/4GXN-K7DH] (discussing these advertisements). These calls to stay in the Paris Agreement continued into the Trump Administration. Oliver Balch, *75 CEOs Call for U.S. to Stay in the Paris Agreement as Emissions Continue to Rise*, REUTERS EVENTS (Dec. 4, 2019), https://www.reutersevents.com/sustainability/75-ceos-call-us-stay-paris-agreement-emissions-continue-rise [https://perma.cc/D4PH-3ZWY] (discussing a statement signed by the head of the AFL-CIO and the CEOs of companies like Royal Dutch Shell, Total, Apple, Google, and Goldman Sachs urging President Trump to rescind the United States' withdrawal from the Paris Agreement).

9. *See, e.g.*, *One Year Later, Companies and Investors Are 'Still In' the Paris Agreement*, CERES (June 1, 2018), https://www.ceres.org/news-center/press-releases/one-year-later-companies-and-investors-are-still-paris-agreement [https://perma.cc/9VLY-TP27] (highlighting the private actors working to uphold the goals of the Paris Agreement).

10. This Note uses "GHG emissions," "carbon emissions," and "emissions" interchangeably. While this is admittedly incorrect as a scientific matter—there are several types of greenhouse gas, not all of which contain the element carbon nor have the same global warming potential as carbon dioxide—it reflects how many companies, and the market more generally, use the terms as fungible. A more accurate shorthand is "carbon dioxide equivalent," or CO_2e, which essentially converts any quantity of any greenhouse gas into an amount of carbon dioxide that would have the same global warming impact. But not all companies use this more scientifically accurate shorthand. *See generally* MATTHEW BRANDER, GREENHOUSE GASES, CO_2, CO_2E, AND CARBON:

specified deadline. As just one example, PepsiCo committed in January 2021 to reduce its absolute scope 1 and scope 2 GHG emissions by 75% and its scope 3 GHG emissions by 40% by 2030, according to a 2015 base year.[11] These ERTs are typically found in places like press releases, corporate sustainability reports, and submissions to private (i.e., nongovernmental) environmental disclosure regimes like CDP—formerly the Carbon Disclosure Project—and the Sustainability Accounting Standards Board ("SASB").[12]

Yet, as with any ambitious commitment with a hard and, at times, distant deadline for completion, there are concerns of nonfulfillment. In fact, evidence already shows that some companies are not meeting or are not on track to meet their ERTs.[13] Since these ERTs are entirely voluntary and nonbinding, this risk of nonfulfillment may not appear to pose a serious problem—aside from the obvious implications for the global effort to stave off the worst effects of climate change. But the pronouncement of an ERT, like any statement with a forward-looking connotation, lingers in the market, a market that is increasingly taking companies' climate performance seriously.[14] Thus, absent an explicit update of progress—or at least the disclosure of emissions data necessary to calculate progress—the market, and the public more generally, may be unaware that a company is lagging behind on its publicly disclosed climate goals. This creates a disconnect between a company's actual climate performance and the market's perception of such performance, which leads to concerns about the accuracy of the company's share price, in particular, and market efficiency, in general.[15]

In the context of statements with forward-looking connotations, federal securities law is not operating from a blank slate. In the context of forward-looking statements, which pose the risk of becoming materially deficient or misleading over due time due to subsequent developments, courts have contemplated a "duty to update" designed to

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WHAT DO ALL THESE TERMS MEAN? (2012), https://ecometrica.com/assets/GHGs-CO2-CO2e-and-Carbon-What-Do-These-Mean-v2.1.pdf [https://perma.cc/2FY7-6DSQ].

11. *See PepsiCo Doubles Down on Climate Goal and Pledges Net-Zero Emissions by 2040*, PEPSICO (Jan. 14, 2021), https://www.pepsico.com/news/press-release/pepsico-doubles-down-on-climate-goal-and-pledges-net-zero-emissions-by-204001142021 [https://perma.cc/B2EB-9F8T]. *See infra* Section I.B for an explanation of the technical terminology used in this particular ERT.

12. *See, e.g.*, Jill E. Fisch, *Making Sustainability Disclosure Sustainable*, 107 GEO. L.J. 923, 944–46 (2019) (documenting how companies disclose climate-related information through self-issued sustainability reports and through disclosure frameworks promulgated by private standard setters).

13. *See infra* Section I.D.

14. *See infra* Section I.A.

15. *See infra* Section I.D.2.

protect investors.[16] While this duty to update has, according to one commentator, "assumed a mythical status" such that "very few people have actually seen [it],"[17] this Note highlights how the duty to update doctrine, in the absence of ex ante regulation, can provide at least a stopgap to police unfulfilled ERTs.

This Note proceeds in three parts. Part I sketches the contours of ERTs, specifically the market forces driving the proliferation of ERTs, how the precise terminology of ERTs sets clear market expectations on reduction potential, and what steps companies are taking to integrate ERTs into their business model. Part I then confronts the reality that a company, despite its best intentions, may not be able to meet its ERT within the proscribed timeline; these unfulfilled yet lingering ERTs present acute concerns about market efficiency and price accuracy. Part II shifts to examine how federal securities law has handled forward-looking statements like ERTs. In particular, Part II centers on the judicially created "duty to update," a doctrine that, despite its controversial existence, holds great promise in ensuring investors are not misled by forward-looking statements that set clear expectations regarding fundamental business actions. Finally, Part III employs the duty to update as a temporary bulwark against unfulfilled ERTs that linger in the market while also exploring potential limitations and normative implications.

I. CORPORATE EMISSION REDUCTION TARGETS

Traditionally, corporate climate action has been viewed as the product of marketing departments seeking to sow goodwill without materially altering the company's business model.[18] Today, corporate climate action is a sophisticated endeavor, and as this Part will demonstrate, ERTs may be better characterized as core organizational

16. *See, e.g.*, Backman v. Polaroid Corp., 910 F.2d 10, 17 (1st Cir. 1990) (en banc) ("[I]n special circumstances, a statement, correct at the time, may have a forward intent and connotation upon which parties may be expected to rely. If this is a clear meaning, and there is a change, correction, more exactly, further disclosure, may be called for.").

17. *See* Gregory S. Porter, *What Did You Know and When Did You Know It?: Public Company Disclosure and the Mythical Duties to Correct and Update*, 68 FORDHAM L. REV. 2199, 2200 (2000).

18. As is often the case with parody, this "all-talk, no-action" attitude is perfectly encapsulated by the Greenzo character on NBC's *30 Rock*, who was marketed as "America's first non-judgmental, business-friendly environmental advocate." *See* Matt Brennan, *As MPAA Celebrates Earth Day with 'Eco-Conscious Practices,' How Green Has Hollywood Gone?*, INDIEWIRE (Apr. 23, 2015, 11:33 A.M.), https://www.indiewire.com/2015/04/as-mpaa-celebrates-earth-day-with-eco-conscious-practices-how-green-has-hollywood-gone-187908/ [https://perma.cc/594Z-545G]; *see also* 30 Rock Official, *Greenzo Saving the World – 30 Rock*, YOUTUBE (Mar. 5, 2020), https://www.youtube.com/watch?v=AyMs2xox_hE [https://perma.cc/Q5AD-VAW6] (Greenzo attempting to sell GE front-loading washers in the name of environmental protection).

decisions made by boards of directors and C-suite executives, not marketing departments. ERTs are the products of organized pressure from external market actors, and the pledges ultimately use precise technical language to clearly convey expectations about the quantity of emissions to be reduced, the timeline for fulfillment, and the organizational and operational steps that will be taken to reach fulfillment. Yet the inevitable uncertainty characteristic of any forward-looking pledge increases the likelihood that despite a company's best efforts, an ERT might not be met, which can have implications for stock prices and overall market efficiency.

A. Proliferation

At the outset, it will be helpful to briefly explore why companies are voluntarily setting ambitious ERTs. After all, ERTs are effectively a form of self-regulation—an emissions cap set by a company itself, rather than regulators, that often requires significant investment and divestment to achieve. Such self-regulation appears antithetical to a traditionally profit-centric[19] and historically carbon-intensive economy.[20]

While that may have traditionally been the case, several market drivers—under the umbrella of "private environmental governance"[21]—are now pushing companies to undertake voluntary climate action. Louis Leonard has helpfully categorized and summarized several of these market drivers and their impacts on corporate behavior: (1) business-to-business pressure, which includes competitive pressures

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19. *See, e.g.*, Dodge v. Ford Motor Co., 170 N.W. 668, 684 (Mich. 1919) ("A business corporation is organized and carried on primarily for the profit of the stockholders. . . . [D]iscretion of directors is to be exercised in the choice of means to attain that end, and does not extend to a change in the end itself . . . ."); *see also* MILTON FRIEDMAN, CAPITALISM AND FREEDOM 133 (1962) ("[T]here is one and only one social responsibility of business—to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game . . . ."). To be sure, there are, especially in recent years, contrary views on the role of profits. *See, e.g.*, ALEX EDMANS, GROW THE PIE: HOW GREAT COMPANIES DELIVER BOTH PURPOSE AND PROFIT 46–47 (2020) (arguing that the purpose of corporations is to create value for society, with the accumulation of profits serving as a by-product).

20. *See* Paul K. Gellert & Paul S. Ciccantell, *Coal's Persistence in the Capitalist World-Economy: Against Teleology in Energy "Transition" Narratives*, 6 SOCIO. DEV. 194, 197 (2020) (noting that while "the last five to six centuries of capitalist development have expanded the scale of production exponentially as technologies were developed to exploit coal, then oil and gas, and then nuclear and renewable sources for power and electricity," transitions away from carbon-intensive energy are not and have not been inevitable).

21. *See, e.g.*, Michael Vandenbergh, *Private Environmental Governance*, 99 CORNELL L. REV. 129 (2013) (providing an overview of private environmental governance and situating it in the legal literature); *see also* Louis G. Leonard III, *Under the Radar: A Coherent System of Climate Governance, Driven by Business*, 50 ENV'T L. REP. 10546 (2020) (highlighting prominent literature on private climate governance).

within industries and the inclusion of climate issues in supply chain contracting, like Walmart's Project Gigaton; (2) public pressure, which includes boycotts, naming-and-shaming campaigns, advocacy organization pressure, and employee and job candidate perceptions about the company; (3) financial system pressure, whereby investors, lenders, and insurers seek to either disassociate themselves from companies with poor climate records or leverage their influence to achieve changes to a company's internal governance; and (4) evolving norms, which encompasses efforts to match societal expectations about climate performance or cultivate internal norms regarding climate performance.[22] These drivers are not entirely independent, and interactions are likely to create feedback loops and cascading effects within and among companies in an industry.[23]

The influence of these market actors has created a "business case" for voluntary climate action, whereby companies have a self-interest in engaging in such action in order to capture financial benefits.[24] Recent empirical studies have indicated that continued nonabatement of emissions can become costly for companies in the form of reduced valuations.[25] Similar research has found correlations between increased transparency on sustainability matters and lower capital constraints,[26]

22. Leonard, *supra* note 21, at 10552–55; *see* Maria L. Banda, *The Bottom-Up Alternative: The Mitigation Potential of Private Climate Governance After the Paris Agreement*, 42 HARV. ENV'T L. REV. 325, 345 (2018) (noting that private climate governance is the result of both "self-interest" drivers, which are often motivated by external constraints, and "self-identity" drivers, which pertain to norms and the idea that voluntary climate action is "the right thing to do").

23. *See* Banda, *supra* note 22, at 345 ("Actions that begin as simple calculations of self-interest may over time trigger normative change and become embedded in organizational practices.").

24. *See* Leonard, *supra* note 21, at 10552 (discussing the "business case" for private climate action).

25. *See* Chika Saka & Tomoki Oshika, *Disclosure Effects, Carbon Emissions and Corporate Value*, 5 SUSTAINABILITY ACCT., MGMT. & POL'Y J. 22, 38–40 (2014) (finding that disclosure of carbon management has a positive relation to the market value of equity, with this relationship growing stronger when the volume of emissions is larger); Ella Mae Matsumura, Rachna Prakash & Sandra C. Vera-Muñoz, *Firm-Value Effects of Carbon Emissions and Carbon Disclosures*, 89 ACCT. REV. 695, 720–21 (2014) (finding that although firm value decreases, on average, by $212,000 for every additional thousand metric tons of carbon emissions, voluntary disclosure of carbon emissions can provide outweighing benefits, as the median value of firms that disclose their carbon emissions is about $2.3 billion higher than that of comparable non-disclosing firms).

26. *See* Beiting Cheng, Ioannis Ioannou & George Serafeim, *Corporate Social Responsibility and Access to Finance*, 35 STRATEGIC MGMT. J. 1, 2 (2014) ("[F]irms with better [corporate social responsibility] performance face lower capital constraints."); Charles J. Fombrun, Naomi A. Gardberg & Michael L. Barnett, *Opportunity Platforms and Safety Nets: Corporate Citizenship and Reputational Risk*, 105 BUS. & SOC'Y REV. 85, 85–86 (2000) ("By doing good, managers generate reputational gains that improve a company's ability to attract resources, enhance its performance, and build competitive advantage.").

improved stock performance and earnings,[27] and lower risk of bankruptcy.[28] Further, the influence of external market actors is not merely hypothetical or a matter of academic theory; companies are explicitly referencing these financial considerations in their annual reports.[29]

While it would be difficult to ascertain precisely which market drivers motivate a company to issue an ERT, one thing is clear: the proliferation of ERTs is staggering—a borderline arms race. In the two years following the adoption of the Paris Agreement, an average of two companies per week submitted an ERT to the Science Based Targets Initiative ("SBTi")[30]—a partnership between CDP, the United Nations Global Compact, World Resources Institute, and the World Wildlife Fund that assists companies in setting ERTs in line with each company's particular reduction potential.[31] As of publication of this Note, over 130 U.S. companies have set targets with the SBTi, while almost 100 more have committed to setting targets.[32] Companies that have set targets with the SBTi include Pfizer (December 2015), HP (June 2017), Tyson Foods (August 2018), Nike (August 2019), and

27. *See* Robert G. Eccles, Ioannis Ioannou & George Serafeim, *The Impact of Corporate Sustainability on Organizational Processes and Performance*, 60 MGMT. SCI. 2835, 2836 (2014) ("Using a four-factor model to account for potential differences in the risk profile of the two groups, we find that annual abnormal performance is higher for the high sustainability group compared to the low sustainability group."); *see also* DOMINIC BARTON, JAMES MANYIKA, TIMOTHY KOLLER, ROBERT PALTER, JONATHAN GODSALL & JOSHUA ZOFFER, MCKINSEY GLOB. INST., MEASURING THE ECONOMIC IMPACT OF SHORT-TERMISM 1–2 (2017) (discussing how values-based investing correlates with returns).

28. SAVITA SUBRAMANIAN, DAN SUZULD, ALEX MAKEDON, JILL CAREY HALL, MARC POUEY & JIMMY BONILLA, BANK OF AM. MERRILL LYNCH, ESG: GOOD COMPANIES CAN MAKE GOOD STOCK 1 (2016).

29. *See, e.g.*, Chevron Corp., Annual Report (Form 10-K) 21 (Feb. 21, 2020) ("Unfavorable [environmental, social, and corporate governance] ratings may lead to increased negative investor sentiment toward Chevron and our industry and to the diversion of investment to other industries, which could have a negative impact on our stock price and our access to and costs of capital."); PepsiCo, Inc., Annual Report (Form 10-K) 30 (Feb. 13, 2020) (noting "increased focus" by "governmental and non-governmental organizations, investors, customers and consumers" on climate matters such that "[o]ur reputation can be damaged if we or others in our industry do not act, or are perceived not to act, responsibly with respect to our impact on the environment").

30. *Corporate Climate Action Gathers Unstoppable Pace, Two Years on from the Paris Agreement*, WE MEAN BUS. COAL. (Dec. 12, 2017), https://www.wemeanbusinesscoalition.org/press-release/corporate-climate-action-gathers-unstoppable-pace-two-years-paris-agreement/ [https://perma.cc/3CNX-QV2A]; *see also 100+ Global Corporations Commit to Science-Based Targets Aligned with Paris Agreement*, UNFCCC (Apr. 17, 2018), https://unfccc.int/news/100-global-corporations-commit-to-science-based-targets-aligned-with-paris-agreement [https://perma.cc/KRD7-L5NE].

31. *See About Us*, SCI. BASED TARGETS, https://sciencebasedtargets.org/about-us#who-we-are (last visited Mar. 17, 2021) [https://perma.cc/N6WN-353J].

32. *See Companies Taking Action*, SCI. BASED TARGETS, https://sciencebasedtargets.org/companies-taking-action (last visited Mar. 17, 2021) [https://perma.cc/47PA-VA23] (listing these companies, their targets, and their commitments).

Philip Morris (December 2020).[33] While the SBTi provides a useful database, it is by no means exhaustive and does not do the increase in ERTs justice: worldwide, as of December 2020, more than 1,500 companies—with combined revenues of $12.5 trillion—have set or have pledged to set net-zero targets.[34]

B. Terminology

Now that it is clearer *why* companies are voluntarily setting their own ERTs, it is important to dissect exactly *what* these targets are trying to convey to the market and the public. In the abstract, it is not difficult to wrap one's head around these pledges; a reduction in emissions simply means emissions will decrease, right? Taking a Walmart press release as an example, the company's pledge to "target[ ] zero emissions across the company's global operations by 2040" seems pretty straightforward.[35] But then how does that pledge compare to Microsoft's pledge to become "carbon negative" by 2030[36] or Amazon's goal of "reach[ing] net zero carbon by 2040"?[37] Are zero emissions, carbon negative, and net zero all distinct technical concepts, or simply interchangeable marketing jargon? Does it matter that Walmart's reduction target applies to "the *company's* global operations"[38] while Microsoft's program includes *both* the company's direct emissions and those associated with its value chain?[39]

While those questions are rhetorical, the point is that companies use a mostly unified set of terminology to communicate the scope and reduction potential of their ERTs. The target-setting process requires careful accounting—not entirely unlike financial accounting—of a

33. *Id.*

34. *See* JULIA TURNER, MARK MELDRUM, JEREMY OPPENHEIM, MARLENE KICK & ANNE-CAROLINE DUPLAT, SYSTEMIQ, THE PARIS EFFECT: HOW THE CLIMATE AGREEMENT IS RESHAPING THE GLOBAL ECONOMY 13 (2020), https://www.systemiq.earth/wp-content/uploads/2020/12/The-Paris-Effect_SYSTEMIQ_Full-Report_December-2020.pdf [https://perma.cc/9A3B-G74H].

35. Press Release, Walmart, Walmart Sets Goal to Become a Regenerative Company 1 (Sept. 21, 2020), https://corporate.walmart.com/media-library/document/walmart-sets-goal-to-become-a-regenerative-company/_proxyDocument?id=00000174-ae08-dcf3-a7fc-afdcca070000 [https://perma.cc/8JKS-KUPY].

36. Brad Smith, *Microsoft Will Be Carbon Negative by 2030*, MICROSOFT: OFF. MICROSOFT BLOG (Jan. 16, 2020), https://blogs.microsoft.com/blog/2020/01/16/microsoft-will-be-carbon-negative-by-2030/ [https://perma.cc/5J38-SDHQ].

37. AMAZON, ALL IN: STAYING THE COURSE ON OUR COMMITMENT TO SUSTAINABILITY 7 (2020), https://sustainability.aboutamazon.com/pdfBuilderDownload?name=sustainability-all-in-december-2020 [https://perma.cc/EBG9-SMQA].

38. Walmart, *supra* note 35, at 1 (emphasis added).

39. *See* Smith, *supra* note 36 ("[W]e are launching today an aggressive program to cut our carbon emissions by more than half by 2030, both for our direct emissions and for our entire supply and value chain.").

company's emissions and the reduction capabilities of the company's business units and, potentially, its entire supply chain. This Section will pick apart several key aspects of ERTs in an effort to highlight how precisely these pledges set expectations for reduction potential.

1. Scopes of Emissions

When calculating and reporting GHG emissions, companies typically divide emissions into three categories: scope 1, scope 2, and scope 3.[40] Scope 1 emissions are direct GHG emissions from sources owned or controlled by the company (e.g., factories owned and operated by the company, vehicle fleets).[41] Scope 2 emissions are GHG emissions associated with generated electricity purchased by the company.[42] Scope 3 consists of all other upstream and downstream indirect GHG emissions not included in scope 2; this category generally includes emissions associated with a company's supply chain and sold products but can also include less obvious emissions like business travel, investments, and leased assets.[43]

When setting targets, companies are generally careful to define which scopes of emissions are covered by a particular target, with many companies focusing on scope 1 and scope 2 emissions. For example, ConocoPhillips clearly states that it has set GHG emissions intensity reduction targets for its "scope 1 and scope 2 emissions," while further stating that the targets do not cover scope 3 emissions.[44] Looking back at the Walmart and Microsoft comparison above, Walmart's zero emissions pledge focuses on the *company's* global emissions and explicitly disclaims inclusion of scope 3 emissions, while Microsoft's negative emissions goal includes scope 3 emissions from its supply and value chain.[45]

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40. *See* WORLD BUS. COUNCIL FOR SUSTAINABLE DEV. & WORLD RES. INST., THE GREENHOUSE GAS PROTOCOL: A CORPORATE ACCOUNTING AND REPORTING STANDARD 25 (rev. ed. 2004), https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf [https://perma.cc/XJ43-SRFJ] (describing the three GHG emission scopes).

41. *Id.*

42. *Id.*

43. *Id.*

44. CONOCOPHILLIPS, 2019 SUSTAINABILITY REPORT 60, 80 (2020), https://static.conocophillips.com/files/resources/conocophillips-2019-sustainability-report.pdf [https://perma.cc/RG9Q-8HZJ] ("Our GHG intensity target does not cover scope 3 emissions.").

45. The point of the simplified comparison is to highlight that a company is typically very careful in determining the coverage of a particular reduction pledge. It should be noted that Walmart's Project Gigaton, while not explicitly included in the company's "zero emissions" target, is focused on reducing the company's scope 3 emissions by one gigaton carbon dioxide equivalent ("CO_2e") between 2015 and 2030. *See* Press Release, Walmart, Walmart Launches Project Gigaton to Reduce Emissions in Company's Supply Chain (Apr. 19, 2017), https://corporate.walmart.com/

The hesitation to include scope 3 emissions is understandable, as companies do not always have direct control over those emissions—although supply contracting can have some effect[46]—and there can be significant overlap among different companies' categorizations (e.g., one company's scope 3 emissions might be another company's scope 1 emissions).[47] Regardless, the decision about which emissions to include in a climate target can have dramatic impacts on the reduction potential of that target, as scope 3 emissions can account for several times the impact of scope 1 and 2 emissions.[48] As a result, and often due to external pressures, companies are readily disclosing and pledging to reduce scope 3 emissions.[49] In sum, this combination of categorization and disclosure provides the market with a reliable estimation of how much reduction potential must be realized for a company to meet a particular ERT.

2. Net Zero, Zero, and Negative Emissions

Relatedly, "net zero," or "carbon neutrality" as it is sometimes called, is achieved when the GHG emissions emitted by a company are balanced out by GHG emissions removed from the atmosphere.[50] In an ideal scenario, this would entail limiting emissions to as close to zero as possible while using carbon removal or capture technologies or carbon

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newsroom/2017/04/19/walmart-launches-project-gigaton-to-reduce-emissions-in-companys-supply-chain [https://perma.cc/YDS7-XTQW].

46. *See* Banda, *supra* note 22, at 372 ("The power of contracting endows downstream actors with significant leverage to impose behavioral change through their supply chain."); ALEXANDER FARSAN, ANDRES CHANG, ANNEMARIE KERKHOF, BENCE CSERNA, CHENDAN YAN, FERNANDO RANGEL VILLASANA & NICOLE LABUTONG, SCI. BASED TARGETS, VALUE CHANGE IN THE VALUE CHAIN: BEST PRACTICES IN SCOPE 3 GREENHOUSE GAS MANAGEMENT 25 (2018) (discussing how a company can use forceful or voluntary supply chain contracting to ensure supplier compliance with the company's emissions goals).

47. *See* FARSAN ET AL., *supra* note 46, at 9 ("Scope 3 emissions do fall outside of the company's direct control/ownership. It is, therefore, more difficult to collect scope 3 data and the inherent control and ownership structure can create barriers to reduce these emissions."); *see also* CONOCOPHILLIPS, *supra* note 44, at 80 ("As an exploration and production company with no downstream assets, we have no control over how the raw materials we produce are transformed into other products or consumed.").

48. *See* FARSAN ET AL., *supra* note 46, at 9 (documenting that scope 3 emissions from "carbon majors" account for approximately 90% of total company emissions).

49. *See id.* (noting that "[o]ver 2,800 companies that reported to CDP in 2017 reported scope 3 emissions" and "368 companies publicly listed scope 3 emission reduction targets in their 2017 CDP response").

50. *See* Kelly Levin & Chantal Davis, *What Does "Net-Zero Emissions" Mean? 6 Common Questions, Answered*, WORLD RES. INST.: BLOG (Aug. 12, 2020), https://www.wri.org/blog/2019/09/what-does-net-zero-emissions-mean-6-common-questions-answered [https://perma.cc/2BFX-QXJS] (explaining that the world will achieve net-zero emissions when "human-caused GHG emissions are balanced out" by removing GHGs from the atmosphere in a process called carbon removal).

offsets to mitigate the remaining emissions.[51] In practice, there are concerns that the two concepts—emissions reduction and emissions removal—are viewed as entirely fungible options to reduce one's carbon footprint.[52] Thus, a company may disregard substantial emissions reduction in favor of investments in carbon capture, removal, or offsets for those unmitigated emissions. For example, while several oil majors—including BP, Shell, and Total—have engaged in an arms race of climate pledges, many of their programs focus heavily on carbon removal and capture technologies and offsets while avoiding actual emissions reductions.[53]

In contrast, "zero emission" or "zero carbon" pledges are more straightforward and entail lowering emissions to zero or as close to zero as possible, regardless of offsets or carbon capture. "Negative emissions" is essentially a pledge to both limit emissions to zero (or close to it) and capture or offset enough atmospheric carbon to create a net negative carbon profile. Often, companies touting a negative emissions goal are pledging to reduce all or some portion of their historical emissions.[54]

3. Emission Intensity vs. Absolute Emissions

The net zero, zero, and negative emissions reductions discussed above are generally viewed as "absolute" reductions, meaning that they constitute a reduction—or potentially an offset, in the case of net zero—of a fixed portion of a company's total emissions.[55] In contrast, intensity

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51. *See infr*a Section I.C.4 for a discussion of carbon capture, carbon removal, and carbon offsets.

52. *See* Duncan P. McLaren, David P. Tyfield, Rebecca Willis, Bronislaw Szerszynski & Nils O. Markusson, *Beyond "Net-Zero": A Case for Separate Targets for Emissions Reduction and Negative Emissions*, FRONTIERS CLIMATE (Aug. 21, 2019), https://www.frontiersin.org/articles/10.3389/fclim.2019.00004/full [https://perma.cc/RP2G-KYXE] ("Yet we see clear evidence that emissions reductions can be deterred or delayed by efforts and suggestions to use [negative emissions techniques] to sustain fossil fuel use.").

53. *See* Nicholas Kusnetz, *What Does Net Zero Emissions Mean for Big Oil? Not What You'd Think*, INSIDE CLIMATE NEWS (July 16, 2020), https://insideclimatenews.org/news/16072020/oil-gas-climate-pledges-bp-shell-exxon/ [https://perma.cc/8QUW-MFSX] ("[T]he stated net-zero 'ambitions,' as the companies generally call them, do not require that greenhouse gas emissions fall to zero at all. They rely instead either partly or largely on capturing or canceling out these emissions with unproven technologies and reforestation at a questionable scale.").

54. *See, e.g.*, Smith, *supra* note 36 ("[B]y 2050 Microsoft will remove from the environment all the carbon the company has emitted either directly or by electrical consumption since it was founded in 1975.").

55. *See* TIMOTHY HERZOG, KEVIN A. BAUMERT & JONATHAN PERSHING, WORLD RES. INST., TARGET: INTENSITY: AN ANALYSIS OF GREENHOUSE GAS INTENSITY TARGETS 7 (2006), https://files.wri.org/s3fs-public/pdf/target_intensity.pdf [https://perma.cc/DFM5-GLVP] (defining absolute targets as "a fixed number of tons of CO_2 equivalent, to be achieved at some point in the future").

targets define an allowable level of emissions as a function of some economic indicator.[56] For companies, this indicator may be based on physical output (e.g., tons of carbon dioxide equivalent ("CO_2e") per ton of steel produced) or a financial metric (e.g., tons of CO_2e per dollar of revenue).[57] Importantly, because intensity targets are not directly attached to a fixed reduction in absolute emissions, a company experiencing a dramatic increase in output could see its total emissions increase if the decrease in its emission intensity is not enough to offset the total emissions from the growth in output.[58]

Why might a company prefer an intensity target? Proponents argue that intensity targets, in contrast to absolute reductions, are more sensitive to changes in economic conditions because they allow emissions to expand as output expands and contract as output contracts, thus providing more flexibility than absolute reductions.[59] Further, intensity targets, which effectively decouple economic growth and emissions growth, are less hostile to economic growth and allow companies to demonstrate improved emissions performance without compromising growth.[60]

4. Base Years

In contrast to net zero or zero emission targets, many carbon targets are percentage reductions. But percentage of what? Percentage-based ERTs are generally attached to the emissions level of a particular year, which essentially establishes the "pool" of emissions that will be reduced.[61] The exact base year selected can have a significant impact on the reduction potential of a pledge depending on how a company's

56. *Id.* at 3.

57. *Id.*

58. As an example, consider a cement manufacturer whose emissions intensity in a one-year period dropped from 250 kg CO_2e per ton of cement to 220 kg CO_2e per ton. If the company's output remained at a constant 1 million tons, then the company's absolute emissions would decrease from 250 million kg CO_2e to 220 million kg CO_2e. But if the company's production increased from 1 million tons to 2 million tons during that year, its absolute emissions would actually *increase* from 250 million kg CO_2e to 440 million kg CO_2e.

59. *See, e.g.*, HERZOG ET AL., *supra* note 55, at 8 ("Intensity targets may reduce the economic uncertainty associated with particular targets by adjusting to economic changes; that is, they allow faster-growing economies (or firms) more emissions and contracting ones fewer emissions."); *GHG Emissions Intensity Target Principles*, CONOCOPHILLIPS, https://www.conocophillips.com/sustainability/managing-climate-related-risks/metrics-targets/ghg-target-principles/ (last visited Mar. 16, 2021) [https://perma.cc/8CFF-62S7] ("We are in a dynamic business environment where plans, technology, prices, industry structure and costs all change rapidly. . . . An intensity target that allows a company to change its plans without having to reset its target appears to be more durable.").

60. HERZOG ET AL., *supra* note 55, at 8, 10.

61. WORLD BUS. COUNCIL FOR SUSTAINABLE DEV. & WORLD RES. INST., *supra* note 40, at 35.

emission levels have changed over time. For example, in the national emissions context, a nation whose emissions have risen consistently may select a later base year to make the total amount of emissions reduced appear larger.[62] The same logic applies to the corporate context as sectors seeing consistent emissions growth may opt for a later base year in order to be able to tout greater absolute reductions to the public.

C. Implementation

Thus far, the previous sections have made the case that companies are feeling pressure to address their GHG emissions and responding, in part, with ERTs that clearly communicate the level of emissions reduction that can be expected over time. This Section connects those ambitions to what companies are actually doing to meet their reduction goals. And what companies are doing goes well beyond token efforts. Bolstering the argument that ERTs are core organizational decisions is the public disclosure of concrete plans and steps to achieve emissions reductions: creating "climate fluent" boards, tying progress towards and achievement of ERTs to executive compensation, implementing internal carbon pricing, engaging in renewable power purchase agreements, and heavily investing in programs to offset carbon emissions. Although a discussion of the efficacy of these programs is outside the scope of this Note, it is difficult not to conclude that companies are dedicating substantial monetary and time investments into programs to meet their emissions targets.

1. Board Composition and Executive Compensation

At the management level, companies are reshaping boards of directors—through the appointment of individual directors and the creation of special committees on sustainability—to increase their "climate fluency" as well as linking aspects of executive compensation to fulfillment of climate-related commitments. On board composition, companies are actively seeking out directors with climate-related expertise. ExxonMobil added climate scientist Susan Avery to its board in 2017,[63] while ConocoPhillips added environmental law professor and

62. *See* Sam S. Rowan, *Pitfalls in Comparing Paris Pledges*, 155 CLIMATIC CHANGE 455, 459 (2019) ("Governments may choose base years strategically to make an emissions reduction seem larger . . . .").

63. *See* Randy Showstack, *ExxonMobil Adds Climate Expert to Its Board*, EOS (Jan. 31, 2017), https://eos.org/articles/exxonmobil-adds-climate-expert-to-its-board [https://perma.cc/R8HF-6Z4H] ("Atmospheric scientist Susan Avery has been elected to the board of directors of the ExxonMobil Corporation.").

former Obama White House official Jody Freeman to its board in 2012.[64] Some companies are electing to create board committees focused on proposing and implementing climate-related programs as well as communicating those matters to the larger board.[65] Shell has instituted a Safety, Environment, and Sustainability committee with authority over "progress toward meeting [Shell's] ambitions regarding its Net Carbon Footprint, Climate Change and the Energy Transition underway" as well as the responsibility to "[a]dvise the Remuneration Committee on metrics relating to Sustainable Development and Energy Transition."[66]

This push for board-level "climate fluency" has the support of major asset managers, including BlackRock[67] and State Street,[68] and pension funds like CalPERS.[69] By actively (and publicly) placing climate-fluent directors on the board and installing climate-centric committees, companies are showcasing a commitment to climate action at the highest levels of corporate decisionmaking. Moreover, dedicating specific committees to sustainability and climate change is not too

64. Press Release, ConocoPhillips, ConocoPhillips Announces Election of Ms. Jody Freeman to Its Board of Directors (July 10, 2012), https://www.conocophillips.com/news-media/story/conocophillips-announces-election-of-ms-jody-freeman-to-its-board-of-directors/ [https://perma.cc/7UL2-U82G] ("The board of directors of ConocoPhillips . . . has elected Ms. Jody Freeman as a new outside director.").

65. *See, e.g.*, Lynn S. Paine, *Sustainability in the Boardroom*, HARV. BUS. REV. (2014), https://hbr.org/2014/07/sustainability-in-the-boardroom [https://perma.cc/VQ23-3TL7] (explaining Nike has created a committee to set and maintain corporate responsibility and sustainability standards that "engages directly with key executives").

66. Safety, Env't & Sustainability Comm., Royal Dutch Shell PLC, *Terms of Reference*, SHELL, https://www.shell.com/investors/environmental-social-and-governance/board-of-directors/_jcr_content/par/grid_copy/p0/expandablelist_copy/expandablesection_730789930.stream/1608049078922/c13de3b6ae4c61424ce64b6e87eebd1421dcff76/safety-environment-and-sustainability-committee-terms-of-reference.pdf (last visited Mar. 17, 2021) [https://perma.cc/9STC-QBZV].

67. *See BlackRock Investment Stewardship: Proxy Voting Guidelines for U.S. Securities*, BLACKROCK 4 (2021), https://www.blackrock.com/corporate/literature/fact-sheet/blk-responsible-investment-guidelines-us.pdf [https://perma.cc/VS5S-SPHC] ("We will consider voting against committee members and/or individual directors . . . [w]here the board has failed to exercise sufficient oversight with regard to material [Environmental, Social, and Corporate Governance] risk factors . . . .").

68. *See Climate Change Risk Oversight Framework for Directors*, STATE ST. GLOB. ADVISORS 4, https://www.ssga.com/library-content/products/esg/climate-change-risk-oversight.pdf (last visited Mar. 16, 2021) [https://perma.cc/UB6P-MK4B] ("Companies in high-risk sectors should assess board composition and director expertise in relation to climate competence of the board; establish mechanisms such as access to climate experts to help educate directors on evolving climate-related risks.").

69. *See* Veena Ramani, *CalPERS Raises Bar on Corporate Directors' Role in Tackling Climate Change*, CERES (Apr. 6, 2016), https://www.ceres.org/news-center/blog/calpers-raises-bar-corporate-directors-role-tackling-climate-change [https://perma.cc/L6BT-4YYT] ("CalPERS' revised Governance Principles call on companies to make climate change the responsibility of a board committee or the whole board. Creating such explicit oversight will help ensure that climate change is considered more systematically by boards.").

dissimilar from the special committees installed in the context of mergers and acquisitions, the gold standard of fundamental corporate events.

On executive compensation, a wide array of companies—including Microsoft,[70] Walmart,[71] and PepsiCo[72]—have explicitly included sustainability performance in short-term and long-term incentive plans. These efforts have backing from some insurance industry players[73] and some shareholder groups.[74] The effectiveness of using executive compensation as a vehicle for improved climate performance is backed by research, particularly because climate performance can be more easily quantifiable and tracked as compared to other sustainability or nonfinancial executive compensation components.[75] But there is also concern that executives motivated solely by meeting the targets in their compensation plan will rarely strive to

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70. Microsoft Corp., 2019 Proxy Statement 31–32 (Oct. 16, 2019) (discussing the inclusion of "corporate social responsibility" as a determinant of executives' compensation).

71. Walmart Inc., 2020 Proxy Statement 51 (Apr. 23, 2020) (discussing the role of environmental, corporate, and social Governance ("ESG") criteria in pay determination).

72. PepsiCo, Inc., 2020 Proxy Statement 44 (Mar. 20, 2020) (grouping sustainability performance in a distinct "people and planet" category under a key determinant of executive compensation).

73. *See* Shai Ganu & Philipp Geiler, *Combating Climate Change Through Executive Compensation*, WILLIS TOWERS WATSON (Sept. 30, 2020), https://www.willistowerswatson.com/en-US/Insights/2020/09/Combating-climate-change-through-executive-compensation [https://perma.cc/P854-4PEN] ("More and more companies are beginning to incorporate ESG measures within their short- and long-term incentive plans for senior executives; but there is still room for improvement.").

74. *See Sustainability Matters: The Rise of ESG Metrics in Executive Compensation*, SULLIVAN & CROMWELL LLP 2 (Mar. 10, 2020), https://www.sullcrom.com/files/upload/SC-Publication-Sustainability-Matters-The-Rise-of-ESG-Metrics-in-Executive-Compensation.pdf [https://perma.cc/KWK4-N535] ("A study of 2019 proxy filings . . . indicated that, of the 52 executive compensation proposals received by S&P Composite 1500 companies, 18 sought to link executive pay to ESG metrics, representing a 50% increase to the number of such proposals received in 2017 and slight decline against 2018 figures."); *BP to Support Investor Group's Call for Greater Reporting Around Paris Goals*, BP 2 (Feb. 1, 2019), https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/news-and-insights/press-releases/bp-to-support-investor-groups-call-for-greater-reporting-around-paris-goals.pdf [https://perma.cc/ZXU9-UFQY] ("BP today also announced that greenhouse gas (GHG) emissions reductions have now been included as a factor in the reward of 36,000 employees across the Group and around the world, including executive directors."); *see also BlackRock Investment Stewardship: Proxy Voting Guidelines for U.S. Securities*, *supra* note 67, at 11 ("We support incentive plans that foster the sustainable achievement of results consistent with the company's long-term strategic initiatives.").

75. *See* Caroline Flammer, Bryan Hong & Dylan Minor, *Corporate Governance and the Rise of Integrating Corporate Social Responsibility Criteria in Executive Compensation: Effectiveness and Implications for Firm Outcomes*, 40 STRATEGIC MGMT. J. 1097, 1099 (2019) (finding that including these benchmarks in executive compensation not only reduces emissions but also increases firm value); Karen Maas, *Do Corporate Social Performance Targets in Executive Compensation Contribute to Corporate Social Performance?*, 148 J. BUS. ETHICS 573, 579 (2018) (noting that using hard, quantitative targets improves corporate social performance).

exceed those targets.[76] Regardless of the efficacy, including fulfillment of climate commitments in compensation plans demonstrates an intent to make sustainability at least a comparable focal point for a company's operations alongside more traditional metrics such as revenue and share price.

2. Internal Carbon Pricing

Internal carbon pricing, a longstanding practice for companies, attaches a company-created monetary value on GHG emissions, which is subsequently factored into investment decisions and business operations.[77] These pricing mechanisms can be implemented for a variety of reasons, such as incentivizing shifts to low-carbon alternatives, preparing for future government-imposed carbon restrictions, alleviating shareholder and investor concerns about financial risks associated with carbon emissions, or showcasing corporate leadership in the climate change arena.[78]

Carbon pricing often takes one of, or a combination of, three forms: internal carbon fees, shadow pricing, or implicit pricing. Internal carbon fees attach a monetary value to each ton of carbon or GHG emissions, the revenues from which are used to fund emissions reduction efforts.[79] Shadow pricing adds a surcharge to market prices for goods and services that involve significant carbon emissions, ensuring that investments, procurements, and acquisitions reflect the true cost of carbon emissions.[80] Implicit pricing involves a retroactive calculation of the amount that a company spends on carbon emissions abetment or compliance with government emissions regulations; these costs are highlighted in order to determine where it is cost effective to mitigate carbon emissions at the outset.[81]

Oil majors and other carbon-intensive sectors were early adopters of internal carbon pricing. Documents from the state of New York's lawsuit against ExxonMobil indicate that since 2007, the

76. *See* Radhakrishnan Gopalan, John Horn & Todd Milbourn, *Comp Targets That Work: How to Keep Executives from Gaming the System*, HARV. BUS. REV. (2017), https://hbr.org/2017/09/comp-targets-that-work [https://perma.cc/S8AL-3EBG] ("At companies where payout rates tapered off beyond a given target, CEOs tended to deliver results at or just above the target and seldom much beyond it.").

77. *See* Manjyot Bhan Ahluwalia, *The Business of Pricing Carbon: How Companies Are Pricing Carbon to Mitigate Risks and Prepare for a Low-Carbon Future*, CTR. FOR CLIMATE & ENERGY SOLS. 1, 5 (2017), https://www.c2es.org/site/assets/uploads/2017/09/business-pricing-carbon.pdf [https://perma.cc/FZ3M-DFPN] (discussing the practice of internal carbon pricing).

78. *Id.* at 5–8.

79. *Id.* at 3–4.

80. *Id.* at 4.

81. *Id.*

company has been using internal proxy costs of carbon to mimic potential governmental regulation on carbon emissions, with the cost estimated to reach $60 per ton of emissions by 2030 for developed economies.[82] Similarly, BP adopted an internal emissions trading system in 1999, whereby internal business units would trade emissions allowances among each other.[83] But internal carbon pricing is not limited to the oil and gas sector, as demonstrated by Microsoft's decision to apply its own internal carbon price to all three scopes of emissions.[84] According to CDP, in 2017, almost 1,400 companies were utilizing internal carbon pricing when formulating business plans.[85]

3. Renewable Energy Procurement

As discussed above, a company's scope 2 emissions consist of GHG emissions associated with that company's purchased generated electricity.[86] Thus, any company including scope 2 emissions in its ERTs will inevitably look to how it procures its electricity. In particular, this means replacing carbon-intensive electricity generation (e.g., coal, natural gas) with renewable energies (e.g., solar, wind). This explains, at least in part, why companies are committing to dedicating all or some portion of their electricity procurement to renewable energy. These companies include Apple, Facebook, Coca-Cola, Nike, and Anheuser-Busch/Budweiser.[87] In fact, as of publication, over 300 companies have

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82. *See* Benjamin Hulac, *This Is How an Oil Giant Uses Internal Carbon Pricing*, E&E NEWS (June 15, 2017), https://www.eenews.net/stories/1060056076 [https://perma.cc/W8P4-9ETB] ("In court filings, the company said Friday it forecasts carbon prices that will reach $60 per ton of emissions by 2030 for wealthy countries and, in some nations, $80 per ton by 2040.").

83. *See* Sarah E. Light, *The New Insider Trading: Environmental Markets Within the Firm*, 34 STAN. ENV'T L.J. 3, 30–41 (2015) (explaining BP's internal trading market).

84. *See* Smith, *supra* note 36 (noting that Microsoft will begin applying its $15/metric ton internal carbon tax to its scope 3 emissions).

85. *More Than Eight-Fold Leap over Four Years in Global Companies Pricing Carbon into Business Plans*, CDP (Oct. 12, 2017), https://www.cdp.net/en/articles/media/more-than-eight-fold-leap-over-four-years-in-global-companies-pricing-carbon-into-business-plans [https://perma.cc/D5GF-AZVH].

86. *See* WORLD BUS. COUNCIL FOR SUSTAINABLE DEV. & WORLD RES. INST., *supra* note 40, at 25 ("Scope 2 accounts for GHG emissions from the generation of purchased electricity consumed by the company." (footnote omitted)).

87. *See* Press Release, Apple, Apple Now Globally Powered by 100 Percent Renewable Energy (Apr. 9, 2018), https://www.apple.com/newsroom/2018/04/apple-now-globally-powered-by-100-percent-renewable-energy/ [https://perma.cc/M4DS-HCCC] ("As part of its commitment to combat climate change and create a healthier environment, Apple today announced its global facilities are powered with 100 percent clean energy."); Rob Price, *Facebook Says It Will Be Powered by 100% Renewable Energy by 2020*, BUS. INSIDER (Aug. 28, 2018, 12:00 PM), https://www.businessinsider.com/facebook-sets-2020-renewable-energy-and-greenhouse-gas-targets-2018-8?r=UK&IR=T [https://perma.cc/ZX6J-WQ5M] ("On Tuesday, the Silicon Valley tech giant announced that it has set itself a target of powering its operations with 100% renewable energy 'by the end of 2020.' "); David Ferris, *Budweiser Parent Sets Crazy-Ambitious Renewables Goal*, E&E NEWS: ENERGYWIRE

pledged to achieve 100% renewable energy as part of RE100, an initiative launched in 2014 by CDP and Climate Group.[88] These electricity demands are not minor costs for many of these companies. For example, the electricity demand of individual data centers—which are often owned and/or operated by information companies like Amazon and Facebook—can exceed the consumption of the towns where they reside, while the collective demand of all data centers can dwarf the energy consumption of some countries.[89]

4. Carbon Offsets, Capture, and Removal

Many of the climate strategies discussed thus far have focused on mitigating emissions at the outset: incentivizing executives and directors to limit emissions through compensation packages, pricing emissions into projects prior to approval, or procuring renewable energy as opposed to carbon-intensive energy. Yet companies employing net emissions targets have other options to meet their goals: carbon offsetting, carbon removal, and carbon capture. Carbon offset schemes allow companies to reduce future emissions by investing in environmental projects that balance out the emissions the company contributes.[90] These projects might include reforestation or afforestation projects to absorb carbon directly from the air or the purchasing and "tearing up" of emissions credits from an emission trading scheme, thus limiting the total amount of emissions the scheme allows.[91]

Similarly, carbon removal technologies, or negative emissions technologies, remove existing atmospheric carbon and store it in the earth or oceans, effectively mimicking the natural removal performed by oceans and forests.[92] This process is related to, but distinct from,

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(Mar. 30, 2017), https://www.eenews.net/stories/1060052308 [https://perma.cc/C66Z-PE5V] ("Anheuser-Busch InBev, the parent company of Budweiser and the world's largest brewer, made a startling announcement this week. It committed to switching its electricity supply to entirely renewable sources within a scant nine years, and to do so with unusual rigor."). *See generally RE100 Members*, RE100, https://www.there100.org/re100-members (last visited Mar. 16, 2021) [https://perma.cc/E35Z-C9AG] (listing companies that have committed to 100% renewable procurement).

88. *See RE100 Members*, *supra* note 87.

89. *See* Nicola Jones, *How to Stop Data Centres from Gobbling Up the World's Electricity*, NATURE (Sept. 13, 2018), https://www.nature.com/articles/d41586-018-06610-y [https://perma.cc/L8EY-VP7J] ("Already, data centres use an estimated 200 terawatt hours (TWh) each year. That is more than the national energy consumption of some countries . . . .").

90. *See* Duncan Clark, *A Complete Guide to Carbon Offsetting*, GUARDIAN (Sept. 16, 2011, 6:13 AM), https://www.theguardian.com/environment/2011/sep/16/carbon-offset-projects-carbon-emissions [https://perma.cc/WTC7-5TXX].

91. *Id.*

92. Albert C. Lin, *Carbon Dioxide Removal After Paris*, 45 ECOLOGY L.Q. 533, 536 (2019).

carbon capture and storage ("CCS"), where carbon from a company's industrial and energy-related sources is captured *before reaching the atmosphere* and then stored in isolation from the atmosphere.[93] In both instances, emissions are captured on the back end, rather than mitigated at the outset. Carbon removal and CCS have become focal points for carbon-intensive industries. For example, Occidental Petroleum has invested heavily in carbon removal, including constructing one of the largest plants to capture atmospheric carbon dioxide,[94] and CCS is highlighted as one of the company's primary mechanisms to achieve net zero for its scope 1, 2, and 3 emissions before 2050.[95] In fact, the company's CEO has stated that she envisions Occidental becoming a "carbon management company" down the road.[96] Similarly, Chevron has invested $1 billion in CCS projects in Australia and Canada and has highlighted investment in CCS as an "energy transition focus area."[97] Even the Department of Energy has dedicated ample funding toward CCS research and development.[98] The sheer amount of investment and the public press indicate that CCS will likely become a core business activity for carbon-intensive industries like oil and gas, an activity directly linked to their ERTs.

D. Nonfulfillment

Ambition can, at times, exceed execution, and ERTs are no different. While quantifying a company's emissions is a relatively straightforward endeavor, abating or offsetting enough emissions to meet a particular target can be tricky in spite of all the implementation measures discussed above. This Section walks through some potential

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93. *See id.* at 562 (explaining how CCS works in relation to carbon removal).

94. Christa Marshall, *World's Largest Trap for Airborne CO_2 Planned for West Texas*, ENERGYWIRE (May 22, 2019), https://www.eenews.net/energywire/stories/1060375171 [https://perma.cc/6FFX-CQ78].

95. *See* OCCIDENTAL, CLIMATE REPORT 2020: PATHWAY TO NET-ZERO 7–8 (2020), https://www.oxy.com/Sustainability/overview/Documents/ClimateReport2020.pdf [https://perma.cc/Q5PM-5VKF] ("The focal point of our long-term net-zero strategy is Oxy Low Carbon Ventures (OLCV) . . . . OLCV principally focuses on developing CCUS [carbon capture, utilization, and storage ("CCUS")] technologies to remove human-made CO_2 from the atmosphere for use in manufacturing low-carbon products . . . .").

96. Mike Lee, *Oil Major to Become 'Carbon Management Company*,*'* ENERGYWIRE (Dec. 4, 2020), https://www.eenews.net/energywire/stories/1063719891/search?keyword=oil+major [https://perma.cc/LA9V-XAHZ].

97. CHEVRON, 2019 CORPORATE SUSTAINABILITY REPORT 1, 10 (2020), https://www.chevron.com/-/media/shared-media/documents/2019-corporate-sustainability-report.pdf [https://perma.cc/4V3D-RRSB].

98. *See U.S. Department of Energy Announces $131 Million for CCUS Technologies*, U.S. DEP'T ENERGY (Apr. 24, 2020), https://www.energy.gov/articles/us-department-energy-announces-131-million-ccus-technologies [https://perma.cc/QK25-JABM].

pitfalls with ERTs: Growing companies may find it difficult to combat rising emissions. Renewable energy generation may not be readily available or may not guarantee sufficient emissions reductions. Carbon removal or carbon offsets may not provide the necessary offsetting potential due to technological or scalability limitations.

But what is the harm if a company underperforms its emissions targets, especially since such targets are entirely voluntary to begin with? To answer that question, this Section will discuss how unmet ERTs can still allow companies to reap the benefits of appearing sustainable, despite a contrary track record, to the detriment of share price accuracy and market efficiency.

1. The Risk of Nonfulfillment

As with any forward-looking pledge, there is the obvious risk that companies will simply not be able to meet their climate commitments on time. This is not an unfounded hypothetical. One analysis of eighty-one companies with ERTs approved by the SBTi found that 49% were falling behind the necessary target trajectory for at least one element of their SBTi portfolio.[99] While it is difficult—if not impossible—to accurately compare ERTs with different reduction targets, deadlines, baselines, and scopes of emissions, the study found that the risk of falling behind was greater for mid- and long-term targets, for targets that included scope 3 emissions, and for companies that were not already achieving reductions prior to having their ERT approved by the SBTi.[100] Similarly, a *Bloomberg* analysis of 187 climate pledges with a deadline of 2020 or earlier determined that thirty-two—or about 17%—were not fulfilled or not presently on track to reach fulfillment,[101] while a 2016 Bain & Company survey of three hundred companies that engaged in sustainability programs found that only 2% of respondents met or achieved their sustainability targets, 81%

99. Jannik Giesekam, Jonathan Norman, Alice Garvey & Sam Betts-Davies, *Science-Based Targets: On Target?*, SUSTAINABILITY 13, no. 4, Feb. 4, 2021, at 10, https://doi.org/10.3390/su13041657 [https://perma.cc/Y4ZE-66MR].

100. *Id.* at 9–13.

101. *See* Todd Gillespie, Hayley Warren & Tom Randall, *Time's Up on Corporate America's 2020 Climate Goals. Here's the Results*, BLOOMBERG: BLOOMBERG GREEN (Dec. 14, 2020), https://www.bloomberg.com/graphics/2020-company-emissions-pledges/ [https://perma.cc/2WY4-8567]. For ERTs with a 2020 deadline, note that the economic downturn resulting from the COVID-19 pandemic has resulted in a dip in worldwide carbon emissions, indicating that recent declines in emissions may be temporary. *Id.*; *see also* Zhu Liu et al., *Near-Real-Time Monitoring of Global CO_2 Emissions Reveals the Effects of the COVID-19 Pandemic*, 11 NATURE COMMC'NS, Oct. 14, 2020, at 2, https://doi.org/10.1038/s41467-020-18922-7 [https://perma.cc/QPT7-F7JU] (noting that CO_2 emissions from January 1, 2020 to June 30, 2020 decreased by 8.8% as compared to the same period in 2019, "larger than for any recent economic downturn, and larger than the annual decrease . . . during World War II").

settled for a diluted goal, and 16% failed to produce even half of their expected results.[102]

Looking to specific examples, Kraft Heinz announced in September 2020 that it would not meet the 2020 GHG reduction goals it set in 2017, citing difficulties in limiting emissions in its supply chain.[103] Further, some companies have experienced emissions performance in the opposite direction. Levi Strauss, which set forth a goal in 2018 to reduce its scope 3 emissions by 40% by 2025,[104] saw the emissions from its supply chain increase by 13% between 2016 and 2019.[105] Amazon, which has established a pledge to achieve net zero carbon by 2040,[106] observed a 15% increase in its overall carbon emissions from 2018 to 2019, despite noting reductions in its carbon intensity.[107] While both Levi Strauss and Amazon still have time to meet their commitments, every annual increase in carbon emissions makes it that much harder to achieve the necessary reductions or offsets.

Pointing out nonfulfillment is not meant to shame those companies who fail to attain their ambitious and necessary climate goals. Rather, it is meant to highlight the inherent difficulty in achieving any ambitious GHG emissions goal.[108] That same Bain & Company survey found that managers and employees cited lack of investment and competing priorities as the primary barriers to

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102. *See* Jenny Davis-Peccoud, Paul Stone & Clare Tovey, *Achieving Breakthrough Results in Sustainability*, BAIN & CO. (Nov. 17, 2016), https://www.bain.com/insights/achieving-breakthrough-results-in-sustainability [https://perma.cc/5EMS-V7C8].

103. *See* Nic Querolo, *Kraft Heinz Says It Will Fall Short of 2020 Environmental Goals*, FIN. POST (Sept. 16, 2020), https://financialpost.com/pmn/business-pmn/kraft-heinz-says-it-will-fall-short-of-2020-environmental-goals [https://perma.cc/BX6Z-MFKW].

104. *See* LEVI STRAUSS & CO., CLIMATE ACTION STRATEGY 2025, at 2 (2018), https://www.levistrauss.com/wp-content/uploads/2018/07/LSCO_Climate_Action_Strategy_2025.pdf [https://perma.cc/R2T9-N8WB].

105. *See* Peter Eavis & Clifford Krauss, *What's Really Behind Corporate Promises on Climate Change?*, N.Y. TIMES (Feb, 24, 2021), https://www.nytimes.com/2021/02/22/business/energy-environment/corporations-climate-change.html?smid=url-share [https://perma.cc/A38P-Q5UA].

106. *See* AMAZON, REACHING NET ZERO CARBON BY 2040: MEASURING, MAPPING, AND REDUCING CARBON THE AMAZONIAN WAY 2 (2019), https://d39w7f4ix9f5s9.cloudfront.net/a4/ad/b9eca67e4578b35e8f995c8b4f9c/amazon-carbon-methodology-september-2019.pdf [https://perma.cc/6UGR-5NF5].

107. *See Carbon Footprint*, AMAZON, https://sustainability.aboutamazon.com/environment/sustainable-operations/carbon-footprint (last visited Mar. 16, 2021) [https://perma.cc/T9VU-FAD4].

108. To reinforce this point, national governments—including major emitters like the United States, China, and even the typically "ahead of the curve" European Union—are similarly struggling to meet their climate pledges under the Paris Agreement. *See* Brad Plumer & Nadja Popovich, *The World Still Isn't Meeting Its Climate Goals*, N.Y. TIMES (Dec. 7, 2018), https://nyti.ms/2wl3wyG [https://perma.cc/4UTB-9T8Z].

achievement of climate pledges.[109] Further, many of the measures being employed to reduce or offset emissions may not provide the necessary reduction or offsetting potential, or they have proven difficult to invent, implement, and scale up.

Even the particular implementation measures used by many companies present concerns over nonfulfillment. Renewable energy pledges present not so much a problem of execution but rather of accounting. When a company purchases renewable energy, it often does so through a power purchase agreement with a renewable energy developer, whereby the developer sends renewable energy to the grid used by the company while the company receives renewable energy credits that can be used to offset emissions from its power consumption.[110] But if the company's operations are connected to the electric grid, it is drawing energy from the energy generators connected to that grid, no matter if it is a wind farm or a coal-fired power plant. Thus, depending on the nature of the power purchase agreement and the mix of the local grid, the company may not be getting all of its energy from renewable sources.

For carbon removal and carbon offsetting, there are growing concerns about the disconnect between theoretical removal potential and actual removal capability, especially when factoring in cost. Given the lower concentration of carbon in the ambient air—a small fraction of the concentration found in smokestacks—direct air capture can be extremely costly.[111] Additionally, the market for carbon dioxide is currently limited, which will make it difficult to provide enough revenue to offset the potentially enormous costs of capture.[112] Concerns about limited capture potential and prohibitive cost may render carbon removal either too inefficient to meet an ERT or too costly to be scalable.

Thus, it is not a given that the pronouncement of an ERT means achievement of that ERT. If nonfulfillment occurs, absent a *mea culpa* to that effect, like in the Kraft Heinz example, there becomes a disconnect between market expectations and reality. As discussed

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109. David-Peccoud et al., *supra* note 102, at 3.

110. *See* Benjamin Storrow, *100 Percent Renewable Pledges Do Not Equal Carbon-Free Power*, SCI. AM. (May 28, 2019), https://www.scientificamerican.com/article/100-percent-renewable-pledges-do-not-equal-carbon-free-power/ [https://perma.cc/M6VU-VBYJ].

111. *See* Lin, *supra* note 92, at 540 ("The estimated cost of removing carbon via [direct air capture] exceeds $250 per ton of CO_2 and could remain prohibitively expensive.").

112. *See* Katie Lebling, Noah McQueen, Max Pisciotta & Jennifer Wilcox, *Direct Air Capture: Resource Considerations and Cost for Carbon Removal*, WORLD RES. INST. (Jan. 6, 2021), https://www.wri.org/blog/2021/01/direct-air-capture-definition-cost-considerations [https://perma.cc/244R-KHBH] (noting that markets for CO_2 are "limited and cannot provide enough revenue to offset the cost of capture" and discussing enhanced oil recovery ("EOR"), currently the largest CO_2 market).

further, this disconnect can have implications for stock prices, market efficiency, and investor protection.

2. The Potential Market Effects of Nonfulfillment

The fundamental purpose of financial markets is the efficient allocation of capital, or allocative efficiency.[113] Such allocative efficiency is achieved, at least in part, when markets efficiently exchange information and insights about a security.[114] As this information is exchanged and processed, security prices adjust according to how the market perceives the effect of such information—rising with good news and falling with bad news.[115] Thus, security prices can be viewed as the language by which markets communicate.[116]

Market efficiency begins to break down when the information being exchanged cannot be viewed as reliable or accurate.[117] While

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113. *See, e.g.*, Zohar Goshen & Gideon Parchomovsky, *The Essential Role of Securities Regulation*, 55 DUKE L.J. 711, 713 (2006) ("[T]he ultimate goal of securities regulation is to attain efficient financial markets and thereby improve the allocation of resources in the economy."); Charles K. Whitehead, *Reframing Financial Regulation*, 90 B.U. L. REV. 1, 35 (2010) ("The basic goals of the markets have remained the same—namely, the efficient allocation, transfer, and deployment of capital resources and risk-bearing."); Steve Thel, *Regulation of Manipulation Under Section 10(b): Security Prices and the Text of the Securities Exchange Act of 1934*, 1988 COLUM. BUS. L. REV. 359, 372 ("It is often said that the most important thing about securities markets is their influence in moving money from savers to users."). *But see* Lynn A. Stout, *The Unimportance of Being Efficient: An Economic Analysis of Stock Market Pricing and Securities Regulation*, 87 MICH. L. REV. 613 (1988) (challenging the conclusion that efficiency should be the sole concern of securities regulation).

114. *See* Yesha Yadav, *How Algorithmic Trading Undermines Efficiency in Capital Markets*, 68 VAND. L. REV. 1607, 1631 (2015) (noting trader "interactions reveal what they know about a security and how much they wish to pay to buy or sell it based on their knowledge and risk preferences" and that such exchanges "reflect[ ] the information and insights of traders in the prices at which securities trade"); *see also* Thel, *supra* note 113, at 399 (noting that, alongside straightforward disclosure, "[t]he act of trading communicates important information").

115. This relationship between information and security price is also known as the Efficient Capital Markets Hypothesis ("ECMH"), which posits that security prices reflect all available information. *See* Eugene F. Fama, *Efficient Capital Markets: A Review of Theory and Empirical Work*, 25 J. FIN. 383, 383 (1970) (the seminal article on the ECMH). A version of the ECMH that assumes security prices efficiently adjust to incorporate all publicly available information—also known as "semi-strong" ECMH—has become a fundamental part of securities litigation. *See* Basic Inc. v. Levinson, 485 U.S. 224, 241–48 (1988) (relying on the semi-strong ECMH to rule that securities fraud plaintiffs may invoke a rebuttable presumption of reliance on the integrity of the security's price); Halliburton Co. v. Erica P. John Fund, Inc., 573 U.S. 258, 283–84 (2014) (ruling that a defendant can rebut a presumption of reliance in securities fraud by proving that the alleged misrepresentation did not affect the price).

116. *See* Yadav, *supra* note 114, at 1631 ("According to established economic theory, markets speak through prices.").

117. The decline in public and investor confidence in the accuracy of security prices was a key concern for those crafting federal securities law in the 1930s. *See, e.g.*, Joel Seligman, *The Historical Need for a Mandatory Corporate Disclosure System*, 9 J. CORP. L. 1, 51–53 (1983) (describing Roosevelt's desire for law requiring more public disclosure). Section 2 of the Securities Exchange Act of 1934 highlights how restoring investor confidence was a primary driver in its

share prices reflect publicly disseminated information, this public information includes both accurate information and inaccurate yet unrefuted information.[118] An increase in the latter causes the share price to deviate further from the fundamental value of the company.[119] In other words, the accuracy of the share price diminishes. Further, threats to price accuracy reduce market liquidity.[120] As traders realize that a share price is inaccurate, some may withdraw from the market for that security, thus limiting the pool of traders and thereby reducing the overall liquidity of that asset.[121] Those who remain will be forced to factor this increased illiquidity into share prices, thus causing price accuracy to deviate further from fundamental value.[122]

These effects are no less real for "nonfinancial information," such as climate information like ERTs. One study, using traditional event study methodology, found that the announcement of corporate sustainability initiatives leads to statistically significant increases in stock returns.[123] A similar study found a positive relationship between stock price and the announcement of environmental awards.[124] These studies indicate that investors factor in the dissemination of climate information alongside traditionally financial information, which lends credence to the notion that inaccurate climate information may lead to market inefficiencies.

Misled investors present another concern. For this, it is helpful to view this risk to market efficiency from the perspective of a commonly understood environmental concern: greenwashing. Through greenwashing, a company is able to "falsely, yet effectively, portray an

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passage. *See* Securities Exchange Act of 1934, Pub. L. No. 73-291, § 2, 48 Stat. 881, 882 (codified as amended at 15 U.S.C. § 78b) (justifying the legislation as necessary to "insure the maintenance of fair and honest markets").

118. *See* Thel, *supra* note 113, at 398 ("Prices may change in response to false or misleading communications since security prices reflect what investors believe, even if those beliefs are wrong.").

119. *See* Goshen & Parchomovsky, *supra* note 113, at 730 ("The larger the deviation between price and value and the longer it takes for prices to revert to value, the less efficient the market is.").

120. *See* Gina-Gail S. Fletcher, *Deterring Algorithmic Manipulation*, 74 VAND. L. REV. 259, 279–80 (2021) (discussing the effects of market manipulation on market liquidity).

121. *Id.*

122. *Id.*; Thel, *supra* note 113, at 373 ("Investors will demand a premium for participating in volatile markets or in markets in which they believe that others are better able to predict future prices." (footnote omitted)).

123. *See* Caroline Flammer, *Corporate Social Responsibility and Shareholder Reaction: The Environmental Awareness of Investors*, 56 ACAD. MGMT. J. 758, 771 (2013) (finding that "shareholders react positively to the announcement of eco-friendly initiatives").

124. *See* Robert D. Klassen & Curtis P. McLaughlin, *The Impact of Environmental Management on Firm Performance*, 42 MGMT. SCI. 1199, 1212–13 (1996).

image of environmental responsibility to obtain undeserved benefits."[125] As one commenter notes, corporations can achieve greenwashing through posturing, which focuses on "convinc[ing] internal customers, as much as external stakeholders, of the organization's collective commitment to ethics."[126] Posturing can be effective because a corporation is likely undertaking voluntary climate action in order to increase sales, obtain or retain investment, and cultivate a sustainable reputation among its peers—as discussed in Section I.A.

Absent a public update on progress, an unfulfilled ERT that lingers in the market is a clear example of posturing. The company is able to reap the benefit of "meeting" an ERT—whether through reputational benefits, investment from institutional investors with longer investment horizons, or some other benefit—without having actually achieved the necessary emissions reduction. Moreover, since the company is likely using ERTs to obtain buy-in or business from stakeholders—such as customers, clients, or investors—who value sustainability,[127] failing to meet those ERTs may cause investors to invest in and support practices they find unethical.[128]

Given confluence of these market concerns—market inefficiency, inaccurate share prices, and misled investors—it may be worth exploring options under existing U.S. securities law to mitigate those ill effects. The next Part explores one such option: the duty to update.

II. U.S. SECURITIES LAW AND THE DUTY TO UPDATE

Federal securities law operates under the guiding principle that "investors must have access to accurate information important to making investment and voting decisions in order for the financial markets to function effectively."[129] To implement this mandate, the

125. Bryant Cannon, Note, *A Plea for Efficiency: The Voluntary Environmental Obligations of International Corporations and the Benefits of Information Standardization*, 19 N.Y.U. ENV'T L.J. 454, 478 (2012).

126. *See* William S. Laufer, *Social Accountability and Corporate Greenwashing*, 43 J. BUS. ETHICS 253, 256–57 (2003).

127. *See* Flammer, *supra* note 123, at 760 (noting that CEOs have cited "brand, trust, and reputation . . . as one of the main factors driving them to take action on sustainability issues" (internal quotation marks omitted)).

128. *See* Cadesby B. Cooper, Note, *Rule 10b-5 at the Intersection of Greenwash and Green Investment: The Problem of Economic Loss*, 42 B.C. ENV'T AFFS. L. REV. 405, 433 (2015).

129. *See, e.g.*, Business and Financial Disclosure Required by Regulation S-K, Securities Act Release No. 10,064, Exchange Act Release No. 77,599, 81 Fed. Reg. 23,916, 23,921 (proposed Apr. 22, 2016). The decline in public and investor confidence in the accuracy of securities prices leading up to and during the Great Depression was a key driver in the 1930s passage of the current federal securities statutes. *See* Securities Exchange Act of 1934, Pub. L. No. 73-291, § 2, 48 Stat. 881, 882 (codified as amended at 15 U.S.C. § 78b) (justifying the legislation as necessary to "insure the maintenance of fair and honest markets"); *see also* Seligman, *supra* note 117, at 51–53

Securities and Exchange Commission ("SEC"), pursuant to its powers under section 13(a) of the Securities Exchange Act of 1934 ("Exchange Act"),[130] requires "reporting companies"[131] to comply with extensive periodic and event-specific disclosure requirements, outlined in Regulation S-K.[132]

Even though the SEC has created an expansive mandatory disclosure regime, voluntary ERTs, by their very nature, exist outside of this regime, appearing instead in company-issued sustainability reports and in disclosures to voluntary climate disclosure regimes like CDP and SASB. In the absence of a mandated disclosure required by SEC regulation, corporate disclosures are policed by the antifraud provisions of the Exchange Act section 10(b)[133] and, by extension, Rule 10b-5 and its associated private right of action.[134] Rule 10b-5 makes it unlawful to "make any untrue statement of a material fact or to omit to state a material fact necessary in order to make the statements made, in the light of the circumstances under which they were made, not misleading."[135] This rule applies with equal force to both mandated and voluntary disclosures.[136]

(documenting President Roosevelt's and the SEC's concerns about declining public confidence in over-the-counter securities trading).

130. *See* 15 U.S.C. § 78m. This statutory provision requires annual reports to be filed with the SEC, as well as "such information and documents . . . as the [SEC] shall require" in order to keep the issuer's registration statement "reasonably current." *Id.* § 78m(a).

131. There are three categories of "reporting companies" that are required to file quarterly and annual reports under the Exchange Act. The first includes companies whose stocks or bonds are traded on any national securities exchange, such as NASDAQ or the New York Stock Exchange. *Id.* § 78l(a). The second includes publicly traded companies with at least $10 million in assets whose securities are held by at least 2,000 persons or "500 persons who are not accredited investors," as defined by the SEC. *Id.* § 78l(g). The third and final category includes companies selling nonexchange traded securities pursuant to an effective registration statement, usually via a public offering, under the Securities Act of 1933, unless there are fewer than 300 shareholders of record a year after the offering. *Id.* § 78o(d).

132. Codified at 17 C.F.R. pt. 229 (2020); *see also* Adoption of Disclosure Regulation and Amendments of Disclosure Forms and Rules, Securities Act Release No. 5893, Exchange Act Release No. 14,306, Investment Company Act Release No. 10,070, 42 Fed. Reg. 65,554 (Dec. 30, 1977) (adopting a set of disclosure regulations collectively termed Regulation S-K).

133. Section 10(b) makes it unlawful "[t]o use or employ, in connection with the purchase or sale of any security registered on a national securities exchange or any security not so registered, or any securities-based swap agreement any manipulative or deceptive device or contrivance in contravention of" SEC rules and regulations promulgated under this section. 15 U.S.C. § 78j.

134. *See* 17 C.F.R. § 240.10b-5 (2020); Blue Chip Stamps v. Manor Drug Stores, 421 U.S. 723, 751 (1975) (finding an implied private right of action under Rule 10b-5 for "the holders of puts, calls, options, and other contractual rights or duties to purchase or sell securities").

135. 17 C.F.R § 240.10b-5(b).

136. *See, e.g.*, Roeder v. Alpha Indus., Inc., 814 F.2d 22, 26 (1st Cir. 1987) (citing SEC v. Texas Gulf Sulphur Co., 401 F.2d 833, 860–61 (2d Cir. 1968)) ("When a corporation does make a disclosure—whether it be voluntary or required—there is a duty to make it complete and accurate."); *In re* Marsh & Mclennan Cos. Sec. Litig., 501 F. Supp. 2d 452, 469 (S.D.N.Y. 2006) (same).

This focus on policing fraud and misleading statements necessarily constrains the universe of statements that fall within the ambit of Rule 10b-5. In particular, the issuer must have a duty to disclose the information at issue,[137] and the information must be material to investors.[138] The interplay of these requirements means that not all material information must be disclosed, while some immaterial information must be disclosed—usually as part of the SEC's mandatory disclosure regime rather than by judicial ruling.[139] This Part will take up both duty and materiality, as well as briefly discuss the cautionary language that often accompanies voluntary statements.

A. Disclosure Duties and the Duty to Update

There is no Rule 10b-5 liability simply because an investor would like to know the information at issue.[140] Rather, there must be a duty to speak.[141] This requirement is the product of the Supreme Court's decision in *Chiarella v. United States*, which stated that "[w]hen an allegation of fraud is based upon nondisclosure, there can be no fraud absent a duty to speak" and that "a duty to disclose under [Exchange Act] § 10(b) does not arise from the mere possession of nonpublic market information."[142] The Court further elaborated that a duty to speak arises only when one party has information "that the other [party] is entitled to know because of a fiduciary or similar relation of trust and confidence between them."[143] While *Chiarella* could have been limited to its facts—an insider-trading case—the Court imported the requirement to the larger Rule 10b-5 framework in *Basic Inc. v. Levinson*, holding that "[s]ilence, absent a duty to disclose, is not misleading under Rule 10b-5."[144] Although the Court was clear that a duty to speak was essential, neither decision provided robust guidance about when the necessary fiduciary-like relationship existed or about

137. See *infra* Section II.A.

138. See *infra* Section II.C.

139. *See* Donald C. Langevoort & G Mitu Gulati, *The Muddled Duty to Disclose Under Rule 10b-5*, 57 VAND. L. REV. 1639, 1644–45 (2004).

140. *See* ZVI Trading Corp. Emps.' Money Purchase Pension Plan & Tr. v. Ross (*In re* Time Warner Inc. Sec. Litig.), 9 F.3d 259, 267 (2d Cir. 1993) ("[A] corporation is not required to disclose a fact merely because a reasonable investor would very much like to know that fact.").

141. *See* Matrixx Initiatives, Inc. v. Siracusano, 563 U.S. 27, 44–45 (2011) (holding that there is no "affirmative duty to disclose any and all material information" and that "[e]ven with respect to information that a reasonable investor might consider material, companies can control what they have to disclose . . . by controlling what they say to the market").

142. 445 U.S. 222, 235 (1980).

143. *Id.* at 228 (alteration in original) (quoting RESTATEMENT (SECOND) OF TORTS § 551(2)(a) (AM. L. INST. 1977)).

144. 485 U.S. 224, 239 n.17 (1988).

the types of duties that might exist under such a relationship.[145] This naturally led to lower courts supplementing the SEC mandatory disclosure regime with implied disclosure duties.[146]

Chiarella and *Basic* provide cover for issuers to remain silent if they so choose, but if an issuer chooses to speak, it must ensure its statements are not "untrue"[147] or "misleading."[148] This is akin to the half-truth doctrine: once an issuer elects to speak, it must include all facts necessary to make what is said not misleading.[149] *Omnicare, Inc. v. Laborers District Council Construction Industry Pension Fund* effectively affirmed this view when the Court held that liability under Exchange Act section 11 can exist when the *omission* of a fact makes an opinion misleading to the reasonable investor.[150] While *Omnicare* dealt with a section 11 claim, lower courts have imported the ruling to section 10(b) and Rule 10b-5 given the similarity in language across the various provisions.[151] Thus, the "misleading" requirement of Rule 10b-5 has teeth, even when it comes to the nondisclosure of information rendering a prior statement misleading.

With this disclosure duty backdrop in mind, there is a particular genre of affirmative statements that adds a temporal element to the "misleading" inquiry: forward-looking statements. Forward-looking statements encapsulate "predictive statements or subjective analyses, such as projections, forecasts, plans, opinions, motives, or intentions."[152] Importantly, such statements "require the passage of time to discern

145. Langevoort & Gulati, *supra* note 139, at 1641–42; Porter, *supra* note 17, at 2205–06.

146. Porter, *supra* note 17, at 2206.

147. *See* 17 C.F.R. § 240.10b-5(b) (2020) (making it unlawful "[t]o make any untrue statement").

148. *Id.* (making it unlawful to "to omit to state a material fact necessary in order to make the statements made, in the light of the circumstances under which they were made, not *misleading*" (emphasis added)).

149. *See, e.g.*, Hoxworth v. Blinder, Robinson & Co., 903 F.2d 186, 200 n.19 (3d Cir. 1990) (reasoning that "misleading half-truths (i.e. failures to disclose sufficient information to render statements actually made not misleading)" are actionable under Rule 10b-5). For a general discussion of how the half-truth doctrine interacts with disclosure duties, see Donald C. Langevoort, *Half-Truths: Protecting Mistaken Inferences by Investors and Others*, 52 STAN. L. REV. 87 (1999).

150. 575 U.S. 175, 186–89 (2015).

151. *See, e.g.*, Tongue v. Sanofi, 816 F.3d 199, 209–10 (2d Cir. 2016) (noting that *Omnicare* "refined the standard for analyzing whether a statement of opinion is materially misleading" and applying *Omnicare* to the Section 10(b) claims at issue); City of Dearborn Heights Act 345 Police & Fire Ret. Sys. v. Align Tech., Inc., 856 F.3d 605, 616 (9th Cir. 2017) ("Although *Omnicare* concerned Section 11 claims, we conclude that the Supreme Court's reasoning is equally applicable to Section 10(b) and Rule 10b-5 claims."); *see also* City of Omaha Civilian Emps.' Ret. Sys. v. CBS Corp., 679 F.3d 64, 67–68 (2d Cir. 2012) ("[Section 10(b) and Section 11] claims all share a material misstatement or omission element.").

152. Susanna Kim Ripken, *Predictions, Projections, and Precautions: Conveying Cautionary Warnings in Corporate Forward-Looking Statements*, 2005 U. ILL. L. REV. 929, 937.

their truth or falsity."[153] Thus, a forward-looking statement that is accurate at the time of issuance—in other words, not an outright misrepresentation or lie—may, due to subsequent and intervening events, become inaccurate or misleading over time.

As this Part will discuss, lower courts have wrestled with whether this temporal element warrants an implied "duty to update" forward-looking statements. According to one formulation, a "duty to update opinions and projections may arise" under Rule 10b-5 "if the original opinions or projections have become misleading as the result of intervening events."[154] The necessity of intervening events or the passage of time means the duty to update does not apply to forward-looking statements that were inaccurate or misleading when issued. This temporal requirement separates the duty to update from the closely related duty to correct, which arises when the statement at issue was unknowingly false when it was made, warranting a later correction.[155] Because the duty to correct requires one be able to assess the veracity of a statement at its outset, forward-looking statements generally do not fall within the ambit of the duty to correct.[156] Therefore, the following inquiry omits consideration of the duty to correct.

The duty to update, along with much of the debate over disclosure duties in general, has created a significant amount of confusion and consternation.[157] To some, the duty to update is within the competency of the courts and is necessary to police forward-looking statements on which investors are reasonably relying.[158] To others, an expansive duty to update risks discouraging forward-looking statements as well as

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153. *Id.* at 938; *see also* Harris v. Ivax Corp., 182 F.3d 799, 805 (11th Cir. 1999) (holding that a statement "whose truth or falsity is discernible only after it is made" is a forward-looking statement).

154. ZVI Trading Corp. Emps.' Money Purchase Pension Plan & Tr. v. Ross (*In re* Time Warner Inc. Sec. Litig.), 9 F.3d 259, 267 (2d Cir. 1993).

155. *See* Stransky v. Cummins Engine Co., 51 F.3d 1329, 1331 (7th Cir. 1995) (holding that the duty to correct "applies when a company makes a historical statement that, at the time made, the company believed to be true, but as revealed by subsequently discovered information actually was not").

156. *Id.* (reasoning that the duty to correct largely applies to historical facts, not forward-looking statements).

157. *See* Langevoort & Gulati, *supra* note 139, at 1664 (labeling the duty to update "the most controversial 'duty' doctrine under Rule 10b-5"); *see also* Porter, *supra* note 17, at 2206 ("From their first mention, no consensus has existed as to what is meant by a . . . duty to update.").

158. *See* Langevoort & Gulati, *supra* note 139, at 1678 ("[W]hen a form of issuer disclosure actually has the potential to mislead investors, courts have long-standing institutional competence to police the area. And to us, the duty to update - properly understood - has this character."); Backman v. Polaroid Corp., 910 F.2d 10, 17 (1st Cir. 1990) ("We may agree that, in special circumstances, a statement, correct at the time, may have a forward intent and connotation upon which parties may be expected to rely. If this is a clear meaning, and there is a change, correction, more exactly, further disclosure, may be called for.").

creating a continuous disclosure regime that contradicts the SEC's preference for a periodic disclosure regime.[159] And to still others, the duty to update is entirely incongruent with federal securities law, namely Rule 10b-5.[160] Nevertheless, the following Section pulls from the existing case law to outline the contours of the duty to update.

B. The Contours of the Duty to Update

While the duty to update may appear broad in scope, lower courts have arrived at several limiting principles to cabin its scope. In particular, the statement must be "alive" in the minds of investors to create a reliance interest, must create clear and verifiable expectations about what is projected to come to fruition, and must pertain to fundamental changes or long-term strategies that make reliance reasonable.

1. Alive in the Minds of Investors

For a duty to update to even arise, the statement at issue must be " 'alive' in the minds of investors."[161] More precisely, the statement must "contain some factual representation that remains 'alive' in the minds of investors as a continuing representation."[162] As a result, the duty to update has generally not been applied to historical statements. Requiring updates to historical facts, such as financial statements, whenever circumstances change would theoretically eliminate the

159. *See* Gallagher v. Abbot Lab'ys, 269 F.3d 806, 810 (7th Cir. 2001) (affirming the circuit's aversion to the duty to update, in part "to maintain the difference between periodic-disclosure and continuous-disclosure systems"); Jeffrey A. Brill, Note, *The Status of the Duty to Update*, 7 CORNELL J.L. & PUB. POL'Y 605, 672 (1998) ("The present legislative intent of, and SEC commitment to, promoting the public policy goals of promoting efficient markets and protecting investors through the encouragement of forward-looking statements will probably trump the notion of protection via a broad duty to update." (footnote omitted)); *see also* Guides for Disclosure of Projections of Future Economic Performance, 43 Fed. Reg. 53,246, 53,247 (Nov. 15, 1978) ("[T]he availability of forward-looking and analytical information is important to an investor's assessment of a corporation's future earning power and may be material to informed investment decisionmaking.").

160. *See Stransky*, 51 F.3d at 1332 (holding that Rule 10b-5's inclusion of the phrase "in light of the circumstances under which [the statements] were made" inevitably precludes "basing liability on circumstances that arise after the speaker makes the statement" (emphasis omitted) (quoting 17 C.F.R. § 240.10b-5(b) (2020)); *see also* Porter, *supra* note 17, at 2247 ("Even if a forward-looking statement becomes misleading over time, the literal language of Rule 10b-5(b) does not permit the examination of events that occur after a statement is made to determine whether the statement is misleading.").

161. *See In re* Burlington Coat Factory Sec. Litig., 114 F.3d 1410, 1432 (3d Cir. 1997).

162. Kowal v. Int'l Bus. Machs. Corp. (*In re* Int'l Bus. Machs. Corp. Sec. Litig.), 163 F.3d 102, 110 (2d Cir. 1998); *see also Backman*, 910 F.2d at 17 (reasoning that further disclosure may be necessary when statements "have a forward intent and connotation upon which parties may be expected to rely").

concept of a periodic disclosure regime, which the SEC relies upon; as one commentator has reasoned, "[a] duty to update historical factual statements is simply a duty to disclose all material information in disguise."[163] In *Shaw v. Digital Equipment Corp.*, the defendant publicly stated that "[s]ervice revenues have continued to grow," a statement that the First Circuit viewed as a "statement of historical fact not alleged to be false."[164] The court elaborated that absent some allegation of falsity, assessments of prior performance "do not themselves give rise to a duty to inform the market whenever present circumstances suggest that the future may bring a turn for the worse."[165]

Relatedly, courts have been leery to attach a duty to update to simple financial projections. The Third Circuit has reasoned that financial projections do not involve an implicit assurance that identified trends will continue, nor do they require updates if deviations occur.[166] Without such implicit assurance, the court determined that no reasonable investor would expect companies to update "ordinary" financial projections.[167] This attitude against attaching the duty to update to financial projections has been adopted by other courts.[168]

In contrast to historical facts and ordinary financial projections, the types of statements where courts have contemplated a duty to

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163. Porter, *supra* note 17, at 2215.

164. 82 F.3d 1194, 1219 n.33 (1st Cir. 1996).

165. *Id.* at 1202. The First Circuit, in dicta, has suggested that a historical statement with a "forward intent and connotation" can give rise to reliance concerns and may implicate the duty to update. *See Backman*, 910 F.2d at 17; *cf.* Khoja v. Orexigen Therapeutics, Inc., 899 F.3d 988, 1015 (9th Cir. 2018) (noting that while previously disclosed positive clinical drug trial results were accurate, the reality that subsequent negative clinical trials results would "diminish[ ] the weight" of the previous positive results raises a duty to disclose when those subsequent results are in fact negative).

166. *See In re Burlington Coat Factory*, 114 F.3d at 1432–33 (concluding that "we do not think it can be said that an ordinary earnings projection contains an implicit representation on the part of the company that it will update the investing public with all material information that relates to that forecast").

167. *See id.* (holding that, "as a result of the background regulatory structure," the reasonable investor would not expect companies to update ordinary financial projections). As Professors Langevoort and Gulati note, *In re Burlington Coat Factory*'s emphasis on whether the statements at issue contained an implicit assurance to update investors—an "approach [ ] more based in contract"—was a deviation from prior precedent that focused on whether the statements had the potential to mislead investors—a tort-like approach. *See* Langevoort & Gulati, *supra* note 139, at 1666–67. The two further note that the Third Circuit's subsequent decision in *Weiner v. Quaker Oats Co.*, 129 F.3d 310 (3d Cir. 1997), returned to the tort-like approach used before *In re Burlington Coat Factory*. *Id.* at 1667.

168. *See, e.g.*, *In re* Advanta Corp. Sec. Litig., 180 F.3d 525, 536 (3d Cir. 1999) (citing *In re Burlington Coat Factory*'s conclusion that the duty to update does not apply to ordinary earnings forecasts); Stransky v. Cummins Engine Co., 51 F.3d 1329, 1333 (7th Cir. 1995) (suggesting that "a projection can lead to liability under Rule 10b-5 only if it was not made in good faith or was made without a reasonable basis").

update evidence some level of internal control and a defined timeline to create the implication that such statements will be updated if circumstances require.[169] In *Weiner v. Quaker Oats, Co.*, the Third Circuit found that Quaker Oats' repeated statement that it would adhere to a specified debt-equity ratio could require an update once Quaker Oats quietly discussed a debt-financed acquisition that would have materially increased its debt-equity ratio beyond the assured limit.[170] In this case, adherence to an internal debt-equity ratio was within control of the company, not at the whim of market forces; in cases of internal control, there may be a more acute need for disclosure to investors. In *Khoja v. Orexigen Therapeutics, Inc.*, Orexigen had disclosed positive results from the first benchmark of a standard drug testing schedule but delayed disclosure of negative results in subsequent benchmarks.[171] The Ninth Circuit placed great weight on the company's decision to disclose the initial results in finding that it was independently and affirmatively "obligated to share" the subsequent test results, which "diminished" the value of the initial disclosures.[172] Like the *Quaker Oats, Co.* example, Orexigen (1) had control over the results of the drug testing and (2) was engaging in a clearly defined drug testing schedule, whereby subsequent results would reasonably be expected to impact the weight of prior disclosures. In short, it is much more likely that a court will find a forward-looking statement misleading if it pertains to material internal events known only to or within the control of the company, rather than mere mistake or incorrect projections.[173]

2. Clear and Verifiable Expectations

Related to the "alive" inquiry, courts have been less comfortable finding a duty to update when dealing with statements that are, at best, vague and merely optimistic. Such statements often lack the detail

169. *See* Langevoort & Gulati, *supra* note 139, at 1678 ("There are some disclosures that reasonably do lead investors to rely on the statements beyond the date on which the statement was made: that is, those that establish some new policy or speak in terms of a plan or commitment in a way that invites continued reliance."). Yet other commenters, while acknowledging this argument, reject it as inconsistent with broader disclosure policy. *See, e.g.*, Porter, *supra* note 17, at 2219 & n.117 (raising the argument that forward-looking statements "have been suggested to contain an implicit representation that they will be updated if circumstances change" but qualifying that raising the argument "is not to suggest [their] agreement with the argument").

170. 129 F.3d at 317.

171. Khoja v. Orexigen Therapeutics, Inc., 899 F.3d 988, 994–97 (9th Cir. 2018).

172. *Id.* at 1015.

173. *See* Langevoort & Gulati, *supra* note 139, at 1667 (noting that the Second Circuit held that declining to update previous corporate financial statements, in light of an impending merger, violated the duty to update).

necessary to cultivate clearly defined, reasonable, and verifiable expectations about what the company plans to do.[174] Thus, this factor is akin to the "puffery" defense, which creates a form of legal immunity for statements that are vague or hyperbolic.[175] Puffery assumes that a reasonable investor would ignore such statements as immaterial or as lacking sufficient substance on which to base investment decisions.[176] Puffery is frequently used to dismiss Rule 10b-5 claims, often by screening out claims that are simply objections to how subsequent events panned out or to management's strategic choices, as opposed to objections related to fraudulent or misleading statements.[177] The duty to update case law uses puffery in a similar fashion, though courts, in keeping with the focus on investor protection, frame the issue as a matter of what investors should reasonably expect based on the statements at issue.[178] Even the Seventh Circuit, which has prolifically voiced opposition to a general duty to update, muted its opposition with respect to "statements of intent to take a certain action."[179]

For example, in *Burlington Coat Factory*, the Third Circuit addressed a duty to update claim concerning optimistic statements that the company believed it could "continue to grow net earnings at a faster rate than sales" and that one of its officers was "comfortable" with an analyst's earnings-per-share projection.[180] The court rejected the claim, finding "[c]laims that these kinds of vague expressions of hope by corporate managers could dupe the market have been almost uniformly

174. Kowal v. Int'l Bus. Machs. Corp. (*In re* Int'l Bus. Machs. Corp. Sec. Litig.), 163 F.3d 102, 110 (2d Cir. 1998) (holding that IBM had no duty to update statements that the company had no plans to cut the company's dividend because these were "vague expressions of opinion which are not sufficiently concrete, specific or material to impose a duty to update").

175. Ann M. Lipton, *Reviving Reliance*, 86 FORDHAM L. REV. 91, 112 (2017).

176. *See id.* at 112–13 (discussing courts' presumption that investors disregard statements of puffery); *see also* Ganino v. Citizens Utils. Co., 228 F.3d 154, 162 (2d Cir. 2000) (noting that puffery applies to statements "so obviously unimportant to a reasonable investor that reasonable minds could not differ" (quoting Goldman v. Belden, 754 F.2d 1059, 1067 (2d Cir. 1985)).

177. *See* Lipton, *supra* note 175, at 112 (noting that puffery is used to screen out claims "rooted in objections to management's conduct, rather than based on deceptive behavior"); *see also* Santa Fe Indus., Inc. v. Green, 430 U.S. 462, 479 (1977) ("Congress by [Section] 10(b) did not seek to regulate transactions which constitute no more than internal corporate mismanagement." (quoting Superintendent of Ins. v. Bankers Life & Cas. Co., 404 U.S. 6, 12 (1971))).

178. *See, e.g.*, *In re* Advanta Corp. Sec. Litig., 180 F.3d 525, 538 (3d Cir. 1999) (quoting *In re* Burlington Coat Factory Sec. Litig., 114 F.3d 1410, 1428 n.14 (3d Cir. 1997)) ("[V]ague and general statements of optimism 'constitute no more than "puffery" and are understood by the reasonable investor as such.' ").

179. Stransky v. Cummins Engine Co., 51 F.3d 1329, 1332 n.4 (7th Cir. 1995) (stating that the court "express[es] no opinion on whether the outcome would be the same if a plaintiff contested statements of intent to take a certain action" as opposed to "statements that were predictions or projections about [product] performance").

180. *In re Burlington Coat Factory*, 114 F.3d at 1427.

rejected by the courts."[181] Similarly, the Second Circuit in *Time Warner* held that statements "hyping strategic alliances" to raise needed capital "lack the sort of definite positive projections that might require later" updates and "suggest only the hope of any company, embarking on talks with multiple partners, that the talks would go well."[182]

These results should be unsurprising. As evidenced by *Burlington Coat Factory*, it is a simple matter of accounting to verify that net earnings grew at a faster rate than sales, while a mere statement of optimism that such growth should happen is not an assurance it will, much less a detailed plan of how to achieve it.[183] With *Time Warner* in mind, statements about the seriousness of strategic alliance discussions might imply a clear strategy—namely, which strategy the company is exploring to raise capital. Yet in the absence of further detail, such statements lack the information necessary to craft verifiable expectations, such as the identity of potential partners, the dates by which a deal will be struck, or the terms of any potential deal.[184] In neither situation did the company's statement set forth clear expectations of *what* was to arise, which could be subsequently verified. In fact, like much of securities litigation,[185] after stripping away discussions about disclosure duties and Rule 10b-5, these claims revolved around investors' understandable disappointment at what transpired, not deviations from a clearly defined strategy or target outlined by the company's managers.[186]

In contrast to those examples, statements setting forth clear, verifiable expectations might warrant an update when circumstances

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181. *Id.*

182. ZVI Trading Corp. Emps.' Money Purchase Pension Plan & Tr. v. Ross (*In re* Time Warner Inc. Sec. Litig.), 9 F.3d 259, 267 (2d Cir. 1993).

183. *In re Burlington Coat Factory*, 114 F.3d at 1427 ("The forward-looking portion of the statement here is a general, non-specific statement of optimism or hope that a trend will continue.").

184. *See In re Time Warner*, 9 F.3d at 267 ("The statements suggest only the hope of any company, embarking on talks with multiple partners, that the talks would go well. No identified defendant stated that he thought deals would be struck by a certain date, or even that it was likely that deals would be struck at all.").

185. *Cf.* Lipton, *supra* note 175, at 112 (arguing that claims dismissed on puffery grounds are often situations where "bad news was announced, attorneys searched for false statements, and, frequently in the absence of anything more concrete, seized upon banal, vaguely optimistic representations").

186. *See In re Burlington Coat Factory*, 114 F.3d at 1414 (noting that the lawsuit was brought after the company announced that its fourth quarter and full fiscal-year results for 1994 were below the market's expectations and that a 30% decline in the company's stock price accompanied the announcement); *In re Time Warner*, 9 F.3d at 262 (noting that the company's announcement of strategic partnerships that were smaller than expected was followed by a decline in the company's stock price from $117 to $94).

change. In *SEC v. Shattuck Denn Mining Corp.*,[187] one of the earliest cases to recognize a duty to update claim,[188] a mining company announced that negotiations over a proposed purchase of an oil refining company had concluded favorably, which "undoubtedly led the investing public to believe [the acquisition] was imminent."[189] A subsequent breakdown in negotiations rendered the announcement, in the court's eyes, "true when made" but "false and misleading shortly thereafter."[190] Despite the statement's accuracy when issued, the court ruled that the company's failure "to correct the 'misleading impression left by statements already made' " violated section 10(b)'s antifraud provisions.[191] Unlike the statements about strategic alliances in *Time Warner*, Shattuck's statements provided investors both the identity of the strategic partner and the "imminent" timing of the deal's finalization. With this information, there was a clear expectation that a deal would actually be finalized, which could be subsequently verified by such a deal materializing shortly thereafter.

In the *Quaker Oats, Co.* example discussed above, the court held that Quaker Oats' repeated statement that it would adhere to a specified debt-equity ratio could require an update once Quaker Oats began quietly discussing a debt-financed acquisition that would have materially increased its debt-equity ratio beyond the assured limit.[192] Despite both disputes revolving around financial indicators, *Quaker Oats, Co.* is distinguishable from *Burlington Coat Factory*. In particular, a hope or belief that net earnings will grow faster than sales is different from an assurance that the company will not exceed a specified debt-equity ratio as an ongoing matter. The latter situation presents both a clear expectation and an opportunity to verify.

3. Fundamental Changes

Lastly, courts have been generally unwilling to impose an obligation to update a statement detached from a fundamental change or long-term strategy. This rationale likely follows from the requirement that statements be "alive" in the minds of investors. Even

187. 297 F. Supp. 470, 475 (S.D.N.Y. 1968).

188. *See* Brill, *supra* note 159, at 620 (noting that *Shattuck* is one of the two "earliest cases addressing the duty to update"); Langevoort & Gulati, *supra* note 139, at 1665 (noting same).

189. *See Shattuck*, 297 F. Supp. at 475.

190. *Id.*

191. *Id.* at 476 (quoting Cochran v. Channing Corp., 211 F. Supp. 239, 243 (S.D.N.Y. 1962)). While framed as a "duty to correct," the emphasis on statements that were true when issued but deemed inaccurate or misleading due to subsequent events aligns *Shattuck* with modern duty to update, not duty to correct, case law. *See* Brill, *supra* note 159, at 620–22.

192. Weiner v. Quaker Oats, Co., 129 F.3d 310, 317 (3d Cir. 1997).

if a statement has forward-looking implications and sets concrete expectations, it is naturally more likely to stay "alive"—and impact investor behavior—if it pertains to a classic fundamental transaction like a merger or a long-term strategy.[193] Accordingly, the Third Circuit reasoned, albeit in dicta, that "the duty to update, to the extent it might exist, would be a narrow one to update the public as to *extreme* changes in the company's originally expressed expectation of an event such as a takeover, merger, or liquidation."[194]

While the Second Circuit dismissed a duty to update claim focusing on solutions to a debt problem in *Time Warner*, the court nevertheless reasoned that an issuer may possess such an obligation to update a prior statement about a proposed solution to the fundamental debt problem to the extent that other approaches were being actively explored.[195] Along those same lines, the Third Circuit held in *Quaker Oats, Co.* that prior statements pledging to adhere to a debt-equity ratio required an update that the company was pursuing an undisclosed merger that would have violated that pledge.[196] The court determined that the statements would have led a reasonable investor to expect that company to announce "any anticipated significant change."[197]

C. Materiality

As alluded to above, even if there is an implied duty to disclose under Rule 10b-5, disclosure is still not required unless the statement is deemed "material." Theoretically, the two concepts—materiality and duty—can be separated. Materiality asks the factual question of whether "reasonable investors" would find the piece of information at issue important when considered among all the information available

193. *See* Langevoort & Gulati, *supra* note 139, at 1644 ("If the information at issue is extremely important—for example, involving a major change in a company's fortunes, such as a merger—then courts seem comfortable finding a duty to update the initial announcement."); Brill, *supra* note 159, at 665 ("The basis for [the duty to update] . . . must 'be that the projection contained an implicit factual representation that remained "alive" in the minds of investors as a continuing representation.' " (quoting *In re* Burlington Coat Factory Sec. Litig., 114 F.3d 1410, 1432 (3d Cir. 1997)).

194. *In re Burlington Coat Factory*, 114 F.3d at 1434 n.20.

195. *See* ZVI Trading Corp. Emps.' Money Purchase Pension Plan & Tr. v. Ross (*In re* Time Warner Inc. Sec. Litig.), 9 F.3d 259, 268 (2d Cir. 1993) ("[W]e hold that when a corporation is pursuing a specific business goal and announces that goal as well as an intended approach for reaching it, it may come under an obligation to disclose other approaches to reaching the goal when those approaches are under active and serious consideration.").

196. *See Weiner*, 129 F.3d at 318 (3d Cir. 1997) (reasoning that it would have been clear to the company that the proposed merger would require the company to take on debt far higher than that in the pledge and that these facts would be material to a reasonable investor).

197. *Id.* at 317.

to them[198] while duty asks the legal question of whether the company had an obligation to disclose the information at issue.[199] In practice, the distinction is murky at best,[200] and some have argued that the disclosure duty analysis is largely unnecessary in light of the mandatory disclosure obligations and the existing materiality requirement.[201] Further, materiality is at least implicitly a part of the duty analysis, including for the duty to update:

> For example, take the duty to update, which at least some courts have articulated as being a function of investor expectations . . . . If the information at issue is extremely important—for example, involving a major change in a company's fortunes, such as a merger—then courts seem comfortable finding a duty to update the initial announcement.[202]

Thus, any attempt to apply the duty to update requires consideration of materiality as well.

Materiality in the context of climate disclosures is a slowly developing area of the law. This is due, in part, to the reality that the SEC and courts have largely eschewed the discussion. For its part, the SEC, in its 2010 guidance on climate risk disclosures, merely cited the applicability of existing definitions of materiality, providing little guidance on how those definitions apply to climate risk or climate-related matters.[203] This lack of clarity—along with minimal

198. *Id.* at 316; *see also* Basic Inc. v. Levinson, 485 U.S. 224, 231–32 (1988) ("[T]o fulfill the materiality requirement there must be a substantial likelihood that the disclosure of the omitted fact would have been viewed by the reasonable investor as having significantly altered the total mix of information made available." (internal quotation marks omitted)).

199. *See* Langevoort & Gulati, *supra* note 139, at 1644; *see also* Matrixx Initiatives, Inc. v. Siracusano, 563 U.S. 27, 44–45 (2011) (holding there is no "affirmative duty to disclose any and all material information" and that "[e]ven with respect to information that a reasonable investor might consider material, companies can control what they have to disclose . . . by controlling what they say to the market").

200. *See* Langevoort & Gulati, *supra* note 139, at 1643–44 ("In court opinions on the fraud question, it is often hard to determine whether the judge is basing her decision on materiality or duty.").

201. *See* Matthew C. Turk & Karen E. Woody, *The* Leidos *Mixup and the Misunderstood Duty to Disclose in Securities Law*, 75 WASH. & LEE L. REV. 957, 1032 (2018) (arguing that the duty to disclose analysis serves no "independent role in the legal analysis" aside from merely restate asking whether there is a statutory obligation to disclose); *see also* Robert H. Rosenblum, *An Issuer's Duty Under Rule 10b-5 to Correct and Update Materially Misleading Statements*, 40 CATH. U. L. REV. 289, 293 (1991) (reasoning that the standard tests for when there is a duty to disclose are "circular"). *But see* Langevoort & Gulati, *supra* note 139, at 1643–44 (arguing that it is important to analyze duty to disclose separately from materiality).

202. Langevoort & Gulati, *supra* note 139, at 1644.

203. Commission Guidance Regarding Disclosure Related to Climate Change, Securities Act Release No. 33-9106, Exchange Act Release No. 34-61469, 75 Fed. Reg. 6290, 6292–93, 6295 (Feb. 8, 2010).

enforcement[204]—has resulted in low-quality climate disclosures.[205] Despite calls for supplementing or overhauling the 2010 Climate Guidance,[206] as recently as January 2020, the SEC has signaled little interest in revisiting the matter.[207]

Courts have similarly provided minimal guidance on the materiality of climate-related information. One of the few cases to engage with this issue is *Ramirez v. Exxon Mobil Corp.*, which centered on Exxon Mobil's use of two different proxy costs of carbon, one disclosed to the public and one internal and undisclosed.[208] Rejecting a motion to dismiss, the court determined that a reasonable investor would likely find it significant that Exxon Mobil used an internal proxy cost of carbon lower than its publicly disclosed proxy cost.[209] The court further determined that the company's failure to include its proxy cost of carbon in an impairment determination—allegedly in violation of GAAP accounting protocols—could make its opinion materially misleading.[210] The *Ramirez* decision stands in contrast with *People v. Exxon Mobil Corp.*, a New York state court decision on Exxon Mobil's use of multiple

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204. *See* Hana V. Vizcarra, *Climate-Related Disclosure and Litigation Risk in the Oil & Gas Industry: Will State Attorneys General Investigations Impede the Drive for More Expansive Disclosures?*, 43 VT. L. REV. 733, 756 (2019) ("SEC staff sent a handful of comment letters to companies about their climate-related disclosures (25 letters to 23 companies from 2010 to 2013 out of more than 45,000 comment letters and 14 letters to 14 companies out of over 41,000 letters issued from 2014 to 2017)." (citing U.S. GOV'T ACCOUNTABILITY OFF., GAO-18-188, CLIMATE-RELATED RISKS: SEC HAS TAKEN STEPS TO CLARIFY DISCLOSURE REQUIREMENTS 14 (2018))).

205. One analysis of six hundred publicly traded companies notes that, despite an increase in climate-related disclosure between 2014 and 2017 (from 42% to 51%), such disclosures were largely "boilerplate language" that gave investors little "decision-useful information." *See* KRISTEN LANG, JACOB ROBINSON & AMY AUGUSTINE, CERES, TURNING POINT: CORPORATE PROGRESS ON THE CERES ROADMAP FOR SUSTAINABILITY: 2018 EXECUTIVE SUMMARY 9 (Meaghan Parker ed., 2018), https://www.ceres.org/node/2275 [https://perma.cc/CQP5-8NYM]; *see also* Robert Repetto, *It's Time the SEC Enforced Its Climate Disclosure Rules*, INT'L INST. SUSTAINABLE DEV. (Mar. 23, 2016), https://www.iisd.org/articles/its-time-sec-enforced-its-climate-disclosure-rules [https://perma.cc/5MKN-VDNM] (noting that most reporting companies "have taken refuge in future uncertainties to avoid more explicit quantitative statements of potential financial impacts, even when the company had intensively studied potential impacts under plausible future scenarios").

206. *See* Jill E. Fisch, *supra* note 12, at 940 (noting that despite receiving "tens of thousands of comments on sustainability disclosure," with many calling for annual, uniform reporting, the SEC has not acted on those requests); *see also* Che Odom, *Investors Want Sustainability Disclosures in SEC Overhaul*, BLOOMBERG L. (July 21, 2016, 12:00 AM), https://www.bna.com/investors-sustainability-disclosures-n73014445099/ [https://perma.cc/RG6G-4857] ("Investor advocates are making a strong push for the SEC to require annual, uniform sustainability reporting from public companies as part of the overhaul of the agency's disclosure regime.").

207. *See* Jane E. Montgomery, *SEC Indicates It Will Not Modify Climate Change Disclosure Criteria*, NAT'L L. REV. (Feb. 18, 2020), https://www.natlawreview.com/article/sec-indicates-it-will-not-modify-climate-change-disclosure-criteria [https://perma.cc/2J3W-AD4V] ("[T]he chair reiterated a 'principles-based' approach to disclosure and specifically referenced the [2010 Climate Guidance] as providing sufficient guidance to companies.").

208. 334 F. Supp. 3d 832, 840–41 (N.D. Tex. 2018).

209. *Id.* at 846.

210. *Id.* at 848.

proxy costs.[211] In that case, the court ruled that "[n]o reasonable investor during the period from 2013 to 2016 would make investment decisions based on speculative assumptions of costs that may be incurred 20+ or 30+ years in the future with respect to unidentified future projects"—essentially deeming the proxy costs immaterial.[212] With only two substantive decisions, each reaching a different conclusion, it is difficult to piece together a judicial doctrine on the materiality of climate-related information like ERTs.

Yet this lack of regulatory and judicial consensus makes sense when considering the fact that climate-related information has only recently become a topic of obsession among private actors.[213] Why would the SEC promulgate a rule mandating disclosure of carbon emissions before it was reasonably sure the markets actually cared about emissions information? One proposed framework—created by Jean Rogers of SASB and Professor George Serafeim and David Freiberg of Harvard Business School—attempts to model this transition from immaterial to material.[214] The framework identifies five stages through which sustainability information becomes financially material: (1) the status quo, (2) catalyst events, (3) stakeholder reaction, (4) company reaction, and (5) regulatory reaction.[215] Under this framework, ERTs demonstrate a move into the fourth stage ("company reaction"), where "[c]ompanies attempt to regain trust through company-specific or industry self-regulation," and "[n]ew norms and beliefs are set for industry behavior."[216] Further, the misalignment between business and societal interests begins to shrink, as evidenced by the proliferation of ERTs across an increasing number of industries.[217] This framework is assuredly not the legal standard for materiality, but it does indicate that climate disclosures—of which ERTs are surely a part—are viewed as material by the market, even if the SEC and courts have not reached that conclusion yet. It also indicates that a new legal standard may not be far off.[218]

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211. *See* People v. Exxon Mobil Corp., No. 452044/2018, 2019 WL 675771 at *1–2 (N.Y. Sup. Ct. Dec. 10, 2019).

212. *Id.* at *34.

213. *See supra* Section I.A.

214. *See* David Freiberg, Jean Rogers & George Serafeim, *How ESG Issues Become Financially Material to Corporations and Their Investors* 3 (Harv. Bus. Sch., Working Paper No. 20-056, 2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3482546 [https://perma.cc/DM4Q-79GD].

215. *Id.* at 6.

216. *Id.* at 9.

217. *Id.*

218. In fact, the Biden Administration has indicated that improved climate-related reporting will be one of the SEC's top priorities. *See* Kirstin K. Gruver, Leah A. Dundon & Megan L. Morgan, *Climate Risk Disclosures Face Increased Scrutiny and Potential Change to Reporting*

D. The Effect of Cautionary Language

As one might expect, cautionary language may place a damper on any duty to update claim; investors may be less likely to expect a forward-looking statement to come to fruition when presented with all the ways it may not. In fact, any discussion of forward-looking statements under federal securities law will inevitably raise the specter of the Private Securities Reform Act of 1995 ("PSLRA"). Underneath its larger purpose of reining in securities litigation, the PSLRA sought to encourage the dissemination of forward-looking statements by affording a safe harbor for such statements.[219] This safe harbor precludes liability for a forward-looking statement if (1) the statement is "accompanied by meaningful cautionary statements identifying important factors that could cause actual results to differ materially from those in the forward-looking statement"; (2) the statement is immaterial; or (3) the plaintiff fails to prove that the statement was "made with actual knowledge . . . that the statement was false or misleading."[220] After defining the safe harbor, the PSLRA then states that "[n]othing in this section shall impose upon any person a duty to update a forward-looking statement."[221]

Companies take this safe harbor seriously.[222] SEC filings, corporate sustainability reports, and press releases on climate initiatives often include—at the behest of counsel—cautionary language regarding forward-looking statements.[223] For example,

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Requirements, NAT. L. REV. (Mar. 10, 2021), https://www.natlawreview.com/article/climate-risk-disclosures-face-increased-scrutiny-and-potential-change-to-reporting#:~:text=Climate%20Risk%20Disclosure%20Act%20of,out%20climate%20risk%20disclosure%20rules [https://perma.cc/VUZ7-TM4M].

219. *See* 15 U.S.C. § 77z-2(c)(1); Richard A. Rosen, *The Statutory Safe Harbor for Forward-Looking Statements After Two and a Half Years: Has It Changed the Law? Has It Achieved What Congress Intended?*, 76 WASH. U. L.Q. 645, 646 (1998) ("The single greatest impetus to passage of the Reform Act was the perception—amply supported by the evidence—that issuers had been deterred from making projections and from disseminating soft information because of a fear of liability if their public statements failed accurately to predict the future.").

220. *See* 15 U.S.C. § 77z-2(c)(1). This safe harbor can be viewed as a codification of the judicial bespeaks caution doctrine, which holds that "contemporaneous cautionary statements can counteract the effect of a forward-looking statement in the overall mix of information, and can render a forward-looking statement immaterial as a matter of law." Porter, *supra* note 17, at 2250.

221. 15 U.S.C. § 77z-2(d).

222. *See* Ann Morales Olazábal, *False Forward-Looking Statements and the PSLRA's Safe Harbor*, 86 IND. L.J. 595, 597–98 (2011) ("Now, a decade and a half since the enactment of the PSLRA, so-called safe harbor 'warnings' are a standard feature of issuers' periodic reports and other communications in which they disseminate such soft information . . . .").

223. *See* Alexandra N. Farmer, Michael Mahoney & Donna H. Ni, *Making and Keeping Corporate Climate Commitments: Part 1*, KIRKLAND & ELLIS (Aug. 11, 2020), https://www.kirkland.com/publications/article/2020/08/making-keeping-corporate-climate-commitments_pt-1 [https://perma.cc/ND4R-W7X6] ("Climate goals should be carefully drafted so as to be aspirational

Chevron's 2019 sustainability report, which encompasses its 2023 emissions and emissions intensity reduction targets, includes a long "forward-looking statements warning" that states such "statements are not guarantees of future performance and are subject to certain risks, uncertainties and other factors, many of which are beyond the company's control and are difficult to predict."[224]

This safe harbor must leave any duty to update argument dead in the water, right? The answer is not as clear cut as it appears for a couple reasons. First, there is debate as to whether the PSLRA—particularly the language "[n]othing in this section shall impose upon any person a duty to update a forward-looking statement"—supersedes the judicial duty to update.[225] Simply by its text, the safe harbor merely says it does not independently create a duty to update, while remaining silent on its effect on the existing judicial duty to update doctrine. Under this interpretation, an issuer, while protected by the statutory safe harbor, may still be able to independently violate a duty to update a forward-looking statement if the jurisdiction recognizes that duty.[226] On the other hand, some academics have argued that this language, alongside the creation of a safe harbor that expressly disclaims liability, is clearly an attempt by Congress to eliminate the duty.[227] This latter argument appears to track the Seventh Circuit's rationale for rejecting a duty to update.[228]

Second, the safe harbor may not always be available, thus potentially leaving the duty to update as a backstop. The forward-looking statement must be accompanied by "meaningful cautionary statements identifying important factors that could cause actual results to differ materially from those in the forward-looking statement."[229] The application of any legal definition to a set of facts inevitably leaves ample discretion to the courts, which is equally true when it comes to

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and estimates of future performance, and not material commitments upon which an investor could be reasonably expected to rely. . . . [D]isclaimers regarding forward-looking statements or estimates should be considered.").

224. CHEVRON, *supra* note 97, at 47.

225. *See, e.g.*, Porter, *supra* note 17, at 2249 ("The Act does not indicate an intention to eliminate any duty to update that may have existed independently from the Reform Act. As such, the better argument is that this section of the Reform Act does not have any impact on the duty to update.").

226. *See* Brill, *supra* note 159, at 651, 678 (explaining that a duty to update exists but that some jurisdictions decline to recognize that duty).

227. *See* Porter, *supra* note 17, at 2250 ("Although the Reform Act would not literally eliminate a duty to update those forward-looking statements that do not fall within the provision of the Reform Act, eliminating the duty to update entirely would seem consistent with the goals of the Reform Act.").

228. *See, e.g.*, Eisenstadt v. Centel Corp., 113 F.3d 738, 746 (7th Cir. 1997) (suggesting that the PSLRA may preclude duty to update claims).

229. 15 U.S.C. § 77z-2(c)(1)(A)(i).

cautionary language. Courts generally require cautionary language to be "substantive and tailored" to the forward-looking statement at issue.[230] Boilerplate statements or generalized warnings are typically insufficient.[231] Turning back to ERTs, cautionary language that does not sufficiently identify why a company may not be able to attain the specificized emissions reductions—whether due to limitations of supply chain contracting, scalability problems with carbon removal, or unanticipated increases in output that lead to increases in emissions—may not be able to avoid judicial scrutiny. Therefore, the applicability of the PSLRA safe harbor is, at least in part, in the control of the issuer and the courts, if it reaches litigation.

III. THE INTERSECTION OF ERTS AND THE DUTY TO UPDATE

As Section I.D highlighted, unfulfilled ERTs, absent an update to the market, pose a threat to investors, who may be misled about the company's progress or success in achieving an ERT, as well as to the securities markets in general, as stock prices may not reflect the fundamental long-term value of the issuer. In light of these potential problems and the absence of SEC regulation, a judicial backstop is needed, at least as a stopgap until SEC action, in order to protect investors and safeguard market efficiency. This Note proposes using the duty to update as that backstop.

A. The Duty to Update as a Judicial Stopgap for Unfulfilled ERTs

1. ERTs Are "Alive" in the Minds of Investors

At the outset, ERTs can be distinguished from the historical facts to which courts are hesitant to apply the duty to update.[232] These commitments are not financial statements or statements about the company's present climate performance. Rather, ERTs indicate to the market that the company will reach certain benchmarks by a specified date. The veracity of the statements cannot be assessed at the time of

230. *See, e.g.*, Southland Sec. Corp. v. INSpire Ins. Sols., Inc., 365 F.3d 353, 372 (5th Cir. 2004) ("The requirement for 'meaningful' cautions calls for 'substantive' company-specific warnings based on a realistic description of the risks applicable to the particular circumstances, not merely a boilerplate litany of generally applicable risk factors.").

231. *See, e.g.*, Ark. Pub. Emps. Ret. Sys. v. Harman Int'l Indus., Inc. (*In re* Harman Int'l Indus., Inc. Sec. Litig.), 791 F.3d 90, 102 (D.C. Cir. 2015) ("[M]ere boilerplate—'This is a forward-looking statement: caveat emptor'—does not meet the statutory standard because by its nature it is general and ubiquitous, not tailored to the specific circumstances of a business operation, and not of 'useful quality.' " (quoting Asher v. Baxter Int'l Inc., 377 F.3d 727, 729 (7th Cir. 2004))).

232. *See, e.g.*, Finnerty v. Stiefel Lab'ys, Inc., 756 F.3d 1310, 1317 (11th Cir. 2014) ("There is, of course, no obligation to update a prior statement about a historical fact.").

issuance, thus creating a continuing representation—at least until the deadline is reached—and some implicit assurance of an update. Further, in contrast to the external market factors that may render financial projections incongruent with a duty to update,[233] ERTs largely pertain to the internal operations within the control of the company, such as the decision to procure power from solar farms as opposed to coal-fired power plants or the extent to which a company enforces emissions reduction requirements in its supply chain contracts. This level of internal control makes it more reasonable that investors will want to be appraised of progress towards or deviation from an ERT.

This rationale is akin to the rationale adopted in *Quaker Oats, Co.* The company had made a firm guideline about adherence to a debt-equity ratio, thereby encouraging investors to expect adherence to that ratio.[234] The court found a duty to update because Quaker Oats' quiet acquisition would have rendered that guideline meaningless, thus violating its investors' reliance interests.[235] The Ninth Circuit found a similar situation in *Khoja*, where investors were informed of a drug testing schedule and given preliminary results; these investors reasonably expected to be informed if the company intended to deviate from this schedule.[236]

In a similar vein, an ERT provides a defined target to attain or maintain—much like a debt-equity ratio—and a deadline for achievement—much like a drug testing schedule. It therefore makes sense for investors to assume a company would adhere to its ERT and integrate it into its ongoing business plans, especially given how aggressive many ERTs have become. In sum, once the company releases an ERT and a projected timetable for fulfillment, it creates long-term expectations in the minds of the company's investors, and deviations should be disclosed accordingly.

2. ERTs Set Clear, Verifiable Expectations

Secondly, ERTs contain numerical benchmarks and defined timelines that set clear and verifiable expectations about the expected emissions reductions.[237] ERTs clearly communicate (1) what percentage or amount of a company's total emissions are being reduced, (2) the

233. *See, e.g.*, *In re* Burlington Coat Factory Sec. Litig., 114 F.3d 1410, 1432–33 (3d Cir. 1997) (concluding that "we do not think it can be said that an ordinary earnings projection contains an implicit representation on the part of the company that it will update the investing public with all material information that relates to that forecast").

234. Weiner v. Quaker Oats Co., 129 F.3d 310, 312–14 (3d Cir. 1997).

235. *Id.*

236. Khoja v. Orexigen Therapeutics, Inc., 899 F.3d 988, 1015 (9th Cir. 2018).

237. *See supra* Section I.B.

potential availability of offsets in lieu of reductions, (3) whether the ERTs pertain to absolute emissions or intensity, and (4) the deadline for achievement. With these expectations, fulfillment becomes less a matter of speculation and hope and more a matter of accounting. If a company pledges to cut its absolute scope 1 emissions by 50% by 2030, based on a 2015 baseline, then verification is a matter of calculation: If the company cuts scope 1 emissions by 50%, the expectations are satisfied. If the company fails to make sufficient cuts, then the expectations are not satisfied. Market actors and investors therefore know precisely what information is necessary to verify achievement—namely, emissions data disclosed on an annual or semiannual basis—and, in turn, what information they should expect to be disclosed.

This contrasts with many of the vague statements for which courts have declined to find a duty to update. "Active and serious" discussions[238] or "general, non-specific statement[s] of optimism or hope that a trend will continue"[239] are ill-defined and do not provide substance for investors to reasonably rely upon. In essence, these statements are puffery.[240] It is difficult to find a statement misleading when it is hard to even ascertain where it is leading you. As discussed above, ERTs do not suffer from this problem.

This factor highlights one key way to avoid even the contemplation of liability under a duty to update: public, periodic disclosure of accurate, audited emissions data. While providing investors with periodic reports about progress towards an ERT—much like how Kraft Heinz updated investors about the nonfulfillment of its ERT[241]—would sidestep a judicially imposed duty to update, disclosure of actual emissions data could accomplish the same result. Investors and market actors are capable of calculating the progress, or lack thereof, if they are given the relevant emissions data for the baseline year and for the years subsequent to issuance of the ERT. The *Bloomberg* analysis discussed earlier used corporate emissions data to determine the progress of its sample of ERTs, but the authors noted that it lacked the emissions data to assess 17 of the 187 ERTs it

238. *See* ZVI Trading Corp. Emps.' Money Purchase Pension Plan & Tr. v. Ross (*In re* Time Warner Inc. Sec. Litig.), 9 F.3d 259, 268 (2d Cir. 1993) ("Rather, we hold that when a corporation is pursuing a specific business goal and announces that goal as well as an intended approach for reaching it, it may come under an obligation to disclose other approaches to reaching the goal when those approaches are under active and serious consideration.").

239. *See In re* Burlington Coat Factory Sec. Litig., 114 F.3d 1410, 1427–28 (3d Cir. 1997) (holding that a representation that the company "believe[d] [it could] continue to grow net earnings at a faster rate than sales," was too general (alterations in original)).

240. *See* Lipton, *supra* note 175, at 112–13 (discussing courts' presumption that investors disregard statements of puffery).

241. *See* Querolo, *supra* note 103.

analyzed.[242] Moreover, consistent disclosure would adjust the expectations of investors, who now expect annual or semi-annual disclosures in order to track ERT progress.

3. ERTs Pertain to Fundamental Changes in Many Industries

ERTs are admittedly not a traditional example of the "fundamental change" contemplated in the duty to update case law, such as a merger or acquisition.[243] Yet as Section I.C discussed, ERTs, as with any decarbonization strategy, often require an overhaul to a company's day-to-day business. This may take the form of installing new board members or board committees, integrating ERTs into executive compensation, altering the valuation of particular projects, overhauling how power is procured, and/or making investments in expensive but unproven CCS or removal technologies.[244]

Further, and possibly more importantly, many ERTs require changes to companies' profitmaking components. For example, an oil major that pledges to achieve net zero emissions may need to shift resources away from carbon-intensive oil and gas extraction and processing—traditionally a high-profit business unit in the industry—and into renewable energy production. Or it may need to implement aggressive internal carbon pricing, which will inevitably diminish the profits expected from its oil and gas business units. Or it may need to divert revenue from its oil and gas segments into CCS and carbon removal technologies, which may balloon in cost over time. Similarly, a utility company—which derives revenue from the generation and sale of electricity—may pledge to shift at least 50% of its energy generation portfolio from fossil fuels to renewable energy sources.[245] This shift, given the need to decommission, likely prematurely, carbon-intensive projects and invest heavily in renewable projects, would clearly affect the company's capital planning as well as the prices it will need to charge its end consumers, who may balk at high prices.

The above discussion highlights how aggressive ERTs will likely require a company to overhaul its business model and its derivation of revenue. It is likely that investors would want to remain apprised of

242. *See* Gillespie et al., *supra* note 101.

243. *See* Weiner v. Quaker Oats Co., 129 F.3d 310, 312–13 (3d Cir. 1997) (concerning an acquisition); *In re Time Warner*, 9 F.3d at 267 (concerning a merger).

244. *See supra* Section I.C (discussing potential steps for reducing emissions).

245. *See* S. CO., CORPORATE RESPONSIBILITY REPORT 2018 4–5 (2019), https://www.southerncompany.com/content/dam/southern-company/pdf/corpresponsibility/2018_Corporate_Responsibility_Report.pdf [https://perma.cc/3B5C-ZK77].

whether or not these fundamental changes are leading to achievement of particular climate goals.

B. Normative Arguments for a Judicial Remedy

Even if the duty to update is doctrinally applicable to ERTs, the question remains whether judicially imposed liability is a preferred outcome. This is a valid concern, as even the risk of increased liability may deter companies from making emissions pledges in the first place, thereby making it even harder to stave off the worst effects of climate change. Further, regulatory intervention on the front end, rather than judicial intervention on the back end, may be preferable, as it provides ample notice and consistency to issuers.

For this inquiry, it may be helpful to draw upon a "tort thinking" versus "property thinking" framework outlined by Professors Donald Langevoort and Mitu Gulati.[246] As the two have argued, cases centered on SEC mandatory line-item disclosures should be viewed as property-like, where the SEC, utilizing its rulemaking authority and special expertise on issues of fairness and efficiency, has granted investors property-like entitlement to particular types of information. In essence, SEC regulation creates investor expectations that companies will release those required sets of information.[247] In contrast, duty to disclose cases, absent a relevant line item, should be viewed as tort-like, particularly where issuers have cultivated expectations through their own actions and "omissions would likely mislead reasonable investors."[248] As this Note has argued thus far, ERTs create such expectations and reliance interests.

In these tort-like cases, judicial deference to questions of policy, namely fairness and efficiency, should not automatically supersede concerns over misleading disclosures that are not actively policed by the SEC.[249] Rather, courts should be empowered to leverage their institutional confidence to police forward-looking statements via the duty to update, so long as the statements create expectations and invite continued reliance.[250] When the SEC has essentially declined to act, courts should feel empowered to ensure that investor protection does not always take a backseat to abstract notions of market efficiency.

The need for judicial intervention may be even more acute in the context of climate-related disclosures. Even though market actors are

246. *See* Langevoort & Gulati, *supra* note 139, at 1645–46.
247. *Id.* at 1645, 1677–78.
248. *Id.* at 1645, 1678.
249. *Id.* at 1678.
250. *Id.*

pressuring companies to disclose emissions and other climate-related information, the existing disclosure regime, which is generally voluntary, lacks sufficient standardization and gives companies ample, if not too much, discretion on which types of information to disclose and when to do so.[251] Importantly, there is little liability for voluntary disclosures, as private standard setters lack such power and the SEC has generally declined to pursue potential violations, which can place investors, no matter the size of their investment, at the whims of issuers. Thus, judicially imposed liability may be a necessary corrective force, at least so long as the SEC declines to act.

CONCLUSION

Companies are publicly issuing ERTs at a borderline exponential rate, setting investor expectations for private climate action higher than ever. Yet these targets largely exist outside of SEC mandated disclosures, which presents acute enforcement problems, especially for investors seeking accurate disclosures. Injecting life into the duty to update and applying the doctrine to ERTs is one possible method of enforcement. While this may expose companies to liability or additional disclosure obligations, the alternative is a market where investors cannot determine which climate commitments are true and which ones are ultimately misleading, therefore defeating the overarching concept of an efficient market governed by uniform disclosure laws. Furthermore, exposure to private liability may entice companies to seek refuge in a more uniform regime for climate disclosure and a certification framework for climate targets, a result this author would happily support.

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251 *See* Fisch, *supra* note 12, at 947–52 (discussing the limitations of existing sustainability disclosures).

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