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**VERMONT LAW & GRADUATE SCHOOL**

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# FARM BILL SUBSIDIES VIOLATE ENVIRONMENTAL JUSTICE PRINCIPLES WITHOUT RECOURSE

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*Matthew Gruneberg\**

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\* University of Massachusetts School of Law. “For my daughter, Flora, in hopes she may experience a more harmonious and thriving Earth.”

The Agriculture Act (Farm Bill) primarily subsidizes crops which become livestock feed (rather than human food), artificially encouraging and sustaining animal-based agriculture and a meat-centric American diet. Animal agriculture creates environmental justice hazards by harming minority workers, minority communities, and minority societies in multiple ways. There are no sufficient legal mechanisms to link the farm bill distributions to environmental justice hazards or to prevent their harms. A policy shift away from federally assisting animal agriculture in the next farm bill will begin to correct these environmental justice hazards while maintaining and advancing existing judicial mechanisms such as the National Environmental Policy Act (NEPA).

#### INTRODUCTION

Environmental justice is a concept, agenda, and movement recognized by the United States government and advanced through Presidential Executive Orders and agency mandates. These actions ensure that disadvantaged and minority communities are not disproportionately harmed when the government implements programs which may affect the environment.<sup>1</sup> The principles of environmental justice are an extension of social justice and have been used to inform and address “the connections between discrimination, poverty, and the distribution of environmental risks.”<sup>2</sup> Environmental justice concerns are generally within the Environmental Protection Agency’s (EPA’s) purview and can manifest in the form of selective siting of gas pipelines, noisy airport runways, and prison facilities in economically disadvantaged areas, or resulting from the spraying or disposal of potentially dangerous chemicals, animal waste, and pesticides in poor communities.<sup>3</sup> If left unchecked, these environmental matters

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1. Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, Exec. Order No. 12898, 59 Fed. Reg. 7629 (Feb. 11, 1994), <https://www.archives.gov/files/federal-register/executive-orders/pdf/12898.pdf> [hereinafter Executive Order]; see generally *Learn About Environmental Justice*, EPA, <https://www.epa.gov/environmentaljustice/learn-about-environmental-justice> (last updated Sept. 6, 2022); “Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations (February 11, 1994), requires each Federal agency to achieve environmental justice as part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. . . .” U.S. DEP’T OF AGRIC. *Environmental Justice Strategic Plan: 2016–2020* at 4.

2. ROBERT V. PERCIVAL ET AL., ENVIRONMENTAL REGULATION: LAW, SCIENCE, AND POLICY 17 (9<sup>th</sup> ed. 2022) [hereinafter Percival Coursebook].

3. *Id.* at 18; *Standing Rock Sioux Tribe v. U. S. Army Corps of Eng’rs*, 282 F. Supp. 3d 91 (D.D.C. 2017); see also *Sierra Club v. Fed. Energy Regul. Comm’n*, 867 F.3d 1357 (D.C. Cir. 2017); *Ctr. for Cmty. Action & Env’t Just. v. FAA*, 18 F.4th 592 (9th Cir.2021); *McKiver v. Murphy-Brown, LLC*, 980 F.3d 937 (4th Cir. 2020); *Or. Env’t Council v. Kunzman*, 817 F.2d 484 (9th Cir. 1987).

exacerbate systemic injustice, perpetuate wealth and health disparities, and selectively harm disadvantaged communities the hardest.<sup>4</sup> Despite the dedicated stance the government claims to have on this issue, the federal government currently allots a tremendous amount of taxpayer money promoting and celebrating an industry that defies many environmental justice standards while perpetuating a single, hazardous product—the cow.<sup>5</sup>

The current use of federal funds to subsidize and influence our meat-centric food system—dominated by an exclusive group of powerful meat companies—is grossly wasteful, fails to recognize the negative environmental and health effects against disadvantaged populations as required by environmental justice directives, and directly contributes to creating disparities.<sup>6</sup> If the federal government properly analyzed the extended effects of its funding choices through an environmental justice lens, this would reveal that a plant-centric focus on subsidy distribution would begin to eliminate these disturbing and unchallenged inequalities.<sup>7</sup>

The first portion of this article explains the importance and influence of government regulation on our food system.<sup>8</sup> Subsidies allocated in the farm bill direct enormous bodies of industry, affecting everything from wide-scale land use to the price of a sandwich.<sup>9</sup> The foundational discussion in this article will link our current food system and the hazards it generates to environmental justice inequities, introducing three levels of discrimination resulting directly from our federally-subsidized, meat-centric food system.<sup>10</sup> From workers suffering personal injuries inside of a slaughterhouse or meat

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4. *Environmental Justice and National Environmental Policy Act*, EPA (last updated Apr. 13, 2022), <https://www.epa.gov/environmentaljustice/environmental-justice-and-national-environmental-policy-act> [hereinafter NEPA Guidelines].

5. *See generally* DAVID ROBINSON SIMON, MEATONOMICS (2013) (explaining the economic burdens of industrial farming, including the industrial farming of cows). This article focuses on the cow in particular due to the staggering effects/numbers, but the article will also reference other livestock categories as well.

6. David Gillette & Warren Barge, *The True Cost of a Hamburger*, AM. INST. FOR ECON. RSCH. (Apr. 20, 2022), <https://www.aier.org/article/the-true-cost-of-a-hamburger/>. The top meat companies referenced as a group in this article herein are Tyson, JBS, Smithfield Foods, Cargill, and National Beef. These companies amount to over 85% of all meat production in the United States. Tom Polansek, *Explainer: how four big companies control the U.S. beef industry*, REUTERS (June 17, 2021), <https://www.reuters.com/business/how-four-big-companies-control-us-beef-industry-2021-06-17/>.

7. Tara O'Neill Hayes & Katerina Kerska, *PRIMER: Agriculture Subsidies and Their Influence on the Composition of U.S. Food Supply and Consumption*, AM. ACTION FORUM (Nov. 3, 2021), <https://www.americanactionforum.org/research/primer-agriculture-subsidies-and-their-influence-on-the-composition-of-u-s-food-supply-and-consumption/>.

8. Dennis W. Jansen et al., *U.S. Farm Subsidies: A Prime Example of Crony Capitalism*, TEX. A&M U. PRIV. ENTER. RSCH. CTR. (July 29, 2021), <https://perc.tamu.edu/PERC-Blog/PERC-Blog/U-S-Farm-Subsidies-A-Prime-Example-of-Crony-Capita>.

9. *See generally Farm Bill*, U.S. DEP'T OF AGRIC., <https://www.usda.gov/farmbill> (last visited Nov. 27, 2022). This article does not currently dispute the merit of government intervention to keep our food economy stable. As inflation rises, however, the price of a McDonald's hamburger has gone relatively unchanged. SIMON, *supra* note 5, at 74–76.

10. *Infra* § 1(C).

processing facility; to the community degradation and nuisance in an area which supports a concentrated animal feed operation (CAFO); to the widespread generational health and climate disparities caused in part by the damaging effects of the large-scale factory farming industry, the farm bill subsidies exacerbate and cause environmental justice concerns without recourse.<sup>11</sup>

The legal core of this article demonstrates the problem with addressing farm bill subsidy-driven environmental justice concerns with limited and insufficient recourse methods.<sup>12</sup> Traditional NEPA and the Administrative Procedure Act (APA) structures, nuisance claims, Title VI civil rights claims, and the barrier of proving disparate causation of large-scale environmental justice issues, all falter in significant ways which prevent the action currently required.<sup>13</sup> This article provides recommendations for the government to act on immediately, using its own pre-existing words, dedications, and recourse mechanisms. Finally, this article concludes that any subsequent farm bills must include an explicit and dedicated focus on environmental justice, with provisions both to provide recourse for current injustices through existing judicial mechanisms, while also paving the way for a more just future.<sup>14</sup> Inherent in the corrections to the Farm Bill is a policy shift away from wasteful and harmful animal agriculture practices to a more plant-centric focus when distributing subsidies, alleviating many aforementioned environmental justice concerns and following-through on the promises of Executive Order 12,898.<sup>15</sup>

The final piece of this article turns the focus to edible plants and begins to explain why they have the power to correct many environmental issues addressed earlier.<sup>16</sup> This section samples why shifting subsidies to promote more edible plants in lieu of beef would save resources, land, and taxpayer dollars while vastly improving the cost-benefit ratio of the subsidized food system. From direct health benefits, improving local food economies, cleaning air, water, and land, the environmental justice objectives proclaimed by the government would begin to see the progress they deserve.

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11. *Infra* § I(C).

12. *Infra* § I(D).

13. *Infra* § I(D)(1-3).

14. *EPA Launches New National Office Dedicated to Advancing Environmental Justice and Civil Rights*, EPA (Sept. 24, 2022), <https://www.epa.gov/newsreleases/epa-launches-new-national-office-dedicated-advancing-environmental-justice-and-civil>; Environmental Justice Strategic Plan, *supra* note 2; NINA M. HART & LINDA TSANG, CONG. RSCH. SERV., IF11932, *National Environmental Policy Act: Judicial Review and Remedies*, (Sept. 22, 2021), <https://crsreports.congress.gov/product/pdf/IF/IF11932>; Jesse Hevia, *NEPA and Gentrification: Using Federal Environmental Review to Combat Urban Displacement*, 70 E MORY L. J. 711 (2021), <https://scholarlycommons.law.emory.edu/elj/vol70/iss3/4>.

15. *Infra* § II(C).

16. *Infra* § E to end.



## I. BACKGROUND

A. *What is Environmental Justice?*

In 1994, President Bill Clinton signed into action Executive Order 12,898. The order declared, under the power of the EPA, that all federal agencies should consider environmental justice implications of their agency decisions and projects to “promote nondiscrimination in federal programs that affect human health and the environment.”<sup>17</sup> This is an extension and acknowledgement of a larger social justice awareness movement that is currently used to guide projects which would have serious environmental impacts that disproportionately affect disadvantaged communities.<sup>18</sup> In theory, if a federal agency such as the Food and Drug Administration (FDA) or United States Department of Agriculture (USDA) were to undertake a project which manipulates nature in some significant way, the NEPA-required environmental impact statement (EIS) should include a new layer of environmental justice analysis which guides decision making.<sup>19</sup> The EIS should not only lay out how the project impacts the environment but whether the project especially impacts disadvantaged and minority communities.<sup>20</sup> There is an implied sense that this concern should be at the forefront of any EIS moving forward and create a special barrier to limiting detrimental projects and correcting past injustices.<sup>21</sup> Executive Order 12,898 has one large problem: it concludes with § 6-609, which declares that this framework is merely guidance and therefore has no legal recourse and is not subject to any judicial review.<sup>22</sup>

Even without a true legal duty to implement these environmental justice standards, almost all of the U.S. government’s federal agencies (at least motivated by the positive optics) set forth information on how they are addressing environmental justice.<sup>23</sup> NEPA is the mechanism which generally regulates the environmental impact of federally funded projects and has its own specific considerations in addressing and advancing environmental

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17. Executive Order, *supra* note 1.

18. *Id.*

19. *Id.*; NEPA Guidelines, *supra* note 4.

20. *Id.*

21. Executive Order, *supra* note 1.

22. *Id.*

23. See, e.g., *Environmental Justice*, USDA, <https://www.fsa.usda.gov/programs-and-services/environmental-cultural-resource/environmental-justice/index> (last visited Apr. 7, 2023); *Environmental Justice*, FARM SERV. AGENCY, <https://www.fsa.usda.gov/programs-and-services/environmental-cultural-resource/environmental-justice/index> (last visited Nov. 30, 2022); *Striving for Environmental Justice*, U.S. FISH AND WILDLIFE SERV. (Aug. 18, 2021), <https://www.fws.gov/story/2021-08/striving-environmental-justice>.

justice.<sup>24</sup> Like Executive Order 12,898, NEPA’s guidance notably concludes with the caveat that no enforceable rights are created, and environmental justice concerns should not cause any serious monetary or time delays to projects.<sup>25</sup> As this article will discuss, the Farm Bill is a categorical exemption to any NEPA analysis, and the lack of recourse methods in Executive Order 12,898 mean that significant environmental justice concerns caused by the Farm Bill are without standing.<sup>26</sup>

*B. What is the Farm Bill and How Does it Affect the Environment?*

The Agriculture Act, commonly referred to as the Farm Bill, is a broad piece of legislation that is updated every five years and specifies the government’s involvement and initiatives surrounding the U.S. agriculture system.<sup>27</sup> An important part of the Farm Bill is the distribution of subsidies to various agricultural entities as a way to regulate the market and prevent food shortages. This has stabilized food prices for U.S. citizens since the Farm Bill’s precursor—the 1938 Agricultural Adjustment Act.<sup>28</sup> Subsidies distributed under the “Commodities” portion of the Farm Bill take the shape of crop insurance, price balancing, and direct payments.<sup>29</sup> Farmers growing crops which are used as feed in meat and dairy production (namely corn and soy) currently demand \$38.4 billion in subsidies annually.<sup>30</sup> The edible plant sector, fruits and vegetables, are generally excluded from the subsidy program and receive a negligible fraction of that amount.<sup>31</sup>

To demonstrate how the taxpayer-funded distribution affects our food system, land use, and the environment, this article focuses primarily on the

24. NEPA Guidelines, *supra* note 4; *see infra* § D.

25. *Id.*

26. *Bullwinkel v. United States DOE*, 899 F.Supp.2d 712, 717, 724 (2012).

27. Agriculture Improvement Act of 2018, H.R.2 115<sup>th</sup> Congress (2017–18), <https://www.congress.gov/bill/115th-congress/house-bill/2> (showing that the 2018 Farm Bill was enacted on December 20, 2018); “The Farm Bill continues its strong support for America’s farmers, ranchers, and forest stewards through a variety of safety net, farm loan, conservation, and disaster assistance programs.” *2018 Farm Bill*, FARM SERV. AGENCY, <https://www.fsa.usda.gov/programs-and-services/farm-bill/index> (last visited Apr. 7, 2023).

28. Allison Aubrey, *Does Subsidizing Crops We’re Told to Eat Less Of Fatten Us Up?*, NPR (July 18, 2016), <https://www.npr.org/sections/thesalt/2016/07/18/486051480>; Agriculture Adjustment Act 1938, 7 U.S.C. § 1282 (1938), <https://uscode.house.gov/view.xhtml?path=/prelim@title7/chapter35&edition=prelim>.

29. Jennifer Hoffpauir, *The Environmental Impact of Commodity Subsidies: NEPA and the Farm Bill*, 20 FORDHAM ENV’T L. REV. 233, 237 (2009), <https://ir.lawnet.fordham.edu/elr/vol20/iss1/5>.

30. SIMON, *supra* note 5, at 80.

31. *Id.* at 80; *see also*, Allie Condra, *Why Fruits, Vegetables Are Excluded from Farm Subsidies*, FOOD SAFETY NEWS (Nov. 9, 2011), <https://www.foodsafetynews.com/2011/11/fairness-why-fruits-vegetables-are-excluded-from-farm-subsidies/>, (explaining that this is somewhat by choice of the farmers).

cattle industry for illustration.<sup>32</sup> Cows use up a staggering 40% of our entire land mass in the United States, which amounts to 938 million acres of land.<sup>33</sup> This land is used not only for grazing and housing feed lots, but also takes into account the crop fields used to grow food exclusively for the cattle's consumption.<sup>34</sup> Eighty percent of livestock-related land is controlled by a small handful of large companies who receive the lion's share of farm bill subsidies.<sup>35</sup> Seventy percent of all crops grown in the U.S. (mostly corn and soy) are fed to livestock, with cows consuming eight plant-based calories for every one calorie consumed by their human purchaser.<sup>36</sup> Notably, cows are considered a significant source of greenhouse gas emissions (methane), and the United Nations has deemed the food system a significant player in climate change—generating greenhouse gas in rates comparable to that of the transportation sector.<sup>37</sup>

*C. How Does Our Federally Subsidized Food System Implemented in the Farm Bill Cause Environmental Injustices?*

The farm bill promotes the generation of artificially cheap animal feed and sustains the animal agriculture phenomenon, which causes environmental justice concerns at multiple magnifications as a result.

1. Local, Direct Injustice: Inside the Slaughterhouse.

Despite the dietary guidelines put forth by the U.S. government declaring that plant-based protein sources are perfectly acceptable to live a healthy life, the farm bill commodity subsidies are directed primarily towards crops that

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32. Although the number of chickens killed is staggeringly larger, the cow has ample research surrounding it, has been targeted by the UN climate report, and is quite simply the largest waster in terms of calories in-out, land, and water use. *Rearing cattle produces more greenhouse gases than driving cars, UN report warns*, UN NEWS (NOV. 29, 2006), <https://news.un.org/en/story/2006/11/201222-rearing-cattle-produces-more-greenhouse-gases-driving-cars-un-report-warns> (hereinafter UN Climate Report).

33. Stacey Vanek Smith, Cardiff Garcia, *The U.S. Has Nearly 1.9 Billion Acres Of Land. Here's How It Is Used*, NPR (July 26, 2019), <https://www.npr.org/2019/07/26/745731823/the-u-s-has-nearly-1-9-billion-acres-of-land-heres-how-it-is-used>.

34. *Id.*

35. *USDA Announces Framework for Shoring Up the Food Supply Chain and Transforming the Food System to Be Fairer, More Competitive, More Resilient*, USDA (June 1, 2022), <https://www.usda.gov/media/press-releases/2022/06/01/usda-announces-framework-shoring-food-supply-chain-and-transforming>; Polansek, *supra* note 6.

36. DR. RICHARD OPPENLANDER, *FOOD CHOICE AND SUSTAINABILITY* 44 (2013). When this article refers to waste, this ratio is one of the demonstrations. Theoretically, humans could have 8 time more calories available if cows were not used, based on their 8:1 calorie efficiency scale.

37. UN Climate Report, *supra* note 32; Christopher Booker & Sam Weber, *Cow burps are a major contributor to climate change—can scientists change that?*, PBS (Mar. 6, 2022), <https://www.pbs.org/newshour/show/cow-burps-are-a-major-contributor-to-climate-change-can-scientists-change-that>; *Feed-to-meat conversion inefficiency ratios*, A WELL-FED WORLD (last updated Oct. 26, 2015), <https://awellfedworld.org/feed-ratios/>.

become feed for livestock, not humans, and promotes the generation of animal-based foods.<sup>38</sup> Ninety-eight million cows and 70 million pigs are raised each year for food in the U.S. (and 9 billion chickens).<sup>39</sup> There are approximately 2,700 USDA slaughterhouses (the facility where animals are butchered) in the U.S.<sup>40</sup> In June of 2021, citing the pandemic shortages, the USDA announced a \$500 million program to expand “meat and poultry processing capacity,” indicating an endorsement that meat is a necessity part of American society.<sup>41</sup> An under-discussed aspect of the meat industry is that a majority of people working the lines in slaughterhouses and meatpacking facilities are people of color or undocumented immigrants.<sup>42</sup> The job involves exposure to disease, trauma, abuse, long hours, low pay, and physical ailments from repeated harmful motions.<sup>43</sup> Occupational Safety and Health Administration (OSHA) data reveals that slaughter and meat processing line workers experience repetitive motion injuries at a rate seven times higher than an average private industry.<sup>44</sup> In a Maryland plant, OSHA data showed over 75% of workers suffered nerve damage in at least one hand.<sup>45</sup> Further, the U.S. government does not track these injuries.<sup>46</sup> Slaughter, of course, requires the beef industry to thrive, which targets and abuses disadvantaged people as a workforce.<sup>47</sup> Unsurprisingly, during the

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38. Niall McCarthy, *The Countries That Eat The Most Meat*, STATISTA (May 5, 2020), <https://www.statista.com/chart/3707/the-countries-that-eat-the-most-meat/>; *See also What foods are in the Protein Foods Group?*, U.S. DEPT. OF AGRICULTURE, <https://www.myplate.gov/eat-healthy/protein-foods> (last visited Nov. 27, 2022) (providing that “Vegetarians get enough protein from this group as long as the variety and amounts of foods selected are adequate. Protein sources from the Protein Foods Group for vegetarians include eggs (for ovo-vegetarians), beans, peas, and lentils, nuts and seeds (including nut and seed butters), and soy products (tofu, tempeh)”).

39. Oppenlander, *supra* note 36, at 80; *see also* NATIONAL AGRICULTURAL STATISTICS SERVICES (NASS) ET AL., 0499-0544, LIVESTOCK LAUGHTER 1 (2022), [https://www.nass.usda.gov/Publications/Todays\\_Reports/reports/lstk0522.pdf](https://www.nass.usda.gov/Publications/Todays_Reports/reports/lstk0522.pdf).

40. *Id.* at 15 (“There are approximately 900 livestock plants in the United States operating under Federal Inspection and nearly 1,900 Non-Federally Inspected (State-inspected or custom-exempt) slaughter plants.”).

41. *USDA Announces \$500 Million for Expanded Meat & Poultry Processing Capacity as Part of Efforts to Increase Competition, Level the Playing Field for Family Farmers and Ranchers, and Build a Better Food System*, USDA (July 9, 2021), <https://www.usda.gov/media/press-releases/2021/07/09/usda-announces-500-million-expanded-meat-poultry-processing>.

42. Angela Stuesse & Nathan T. Dollar, *Who are America’s meat and poultry workers?*, ECON. POL’Y INST. (Sept. 24, 2020), <https://www.epi.org/blog/meat-and-poultry-worker-demographics/>.

43. Peggy Lowe, *Working ‘The Chain,’ Slaughterhouse Workers Face Lifelong Injuries*, NPR (Aug 11, 2016) <https://www.npr.org/sections/thesalt/2016/08/11/489468205/working-the-chain-slaughterhouse-workers-face-lifelong-injuries> (providing: “[t]he workers, most often immigrants and resettled refugees, slaughter and process hundreds of animals an hour, forced to work at high speeds in cold conditions, doing thousands of the same repetitions over and over, with few breaks”).

44. *Id.*

45. *Id.*

46. *Id.*

47. *Id.*

COVID-19 pandemic, meat processing facilities suffered very high rates of disease due to relentless demand and insufficient worker safety protocols.<sup>48</sup> Meanwhile, the demand for meat products during the pandemic kept operations moving, which increased production and government commitments to promote the meat industry.<sup>49</sup> President Trump, as part of the Defense Production Act, exempted meatpacking facilities from state and local orders from closing while COVID ran through the facilities.<sup>50</sup>

Worker safety in the animal slaughter and processing business is a serious problem that targets minority people as the brunt of its workforce, provides very few remedies or need to change, and is fueled by societies' desire for cheap meat products induced by the farm bill subsidies.

## 2. Community-Level Injustice: Siting, Nuisance, Land Use, and Jobs.

Like many environmental justice hazards, these factory farming operations, feedlots, and slaughterhouses are located in low-income rural areas and can decrease the property value of these communities.<sup>51</sup> The community surrounding meat production endures multiple nuisances which are often exempt from lawsuits as a matter of public policy or as a matter of protecting the local industry.<sup>52</sup> Nuisance claims against hog farming practices have been a historic and ongoing legal scenario outlining the frustrations of living in close proximity to an animal farming operation.<sup>53</sup> These nuisances can be tremendous hazards: polluting or depleting the local drinking water; further damaging property values; creating hazardous air quality conditions; perpetuating disease; promoting infestations of insects

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48. Sky Chadde, *COVID-19 cases, deaths in meatpacking industry were much higher than previously known, congressional investigation shows*, INVESTIGATE MIDWEST (Oct. 28, 2021), <https://investigatemidwest.org/2021/10/28/covid-19-cases-deaths-in-meatpacking-industry-were-much-higher-than-previously-known-congressional-investigation-shows/>.

49. Joseph Balagtas and Joseph Cooper, *The Impact of Coronavirus COVID-19 on U.S. Meat and Livestock Markets*, U.S. DEPARTMENT OF AGRICULTURE OFFICE OF THE CHIEF ECONOMIST (March 2021), <https://www.usda.gov/sites/default/files/documents/covid-impact-livestock-markets.pdf>.

50. *Id.*

51. Percival Coursebook, *supra* note 2, at 19–20; *An Unjust Food System*, FARM SANCTUARY, <https://www.farmsanctuary.org/issue/social-justice/> (last visited Dec. 2, 2022); *see generally* N.C. Residents Living Near Large Hog Farms Have Elevated Disease, Death Risks, DUKE HEALTH NEWS (Sep. 19, 2018) <https://surgery.duke.edu/news/nc-residents-living-near-large-hog-farms-have-elevated-disease-death-risks>.

52. *See* McKiver v. Murphy-Brown LLC., 980 F.3d 937 (4th Cir. 2020). Percival Coursebook, *supra* note 2, at 79 (noting that after a successful nuisance lawsuit against a hog farm operation, North Carolina Legislature enacted the Right-to-Farm law, barring all similar subsequent lawsuits as a matter of public policy).

53. Aldred's Case, 77 Eng. Rep. 816 (1611), Percival Coursebook, *supra* note 2, at 63.

and rodents; and consuming local resources.<sup>54</sup> Even worse, natural disaster can cause these hazards to become completely uncontrollable, contaminating entire neighborhoods by spreading livestock feces and dead bodies of animals wherever the floodwaters take them.<sup>55</sup> Although the EPA regulates the permitting of CAFOs to a degree, the Clean Water Act does not regulate the agriculture operations that provide the feed to those animals.<sup>56</sup>

The farm bill subsidy of animal feed also impacts the small farmer, who is quickly becoming a relic of the past.<sup>57</sup> By subsidizing crops which become animal feed, farmers are incentivized to grow a product that would ordinarily cost more to manufacture than to sell.<sup>58</sup> The subsidy ensures there will be a small profit for farmers despite the cost outweighing the value.<sup>59</sup> The profit margins provided by the subsidies are slim; however, this system is better suited for larger companies who can make up the profits through large volume. Meanwhile, small farms are left out or struggle to compete with such low competition prices.<sup>60</sup> The sale of crops in such large volume also requires a large volume buyer i.e., a CAFO.<sup>61</sup> Despite the common and extensive marketing campaigns exclaiming free-range or kinder products, 99% of animals raised for food in the U.S. are part of a CAFO, further pushing out the small, local farmer which America has idealized and cherished.<sup>62</sup> Importantly, but not surprisingly, minority small-scale farmers have had the hardest time staying afloat while big agricultural companies take over—

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54. COMMITTEE ON A FRAMEWORK FOR ASSESSING THE HEALTH, ENVIRONMENTAL, AND SOCIAL EFFECTS OF THE FOOD SYSTEM ET AL., A FRAMEWORK FOR ASSESSING EFFECTS OF THE FOOD SYSTEM, (2015) (4, Environmental Effects of the U.S. Food System), <https://www.ncbi.nlm.nih.gov/books/NBK305182/>.

55. Cameron Oglesby, *Hurricane season spurs hog waste worries in North Carolina*, ENVIRONMENTAL HEALTH NEWS (May 17, 2021), <https://www.ehn.org/north-carolina-hurricanes-hog-farms-2652972415.html>; see also Carrie Hribar, *Understanding Concentrated Animal Feeding Operations and Their Impact on Communities*, CDC (2010), [https://www.cdc.gov/nceh/ehs/docs/understanding\\_cafos\\_nalboh.pdf](https://www.cdc.gov/nceh/ehs/docs/understanding_cafos_nalboh.pdf) (stating that “[a]nually, it is estimated that livestock animals in the U.S. produce each year somewhere between **3 and 20 times more manure than people** in the U.S. produce, or as much as 1.2–1.37 billion tons of waste (EPA, 2005). Though sewage treatment plants are required for human waste, no such treatment facility exists for livestock waste.”).

56. Percival Coursebook, *supra* note 2, at 589 (explaining that agriculture operations are a non-point source).

57. SIMON, *supra* note 5, at 81–83.

58. *Id.* at 82–84.

59. *Id.*

60. *Id.* at 85.

61. *Id.* at 84.

62. Oppenlander, *supra* note 36, at 80.

propelled by government assistance which has only continued the extensive history of hardship minority farmers have endured.<sup>63</sup>

The operation of large-scale farming operations owned by a small number of domestic and foreign companies drains local communities of their resources, stunts the growth of local businesses, and causes environmental concerns particularly in low-income rural areas. These effects are fueled by the farm bill subsidies driving demand for cheap meat products.

### 3. Far-Reaching Injustice: Food Deserts, Health Concerns, and Climate Change

The broader effects of subsidizing the crops primarily used by the meat industry are many. However, under an environmental justice lens there are several important societal repercussions to identify which have no current method of judicial or administrative recourse. Food deserts are geographic areas that do not have an accessible source of proper nutrition (e.g., a grocery store within a reasonable distance). Food deserts are partly a result of limited resources being shipped to communities with the most means (or ones that can support a successful grocery store).<sup>64</sup> Similarly, food swamps are areas with only low-quality food (namely fast food which serves products severely underpriced and unhealthy) and are influenced by the farm bill subsidy.<sup>65</sup> Food deserts can be a serious cause of health concerns as well.<sup>66</sup>

According to government statistics, only 12.2% of Americans meet their daily fruit requirements and less than 10% meet the vegetable mark.<sup>67</sup> With that number already so low for the population as a whole, in food deserts, access to fruits and vegetables is a central problem.<sup>68</sup> Related to access to healthier foods, statistics show Black males have “1.6 times higher rates” of

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63. *See generally* Justice for Black Farmers Act of 2021 S.300 117<sup>th</sup> Congress (2021-22), <https://www.congress.gov/bill/117th-congress/senate-bill/300/> (directing the USDA to provide a variety of assistance to address historical discrimination and disparities in the agricultural sector); Ximena Bustillo, *In 2022, Black farmers were persistently left behind from the USDA's loan system*, NPR (Feb 19, 2023) <https://www.npr.org/2023/02/19/1156851675/in-2022-black-farmers-were-persistently-left-behind-from-the-usdas-loan-system>.

64. Amber Charles Alexis, *What Are Food Deserts? All You Need to Know*, HEALTHLINE (June 14, 2021), <https://www.healthline.com/nutrition/food-deserts#locations-stats> (explaining a reasonable distance is measured by walkability/public transit accessibility).

65. *Id.*

66. Whitney Sherman, *Research Shows Food Deserts More Abundant In Minority Neighborhoods*, JOHNS HOPKINS MAG., <https://hub.jhu.edu/magazine/2014/spring/racial-food-deserts/> (last visited Apr. 4, 2023).

67. Hayes, *supra* note 7 (noting that most vegetable quotas are met with frozen French fries or similar products).

68. Alexis, *supra* note 64.

heart disease than white males.<sup>69</sup> This discrepancy is due to clinical factors including lack of access to high-quality foods.<sup>70</sup> The Supplemental Nutrition Assistance Program (SNAP) is a program that provides 38 million Americans with food security monetary assistance and is the largest allotment of farm bill funds. However, SNAP assistance does not change the food selection locally available to participants.<sup>71</sup>

Research and government reports support the notion that climate change (in part propelled by excessive methane released by the animal agriculture industry) disproportionately affects disadvantaged communities.<sup>72</sup> Scientists see strong climate change impacts in the form of heat waves, which often overwhelm lower income, densely populated urban populations the most—even killing those who cannot adequately stay cool or find air conditioned spaces.<sup>73</sup> Additionally, during climate-induced hurricane disasters, the wealthy are granted the ability to flee, while the poor (and the animals trapped in large scale farming operations) are more likely to be left to fend for themselves.<sup>74</sup>

While the impacts of climate change are worthy of their own articles, they are not insignificant to this discussion. The farm bill subsidies create effects that are extremely far-reaching as they manipulate the entire food system, promote the industry of factory farming, create immense amounts of greenhouse gases, use vast amounts of the U.S. land and resources, and generate injustices which affect minority communities the most.

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69. Kristen Samuelson, *Black adults' high cardiovascular disease risk not due to race itself*, NORTHWESTERN NOW (May 25, 2022), <https://news.northwestern.edu/stories/2022/05/black-adults-high-cardiovascular-disease-risk-not-due-to-race-itself/>.

70. *Id.*

71. Lauren Hall & Catlin Nchako, *A Closer Look at Who Benefits from SNAP: State-by-State Fact Sheets*, CENTER ON BUDGET AND POLICY PRIORITIES (Apr. 25, 2022), <https://www.cbpp.org/research/food-assistance/a-closer-look-at-who-benefits-from-snap-state-by-state-fact-sheets#Alabama>; UN Climate Report, *supra* note 32.

72. See EPA, *supra* note 1 (quoting Thomas J. Vilsack, Secretary of Agriculture: “This goal is more challenging because environmental justice communities are often more heavily affected by the impacts of climate change than any other sector of our Nation. Given that USDA programs touch almost every American every day, the Department is well positioned to help environmental justice communities build resilience and adaptation strategies to help them address the impacts of climate change.”); see EPA, *supra* note 14 (quoting North Carolina Governor Roy Cooper: “For too long, our underserved communities have been disproportionately impacted by climate change and unfair environmental impacts. That’s why we’re focused on moving North Carolina toward a more equitable, clean energy future for all, and this new office will help our state and country get there even sooner.”).

73. Lainey Laband, *How Minorities Are Disproportionately Affected by Climate Change, and What We Can Do To Help*, SIERRA CLUB REDWOOD CHAPTER (Nov. 24, 2020), <https://www.sierraclub.org/redwood/napa/blog/2020/11/how-minorities-are-disproportionately-affected-climate-change-and-what-we>.

74. *Id.* American food policy has many other implications, which are better suited for a different article.



*D. Are there mechanisms in place to prevent environmental injustices?*

1. NEPA Claims

The National Environmental Policy Act (NEPA) requires that all major federal actions which substantially affect the human environment must produce an environmental impact statement (EIS) at each step of the decision-making process. An EIS demonstrates the impacts caused by the project and examines any possible alternatives.<sup>75</sup> If an agency fails to carry out an EIS when necessary, a claim may be filed under the Administrative Procedure Act (APA) to force the agency to comply.<sup>76</sup> An agency can escape performing an EIS if the agency's initial environmental assessment (EA) reveals a finding of no significant impact or if a relevant statute or legislation declares an action categorically exempt from the EIS process.<sup>77</sup> Once an EIS is complete, the agency has fulfilled its duty. Courts have held that once the procedural requirement is met, the agency is allowed deference as to what to do with its EIS findings.<sup>78</sup>

The farm bill's subsidization of crops which feed the meat industry should certainly be considered a major project by a government agency subject to NEPA requirements. Farm bill crop subsidies are a large-scale government action which significantly affects the human environment.<sup>79</sup> Additionally, the mere siting (where the operation is located) of animal agriculture facilities that benefit from the farm bill allocations should be subject to an EIS, per NEPA's "every step" language.<sup>80</sup> The farm bill's subsidies, however, are a categorical exclusion (CE) to an EIS.<sup>81</sup> CEs are used when the agency pre-determines that there is no significant environmental affect, which may stem from policy reasoning.<sup>82</sup>

Providing an EIS alone would not redress the situation described herein, beyond providing useful information for the public to view (which can be powerful).<sup>83</sup> In *Sierra Club v. Federal Energy Regulation Commission* (FERC), plaintiffs filed a suit on the basis that FERC did not take into account

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75. Percival Coursebook, *supra* note 2, at 813 ("NEPA requires that an agency must—to the fullest extent possible under its statutory obligations—consider alternatives to its actions which would reduce environmental damage.").

76. *Id.* at 824.

77. *Id.* at 851.

78. *Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519 (1978) ("NEPA does set forth significant substantive goals for the Nation, but its mandate to the agencies is essentially procedural . . . . It is to insure a fully informed and well-considered decision, not necessarily a decision the judges of the . . . Court would have reached.").

79. NEPA Guidelines, *supra* note 4; Hoffpauir, *supra* note 29 at 243.

80. Hoffpauir, *supra* note 29 at 257.

81. *Id.* at 256.

82. Percival Coursebook, *supra* note 2, at 851.

83. *Id.* at 820.

environmental justice concerns related to the placement of a natural gas pipeline passing through low-income, predominantly minority communities, as 83% of the pipeline would cross through designated environmental justice communities.<sup>84</sup> The court held that FERC needed to take this into account while creating their EIS.<sup>85</sup> The court also held, however, that simply making the assessment would fulfill FERC's procedural duty.<sup>86</sup> Shortly after the ruling, the EIS was amended to note the environmental justice concerns, and the permits were reinstated.<sup>87</sup>

## 2. Civil Rights Claims

An environmental justice claim under Title VI of the Civil Rights Act is an option, but often insufficient.<sup>88</sup> Under this type of claim, based on *Alexander v. Sandoval*, a plaintiff is required to show a cognizable injury with causation and prove that they were intentionally discriminated against (at an individual level). This type of claim excludes speculative disparate impacts against a plaintiff or group of plaintiffs.<sup>89</sup> These elements have proven to be too limited and individualized—needing to prove direct, intentional discrimination to the specific plaintiff, and disparate impacts do not give rise to a cause of action.<sup>90</sup>

The *Sandoval* decision has proven troublesome for Title VI recourse. In *South Camden Citizens*, an action group challenged the siting of a cement mixing facility, declaring in the complaint that the facility was intentionally sited due to minority populations in that area.<sup>91</sup> The lower court (just four days before the *Sandoval* decision) denied defendant's motion to dismiss on the basis that, despite a facially neutral action with disparate adverse effects, the complaint showed enough facts to support an inference of discrimination.<sup>92</sup> This victory for environmental justice was short-lived, as the Third Circuit ultimately reversed, in light of *Sandoval*.<sup>93</sup>

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84. *Sierra Club v. Fed. Energy Reg. Comm.*, 867 F.3d 1357 (D.C. Cir. 2017).

85. *Id.* at 1369.

86. *Id.* at 1372.

87. Percival Coursebook, *supra* note 2, at 870-71.

88. *Bullwinkel v. United States DOE*, 2013 U.S. Dist. LEXIS 12960.

89. *Alexander v. Sandoval*, 532 U.S. 275, 279-80 (April 24, 2001) ("This case presents the question whether private individuals may sue to enforce disparate-impact regulations promulgated under Title VI of the Civil Rights Act of 1964.").

90. *Id.* at 281.

91. *South Camden Citizens in Action v. New Jersey Dep't of Env't Prot.*, 274 F.3d 771, 776 (2002).

92. *Id.* at 776.

93. *Id.* at 774 (quoting: "For the reasons we set forth, we hold that an administrative regulation cannot create an interest enforceable under section 1983 unless the interest already is implicit in the statute

In relation to NEPA enforcement, the *Bullwinkel* case demonstrated that environmental affects on minority communities amounting to disparate effects of regulated actions were not actionable.<sup>94</sup>

Private individuals may sue to enforce § 601 of Title VI. However, the law is clear that § 601 prohibits only intentional discrimination. Plaintiff's Amended Complaint, and his More Definite Statement, do not allege intentional discrimination. Instead, Plaintiff's claims, which are *based on the premise that various agencies failed adequately to consider the impact of environmental effects on minority communities when performing their NEPA analysis, are disparate-impact claims that are not actionable under § 601.*<sup>95</sup>

The *Bullwinkel* case is indicative of the gap between the far-reaching environmental affects and their impacts on individual people or communities. This leaves potential plaintiffs with attenuated demonstrations of causation for their injuries. Harms caused by farm practices and the farm bill, thus, are mostly without recourse.

### 3. Nuisance Claims

Traditional common law private nuisance claims have been successfully used in the past to address localized environmental and environmental justice issues. But these claims require the well-funded plaintiff (or more likely group of plaintiffs) to have: a cognizable injury, a developed chain of causation, means of redress for standing, and have not lost their ability to sue due to laches.<sup>96</sup> As mentioned earlier, nuisance claims have their own statutory hurdles designed to protect local industries—"a lawful enterprise is not a private nuisance per se."<sup>97</sup> For the purposes of this article, private nuisance claims are a possible solution but are too individualized and create relatively small ripples in a vast ocean, and thus far have failed to create significant change in relation to farm bill subsidy distribution.

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authorizing the regulation, and that inasmuch as Title VI proscribes only intentional discrimination, the plaintiffs do not have a right enforceable through a 1983 action under the EPA's disparate impact discrimination regulations.").

94. *Bullwinkel v. United States DOE*, 2013 U.S. Dist. LEXIS 12960, 31; Percival *supra* note 2 at 880 (NEPA does generally look to both direct and "reasonably foreseeable" indirect effects, but when combined with environmental justice concerns the extended effects appear to be too far afield.).

95. *Bullwinkel*, U.S. Dist. LEXIS at 31 (emphasis added) (internal citations removed).

96. *McKiver v. Murphy-Brown, LLC.*, 980 F.3d 937, 952–54, 973 (4th Cir. 2020).

97. Percival *supra* note 2, at 79; *McKiver v. Murphy-Brown, LLC.*, at 985 (concurrence).

*E. But what will I eat instead of meat?*

Because this article suggests that focusing less on supporting animal food products can alleviate environmental justice concerns, this article must also preview the alternative—supporting edible plant products such as grains, beans, fruits, and vegetables. If the government is to lessen its encouragement of companies to manufacture animal food products (either by simply no longer subsidizing their resources, allowing for a market correction, or by directly targeting more human-edible plant production programs) the impacts of citizens eating more plants should be discussed. Government health recommendations already promote eating more plants both through the food pyramid and as a way to reduce disease risk by shifting the American diet away from beef.<sup>98</sup> If these recommendations are followed, then many benefits will begin to reveal themselves.

At a basic level, an herbivore requires 1/5 the land of an omnivore to generate the food which they eat.<sup>99</sup> The American food system (and the worldwide food system) already grow enough plants from a calorie perspective to feed ourselves, but those calories are fed to livestock rather than to people.<sup>100</sup> An individual can grow enough food to feed themselves with a single acre of land, and within that one acre a farmer can yield up to 60,000 pounds of potatoes per year compared to only 770 pounds of beef.<sup>101</sup> In a similar vein, a pound of vegetables requires only 39 gallons of water to grow versus a whopping 1,847 gallons of water to generate a pound of

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98. *Dietary Guidelines for Americans, 2020-2025*, USDA, [https://www.dietaryguidelines.gov/sites/default/files/2021-03/Dietary\\_Guidelines\\_for\\_Americans-2020-2025.pdf](https://www.dietaryguidelines.gov/sites/default/files/2021-03/Dietary_Guidelines_for_Americans-2020-2025.pdf).

99. Oppenlander *supra* note 36, at 80–83.

100. Adam Majendie, *Without Clearing Any New Farmland, We Could Feed Two Earths' Worth of People*, Bloomberg (Dec. 15, 2020), <https://www.bloomberg.com/news/features/2020-12-15/no-more-hunger-how-to-feed-everyone-on-earth-with-just-the-land-we-have> (This also answers the common question of “If we only eat plants, won’t that take a lot of water?” because we are already using that water, but on calorie-wasteful livestock feed).

101. FARMLAND LP, *One Acre Feeds a Person*, <https://www.farmlandlp.com/2012/01/one-acre-feeds-a-person/> (last visited Nov. 29, 2022) (This source, and most estimates, are simplified to demonstrate generalizations. There are certainly other things to take into account when repurposing livestock grazing area into growable land such as climate and soil quality, but the space is certainly available, and crops are already being grown); *Potato Production In USA*, KENOSHA POTATO, [http://kenoshapotato.com/Potato\\_Production\\_USA.htm](http://kenoshapotato.com/Potato_Production_USA.htm) (last visited Nov. 29, 2022); James Videle, *Comparison of Farming in Production of Food Per Acre*, HUMANE PARTY, <https://humaneherald.files.wordpress.com/2019/01/production-of-foods-per-acre.pdf>.

beef.<sup>102</sup> In fact, the animals we eat consume 50% of all water used in the U.S.<sup>103</sup>

Due to farm bill offsets that artificially lowered prices of livestock feed—and meat as a result—Americans consume over 200 pounds of meat per person, per year.<sup>104</sup> Eating as much meat as Americans and American-influenced countries do is unique. Many countries and cultures have thrived on primarily plant-based diets for generations.<sup>105</sup> Although white Americans have taken hold of marketing the vegan brand, minority populations embrace plant-based diets as part of a deeper connection to their cultural roots while tackling generational health problems caused by the typical American (meat-centric) diet.<sup>106</sup> Inherent in a plant-centric food system is the reality that plants don't need slaughterhouses, don't create hazardous feces, don't waste other plants to make themselves, don't directly contribute to methane production, are generally healthy to eat, and don't create environmental injustices.

Still not sold on plants? Imagine sitting down for a classic plate (or two) of spaghetti, topped with a beautiful, fresh marina sauce, served with a side of grilled mixed vegetables and cannellini beans—both drizzled with extra virgin olive oil and fresh basil. A loaf of Tuscan bread to soak up all the extra sauce is mandatory, and finally, a refreshing raspberry sorbet with dark chocolate provides the dessert.<sup>107</sup>

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102. Kristi Delynko, *What's the Beef with Water?*, DENVER WATER (Feb. 14, 2019), <https://www.denverwater.org/tap/whats-beef-water>; See also *Why Meat Eats Resources*, WATER FOOTPRINT CALCULATOR (last updated July 12, 2022), <https://www.watercalculator.org/news/articles/why-meat-eats-resources/> (averaging the water consumption of the most commonly consumed vegetables per pound).

103. Oppenlander, *supra* note 36, at 90.

104. McCarthy, *supra* note 38; Perhaps unsurprisingly, America also suffers from staggering rates of heart disease, with minority groups incurring the highest rate percentages. *Heart Disease Facts*, CENTERS FOR DISEASE CONTROL AND PREVENTION (last reviewed: October 14, 2022), <https://www.cdc.gov/heartdisease/facts.htm> (Notably, the CDC recommends a diet high in vegetables and low in red meat to fight heart disease).

105. Shauneen Miranda, *Nonwhite Americans are Eating Less Meat. Vegan Activists of Color Explain Why*, NPR (July 1, 2022), <https://www.npr.org/2022/07/01/1106943018/vegetarian-plant-based-diet-vegan> (explaining that minority communities have thrived off plant-based culture for generations: “If you think of the Black Hebrew Israelites, if you think of the Seventh-day Adventists, if you think of the Rastafarians—who coined the term ‘Ital lifestyle’ for eating plant-based—this is not new,” Wright-Brown said.”).

106. *Id.*

107. This meal is naturally completely plant-based, without substitutes or “fake” items. An express version consists of: 16oz box of pasta (\$0.95), 15oz can of beans (\$1.29), bag of frozen mixed vegetables (\$1.39), 28oz. can of crushed tomatoes with basil (\$1.79), loaf of Tuscan bread (\$4.99), seasonings (around \$1.00, varies). Feeds 4, grand total \$11.41. Prices generated from Target.com (Nov. 29, 2022).

## II. ARGUMENT

*A. The Farm Bill Creates Environmental Hazards Within the Doctrine of Environmental Justice*

The uncomfortable hurdle for our society to recognize is that the food we eat creates severe environmental hazards, especially to vulnerable populations. Our society must recognize this before addressing how to change our food system.<sup>108</sup> Food production should be analyzed and legislated as an environmental issue. Food production creates immense climate change emissions, hazardous waste, dangerous environmental conditions, and can kill industry employees through the creation of unhealthy products.<sup>109</sup> What people eat is influenced by factors beyond personal choice—it is a result of what is available, promoted by government programs, and has a tremendous impact on our lives and environment.<sup>110</sup> The science is sound, and society is ready to move beyond frontier notions of a wasteful cattle-centric food system that disproportionately harms environmental justice communities.<sup>111</sup> The Clean Air Act, Clean Water Act, and formation of the EPA have all successfully driven U.S. technology to grow and improve tremendously. Modern technological advances fall outside the scope of most environmental regulation as the food we eat is a relic of the industrial revolution of the 1800's.<sup>112</sup>

*B. There is No Legal Mechanism to Properly Remedy the Environmental Justice Hazard Created by the Farm Bill*

For environmental justice concerns to develop true solutions, a robust enforcement mechanism must allow for a broader concept of causation and

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108. *Supra* § C.

109. UN Climate Report, *supra* note 32.

110. *The Factors That Influence Our Food Choices*, EUR. FOOD INFO. COUNCIL (EUFIC), <https://www.eufic.org/en/healthy-living/article/the-determinants-of-food-choice> (last updated June 6, 2006).

111. UN Climate Report, *supra* note 32.

112. For example, under the Clean Water Act agriculture runoff is not a point source which is regulated. Percival Coursebook, *supra* note 2; *see also* Hribar, *supra* note 55 (“Production has shifted from smaller, family-owned farms to large farms that often have corporate contracts. Most meat and dairy products now are produced on large farms with single species buildings or open-air pens (MacDonald & McBride, 2009). Modern farms have also become much more efficient. Since 1960, milk production has doubled, meat production has tripled, and egg production has quadrupled (Pew Commission on Industrial Animal Farm Production, 2009). Improvements to animal breeding, mechanical innovations, and the introduction of specially formulated feeds and animal pharmaceuticals have all increased the efficiency and productivity of animal agriculture. It also takes much less time to raise a fully grown animal. For example, in 1920, a chicken took approximately 16 weeks to reach 2.2 lbs., whereas now they can reach 5 lbs. in 7 weeks (Pew, 2009).”).

recognition of problems beyond individual disputes. As demonstrated, NEPA, Title VI, and private nuisance are not designed to address or provide recourse to environmental justice specifically.<sup>113</sup> For an example that could not be addressed by the above mechanisms (yet within the logical sequence of our food system repercussions): imagine arguing in court that a farmer in Nebraska receiving government subsidized crop insurance is to blame for a food desert a thousand miles away, which in turn caused early-onset heart disease of a minority person in New York City.<sup>114</sup>

Environmental justice has been recognized because there are notable disproportionate harms against vulnerable communities, and rules which regulate any further action in the farm bill should put environmental justice at the forefront. The government has utilized less-stringent causation analyses in other statutes, such as the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). CERCLA allows potentially responsible parties to shift the common-law-style causation burden under a certain set of standards.<sup>115</sup> CERCLA even holds parties responsible if their role was minimal.<sup>116</sup> A policy shift and amendments to the next farm bill that mirror CERCLA are required to tackle many of the issues discussed in this article. This approach would fill the gap created by the traditional scope of courts.<sup>117</sup>

*C. The next farm bill should focus on environmental justice.*

The next iteration of the Farm Bill should take into account: the environmental injustices our current food systems cause, recognize the benefits of shifting subsidies away from the meat industry, and provide recourse mechanisms to finally allow for societal progress in correcting our food system.

The next farm bill should include the policies teased by the Green New Deal and supported by current government statements and dietary guidelines which would naturally shift the farm bill subsidies away from harmful, meat-centric programs, and instead focus on creating a better food system for all.<sup>118</sup>

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113. *Supra* § D.

114. See, e.g., Jeff Guo, *These 26 states won't let you sue McDonald's for making you fat. The surprising consequence of banning obesity lawsuits.*, THE WASHINGTON POST (May 28, 2015), <https://www.washingtonpost.com/blogs/govbeat/wp/2015/05/28/these-26-states-wont-let-you-sue-mcdonalds-for-making-you-fat-the-surprising-consequence-of-banning-obesity-lawsuits/> (noting the ability to find recourse for food hazards and who causes them is certainly a topic best addressed in another, independent article).

115. Percival Coursebook, *supra* note 2 at 351–53.

116. *Id.*

117. *Infra* § H.

118. Green New Deal, H.R. Res 109, 116th Cong. (2019-20), <https://www.congress.gov/bill/116th-congress/house-resolution/109/text>.

This new policy-driven farm bill, guided by the current environmental justice problems resulting from current and past farm bills, should include:

1. Removal of the EIS categorical exclusion for farm bill subsidies.<sup>119</sup> This would allow the NEPA process to take place, or forced one to take place when appropriate, which NEPA already has provisions and guidance in place for. NEPA and the APA are fairly reliable mechanisms with familiar protocols but need to be explicitly allowed as part of the farm bill decision-making process.
2. Guidance that, when preparing an EIS for farm bill distributions, there must be an explicit environmental justice category of analysis with multiple levels of impact, similar to those described in this article. The EIS should outline how the distributions affect food systems, their workers, farming communities, and society. By creating this far-reaching analysis, any injustice recorded in-line with the EIS will satisfy the disparate causation hurdle.
3. Rather than continue to subsidize and protect cattle-feed crops, the new farm bill should include a focus on providing aid to farmers in shifting their production away from livestock feed and towards more human edible products.<sup>120</sup>
4. To prevent further abuse within the slaughterhouses and meat packing plants of America, the new farm bill should include a network to report health and safety violations, along with a fund to protect worker health. Simply by lessening the focus on cattle-feed subsidies, either less meat and less processing will be generated, or prices for those products will naturally increase to their real market-driven prices, in turn (hopefully) increasing wages and quality of workplace.<sup>121</sup> The inevitable rise of edible plants would likely mean an increase in the need for farm

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119. Hoffpauir, *supra* note 29 (This assertion is the basis of the cited article, which does a tremendous job laying out the technical workings of NEPA and the FSA Commodity programs, and why they should require an EIS for farm bill subsidies).

120. Tom Levitt, *Why Some Farmers Are Ditching Livestock and Growing Plants Instead*, ECOWATCH (Apr. 22, 2020), <https://www.ecowatch.com/farmers-plant-transition-2645785977.html>.

121. See AQUIDNECK FARM, <https://aquidneckfarms.com/> (providing an anecdotal example of a company attempting to be more transparent with a goal of higher quality products).



workers, however, and the new farm bill must proactively account for their well-being.

5. To benefit environmental justice communities, the new farm bill should target funds to depleted farming communities harmed by the wastefulness and nuisances produced in the past. The EPA currently does similar backward-looking actions to address past injustices, and a superfund-style effort could expand those programs to regrowing and reforming biological systems once depleted by factory farms.<sup>122</sup> These funds should also help smaller farmers reclaim their land and former operations from larger companies. Future bills should include funds for public school and community garden networks, create independent food ecosystems, and take distribution discretion away from a handful of large companies.
6. Lastly, to address societal and global harms caused by past iterations of the farm bill and the heavy focus on wasteful meat-centric funding, the new farm bill must put climate change, food distribution, and human health at the forefront of all decision making and EIS analyses.<sup>123</sup>

A genuine EIS with an extended environmental justice focus would reveal severe deficiencies in our existing federally subsidized food program. Failure to include environmental justice provisions has led to tremendous waste, pollution, and brought harm to disadvantaged populations. If this information were revealed through a formal EIS and the food systems were to change accordingly, the subsequent measures would inevitably lead to an increase in focus on the human population growing and consuming more plant-based foods in place of meat products. A policy shift which emphasizes a plant-centric focus when distributing federal dollars is a valid legal solution with far reaching and numerous benefits. Rather than wasting precious

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122. See *Supporting Environmental Justice at Superfund Sites Environmental Justice: Then and Now*, EPA (last updated Apr. 18, 2023) <https://www.epa.gov/superfund/supporting-environmental-justice-superfund-sites> (quoting “EPA’s Superfund program focuses on making a visible and lasting difference in communities, ensuring that people can live and work in healthy, vibrant places. As part of that focus, EPA considers how to address environmental justice concerns throughout the Superfund cleanup process.” The EPA could address these concerns by entering former factory farm locations and their communities into the pool of superfund style cleanup efforts).

123. It would be insincere and well beyond the scope of this article to suggest that growing and eating more plants would solve climate change and eradicate heart disease. Rather, it is suggesting one of many small steps in a better direction, or, away from a worse direction.

resources on animal product, this shift uses a fraction of the resources already available to create healthy, edible food.

This shift would have the incredible consequence of creating less: meat, slaughter, abusive and dangerous working situations, noxious fumes released into the local atmosphere, hazardous wastewater contaminating local water systems, pest infestations from CAFO's, harm to the property values of environmental justice communities, promotion of heart-disease triggering foods, creation of dangerous methane gas emissions, and less harm to our environment, animals, and ourselves.

#### CONCLUSION

The current federally subsidized food system is a large-scale environmental project which has tremendous environmental impacts—disproportionately felt by minority and disadvantaged communities—and currently has no means of recourse to encourage change. A comprehensive rework of the next iteration of the Agriculture Act is required to force agencies to uphold their environmental justice dedications with judicial review and greater acceptance of scientific causation, backed by a policy shift away from the beef industry to a more plant-centric focus when distributing federal subsidies. This policy will steer the U.S. away from continuing to waste valuable resources while disproportionately harming vulnerable populations.

# FROM POLLUTERS TO PROTECTORS: THE POTENTIAL OF UNILATERAL ENVIRONMENTAL COMMITMENTS MADE BY COMPANIES IN THE U.S. AND CHINA

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*Pianpian Wang\**

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*A business that makes nothing but money is a poor business.*

– Henry Ford

## INTRODUCTION

As more and more companies pledge to address environmental issues, such as greenhouse gas (GHG) reduction and resource efficiency, corporate environmental commitments come to the spotlight.

Corporate environmental commitments are a type of voluntary approach used to tackle environmental problems. To differentiate corporate commitments made through voluntary environmental programs organized by non-governmental organizations, industrial groups, or governmental agencies, the Organization for Economic Co-Operation and Development (OECD) defines voluntary corporate commitments as “unilateral commitments made by polluters.”<sup>1</sup> These commitments have the following features:<sup>2</sup> (1) companies set up environmental improvement programs and communicate to their stakeholders (employees, investors, clients, etc.) about these programs; (2) these programs’ environmental targets are determined by the companies themselves; and (3) these programs’ governance and compliance are decided by the companies themselves. Companies may delegate a third party for process monitoring or dispute resolution, but these

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1. ORG. ECON. COOP. & DEV., VOLUNTARY APPROACHES FOR THE ENVIRONMENTAL POLICY: AN ASSESSMENT 16 (1999), [https://read.oecd-ilibrary.org/environment/voluntary-approaches-for-environmental-policy\\_9789264180260-en#page9](https://read.oecd-ilibrary.org/environment/voluntary-approaches-for-environmental-policy_9789264180260-en#page9).

2. *Id.*

corporate environmental programs operate “independently.”<sup>3</sup> While the OECD used the phrase “unilateral commitments” to describe commitments made by both entire industries and individual companies, this article instead uses the phrase “unilateral corporate commitments” to refer to commitments by individual companies.<sup>4</sup> Thus, corporate commitments made through industry-specific environmental programs, non-governmental organizations, or government-organized voluntary programs will not be discussed.

By adopting the features listed above, this thesis further defines “unilateral corporate commitment(s)” as one or a set of environmental commitments developed, implemented, and monitored by a company through internal companion programs or action agendas. Prompted by a sense of corporate social responsibility, these voluntary corporate commitments aim to reach specific environmental goals or standards beyond legal requirements.

Each business's environmental footprint is unique as a social unit that heavily relies on environmental resources. Even two companies in the same industry have different environmental footprints due to their locations, suppliers, and management styles. Each company has an incentive to use unilateral corporate commitments to develop targeted measures to manage environmental impacts effectively and efficiently. Meanwhile, by developing corporate commitments and related implementation agendas, businesses can promptly respond to environmental issues unaddressed by legislatures.

However, there are challenges to utilizing unilateral corporate commitments. First, comparing the performance of different corporate commitments in an apples-to-apples way is difficult. Second, considering companies' disclosures are the primary or only source for external parties to obtain information about corporate environmental commitments, the authenticity and credibility of such information is questionable. Last, monitoring the implementation status of corporate commitments is challenging because the quality of information disclosed varies depending on the company. Because of these obstacles, unilateral corporate commitments have not gained adequate attention among legal academics for further research. Particularly, this author is unaware of any paper suggesting standards to evaluate these business commitments' authenticity and effectiveness.

To fill these gaps, this article aims to explore the potential of unilateral corporate commitments by reviewing the development process and relevant existing laws. In practice, although corporate environmental commitments are primarily developed by company leadership, other stakeholders, such as

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3. *Id.* at 10.

4. *Id.* at 16.

employees, suppliers, investors, customers, public media, government, and social organizations, may be involved in developing and implementing these commitments to varying degrees. Interactions among these stakeholders can reveal the effectiveness of these environmental commitments and signal the transition of corporate commitments from unilateral and voluntary to regulated.

Furthermore, this article examines how unilateral corporate commitments play out in different societal settings by focusing on the practices in the U.S. and China. The U.S. and China have very different environmental management systems, and both countries play an important role in international climate policy. Therefore, it is meaningful to understand why and how companies in these two countries make and implement their environmental commitments. This article reviews private and publicly listed companies in the U.S. and China and uses these companies' available information as supporting data, including their websites, filed reports, and third-party interviews.

Section I introduces the relationship between corporate social responsibility and environmental sustainability and explains how the U.S. and China currently regulate these areas. Section II explores incentives for companies to adopt sustainability measures in the U.S. and China. Section III identifies four key indicators that comprise a framework for evaluating the authenticity and effectiveness of unilateral corporate commitments. Section IV lists existing laws in the U.S. and China that can push companies to develop and implement their environmental commitments. Section V concludes by comparing the way voluntary commitments translate into future legislation in the U.S. and China. Furthermore, the conclusion highlights insufficiencies in existing law that preclude the establishment of a multi-actor scheme to hold companies accountable for their promises.

Note that this article draws conclusions based on the corporate practices in the U.S. and China, which could be limited to their regional focuses. Also, this article concentrates only on those commitments that aim to achieve goals beyond legal requirements. Legally required commitments are therefore outside the scope of discussion. Moreover, the arguments made in this article target only corporate environmental commitments and may not be applicable to other facets of corporate social responsibility, such as social sustainability.

## I. CORPORATE SOCIAL RESPONSIBILITY AND ENVIRONMENTAL SUSTAINABILITY

The modern definitional construct of Corporate Social Responsibility (CSR) started in the 1950s and 1960s in some western countries, and was

then primarily linked to civil rights and other various social movements.<sup>5</sup> Not until the 1980s did the concept of CSR begin to include environmental protection, largely due to the increasing prominence of sustainability internationally.<sup>6</sup> This international advocacy is complemented by practices from individual countries, which helped CSR evolve. After decades of development, CSR is commonly viewed as “a management concept whereby companies integrate social and environmental concerns in their business operations and interactions with their stakeholders.”<sup>7</sup> Many theories have been developed to enrich this concept and make it practicable.

### *1.1 The Triple Bottom Line Theory*

One fundamental theory of CSR is the Triple Bottom Line (TBL), first conceived by John Elkington in 1994 as a sustainability framework that balances a company’s social, environmental, and economic impact.<sup>8</sup> This theory demands a company weigh its actions on three independent scales: economic sustainability, environmental sustainability, and social sustainability.<sup>9</sup>

Economic sustainability demands a company’s products or services stay competitive while making profit margins sustainable.<sup>10</sup> When companies perceive economic capital, they also “need to absorb much wider concepts, such as natural capital and social capital” in the long term.<sup>11</sup> Environmental sustainability stems from the recognition that natural resources are natural capital and this capital is not infinite. To maintain stability, companies should control the ecological impact of business activities and the range of possible environmental risks associated with a company’s short and long-term costs, such as the environmental impacts of products and the requirements of legal compliance.<sup>12</sup> Social sustainability involves “human capital, in the form of

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5. Mauricio Andrés Latapi Agudelo et al., *A Literature Review of the History and Evolution of Corporate Social Responsibility*, INT’L J. CORP. SOC. RESP. 4 (2019), <https://doi.org/10.1186/s40991-018-0039-y>.

6. *Id.*

7. *What is CSR?*, U.N. INDUS. DEV. ORG., <https://www.unido.org/our-focus/advancing-economic-competitiveness/competitive-trade-capacities-and-corporate-responsibility/corporate-social-responsibility-market-integration/what-csr> (last visited Feb. 7, 2021).

8. See JOHN ELKINGTON, *THE TRIPLE BOTTOM LINE: DOES IT ALL ADD UP?* 1–2 (Adrien Henriques & Julie Richardson eds., 2004) (noting in the first chapter titled, Enter the Triple Bottom Line, that Elkington later developed a principle like the Triple Bottom Line known as the 3P formulation of “people, planet and profits”; Later the 3P formulation was adopted by Shell for its first Shell Report and now widely used in the world as the 3Ps).

9. *Id.* at 9.

10. JOHN ELKINGTON, *CANNIBALS WITH FORKS: THE TRIPLE BOTTOM LINE OF 21ST-CENTURY BUSINESS* 75–77 (1997).

11. *Id.* 75.

12. *Id.* 79–84.

public health, skills and education,”<sup>13</sup> and thus requires companies to pay attention to the needs of society to increase the value of human capital. This bottom line often includes “community relations, product safety, training and education initiatives, sponsorship, and charitable donations.”<sup>14</sup>

Together with subsequent variants, the TBL concept has been adopted by accountants and reporting consultants.<sup>15</sup> These professionals apply the TBL when they advise multinational corporations to develop CSR strategies. According to the Klynveld Peat Marwick Goerdeler (KPMG) Survey of Corporate Responsibility Reporting 2020, 96% of the world’s largest 250 corporations report on TBL, representing a significant rise from 35% in 1999 when KPMG first measured this metric.<sup>16</sup> This shows that more and more companies have embraced the TBL concept in their CSR strategy development and reporting. Furthermore, the TBL concept guides governments in developing regulations to foster CSR awareness. This indicates that “[CSR] has gone from a ‘nice to have’ to a compliance requirement.”<sup>17</sup> The following two sections provide an overview of current CSR legislation in the U.S. and China.

### 1.2 CSR Legislation in the U.S.

While modern CSR awareness in the U.S. can be traced back to the late 1960s, such concepts did not become popular among multinational companies until the 1990s due to globalization.<sup>18</sup> The CSR concept has received increased recognition since 2000.<sup>19</sup>

Practitioners summarized existing CSR-related regulations (with some overlap) into three categories: (1) disclosure requirements, (2) compliance program requirements, and (3) trade-based regulations.<sup>20</sup>

Disclosure requirements oblige companies to discuss whether and how they address a particular issue. For example, in 2010, the U.S. Congress passed the U.S. Conflict Minerals Rule (the Rule), commonly known as §

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13. *Id.* 85.

14. *Id.* at 87–88.

15. John Elkington, *25 Years Ago I Coined the Phrase “Triple Bottom Line.” Here’s Why It’s Time to Rethink It*, HARV. BUS. REV. (June 25, 2018), <https://hbr.org/2018/06/25-years-ago-i-coined-the-phrase-triple-bottom-line-heres-why-im-giving-up-on-it>.

16. See KPMG IMPACT, THE TIME HAS COME: THE KPMG SURVEY OF SUSTAINABILITY REPORTING 2020 10 (2020), <https://assets.kpmg.com/content/dam/kpmg/xx/pdf/2020/11/the-time-has-come.pdf> (charting the growth on the amount of the top 250 companies reporting on TBL since 1993).

17. Michael R. Littenberg et al., *Corporate Social Responsibility Compliance in 2018, and Beyond—An Overview for In-House Legal Counsel*, ROPES & GRAY LLP (Mar. 12, 2018), <https://www.ropesgray.com/en/newsroom/alerts/2018/03/Corporate-Social-Responsibility-Compliance-in-2018-and-Beyond-An-Overview-for-In-House-Legal-Counsel>.

18. Mauricio A. L. Agudelo et al., *supra* note 5.

19. *Id.*

20. Littenberg et al., *supra* note 17.



1502 of the Dodd–Frank Act.<sup>21</sup> The Rule requires U.S. publicly listed companies to: check their supply chains for tin, tungsten, tantalum, and gold that originates from the Democratic Republic of Congo or its neighbors; take steps to address any risks they find (including but not limited to minerals sourced from those countries or benefitted armed groups); and to report on their efforts annually to the U.S. Securities and Exchange Commission (SEC).<sup>22</sup> The Rule does not prevent companies from sourcing such minerals in these regions, but aims to require companies to conduct due diligence to make sure they are not funding armed groups or human rights abuses.

Companies are required to implement compliance programs to address particular CSR issues. For example, the amended U.S. Federal Acquisition Regulation, promulgated in 2015, aims to significantly strengthen protections against human trafficking in connection with government contracts.<sup>23</sup> Under the rule, government solicitations and contracts are required to prohibit contractors, contractor employees, subcontractors (which under the rule also includes indirect subcontractors), and subcontractor employees and their agents, from engaging in human trafficking. This includes trafficking of persons during the contract performance period, using forced labor in the performance of the contract, using misleading or fraudulent practices during the recruitment of employees, or offering of employment and using recruiters that do not comply with local labor laws.<sup>24</sup>

Trade-based regulations usually prohibit the importation into the U.S. of goods, wares, articles, and merchandise mined, produced, or manufactured wholly or in part in any foreign country by convict labor, forced labor, or other sanctionable activities listed by the U.S. government.<sup>25</sup>

In December 2016, the U.S. government released its National Action Plan on Responsible Business Conduct (National Action Plan).<sup>26</sup> The National Action Plan serves as a guideline to “reinforce and strengthen the U.S. government’s role in advancing responsible business conduct through effective intra-governmental coordination and policymaking, promoting high standards globally, facilitating current and future responsible business conduct efforts through enhanced collaboration, and highlighting and supporting U.S. industry leadership.”<sup>27</sup> The National Action Plan focuses on a broad range of issues, such as: human rights, the rights of indigenous

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21. Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, § 929-Z, 124 Stat. 1376, 1871 (2010) (codified at 15 U.S.C. § 78o).

22. 17 C.F.R. §§ 240, 249b.

23. Federal Acquisition Regulation, 48 C.F.R. ch. 2 (2015).

24. *Id.*

25. STAFF OF H. COMM. ON WAYS AND MEANS, 107TH CONG., OVERVIEW AND COMPILATION OF U.S. TRADE STATUTES 287 (Comm. Print 2001).

26. U.S. DEP’T STATE, RESPONSIBLE BUSINESS CONDUCT: FIRST NATIONAL ACTION PLAN FOR THE UNITED STATES OF AMERICA (2016), <https://2009-2017.state.gov/e/eb/eppd/csr/naprbc/265706.htm>.

27. *Id.*

peoples, labor rights, land tenure and property rights, anti-corruption, transparency, and addresses environmental issues “to the extent that they overlap with responsible business conduct.”<sup>28</sup> Advocate Greg Regaignon points out that the National Action Plan targets only businesses operating overseas,<sup>29</sup> “even though many companies operating in the U.S. have been criticized on issues such as workplace safety, trade union rights, living wage, discrimination, environmental justice, climate change, modern slavery, abuses in private prisons, and internet privacy.”<sup>30</sup>

Overall, the existing laws, regulations, and policies related to CSR in the U.S. mainly pose a burden to companies with international operations and oversea sourcing. These legal obligations include information disclosure and corporate compliance for certain issues, such as human rights and labor. Companies still have wide discretion in designing and developing CSR strategies and programs, particularly regarding environmental issues.

### 1.3 CSR Legislation in China

Compared to the deep-rooted history in the U.S., CSR is a relatively new concept to many companies in China. During the 1990s, multinational corporations entered China and brought CSR practices with them. Even though CSR was not explicitly stated in the Chinese laws and regulations, some legislation explored the rights and obligations of consumers, laborers, and corporate donors, such as the Law on the Protection of Consumer Rights and Interests (implemented in 1994), Labor Law (1994), and Law on Donations for Public Welfare (1999).<sup>31</sup> These laws provide a glimpse of how the Chinese government and companies understood CSR at that time, which primarily focused on consumer protection and corporate philanthropy. These aspects all belong to social sustainability under the TBL concept.

Later, the international community’s CSR agenda prompted China to study CSR from passive acceptance to active consideration. In 2000, the

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28. *Id.*

29. *Id.*

30. Gregory Regaignon, *Can The New U.S. National Action Plan Encourage Responsible Business Under Trump?* BUS. & HUM. RTS. RES. CTR. (Dec. 19, 2016), <https://www.business-humanrights.org/en/blog/can-the-new-us-national-action-plan-encourage-responsible-business-under-trump/>.

31. See KIM In-sun (金仁仙), *Zhongguo Qiye Shehui Zeren Zhengce de Fenxi ji Qishi* (中国企业社会责任政策的分析及启示) [*On the Public Policy Regarding Corporate Social Responsibility in China*]. (北京社会科学) [Social Science of Beijing], No.8, at 22–33 (2019) (describing how the Chinese government explicitly stated at a work meeting in 2013 that CSR should be paid attention to in the context of reforming state-owned companies and to encouraged them to undertake social responsibility).

United Nations (UN) launched a voluntary Global Compact for CSR.<sup>32</sup> To streamline responsible business activities worldwide, the Global Compact consists of ten universal principles concerning human rights, labor, environment, and anti-corruption.<sup>33</sup> This Global Compact is not just open for companies to join but also invites academic institutions, cities and municipalities, civil society, and public sector organizations to spread CSR principles.<sup>34</sup> This initiative helps promote CSR concepts in both developed and developing countries. As of May 20, 2022, 595 Chinese companies (including small and medium enterprises) had joined the Global Compact, and that number is still increasing.<sup>35</sup>

Joining the World Trade Organization in 2001 further motivated China to follow the international CSR trend. Between 2005 and 2013, the Chinese government started focusing on and emphasizing CSR.<sup>36</sup> For example, Article 5 of the 2005 revised Company Law explicitly stated that companies established and operating in China have to undertake social responsibilities, which is the first time that the concept of CSR appeared in Chinese law.<sup>37</sup> The law declares: “When conducting business operations, a company shall comply with the laws and administrative regulations, social morality, and business morality. It shall act in good faith, accept the supervision of the government and general public, and bear social responsibilities.”<sup>38</sup> From 2014 to present, the Chinese government has further strengthened the CSR concept through laws related to social welfare, such as the 2016 Charity Law and the 2017 revised Regulation on the Implementation of the Enterprise Income Tax Law, which nudges companies to participate in philanthropy by offering to reduce their tax burdens.<sup>39</sup>

Furthermore, the government has guided companies to integrate CSR into environmental law.<sup>40</sup> For example, the 2014 revised Environmental

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32. *Secretary General, Secretary-General Welcomes International Corporate Leaders to Global Compact Meeting*, U.N. Press Release (July 26, 2000), <https://press.un.org/en/2000/20000726.sgsm7495.doc.html>.

33. *The Ten Principles of the UN Global Compact*, U.N. GLOBAL COMPACT, <https://www.unglobalcompact.org/what-is-gc/mission/principles> (last visited Feb. 12, 2021).

34. *Non-Business Application*, U.N. GLOBAL COMPACT, <https://www.unglobalcompact.org/participation/join/application/non-business> (last visited Feb. 12, 2021).

35. *See Our Participants*, U.N. GLOBAL COMPACT, <https://www.unglobalcompact.org/what-is-gc/participants/search?search%5Bcountries%5D%5B%5D=38> (last visited Apr. 6, 2023) (listing every Chinese company currently involved in the Global Impact).

36. Kim, *supra* note 31.

37. *Id.*

38. *See* COMPANY LAW OF THE PEOPLE’S REPUBLIC OF CHINA (rev. 2018), [http://ghiplegal.com/static/frontend/img/pdf/company\\_law\\_en.pdf](http://ghiplegal.com/static/frontend/img/pdf/company_law_en.pdf) (detailing that the Company Law of the People’s Republic of China has been revised or amended numerous times in the years subsequent to its adoption in 1993).

39. Kim, *supra* note 31.

40. *Id.*

Protection Law states that companies are encouraged to “achieve further pollution reduction beyond statutory discharge standards” (Article 22) and to “give priority to the introduction of clean energy, adopt process and facilities with higher resource efficiency as well as low pollution discharges, and apply comprehensive waste utilization technologies and waste disposal technologies to reduce pollutant generation” (Article 40).<sup>41</sup> These provisions also suggest ways for companies to go beyond legal obligations to increase environmental sustainability.

As CSR developed in China, the government enacted legislation and regulation related to CSR disclosure between 2006 and 2017. For example, the Shenzhen Stock Exchange issued Shenzhen Stock Exchange Social Responsibility Instructions to Listed Companies (Shenzhen Instruction) in September 2006.<sup>42</sup> The Shenzhen Instruction stated that companies can disclose their CSR reports in their annual reports, and such CSR reports shall at least include: (1) actions the company has taken to address employee protection, environmental pollution, product quality, and its community relationship; (2) whether there is a difference between actual practice and company objectives, and an explanation for any such difference; and (3) measures and a timeline to improve its CSR implementation.<sup>43</sup> In late December 2008, both Shenzhen and Shanghai Stock Exchanges required certain companies to disclose their CSR reports.<sup>44</sup>

Among all aspects of CSR, environmental sustainability—especially disclosing corporate environmental information—is actively becoming one of the key focuses in China. Under Chinese law, corporate environmental disclosure for listed companies can be divided into mandatory and discretionary disclosures. Mandatory disclosures cover: pollutant discharge information; construction and operation of pollution prevention facilities;

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41. Huanjingbaohu Fa (中华人民共和国环境保护法) [Law on the Protection of the Environment] promulgated by the Standing Comm. Nat'l People's Cong. (Apr. 4, 2014, effective Jan. 1, 2015), CLI.1.223979 (EN) (Lawinfochina) [hereinafter the Environmental Protection Law].

42. Shenzhen Zhengquan Jiaoyisuo Shangshi Gongsi Shehui Zeren Zhiyin (深圳证券交易所上市公司社会责任指引) [Shenzhen Stock Exchange Social Responsibility Instructions to Listed Companies] (promulgated by Shenzhen Stock Exchange), ch. 7 (Sept. 25, 2006), <http://47.104.82.158/sustainability/reports/guide/internal/20171222/download/%E6%B7%B1%E5%9C%B3%E8%AF%81%E5%88%B8%E4%BA%A4%E6%98%93%E4%B8%8A%E5%B8%82%E5%85%AC%E5%8F%B8%E7%A4%BE%E4%BC%9A%E8%B4%A3%E4%BB%BB%E6%8C%87%E5%BC%95.pdf>.

43. *Id.*

44. Shanghai Stock Exchange (上海证券交易所), Shanghai Zhengquan Jiaoyisuo Guanyu Zuohao Shangshi Gongsi 2008 Nian Niandu Baogao Gongzuo de Tongzhi (上海证券交易所关于做好上市公司2008年年度报告工作的通知) [Notification of the Shanghai Stock Exchange on Listed Companies Effectively Completing Annual Reports for Year 2008] (2008), [http://www.sse.com.cn/services/information/xbrl/mediareports/c/c\\_20150912\\_3987388.shtml](http://www.sse.com.cn/services/information/xbrl/mediareports/c/c_20150912_3987388.shtml).

construction projects' environmental impact assessments and their administrative approvals; internal contingent responses to environmental emergencies; and environmental self-monitoring frameworks.<sup>45</sup> Companies should explain the reasons for not disclosing the required information.<sup>46</sup>

Listed companies are further encouraged to disclose the following environmentally related contents: environmental compliance, environmental information verification conducted by a third-party (such as rating agencies and indexing service companies), and environmental protection and sustainability contributions.<sup>47</sup> The latest Corporate Information Disclosure and Format for Listed Companies, issued in 2021, further encourages companies to disclose any measures taken to reduce GHG emissions and their performance.<sup>48</sup> Although these disclosures are not mandatory (according to the 2021 revised Measures for the Administration of Information Disclosure by Listed Companies developed by the China Securities Regulatory Commission), companies should ensure the authenticity of such information disclosed in their annual reports.<sup>49</sup>

Compared to the Chinese law that poses legal requirements to companies of any size to adopt CSR, the U.S. does not require all companies to undertake CSR, but companies are required to establish corporate compliance programs for certain CSR issues. Furthermore, the CSR related laws in the U.S. emphasize social sustainability, while Chinese laws' development showed that China's CSR focus has expanded from social sustainability (such as corporate donation and consumer protection) to environmental sustainability. Notably, the Chinese government has highlighted the importance of corporate pollution control and information disclosure. CSR requirements under Chinese law primarily focus on domestic companies, while the U.S. CSR policies concentrate on companies' performance overseas.

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45. Gongkai Faxing Zhengquan de Gongsì Xinxì Pílu Neirong yu Gesì Zhunze dì'ershào Er'ling'yiqinian Xiuding (公开发行证券的公司信息披露内容与格式准则第 2 号-2017 年修订) [Corporate Information Disclosure and Format for Listed Companies (2017 version)] (issued by China Securities Regulatory Commission and entered into effect on Dec. 26, 2017), Article 44.

46. *Id.*

47. *Id.*

48. Gongkai Faxing Zhengquan de Gongsì Xinxì Pílu Neirong yu Gesì Zhunze dì'ershào Er'ling'eryinian Xiuding (公开发行证券的公司信息披露内容与格式准则第 2 号-2021 年修订) [Corporate Information Disclosure and Format for Listed Companies (2021 version)] (issued by China Securities Regulatory Commission and entered into effect on June 28, 2021), Article 41.

49. Shangshigongsì Xinxìpílu Guanlibanfa (上市公司信息披露管理办法 2021 年修订) [Measures for the Administration of Information Disclosure by Listed Companies (2021 Revision)] (first issued on January 30, 2007. This version was revised and adopted at the 3rd 2021 executive meeting of the China Securities Regulatory Commission on March 4, 2021), Article 5.

II. MOTIVATION FOR COMPANIES TO ADOPT CSR PRACTICES AND ENVIRONMENTAL COMMITMENTS

Even though the U.S. and China have different approaches to CSR, figures show that CSR has been increasingly accepted and practiced in both countries. In the U.S., industrial reports showed that an estimated 90% of companies on the S&P 500 index published a CSR report in 2019, compared to just 20% in 2011.<sup>50</sup> Meanwhile, scholars found that Chinese companies adopted CSR projects between 2006 and 2013 at increasing rates.<sup>51</sup>

The reasons for companies adopting and implementing CSR activities are myriad. Maignan and Ralston identified and summarized three types of motivations: value-driven, performance-driven, and stakeholder-driven.<sup>52</sup> Each motivation has its distinguishing features. As discussed above, environmental sustainability is one aspect of CSR. Therefore, in the following sections, investigating these different motivations is useful to understand why companies make environmental commitments beyond legal requirements.

*2.1 Value-Driven CSR*

With value-driven motivation, CSR is presented as part of a company's culture or as an expression of core values.<sup>53</sup> A company's CSR focus and practice is highly related to its leadership and employees' morals.

According to Hemingway and Maclagan, the personal values of individual managers are one of the factors that influence CSR development.<sup>54</sup> Besides the company's strategic commercial interests, "individual managers can exercise influence [by] initiat[ing] or chang[ing] specific projects in order to address their personal moral concerns."<sup>55</sup> Similarly, Godos-Díez et al. point out the perception of ethics and social commitments of senior management, such as the Chief Executive Officer (CEO), come into play

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50. Governance & Accountability Institute, *90% of S&P 500 Index Companies Publish Sustainability Reports in 2019*, G&A Announces in its Latest Annual 2020 Flash Report, GLOBE NEWS WIRE (July 16, 2020), <https://www.globenewswire.com/news-release/2020/07/16/2063434/0/en/90-of-S-P-500-Index-Companies-Publish-Sustainability-Reports-in-2019-G-A-Announces-in-its-Latest-Annual-2020-Flash-Report.html>.

51. Kun Li, Nasrin R. Khalili & Weiquan Cheng, *Corporate Social Responsibility Practices in China: Trends, Context, and Impact on Company Performance*, MULTIDISCIPLINARY DIGIT. PUBL'G INST. (MDPI), 2019, <https://www.mdpi.com/2071-1050/11/2/354/pdf>.

52. Isabelle Maignan & David A. Ralston, *Corporate Social Responsibility in Europe and the U.S.: Insights from Businesses' Self-presentations*, J. INT'L BUS. STUD., No.33, 2002.

53. *Id.* at 505–507.

54. Christine A. Hemingway & Patrick W. Maclagan, *Managers' Personal Values as Drivers of Corporate Social Responsibility*, J. BUS. ETHICS, No. 50, 2004, at 41.

55. *Id.*

when a company is designing CSR activities.<sup>56</sup> Beyond the management level, Lynes and Andrachuk found employees' perceptions and the corporate culture can be an important decision-making factor of CSR.<sup>57</sup> Due to these individuals' crucial positions at a company and their strong moral identity, the company tends to embrace more in-depth and innovative CSR initiatives.

For environmental sustainability alone, Gibbs highlighted the concept of "sustainability entrepreneurs" to refer to those entrepreneurs who combine environmental awareness with their business activities, with a goal to shift the basis of economic development towards a more environmentally friendly basis.<sup>58</sup> Similarly, the birth of the term "ecopreneurs" represents a group of company leaders who go further by prioritizing the environment over profits whenever practical, and doing the best they can to lessen their impact on the environment.<sup>59</sup> In practice, sustainability entrepreneurs and ecopreneurs are at the forefront of leading the way towards "going green." These individuals who have strong environmental awareness reflect their personal moral values in the businesses they have established and operated.

One well-recognized example of a value-driven company is Patagonia, a U.S. outdoor clothing company founded in 1973, which has been a strong-willed socially and environmentally responsible brand since its beginning. Yvon Chouinard, the founder of Patagonia, is an outdoor enthusiast. Thus, Chouinard embedded his passion and environmental concerns into his business and has advocated for the government and other businesses to do more for environmental causes.<sup>60</sup> Under his leadership, the company has held onto values defined by its slogans as: "Build the best product" (Quality); "Examine our practices openly and honestly, learn from our mistakes and meet our commitments" (Integrity); "Protect our home planet (Environmentalism); "Be just, equitable and antiracist as a company and in our community" (Justice) and "Do it our way" (Not bound by convention), in its business operation and product development.<sup>61</sup> Although there are no

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56. José-Luis Godos-Díez et al., *How Important Are CEOs to CSR Practices? An Analysis of the Mediating Effect of the Perceived Role of Ethics and Social Responsibility*, J. BUS. ETHICS, No.98, 2011.

57. Jennifer K. Lynes & Mark Andrachuk, *Motivations for Corporate Social and Environmental Responsibility: A Case Study of Scandinavian Airlines*, J. INT'L MGMT., No.14, 2008.

58. David Gibbs, *Sustainability Entrepreneurs, Ecopreneurs and the Development of a Sustainable Economy*, GREENER MGMT. INT'L, No.55, 2006.

59. Jodyanne J. Kirkwood & Sara Walton, *How Green is Green? Ecopreneurs Balancing Environmental Concerns and Business Goals*, AUSTL. J. ENV'T MGMT., NO.21, 2014.

60. Amanda Little, *An Interview with Patagonia Founder Yvon Chouinard*, GRIST (October 24, 2004), <https://grist.org/article/little-chouinard/>; Jeff Beer, *Exclusive: Patagonia Founder Yvon Chouinard Talks about the Sustainability Myth, the Problem with Amazon—and Why it's Not Too Late to Save the Planet*, FAST COMPANY (October 16, 2019), <https://www.fastcompany.com/90411397/exclusive-patagonia-founder-yvon-chouinard-talks-about-the-sustainability-myth-the-problem-with-amazon-and-why-its-not-too-late-to-save-the-plane>. (last visited February 21, 2021).

61. *Our Core Values*, PATAGONIA, <https://www.patagonia.com/core-values/> (last visited April 11, 2023).

statistics on value-driven companies in the U.S., Patagonia represents a group of companies that prioritize environmental sustainability in their business practices.

By comparison, due to the late start of the environmental movement in China, it takes time for companies to understand CSR and why environmental sustainability matters to them. According to a survey conducted in 2005, 76% of 1,500 surveyed companies heard about the CSR concept, and over a majority of them thought companies' main social responsibility lies in employee benefits (90%), paying taxes honestly (79%), and corporate philanthropy (69%).<sup>62</sup> Regarding corporate philanthropy, 61% of these companies primarily donated to disaster relief funds, poverty reduction was second (52%), and only 11% chose to support environmental-related causes.<sup>63</sup> The results showed that Chinese companies lacked systematic knowledge of CSR. Additionally, climate change, becoming an essential subject of environmental sustainability under CSR, was found to demand education. According to another survey conducted in 2010, managers' awareness of the cause of climate change, recognition of climate policies, and knowledge of tackling climate change were relatively low.<sup>64</sup>

Even though some companies with solid business ethics are willing to do more to promote environmental sustainability, these surveys showed that Chinese companies need guidance on how to achieve it. Meanwhile, the Chinese government has been working on filling the knowledge gap via legislation, especially on corporate environmental information disclosure, which resulted in companies embracing environmental sustainability. Therefore, it would be challenging to locate examples of Chinese companies that are driven purely by individual values without governmental influence.

## 2.2 Performance-Driven CSR

Performance-driven CSR introduces CSR as a part of the firm's economic mission, as an instrument to improve financial performance and

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62. Yin Geifei, Yu Zhihong & Wu Fushun (殷格非 于志宏 吴福顺), *Zhongguo Qiye Shehui Zeren Diaocha Baogao* (中国企业社会责任调查报告) [Research Report on Corporate Social Responsibility of China], *WTO Jingji Daokan* (WTO 经济导刊) [CHINA WTO TRIBUNE], Sep. 25, 2005, <http://www.csr-china.net/a/zixun/guandian/zfdb/2014/0902/1601.html>

63. *Id.*

64. For companies' climate awareness, see Xu Guangqing, Dong Xiaoqi, *The questionnaire survey on climate change awareness and business response to climate change of corporates*, *CLIMATE CHANGE RES.*, Vol. 14 No. 4, July 2018. For companies' environmental awareness, see Li Youhuan, *Research on Corporate Social Responsibility* (2007) (Doctoral Thesis, China Northwest University), <http://cdmd.cnki.com.cn/Article/CDMD-10697-2007129669.htm>.



competitive position.<sup>65</sup> Grant Thornton, a leading global accounting and consulting firm, released a report about CSR drivers and found that 67% of 2,500 interviews with business leaders in 34 economies responded that cost management was the key reason for pursuing sustainable practices.<sup>66</sup> Likewise, Bhimani et al. indicate that companies that adopt and report CSR performance “with a view to saving costs or earning abnormal profits by leveraging an innovation that piques customer interest and raises the demand curve of the concerned firm.”<sup>67</sup> A study conducted by the Stern Business School of New York University found that “products marketed as sustainable are driving not only the product but also total category/market growth.”<sup>68</sup> Therefore, companies motivated by performance-driven CSR practices have an incentive to find a balance between pursuing good causes and profits.

It is not difficult to spot performance-driven companies in the U.S., such as Microsoft and Google, which have invested in projects to achieve environmental sustainability while reducing costs. In 2011, Microsoft deployed an energy-smart building solution that reduces energy consumption and operating costs by 6–10% at Microsoft offices worldwide.<sup>69</sup> Furthermore, Microsoft has started to phase out fossil fuels used in transportation, data centers, and work campuses as well as support carbon removal projects, to reach carbon negative levels by 2030.<sup>70</sup> Microsoft claims that “what is good for the climate will be good for business, and good for companies that are at the cutting edge in addressing carbon issues,” which indicates these environmentally-friendly investments will pay off in the long term.<sup>71</sup> Similarly, Google aims to create energy-efficient data centers to

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65. See Maignan, I. & Ralston, D. A., super note 46, *Corporate Social Responsibility in Europe and the U.S.: Insights from Businesses' Self-presentations*.

66. See GRANT THORNTON, CORPORATE SOCIAL RESPONSIBILITY: BEYOND FINANCIALS 2 (2014), <https://www.grantthornton.global/globalassets/1.-member-firms/global/global-assets/pdf/corporate-social-responsibility.pdf>.

67. Alnoor Bhimani et al., *Voluntary Corporate Social Responsibility Reporting: A Study of Early and Late Reporter Motivations and Outcomes*, 2016, 28 J. MGMT. ACCOUNTING RES. 2016, 77, 79 (2016).

68. See Randi Kronthal-Sacco & Tensie Whelan, *Sustainable Share Index™: Research on IRI Purchasing Data (2013-2018)*, 2019, at 4, available at <https://www.stern.nyu.edu/sites/default/files/assets/documents/NYU%20Stern%20CSB%20Sustainable%20Share%20Index%E2%84%A2%202019.pdf>

69. *New Microsoft White Paper: “Smart” Buildings Cut Energy Costs*, MICROSOFT, (Oct. 5, 2011), <https://blogs.microsoft.com/on-the-issues/2011/10/05/new-microsoft-white-paper-smart-buildings-cut-energy-costs/>; see, MICROSOFT, 2020 ENVIRONMENTAL SUSTAINABILITY REPORT: A YEAR OF ACTION 17 (2020), <https://query.prod.cms.rt.microsoft.com/cms/api/am/binary/RE4Mxso> (stating Microsoft’s goals). See MICROSOFT, 2020 ENVIRONMENTAL SUSTAINABILITY REPORT: A YEAR OF ACTION 17 (2020), <https://query.prod.cms.rt.microsoft.com/cms/api/am/binary/RE4Mxso> (stating Microsoft’s goals); Microsoft, *2020 Environmental Sustainability Report: A year of Action 17* (2020) <https://query.prod.cms.rt.microsoft.com/cms/api/am/binary/RE4Mxso>.

70. MICROSOFT, *supra* note 69.

71. Lisa Stiffler, *Microsoft Cut Carbon Emissions 6% Last Year, Predicts Climate Investments Will Pay Off in Long Run*, GEEKWIRE (Jan. 28, 2021), <https://www.geekwire.com/2021/microsoft-cut-carbon-emissions-6-last-year-predicts-climate-investments-will-pay-off-long-run/>.

accelerate the transition to carbon-free energy. According to a 2019 environmental report, Google has claimed that it has been carbon neutral for over a decade.<sup>72</sup> In 2018, the company matched 100% of the electricity consumption of its global operations with renewable energy for the second consecutive year.<sup>73</sup> Google is optimistic that all these measures can help save money in the long term.<sup>74</sup>

Other than these multinational corporations, more and more small and medium-sized enterprises (SMEs) in the U.S. view greening their business as an approach to “improve business performance (via cost reductions and increased sales), which in turn can generate jobs and income opportunities.”<sup>75</sup> Furthermore, some SMEs also explicitly pursue the TBL approach to generate societal and environmental benefits.<sup>76</sup>

In China, cost-saving is also an essential motivation for companies to achieve CSR goals beyond the legal requirements. Previously, some Chinese companies equated CSR to corporate philanthropy and thus deemed CSR practice as a financial burden to their profits.<sup>77</sup> However, this attitude has changed in recent years with a deeper understanding of how environmental sustainability can save costs. Lower environmental taxes are one example. In 2016, China issued the Environmental Protection Tax Law to promote environmental protection and reduce pollution.<sup>78</sup> By abolishing the previous system of pollutant-discharge fees and establishing a tax that can motivate companies to reduce pollution discharges, this law did not add extra burdens to companies but increased the transparency of administrative management and efficiency of implementation.<sup>79</sup> Particularly, the Environmental

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72. See GOOGLE, ENVIRONMENTAL REPORT 2019 14 (2019), <https://www.gstatic.com/gumdrop/sustainability/google-2019-environmental-report.pdf> (reporting Google’s advancement in carbon-free energy).

73. *Id.* at 9.

74. *Id.*

75. SHASHWAT KOIRALA, ORG. FOR ECON. COOP. AND DEV., SMEs: KEY DRIVERS OF GREEN AND INCLUSIVE GROWTH 34 (2018), chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/[https://www.oecd.org/greengrowth/GGSD\\_2018\\_SME%20Issue%20Paper\\_WEB.pdf](https://www.oecd.org/greengrowth/GGSD_2018_SME%20Issue%20Paper_WEB.pdf).

76. *Id.*

77. Su Dezhong (苏德中), Wang Yijiao (王宜骄), Qiye de Shehui Zeren Youshenmeyong? (企业的社会责任有什么用?) [What is the use of corporate social responsibility?], HARV. BUS. REV. (July 2, 2014), <https://www.hbrchina.org/2014-07-02/2133.html>.

78. Zhonghua Renmin Gongheguo Huanjing Baohu Shuifa (中华人民共和国环境保护税法) [Environmental Protection Tax Law of the People’s Republic of China] (adopted at the 25th session of the Standing Comm. of the Twelfth Nat’l People’s Cong., Dec. 25, 2016, and revised at the 6th session of the Standing Comm. of the Thirteenth Nat’l People’s Cong., Oct. 26, 2018).

79. Lvseshuifa Nengfou Huanjie Shengtaihuanjing Zhiyou (绿色税法”能否缓解生态环境之忧—聚焦环境保护税法) [Can the “Green Tax Law” Alleviate Ecological and Environmental Concerns—

Protection Tax Law includes two major incentives: if taxpayers discharge taxable atmospheric pollutants or water pollutants at a concentration less than 30% of nationally or locally stipulated pollutant discharge standards, 75% of the environmental taxes would be reduced; if the concentration rate is less than 50%, half of the environmental taxes would be deducted.<sup>80</sup> The two incentives encourage companies to invest in pollutant-reducing activities instead of paying for their pollution, and thus can save money by reducing tax payments in the long term.

Another approach to cost-saving for Chinese companies is to lower production costs. For example, China Communications Construction, a state-owned company, stated that upgrading technologies and machines enabled the company to achieve the carbon mitigation goal designated by the government for a specific period and improve resource efficiencies and lower the company's energy usage.<sup>81</sup> From these examples, the government has played a vital role in leading companies (particularly state-owned) to achieve cost-saving and environmental sustainability together.

The Chinese government has also boosted SMEs' understanding of environmental protection over the years; more and more SMEs realized that environmental costs are part of their operational costs.<sup>82</sup> Starting in 2009, the Chinese government developed plans to unlock SMEs' potential to mitigate GHG emissions, including accessing free training and knowledge-sharing platforms.<sup>83</sup> However, recent research reports show that survival remains the

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Focus on Environmental Protection Tax Law], XINHUA NEWS AGENCY (Dec. 26, 2016), [http://www.xinhuanet.com/politics/2016-12/26/c\\_129419422.htm](http://www.xinhuanet.com/politics/2016-12/26/c_129419422.htm).

80. Zhonghua Renmin Gongheguo Huanjing Baohu Shuifa (中华人民共和国环境保护税法) [Environmental Protection Tax Law of the People's Republic of China] (adopted at the 25th session of the Standing Comm. of the Twelfth Nat'l People's Cong., Dec. 25, 2016, and revised at the 6th session of the Standing Comm. of the Thirteenth Nat'l People's Cong., Oct. 26, 2018).

81. China Communications Construction (中国交通建设股份有限公司), Jieyue Ziyuan, Baohu Huanjing, Lüse Fazhan (节约资源 保护环境 绿色发展) [Save Resources, Protect the Environment, and Green Development] (Jun. 15, 2016), [https://www.ccccltd.cn/shzr/shzr/zrxd/2013/201606/t20160615\\_47874.html](https://www.ccccltd.cn/shzr/shzr/zrxd/2013/201606/t20160615_47874.html).

82. See Guo Ting (郭婷), Huanjing Guizhi Zhutui Zhongxiao Qiye Lüsefazhan (环境规制助推中小企业绿色发展) [Environmental Regulations and Governance Boost Small and Medium-Size Enterprises' Green Development], CHINA ENVIRONMENT NEWS (Apr. 1, 2019), [chrome-extension://efaidnbmnnnibpcajpcgiclfefindmkaj/http://epaper.cenews.com.cn/html/1/2019-04/01/03B/2019040103B\\_pdf.pdf](chrome-extension://efaidnbmnnnibpcajpcgiclfefindmkaj/http://epaper.cenews.com.cn/html/1/2019-04/01/03B/2019040103B_pdf.pdf) (explaining how "enterprises are gradually realizing that environmental costs are part of the production costs of enterprises").

83. China State Council, Several Opinions of the State Council on Further Promoting the Development of Small- and Medium-sized Enterprises, 国务院关于进一步促进中小企业发展的若干意见 国发[2009] 36号, Chinese version available at [http://www.gov.cn/zwggk/2010-04/26/content\\_1592469.htm](http://www.gov.cn/zwggk/2010-04/26/content_1592469.htm) (last visited May 17, 2022).

fundamental objective of many Chinese SMEs.<sup>84</sup> Considering the significant upfront costs of investing in environmental sustainability that SMEs need to cover, few companies are willing to make environmental commitments beyond legal responsibilities.

Similar to value-driven CSR, it is difficult to identify which Chinese companies voluntarily made environmental commitments based on their business judgment only, or results that are advocated by the government (or law), since the government has been such a strong influence to guide companies of any size to understand that cost-saving and environmental sustainability go hand-in-hand.

### 2.3 Stakeholder-Driven CSR

Stakeholder-driven CSR usually presents CSR as a response to the pressure and scrutiny of one or more stakeholder groups.<sup>85</sup> Carroll pointed out that “the term ‘stakeholder’ constitutes a play on the word ‘stockholder,’ and is intended to, more appropriately, describe which groups or persons have a stake, a claim, or an interest in the operations and decisions of the firm.”<sup>86</sup> Carroll summarized nine stakeholder groups that matter to a company: owners, customers, employees, communities, competitors, suppliers, social groups, the public, and others.<sup>87</sup> Carroll further commented that the government is also an important stakeholder because “[b]usinesses are expected and required to comply with these laws and regulations as a condition of operating.”<sup>88</sup> Among these stakeholders, company owners and employees can be categorized as internal direct stakeholder groups for the development and implementation of CSR programs. The rest of the stakeholder groups can be viewed as the external forces that motivate companies and will be the main focus of the stakeholder-driven CSR approach. Both internal and external forces are important to push companies to make bold environmental commitments.

In the U.S., stakeholder pressures related to CSR practices are primarily from investors, consumers, and social groups. Investment firms have started

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84. See Chen Wan (陈婉), Zhongxiaoqueye Jienengqianlifexi ji Gongyinglian Jienengjianpai Zhengceyanjiu, Baogaogabu (《中小企业节能潜力分析及供应链节能减排政策研究》报告发布)[The Release of Research on Small and Medium-Sized Enterprises' Capacity Analysis and Their Supply Chains' Emission Reduction], Environmental Economy (环境经济杂志), (Aug. 11, 2020).

85. MAIGNAN & RALSTON, *supra* note 52, at 505.

86. Archie B. Carroll, *The Pyramid of Corporate Social Responsibility: Toward the Moral Management of Organizational Stakeholders*, 34 BUS. HORIZONS 39, 43 (1991).

87. *Id.* at 44.

88. See Archie B. Carroll, *Carroll's Pyramid of CSR: Taking Another Look*, 1 INT'L J. CORP. SOC. RESP. 3, 5 (2016), <https://jcsr.springeropen.com/articles/10.1186/s40991-016-0004-6> (discussing business legal responsibilities).

pressuring companies to disclose their environmental risks.<sup>89</sup> In July 2020, New York-headquartered BlackRock, the world's largest asset manager, pointed out that 244 of its invested companies were not making enough progress towards addressing climate risk, and told these companies that they could face consequences at next year's round of shareholder meetings if they did not improve.<sup>90</sup> In May 2021, BlackRock joined several other investment companies in successfully electing three environmental activists to the Board of Directors of ExxonMobil over the objection of management.<sup>91</sup>

Increasingly, customers serve as another force to push companies to develop environmentally friendly products. In a 2020 consumer survey, nearly 70% of consumers in the U.S. and Canada thought it was important for a brand to be sustainable or eco-friendly.<sup>92</sup>

Meanwhile, major social groups (sometimes including youth groups) also urge companies to foster climate policy and advance the corporate sustainability agenda, often bringing lawsuits to compel them to do so.<sup>93</sup> For example, seven groups including Greenpeace and Friends of the Earth Netherlands filed a lawsuit in 2019 to force the Royal Dutch Shell company to change its strategies regarding climate mitigation.<sup>94</sup> The Dutch court later ordered Shell to establish a much stronger fossil fuel reduction program than previously undertaken.<sup>95</sup>

In China, companies' external CSR pressures are mainly from the government, public media, and consumers. Most of the Chinese companies that made CSR commitments are either state-owned companies that resonate with the guidance issued by the State-Owned Assets Supervision and

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89. See Jorden Davidson, *Investors Want Companies to Disclose Environmental Risk*, ECOWATCH (Jun. 11, 2020, 5:08 AM), <https://www.ecowatch.com/investors-companies-environmental-risk-disclosure-2646169116.html?rebelltitem=1#rebelltitem1> (explaining how Forbes reports that global companies worth more than ten trillion are urging companies to disclose their environmental impacts to investors.).

90. David Ricketts, *BlackRock puts 191 companies 'on watch' over climate failures*, FINANCIAL NEWS (July 14, 2020), <https://www.ft.com/articles/blackrock-puts-191-companies-on-watch-over-climate-failures-20200714>.

91. Clifford Krauss, *Exxon Board to Get a Third Activist Pushing Cleaner Energy*, N.Y. TIMES (Jun. 2, 2021), <https://www.nytimes.com/2021/06/02/business/exxon-board-clean-energy.html>.

92. KARL HELLER ET AL., MEET THE 2020 CONSUMERS DRIVING CHANGE: WHY BRANDS MUST DELIVER ON OMNIPRESENCE, AGILITY, AND SUSTAINABILITY I (2020), [https://cdn.nrf.com/sites/default/files/2020-01/Meet%202020%20consumers%20driving%20change\\_01\\_0.pdf](https://cdn.nrf.com/sites/default/files/2020-01/Meet%202020%20consumers%20driving%20change_01_0.pdf).

93. See Press Release, *Major Environmental Groups Call On Businesses To Lead On Climate Policy*, ENV'T DEF. FUND (Oct. 15, 2019), <https://www.edf.org/media/major-environmental-groups-call-businesses-lead-climate-policy> (describing how in 2019, eleven leading environmental and sustainable business organizations published an open letter in the New York Times, urging the CEOs of Corporate America to step up their engagement on climate policy).

94. Stanley Reed & Claire Moses, *A Dutch court rules that Shell must step up its climate change efforts*, N.Y. TIMES (OCT. 28, 2021), <https://www.nytimes.com/2021/05/26/business/royal-dutch-shell-climate-change.html>

95. *Id.*

Administration Commission of the State Council,<sup>96</sup> or private businesses that have made environmental commitments for the persuasions that involved the local government.<sup>97</sup>

Also, consumers' awareness of environmental factors and sustainability has increased dramatically in China over the past decade. According to a global consumer survey conducted in 2014, 73% of Chinese respondents (7th highest among the 23 countries studied) say that they are plagued by guilt when they indulge in an environmentally unfriendly manner, and 80% of them desire brands and companies to be environmentally responsible.<sup>98</sup> The organizer of the report also pointed out that the results presented in this survey are similar to most existing research studies of Chinese consumers.<sup>99</sup>

Last, the Chinese government encourages public media to expose companies' negative environmental performance.<sup>100</sup> Some scholars found that the greater the amount of media coverage, the more the environmental information of publicly listed companies would become available; but, such coverage does not necessarily improve the overall quality of corporate environmental disclosure.<sup>101</sup>

Big companies in the U.S. and state-owned companies in China started to pressure their suppliers to meet their updated requirements of environmental sustainability in recent years. For example, Walmart urged its

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96. See Guanyu Yinfa <Guanyu Zhongyang Qiye Lüxing SHEhuizeren de Zhidaoyijian> de Tongzhi (关于印发《关于中央企业履行社会责任的指导意见》的通知) [Notification of Guidelines for State-Owned Enterprise on Implementating Social Responsibility] (issued by State-owned Assets Supervision and Administration Commission of the State Council on Dec.29, 2007), [http://www.gov.cn/zwqk/2008-01/04/content\\_850589.htm](http://www.gov.cn/zwqk/2008-01/04/content_850589.htm) (last visited February 22, 2021) and Zhonggongzhongyang, Guoquyuan Guanyu Shenhua Guoyouqiyegaide de Zhidaoyijian (中共中央、国务院关于深化国有企业改革的指导意见) [Guiding Opinions of the Central Committee of the Chinese Communist Party and the State Council on Deepening the Reform of State-owned Enterprises] (issued by the Central Committee of the Communist Party of China and the State Council of The People's Republic of China on Aug.24, 2015), [http://www.gov.cn/zhengce/2015-09/13/content\\_2930440.htm](http://www.gov.cn/zhengce/2015-09/13/content_2930440.htm) (last visited February 22, 2021).

97. See *The Third World Cloth Merchants' Congress 2020 Promotes The Textile Industry To Integrate Into The New Pattern Of "Double Circulation" And Opens The Curtain Grandly*, WORLD CLOTHING SHOES & HATS NETWORK (Oct. 26, 2020), <http://www.sjfxm.com/global/en/578055.html> (detailing how in late October 2020, 12 fabric dyeing companies committed to take action to reduce GHG emissions with the local government at the third world cloth merchants exposition.)

98. Ashok Sethi, *Do Chinese Consumers Have an Environmental Conscience?*, GROWTH FROM KNOWLEDGE (May 15, 2015), <https://www.gfk.com/blog/2015/05/do-chinese-consumers-have-an-environmental-conscience>

99. *Id.*

100. Wan Bentai (万本太), Guli Gongzhong Meiti Yanjing Jigou Canyu Qiye Huanjing Zeren (鼓励公众媒体研究机构参与企业环境责任) [Encouraging Public Media and Research Institutions to Participate and Monitor Corporate Environmental Responsibility], SINA MEDIA (新浪) (Nov. 20, 2013, 21:16 CST), <http://finance.sina.com.cn/hy/20131120/211617383198.shtml>.

101. Ji Xiaojia et al., *Media Coverage, Government Supervision and Corporate Environmental Information Disclosure*, 11 CHINA ENV'T MGMT. 44, 44-54 (2019).

network of suppliers to disclose their sustainability performance since 2007.<sup>102</sup> Due to the fact that most GHG emissions are generated from product supply chains, Walmart created the Project Gigaton initiative to require all direct suppliers to set emissions-reduction targets in one or more of six key areas (energy, waste, packaging, nature, transportation or product use).<sup>103</sup> According to the Walmart's Environmental, Social and Governance Report, Walmart's suppliers reported that they avoided 136 million metric tons of emissions in 2019 alone.<sup>104</sup> From suppliers' perspective, their business clients are the main stakeholder to oppose the pressure of environmental sustainability.

Through reviewing the three types of motivations for CSR practices, the following trends are clear. First, value-driven companies rely highly on the company leadership's individual morals and concerns. If such morals can be integrated into the company culture, this type of company would be able to maintain its high standards of environmental protection and sustainability. Second, performance-driven companies demand CSR knowledge and examples to reaffirm that implementing environmental sustainability can lead to cost-savings and new market opportunities. Regardless, they seek professional help or utilize resources provided by the government. Third, stakeholder-driven companies' CSR practices would work well when the pressure is from the right stakeholder groups.

Between the two countries, the primary motivation for Chinese companies to undertake CSR is stakeholder-driven. In contrast, U.S. companies' motivations are more evenly distributed among the three types. One reason for the difference is the environmental movement and modern CSR development started much earlier in the U.S. Another difference is the social expectations for companies in the two countries.

In the U.S., businesses have played a significant role in developing cities and local communities. Therefore, businesses have been assigned substantial responsibility for the moral and physical characteristics of the communities in which those businesses have invested.<sup>105</sup> U.S. businesses' involvement has created the expectation that companies will play a leadership role in the

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102. Julia Pyper, *Suppliers follow Wal-Mart's lead to reduce carbon emissions*, CLIMATEWIRE (May 23, 2013), <https://energynews.us/2013/05/23/suppliers-follow-wal-marts-lead-to-reduce-carbon-emissions/>.

103. *Project Gigaton*, WALMART SUSTAINABILITY HUB, <https://www.walmartsustainabilityhub.com/climate/project-gigaton> (last visited Apr. 6, 2023); *Project Gigaton™ FAQs*, WALMART SUSTAINABILITY HUB, <https://www.walmartsustainabilityhub.com/climate/project-gigaton/faqs> (last visited Apr. 6, 2023).

104. WALMART, 2020 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT 25 (2020), <https://cdn.corporate.walmart.com/90/0b/22715fd34947927eed86a72c788e/walmart-esg-report-2020.pdf>.

105. Maignan & Ralston, *supra* note 52, at 510.

communities where they operate.<sup>106</sup> In this historical context, CSR has become an important concept that many U.S. companies cannot neglect. Regardless of the source of motivation (value-, performance-, or stakeholder-driven), businesses must take proactive action to deal with CSR issues, including environmental sustainability.

In China, the government, as the owner of state-owned companies and the legislator, holds a dominant position in society. The government undertakes the responsibility of introducing new concepts such as CSR and sustainability through legislative actions. Companies are used to receiving guidance from the government or following legal requirements instead of coming up with more aggressive environmental sustainability goals on their own. Thus, most companies believe the government should undertake primary responsibilities on environmental sustainability, specifically with climate change.<sup>107</sup> Cultivating value- and performance-driven companies with this mindset takes time in the Chinese market.

### III. PROPOSED INDICATORS TO MEASURE UNILATERAL CORPORATE ENVIRONMENTAL COMMITMENTS' EFFECTIVENESS

Because the business sector manages vast amounts of natural resources, raw materials, and financial resources as part of business operations, it often has the capacity to contribute to and influence environmental protection and sustainable development for whole societies. If companies' environmental commitments are as effective and accountable as they claim, that is a win-win for both the companies and society. These commitments would help companies conduct business in a greener way and potentially increase their brand values through positive public images and operational cost-savings.

However, since corporate environmental commitments are made voluntarily, these promises do not have as profound an impact as they would if there were proper monitoring and measurement. Eavis and Krauss found that many big U.S. companies have not set concrete targets for reducing GHG emissions and some have weak goals, despite saying publicly they want to reduce their GHG impact on climate change.<sup>108</sup> Thus, assuring companies fulfill their promises accurately is critical.

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106. *Id.*

107. Zhang Yiming (张一鸣), Zhuanfang: Zhongguoqiye Jidaizhudong Yongbao Ditanzhuaxing (专访: 中国企业亟待主动拥抱低碳转型) [Exclusive: Chinese Enterprises Need to Embrace Low Carbon Transition], CHINA ECONOMIC TIMES (中国经济新闻网) (June 8, 2021).

108. 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> (discussing the goals big businesses have to reduce greenhouse gas emissions).



The lifecycle of a typical unilateral-corporate-environmental commitment includes three stages: commitment design, implementation, and monitoring. The way that companies go through this lifecycle may vary depending on the structure and available resources of the businesses, but the overall implementation process is similar. Maon et al. summarized the following nine general steps for existing frameworks on CSR design and implementation, which provides a glimpse of how the agendas related to environmental sustainability are developed and implemented within a company:

- Step 1: Raising CSR awareness inside the organization.
- Step 2: Assessing corporate purpose in its societal context.
- Step 3: Establishing a vision and a working definition for CSR.
- Step 4: Assessing current CSR status.
- Step 5: Developing a CSR integrated strategic plan.
- Step 6: Implementing the CSR integrated strategic plan.
- Step 7: Communication about CSR commitments and performance.
- Step 8: Evaluating CSR integrated strategies and communication.
- Step 9: Institutionalizing CSR.<sup>109</sup>

Steps 1–5 are included in the commitment design phase. Step 6 is about implementation, and the rest falls under the monitoring phase. If the commitment is implemented through an ad-hoc program, Step 9 advises stabilizing the efforts by establishing a long-term structure. This discussion does not include Step 9 because environmental commitments sit in the company's CSR framework.

Four key aspects that are fundamental to this process and the effectiveness of these voluntary commitments are identified during the lifecycle of corporate environmental commitments. The aspects are the company leadership's willingness, environmental commitment content, stakeholder participation, and the quality of corporate information disclosure.

A company and its stakeholders can develop a checklist incorporating these four aspects to evaluate the company's commitment(s). Figure 1 lists some questions associated with each aspect. The more questions answered "yes," the more effective the company's commitments would be.

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109. See François Maon et al., *Designing and Implementing Corporate Social Responsibility: An Integrative Framework Grounded in Theory and Practice*, 87 J. BUS. ETHICS 71, 71–89 (2009), <https://orca.cf.ac.uk/18016/1/Article%2066.pdf> (outlining an integrative framework for corporate social responsibility).

Figure 1

**Proposed Framework For Evaluating A Company's Environmental Commitments:**

**The Willingness of the Company Leadership**

*Company Culture*

1. Has the company leadership often expressed statements related to environmental issues within the public domain?
2. Have the company's internal rules supported environmental sustainability?

*Company Structure*

3. Does the company's organizational structure enable the commitments to be implemented and monitored?

**The Content of the Environmental Commitments**

*The Subject*

4. Is the commitment about natural resource efficiency or greenhouse emission reduction?

*The Scope*

5. Is the commitment directly related to the company's corporate strategies and development?

*Specific Metrics for Checking in Progress*

6. Did the company announce the commitment together with key metrics, strategies, and other information that can help measure the progress?

**Stakeholder Engagement**

*Opportunities for Stakeholders to Participate*

7. Has the company included both internal and external stakeholders to design the commitments?
8. Has the company had a systematic way for internal and external stakeholders to share feedback regarding implementing and monitoring the commitments?

**The Quality of Information Disclosure**

*Reporting Standard*

9. Has the company adopted any well-recognized reporting framework to disclose environmental information?

*Reporting Frequency*

10. Has the company published such reports regularly?

*Third-Party Verification*

11. Has the company invited a third-party to validate its disclosure reports?

Note: questions can be added to this framework to collect and confirm more information.

The following sections explain why these aspects matter and propose to use them as indicators to evaluate the effectiveness of any corporate environmental commitment, regardless of where the company is located.

*3.1 The Company Leadership's Willingness*

Companies are the primary players of unilateral-corporate-environmental commitments in both China and the U.S. A company's high-level leadership makes environmental commitments and pursues them. They develop strategies and establish corporate programs to achieve the promises made to stakeholders. Companies are also responsible for compiling information and data and disclosing the commitments' progress. In other words, companies are the organizers, the key participants, and the monitors of their corporate environmental commitments and related programs.

No matter the type of motivation that drives companies to adopt CSR, the fundamental factor is whether a company's leadership has a strong willingness to translate the motivation to action. Most CSR initiatives tend to be top-down, if the company leadership thinks highly of the commitments, they would arrange resources and overcome obstacles to achieve them. Otherwise, the voluntary nature of such commitments determines that targets can be unambitious and reversed at any time.

Measuring company leadership's willingness accurately is challenging but can be evaluated through company culture. According to Groysberg et al., company culture can be a powerful differentiator and often strongly aligns with corporate strategies.<sup>110</sup> Company culture with specific features (such as "purpose") can unite employees to focus on sustainability issues.<sup>111</sup> Groysberg et al. also pointed out that company culture contributes to the company leadership selection by choosing the individuals that agree with the company culture.<sup>112</sup> Executive officers and the strategies they make can shape the culture as well.<sup>113</sup>

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110. See Boris Groysberg et al., *The Leader's Guide to Corporate Culture*, HARV. BUS. REV. (2018), <https://hbr.org/2018/01/the-leaders-guide-to-corporate-culture> (last visited May 17, 2022) (describing how culture can express and achieve corporate goals and values).

111. *Id.*

112. *Id.*

113. *Id.*

Therefore, if the environmental mindset has been incorporated into a company's culture, the company's internal and external activities will reflect such willingness. Company leaders who agree with the company culture would also follow it. Naturally, the leadership members (of value- and performance-driven companies) are likely to be the ones who take the initiative to raise awareness of specific environmental issues (Step 1) and assess how issues are related to company operations (Step 2).

As outsiders, consumers can gain some understanding of a company's culture from its leadership's publicly expressed statements.<sup>114</sup> For example, the Swedish furniture company IKEA had its Investment Managing Director make the following comment when CNN news media interviewed her: "We truly believe responsible forest management is possible and we see that a large part of our responsibility towards the land we own—and by extension the planet—is to restore forests and plant more than we harvest . . . . In all our properties nature conservation is important."<sup>115</sup> The statement indicates that IKEA cares about nature and has embedded this value into its financial investments.

Other than public statements, company culture can also be demonstrated through corporate rules. For example, the German sports apparel brand PUMA developed a Sustainability Handbook for employees to understand the company's sustainability targets and how employees should incorporate the targets into their business conduct.<sup>116</sup> Furthermore, some companies organize regular training sessions to educate employees about environmental and sustainability issues. By partnering with Arizona State University, the U.S. coffee chain Starbucks developed an online program called Greener Apron, which focuses on providing free learning courses to all Starbucks employees.<sup>117</sup> This program lets employees learn more about climate change, recycling and waste reduction, water and energy conservation, and LEED certification for stores.<sup>118</sup>

Evaluating a company leadership's willingness to pursue environmental goals should consider company structure. In the commitment implementation stage, all company departments must act consistently and cohesively through

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114. *See id.* (stating "Top leaders and founders often express cultural sentiments within the public domain, either intentionally or unintentionally. Such statements can provide important clues to how these leaders are thinking about and leading their organizations' cultures.").

115. Alaa Elassar, *Ikea bought 11,000 acres of forest in Georgia to protect it from development*, CNN (Jan. 31, 2021), <https://www.cnn.com/2021/01/31/us/ikea-forest-georgia-protect-trnd-scn/index.html>.

116. PUMA, PUMA SUSTAINABILITY HANDBOOK—ENVIRONMENTAL STANDARDS (2020), [https://about.puma.com/-/media/files/pdf/sustainability/puma-sustainability-handbook\\_environmental-standards\\_1703.ashx](https://about.puma.com/-/media/files/pdf/sustainability/puma-sustainability-handbook_environmental-standards_1703.ashx).

117. *Greener Apron*, STARBUCKS, <https://www.starbucksglobalacademy.com/greener-apron> (last visited March 1, 2021).

118. *Id.*

their strategies (both short- and long-term) and daily operations to achieve environmental goals. According to McKinsey & Company, an influential global consulting firm, a well-designed corporate governing structure allows the company to effectively implement environmental sustainability.<sup>119</sup> Although such an organizational structure would be different on a case-by-case basis, McKinsey summarized that companies commonly establish a dedicated team (with or without decision rights) to ensure sustainability.<sup>120</sup>

Through my work experience, I conducted interviews with senior managers responsible for their companies' CSR programs and reviewed the information published on the companies' websites. I found that multinational companies generally establish a department or a committee as "a dedicated team" to undertake the CSR organizational responsibilities authorized by the board. The team serves as a bridge to assist the top-level management with: establishing corporate environmental goals, developing related programs aimed to achieve these goals, and motivating the whole company to make efforts through education. Yili, a Chinese dairy products producer, provides an example of such a structure to implement its commitment to protect and conserve biodiversity. Yili established a Committee for Sustainable Development under the Chairman of the Board.<sup>121</sup> The Committee has a Secretariat and a management platform.<sup>122</sup> Under the platform, each department of Yili has been assigned one point contact person by the Committee. These point contacts communicate between the Committee and company departments to ensure the company's sustainability agenda is fully integrated into products' life cycles and all departments' daily operations.<sup>123</sup>

Eccles et al. specified that boards of directors perform the monitoring and advising role to ensure that company management (including the designated team) is making decisions consistent with the company's sustainability objectives.<sup>124</sup> Because the board plays a critical role, some companies, such as the U.S. dairy company Ben & Jerry's, select their board of directors by asking how the director's individual social and environmental

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119. AARON DE SMET ET AL., ORGANIZING FOR SUSTAINABILITY SUCCESS: WHERE, AND HOW, LEADERS CAN START, MCKINSEY & Co. (Aug. 10, 2021), <https://www.mckinsey.com/capabilities/sustainability/our-insights/organizing-for-sustainability-success-where-and-how-leaders-can-start>.

120. *See id.* (noting that implementing sustainability can be the most effective when there is a small, central team and dedicated resources).

121. INNER MONG. YILI INUST. GRP. CO., LTD., 2018 ANNUAL REPORT ON BIODIVERSITY PROTECTION 8 (2018).

122. *Id.*

123. *Id.* at 28.

124. *See* Robert G. Eccles et al., *The Impact of Corporate Sustainability on Organizational Processes and Performance*, 60 MGMT. SCI. 2835, 2838 (2014) (discussing the effect of sustainability on corporate governance).

values can align with the company's missions.<sup>125</sup> Eccles et al. also observed that companies with highly incorporated environmental and social policies tend to link top management officers' compensation with their sustainability performance.<sup>126</sup> The link serves as an incentive to ensure the leadership fulfills its responsibilities.<sup>127</sup>

In the U.S. and China, the designated team in SMEs is usually just one person. The appointed person communicates and reports to company leadership,<sup>128</sup> facilitates meetings and discussions to finalize options for proceeding with such commitments, and develops implementation plans. This person's direct supervisor usually serves as the monitoring role within the company.

In summary, company culture and organizational structure are indicators that can evaluate the willingness of a company's leadership to pursue environmental goals. Management officers' public statements and rules of business conduct can reveal company culture. Organizational structure provides a clue to the hierarchy of how a company designs, implements, and monitors its environmental sustainability agenda.

### 3.2 *Environmental Commitment Content*

Environmental commitment content is another proposed indicator to evaluate corporate commitments' effectiveness. To analyze this indicator, it can be divided into three aspects: the subject, scope, and specific metrics for measuring commitments' progress.

To motivate companies' willingness to develop their commitments, the subjects have to be highly relevant to their value chains. Ceres, a U.S.-based organization, developed corporate sustainability progress reports in 2012, 2014, and 2018. Each report systematically analyzed more than 600 large U.S. companies among sectors including: transportation, financial services, food and beverage, footwear and apparel, oil and gas producers, retail, technology, and utilities. Ceres' reports found that only companies from the food and beverage sectors, footwear and apparel, oil and gas producers, and utilities have systematic water management programs (including water risk

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125. See BEN & JERRY'S, *How We're Structured*, <https://www.benjerry.com/about-us/how-were-structured#Timeline> (last visited Mar. 1, 2021) (noting that the Board of Directors have individual social and environmental values that further Ben and Jerry's mission of equity and integrity).

126. See Eccles et al., *supra* note 124, at 2838–39 (discussing compensation for top management).

127. *Id.*

128. The responsible leadership can be the company's president/vice president, head of the treasury/finance department, or head of marketing/external communication department, etc.

assessment, disclosure, and reduction).<sup>129</sup> These sectors heavily rely on water throughout their supply chains far more than the rest of the surveyed sectors. Companies that established GHG emission reduction programs (including emission disclosure, reduction, and renewable energy application) can be found in all the surveyed sectors.<sup>130</sup> Similarly, Li et al. found that energy and water are the issues on which Chinese companies' CSR programs focus the most, after examining 34,000 CSR projects released by 839 companies in 31 provinces from 2006 to 2016.<sup>131</sup>

The U.S. and China focus mostly on water and GHG emission/energy efficiency in selecting subjects for corporate environmental responsibility. Addressing water usage can reduce material risk to businesses<sup>132</sup> and reducing GHG emissions would help companies save money.<sup>133</sup> Therefore, companies have a stronger willingness to make aggressive voluntary commitments and even push the government to take further action on these topics. For example, in 2021, some U.S. companies even collectively urged the government to develop specific targets to reduce GHG emissions.<sup>134</sup> Commitments related to water, GHG emissions, and energy efficiency would therefore be more effectively selected for implementation than other environmental issues.

Second, to establish effective corporate commitments companies must define their scope of intended responsibility. Delmas and Burbano summarized that the scope can be at a corporate level and/or a product

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129. Among the surveyed companies, 55% (2012 Report), 50% (2014 Report) and 55% (2018 Report) of the companies have water management programs, such as water risk assessment and disclosure, water usage reduction. See CERES, *THE ROAD TO 2020: CORPORATE PROGRESS ON THE CERES ROADMAP 12* (2012); CERES, *GAINING GROUND: CORPORATE PROGRESS ON THE CERES ROADMAP FOR SUSTAINABILITY 40* (2014); CERES, *TURNING POINT: CORPORATE PROGRESS ON THE CERES ROADMAP FOR SUSTAINABILITY* (2018).

130. Among the surveyed companies, 32% (2012 Report), 35% (2014 Report) and 36% (2018 Report) track and report GHG emissions, established goals and corporate programs to reduce GHG emissions, increase renewable energy use and energy efficiency. CERES, *supra* note 129.

131. See Kun et al., *supra* note 51.

132. According to the Carbon Disclosure Project (known as "CDP"), a growing number of companies are beginning to invest significant money, time and effort into addressing the risks they face. In 2017, companies have committed U.S. \$23.4 billion across more than 1,000 projects to tackle water risks in 91 countries around the world. See CDP, *A Turning Tide: Tracking corporate action on water security-CDP Global Water Report 2017* 14 (2017), <https://www.cdp.net/en/research/global-reports/global-water-report-2017>.

133. CDP collected the largest data set ever through its supply chain program and reported emissions reductions amounting to 551 million metric tonnes CO<sub>2</sub>, which translates into US\$14 billion in cost savings. CDP, *CLOSING THE GAP: SCALING UP SUSTAINABLE SUPPLY CHAINS 4* (2017–18), <https://www.cdp.net/ja/reports/downloads/3014>.

134. A group of corporations issued a collective letter to President Biden, urging him to set a federal target to cut carbon emissions. Alexandra Kelley, *Executives representing 60M employees ask Biden to cut carbon emissions*, THE HILL (April 13, 2021), <https://thehill.com/changing-america/sustainability/climate-change/547950-executives-representing-60-million-employees>.

level.<sup>135</sup> Corporate level commitments include: company vision and missions, standards adherence, corporate certification, medium- to long-term goals, report communication, and targeted special operations.<sup>136</sup> In conjunction, product level commitments include labeling, targeted advertising, packaging, and product certifications.<sup>137</sup> For example, in 2013, Coca-Cola set the goal of reducing its products' carbon footprint by 25% of its 2010 emission baseline by 2020.<sup>138</sup> Even though this goal only targets products, it would require Coca-Cola to refine its supply chain and manufacturing operations, which are highly relevant to the company's medium- to long-term strategies and visions.

Third, if the company has developed a set of specific metrics for measuring corporate environmental commitments' progress, the authenticity of companies' pledges can be revealed. According to Reilly and Hynan, genuinely green companies' public messages contain more details, facts, and use measurable numbers to showcase their progress.<sup>139</sup> Walmart, the retail giant, established its GHG emission reduction goals with an outline of specific timeframes and key metrics used to simultaneously measure Walmart's progress and the effectiveness of its strategy.<sup>140</sup> Walmart also published the method to develop its implementation plan, plans on how it will achieve its goals internally, and methods of overcoming perceived management challenges along the way.<sup>141</sup> Besides measuring progress, a detailed plan including such information can also guide the whole company to work toward the goals.

One advantage of corporate environmental commitments is that companies may compete with each other regarding their promises, which pushes companies in the same industry to develop similar or bolder environmental commitments. For example, in 2020 Microsoft announced that it will be carbon negative by 2030, and by 2050 it will have offset or captured the equivalent of Microsoft's entire historical carbon emissions, including indirect emissions via electricity consumption, since Microsoft's

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135. Magali A. Delmas, Vanessa Cuerel Burbano, *The drivers of greenwashing*, CAL. MGMT. REV., 54, 64-87 (2011).

136. *Id.*

137. *Id.*

138. Coca-Cola News, *Reduce Carbon in Our Value Chain* (Oct. 2, 2018), <https://www.coca-colacompany.com/news/reducing-carbon-in-our-value-chain>.

139. See Anne H. Reilly, Katherine A. Hynan, *Corporate communication, sustainability, and social media: It's not easy (really) being green*, 57 BUS. HORIZONS 747-758 (2014) (discussing how green firms are more active than Not Green firms in addressing their sustainability practices and social media use, as well as the metrics they use and how they communicate them).

140. *Climate Change*, WALMART CORP. (Apr. 6, 2022), <https://corporate.walmart.com/esgreport/esg-issues/climate-change#metrics>.

141. *Id.*



founding in 1975.<sup>142</sup> Later in the same year, Apple unveiled a roadmap to achieve zero carbon for its supply chain and products by 2030.<sup>143</sup> Google also announced its goal of operating on carbon-free energy by 2030.<sup>144</sup> In 2022, Intel publicly revealed its goal of achieving net-zero GHG emissions in its global operations by 2040.<sup>145</sup> Tencent, an influential Chinese technology company, committed to becoming carbon neutral by 2030.<sup>146</sup> All these goals contain clear deadlines and plans to achieve carbon neutrality or become carbon negative. It could be a coincidence that these high-technology companies' announcement dates on their carbon mitigation commitments are close to each other, but it also indicates that pressure from competitors could motivate companies to race to the top.

However, keep in mind that it is not realistic to expect a company to tackle environmental issues as comprehensively as the government, even if the company has inspired leadership that aims to achieve multiple facets of environmental sustainability.

### 3.3 Stakeholder Participation

Stakeholder participation includes practices that an organization undertakes to involve stakeholders in a positive manner with regard to organizational activities.<sup>147</sup> Companies practicing good stakeholder engagement “will proactively engage in robust dialogue with stakeholders across the whole value chain, and will integrate stakeholder feedback into strategic planning and operational decision-making.”<sup>148</sup> This highlights the possibility of stakeholder-driven companies changing their practices because their stakeholders “forced” them to.

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142. 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/>.

143. See Press Release, Apple commits to be 100 percent carbon neutral for its supply chain and products by 2030, APPLE NEWSROOM, (July 21, 2020), <https://www.apple.com/newsroom/2020/07/apple-commits-to-be-100-percent-carbon-neutral-for-its-supply-chain-and-products-by-2030/> (laying out Apple's 10-year plan to lower their emission levels across its entire business).

144. Paresh Dave, *Google aims to run on carbon-free energy by 2030*, REUTERS (Sept. 15, 2020) <https://www.reuters.com/article/us-alphabet-climatechange/google-aims-to-run-on-carbon-free-energy-by-2030-idUSKBN2651EP>.

145. See Intel Commits to Net-Zero Greenhouse Gas Emissions in its Global Operations by 2040, INTEL (Apr. 13, 2022), <https://www.intel.com/content/www/us/en/newsroom/news/net-zero-greenhouse-gas-emissions-operations.html#gs.yfx4wn> (announcing Intel's pledge to reach net-zero GHG emissions by 2040).

146. See Tencent Announces Plan to Become Carbon Neutral by 2030, TENCENT (Feb. 24, 2022), <https://www.tencent.com/en-us/articles/2201287.html> (announcing Tencent's plan to reach carbon neutrality by 2030).

147. Michelle Greenwood, *Stakeholder Engagement: Beyond the Myth of Corporate Responsibility*, 74 J. BUS. ETHICS 315, 317-18 (2007).

148. CERES (2012), *supra* note 129, at 5.

The stakeholder engagement process involves establishing, developing, and maintaining stakeholder relations—particularly stakeholder identification, consultation, communication, and information exchange.<sup>149</sup> Each group of stakeholders merits consideration for its own sake.<sup>150</sup> If companies provide appropriate channels, stakeholders can motivate, influence, or assist a company's leadership in defining better, bolder, and/or more ambitious goals. For a company, the more stakeholders a company can identify and engage, the more comprehensive insights of environmental concerns they can gather and transform into commitments that can spread positive impacts. Therefore, it is important to see if a company has established systematic structures for stakeholder involvement during the stage of commitment design.

Furthermore, stakeholder participation can help increase the transparency of CSR implementation and monitoring. During these two stages, stakeholders commonly rely on public-access information, including company websites, published CSR reports, and third-party surveys. This information is then used to evaluate (1) if the company's environmental goals match its capabilities and environmental impact; and (2) if the company's related environmental programs are effective to achieve the goals. Robust stakeholder participation appears to be a prerequisite to high-quality corporate information disclosure.<sup>151</sup>

Real life examples show that stakeholders “work” together to maximize their advantages to effectively monitor companies' environmental commitments. Some research has revealed that, generally, consumers alone cannot identify whether an environmental claim is greenwashed or authentic, and the research underscored the need to educate consumers about environmental claims.<sup>152</sup> However, utilizing social media enables consumers to effectively monitor companies' environmental performance. Lyon and Montgomery opined that traditional mass media (such as television and print media) primarily involved one-way communication, while social media

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149. Linda O’Riordan & Jenny Fairbrass, *Managing CSR Stakeholder Engagement: A New Conceptual Framework*, 125 J. BUS. ETHICS 121 at 3 (2014), <https://core.ac.uk/download/pdf/19087219.pdf>.

150. Merle Ojasoo, *CSR reporting, Stakeholder Engagement and Preventing Hypocrisy Through Ethics Audit*, 6 J. GLOBAL ENTREPRENEURSHIP RSCH. 1, 5 (2016), <https://doi.org/10.1186/s40497-016-0056-9>.

151. See discussion *infra* Part 3.4 (discussing the proposed indicators).

152. See JACOB KRAFFT, REI SAITO, GREENWASHING: AN EXPERIMENTAL STUDY ABOUT THE EFFECTS OF MISLEADING AND DECEPTIVE ENVIRONMENTAL CLAIMS IN ADVERTISING, UNIV. OF GOTHENBURG (2014), [https://gupea.ub.gu.se/bitstream/handle/2077/38135/gupea\\_2077\\_38135\\_1.pdf?sequence=1&isAllowed=y](https://gupea.ub.gu.se/bitstream/handle/2077/38135/gupea_2077_38135_1.pdf?sequence=1&isAllowed=y) (discussing the difficulty that consumers have identifying greenwashing environmental claims); see also Juliana Fernandes, Sigal Segev & Joy K. Leopold, *When Consumers Learn to Spot Deception in Advertising: Testing a Literacy Intervention to Combat Greenwashing*, 39 INT’L J. ADVERT. 1115-49 (2020).

platforms (such as websites, forums, Facebook, and Twitter) embody functions that allow site visitors to leave comments and interact with the site host.<sup>153</sup> Social media, compared to traditional media, allows the public and companies to have two-way communication, which increases the information available to the public.

Similarly, competitors together with social organizations can also expose companies' inappropriate environmental claims. For example, the Procter & Gamble Company challenged a non-toxic claim on Windex Vinegar Glass Cleaner, a product developed by S.C. Johnson & Son, Inc., and submitted the case to the National Advertising Division of Better Business Bureau (BBB) National Programs.<sup>154</sup> As a program that promotes truthful, transparent and responsible advertising, the National Advertising Division is an investigative unit of the advertising industry's system of self-regulation and is a division of the BBB National Programs' self-regulatory and dispute resolution programs.<sup>155</sup> After reviewing the evidence submitted by Johnson & Son, the National Advertising Division of BBB recommended that Johnson & Son discontinue the claim "non-toxic" on package labeling for its Windex Vinegar Glass Cleaner, since the evidence provided by Johnson & Son was not able to support such a claim that was both health and environmental benefit-related.<sup>156</sup> This case indicated that competitors and social organizations serve as a strong force for accountability by scrutinizing companies' voluntary claims.

From the above, it is reasonable to assume that the more stakeholders can participate in the cycle of corporate commitment development, the more effective and impactful the commitments would be.

### 3.4 *The Quality of Information Disclosure*

According to the step-by-step guide summarized by Maon et al., the monitoring stage of corporate commitments includes communicating the commitments and their performance (Step 7) and evaluating the

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153. Thomas P. Lyon & A. Wren Montgomery, *Tweetjacked: The Impact of Social Media on Corporate Greenwash*, 118 J. BUS. ETHICS 747, 751 (Dec. 2013).

154. BETTER BUS. BUREAU NAT'L PROGRAMS, 2020 ANNUAL REPORT, [https://bbbprograms.org/docs/default-source/cfbai/cfbai\\_annualreport-2021.pdf?sfvrsn=ada4bd5c\\_11](https://bbbprograms.org/docs/default-source/cfbai/cfbai_annualreport-2021.pdf?sfvrsn=ada4bd5c_11) (last visited Apr. 7, 2023).

155. See *National Advertising Division*, BETTER BUS. BUREAU NAT'L PROGRAMS, <https://bbbprograms.org/about-us/about-us> (last visited Apr. 2, 2023) (describing the function of the National Advertising Division in the BBB Program).

156. See *id.* (determining that the term "non-toxic" reasonably conveys a message that the product will not harm people (including small children), common pets, or the environment. Importantly, it noted that a reasonable consumer's understanding of the concept of "will not harm" is not limited to death, but also various types of temporary physical illness, such as vomiting, rash, and gastrointestinal upset. However, this is what the impact that the disputed product can bring).

implementation process (Step 8).<sup>157</sup> Both steps rely on information sharing and disclosure, which not only inform company leadership but also enable valid stakeholder participation. Therefore, the quality of information disclosure is another vital indicator to evaluate the effectiveness of a company's environmental commitments.

The quality of information disclosure relies on sufficient first-hand data and information generated from internal practice. The person or the department that oversees CSR programs measures these activities' performance by analyzing the results of different compliance surveys conducted on employees, customers, and suppliers; collecting data to evaluate the results of environmental impacts (corporate waste, carbon emissions, water usage, etc.); and looking at other CSR commitments. Companies commonly work with business service providers to complete the data collection and evaluation process. With this data and information collected, companies can develop reports for internal and external purposes. These internal monitoring and data collection measures lay the foundation for external monitoring. In this context, if a company's leadership has strong convictions, demonstrated by a positive company culture and well-designed accountability metrics, the company's CSR is more likely to have the intended impact.

Once the raw data and materials are ready, the focus shifts to what should be disclosed (the content) and how to present the information (the format). To improve the quality of disclosed information, companies in the U.S. and China are increasingly adopting reporting frameworks developed by non-governmental organizations (NGOs). Below, two commonly used reporting frameworks and their environmental information disclosure requirements are highlighted. The first framework focuses on comprehensive corporate environmental information disclosure. The second framework concentrates on providing information related to corporate climate risks from the financial perspective.

### 1. Sustainability Reporting Framework

Global Reporting Initiatives (GRI) is an independent international organization that helps businesses, governments, and other organizations standardize and communicate their impacts on issues such as climate change, human rights, and corruption.<sup>158</sup> The Sustainability Reporting Framework, developed by GRI, is one of the popular voluntary reporting standards. This

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157. See François Maon, Adam Lindgreen & Valérie Swaen, *Designing and implementing corporate social responsibility: an integrative framework grounded in theory and practice*, 87 J. BUS. ETHICS 71, 82 (2009) (explaining the monitoring stage of corporate commitments and what it entails).

158. *About GRI*, GLOB. REPORTING INITIATIVE (2023), <https://www.globalreporting.org/about-gri/>.

framework is a generally accepted practice for reporting on an organization's economic, environmental, and social performance. The Sustainability Reporting Framework is designed for use by organizations of any size, sector, or location.<sup>159</sup>

The Sustainability Reporting Framework uses a set of “Environmental Indicators” to guide businesses on how to disclose crucial corporate environmental information, including: companies’ required environmental inputs (e.g., material, energy, water) and impacts related to their business operations and product-making processes (e.g., emissions, effluents, waste, biodiversity).<sup>160</sup> Using waste information disclosure as an example, any companies that follow the Sustainability Reporting Framework would need to provide information about the organization’s significant, actual, and potential waste-related impacts and how the organization manages them.<sup>161</sup> These significant, actual, and potential waste-related impacts include the inputs, activities, and outputs that lead or could lead to these impacts, whether these activities are done by the organization itself, its upstream suppliers, or downstream customers in its supply chains.<sup>162</sup>

Companies that follow the GRI Sustainability Reporting Framework can use different forms (stand-alone or combined with annual or financial reports) and choose different topics to report.<sup>163</sup> Since reporting is self-declaration-based, companies can have an “assurance provider” offer an opinion on the report or request the GRI to check.<sup>164</sup> If an organization decides to release a report that follows the Sustainability Reporting Framework, the organization must notify the GRI.<sup>165</sup>

The design of the Framework is centered around an organization’s value chain and is concerned with a wider range of impacts and stakeholders, broader social expectations, and the organization’s influence on upstream and downstream entities. The framework is unique when compared to existing legal requirements for corporate environmental information disclosure, which usually only cover the organization itself regardless of whether it is in China or the U.S.<sup>166</sup>

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159. GLOB. REPORTING INITIATIVE, SUSTAINABILITY REPORTING GUIDELINES VERSION 3.1, 2, 3–8 (2011).

160. *See, e.g.*, GLOB. REPORTING INITIATIVE, GRI 1: FOUNDATION 2021 4, 8–10 (2022) (summarizing basic GRI framework).

161. *See* GLOB. REPORTING INITIATIVE, GRI 306: WASTE 2020 8–10 (2022) (providing an example of reporting requirements under the Sustainability Reporting Framework).

162. *Id.* at 8.

163. GLOB. REPORTING INITIATIVE, *supra* note 158, at 5.

164. *Id.* at 6.

165. *Id.*

166. *Id.* at 8.

2. Disclosure Framework: Recommendations of the Task Force on Climate-Related Financial Disclosures

To help investors, lenders, and insurance underwriters identify information that they need to assess and price climate-related risks and opportunities, the Financial Stability Board (an international body that monitors and makes recommendations about the global financial system) established an industry-led task force in December 2015: the Task Force on Climate-Related Financial Disclosures (Task Force).<sup>167</sup> In 2017, the Task Force published a set of voluntary, consistent climate-related financial disclosure recommendations useful to investors, lenders, and insurance underwriters in understanding how climate risks pose material impacts.<sup>168</sup> According to the Task Force, such recommendations are suitable for all organizations to implement, since climate change impacts all types of sectors and businesses.<sup>169</sup> The Task Force recommends that organizations provide climate-related financial disclosures in their mainstream (i.e., public) annual financial filings.<sup>170</sup>

The Task Force structured its recommendations around four thematic areas that represent core elements of how organizations operate: governance, strategy, risk management, and metrics and targets.<sup>171</sup> Each area provides a list of metrics that show what kind of information organizations should gather and disclose. For example, the major recommendations associated with risk management include describing the organization's processes for identifying, assessing, and managing climate-related risks.<sup>172</sup>

Climate-related risks are not necessarily relevant to corporate environmental impacts, unless the organization's value chain heavily relies on natural resources as inputs or the organization's outputs could pose adverse impacts to the environment. From this perspective, the disclosure framework developed by the Task Force is not as comprehensive as the Sustainability Reporting Framework.

Generally, in both China and the U.S., businesses of any size have numerous voluntary standards to choose from to improve the quality of their external corporate disclosures. Currently, the voluntary standards concentrate on the realms that the mandatory requirements do not include, such as climate risks and carbon emission reductions. This exclusion enables

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167. *About*, TASK FORCE ON CLIMATE-RELATED FIN. DISCLOSURES, <https://www.fsb-tcfd.org/about/> (last visited Apr. 18, 2023).

168. TASK FORCE ON CLIMATE-RELATED FIN. DISCLOSURES, RECOMMENDATIONS OF THE TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES (2017).

169. *Id.* at 17.

170. *Id.*

171. *Id.* at iv.

172. *Id.* at 21–22.

NGOs to encourage and nudge companies to go beyond the limitation of mandatory disclosures. These areas are also opportunities that companies can develop and pursue for voluntary environmental commitments. It is worth pointing out that the NGOs encouraging the voluntary reporting standards have strategically teamed up to refine and promote the adoption of the standards—which indicates that these various voluntary standards might be unified in the future.<sup>173</sup>

In practice, to improve the quality of information disclosure, some companies take the initiative to seek third-party verification and assurance in the company's CSR reports to validate corporate sustainability efforts.<sup>174</sup> Third-party verification can only be provided for non-financial data and need not be performed by an accredited professional; while third-party assurance (a data check process) applies the same methodologies and standards as financial data and must be performed by an accredited auditor (such as Price Waterhouse Coopers, Lloyd's Register Quality Assurance, or Deloitte).<sup>175</sup> If a company's sustainability reports—both financial and non-financial—are verified and assured by third-party service providers, the quality of these reports' content will be increased and such reports would be deemed as credible. For example, Etsy, a U.S. e-commerce platform, claimed that it reported carbon emissions by following the Greenhouse Gas Protocol (the industry standard and international tool for greenhouse gas accounting) and commissioned Price Waterhouse Coopers LLP to provide third-party assurance of the reported data and calculation methods in Etsy's 2015 Progress Report.<sup>176</sup> In that case, the third-party auditor served as a supervisor of the company's corporate environmental disclosure to some extent.

Overall, these four proposed indicators (governance, strategy, risk management, and metrics and targets) align with the development cycle of corporate commitments (design, implementation, and monitoring) and the motivations that drive companies to act. Understanding the relationship dynamics of these indicators (which develop during companies' voluntary

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173. Two examples are the Climate Disclosure Standards Board (CDSB) and Sustainability Accounting Standards Board (SASB). These organizations are “well-established in the market,” have “rigorously developed TCFD-aligned reporting tools,” and “are uniquely positioned to support the implementation of the recommendations and the 11 associated disclosures in a way that is both cost-effective for companies and decision-useful for investors.” SASB FOUND. & CDP WORLDWIDE, TCFD IMPLEMENTATION GUIDE 4 (2019).

174. David McCann, *Companies Face Demand for Third-Party CSR Certifications*, CFO (Nov. 26, 2019), <https://www.cfo.com/corporate-finance/2019/11/companies-face-demand-for-third-party-csr-certifications/>.

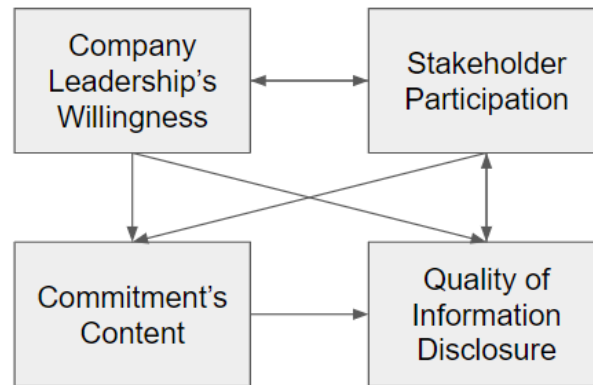
175. See Kelia Cowan, *How Assurance and Verification Help Your Sustainability Efforts*, MEASURABL (May 1, 2020), <https://www.measurabl.com/how-assurance-and-verification-help-your-sustainability-efforts/> (noting that companies may avoid being accused of greenwashing or falsely reporting their carbon-reducing goals by seeking third-party verification).

176. *Addressing our carbon footprint*, ETSY, <https://www.etsy.com/progress-report/2015/addressing-our-carbon-footprint> (last visited Mar. 9, 2021).

environmental commitments) empowers lawmakers and governments to better evaluate these commitments' effectiveness.

Company leadership's willingness is the foundation that determines the rest of the indicators. The more willing company leadership is to tackle environmental problems, the more likely that the company will refine its organizational structure, develop an actionable agenda, enable effective stakeholder participation, and provide high-quality information disclosure (see Figure 2). If the company leaders' willingness is weak, as the arrow shows in Figure 2, stakeholders (such as social organizations, competitors, investors, customers, the press, and the government, empowered by corporate information disclosure) can pressure companies to act promptly or aim for more ambitious goals. Some stakeholders, such as the company's competitors, investors, customers, and the government, are more influential than others.

Figure 2: The Relationship between the Four Indicators



Additionally, stakeholder participation can be more substantial if the company's leadership is willing to include multiple stakeholders in their commitment development process, so participating stakeholders can help shape commitments from the beginning. The more stakeholders are involved in developing and monitoring commitments, the more likely companies are to keep their promises.



#### IV. HOW EXISTING LAWS SUPPORT AND MONITOR UNILATERAL CORPORATE ENVIRONMENTAL COMMITMENTS' EFFECTIVENESS

Although companies enjoy the freedom of establishing corporate unilateral environmental goals and other CSR programs on a voluntary basis, legislators have developed rules to encourage companies to take the initiative and to guarantee the effectiveness of these voluntary commitments. This section concentrates on existing laws and regulations in the U.S. and China that support the development of corporate commitments and the monitoring of their progress.

##### *4.1 Corporate Code of Ethics*

The Corporate Code of Ethics (CCE), also known as the Code of Conduct or Business Code of Ethics, was written with the intent to increase moral conduct in an organization and to guide corporate, employee, and other stakeholders' behavior.<sup>177</sup> A company can reflect its business ethics and values in its CCE, including environmentally related goals and responsibilities. In other words, if the law requires companies to develop and disclose their CCEs, company stakeholders (particularly the external ones) can get a glimpse of the company's culture and how it perceives environmental sustainability.

In the U.S., the Sarbanes–Oxley Act of 2002 requires publicly listed companies to establish ethical rules and standards to govern the conduct of all the companies' directors, officers, and employees.<sup>178</sup> The U.S. SEC has since made changes in the oversight of listed companies.<sup>179</sup> The updated SEC rules require companies subject to their requirements to “disclose annually whether the company has adopted a code of ethics for the company's principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions”; if not, “the company will be required to explain why.”<sup>180</sup> However, the SEC did not set forth additional ethical principles that the code of ethics should address, because the SEC proclaimed “ethics codes do, and should, vary from

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177. Maira Babri et al., *An Updated Inquiry into the Study of Corporate Codes of Ethics: 2005–2016*, 168 J. BUS. ETHICS 71, 71–72 (2021).

178. Sarbanes-Oxley Act of 2002, 15 U.S.C. § 7211.

179. See Press Release, Summary of SEC Actions and SEC Related Provisions Pursuant to the Sarbanes-Oxley Act of 2002, U.S. SECS. & EXCH. COMM'N (Aug. 15, 2003), <https://www.sec.gov/news/press/2003-89a.htm> (requiring companies to disclose whether they have a code of ethics for their CEO, CFO, and senior accounting personnel).

180. Press Release, SEC Adopts Rules on Provisions of Sarbanes-Oxley Act, U.S. SECS. & EXCH. COMM'N, (Jan. 15, 2003), <https://www.sec.gov/news/press/2003-6.htm>.

company to company and that decisions as to the specific provisions of the code, compliance procedures and disciplinary measures for ethical breaches are best left to the company.”<sup>181</sup>

U.S. companies’ CCEs typically include the following elements: (1) an introduction or preamble; (2) a statement of purposes, missions, and values; (3) behavioral examples; and (4) implementation measures, which define the requisite administrative processes, reporting requirements, and sanctions for violations.<sup>182</sup> In practice, companies tend to build CSR goals into their codes, from environmental practices to other social issues (such as human rights, child labor, etc.).<sup>183</sup> Companies generally elaborate their environmental goals and responsibilities in a section on missions, values, and implementation in their CCEs. To some extent, the requirement of developing a CCE forces companies to incorporate business ethics and CSR into their daily operations. Regardless of the variance between companies, employees and stakeholders must understand a company’s code of ethics and conduct and what the company stands for.<sup>184</sup> This will also inform stakeholders whether the company’s CSR goals are consistent with its CCE.

From 2005–2016, U.S. CCE case studies found that CCEs seem to be effective in terms of controlling unethical behavior to a limited extent.<sup>185</sup> At the same time, CCEs may be morally disempowering because CCEs are usually written by the management and passed down to the employees and suppliers as a mandate (assuming company stakeholder participation is absent).<sup>186</sup> The case studies also noticed that CCE content is consistently centered around regulatory requirements and subjects with legal influence.<sup>187</sup> A comparison of code content between 1992 and 2003 revealed increased mentions of “environmental affairs in conduct on behalf of the firm, and environmental laws,” but “the codes are mostly concerned with actions

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181. Disclosure Required by Sections 406 and 407 of the Sarbanes-Oxley Act of 2002, 17 C.F.R. §§ 228–29 (2003).

182. See *Corporate Ethics and Sarbanes-Oxley*, FINDLAW, (Dec. 29, 2017), <https://corporate.findlaw.com/law-library/corporate-ethics-and-sarbanes-oxley.html> (describing the composition of a typical code of ethics).

183. That’s because the consulting industry suggests building CSR goals in their CCEs as a recommended practice. See Kezia Farnham, *Business Ethics and Corporate Social Responsibility Debunked*, DILIGENT (Jun. 7, 2022), <https://www.diligent.com/insights/esg/business-ethics-and-corporate-social-responsibility/>.

184. Amanda Nieweler, *Corporate Social Responsibility: Is It in Your Code of Conduct?*, WHISTLEBLOWER SEC. (July 22, 2021), <https://blog.whistleblowersecurity.com/blog/corporate-social-responsibility-is-it-in-your-code-of-conduct#:~:text=Any%20company%20can%20have%20CSR,what%20the%20company%20stands%20for.>

185. See Babri et al., *supra* note 177, at 104 (summarizing findings from U.S. case studies of CCE).

186. See *id.* at 83 (“[L]arge corporations . . . coercively pass responsibility for ethical, environmental and social issues down the supply chain through internal sub-organization level codes.”).

187. *Id.* at 82.

against the firm than actions by the firm.”<sup>188</sup> This shows that companies are inclined to use legal requirements as a baseline to manage their environmental behaviors in order to protect their interests. Furthermore, the increasing mentions of environmental issues is in line with the Clinton Administration’s emphasis on engaging with the business sector on environmental protection via various voluntary governmental environmental programs.<sup>189</sup> A literature review further indicated that voluntary governmental environmental programs could lead to increased environmental awareness in the business sector, and could thus be reflected in companies’ CCEs.<sup>190</sup>

Compared to the U.S., the development of CCEs and other similar documents in China started later. The first wave of development, between 2008 and 2010, happened among those companies (both state-owned and non-state-owned) that needed to be listed on overseas stock markets, such as the New York Stock Exchange.<sup>191</sup> These companies follow U.S. laws to establish and disclose CCEs to fulfill the requirements of being listed. The recent second wave of “CCE development” in China primarily concentrates on corporate compliance, meaning that company behavior needs to comply with laws, regulations, internal rules, business ethics, and international laws.

Like the U.S., the Chinese government takes on the responsibility of advocating for businesses to develop their CCEs to guide business operations. In December 2017, Compliance Management Systems: Guidelines, were issued by the China National Institution of Standardization, as the first national standard of corporate compliance.<sup>192</sup> This standard aims to provide guidance and suggestions to all types of organizations to “reduce

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188. *Id.*

189. A review of the Clinton administration (1993-2001) shows that one of the features is that the “Clinton Administration put much greater emphasis than previous administrations on expanding the role of . . . voluntary programs.” See SHEILA M. CAVANAGH ET AL., NATIONAL ENVIRONMENTAL POLICY DURING THE CLINTON YEARS ii (Sept. 2001), <https://media.rff.org/archive/files/sharepoint/WorkImages/Download/RFF-DP-01-38.pdf>.

190. See Babri et al., *supra* note 177, at 89 tbl. 2 (summarizing CCE studies and outcomes).

191. See Sun Bing (孙冰) & Li Xiaoxiao (李小晓), Taoli Hua’erjie: Zhongguo Gainiangu Siyouhua Tuishifengchao [Leaving the Wall Street: The Trend of Privatized Chinese Concept Stocks Delisting] (逃离华尔街：中国概念股私有化退市风潮), SINA FINANCE CHINA ECONOMIC WEEKLY (Mar. 20, 2012), <http://finance.sina.com.cn/roll/20120320/003711626838.shtml> (discussing the trend of Chinese companies seek to be listed in the U.S.); Yubo (余波), Jingwai Zhonggaigu Weiji: Beijing, Chengyin yu Yingxiang (境外中概股危机：背景、成因与影响) [Chinese Concept Stocks Facing Risks: Background, Reasons and Influence], Shenzhen Stock Exchange, available at <https://www.szse.cn/aboutus/research/securities/documents/P020180328492767041601.pdf> (discussing the background of Chinese companies listed in the U.S.).

192. See The National Standard “Guidelines for Compliance Management System” (《合规管理体系指南》国家标准正式发布)(promulgated by China National Institution of Standardization Theory and Strategy, Jan. 3, 2018) [https://www.cnis.ac.cn/ynbm/llyzlyjs/zhxw/201801/t20180103\\_42399.html](https://www.cnis.ac.cn/ynbm/llyzlyjs/zhxw/201801/t20180103_42399.html) (China) (announcing sustainability guidelines).

the risks of non-compliance, strengthen [the understanding and implementation of] social responsibility, help achieve sustainable development, and be beneficial to create a fair market for healthy competition.”<sup>193</sup> In 2018, the national government released more guidelines for corporate compliance. This included Guidelines on Compliance Management in Central Enterprises issued by the State-Owned Assets Supervision and Administration Commission of the State Council,<sup>194</sup> and Guidelines on Corporate Compliance Management in Overseas Operations issued by National Development and Reform Commission, and six other national departments.<sup>195</sup> Both documents urge companies to adopt environmental protections as a key topic to strengthen compliance management.

Chinese practitioners suggest that a company’s corporate compliance has three layers.<sup>196</sup> The first layer, and primary foundation, is that the company and its employees must abide by the laws and regulations of where the company operates.<sup>197</sup> The second layer is that the company and its employees’ business conduct should comply with the corporate rules and its voluntary commitments.<sup>198</sup> The third layer states that the company and its employees should comply with professional ethics and social customs.<sup>199</sup>

A review of CCEs developed by Chinese companies shows that most aim to fully comply with legal requirements (the first layer), which is a similar situation shared by U.S. companies. Furthermore, not all companies specifically mentioned environmental laws in their compliance documents. Some companies stated the environmental aspect at a high level. For example, China National Offshore Oil Corporation says its “directors and

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193. *Id.*

194. See Zhongyangqiye Heguiguanli Zhiyin (Shixing) (中央企业合规管理指引 (试行)) [Guidelines for Compliance Management of Central Enterprises (Trial Implementation)] (promulgated by the St.-owned Assets Supervision & Admin. Comm’n, Nov. 2, 2018; rev’d by the St. Council, Nov. 9, 2018), <http://www.sasac.gov.cn/n2588035/c9804413/content.html> (describing guidelines for central companies to refine corporate environmental operations with using laws and regulations and corporate rules as baseline).

195. National Development and Reform Commission, Duobumen Guanyuyinfa Qiye Jingwai Jingying Heguiguanli Zhiyin de Tongzhi, (多部门关于印发《企业境外经营合规管理指引》的通知) [Notification on Release of “Guidelines of Corporate Compliance and Management in Overseas”] (promulgated by the Nat’l Dev. and Reform Comm’n) no. 1916, Dec. 26, 2018, [https://www.ndrc.gov.cn/xxgk/zcfb/tz/201812/t20181229\\_962358.html?code=&state=123](https://www.ndrc.gov.cn/xxgk/zcfb/tz/201812/t20181229_962358.html?code=&state=123) (discussing Chinese companies’ overseas operations should comply with international laws, domestic laws and regulations, corporate rules, professional ethics and social customs).

196. See WeLegal, Conghexinchufa, wuweiqifazong Jiangtou Qiyedaheguiyuzhuanxianghegui (从核心出发, 5 位名企老总讲透企业大合规与专项合规) [Five Legal Counsels Talk about Company General and Special Compliance] TABLE TALK WEBINAR (Jan. 25, 2023) (discussing compliance in China).

197. *Id.*

198. *Id.*

199. *Id.*

Senior Officers must comply fully with, among other things, all applicable laws, rules and regulations that govern our business conduct in the [People's Republic of China] and any other region or country in which the Company conducts its business.”<sup>200</sup> Some companies elaborated with details regarding how to reduce the company’s adverse environmental impacts. For example, Qiqihar Rolling Stock Co. mentioned that it will develop and follow its internal standards if it operates in a place without any environmental laws or requirements—to minimize the environmental burden.<sup>201</sup> Moreover, Qiqihar also extended the standards to its suppliers through contracts, and Qiqihar committed to end a business relationship if any supplier cannot meet their environmental standards.<sup>202</sup>

Unlike the U.S., CCE development and disclosure are not mandatory in China. However, it is foreseeable that the national government will regulate this subject soon—especially since the Chinese government has emphasized CSR practice and disclosure related to environmental protection and climate mitigation in recent years.

#### 4.2 Directors’ Fiduciary Duties

In modern corporate law, many countries recognize that fiduciary duties include the duty of loyalty and duty of care.<sup>203</sup> Duty of loyalty is a commitment that corporate directors make to act in the company’s or its shareholders’ best interests instead of the directors’ personal interests.<sup>204</sup> Duty of care requires corporate directors to make decisions in a reasonable and prudent way when they manage the company’s daily operations.<sup>205</sup> The ultimate goal of fiduciary duties is to require crucial corporate officers to minimize the risks the company will face.<sup>206</sup> Fiduciary duties may require directors to act proactively, including making environmental commitments

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200. See CNOOC Limited, *Codes of Business Ethics for Directors and Senior Officer*, 2 (Aug. 25, 2022) (explaining ethical responsibilities).

201. See China Railway Rolling Stock Corporation (CRRC) Qiqiha’er Company, *Quiche Gongsi Shangye Zhunze (齐车公司商业准则)* [Rules of Business Conduct of Qiqiha’er Company of China Railway Rolling Stock Corporation] <https://www.crrecg.cc/qqhe/g7587.aspx> (discussing the company’s code of conduct).

202. *Id.*

203. TAMAR FRANKEL, *Fiduciary Duties*, in *THE NEW PALGRAVE DICTIONARY OF ECONOMICS AND THE LAW*, vol. 2, at 127 (Peter Newman ed., 1998).

204. WEX, *Duty of Loyalty*, CORNELL LAW SCHOOL-LEGAL INFORMATION INSTITUTE, [https://www.law.cornell.edu/wex/duty\\_of\\_loyalty](https://www.law.cornell.edu/wex/duty_of_loyalty) (Jul. 2022).

205. WEX, *Duty of Care*, CORNELL LAW SCHOOL-LEGAL INFORMATION INSTITUTE, [https://www.law.cornell.edu/wex/duty\\_of\\_care#:~:text=The%20duty%20of%20care%20is,corporation's%20stakeholders%20or%20broader%20society](https://www.law.cornell.edu/wex/duty_of_care#:~:text=The%20duty%20of%20care%20is,corporation's%20stakeholders%20or%20broader%20society) (Jan. 2022).

206. See generally FRANKEL, *supra* note 203, at 127–128 (discussing features of fiduciary relationships).

to tackle any new challenges that pose adverse effects or risks to the company.

Some companies have argued that taking climate action and dealing with other new challenges is an ethical issue rather than a legal problem.<sup>207</sup> This voice has faded in recent years for two major reasons. First, with the increased extreme weather events related to climate change, companies can track the direct material impacts caused by climate risks.<sup>208</sup> A 2021 paper, published by the Commonwealth Climate and Law Initiative, pointed out that “climate change has evolved from an ‘ethical, environmental’ issue to one that presents foreseeable financial and systemic risks (and opportunities) over mainstream investment horizons.”<sup>209</sup>

Secondly, climate-related litigations, particularly those against companies, are emerging worldwide. According to the Global Climate Litigation Report: 2020, globally, an increasing number of claims brought by individuals and NGOs focus on financial risks, fiduciary duties, and corporate due diligence, which directly affect not only fossil fuel and cement companies but also banks, pension funds, asset managers, insurers, major retailers, and other private sectors.<sup>210</sup> These cases claimed that companies failed both to consider that the adverse environmental impacts their actions pose to society have increased due to climate change and to address these risks with more ambitious climate mitigation and adaptation goals.<sup>211</sup> This evolution positioned climate change as a significant material risk factor that corporations cannot neglect any longer.

While in China, no lawsuits were filed directly related to fiduciary duties linked to corporate commitments and voluntary action (as of August 1, 2022). Existing laws in China tend to regulate directors to observe such responsibilities under corporate information disclosure requirements of the CSR framework, as discussed in Part 1.3.<sup>212</sup> Qualified environmental social

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207. See generally, Cynthia A. Williams, *Fiduciary Duties and Corp. Climate Resp.*, 74 VAND. L. REV. 1875, 1883 (2021) <https://scholarship.law.vanderbilt.edu/vlr/vol74/iss6/9> (discussing the general perception of climate change).

208. Companies can periodically conduct a scenario-based climate risk assessment, aiming to align with the scenario guidance set forth by the Task Force on Climate-related Financial Disclosure (TCFD). See *infra* Part 3.4 (Referring to Disclosure Framework: Recommendations of the Task Force on Climate-related Financial Disclosures).

209. Sarah Barker et al., *Fiduciary Duties and Climate Change in the United States*, COMMONWEALTH CLIMATE & L. INITIATIVE (Oct. 2021), [https://ccli.ubc.ca/wp-content/uploads/2021/12/Fiduciary-duties-and-climate-change-in-the-United-States\\_Summary.pdf](https://ccli.ubc.ca/wp-content/uploads/2021/12/Fiduciary-duties-and-climate-change-in-the-United-States_Summary.pdf).

210. See, U.N. Environment Programme, *The UNEP Global Climate Litigation Report: 2020 Status Review*, (Jan. 26, 2026) (explaining increase in climate litigation); JOANA SETZER & CATHERINE HIGHAM, GLOBAL TRENDS IN CLIMATE CHANGE LITIGATION: 2021 SNAPSHOT, 6 (2021), [https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2021/07/Global-trends-in-climate-change-litigation\\_2021-snapshot.pdf](https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2021/07/Global-trends-in-climate-change-litigation_2021-snapshot.pdf).

211. See *id.* at 5.

212. See *supra* Part 1.3 (explaining corporate information disclosure requirements for CSR in China).

groups can bring lawsuits against companies' environmental behavior that violates CSR related rules.<sup>213</sup>

Fiduciary duties require directors to consider, oversee, and monitor the implementation of climate-related legal risk controls and disclosures.<sup>214</sup> Considering that many Fortune 500 companies are registered in the State of Delaware, U.S. and after reviewing the State's laws, fiduciary duties may have the potential to push directors to act boldly to achieve net-zero goals both substantively and procedurally.<sup>215</sup>

Other than climate risks, corporate sustainability is another challenge that company directors and managers may need to tackle under their fiduciary duties. Responsible investing, also known as sustainable investing, has been on the rise in recent years. Responsible investing is widely understood as the integration of environmental, social, and governance (ESG) factors into investment processes and decision-making, with the assumption that these ESG factors have financial relevance.<sup>216</sup> In practice, ESG factors can include climate risks and other environmental sustainability issues. In 2015, the United Nations Environmental Programme released a report explaining why failing to consider long-term investment value drivers, such as the ESG issues, in investment practice is a failure of fiduciary duty.<sup>217</sup> As a result, support for social and environmental proposals at the shareholder meetings of U.S. companies rose to 32% in 2021 from 27% in 2020 and from 21% in 2017—the rise in support lead some media to call 2021 the year of ESG investing.<sup>218</sup>

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213. According to Article 58 of the Environmental Protection Law (2014 Revision), "For an act polluting environment or causing ecological damage in violation of public interest, a social organization which satisfies the following conditions may institute an action in a people's court: (1) It has been legally registered with the civil affairs department of the people's government at or above the level of a districted city; (2) It has specially engaged in environmental protection for the public good for five consecutive years or more without any recorded violation of law." Environmental Protection Law of the People's Republic of China (Amended in 2014), 中华人民共和国环境保护法 2014 修订版 ((Adopted at the 11th Session of the Standing Committee of the Seventh National People's Congress on 26 December 1989, amended at the 8th Session of the Standing Committee of the Twelfth National People's Congress on 24 April 2014).

214. Cynthia A. Williams et al., *Directors' Fiduciary Duties and Climate Change: Emerging Risks*, (Dec. 8, 2021) Harvard Law School Forum on Corporate Governance, <https://corpgov.law.harvard.edu/2021/12/08/directors-fiduciary-duties-and-climate-change-emerging-risks/>.

215. See generally *id.* (discussing how companies, including directors and officers may have fiduciary duties to include climate change into their strategic company decisions).

216. Georg Kell, *The Remarkable Rise of ESG*, FORBES (Jul. 11, 2018), <https://www.forbes.com/sites/georgkell/2018/07/11/the-remarkable-rise-of-esg/?sh=260fc7bf1695>.

217. See U.N. Environment Programme, *Fiduciary Duties in 21st Century* at 3, 15-16 (Sept. 8, 2015) <https://www.unpri.org/fiduciary-duty/fiduciary-duty-in-the-21st-century/244.article> (discussing the need to consider risk of climate change in long term investments).

218. See Ross Kerber & Simon Jessop, *Analysis: How 2021 Became the Year of ESG Investing*, REUTERS (Dec. 23, 2021), <https://www.reuters.com/markets/us/how-2021-became-year-esg-investing-2021-12-23/> (describing the effects of investors challenging companies' ESG credentials).

Regarding responsible investing and ESG factors, it does not look like China plans to embrace ESG with fiduciary duties like the way U.S. companies do. Instead, the Chinese government may perceive these topics as part of CSR subjects. In 2021, an officer from the China Securities and Regulatory Commission publicly commented that responsible investing has a significant impact on society, and corporate information disclosure is the key to responsible investing.<sup>219</sup> The officer pointed out that: “[c]onsidering responsible investing is still at an early development stage in China; companies need time to understand the topic, so the government is not in a rush to regulate such matters and companies can choose to voluntarily disclose the information.”<sup>220</sup> The officer also mentioned that some issues related to ESG content, such as corporate environmental information and CSR practices, are mandatory disclosure requirements for publicly listed companies under existing China laws.<sup>221</sup> These legal requirements are meant to prompt companies to act responsibly regarding environmental issues.

The nature of fiduciary duties can push a company’s leadership to proactively tackle new environmental circumstances that could pose risks to the company’s operation and development. Even if the government had not regulated such circumstances, stakeholders (such as social groups and individuals) may have legal ground against the company, especially in the U.S.

#### *4.3 Standards for Publicly Listed Companies’ Disclosure and Related Responsibilities*

As discussed, timely and credible information disclosures allow all types of stakeholders to monitor companies’ voluntary commitments. Currently, disclosure requirements in existing U.S. and China laws primarily target publicly listed companies.

In the U.S., the materiality principle is a key standard for publicly listed companies to follow regarding corporate disclosure.<sup>222</sup> The U.S. Supreme Court has held that facts about a company are “material” if there is a substantial likelihood that a reasonable investor would consider the

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219. Hu Meng (胡萌), Zhengjianhui Liming: Fenbutuijin ESG Xinxipilu, Shangshigongsi Bunenggao Yundongshijiantan (证监会李明：分步推进 ESG 信息披露，上市公司不能搞运动式减碳) [Li Ming from China Security Regulatory Commissions: Step by Step to promote ESG information disclosure, Publicly Listed Companies Should Avoid Carbon Emission Reduction in Surface-Level], Beijing News, December 23, 2021, 11:45am, Chinese version available at <https://www.bjnews.com.cn/detail/164023037714169.html>.

220. *Id.*

221. *Id.*

222. *Basic Inc. v. Levinson*, 485 U.S. 224, 231 (1988) (citing *TSC Industries v. Northway*, 426 U.S. 438, 449 (1976)).



information important in making an investment decision.<sup>223</sup> “[M]aterial facts include not only information disclosing the earnings and distributions of a company, but also those facts which affect the probable future of the company.”<sup>224</sup> The materiality principle is the cornerstone of the U.S. Security Law. The materiality principle is used to determine specific mandatory disclosure requirements that apply to listed companies based on the U.S. SEC regulations.<sup>225</sup> The specific items that mention environmental disclosure are Description of Business, Legal Proceeding, and Management’s Discussion and Analysis of Financial Condition and Results of Operations (MD&A).<sup>226</sup>

Description of Business requires a listed company give an overview of the business’s current and future business activities, which is information that could pose material impacts on these activities.<sup>227</sup> Furthermore, if any information could have material effects on a segment of the company’s business, such a segment should be disclosed as well.<sup>228</sup> “A segment is a component of a business that generates its own revenues and creates its own product, product lines, or service offerings.”<sup>229</sup> Particularly, the law specifies that:

The material effects that compliance with government regulations, including environmental regulations, may have upon the capital expenditures, earnings and competitive position of the registrant and its subsidiaries, including the estimated capital expenditures for environmental control facilities for the current fiscal year and any other material subsequent period.<sup>230</sup>

Legal Proceeding requires a listed company to briefly describe any material pending legal proceedings, other than ordinary routine litigation incidental to the business.<sup>231</sup> This includes (1) the material related to proceedings that happen to any crucial officers of the company<sup>232</sup> and (2) the

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223. *Id.*

224. Gerard A. Caron, *SEC Disclosure Requirements for Contingent Environmental Liability*, 14 B.C. ENV’T AFF. L. REV. 729, 732, (1987).

225. *Id.*

226. Standard Instructions for Filing Forms Under Securities Act of 1933, Securities Exchange Act of 1934 and Energy Policy and Conservation Act of 1975—Regulation S-K, 17 C.F.R. § 229.101(c)(2)(i) (2020); 17 C.F.R. § 229.103(c)(3) (2020); 17 C.F.R. § 229.303 (2021).

227. 17 C.F.R. § 229.101(c) (2020).

228. *Id.*

229. See Will Kenton, *Segment: Definition, Business Benefits, Examples*, INVESTOPEDIA, (Dec. 7, 2022), <https://www.investopedia.com/terms/s/segment.asp>.

230. 17 C.F.R. § 229.101(c)(2)(i) (2020).

231. 17 C.F.R. § 229.103(c)(2)(i) (2020).

232. See *id.* (stating that required disclosures in the United States include “[a]ny material proceedings to which any director, officer or affiliate of the registrant, any owner of record or beneficially

proceedings that arise under environmental laws that must be disclosed if: (a) they are material to the business or financial condition of the registrant; (b) they include a claim for damages or costs in excess of 10% of current consolidated basis; or (c) a governmental authority is a party to the proceeding, or is known to be worth less than \$300,000.<sup>233</sup>

MD&A requests a listed company to “identify any known trends or any known demands, commitments, events or uncertainties” that are reasonably expected to have material effects on the company’s business.<sup>234</sup> Also, businesses are required to identify relevant remedies or proposed actions to the material deficiency above.<sup>235</sup>

Existing environmental disclosure requirements (particularly under the MD&A) have the potential to embrace a company’s voluntarily commitments if they pose material impacts on the company and allow companies to determine whether to disclose these commitments and related status. However, the U.S. SEC may step in to clarify if the subject of corporate commitments is important.

One prominent example is climate risk disclosure. After several years of mounting pressure from state attorney generals, environmental groups, institutional investors, and others to clarify climate change disclosure

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of more than five percent of any class of voting securities of the registrant, or any associate of any such director, officer, affiliate of the registrant, or security holder is a party adverse to the registrant or any of its subsidiaries or has a material interest adverse to the registrant or any of its subsidiaries.”)

233. See 17 CFR § 229.103(c)(3) (2020). Required disclosures regarding an entity’s legal proceedings also include “[a]dministrative or judicial proceedings (including proceedings which present in large degree the same issues) arising under any Federal, State, or local provisions that have been enacted or adopted regulating the discharge of materials into the environment or primarily for the purpose of protecting the environment. Such proceedings shall not be deemed “ordinary routine litigation incidental to the business” and shall be described if:

(i) Such proceeding is material to the business or financial condition of the registrant;  
(ii) Such proceeding involves primarily a claim for damages, or involves potential monetary sanctions, capital expenditures, deferred charges or charges to income and the amount involved, exclusive of interest and costs, exceeds 10% of the current assets of the registrant and its subsidiaries on a consolidated basis; or

(iii) A governmental authority is a party to such proceeding and such proceeding involves potential monetary sanctions, unless the registrant reasonably believes that such proceeding will result in no monetary sanctions, or in monetary sanctions, exclusive of interest and costs, of less than \$300,000 or, at the election of the registrant, such other threshold that (A) the registrant determines is reasonably designed to result in disclosure of any such proceeding that is material to the business or financial condition is disclosed, (B) the registrant discloses (including any change thereto) in each annual and quarterly report, and (C) does not exceed the lesser of \$1 million or one percent of the current assets of the registrant and its subsidiaries on a consolidated basis; provided, however, that such proceedings that are similar in nature may be grouped and described generically.”

234. See 17 C.F.R. § 229.303(b)(1)(i) (2020) (stating “(1) Liquidity. Identify any known trends or any known demands, commitments, events or uncertainties that will result in or that are reasonably likely to result in the registrant’s liquidity increasing or decreasing in any material way. If a material deficiency is identified, indicate the course of action that the registrant has taken or proposes to take to remedy the deficiency. Also identify and separately describe internal and external sources of liquidity, and briefly discuss any material unused sources of liquid assets.”).

235. *Id.*

requirements under existing U.S. SEC rules,<sup>236</sup> the SEC issued its Interpretive Guidance on climate disclosure in 2010 (the 2010 Climate Guidance).<sup>237</sup> This guidance “encouraged” publicly listed companies to disclose any corporate decisions or legal developments related to climate change that may impact their businesses.<sup>238</sup> Even though the 2010 Climate Guidance does not create any new obligations to registrants, it outlined certain ways in which climate change may trigger disclosure obligations under the SEC’s rules, including legislation and regulations governing climate change, international accords, changes in market demand for goods or services, and physical risks associated with climate change.<sup>239</sup> Furthermore, the 2010 Climate Guidance appeared to have dramatically impacted public company disclosures regarding climate change. According to some U.S. practitioners’ estimates, the number of S&P 500 companies mentioning climate change and/or greenhouse gas in their Annual Reports on Form 10-K approximately doubled from the year prior to the year after the release of the 2010 Climate Change Guidance.<sup>240</sup>

In March 2022, many investors demanded GHG emissions reporting<sup>241</sup> and more companies disclosed GHG emissions due to the issuance of the

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236. See KIRKLAND & ELLIS, *The SEC’s Recent and Planned Activity on Climate Change Disclosures: What Companies Can Do to Prepare* (Oct. 1, 2021), <https://www.kirkland.com/publications/kirkland-alert/2021/09/sec-climate-change-disclosures> (substantiating the outside pressure felt by the SEC with an example of a 100-plus page petition filed in 2007 by the California Public Employees’ Retirement System, Ceres, the New York State Attorney General, other pensions, NGOs, and government representatives urging the SEC to clarify the disclosure requirements of climate risks for corporations).

237. SEC. & EXCH. COMM’N, COMMISSION GUIDANCE REGARDING DISCLOSURE RELATED TO CLIMATE CHANGE, 21–28 (2010).

238. *Id.*

239. *Id.*

240. See *Considerations for Climate Change Disclosures in SEC Reports*, GIBSON DUNN LLP. (Mar. 1, 2021) <https://www.gibsondunn.com/considerations-for-climate-change-disclosures-in-sec-reports/> (The number is from Gibson Dunn LLP, and they obtained the number based on an “intelligized” search of S&P 500 companies’ Forms 10-K filed between February 1, 2009 and February 1, 2010 (82 filings) compared to February 2, 2010 to February 1, 2011 (167 filings)).

241. See *Ceres Welcomes SEC’s New Landmark Climate Disclosure Rule Proposal*, CERES (Mar. 21, 2022) <https://www.ceres.org/news-center/press-releases/ceres-welcomes-secs-new-landmark-climate-disclosure-rule-proposal> (commenting on their 2020 report, *Addressing Climate as a Systemic Risk: A call to action for U.S. financial regulators*, outlining the systemic risks of climate change and calling on the SEC to mandate climate risk disclosure, among some 50 other regulatory action steps for federal financial regulators to take. Investors with more than \$1 trillion in assets under management endorsed the report and sent letters to the heads of various financial regulatory agencies, urging them to adopt the recommendations. In public comments to the SEC, 65% of investors called for GHG emissions reporting of Scopes 1, 2 and 3 (the GHG Protocol categorizes direct and indirect emissions into three broad scopes: Scope 1: All direct GHG emissions. Scope 2: Indirect GHG emissions from consumption of purchased electricity, heat, or steam. Scope 3: Other indirect emissions, such as purchased goods and services).

2010 Climate Guidance.<sup>242</sup> Here, the U.S. SEC proposed a set of mandatory rules to require registrants to disclose information about: the climate-related risks that they face; the governance and management process of dealing with these risks and their related material impacts; and carbon emission associated with their business activities.<sup>243</sup> These proposed rules aimed to “provide investors with consistent, comparable, and decision-useful information for making investment decisions.”<sup>244</sup> Furthermore, these rules aimed to provide a tool for stakeholders to hold companies’ voluntary commitments to the ground, such as their carbon emission reduction goals and net-zero targets.<sup>245</sup>

The development of climate risk disclosure under the SEC rules shows that a voluntary approach serves as a great tool to introduce new subjects to companies and obtain their attention. Once voluntary measures become common practice among companies, regulating them would be less challenging. This example also indicates that environmental disclosure under the U.S. SEC regulations is primarily from the perspective of protecting investors’ short- and long-term interests under the materiality principle. This principle presumes that investors, as one of the stakeholder groups, have the capacity to help shape a company’s efforts on environmental sustainability.

The materiality principle is also applied in corporate information disclosure in China. Article 12 of the Measures for the Administration of Information Disclosure by Listed Companies (2021 Revision) sets a standard that “any information which may have a material effect on investors making value judgments and investment decisions shall be disclosed.”<sup>246</sup> On top of the standard, publicly listed companies shall “ensure the authenticity, accuracy, and completeness of the information disclosed and fair and timely information disclosure.”<sup>247</sup> Under these principles’ guidance, the China Securities Regulatory Commission (CSRC) develops specific rules that require listed companies to disclose corporate information.<sup>248</sup> Besides, as the

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242. See The Conference Board, *Report: Stark Gap in Climate Disclosures Exists Between Large & Small Public Companies*, PR NEWSWIRE (Jan. 20, 2022, 11:00 ET)

<https://www.prnewswire.com/news-releases/report-stark-gap-in-climate-disclosures-exists-between-large--small-public-companies-301465038.html> (indicating that in 2022, 71% of S&P 500 companies “disclose GHG emissions in their annual reports, sustainability reports, or company websites[.]”).

243. Press Release, *SEC Proposes Rules to Enhance and Standardize Climate-Related Disclosures for Investors*, U.S. SEC. & EXCH. COMM’N (Mar. 21, 2022), <https://www.sec.gov/news/press-release/2022-46>.

244. *Id.*

245. See American Sustainable Business Network, *SEC’s Director Renee Jones on Climate-Related Disclosures for Investors*, YOUTUBE (Apr. 14, 2022), <https://youtu.be/ya1MRDdNIUo> (The U.S. SEC’s Director Renee Jones also mentioned this important function in a webinar related to the set of proposed rules.).

246. CHINA SEC. REGUL. COMM’N, *Measures for the Administration of Information Disclosure by Listed Companies (2021 Revision)*, Article 12 (Mar. 18, 2021).

247. *Id.* at Article 4.

248. *Id.* at Article 11.

Chinese government focuses on green growth,<sup>249</sup> the Ministry of Ecology and Environment and the Shenzhen and Shanghai Stock Exchanges have issued laws and guidelines for corporate environmental disclosure that overlap with the environmental aspect of CSR disclosure as discussed in Part 1.3.<sup>250</sup>

Through looking at over a decade's worth of legal development for publicly listed companies' environmental disclosures, Huang and Yue summarized three features: (1) the legislators have stressed the environmental factors from the perspective that could affect investment risks and stock price under the CSR concept; (2) companies' disclosure obligations have been changed from mandatory requirements for a few specific topics to combining voluntary and compliance disclosure with expanding the mandatory requirements' scope; and (3) environmental disclosure was deemed as one procedural step when a company is listed, refinanced, or involved with major environmental events, and now is regulated as an essential requirement that listed companies must develop reports regularly to disclose such information systematically.<sup>251</sup>

The second feature highlights the interrelation between voluntary and mandatory corporate environmental information disclosure. China's current corporate environmental disclosure scheme, on one hand, requires all pollutant-intensive companies to disclose major environmental information, which is primarily about pollution control and management. On the other hand, the scheme encourages companies to share information that is relevant to ecosystem protection, anti-pollution, and corporate environmental responsibilities.<sup>252</sup> Under this scheme, voluntarily made corporate environmental commitments could be within the regulated scope if they are made by high-pollutant companies or if the subject of the commitment falls under the mandatory bracket.

Under this second feature, new subjects have been added to voluntary disclosure over the years that advocate for companies to submit more

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249. Jianqiang Liu, *Analysis: Nine Key Moments that Changed China's Mind About Climate Change*, CARBON BRIEF (Oct. 25, 2021), <https://www.carbonbrief.org/analysis-nine-key-moments-that-changed-chinas-mind-about-climate-change/> (President Xi came up with the assertion of "lucid waters and lush mountains are invaluable assets" in 2005, which has laid a foundation of the philosophy for Chinese green development. The 18th National Congress of the Chinese Communist Party held in 2012 included ecological development as a major task in the country's overall plan and proposed building a "beautiful China" as a grand goal for ecological progress.).

250. *Infra* Part 1.3.

251. Huang Tao & Yue Qingyue, *Research on the Rules of Environmental Information Disclosure of Listed Companies in China—From the Perspective of the Legalization of Corporate Social Responsibility*, 2 J. LEG. SCI. 120, 120 (2017).

252. See CHINA SEC. REGUL. COMM'N, *Letter on the Reply to Proposal No. 2413 (Finance, Taxation and Finance No. 283) of the Fourth Session of the Thirteenth National Committee of the Chinese People's Political Consultative Conference* (Jul. 30, 2021), <http://www.csrc.gov.cn/csrc/c101800/c1920691/content.shtml> (summarizing China's current framework for environmental information disclosure).

company information to the public.<sup>253</sup> Meanwhile, some previous voluntarily disclosed subjects have been added to the mandatory scope. For example, carbon emissions disclosures have been viewed as a voluntary topic under corporate sustainability in the Corporate Information Disclosure and Format for Listed Companies (2017 version) issued by the CSRC.<sup>254</sup> A year after the issuance of the new format, about 38.9% of the top 300 stocks traded on the Shenzhen Stock Exchange and the Shanghai Stock Exchange disclosed carbon emissions in their 2018 annual reports.<sup>255</sup>

In February 2022, with the Administrative Measures for the Disclosure of Corporate Environmental Information (Measures) in effect, corporate carbon emissions became a requirement for corporate information disclosure.<sup>256</sup> These Measures developed by the Ministry of Ecology and Environment clearly require all companies, including publicly listed companies, to disclose carbon emissions—including the quantity and emitting facilities in their annual reports.<sup>257</sup> Companies included in the national carbon trading schemes must reveal information about annual carbon emissions, calculation methods, and trading allowance usages.<sup>258</sup> Furthermore, these Measures also ask publicly listed companies to disclose the steps they have taken to tackle climate and environmental protection regarding their financial investments, but the Measures do not specify the details of such required information.<sup>259</sup> Almost at the same time, the CSRC stated that it plans to develop specific rules for companies to share information about their carbon emissions in the near future.<sup>260</sup> With these laws in place, the public (including investors) is able to monitor the progress

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253. SYNTAO GREEN FINANCE, ESG DATA IN CHINA: RECOMMENDATIONS FOR PRIMARY ESG INDICATORS 19 (2021).

254. *Measures for the Administration of Disclosure of Enterprise Environmental Information in Accordance with the Law*, MINISTRY OF ECOLOGY & ENV'T CHINA (Dec. 11, 2021), [https://www.mee.gov.cn/xxgk2018/xxgk/xxgk02/202112/t20211221\\_964837.html](https://www.mee.gov.cn/xxgk2018/xxgk/xxgk02/202112/t20211221_964837.html)

255. *Notice on Printing and Distributing the "Form Guidelines for Legal Disclosure of Enterprise Environmental Information"*, GEN. OFF. MINISTRY OF ECOLOGY & ENV'T CHINA (Jan. 4, 2022), [https://www.mee.gov.cn/xxgk2018/xxgk/xxgk05/202201/t20220110\\_966488.html](https://www.mee.gov.cn/xxgk2018/xxgk/xxgk05/202201/t20220110_966488.html).

256. See the Ministry of Ecology and Environment, *Qiye Huanjingxinxi Yifapilu Guanlibanfa* (企业环境信息依法披露管理办法) [The Measures on the Management of Mandatory Corporate Environmental Information Disclosure], 部令第24号, Article 12, December 21, 2021, Chinese version available at [https://www.mee.gov.cn/xxgk2018/xxgk/xxgk02/202112/t20211221\\_964837.html](https://www.mee.gov.cn/xxgk2018/xxgk/xxgk02/202112/t20211221_964837.html)

257. *Id.*

258. See the Ministry of Ecology and Environment, *Qiye Huanjingxinxi Yifapilu Geshizhunze* (企业环境信息依法披露格式准则) [The Standards for the Format of Mandatory Corporate Environmental Information Disclosure], 环办综合 [2021] 32号, Article 19, December 31, 2021, Chinese version available at [https://www.mee.gov.cn/xxgk2018/xxgk/xxgk05/202201/t20220110\\_966488.html](https://www.mee.gov.cn/xxgk2018/xxgk/xxgk05/202201/t20220110_966488.html)

259. See *id.* at Article 15.

260. See CHINA SEC. REGUL. COMM'N, *supra* note 252 (outlining the CSRC's plans to regulate emissions disclosures).

of publicly listed companies' voluntary commitments related to carbon emission reduction.

Overall, existing laws in China and the U.S. have the capacity to hold publicly listed companies' corporate environmental commitments accountable through information disclosure under certain conditions. However, the ultimate nature of corporate environmental disclosure remains centered around investors' interests in practices of security exchange.<sup>261</sup> If some corporate environmental commitments are not relevant to investors' concerns but are essential to public interests, legislation should allow a country's department of environmental protection (which represents public interests) and security exchange commission (which represents investors' interests) to seamlessly connect—so the two departments are able to resolve this gray area together.

#### *4.4 Corporate Environmental Claims and Greenwashing*

The possibility of “greenwashing” is a highly criticized aspect of unilateral corporate commitments. The term greenwashing was first coined in 1986 by prominent environmentalist Jay Westerveld in an essay in which he claimed that the hotel industry falsely promoted the reuse of towels as part of a broader environmental strategy, when, in fact, the act was designed as a cost-saving measure; the irony is that hotels were creating bigger environmental impacts by wasting natural resources in varying ways.<sup>262</sup> Over the years, despite growing interest from academics and professionals, there is no generally accepted definition of greenwashing in the current literature.<sup>263</sup> Currently, the term is used to refer to “a divergence” between companies' claims in their communications on environmental or other CSR issues and the reality that these claims are not followed or supported.<sup>264</sup>

The cause of greenwashing lies in the fact that companies “take advantage of the natural information asymmetry” between the signaler (companies) and the receiver (external stakeholders such as consumers and investors).<sup>265</sup> Greenwashing can damage the benefits of corporate

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261. See TAO & QINGYUE, *supra* note 251.

262. ENCYCLOPEDIA OF CORPORATE SOCIAL RESPONSIBILITY (Samuel O. Idowu et al., 2013 ed., 2013); Jim Motavalli, *A History of Greenwashing: How Dirty Towels Impacted the Green Movement*, YAHOO! LIFE, (Feb. 12, 2011, 3:00PM), <https://www.yahoo.com/lifestyle/2011-02-12-the-history-of-greenwashing-how-dirty-towels-impacted-the-green.html>.

263. See e.g., Riccardo Torelli et al., *Greenwashing and Environmental Communication: Effects on Stakeholders' Perceptions*, BUS. STRATEGY AND ENV'T 2020, at 1, 1. <https://doi.org/10.1002/bse.2373> (noting that greenwashing generally refers to misleading communications that give stakeholders overly positive beliefs about a company's environmental practices).

264. Lucia Gatti et al., *Gray Zone in – Greenwash out. A Review of Greenwashing Research and Implications for the Voluntary-Mandatory Transition of CSR*, INT'L J. CORP. SOC. RESP., 2019, at 1.

265. See Torelli et al., *supra* note 263, at 4.

commitments and poses a negative influence on consumer confidence in companies' claims and green products.

Previous research fleshed out a different taxonomy of greenwashing and the effects of such misleading communications. D.T. de Jong et al. characterized the types of greenwashing as "behavioral-claim greenwashing" (a discrepancy between environmental claims and environmental behavior) and "motive greenwashing" (a discrepancy between communicated and real motives for environmentally friendly behavior).<sup>266</sup> The Jong research also differentiated the severity of behavioral-claim greenwashing "between organizations that told the truth, those that told half-lies, and those that lied," and distinguished motive greenwashing "between organizations that acted green on their own initiative and those that took credit for complying with legal environmental obligations."<sup>267</sup> D.T. de Jong et al. found that consumers react negatively to organizations that lie and half-lie regarding their environmental claims, compared to true green behavior; while companies taking credit for following legal obligations had no distinguishable effect on consumer attitudes.<sup>268</sup> This shows that companies that are not honest about their environmental commitments face the risk of losing their external stakeholders' trust. Particularly, the Torelli et al. research shows that, when greenwashing is discovered in companies that operate in an environmentally sensitive industry, stakeholders' reactions are stronger.<sup>269</sup>

To reduce greenwashing, information disclosure remains key. The bar that legislation has set for disclosing information can be different depending on the type of interests and the extent stakeholders need to be protected. For example, the information disclosure requirements for publicly listed companies are designed to guard investors' interests, as discussed in Part 4.3.<sup>270</sup> Meanwhile, requirements can be developed from the perspective of educating and safeguarding the public's and other stakeholders' interests, such as information disclosure related to marketing and advertising.

In the U.S., at the federal level, a couple of laws and guidelines tackle greenwashing marketing by requiring all types of companies to use certain words or to disclose certain information in a responsible way, otherwise, such voluntary initiatives could trigger legal compliance actions.

The U.S. Federal Trade Commission (FTC) is authorized to enforce laws that protect consumers from false advertising.<sup>271</sup> The FTC issued Green

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266. Menno D. T. de Jong et al., *Different Shades of Greenwashing: Consumers' Reactions to Environmental Lies, Half-Lies, and Organizations Taking Credit for Following Legal Obligations*, 34 J. BUS. & TECH. COMM. 38, 40 (2020).

267. *Id.* at 40–41.

268. *Id.* at 39.

269. See Riccardo Torelli et al., *supra* note 263, at 15.

270. *Supra* notes 241–245, and accompanying text.

271. See 15 U.S.C. § 54.



Guides in 1992 and revised them in 1996, 1998, and 2012.<sup>272</sup> Note that the Green Guides are not a set of rules or regulations; instead, they are a description of the types of environmental claims the FTC may or may not find deceptive under Section 5 of the FTC Act.<sup>273</sup> In practice, companies may refer and use these Guides to explore opportunities for elaborating new green claims. The 2012 Green Guides includes new guidance on: (1) use of product certifications and seals of approval; (2) carbon offsets; (3) “free-of” claims; (4) “non-toxic” claims; (5) “made with renewable energy” claims; and (6) “made with renewable materials” claims.<sup>274</sup> Feinstein found that each green marketing law on the state level in some way incorporates the FTC’s Green Guides.<sup>275</sup> Further, some states such as New York and California incorporate the Green Guides within their own specific environmental marketing statutes.<sup>276</sup>

Under the authorization of the Organic Foods Production Act, the U.S. Department of Agriculture (USDA) established the National Organic Program (NOP) to set national standards for the production, handling, and processing of organically grown agricultural products.<sup>277</sup> The NOP contains detailed regulations regarding the meaning and levels of “organic.”<sup>278</sup> Companies can only claim “made with organic” for their products once they meet those requirements.<sup>279</sup> Other than the above, the federal Lanham Act allows civil lawsuits for false advertising that “misrepresents the nature, characteristics, qualities, or geographic origin” of goods or services.<sup>280</sup> Feinstein noted that the U.S. Patent and Trademark Office has “generally treated environmental terms such as ‘organic,’ ‘sustainable,’ and ‘natural’ as potentially deceptive when attributed to products that do not fit the bill,” and would refuse registration of such a mark.<sup>281</sup>

All these legal requirements help improve consumers’ familiarity with certain seals and green claims. As more green claims are on the rise, the requirements enhance consumers ability to identify if a company is doing greenwashing marketing. At the same time, because of these requirements,

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272. GREEN GUIDES, U.S. FED. TRADE COMM’N, <https://www.ftc.gov/news-events/media-resources/truth-advertising/green-guides> (last visited April 7, 2023).

273. FTC ISSUED REVISED “GREEN GUIDES”, FED. TRADE COMM’N (Oct. 1, 2012), <https://www.ftc.gov/news-events/press-releases/2012/10/ftc-issues-revised-green-guides>.

274. *Id.*

275. See Nick Feinstein, Note, *Learning from Past Mistakes: Future Regulations to Prevent Greenwashing*, 40 B.C. ENV’T AFFS. L. REV. 229, 246–47 (2013) (providing examples of state laws mirroring or incorporating the FTC’s Green Guides).

276. *Id.*

277. ORGANIC REGULS., U.S. DEP’T OF AGRIC., <https://www.ams.usda.gov/rules-regulations/organic> (last visited Apr. 22, 2023).

278. 7 U.S.C. §§ 6502–6505.

279. *Id.* at § 6504.

280. 15 U.S.C. § 1125(a).

281. Feinstein, *supra* note 275, at 241.

companies must develop their claims more carefully and communicate relevant information clearly since there is less room for disingenuous corporate claims.

Similarly, China requires products that claim specific environmental related features to disclose certain verification information. To better manage, verify, and evaluate environmentally friendly products and these claims, China has integrated energy- and water-saving, circular, low-carbon, recycled, organic, and other environmentally friendly products as green products since 2016.<sup>282</sup> The State Administration for Market Regulation (a national agency) is responsible for releasing green product logos, standard lists, and verification directories.<sup>283</sup> Only institutions and companies with authorization are able to conduct green product verification.<sup>284</sup> The laws and directories that standardize various green products are published via a national Green Product Platform managed by the State Administration for Market Regulation.<sup>285</sup> The public can enter any green product's certificate number into the system hosted by the platform to verify the product's authenticity and check if the verification institution is valid.

If companies lie to consumers using marketing claims that involve greenwashing they may be held accountable under existing laws such as the Law on the Protection of the Rights and Interests of Consumers (2013 revised),<sup>286</sup> Advertising Law (2021 revised),<sup>287</sup> and Anti-unfair Competition

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282. OFF. STATE COUNCIL, *Opinions of the General Office of the State Council on Developing a Unified Standard, Certification and Identification System of Green Products*, (Dec. 7, 2016), [http://www.gov.cn/zhengce/content/2016-12/07/content\\_5144554.htm](http://www.gov.cn/zhengce/content/2016-12/07/content_5144554.htm).

283. *Id.* § 3.

284. *Id.* § 6.

285. See *China Green Product Verification Information Center*, State Administration for Market Regulation (2020), <http://www.chinagreenproduct.cn/GPIA/front> (demonstrating the assortment of laws and directories for various green products in China published to the platform).

286. Zhonghua Renmin Gongheguo Xiaofeizhe Quanyi Baohufa (中华人民共和国消费者权益保护法) [Law of the People's Republic of China on the Protection of Consumer Rights and Interests (2013 Amendment)], adopted at the 4th Session of the Standing Committee of the Eighth National People's Congress on October 31, 1993; amended for the first time in accordance with the Decision on Amending Some Laws adopted at the 10th Session of the Standing Committee of the Eleventh National People's Congress on August 27, 2009; and amended for the second time in accordance with the Decision on Amending the Law of the People's Republic of China on the Protection of Consumer Rights and Interests adopted at the 5th Session of the Standing Committee of the Twelfth National People's Congress on October 25, 2013.

287. Zhonghua Renmin Gongheguo GuanggaoFa (中华人民共和国广告法) [Advertising Law of the People's Republic of China], Adopted at the 10th Session of the Standing Committee of the Eighth National People's Congress on October 27, 1994, amended for the second time in accordance with the Decision of the Standing Committee of the National People's Congress to Amend Eight Laws including the Road Traffic Safety Law of the People's Republic of China adopted at the 28th Session of the Standing Committee of the Thirteenth National People's Congress of the People's Republic of China on April 29, 2021.

Law (2019 revised).<sup>288</sup> These laws regulate companies' false and misleading advertising from the perspective of sharing information about products or services, and how to properly promote them.<sup>289</sup>

Other than regulations, public media also steps up to educate the public about greenwashing. An influential magazine called the Southern Weekend published a list of greenwashing companies based on their performance on an annual basis since 2010.<sup>290</sup> Editors of the magazine stated how the selected companies were greenwashed with examples and details.<sup>291</sup> Considering that greenwashing is a relatively new term to many Chinese consumers, the list serves as great educational material to show what kind of corporate environmental behavior could lead to false and misleading advertising.

The above elucidates that existing U.S. and Chinese laws and guidelines focus on the quality of products and services information from the perspective of protecting consumers and maintaining a fair environment for companies to compete. When a product or service does not meet the standard of being "environmentally friendly" or "green" as claimed, these laws can be applied. In the U.S., Detterman et al. noted an uptick in: lawsuits related to companies' greenwashing behavior; NGO reports; and consumer protection agency actions alleging that some corporate environmental- or sustainability-related statements are overstated, false, deceptive, or misleading.<sup>292</sup> The types of claims that are more likely to trigger lawsuits include climate change and carbon neutrality, recyclability and compostability, non-toxic, organic, and product origin claims.<sup>293</sup> By comparison, no greenwashing-related

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288. Zhonghua Renmin Gongheguo Fan Buzhengdang Jingzheng Fa (中华人民共和国反不正当竞争法 (2019 修正)) [Anti-Unfair Competition Law of the People's Republic of China (2019 Amendment)], (Adopted at the 3rd Session of the Standing Committee of the Eighth National People's Congress of the People's Republic of China on September 2, 1993, revised at the 30th Session of the Standing Committee of the Twelfth National People's Congress on November 4, 2017, and amended in accordance with the the Decision to Amend Eight Laws Including the Construction Law of the People's Republic of China adopted at the 10th Session of the Standing Committee of the Thirteenth National People's Congress of the People's Republic of China on April 23, 2019).

289. *Id.*

290. Wang Fei (王菲), Tong Tong (童桐), Congxifang Dao Bentu: Qiye "Piaolv" Xingwei de Yujing, Shijian yu Bianjie (从西方到本土: 企业“漂绿”行为的语境、实践与边界) [From the west to the mainland: the context, practice, and boundary of enterprises' greenwashing behavior], Guoji XinwenJie(国际新闻界) [Chinese Journal of Journalism and Communication], page 144–156, No.7, 2020.

291. Southern Weekend's annual Greenwashing List (2010-2017).

292. See Brook J. Detterman et al., *Environmental Marketing Claims: Regulatory and Litigation Outlook*, 11 NAT'L L. REV., no. 224, (Aug. 12, 2021), <https://www.natlawreview.com/article/environmental-marketing-claims-regulatory-and-litigation-outlook> (discussing what type of claims may trigger lawsuits).

293. *Id.*

lawsuits have been filed in China as of August 1, 2022.<sup>294</sup> This is because greenwashing is relatively new to most Chinese consumers and social groups, plus the design of the green product certification scheme does not leave much room for companies to craft green claims like the U.S. laws permit.

#### V. WHAT IS NEEDED: FROM UNILATERAL CORPORATE COMMITMENTS TO FUTURE LEGISLATION

As discussed, CSR contains three layers of sustainability: economic, social, and environmental sustainability. Existing legislation in China and the U.S. only directly regulates certain aspects of CSR. In China, even though companies of all sizes are required to adopt CSR, the law has not provided further details or standards to achieve CSR. While in the U.S., most laws focus on social sustainability. Therefore, driven by corporate leadership's values, financial performance, or various stakeholders, there is a lot of room for companies to interpret environmental sustainability, focus on the environmental subject that matters to them, and make voluntary commitments.

Companies' unilateral commitments have the potential to create regulation for certain practices. Even if the U.S. and China have taken different routes to transition from unilateral corporate commitments to future legislation, this article asserts that there are three essential conditions to this process.

##### 1. First, a common understanding among social actors is the key.

Due to the U.S. and China's unique social structures, environmental movements, and awareness development, the countries represent two different ways to transition voluntary corporate action into law.

In the U.S., driven by business ethics, cost-saving, and stakeholder groups, companies' voluntary activities come first and the legal standard may follow to unify their practices. In this scenario, key social actors, such as the business sector, social organizations, and the majority of the public, have adequate knowledge and share a common understanding of a particular environmental subject. Even if companies organize their own commitments and internal voluntary initiatives, these social actors can actively seek ways to monitor these corporate activities. Such vigorous interactions between different social actors signal a readiness to transition from voluntary action to mandatory. Legislation on the subject can increase efficiency and establish

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294. After checking the database of China Trial, which includes cases tried by courts at all levels in China.

a conduct standard for the business sector. As discussed in Part 4.3, the development trajectory of the SEC carbon emission disclosure rule is one prominent example.<sup>295</sup> Many companies that are already committed to disclosing their carbon emissions, together with investors and social organizations, urged the SEC to regulate this subject.<sup>296</sup>

This scenario does not require all companies in the business sector to take voluntary action as a prerequisite, only some influential companies. These influential companies have lobbied the government to regulate the subject and motivate their competitors and companies from other industries to follow the trend.

Meanwhile in China, when companies' voluntary commitments and related initiatives are absent, legislation comes first with options to allow companies to act on the new subject, and later these "options" may transition to mandatory requirements. In this scenario, the business sector, social organizations, or the public, may not have a fair understanding of a specific environmental topic in the first place because they are in the knowledge-learning stage of the subject. To protect public interests, the government is responsible for advocating and educating the subject to companies and other social actors. Passing laws that contain clauses that encourage voluntary corporate action ensures companies pay attention to the issue, allows companies to learn and understand the subject, and leaves choices to companies to act. Once companies and other social actors gain knowledge and recognize commonly accepted practices such voluntary options may become fully mandatory. The development of corporate environmental information disclosure and CSR in China are examples. They were information that companies could choose to disclose in the previous laws but now become mandatory requirements for certain companies.

The main difference between the U.S. and China routes is whether the society has a shared understanding of a specific subject. Nevertheless, both routes similarly use voluntary action to find common ground among different stakeholders on the subject, laying a foundation for future legislation tackling new trends or improving standards. If we position the three types of motivations (value, performance, and stakeholder-driven) of CSR practices properly in different scenarios,<sup>297</sup> then creating a positive environment to accelerate the development of a common understanding shared among different social actors is possible.

If a society, such as the U.S., has all three types of companies, the first step is to study specific environmental programs from value-driven companies. They can serve as examples to prove making profits in an

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295. *See supra* Part 4.3.

296. *See supra* Part 4.3.

297. *See supra* Section II.

environmentally friendly way is possible. With the positive results from a value-driven group, performance-driven CSR companies would be highly likely to invest in environmental upgrades. Once the trend is picked up by external stakeholders, such as media, customers, and social organizations, these social actors can pressure stakeholder-driven companies to join the movement. These companies are likely to act to remain competitive. During this process, the subject would be exposed to and discussed by different social actors.

In the case of the absence of value- and performance-driven companies, such as in China, the government and investors should step up to urge companies to focus on the subject and take voluntary actions accordingly via incentives and knowledge support. Public media and social organizations should support such government advocacy to educate companies and the public about the matter, which would push more companies to pay attention to the subject.

2. Second, encouraging effective commitments through proper evaluation criteria.

Once a commitment is made, it does not naturally imply a shift in emphasis to implementation and outcomes. Unilateral corporate commitments' advantages and benefits could be undermined if companies did not materialize or greenwash their commitments. Allowing external stakeholders to measure these commitments' authenticity and effectiveness is necessary.

If using a common understanding shared by social actors as an indicator to tell whether the transition from businesses' voluntary actions to law is ready, then evaluating corporate environmental commitments and their support activities by only comparing numbers of voluntary and compliance activities' performance is unreasonable. Instead, the ultimate criteria for measuring voluntary action's effectiveness should be whether it has helped boost the interaction between different social groups on the subject.

Through abstracting the key aspects in the process of commitment development, this article proposes using a set of four indicators to evaluate: company leadership's willingness, commitment's content, stakeholder participation, and the quality of information disclosure. Each indicator can be further examined through two or three sub-indicators. Specific questions can be developed to understand how these sub-indicators can be applied in practice (see Figure 1). The proposed evaluation framework takes different social actors' interactions and mutual impacts into consideration as well. They can measure corporate voluntary commitments' authenticity and effectiveness in different scenarios.

Furthermore, unlike the conventional way that directly compares the solid numbers of voluntary programs and mandatory requirements' performance results, this article's proposed framework has the flexibility to include the information that is difficult to quantify or collect within a relatively short time frame during the evaluation process, such as management structure and company culture.

3. Third, understanding and regulating supporting activities is important.

Supporting activities are behaviors that support companies to commit to authentic and environmentally friendly practices. If these activities can be identified, studied, and regulated, then they would contribute to increasing the authenticity and effectiveness of corporate commitments.

To evaluate the gaps in existing regulated supporting activities,<sup>298</sup> adopting the same proposed evaluation framework for unilateral corporate commitments is necessary since the goal of supporting activities is to encourage companies to implement their voluntary commitments. Using the four indicators as a baseline to examine and compare existing laws that support and monitor unilateral corporate commitments in the U.S. and China, we can see that these laws currently concentrate on some aspects but not others (see Figure 3).

Under the "Company Leadership's Willingness," company culture is reflected in the requirement of developing and disclosing CCEs. This is one way to urge companies to incorporate environmental awareness into their internal rules and let the public supervise if what the company outlined in the CCEs aligns with their behaviors. Meanwhile, publicly listed companies need to provide information on their company structures, which could reveal how companies develop and manage their environmental-related agendas.

"Content of The Environmental Commitments" proposes that existing legal requirements of directors' fiduciary duties, publicly listed companies' information disclosure, and corporate claims can prompt companies to explore and develop voluntary commitments to different environmental issues. Although, not all the laws discussed in Section IV require companies to establish and disclose metrics to measure self-made commitments' progress.<sup>299</sup>

The "Quality of Information Disclosure" indicator is reflected in the laws of corporate claims, anti-greenwashing, and publicly listed companies' corporate information. Legislators in both countries have primarily focused

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298. *See supra* Section IV.

299. *Id.*

on publicly listed companies.<sup>300</sup> However, the information the government requires these companies to disclose is related to the stages of corporate commitment implementation and monitoring, but information related to the design stage is seldom seen.

Meanwhile, no existing laws explicitly require any stakeholder participation in companies' commitment development process. Legislators in the U.S. and China should give attention to the indicator of "Stakeholder Engagement." Issues related to stakeholder participation include, but are not limited to: whether stakeholder participation should be included in the company's operating agreements, what issues and stage stakeholders have to participate to voice their opinions, what accounts for valid stakeholder engagement, whether and under what conditions that company leadership can bypass the results from stakeholder engagement, etc.

In conclusion, unilateral corporate commitments have the potential to transition companies' voluntary action to future legislation if we can utilize companies to promote a shared social understanding, properly measure corporate commitments' effectiveness and authenticity, and regulate behaviors that can push companies to implement their commitments.

Figure 3

Proposed Metrics & Existing Laws	Corporate Code of Ethics ("CCE")	Directors' Fiduciary Duties	Disclosure Requirements for Publicly Listed Companies	Corporate Claims & Anti-Greenwashing
The Willingness of the Company Leadership				
<b>Company Culture</b>	U.S.: public companies are required to develop and disclose CCEs. Environmental goals (together with other CSR commitments) built in.  China: released guidelines to help companies develop CCEs.  U.S. & China: companies use legal	N/A	N/A	N/A

300. See discussion *infra* Parts 4.3, 4.4.



	requirements as a baseline for CCEs.			
<b>Company Structure</b>	N/A	N/A	U.S. SEC: company leadership's structure.  China SRC: publicly listed and unlisted companies' management structure.	N/A
The Content of The Environmental Commitments				
<b>Commitment Topics</b>	See "Company Culture"	U.S. & China: the nature of fiduciary duties can embrace new situations and thus prompt directors to be alert. Incorporating climate risks and ESG are two recent examples.  The U.S. has lawsuits against directors and managers related to climate risks, but China does not.	U.S. SEC: 1. requires companies to disclose their corporate material impacts, voluntary commitments would be included if they are associated with material impacts. 2. climate risks and GHG emissions (the newly proposed disclosure rule)  China SRC: focuses on pollutant-intensive companies, encourages other companies to share their commitments and progress.	U.S. & China: products and services need to meet certain standards to use certain words such as "environmentally friendly" and "green." The number of greenwashing related lawsuits has increased in the U.S., but no such cases have been filed in China yet.
<b>Metrics for Progress Check-in</b>	N/A	U.S. & China: not clear, depending on companies' interpretations.		N/A
Stakeholder Engagement				

<b>Opportunities for Stakeholder Participation</b>	N/A	N/A	N/A	N/A
Quality of Information Disclosure				
<b>Reporting Standard</b>	N/A	N/A	U.S. & China: both countries' security exchange commissions have specific reporting requirements on content and format.  Companies can choose to use voluntary standards to disclose extra information.	U.S. & China: depending on which standard the company is adopting, product/service information could be included.
<b>Reporting Frequency</b>	N/A	N/A	Both countries' listed companies disclose on their annual reports	Such information could be included in companies' CSR reports, which are usually issued once a year.
<b>Third-Party Validation</b>	N/A	N/A	Not mandatory in either country. Companies' CSR or ESG reports seek validation depending on the companies	U.S. & China: certain claims would require a third party to verify.

# CHEMICAL CORALS: THE IMPACTS OF SUNSCREEN ON CORAL REEFS AND A PROPOSAL FOR REGULATION

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*Kristina O’Keefe*

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## INTRODUCTION

Coral reefs are some of the most biodiverse ecosystems on the planet, with an abundance of thriving sea life calling these systems home. These systems play important roles in protecting coastal areas in the event of a storm, providing a biodiverse habitat for marine organisms, and providing

surrounding communities with economic value through tourism.<sup>1</sup> Unfortunately, these uniquely diverse ecosystems are decreasing rapidly due to various factors, including climate change and marine pollution. These factors induce coral bleaching, which causes corals under stress to “expel the symbiotic algae living in their tissues.”<sup>2</sup> The bleaching events that happen to coral systems worldwide increase coral’s susceptibility to disease while also ruining the beautiful aesthetic that these marine habitats provide.<sup>3</sup>

Within the United States, coral reef systems can be found in the waters of Florida, Hawaii, Puerto Rico, and other Pacific and Caribbean Island territories.<sup>4</sup> These systems are also impacted by the global devastation to coral reef health.<sup>5</sup> Stony coral cover in the Caribbean Islands has decreased from 50% to 10% in three decades.<sup>6</sup> The reefs off Florida’s coast have been declining consistently over the past 40 years, and Hawaii’s reefs face a plethora of threats that require an emphasis on mitigating local threats.<sup>7</sup> Each of these reefs has various monitoring and protection systems to uphold the health and beauty of America’s coral reefs.<sup>8</sup> However, protections regarding the harm that sunscreen pollution causes coral reefs are lacking across most of these regions, and this lack can be quite detrimental to the health of coral reefs.

With around 14,000 tons of sunscreen reaching the ocean and absorbed by corals every year, the future of corals depends on the regulation of these chemicals.<sup>9</sup> These coral reefs desperately need protection from the pollution causing their destruction, specifically those from chemical sunscreens. First, this article will provide background on the importance of coral reefs and the

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1. See Mike Mastry, *Coral Reef Protection Under the United States Federal Law: An Overview of the Primary Legislative Means by Which Coral Reef Ecosystems and Their Associated Habitats May Be Protected*, 14 UNIV. BALT. J. ENV’T L. 1, 1–2 (2006) (discussing the benefits of coral reef ecosystems); Ashlyn Boatwright, Comment, *Let the Sunshine In: A Proposal to Ban Chemical Sunscreen*, 36 J. ENV’T L. & LITIG. 267, 268 (2021).

2. *What is Coral Bleaching?*, NAT’L OCEANIC & ATMOSPHERIC ADMIN., [https://oceanservice.noaa.gov/facts/coral\\_bleach.html](https://oceanservice.noaa.gov/facts/coral_bleach.html) (last visited Jan. 20, 2023).

3. Boatwright, *supra* note 1, at 273.

4. Nick Bradford, *US Coral Reefs in a Warming Ocean*, NEEF: NATURE, <https://www.neefusa.org/nature/water/us-coral-reefs-warming-ocean> (last visited May 10, 2023); *America’s Coral Reefs*, EPA, <https://www.epa.gov/coral-reefs/americas-coral-reefs> (last updated Mar. 7, 2023).

5. *Id.*; Bradford, *supra* note 4.

6. EPA, *supra* note 4.

7. *Id.*

8. *Id.*

9. Boatwright, *supra* note 1, at 273; Downs et al., *Toxicopathological Effects of the Sunscreen UV Filter, Oxybenzone (Benzophenone-3), on Coral Planulae and Cultured Primary Cells and Its Environmental Contamination in Hawaii and the U.S. Virgin Islands*, 70 ARCHIVES ENV’T CONTAMINATION & TOXICOLOGY 265, 266 (2016); see also Donovaro et al., *Sunscreens Cause Coral Bleaching by Promoting Viral Infections*, 116 ENV’T L HEALTH PERSPECTIVES 441, 441 (2008) (providing scientific evidence that sunscreens cause coral bleaching).

harmful effects that sunscreen chemicals have on their health, as well as the efforts already under way within the United States and its territories to regulate these chemicals. Next, this article will propose mechanisms for implementing a regulation banning reef-harming chemicals from sunscreen at the federal level through incorporative reference and a historical analysis of sunscreen and water pollution regulation. Finally, this article will analyze the possibility of regulation on the international level through treaty law and customary law, as well as examine Palau's regulation of sunscreen chemicals harmful to coral reefs as an example of successful national policy.

## I. BACKGROUND

### *A. Importance of Reefs and the Impact of Sunscreen on Them*

Coral reef systems are some of the most biodiverse ecosystems on Earth, housing one-fourth of all marine species.<sup>10</sup> These ecosystems provide habitats for over 4,000 fish species,<sup>11</sup> yet only occupy an area about half the size of France.<sup>12</sup> These ecosystems are often referred to as the “rainforests of the sea” due to their slow rates of recovery from damage, which is why protecting them is necessary.<sup>13</sup>

Not only do coral reefs play a vital role in the ocean's function, but they also provide great benefits to humans. Due to the biodiversity and abundance of marine species that coral reefs attract, they provide an important food source,<sup>14</sup> especially considering seafood accounts for one-fifth of human protein consumption.<sup>15</sup> Coral reefs also serve important purposes during weather-related events such as hurricanes.<sup>16</sup> These events often cause rough waters and huge waves, which can erode coastlines, but coral reefs act as buffers and can decelerate the waves, protecting the land from erosion.<sup>17</sup> Recently, coral reefs have also been used by the medical field in pharmaceutical drugs for treatment of HIV and depression.<sup>18</sup> Coral reefs also provide a huge economic value, producing “a \$375 billion industry through

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10. Mastry, *supra* note 1, at 2; Mary Gray Davidson, *Protecting Coral Reefs: The Principle National and International Legal Instruments*, 26 HARV. ENV'T L. REV. 499, 501 (2002).

11. Boatwright, *supra* note 1, at 272.

12. John Misachi, *Where Are Coral Reefs Found?*, WORLDATLAS (Feb. 4, 2021), <https://www.worldatlas.com/articles/where-are-coral-reefs-found.html>.

13. Mastry, *supra* note 1, at 2; Davidson, *supra* note 10, at 500.

14. Boatwright, *supra* note 1, at 271.

15. Davidson, *supra* note 10, at 502.

16. Mastry, *supra* note 1, at 1.

17. Boatwright, *supra* note 1, at 272.

18. Davidson, *supra* note 10, at 502-03.

tourism and fisheries worldwide.”<sup>19</sup> Coral reefs play an important role in the environment and human society, but without protection they may be gone for good.

The decline of coral reefs worldwide is increasing due to impacts from anthropogenic activities.<sup>20</sup> Over 50% of reefs have died since the end of the twenty-first century and “scientists predict that over ninety percent may die this century.”<sup>21</sup> While the cause of coral decline can be attributed to multiple factors, including climate change and overfishing,<sup>22</sup> the impacts from pollution, especially sunscreen, has been a huge trigger for bleaching events and a decline in coral health.<sup>23</sup> Bleaching events are a major cause of coral death, and their occurrence will only become more frequent as human impacts increase.<sup>24</sup>

Sunscreen pollution is one of the causes of coral reef bleaching.<sup>25</sup> Studies found that “[b]ecause human use of tropical ecosystems and coral reef areas is progressively increasing, we predict that the impact of sunscreens on coral bleaching will grow considerably in the future on a global scale.”<sup>26</sup> This prediction is based on the harsh effects that certain chemicals found in chemical sunscreens have on coral reefs. Typical chemical sunscreens can contain upwards of 20 different chemicals and research shows that common sunscreen chemicals such as parabens, cinnamates, benzophenones, and camphor contribute to coral bleaching.<sup>27</sup> One study examined oxybenzone’s effects on coral’s larval stage and found a change in morphological structure, a decline in movement after just four hours of exposure, as well as a decrease in the presence of zooxanthellae, which is typical of a bleaching event.<sup>28</sup> Another study “resulted in the release of large amounts of coral mucous (composed of zooxanthellae and coral tissue) within 18-48 hours, and complete bleaching of hard corals within 96 hours.”<sup>29</sup> Research also finds that some chemicals found in sunscreen amplify the production of viruses in the water, which are then absorbed by the zooxanthellae and cause viral infections that lead to coral bleaching and mortality.<sup>30</sup>

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19. Boatwright, *supra* note 1, at 271; See *Coral Reefs Support Jobs, Tourism, and Fisheries*, FLA. KEYS NAT’L MARINE SANCTUARY, <https://floridakeys.noaa.gov/corals/economy.html> (last visited Apr. 6, 2023) (discussing the importance that coral reefs play in the tourism economy).

20. Davidson, *supra* note 10, at 505.

21. Boatwright, *supra* note 1, at 272.

22. Davidson, *supra* note 10, at 505.

23. Boatwright, *supra* note 1, at 271.

24. NAT’L OCEANIC & ATMOSPHERIC ADMIN., *supra* note 2.

25. Downs, *supra* note 9, at 265.

26. Donovaro, *supra* note 9, at 446.

27. *Id.*

28. Downs, *supra* note 9, at 270.

29. Donovaro, *supra* note 9, at 445.

30. *Id.*

About 25% of applied sunscreen is washed off when swimming in the water, which results in over 4,000 tons of sunscreen washed off in waters containing reef systems per year.<sup>31</sup> From this statistic, an estimated 10% of the world's coral reefs have the potential to be affected by coral bleaching due to chemical sunscreens.<sup>32</sup> Allowing the continued use of these chemicals will only elevate the damage being caused to coral by increasing the rate and intensity of bleaching through exposure.

*B. Current Regulations Within the United States to be Used as Models*

1. Hawaii

In 2018, Hawaii Governor David Ige signed Hawaii Senate Bill 2571 into law.<sup>33</sup> With this bill, Hawaii became the first government to ban the sale or distribution of sunscreen products that included the chemicals oxybenzone and octinoxate.<sup>34</sup> The Hawaiian government stated that this law's purpose is to preserve coral reefs and, more broadly, marine ecosystems in general.<sup>35</sup> The bill, originally introduced in 2017,<sup>36</sup> relied heavily on a 2016 study on coral reefs in Hawaii and the U.S. Virgin Islands.<sup>37</sup> This study observed the effects of oxybenzone on the larval stage of coral and found that increasing concentrations of oxybenzone correlated with an increase in coral bleaching.<sup>38</sup> Results of lab tests concluded that oxybenzone is toxic to seven coral species tested.<sup>39</sup>

Although Hawaii enacted the bill in 2018, the ban of oxybenzone and octinoxate did not go into effect until January 1, 2021.<sup>40</sup> The text of the bill states that "oxybenzone and octinoxate[] have significant harmful impacts on Hawaii's marine environment and residing ecosystems, including coral reefs that protect Hawaii's shoreline."<sup>41</sup> The bill found that these two chemicals kill developing corals and cause stress and bleaching events to corals even

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31. *Id.*

32. *Id.*

33. *Governor Signs Bill First in The World To Ban Certain Sunscreens*, KO OLINA (Jan. 22, 2021), <http://koolina.com/press/hawaii-world-to-ban-certain-sunscreens/>; Will Coldwell, *Hawaii Becomes First US State to Ban Sunscreens Harmful to Coral Reefs*, THE GUARDIAN, (May 3, 2018), <https://www.theguardian.com/travel/2018/may/03/hawaii-becomes-first-us-state-to-ban-sunscreens-harmful-to-coral-reefs>.

34. *Id.*

35. KO OLINA, *supra* note 33.

36. Inga Vesper, *Hawaii Seeks to Ban 'Reef-Unfriendly' Sunscreen*, NATURE (Feb. 3, 2017), <https://www.nature.com/articles/nature.2017.21332>.

37. Downs, *supra* note 9, at 265.

38. *Id.*

39. *Id.*

40. S.B. 2571, 29th Leg. (Haw. 2018).

41. *Id.*

when temperatures do not surpass 87.8 degrees Fahrenheit, amongst other negative impacts.<sup>42</sup> Not only did the legislature find that these chemicals are harmful to Hawaii's coral reefs and marine ecosystems, but also that contamination of these ecosystems with oxybenzone and octinoxate is a persistent issue because the contamination is caused by swimmers and beach visitors.<sup>43</sup> Because of this, the legislature found higher concentrations of these chemicals in the waters at popular beaches and coral reefs across Hawaii.<sup>44</sup>

This bill's enactment did not come without pushback. Many sunscreen manufacturers criticized the bill, stating that it relied on insufficient evidence that oxybenzone and octinoxate were the causes of a decline in coral reef health.<sup>45</sup> The ban is also opposed by some medical specialists,<sup>46</sup> who believe that such a ban will result in a decline in sunscreen use altogether because these chemicals are found in over half the sunscreens on the market today.<sup>47</sup> However, one survey asked beachgoers from four different locations across two Hawaiian Islands about their willingness to switch to sunscreens without octinoxate and oxybenzone.<sup>48</sup> The results showed that 97% of those surveyed were willing to switch to reef-safe alternatives, with 12% of that group asking that the alternatives were clearly labeled, affordable, and provided adequate protection from the sun.<sup>49</sup>

## 2. U.S. Virgin Islands

The U.S. Virgin Islands followed in Hawaii's footsteps by passing a similar bill in June 2019.<sup>50</sup> The passage of this bill made the U.S. Virgin Islands the first American jurisdiction to implement such a ban.<sup>51</sup> Unlike Hawaii, however, the U.S. Virgin Islands banned the chemical octocrylene

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42. *Id.*

43. *Id.*

44. *Id.*

45. Vesper, *supra* note 36.

46. *Hawaii First Place to Ban Toxic Sunscreen*, CAYMAN NEWS SERV. (Oct. 10, 2018), <https://caymannewsservice.com/2018/07/hawaii-first-place-to-ban-toxic-sunscreen/>.

47. Lindsey Bever, *Hawaii Just Banned Your Favorite Sunscreen to Protect its Coral Reefs*, WASH. POST (Jul. 6, 2018), <https://www.washingtonpost.com/news/energy-environment/wp/2018/07/02/hawaii-is-about-to-ban-your-favorite-sunscreen-to-protect-its-coral-reefs/>.

48. ARIELLE LEVINE, SUNSCREEN USE IN HAWAII: AN ASSESSMENT OF BEACH-GOER USE OF SUNSCREEN PRIOR TO IMPLEMENTATION OF THE 2021 CHEMICAL BAN 2, 3 (Sept. 2019), [https://www.kohalacenter.org/docs/reports/Sunscreen\\_ReportSept2019.pdf](https://www.kohalacenter.org/docs/reports/Sunscreen_ReportSept2019.pdf).

49. *Id.* at 16.

50. Mary Forgione, *U.S. Virgin Islands' Ban on Harmful Sunscreens to Go into Effect Jan. 1*, L.A. TIMES (Aug. 28, 2019), <https://www.latimes.com/travel/story/2019-08-27/us-virgin-islands-ban-on-harmful-sunscreens-to-go-into-effect-jan-1>.

51. Heather Gies, *The U.S. Virgin Islands Become the First American Jurisdiction to Ban Common Chemical Sunscreens*, PAC. STANDARD: ENV'T (Jul. 18, 2019), <https://psmag.com/environment/sunscreen-is-corals-biggest-anemone>.



in addition to oxybenzone and octinoxate.<sup>52</sup> This ban went into effect on March 30, 2020, and prohibited “[the] distribution, sale, possession, and use” of sunscreens containing the banned chemicals.<sup>53</sup>

While the health of their coral reefs and marine ecosystems was the driving force behind this legislation, the U.S. Virgin Islands also wanted to ensure that a beautiful destination for tourists remained.<sup>54</sup> Governor Albert Bryan Jr. stated that protecting Caribbean reefs is one way to ensure the implementation of sustainable tourism in these naturally beautiful ecosystems.<sup>55</sup> Coral reefs contribute \$187 million a year to the U.S. Virgin Islands alone.<sup>56</sup> The health and prosperity of the U.S. Virgin Islands is heavily dependent on the health of their coral reefs and marine environment. That is why Senator Janelle K. Sarauw stated that implementing an aggressive ban on environmentally harmful chemicals will lead to “[a] cleaner Virgin Islands, both in the health of its people and spaces. . . .”<sup>57</sup>

### 3. Unsuccessful Efforts

The awareness around the harm that sunscreen causes to coral reefs is clearly growing, with the number of proposals and implementations increasing both nationally and internationally. Unfortunately, there is also increasing opposition to the implementation of such bans.<sup>58</sup> Faced with backlash from senators, dermatologists, and sunscreen companies, some bans were struck down or failed to pass due to the impacts they might have on consumer sunscreen use.<sup>59</sup> Key West is one example of such opposition. In 2019, the City of Key West voted in favor of a bill that would ban the sale of oxybenzone and octinoxate in sunscreen.<sup>60</sup> With the world’s third-largest barrier reef system located off the shores of the Florida Keys, this bill’s passage was an important step for Key West to “take one of the stressors away” that has been negatively impacting coral health.<sup>61</sup> The bill was set to

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52. Forgione, *supra* note 50.

53. S.B. 33-0043, 33rd Leg. (V.I. 2019); Gies, *supra* note 51.

54. Gies, *supra* note 51; Forgione, *supra* note 50.

55. Forgione, *supra* note 50.

56. Gies, *supra* note 51.

57. *Id.*

58. Nancy Klingener, *As Key West Tries to Set Precedents, Tallahassee Lawmakers Say: Not So Fast*, WLRN (Mar. 16, 2021), <https://www.wlrn.org/news/2021-03-16/as-key-west-tries-to-set-precedents-tallahassee-lawmakers-say-not-so-fast>.

59. *Id.*

60. Karen Zraick, *Key West Bans Sunscreen Containing Chemicals Believed to Harm Coral Reefs*, N.Y. TIMES (Feb. 7, 2019), <https://www.nytimes.com/2019/02/07/us/sunscreen-coral-reef-key-west.html>.

61. *Id.*

be implemented in January 2021.<sup>62</sup> However, in direct response to Key West's ban, a bill was introduced in the Senate at the state level that prohibited Key West's sunscreen regulation.<sup>63</sup>

In August 2019, Senator Rob Bradley introduced Senate Bill 172 in response to the bill passed in Key West.<sup>64</sup> This bill preempts the regulation of certain products under the Florida Drug and Cosmetic Act, including sunscreen products.<sup>65</sup> Bradley states that his bill is meant to “encourage [citizens] to use sunscreen, not discourage it.”<sup>66</sup> However, Key West's bill did not ban sunscreen altogether—the bill only banned two harmful chemicals commonly found in sunscreen.<sup>67</sup> Many sunscreens on the market already exclude these two chemicals from their ingredients, leaving consumers viable options for sun protection under the ban.<sup>68</sup> Unfortunately, the bill was approved by Florida Governor Ron DeSantis on June 29, 2020, thus barring Key West from implementing its ban of oxybenzone and octinoxate.<sup>69</sup>

While these efforts to prevent the safeguard of coral reefs from harmful chemicals are discouraging, there is clearly a growing desire for protective legislation across the country. California introduced a bill that would ban the sale of sunscreens containing oxybenzone and octinoxate absent a prescription—with the potential for a \$500 fine.<sup>70</sup> This bill regrettably did not pass, but its introduction still shows the growing support for such legislation.<sup>71</sup> There are efforts to implement oxybenzone and octinoxate bans at local and state levels across the country. A federal ban at the national level would create uniformity among these efforts and help protect coral reefs not only off the United States' shores, but around the world.

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62. Mandy Miles, *Banning Our Ban? – Senator Targets Key West's Sunscreen Ban*, KEYS WKLY: KEY WEST: KEY WEST NEWS (Nov. 7, 2019), <https://keysweekly.com/42/banning-our-ban-senator-targets-key-west-s-sunscreen-ban/>.

63. *Id.*; Klingener, *supra* note 58; Jim Saunders, *DeSantis backs bill that prohibits cities from banning sunscreen*, TAMPA BAY TIMES: FLA. POL. (June 30, 2020), <https://www.tampabay.com/florida-politics/buzz/2020/06/30/desantis-backs-bill-that-prohibits-cities-from-banning-sunscreen/>.

64. Miles, *supra* note 62; Saunders, *supra* note 63; Klingener, *supra* note 58.

65. S.B. 172, 2020 Leg. (Fla. 2020).

66. Miles, *supra* note 62.

67. Klingener, *supra* note 58.

68. *Id.*

69. Saunders, *supra* note 63.

70. A.B. 60, 2019-2020 Leg., Reg. Sess. (Cal. 2019).

71. *Id.*

## II. CHEMICAL SUNSCREEN BAN AT THE FEDERAL LEVEL IN THE UNITED STATES

### *A. Incorporative Reference*

Having established the environmental harms to which chemical sunscreens contribute, implementation of a federal ban of these toxic substances would be a step in the right direction to safeguard reef ecosystems that provide the United States with a plethora of benefits. Implementation of a federal ban of octinoxate and oxybenzone may be as simple as drafting legislation through incorporative reference. Seeing as there are multiple bans on reef-harming chemicals in sunscreens across multiple U.S. jurisdictions, the federal government could enact a new piece of legislation or amend an existing piece of legislation by referencing those already implemented.<sup>72</sup> This practice is known as incorporative reference, which occurs when a piece of legislation references either part or all of another piece of legislation.<sup>73</sup> Drafting legislation in this manner is a valid way to create law and is used at all levels of government, including the federal government's adoption of state law into federal statutes.<sup>74</sup>

The federal government could reference the Hawaii and U.S. Virgin Islands bills into a federal statute by incorporating part or all of these jurisdictions' laws. Preemption is often an issue for many environmental laws at the state and local level,<sup>75</sup> as evidenced by the prohibition on Key West's ability to implement their city ordinance.<sup>76</sup> Drafting federal laws through incorporation—by referencing the Hawaii or U.S. Virgin Islands bans, for example—would help to clear up the complexities that occur with differing laws at lower levels of government, as well as to avoid preemption. One uniform federal law banning oxybenzone and octinoxate would be an effective solution to protect coral reefs from chemical harm. Incorporative reference is one tool that the United States could use, looking to Hawaii and the U.S. Virgin Islands as models, to implement such a ban at the federal level.

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72. 73 AM. JUR. 2D *Statutes* §15 (2023); SUTHERLAND § 51:7; F. Scott Boyd, *Looking Glass Law: Legislation by Reference in the States*, 68 LA. L. REV. 1201, 1210 (2008).

73. *Id.* at 1210.

74. *Id.*

75. See Robert L. Glickman & Richard E. Levy, *A Collective Action Perspective on Ceiling Preemption by Federal Environmental Regulation: The Case of Global Climate Change*, 102 NW. U. L. REV. 579, 582 (2008) (opining that some state and local entities have adopted environmental protection regulations only to encounter federal obstructions). See generally Jonathan H. Adler, *When is Two a Crowd? The Impact of Federal Action on State Environmental Regulation*, 31 HARV. ENV'T L. REV. 67 (2007) (discussing the role of preemption in environmental laws).

76. *Supra* Part I(B)(3).

*B. Ban of Octinoxate and Oxybenzone Under the Federal Food, Drug, and Cosmetic Act*

1. Sunscreen Regulation

The federal government could also turn to legislation already in effect to ban these substances. The U.S. Food and Drug Administration (FDA) regulates the ingredients in sunscreen.<sup>77</sup> The Food, Drug, and Cosmetics Act (FDCA) gives the FDA authority to regulate sunscreen that contains “certain ingredients or color additives that have been deemed dangerous by the FDA.”<sup>78</sup> However, the line between what is considered a cosmetic and what is considered a drug is very thin.

Under the FDCA, drugs are “articles (other than food) intended to affect the structure or any function of the body of man or other animals.”<sup>79</sup> Cosmetics are classified as “articles intended to be rubbed, poured, sprinkled, or sprayed on, introduced into, or otherwise applied to the human body or any part thereof for cleansing, beautifying, promoting attractiveness, or altering the appearance.”<sup>80</sup> Sunscreen, along with any cosmetics that contain sunscreen, are considered over-the-counter drugs under the FDCA, and are regulated as such, because they protect and prevent skin damage from exposure to the sun.<sup>81</sup> This means that sunscreens are regulated more strictly than they would be if they fell under the category of cosmetics.<sup>82</sup> The FDA only has the authority under the FDCA to control cosmetic products after they have hit the market, and regulation is based only on the information on these products that the cosmetic companies voluntarily provide.<sup>83</sup> In contrast, the FDA has the authority to control and regulate a drug “at any time if it deems the drug poses a ‘hazard to public health.’”<sup>84</sup>

With sunscreen categorized under a stricter set of regulations within the FDCA, the FDA clearly has the authority to ban toxic ingredients used in sunscreen. However, the process for regulating over-the-counter drugs moves a lot slower than for other forms of drugs, such as prescription drugs, which limits the FDA’s approach in approving new sunscreen products.<sup>85</sup>

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77. See Emily Davidson, *Time for Reapplication: A Review of FDA Sunscreen Regulation & Why it Needs an Update*, 20 U. PITT. J. TECH. L. & POL’Y 212, 212-13 (2019-2020) (discussing the ways in which the FDA has regulated sunscreen).

78. Amity Hartman, *FDA’s Minimal Regulation of Cosmetics, and the Daring Claims of Cosmetic Companies that Cause Consumers Economic Harm*, 36 W. ST. U. L. REV. 53, 54 (2008).

79. *Id.* at 56.

80. *Id.* at 57.

81. *Id.* at 56; Davidson *supra* note 77, at 213–214.

82. Hartman, *supra* note 78, at 59.

83. *Id.*

84. *Id.*

85. Davidson, *supra* note 77, at 216-17.

The process through which sunscreens are regulated differs from that used for prescription drugs because the process used to regulate sunscreen is designed for products categorized as having minimal risk.<sup>86</sup> This process does not allow for timely review and approval for new sunscreen formulas and products, as outlined through the extensive process within 21 U.S.C. § 360fff-1, 2, 3,<sup>87</sup> which can lead to negative impacts to human health and the environment.<sup>88</sup>

Under 21 U.S.C. § 360fff, the Secretary of Health and Human Services may determine whether an ingredient or combination of ingredients used in sunscreens is recognized by qualified experts as safe for use.<sup>89</sup> This authorizes the Secretary of Health and Human Services to deem octinoxate and oxybenzone unqualified to meet the standards for safe usage.<sup>90</sup> These substances would not be eligible for approval because they are not GRASE (“generally recognized, among experts qualified by scientific training and experience to evaluate the safety and effectiveness of drugs, as safe and effective for use under the conditions prescribed, recommended, or suggested in the labeling of a drug”).<sup>91</sup>

Although both oxybenzone and octinoxate are FDA-approved, allowing them to be commonly used in sunscreen formulas throughout the U.S.,<sup>92</sup> many other agencies within the U.S. have warned against the use of these two ingredients. As part of a presentation by the Institute for Environmental Solutions, the Environmental Protection Agency (EPA) classified oxybenzone as a “contaminant of emerging concern.”<sup>93</sup> EPA found that oxybenzone can disrupt the endocrine system in corals and suggested using alternatives such as physical sunscreens or protective clothing.<sup>94</sup> The National Oceanic and Atmospheric Administration (NOAA) also warns about some of the dangers of chemicals in sunscreen.<sup>95</sup> NOAA provides a list of eight chemicals, including octinoxate and oxybenzone, that it says “can induce bleaching, damage DNA, deform young, and even kill” corals.<sup>96</sup> And

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86. *Id.* at 216.

87. 21 U.S.C. §§ 360fff-1, 2, 3.

88. Davidson, *supra* note 77, at 215.

89. *See* 21 U.S.C. § 360fff (discussing the Secretary of Health and Human Services’s role in determining whether ingredients found in nonprescription sunscreen are safe or not).

90. *Id.* at § 360fff-2-7.

91. *Id.* at § 360fff-3.

92. Davidson, *supra* note 77, at 215.

93. Lyons et al., *Reducing Chemical Footprints to Prevent Water Pollution and Improve Human and Environmental Health*, INST. FOR ENV’T SOLUTIONS, 1, 4 (Nov. 19, 2019), [https://www.epa.gov/sites/default/files/2020-04/documents/ies\\_presentation\\_for\\_spruwp\\_11-19-19\\_1.pdf](https://www.epa.gov/sites/default/files/2020-04/documents/ies_presentation_for_spruwp_11-19-19_1.pdf).

94. *Id.* at 6.

95. *Skincare Chemicals and Coral Reefs*, NAT’L OCEANIC & ATMOSPHERIC ADMIN., <https://oceanservice.noaa.gov/news/sunscreen-coral.html> (last updated Aug. 17, 2022).

96. *Id.*

the Center for Disease Control (CDC) states that, due to the harmful environmental impacts of sunscreens with chemicals such as octinoxate and oxybenzone, people may want to use inorganic sunscreens.<sup>97</sup> These sunscreens usually contain chemicals like titanium dioxide and zinc oxide instead of the more harmful octinoxate and oxybenzone.<sup>98</sup> These warnings from various agency experts undermine the prior consensus that it is safe to include these substances in sunscreen; therefore, it seems implausible for oxybenzone and octinoxate usage to be considered safe.

The concern over the use of sunscreens that contain octinoxate and oxybenzone is widespread, with multiple government agencies warning about their use and effects. Why then has nothing been done to further regulate the use of these chemicals within sunscreens? The FDA's failure to restrict the use of oxybenzone and octinoxate under the FDCA only allows the harm done by these chemicals to continue.

## 2. Microbead-Free Waters Act of 2015

A model for regulating environmentally harmful substances in products under the FDCA is the Microbead-Free Waters Act of 2015. This act bans the use of microbeads, defined by the act as “any solid plastic particle that is less than five millimeters in size and is intended to be used to exfoliate or cleanse the human body or any part thereof,” in products that are typically rinsed off.<sup>99</sup> Congress drafted this act in response to growing public concern over microplastics pollution in U.S. waterways and the ocean.<sup>100</sup>

Like sunscreen, microbeads have been shown to pose a danger to the health of marine ecosystems.<sup>101</sup> A microbead is a form of microplastic typically ranging from particles less than five millimeters in diameter to particles less than one millimeter in diameter.<sup>102</sup> Microbeads are made up of polyethylene, but they have the capability to absorb substances such as PCB, oils, and pesticides—which increases their environmental hazard.<sup>103</sup> Also like sunscreen, once these microbeads reach wetlands or marine ecosystems,

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97. Karolyn Wanat & Scott Norton, *Sun Exposure*, CDC YELLOWBOOK 2020: HEALTH INFORMATION FOR INTERNATIONAL TRAVEL (2020), <https://wwwnc.cdc.gov/travel/yellowbook/2020/noninfectious-health-risks/sun-exposure>.

98. Davidson, *supra* note 77, at 215.

99. 21 U.S.C. § 331(ddd)(2)(A).

100. David A. Strifling, *The Microbead-Free Waters Act of 2015: Model for Future Environmental Legislation, or Black Swan?*, 32 J. LAND USE & ENV'T L. 151, 156-57 (2016).

101. John Schwartz, *Ban on Microbeads Proves Easy to Pass Through Pipeline*, N.Y. TIMES: SCIENCE (Dec. 22, 2015), <https://www.nytimes.com/2015/12/23/science/ban-on-microbeads-proves-easy-topass-through-pipeline.html>; Strifling, *supra* note 100, at 153-54.

102. *Id.* at 154.

103. *Id.*

it is extremely difficult to remove them,<sup>104</sup> which is why their regulation is necessary.

The use of microbeads significantly rose in popularity in the 1990s when companies discovered the less expensive alternative to natural exfoliants.<sup>105</sup> The most common products that contain microbeads include shower gels, face washes, and toothpastes.<sup>106</sup> These products are also some of the most commonly used consumer cosmetic products that get washed down the drain.<sup>107</sup> Researchers estimate that around 11 billion microbeads make their way into waterways in the U.S. every day.<sup>108</sup> This is because microbeads that get washed down the drain make their way to water treatment facilities where, due to their size, they fall through filtration systems and make their way into water systems.<sup>109</sup> Until recently, microbeads were largely unregulated because they are not toxic until they are released into the environment.<sup>110</sup> Microbeads are a threat to the food chain because, due to their resemblance to food, marine animals consume them and absorb their toxins.<sup>111</sup>

Preceding the passage of the Microbead-Free Waters Act, many state and local governments took action to regulate the use of microbeads and prevent their release into waterways.<sup>112</sup> By 2015, at least 10 states enacted statewide microbead legislation, and more bills are pending.<sup>113</sup> This parallels the U.S.'s current situation with sunscreen legislation. State and territorial action on the issue of sunscreen pollution has preceded any federal action, with bans passed in Hawaii and the U.S. Virgin Islands and introduced in other jurisdictions, such as California and Hawaii.<sup>114</sup> The growing popularity of microbead bans heavily contributed to the enactment of the Microbead-Free Waters Act.<sup>115</sup> Thus, the increasing concern and legislative action regarding

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104. Sarah Kettenmann, *Nationwide Ban on Plastic Microbeads in Cosmetics*, 31 NAT. RES. & ENV'T 58, 58 (2016).

105. Strifling, *supra* note 100, at 154.

106. Kettenmann, *supra* note 104, at 58.

107. Strifling, *supra* note 100, at 154.

108. Schwartz, *supra* note 101.

109. *Id.*; Kettenmann, *supra* note 104, at 58.

110. Davis Truslow, *Microbeads and the Toxics Use Reduction Act: Preventing Pollution at Its Source*, 44 B.C. ENV'T AFF. L. REV. 149, 151 (2017).

111. Strifling, *supra* note 100, at 155-56.

112. *Id.* at 157-58.

113. Doug Farquhar, *States Continue Moves to Ban Microbeads*, NAT'L CONF. OF STATE LEGISLATURES, <https://www.ncsl.org/blog/2015/10/14/states-continue-moves-to-ban-microbeads.aspx>.

114. *See, e.g.*, S.B. 2571, 29th Leg. (Haw. 2018) (prohibiting the sale of sunscreen containing oxybenzone and octinoxate); S.B. 33-0043, 33d Leg. (V.I. 2019) (banning the sale of oxybenzone and octinoxate in the Virgin Islands unless prescribed by a healthcare provider); Assemb. B. 60, 2019-2020 Leg. (Cal. 2019) (prohibiting the sale of any sunscreen containing oxybenzone or octinoxate without a prescription).

115. *See* MARINE DEBRIS PROGRAM, *The President Signs a National Microbead Ban*, NOAA (Dec. 30, 2015), <https://blog.marinedebris.noaa.gov/president-signs-national-microbead-ban> (explaining that 47 microbead bills were introduced nationwide in 2015); Kettenmann, *supra* note 104, at 59.

toxic sunscreen ingredients should yield a similar result: a federal ban of oxybenzone and octinoxate.

When Congress enacted the Microbead-Free Waters Act, it prohibited “[t]he manufacture or the introduction or delivery for introduction into interstate commerce of a rinse-off cosmetic that contains intentionally-added plastic microbeads.”<sup>116</sup> This law is applicable to products defined as “cosmetics” and “over-the-counter drugs” under the FDCA.<sup>117</sup> The language in this act, similar to many of the existing sunscreen bans, places the burden of compliance on manufacturers, not consumers.<sup>118</sup> In fact, many companies, such as Unilever, L’Oreal, and Johnson & Johnson, stopped using microbeads in their products to more easily comply with the differing state and local regulations before the act was even implemented.<sup>119</sup> One of the biggest barriers to implementing a ban on these chemicals in sunscreen is that they are found in a number of sunscreens on the market, and therefore a ban could lead to a decrease in sunscreen availability and use.<sup>120</sup> However, the language and impact of the Microbead-Free Waters Act indicate that legislation regulating ingredients in cosmetics and over-the-counter drugs results in companies changing the formulas of their products to comply with the legislation and satisfy consumers.<sup>121</sup>

Both microbeads and reef-toxic sunscreen ingredients have negative impacts on the environmental health of marine environments.<sup>122</sup> The reason for implementing the Microbead-Free Waters Act was based mostly on the environmental impact of microbeads because there is insufficient evidence that microbeads pose a risk to human health.<sup>123</sup> The act amended the FDCA,<sup>124</sup> which gives the FDA the authority to regulate the products included within the FDCA.<sup>125</sup> As stated previously, sunscreen is defined as an over-the-counter drug under the FDCA.<sup>126</sup> Therefore, amending the FDCA to ban oxybenzone and octinoxate to further the objective of

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116. 21 U.S.C. § 331(ddd)(1).

117. See *The Microbead-Free Waters Act: FAQs*, U.S. FOOD & DRUG ADMIN., <https://www.fda.gov/cosmetics/cosmetics-laws-regulations/microbead-free-waters-act-faqs> (last visited Apr. 4, 2023) (discussing the applicability of The Microbead-Free Waters Act).

118. 21 U.S.C. § 331(ddd)(1); S.B. 2571, 29th Leg. (Haw. 2018).

119. Farquhar, *supra* note 113.

120. See Davidson, *supra* note 77 at 215 (explaining that oxybenzone and octinoxate are the most commonly used absorbers); Klingener, *supra* note 58 (summarizing then-Sen. Rob Bradley’s concerns that eliminating sunscreen containing oxybenzone and octinoxate would discourage people from using sunscreen); Bever, *supra* note 47 (noting that a ban on sunscreen containing oxybenzone and octinoxate removes at least 70 percent of sunscreen on the market).

121. 21 U.S.C. § 331(ddd); Farquhar, *supra* note 113.

122. Truslow, *supra* note 110, at 154.

123. *The Microbead-Free Waters Act: FAQs*, *supra* note 117.

124. *Id.*

125. Hartman, *supra* note 78, at 55.

126. See *supra* Part II(B)(1).



preventing harm to the marine environment would align with the objectives of current legislation. With state legislation already in effect, like that in Hawaii, a federal ban would simplify sunscreen regulations by providing a uniform law that citizens and industries must follow.<sup>127</sup>

Many legislators were surprised at the popularity and easy passage of the bill and hoped that it could serve as an example to guide future environmental legislation.<sup>128</sup> While the Microbead-Free Waters Act is in no way perfect, the act provides a blueprint for regulating sunscreen-related marine pollution in the future.<sup>129</sup> The act shows that even if the FDA itself does not issue a ban or impose regulations, Congress may enact an amendment in the interest of environmental health.<sup>130</sup> While microbeads and sunscreen chemicals have different effects on the environment, they have similarities that make the Microbead-Free Waters Act the perfect template for a piece of legislation banning the use of oxybenzone and octinoxate at the federal level. Implementing a ban on oxybenzone and octinoxate, similar to the ban on microbeads, is an important step for the U.S. to protect its dying coral reef ecosystems.

### *C. Federal Marine Pollution Regulation*

Marine pollution regulation is another avenue to regulate toxic sunscreen chemicals. In fact, the U.S. already has regulations in place to protect and conserve its marine environment, which highlights the federal government's acknowledgement of the crucial role these ecosystems play and the importance of their health.<sup>131</sup>

In 1972, Congress passed the National Marine Sanctuaries Act (NMSA).<sup>132</sup> According to NOAA, the NMSA "authorizes the Secretary of Commerce to designate and protect areas of the marine environment with special national significance due to their conservation, recreational, ecological, historical, scientific, cultural, archeological, educational or esthetic qualities as national marine sanctuaries."<sup>133</sup> Marine environments protected under the NMSA include coral reefs and unique marine habitats.<sup>134</sup> NMSA regulations govern activities that can or cannot take place within sanctuaries, and these regulations may be applied to an individual sanctuary

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127. S.B. 2571, 29th Leg. (Haw. 2018).

128. Striffling, *supra* note 100, at 159.

129. *See generally*, Microbeads Free Waters Act (prohibiting the manufacturing, packaging, and distribution of rinse-off cosmetics with plastic microbeads).

130. *Id.*

131. 33 U.S.C. § 1401; 16 U.S.C. § 1431.

132. NAT'L MARINE SANCTUARIES, *Legislation*, NAT'L OCEANIC & ATMOSPHERIC ADMIN., <https://sanctuaries.noaa.gov/about/legislation/> (last visited Apr. 7, 2023).

133. *Id.*

134. *Id.*

or to all sanctuaries generally.<sup>135</sup> Under the NMSA, “[a]ny person who destroys, causes the loss of, or injures any sanctuary resource is liable to the United States . . . .”<sup>136</sup> This may result in the assessment of civil penalties that vary with the severity of the violation.<sup>137</sup>

Also passed in 1972, The Marine Protection, Research and Sanctuaries Act (MPRSA) “prohibits the dumping of material into the ocean that would unreasonably degrade or endanger human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities.”<sup>138</sup> This act establishes a permit system for dumping, making it illegal to dump into the ocean without a permit.<sup>139</sup>

Case law provides examples for implementing these acts while also establishing the U.S.’s stance on the importance of protecting marine ecosystems. In *Hawai’i Wildlife Fund v. County of Maui*, the County of Maui in Hawaii released toxic wastewater into the Pacific Ocean through leaks in its underground injection wells.<sup>140</sup> In this case, the plaintiff’s expert testified as to the effects this pollution had on the nearby coral reefs.<sup>141</sup> The expert found “that corals living within the . . . seep area are impacted by sewage-effluent injected at the [Wastewater Reclamation Facility].”<sup>142</sup> The court voiced concerns over the environmental harm caused by the leak and ultimately found that the county was in violation of federal law.<sup>143</sup>

In another case, *United States v. M/V Miss Beholden*, the court found the defendant liable for damage caused to the Florida Keys National Marine Sanctuary after purposely running a ship aground into the Western Sambo Reef.<sup>144</sup> The court found that the defendant violated the NMSA and was therefore liable for the corresponding statutory penalties.<sup>145</sup> The way the NMSA and MPRSA were enforced in these cases indicates the seriousness of protecting the U.S.’s coral reefs from harm.

These statutes provide a viable way to implement a ban of reef-toxic sunscreen chemicals. An amendment to either or both statutes that would prohibit the sale, manufacture, or distribution of sunscreens containing oxybenzone and octinoxate would provide an avenue to protect coral reefs.

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135. *Id.*

136. 16 U.S.C. § 1443(a)(1).

137. 16 U.S.C. § 1437(d).

138. *Marine Protection, Research and Sanctuaries Act (MPRSA) and Federal Facilities*, U.S. EPA, [https://19january2017snapshot.epa.gov/enforcement/marine-protection-research-and-sanctuaries-act-mprsa-and-federal-facilities\\_.html](https://19january2017snapshot.epa.gov/enforcement/marine-protection-research-and-sanctuaries-act-mprsa-and-federal-facilities_.html) (last updated May 17, 2016).

139. 33 U.S.C. § 1412 (2021).

140. 550 F.Supp.3d 871, 873 (D. Haw. 2021).

141. *Id.* at 881.

142. *Id.*

143. *Id.* at 893.

144. 856 F. Supp. 668, 671 (S.D. Fla. 1994).

145. *Id.* at 670.

Classifying these chemicals as substances “that would unreasonably degrade or endanger human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities,” would subject these chemicals to a ban under the MPRSA.<sup>146</sup> Establishing that these chemicals injure the ecosystems in national marine sanctuaries would prohibit their use within these areas.

### III. IMPLEMENTATION OF REGULATIONS INTERNATIONALLY

#### *A. Sunscreen Ban Internationally Under the Law of the Sea Treaty*

While a national ban on oxybenzone and octinoxate is a great first step in protecting coral ecosystems, it is not enough, and international regulation would be more comprehensive. International regulation of the ocean falls under the jurisdiction of the United Nations Convention for the Law of the Sea (UNCLOS).<sup>147</sup> The adoption of this treaty was an “unprecedented attempt by the international community to regulate all aspects of the resources of the sea and uses of the ocean, and thus bring a stable order to mankind’s very source of life.”<sup>148</sup>

Throughout UNCLOS, there are various parts, sections, and articles pertaining to the maintenance of a healthy marine environment.<sup>149</sup> Part XII of the treaty is dedicated to the protection and preservation of the marine environment, with Article 9 stating that “States have the obligation to protect and preserve the marine environment.”<sup>150</sup> However, Article 194 in Section 1 of Part XII deals specifically with preventing and controlling pollution of the marine environment.<sup>151</sup>

Alternatively, in 2015 the United Nations General Assembly proposed the development of a legally binding international instrument under UNCLOS for the conservation and sustainable use of marine biological diversity in areas beyond national jurisdiction.<sup>152</sup> The conference held three sessions throughout 2018 and 2019, with the postponed fourth session taking

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146. EPA, *supra* note 139.

147. *The United Nations Convention on the Law of the Sea (A Historical Perspective)*, U.N., [https://www.un.org/depts/los/convention\\_agreements/convention\\_historical\\_perspective.htm](https://www.un.org/depts/los/convention_agreements/convention_historical_perspective.htm) (last visited Apr. 4, 2023).

148. *Id.*

149. United Nations Convention on the Law of the Sea (Dec. 10, 1982).

150. *Id.*

151. *Id.* pt. XII, § 1, art. 194.

152. *United Nations Convention on the Law of the Sea*, INT’L MARITIME ORG., <https://www.imo.org/en/OurWork/Legal/Pages/UnitedNationsConventionOnTheLawOfTheSea.aspx> (last visited Apr. 5, 2023).

place in March 2022.<sup>153</sup> The fifth session convened in August 2022, but was later suspended and postponed to a later date to be determined.<sup>154</sup> Due to the legally binding nature of this instrument and the subject matter that it touches upon, UNCLOS seems to be ideal for implementing a ban on reef-toxic substances. However, because the fifth session remains suspended, the conference is not a legally binding instrument yet, which makes Article 194 one of the more likely avenues to implement an international ban on coral-reef-harming chemicals at this time.

Article 194 requires that States take measures consistent with the treaty to “prevent, reduce and control pollution of the marine environment from any source, using for this purpose the best practicable means at their disposal and in accordance with their capabilities, and [that] they shall endeavor to harmonize their policies in this connection.”<sup>155</sup> Under this article, States must also conduct activities within their jurisdiction so as to avoid causing pollution damage to other States or permitting jurisdictional pollution to spread beyond that State’s sovereign area.<sup>156</sup> If there were a uniform list of pollutants under UNCLOS, States could more easily prevent, reduce, and control pollution.

To comply with Article 194 of UNCLOS, a ban on reef-harming chemicals in sunscreens is necessary, because otherwise oxybenzone and octinoxate pollution jeopardizes the marine environment. Wearing sunscreen that contains harmful chemicals should also be considered pollution of the marine environment.<sup>157</sup> For a State to conduct activities—such as swimming in the ocean—in a manner that does not pollute the jurisdictions of other States, the sunscreen its citizens use must not contain oxybenzone or octinoxate. Any scenario to the contrary would pollute the marine environment within the jurisdiction the sunscreen originated from as well as other jurisdictions once the tides move and the polluted water travels.

One issue, however, with regulation through UNCLOS is its enforceability. Enforcing certain sections of UNCLOS, like Article 194, falls on the treaty’s member States.<sup>158</sup> Articles 207 and 208, dealing with marine pollution from land-based sources and seabed activities, respectively, provide that “States shall adopt laws and regulations to prevent, reduce and

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153. *Intergovernmental Conference on an International Legally Binding Instrument Under the United Nations Convention on the Law of the Sea on the Conservation and Sustainable Use of Marine Biological Diversity of Areas Beyond National Jurisdiction (General Assembly Resolution 72/249)*, UNITED NATIONS, <https://www.un.org/bbnj/> (last visited May 12, 2023).

154. *Id.*

155. U.N., *supra* note 149, at art. 194.

156. *Id.*

157. *Id.*

158. Olga Goldberg, *Biodegradable Plastics: A Stopgap Solution for the Intractable Marine Debris Problem*, 42 TEX. ENV'T L. J. 307, 329 (2012).

control pollution of the marine environment . . . .”<sup>159</sup> Unfortunately, many States (the U.S. included) have failed to ratify UNCLOS and are therefore not members to the treaty.<sup>160</sup> This means that nonmember States, like the U.S., are not bound to comply with UNCLOS provisions.

But while the U.S. has not ratified UNCLOS, the country has long recognized the treaty as customary international law.<sup>161</sup> Customary law is the usage of repeated state practice over time that consists of uniformity, consistency, and regularity.<sup>162</sup> This form of international law is carried out due to a sense of legal obligation known as *opinio juris* and is based on implicit consent by States.<sup>163</sup> Since the adoption of UNCLOS, court cases within the U.S. have frequently cited to various UNCLOS provisions, indicating a willingness to rely on the treaty to help govern the oceans.<sup>164</sup> Customary international law is binding on all States that do not object to the law.<sup>165</sup> Thus, introducing a ban on oxybenzone and octinoxate into UNCLOS to prevent harm to coral reefs worldwide could lead to the implementation becoming state practice, which could evolve into international customary law. Regulation on the international level is vital due to the global nature of the issue at hand. A ban on toxic chemicals through treaty law, such as UNCLOS, and customary law are avenues that ought to be explored when it comes to protecting coral reefs from these dangers.

### B. Case Study: Palau

On January 1, 2020, Palau became the first country to implement a national ban on reef-toxic sunscreen ingredients found to have negative impacts on the health of marine ecosystems.<sup>166</sup> Following in the footsteps of

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159. U.N., *supra* note 149, at arts. 207, 208.

160. *Law of the Sea Convention*, U.S. DEPT. OF STATE, <https://www.state.gov/law-of-the-sea-convention/> (last visited Apr. 6, 2023).

161. See John A. Duff, *The United States and the Law of the Sea Convention: Sliding Back from Accession and Ratification*, 11 OCEAN & COASTAL L. J. 1, 12-13 (2006) (describing the U.S.’s customary compliance with UNCLOS despite never having ratified it); Lieutenant Benedict S. Gullo, *The Illegal Discharge of Oil on the High Seas: The U.S. Coast Guard’s Ongoing Battle Against Vessel Polluters and a New Approach Towards Environmental Compliance*, 209 MIL. L. REV. 122, 140-41 (2011).

162. JEFFREY L. DUNOFF ET AL., INTERNATIONAL LAW: NORMS, ACTORS, PROCESS 73 (Erwin Chemerinsky et al. eds., 4th ed. 2015).

163. *Id.*

164. Duff, *supra* note 161, at 12-13.

165. DUNOFF ET AL., *supra* note 162, at 73; see also *Customary Law*, INT’L COMM. OF THE RED CROSS, <https://www.icrc.org/en/war-and-law/treaties-customary-law/customary-law> (last visited Apr. 6, 2023) (explaining that customary law is binding because states recognize it as international law).

166. Matt McGrath, *Coral: Palau to ban sunscreen products to protect reefs*, BBC: NEWS (Nov. 1, 2018), <https://www.bbc.com/news/science-environment-46046064>; *Palau is first country to ban ‘reef toxic’ sun cream*, BBC: NEWS (Jan. 1, 2020), <https://www.bbc.com/news/world-asia-50963080>.

the Hawaii ban, Palau's law is said to be the more comprehensive one, as it bans 10 ingredients found to harm environmental health.<sup>167</sup>

Palau is an archipelagic island nation in Micronesia located in the western Pacific Ocean.<sup>168</sup> While Palau is an independent nation with a constitutional government, it is in free association with the U.S.<sup>169</sup> The 50-year Compact of Free Association brokered in 1994 established Palau as an independent nation and allowed the U.S. to continuously provide "economic and financial assistance, [defend] Palau's territorial integrity, and [allow] uninhibited access by Palauan citizens to the United States in return for exclusive and unlimited access to Palau's land and waterways for strategic purposes."<sup>170</sup>

There is no surprise that Palau's main economic source is the ocean, as it is a country made up of 12 inhabited islands and over 700 islets, with a barrier reef system surrounding most of the archipelago.<sup>171</sup> When the government of Palau found out that sunscreen chemicals may jeopardize this unique habitat, it acted fast.<sup>172</sup>

On January 16, 2017, the Coral Reef Research Foundation released a report that analyzed the pollution from sunscreen in Palau's Jellyfish Lake coral reef.<sup>173</sup> Jellyfish Lake, named after its famous Golden Jellyfish population, is a UNESCO World Heritage site located in Palau's Koror State Rock Island Southern Lagoon.<sup>174</sup> The results of the analysis showed that there were concentrations of sunscreen compounds in the waters of the Jellyfish Lake area, including in areas that are considered pristine due to minimal human use.<sup>175</sup> A comparison of different sites found that Jellyfish Lake had the highest concentration of reef-toxic compounds.<sup>176</sup> The presence of these compounds caused concern for the development of the jellyfish that live in those waters.<sup>177</sup> Appendix 5 of the study provided a list of 10 harmful

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167. McGrath, *supra* note 166.

168. *Palau*, BRITANNICA, <https://www.britannica.com/place/Palau> (last updated May 9, 2023).

169. *About Palau*, PALAUGOV, <https://www.palau.gov.pw/about-palau/> (last visited Apr. 7, 2023).

170. *Republic of Palau*, U.S. DEPT. OF INTERIOR: OFF. INSULAR AFFS., <https://www.doi.gov/oia/islands/palau> (last visited Apr. 6, 2023).

171. *Republic of Palau*, NAT'L OCEANIC & ATMOSPHERIC ADMIN.: CORAL REEF INFORMATION SYSTEM, <https://www.coris.noaa.gov/portals/palau.html> (last visited Apr. 4, 2023).

172. RPPL No. 10-30 (Palau, 2018).

173. LORI J. BELL ET AL., CORAL REEF RSCH. FOUND., FINAL REPORT: SUNSCREEN POLLUTION ANALYSIS IN JELLYFISH LAKE (Jan. 16, 2017), <https://coralreefpalau.org/wp-content/uploads/2017/10/CRRF-UNESCO-Sunscreen-in-Jellyfish-Lake-no.2732.pdf>.

174. *Id.* at 2.

175. *Id.* at 15.

176. *Id.* at 11.

177. *Id.* at 14.

chemicals not found in eco-friendly sunscreen products.<sup>178</sup> Oxybenzone was the first chemical on that list.<sup>179</sup>

Palau passed an amendment to its Responsible Tourism Education Act of 2018, which banned a list of 10 chemicals found to be harmful to the marine environment.<sup>180</sup> This ban allows for the confiscation of sunscreens containing any of the banned substances from tourists entering the country.<sup>181</sup> Retailers found selling banned sunscreens can be fined up to \$1000.<sup>182</sup> Adopting an approach similar to Palau's—in which Palau became aware of the problem and immediately took action to fix it—could benefit the U.S. and the rest of the world.

An amendment to an existing piece of legislation, like Palau's,<sup>183</sup> would be a feasible route to follow for implementing a ban at the national level in the U.S., as well as a blueprint for other countries to follow. Palau's legislation, which puts the burden on manufacturers and retailers to implement the ban of these chemicals, rather than consumers, also prohibits bringing toxic sunscreens into the country.<sup>184</sup> This approach is favorable because it makes compliance easier for the consumer by making reef-safe options the only ones available, thereby shielding them from violation.

Congress is the governing body that creates and passes legislation of this nature within the U.S.<sup>185</sup> To amend an existing piece of legislation, a draft amendment is first created and then voted on by the House of Representatives and the Senate, and, if the vote passes, is sent to the President for signature.<sup>186</sup> After a piece of legislation passes, an executive agency or agencies are responsible for enforcing it and regulating activities relating to the legislation.<sup>187</sup> Palau's regulation gives authority to the Minister to consult with experts to regulate the use of reef-toxic sunscreens and to help inform and guide retailers and visitors on how to identify which sunscreens contain banned chemicals.<sup>188</sup> With an amendment to the FDCA, the FDA Commissioner “oversees the full breadth of the FDA portfolio and execution of the Federal Food, Drug, and Cosmetic Act and other applicable laws.”<sup>189</sup>

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178. *Id.* at 26.

179. *Id.*

180. RPPL No. 10-30, at 4 (Palau, 2018).

181. *Id.*

182. *Id.*

183. *Id.*

184. *Id.*

185. LINDA D. JELLUM, *THE LEGISLATIVE PROCESS, STATUTORY INTERPRETATION, AND ADMINISTRATIVE AGENCIES* 33 (2d ed. 2021).

186. *Id.*

187. *See Executive Agencies*, JUSTIA, <https://www.justia.com/administrative-law/executive-agencies/> (last updated May 2023) (explaining that agencies develop, oversee, and enforce regulations).

188. RPPL No. 10-30, at 5 (Palau, 2018).

189. *FDA Commissioner*, FDA: ABOUT FDA (Jan. 1, 2021), <https://www.fda.gov/about-fda/fda-commissioner>.

Alternatively, with an amendment to current marine pollution regulations, the Administrator of the EPA would be “responsible for managing and enforcing [these] laws and regulations.”<sup>190</sup>

Using Palau as a guidepost for a regulatory framework on banning coral-reef-harming chemicals is one way to protect these valuable ecosystems on a global scale. Defining octinoxate and oxybenzone as environmentally harmful substances, prohibiting their use, and establishing implementation and regulation protocols can be incorporated into the U.S.’s federal regulatory framework and the international treaty regime. Palau’s ban will likely be the first of many to take action to protect coral reefs from toxic chemicals.

#### CONCLUSION

Coral reefs are important to many aspects of human life and play a key role in the ecology of the ocean. The reef systems within the U.S.’s waters provide an abundance of benefits and are vital to upkeeping ocean health. The importance of protecting ecosystems across the country from harmful sunscreen chemicals is clear, especially for regions in close proximity to the nation’s coral reefs.

Sunscreen use has negative impacts on coral reef health—from the induction of bleaching events to a rise in coral viruses.<sup>191</sup> Legal limitations on using the chemicals that indisputably have these effects on corals would contribute significantly to improving the health of and decreasing the bleaching events in coral reefs worldwide. A regulation to this effect on the national and international levels would contribute to a more comprehensive conservation plan and maintain the health of these important reef ecosystems. Similar regulations have been implemented around the world. In the U.S., Hawaii has implemented a ban on the use of chemicals such as oxybenzone and octinoxate in sunscreens,<sup>192</sup> and the U.S. Virgin Islands has done the same.<sup>193</sup> The island nation of Palau was the first country to pass a national ban on the use of reef-harming chemicals in sunscreens.<sup>194</sup>

Implementing policy on the federal and international level would help protect the world’s coral reefs while harmonizing the regulations already in place by creating a uniform piece of legislation applicable to all jurisdictions. The importance of sun protection should not be neglected and promoting proper sun protection and decreased sun exposure should be maintained.

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190. *EPA’s Administrators*, EPA: HISTORY (June 3, 2022), <https://www.epa.gov/history/epas-administrators>.

191. Downs et al., *supra* note 9, at 265; Donovaro et al., *supra* note 9, at 441.

192. S.B. 2571, 29th Leg. (Haw. 2018).

193. Bill 33-0043, 33rd Leg. (V.I. 2019).

194. McGrath, *supra* note 166.



However, the amount of damage that substances such as oxybenzone and octinoxate have on the environment requires reconsideration of their proposed benefits in comparison to their adverse effects. A regulation banning reef-harming chemicals that are washed into the ocean every day is a crucial step towards protecting these ecosystems and preventing their disappearance.