

**Environmental, Social, and Corporate Governance: A History of ESG Standardization**  
**from 1970s to the Present**

Minzhi (Luna) Wang

Undergraduate Senior Thesis

Department of History

Columbia University

April 5, 2023

Seminar Advisor: Professor Elizabeth Blackmar

Second Reader: Professor Kimberly Phillips-Fein

## Acknowledgements

Coming into college, I was determined that the sole purpose of my life and work would be astrophysics. However, in my second semester here, my first history class, *The First American Gilded Age* taught by Professor Elizabeth Blackmar, brought new aspirations to my life—and I am so grateful for it. The way she taught history was so captivating and convincing that I felt the urgent need to attempt to study not only the natural laws of the universe, but also stories and conditions of the common people. Professor Blackmar's passion, generosity, humility, and compassion has inspired me throughout my college journey. Thank you for conversations that are always memorable, for supporting me with such dedication, and for believing in me when I was reluctant to.

I would also like to thank Professor Kimberly Phillips-Fein for her generous guidance and encouragement along the way. Brainstorming sessions with her were among the most fruitful and enlightening exchanges I had, and I felt so joyfully challenged as I navigated the process with her helpful feedback and whole-hearted support.

I am grateful for Professor David Rosner and Professor Leah Aronowsky, whose work sparked my interest in the historical understanding of the private sector's role in addressing environmental issues and the climate crisis. I also would like to thank Professor Michael Gerrard for his guidance as well as his leadership in building a legal framework for addressing climate change. I appreciate my TA Jack Sherrick for being incredibly supportive and resourceful for my research and aspirations in climate law. To my high school teacher Franklin Davison, thank you for introducing me to the discipline, letting me bounce ideas off you, and always supporting me and making me feel wonderfully challenged for the last eight years.

All the love to my EC fam and friends who brought me joy, and sometimes coffee and food, as I was writing the thesis. I am also grateful to my thesis seminar peers, whose works have inspired me throughout the semester. To my favorite historian-lawyer to-be, Jerry Chen, thank you for being my workshopping buddy and offering me unconditional encouragement.

I would not be able to be where I am today without the constant love and support from my family. 感谢你们的爱与支持!

## Table of Contents

<b>Glossary</b> .....	<b>3</b>
<b>Introduction: ESG as Modern Corporate Social Responsibility</b> .....	<b>4</b>
<b>Chapter I. Corporate Social Responsibility from 1970s to 2005</b> .....	<b>11</b>
UN-Ordained: The Coining of ESG in 2005 .....	11
Shareholder Values Versus Stakeholder Capitalism.....	14
The Economics of Harm: The Contested Development of the Cap-And-Trade System.....	16
1970s: Corporate Social Responsibility Reimagined by Social Movements and Regulations.....	18
1980s: Deregulation, Divestment, and Shareholders Activism .....	20
1990s to 2005: “Groping Towards a Balance” of Regulation and Responsibility .....	22
<b>Chapter II. ESG from 2005 to 2015: Trials and Errors of Market Self-Regulation</b> .....	<b>34</b>
Standard Setting: ESG Frameworks for Investors and Corporations .....	35
Climate Change as a Material Risk and ESG as Fiduciary Duty .....	39
Green Tech and ESG Entrepreneurship .....	45
Socially Responsible Investment: Divestment and Impact Investing .....	47
<b>Chapter III. Climate Financing and ESG Financial Framework at the UN</b> .....	<b>53</b>
BlackRock: “Shades of Brown to Shades of Green” .....	57
MSCI: “Navigating Uncertainties” through Matrices and AI Analytics .....	60
ExxonMobil: Betting on a Future of Fossil Fuel.....	64
McKinsey: Schizophrenic “Expertise” on “Sustainable and Inclusive Growth” .....	68
<b>Conclusion</b> .....	<b>71</b>
<b>Bibliography</b> .....	<b>75</b>

## Glossary

**ESG:** Environment, Social, and Corporate Governance

**Carbon Trading:** The transaction of carbon emission credits; credits could be used to fulfill emission reduction requirements on a nation or a corporate level, or to speculate

**Greenhouse Gasses (GHG):** Gasses that trap heat in the atmosphere and contribute to the greenhouse effect, which leads to global warming and climate change; Carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and fluorinated gasses are the most significant GHGs

**Shareholder/Stockholder:** An individual or entity that owns shares of stock in a company

**Stakeholder:** An individual or group whose financial interests or other forms of welfare are influenced by the business success or operations of the company

**Divestment:** The reallocation of investments away from a certain institution or issue

**Scope 1 Emissions:** Direct emissions from sources that are owned or controlled by an organization, such as emissions from boilers, vehicles, and industrial processes

**Scope 2 Emissions:** Indirect emissions from the generation of electricity, heating, and cooling that are consumed by an organization

**Scope 3 Emissions:** All other indirect emissions that are a result of the organization's activities, but occur outside of its direct control or ownership

**The Kyoto Protocol:** The first binding international treaty under UNFCCC on climate change that requires developed countries to reduce GHG emissions to below 1990s levels by 2012

**The Paris Agreement:** The current non-binding international agreement since 2015 under the UNFCCC that subjects both developed and developing countries' members to limit global temperature rise well below 2 degrees Celsius and strive for the 1.5 degrees scenario

**U.S. Securities and Exchange Commission (SEC):** A U.S. Federal agency to protect investors and maintain market fairness and efficiency

**United Nations Framework Convention on Climate Change (UNFCCC):** A 1992 treaty to coordinate international action on climate change

**UNFCCC Conference of the Parties (COP):** An annual conference of members under the UNFCCC to address climate change and other goals set in the convention

## **Introduction: ESG as Modern Corporate Social Responsibility**

ESG, standing for Environmental, Social, and Corporate Governance, has captured the attention of the financial industry in the last two decades. Despite the lack of a uniform standard, a high corporate ESG score generally indicates superior corporate social responsibility, rendering the firm more stakeholder-friendly and attractive to fund managers' "green portfolio." ESG leaders boast of their commitment to an attractive "triple bottom-line": value generated through the triple gains in financial profits, environmental protection, and social welfare.<sup>1</sup> Despite the opposition from Republican lawmakers, the mainstream financial sector now considers the integration of ESG factors into investment decisions and development no longer as voluntary, token gestures, but a necessary transformation towards a future-proof business, a legal duty, and a strategy to remain competitive. Growing research evidence also shows that ESG has a positive correlation with financial performance.<sup>2</sup> While it seems like the concept of ESG has only risen high on the priority list of businesses in the twenty-first century, the rhetoric of "social responsibility" has in fact been long adopted by corporations, consumers, and government agencies to justify, challenge, and measure the social and environmental impacts of industry.

Far from being a new phenomenon, ESG is a modern form of corporate citizenship tailored to the shifting public expectations of business. In this thesis, I investigate the history of ESG from the 1970s to the present in the United States, illustrating the contest between shareholder and stakeholder values, amidst transitions to market deregulation, neoliberal policies, and growing public awareness of the climate crisis. Facilitated by multilateral UN climate policy-making, ESG emerged in response to institutional investors' realization of the

---

<sup>1</sup> David Vogel, *The Market for Virtue: The Potential and Limits of Corporate Social Responsibility* (Washington D.C.: Brookings Institution Press, 2005).

<sup>2</sup> Betsy Atkins, "Demystifying ESG: Its History & Current Status," *Forbes*, June 8, 2020, <https://www.forbes.com/sites/betsyatkins/2020/06/08/demystifying-esgits-history--current-status/?sh=1cc02c72cdd>.

material, or significant, risks of climate change to investment, therefore the financial and legal need to identify a global standard for ESG investing and corporate climate risk disclosure.

Emerging from the management toolkits developed since the environmental movements in the 1970s, ESG differs from traditional “corporate social responsibility,” as the mainstream institutional investors claim to adopt ESG for the long-term interests of their clients who are both shareholders and stakeholders of the economy, rather than out of selfless morality. Despite the two decades of UN-facilitated private financial coalition building, the voluntary and aspirational ESG standards are not sufficient for either the investors to develop systematic approach to risk management, or society to mobilize towards a net-zero future. Consistent policy guidance on a federal level is necessary to standardize ESG and incentivize ESG behaviors, driving the sustainable transition of the market on a critical scale to address the United States’ outside contribution to global warming.

To historicize the normalization of ESG, I investigate the development of an ESG market infrastructure, the legal and political framework, and the efforts of the financial sector to standardize ESG and “regulate itself” in the void of consistent federal policy guidance. By conducting microhistory studies of key actors in the UN-facilitated Glasgow Financial Alliance of Net-Zero, including asset manager Blackrock, ESG service and rating provider MSCI, oil giant ExxonMobil, and consulting firm McKinsey, I illustrate the web of interests and power dynamics within the ESG infrastructure, and evaluate the potential of aligning ESG investing and corporate behavior with authentic social progress. Demonstrating the necessity of federal guidance for a financial ESG transition, I hope to contribute to the discourse on ESG policy-making by drawing on the struggles of the private sector to address environmental crisis, social inequity, and market inefficiency without federal guidance.

The phrase ESG came under the spotlight on the stage of the United Nations. In 2005, in response to growing discourses on the compatibility of ESG issues with fiduciary duty, the United Nations Environmental Program (UNEP) called for a framework that integrated ESG issues into institutional investment, culminating in the Principles for Responsible Investment (PRI).<sup>3</sup> The drafters and first signatories of PRI were “institutional investors,” asset managers who manage wealth in the best interests of beneficiaries according to their “fiduciary duty,” or “responsibilities to the trust.”<sup>4</sup> In their fiduciary role, pension funds and other institutional investors like mutual funds, private equity funds, and hedge funds “owned more equity than all individual investors combined” and mainly drew their large portfolios from the retirement savings of workers.<sup>5</sup> Institutional investors are thus instrumental in their financing roles to encourage ESG behaviors and drive market decarbonization.

Centering the role of institutional investors, my thesis mainly draws on the business initiatives, trends, and sentiments shown in the seminal business journal *Institutional Investor*. Founded in 1967, *Institutional Investor* published global financial research and rankings that became industry benchmarks, analyzing and shaping investor decisions. The periodical emerged at a time when institutional investors gained power through hostile mergers and acquisitions and shareholder activism. *Institutional Investor* reported on the changing landscape of finance with a wealth of research and business interviews; it also monitored shifting public debates on the development of ESG in the financial sector.

---

<sup>3</sup> PRI, UNEP FI and UN Global Compact, “Principles for Responsible Investment: An Initiative of the UN Secretary-General Implemented by UNEP Finance Initiative and the UN Global Compact,” 2005.

<sup>4</sup> Jeffrey Sklansky, “The Work of Retirement,” *International Review of Social History*, February 20, 2023, 1–23, <https://doi.org/10.1017/S0020859023000196>.

<sup>5</sup> James Hawley and Andrew Williams, *The Rise of Fiduciary Capitalism: How Institutional Investors Can Make Corporate America More Democratic* (Philadelphia: University of Pennsylvania Press, 2000).

The definition and adoption of ESG was not a “natural process,” but driven by intentional knowledge production and competing interests. In the recent decades, rating companies, institutional investors, corporations, banks, the U.S. Securities and Exchange (SEC), policymakers, activists and community members all had a stake in the framing of ESG. While the current discourse around ESG is mostly embedded in the contexts of business management and corporate law, a historical study of ESG is important to examine the various claims to ESG expertise independent from corporate interests and their marketing needs. Such a study also informs contemporary political debates by demonstrating how business engagement with ESG changed over the course of a generation. The thesis argues for the stakes that both the public and private sectors have in standardizing the ESG infrastructure.

The historiography of ESG is informed by scholarship on corporate responsibility. While the term ESG only emerged in the early 2000s, corporations have claimed legitimacy by asserting social responsibility since the first charters granted to companies in order to fulfill a public service. Historians have studied in-depth the development of corporate responsibility campaigns in the New Deal Era for businesses to compete for public support with federal power.<sup>6</sup> In addition to the broad contextualization of corporate social responsibility, scholarship on the post-1970s era focuses on the business response to federal regulation and social movements on environmental protection, social inequity, and later the climate crisis. David Vogel discusses the growing power of citizen lobbying in shaping corporate behaviors on issues

---

<sup>6</sup> Archie B. Carroll and Kenneth E. Goodpaster, *Corporate Responsibility: The American Experience* (Cambridge University Press, 2013); Roland Marchand, *Creating the Corporate Soul: The Rise of Public Relations and Corporate Imagery in American Big Business* (United Kingdom: University of California Press, 2001). Carroll and Goodpaster provided an overview of corporate responsibility in the U.S. from 1776 to 2011, tracing its globalization in the 1990s due to climate change. Marchand argued that corporate social responsibility evolved in the 1930s, in response to the New Deal’s challenges to business norms and market economy.



including environmental protection, human rights, and labor practices.<sup>7</sup> Charles Halvorson evaluates the “economics of environmental protection” and the political mobilization behind the development of a market-based approach for pollutant control, informing discourses on carbon trading and the regulative responsibility of federal agencies like EPA and SEC.<sup>8</sup> Greta Kipper discusses the correlation of “shareholder value” with company legitimacy in the 1980s, which was embodied by the canonical “Friedman Doctrine”: The corporate social responsibility of a business in a free enterprise system is to “increase profits.”<sup>9</sup>

In addition, James Hawley and Andrew Williams illustrate the post-1970 rise of institutional investors and fiduciary class, who gradually challenged and replaced the corporate managerial class through hostile takeovers and corporate governance activism. Fiduciary capitalism emerged as the new dominant regime in the 1990s, when institutional investors held more equity in the market than all individual investors combined. In addition to the size, they became the “universal owners” of the U.S. economy by adopting index trading, namely, trading according to stock market index like Standard & Poor 500 index, which tracks the performance of 500 large companies listed on the U.S. stock exchange. Holding in their portfolio “a broad cross section of the economy” for a long-term period, institutional investors bore the financial power and responsibility to shape both corporate behavior and government policies to ensure the long-term benefits of their clients and the community at large.<sup>10</sup>

---

<sup>7</sup> David Vogel, *Lobbying the Corporation: Citizen Challenges to Business Authority* (New York: Basic Books, 1978).

<sup>8</sup> Charles Halvorson, *Valuing Clean Air: The EPA and the Economics of Environmental Protection* (New York: Oxford University Press, 2021); Milton Friedman, “A Friedman Doctrine-The Social Responsibility of Business Is to Increase Its Profits,” *New York Times*, September 13, 1970.

<sup>9</sup> Greta R. Krippner, *Capitalizing on Crisis: The Political Origins of the Rise of Finance*, (Boston: Harvard University Press, 2011), 7.

<sup>10</sup> Hawley and Williams, *The Rise of Fiduciary Capitalism*, XV-XIV.

Historical understanding of shareholder capitalism allows me to contextualize the recent emergence of a discourse on “stakeholder capitalism,” articulated by the BlackRock CEO Larry Fink as the new model of capitalism that incentivizes ESG practices and aligns long-term value propositions with financial profits.<sup>11</sup> On the question of the correlation between corporate social responsibility (CSR) and financial gain, David Vogel expresses skepticism in his 2005 book *Market for Virtue* through a literature review of the ambiguous statistical and causal relation between a company’s CSR and balance sheet.<sup>12</sup> I hope to update Vogel’s analysis and reevaluate the CSR-profit correlation in the age of ESG, where CSR is quantitatively evaluated and monetized based on published methodologies.

Efforts at “historicizing” ESG proliferated in the past five years, mainly sponsored by ESG rating companies and corporate ESG initiatives. Institutional investors including BlackRock and Bailard have developed their own sets of responsible investing values and methodologies, while providing a timeline of their CSR development.<sup>13</sup> Consulting firms are eager to reflect on their historical expertise and “track record” of success in charting ESG practices. For example, McKinsey’s weekly “sustainable and inclusive growth” report examines industry trends and shows the firm’s climate action.<sup>14</sup> Financial service companies like Moody, Morningstar, MSCI, Nasdaq, Bloomberg, and S&P rush to the ESG rating and credit arena by showcasing their early awareness of ESG and the historical incorporation of CSR into their rating methodology. My

---

<sup>11</sup> Larry Fink, “2022 Letter to CEOs: The Power of Capitalism,” BlackRock, 2022.

<sup>12</sup> David Vogel, *The Market for Virtue: The Potential and Limits of Corporate Social Responsibility* (Washington D.C.: Brookings Institution Press, 2005). He tried to explain the disjointedness through three reasons: The lack of a CSR standard, the poor oversight for labor conditions in international factories, and the inconsistency of customer behavior where their claimed beliefs in surveys often contradict their actual record of purchase.

<sup>13</sup> Blaine Townsend, “From SRI to ESG: The Origins of Socially Responsible and Sustainable Investing,” *The Journal of Impact and ESG Investing*, Bailard, no.1 (2020).

<sup>14</sup> McKinsey, “Making the Shift to Sustainable and Inclusive Growth: Explore Insights on the New Era of Growth—One That Doesn’t Treat Growth and Positive Impact as Opposing Forces,” accessed April 2, 2023. <https://www.mckinsey.com/featured-insights/sustainable-inclusive-growth>.

research seeks to decode the recent flux of “ESG scholarship,” understanding the ESG infrastructure that facilitates the incorporation of ESG into business language and agenda.

The thesis proceeds as follows: In the first chapter, I will discuss the UN initiatives that established a global ESG framework of investing principles in 2005. Then I examine the business community’s interaction with federal policies on environmental protection and climate change from the 1970s to 2005. Chapter 2 discusses the financial sector’s efforts to establish an ESG market infrastructure through the formation of standards of investing and disclosure, climate risk management, green entrepreneurship, and research to align ESG with financial incentives. Chapter 3 investigates the infrastructure of ESG by tracing the history and network of major constituents in Glasgow Financial Alliance for Net Zero, the largest ESG coalition of the financial sector. The thesis focuses on the “environmental” issues of ESG, and considers “social justice” and sound “governance” integral to driving a sustainable market transition. While the paper focuses on the U.S, the UN sponsorship of ESG frameworks, the international operation of corporations, as well as the global impact of climate change, made the discourse of ESG an instantly transnational and collective phenomenon. As ESG investment becomes the target of politicians, it is vital to understand how it took shape in response to a global climate crisis.

## Chapter I. Corporate Social Responsibility from 1970s to 2005

### UN-Ordained: The Coining of ESG in 2005

In July 2000, the United Nations Secretary General Kofi Annan launched the U.N. Global Compact, a voluntary “corporate citizenship initiative” that subjected companies to human rights, labor, environmental, and anti-corruption principles.<sup>15</sup> In 2004, Annan invited representatives from eighteen financial institutions, including banks, insurers, asset management, consulting, and financial services companies, to “develop guidelines and recommendations on how to better integrate environmental, social and corporate governance issues in asset management, securities brokerage services and associated research functions.” The result was the “Who Cares Wins” report, endorsed by the financial groups and overseen by the U.N. Global Compact.<sup>16</sup> For the first time, investors integrated environmental, social, and corporate governance issues under the term “ESG” to describe modern corporate social responsibility.

The report provided the framework for the launch of Principles for Responsible Investing (PRI), a global investor ESG initiative coordinated by the UN Environment Programme Finance Initiative (UNEP FI) and the Global Compact. Inviting twenty pension funds, foundations and special government funds from twelve countries, Annan also enlisted the support of a seventy-person “multi-stakeholder group of experts from the investment industry, intergovernmental and governmental organizations, civil society and academia” for the drafting of PRI over an eight-month period. The result was a list of six principles that called for the integration of ESG issues into the investment process and demanded ESG corporate disclosure to ensure market transparency and inform ESG investing.

---

<sup>15</sup> Today, more than 10,000 companies and 3000 non-business stakeholders are Global Compact signatories. See <https://unglobalcompact.org/interactive>.

<sup>16</sup> The Global Compact, “Who Cares Wins: Connecting Financial Markets to a Changing World,” 2004.

The drafters and core signatories of PRI, institutional investors, derived their sizable portfolios from the nation's retirement savings. Under the Employee Retirement Income Security Act of 1974 (ERISA), investors managing pension money need to abide by three main principles taken from trust law: 1) the duty of "loyalty" to benefit shareholders by "maximizing the returns and minimizing the risks of their investments"; 2) the duty of "prudence" to make decisions according to the prevailing practices and professional norms of the financial industry; and 3) the duty of "diversification" to maintain "a broad and balanced mix of stocks and other securities in their portfolio" to minimize risk. In his article "The Work of Retirement," Jeffrey Sklansky notes that while the first two duties dated back to the nineteenth century, the last one was a "distinctly twentieth century standard," derived from the "Modern Portfolio Theory" of the 1950 when pensions began to invest in stock markets in addition to "stable, secure, fixed-income bonds." The three duties became contested in the age of climate change, as investors and regulators sought to reconcile ESG issues with fiduciary duties through the establishment of PRI.<sup>17</sup>

The UN initiatives provided the financial, legal, and social basis for ESG investment. Through the Principles for Responsible Investing, institutional investors acknowledged that it was financially sound and within their fiduciary duty to consider ESG in the decision-making process.<sup>18</sup> In 2005, UNEP FI Asset Management Working Group published a report that reaffirmed the legal compatibility of ESG issues with fiduciary duty. An international law firm Freshfields Bruckhaus Deringer drafted the report in collaboration with thirteen asset managements, nonprofits, and academics. The legal experts concluded that as increasing research

---

<sup>17</sup> Jeffrey Sklansky, "The Work of Retirement," 11-14, 18.

<sup>18</sup> PRI, "Principles for Responsible Investment."

demonstrated “the links between ESG factors and financial performance,” the integration of ESG factors into investing was “clearly permissible” and “arguably required in all jurisdictions.”<sup>19</sup>

In April 2006, Annan launched PRI at the New York Stock Exchange. *Institutional Investor* noted the paradigm shift: “Investing according to so-called socially responsible guidelines has long been a fringe activity practiced by a small cadre of funds that don't manage much money and wield limited clout, but that may have begun to change.” The executive head of the U.N.'s Global Compact office, Georg Kell, agreed that this was the “very first time” when “mainstream institutional investors” were committed to taking ESG issues “seriously in their investment analysis and relationship management.” While environmental groups like Friends of the Earth “dismissed the scheme's usefulness” due to its voluntary nature, the commitment of thirty-two pension funds to PRI marked the rise of ESG investing to mainstream standards.<sup>20</sup>

To explain how and why this transition took place at the beginning of the twenty-first century, I investigate the standardization of corporate social responsibility in the language of “ESG.” This chapter focuses on the period from 1970 to 2005, tracing how the U.S. financial industry and corporations reimagined corporate social responsibility from “nice-to-have” to necessity in the wake of tightening U.S. environmental regulation and international climate treaty-making. While institutional investors began to consider ESG issues as risks that needed to be “managed,” they gained unprecedented financing power thanks to the rise of fiduciary capitalism. The pressures of shareholder activists pushed corporations to rethink their business models and claim corporate responsibility under the ESG framework.

---

<sup>19</sup> Freshfields Bruckhaus Deringer, “A Legal Framework for the Integration of Environmental, Social, and Governance Issues into Institutional Investing,” Asset Management Working Group of the UNEP Finance Initiative, October 2005, 13, 20. The examined jurisdictions were US, Europe, Japan, Canada and Australia. The report was designed to “dispel the all-too-common misunderstanding that fiduciary responsibility is restricted by law, and solely and in a narrow sense, to seeking maximisation of financial returns.”

<sup>20</sup> Pierre Paulden, “... As Funds Make New Social-Investing Pact,” *Institutional Investor, International Edition*, May 2006, 1, ProQuest. All *Institutional Investor* articles in this thesis were all accessed through the ProQuest database.

## Shareholder Values Versus Stakeholder Capitalism

The idea of “corporate social responsibility” evolved in response to growing social expectations. During the civil rights movement, activists drove the Nixon administration to regulate corporate behaviors by establishing the Occupational Safety and Health Administration, Environmental Protection Agency, Consumer Product Safety Commission, and expanding the Equal Opportunity Commission to administer legislation on workplace safety, environmental protection, consumer rights, and employment equity.<sup>21</sup> In addition to federal laws, activists like Ralph Nader held corporations accountable by both mobilizing reforms at the Federal Trade Commission and leading grassroots consumer protection efforts. Landmark legislation and grassroots activism challenged businesses to reimagine their relation with their employees, consumers, shareholders, and their “social contract” with specific stakeholder groups.<sup>22</sup>

It is useful to first define the two main groups a corporation responds to: shareholders and stakeholders. While “shareholders” refer to the owners of stock in a company, “stakeholders” could constitute different interest groups depending on the company’s products, impact, and the social environment it operates in. In this thesis, I define “stakeholders” as the groups and individuals whose lives are affected by any operations of a business, including but not limited to the direct and indirect environmental, financial, and social impacts of a company’s stated mission, products, services, manufacturing process, hiring practices, etc.<sup>23</sup> In contrast with

---

<sup>21</sup> Clean Air Act of 1963, Pub. L. No. 88-206, 77 Stat. 392 (1963); Title VII of the Civil Rights Act of 1964, Pub. L. No. 88-352, 78 Stat. 241 (1964); Occupational Safety and Health Act of 1970, Pub. L. No. 91-596, 84 Stat. 1590 (1970); Consumer Product Safety Act of 1972, Pub. L. No. 92-573, 86 Stat. 1207 (1972).

<sup>22</sup> Carroll and Goodpaster, *Corporate Responsibility*. See esp. chap. 7, “A Revolution of Rising Expectations (1963–1973),” and chap.8, “Managing Corporate Responsibility (1973–1981).”

<sup>23</sup> For instance, stakeholders of ExxonMobil could arguably include its energy and chemical consumers, the local communities in its six continents of operations, and essentially the entire world as the earth is collectively impacted by climate change, which ExxonMobil contributes to as an emitter and a facilitator of consumers’ emissions; See ExxonMobil, *2021 Annual Report*.

“shareholder capitalism” that prioritizes short-term share prices, stakeholder capitalism considers both profits and the non-monetary impacts on stakeholders.

“Stakeholder capitalism” had its roots in the early twentieth century and gained wide circulation since the 1980s.<sup>24</sup> In their seminal work *Modern Corporation and Private Property* (1932), American economists Adolf Berle and Gardiner Means argued for the managerial class’s accountability to both “stockholders” and the larger “community”: “Neither the claims of ownership nor those of control can stand against the paramount interests of the community.” In response to the growing concentration of property and power, they considered the modern corporation as not simply “one form of social organization,” but “the dominant institution of the modern world,” thus responsible for social welfare.<sup>25</sup> In 1984, Edward Freeman articulated the “Stakeholder Approach,” which for pragmatic and strategic considerations encouraged businesses to “manage” the stakeholder group to achieve superior performance.<sup>26</sup> Citing the examples of growing “stakeholder power” on corporate decisions, like the environmental boycott movement in the 1970s and Ralph Nader’s proxy fight against “irresponsible” companies, Freeman argued that managers needed to manage both “internal” and “external” stakeholders.<sup>27</sup> Debates over stakeholder theory proliferated not only in business management journals, but also in policy-making circles and the popular press since the late 1980s. In the age of global corporation and climate change, the definition of stakeholder capitalism continued to evolve.

---

<sup>24</sup> “Stakeholder Capitalism,” Google Books Ngram Viewer, [https://books.google.com/ngrams/graph?content=Stakeholder+Capitalism&year\\_start=1800&year\\_end=2019&corpus=en-2019&smoothing=3](https://books.google.com/ngrams/graph?content=Stakeholder+Capitalism&year_start=1800&year_end=2019&corpus=en-2019&smoothing=3).

<sup>25</sup> Adolf A. Berle and Gardiner Means, *The Modern Corporation and Private Property* (New York: Routledge, 1932), 312-313.

<sup>26</sup> André O. Laplume, Karan Sonpar, and Reginald A. Litz, “Stakeholder Theory: Reviewing a Theory That Moves Us,” *Journal of Management* 34, no. 6 (December 1, 2008): 1152–89, <https://doi.org/10.1177/0149206308324322>.

<sup>27</sup> Laplume, 1157. Internal stakeholders include “owners, customers, employees, and suppliers,” while external stakeholders include “governments, competitors, consumer advocates, environmentalists, special interest groups, and the media.”



## **The Economics of Harm: The Contested Development of the Cap-And-Trade System**

This paper focuses on the “environment” issues of ESG, and considers social justice and sound governance essential to achieve the environmental goals of the corporation and the community at large. Nonetheless, one pillar of ESG investing relies on neo-classical economists’ market models for managing greenhouse gasses. As a result, we need to understand the historical contexts of the market-based pollution control programs in the U.S. since the 1970s, that informed proposals to control and regulate the emission of carbon dioxide on both the domestic and international scale.

In 1970, with bipartisan support for federal authority in environmental regulations, the Nixon Administration established the Environmental Protection Agency (EPA) in response to growing public concern over air and water pollution. Right from its inception, EPA found itself “buffeted” by business representatives and White House economic advisors who worried that its enforcement of the National Ambient Air Quality Standards (NAAQS) would ruin industries and “shut the country down.” As Charles Halvorson observes in *Valuing Clean Air*, while economic expertise was already central to the planning of EPA, it became a “shield” for EPA policy-making against right-wing critics. In other words, environmental policy makers employed the “logic” of “externalities,” or the social cost of pollutants, to draft administrative rules and enforcement procedures that could justify budgets and sustain public approval. The call for a “balance” between “environmental quality” and “economic prosperity” crippled EPA’s full capacity to curb industry, a trade-off that later characterized carbon emission regulation that was designed to be “market-based” and “cost-efficient.”<sup>28</sup>

---

<sup>28</sup> Halvorson, *Valuing Clean Air*, 55, 70.

The EPA's review of the statewide implementation plans of NAAQS sparked dissent from businesses and states with heavy polluting industries. The economics of environmental regulation became contested due to the difficulty of evaluating either the industry's compliance costs or the long-term benefits of environmental welfare in concrete numbers.<sup>29</sup> The organized opposition from industry lobbying groups like the Business Roundtable (formed in 1972) and the growing association of economic downturn with regulatory measures led to reforms at EPA that increasingly harnessed the "profit-maximizing impulse" of businesses.<sup>30</sup> Specifically, the Carter Administration experimented with the "bubble" approach in the 1977 Amendment to the Clean Air Act, which allowed each plant to reduce pollution according to their own designs, as long as the aggregate fell within an EPA-mandated threshold.<sup>31</sup>

The historical development of market-based approaches to pollution control was practically the enlargement of the "bubble": the scope relaxed from plant-wide to company-wide in 1979, then from internal to external in Title IV of the 1990 Clean Air Act Amendment that created a domestic market in sulfur dioxide emissions to address acid rain.<sup>32</sup> The model of "cap-and-trade" allowed businesses to cut compliance costs and purchase "credits" from other companies, who were incentivized to develop clean technologies, reduce emissions below the mandated targets, and sell the leftover "pollution rights" for profits. While critics of the cap-and-

---

<sup>29</sup> Halvorson, 70, 79. In addition, the anti-regulation reports by the Department of Commerce, the Department of Interior, and the Department of Transportation resorted to different economic models than EPA, and could be viewed with a "developmental bias," indicating that the developmental goals of these agencies might skew their decisions towards pro-industry. There's also large uncertainty in economic modeling. According to the Spring 2023 *Climate Finance* class at Columbia University, the first climate-related class in the Economics department and co-taught by José Scheinkman and Harrison Hong, the choice of multipliers and discount rate when pricing (the social cost of) carbon could be based on individual beliefs on the value of environmental goods and future welfare. See more at Harrison Hong, G Andrew Karolyi, and José A Scheinkman, "Climate Finance," *The Review of Financial Studies* 33, no. 3 (March 1, 2020): 1011–23, <https://doi.org/10.1093/rfs/hhz146>.

<sup>30</sup> Halvorson, 110.

<sup>31</sup> Halvorson, *Valuing Clean Air*, 121, 127.

<sup>32</sup> The 1990 Clean Air Act Amendments, Title IV: CAA § 401-416; 42 U.S.C. §§ 7651-7651o (2018).

trade model argued that rejection of top-down emission controls, like universal carbon tax, forfeited opportunities for drastic energy transition, by 1990 prominent environmental activist groups like Environmental Defense Fund began to accept the “cost-efficient” model as “necessary” to coalesce the interests of the businesses, activists, and the public.<sup>33</sup>

Investors and industries developed strategies to understand, evaluate, manage, or reject environmental issues and regulation. In the rest of the chapter, I will observe the business trends and sentiments shown in the representative business press *Institutional Investor* from the 1970s to 2005, illustrating how corporations and the financial sector adjusted business models to manage the risks and capture the opportunities of environmental movements and regulations.

### **1970s: Corporate Social Responsibility Reimagined by Social Movements and Regulations**

In the 1970s, the business community exhibited mixed reactions to the growing public expectation of corporate social responsibility. While many corporations advertised their corporate responsibility initiatives on community giveback and employee welfare, others defended shareholder capitalism as their ultimate social responsibility.

Early forms of shareholder engagement emerged amid tightened regulations and a bearish market. To gain shareholder confidence, asset management firms placed a growing emphasis on investor relations and began “telling their stories themselves to the investing public.”<sup>34</sup> In 1975, in response to growing demands from shareholders for company transparency and sound governance, the SEC adopted amendments that held a company accountable for misleading

---

<sup>33</sup> Halvorson, *Valuing Clean Air*, 150, 163-165, 172. Former critics of the market-based model began to work with industries, citing the insurmountable dissent over the universal regulation model of carbon control. Some objected to the model on the grounds of environmental justice, raising concerns about the equitable distribution of resources for underprivileged communities regarding environmental issues. The model allowed technologically underdeveloped plants, often located in disadvantaged communities, to continue polluting on a hazardous level.

<sup>34</sup> Richard Van Horn, “The New Pipeline to Aunt Jane,” *Institutional Investor* 8, no. 2 (February 1974): 27. The bearish market was marked by high inflation rate and anxiety around the oil crisis caused by the Organization of the Petroleum Exporting Countries.

annual reports under the anti-fraud rule of the Securities Exchange Act of 1934.<sup>35</sup> To appeal to both shareholders and stakeholders, annual reports became a channel for companies to disclose significant business information and herald corporate responsibility.<sup>36</sup>

Environmental-friendly investing options were attractive to institutional investors in the 1970s with financial incentives, yet investors dreaded navigating through the maze of different state policies and an “uncertain political climate.” One result of inconsistent federal incentives on green investing was the fluctuating pollution control bond market. While the tax-exempt bonds had provided municipalities and corporations with the “cheapest rates” for their pollution control projects in the name of “public interest,” the Internal Revenue Service and treasury were “pushing for re-examination of the bonds’ tax-exempt status.”<sup>37</sup> Instead of fretting over the social impact of underfunded pollution control, the business community as depicted by *Institutional Investor* was solely concerned with the uncertain financial incentives.

In 1970, a main critic of corporate social responsibility was Milton Friedman, a Nobel-winning American economist who reasoned that the real “social responsibility” of businesses in a free enterprise system was to “increase profits.” Equating corporate social responsibility with the responsibility of the managing class, Friedman argued that the priority of a corporate executive was to “make as much money as possible while conforming to the basic rules of the society, both those embodied in law and those embodied in ethical custom.” However, what

---

<sup>35</sup> Arthur Fleischer, “The Annual Report Will Never Be the Same,” *Institutional Investor* 9, no. 1 (January 1975): 33.

<sup>36</sup> For an example on corporate (ir)responsibility, see Gerald Markowitz and David Rosner, *Deceit and Denial: The Deadly Politics of Industrial Pollution*, (University of California Press, 2013). In the 1970s, the chemical industry giant Monsanto mobilized an extravagant corporate social responsibility campaign to improve public relations and overlook the toxicity of its products, which were being scrutinized in the courts of law and of public opinion. While there were no rules on corporate responsibility disclosure, companies rushed to publicize their social engagement and welfare program, “community giveback plan,” and progress towards female workplace empowerment.

<sup>37</sup> Harvey D. Shapiro, ‘Pollution Control Financing’s Troubled Environment,’ *Institutional Investor* 11, no. 2, (FEB. 1977): 93.

Friedman failed to consider was the changing public expectation of business, therefore the fluid construction of acceptable business practices and ethical norms. His call for businesses to stick to the “basic rules” and comply with the bare minimum faced the growing traction of consumers’ and activists’ calls for a wider corporate accountability in the 1970s.<sup>38</sup> While the market welcomed deregulation during the Reagan administration, corporations continued to claim “responsibility” as the market struggled to regulate itself.

### **1980s: Deregulation, Divestment, and Shareholders Activism**

Seeking to cut inflation and reinvigorate the economy, the Reagan administration adopted “tax cuts, reduction in government spending, and deregulation.”<sup>39</sup> Departing from the rhetoric of “mandated responsibility,” Reagan appealed to the “voluntarism” and “generosity” of American culture and businesses. In 1981, the Administration founded the Presidential Task Force on Private Sector Initiatives, a volunteer-based organization to “foster greater public-private partnerships and to decrease dependence on government.”<sup>40</sup> Although “shareholder value” was cited as the legitimate mission of businesses, companies competed for public favor by taking leadership in the Task Force and assuming the public welfare of businesses.<sup>41</sup>

“Responsible investing” emerged as clients expressed their stance on social issues through their money allocation. A 1981 *Institutional Investor* article commended the \$350 million retirement fund of the United Church of Christ (UCC) as a business that had “good returns with

---

<sup>38</sup> Friedman, “A Friedman Doctrine.” Upholding shareholder capitalism, Friedman blamed the “short-sightedness” of those businessmen, who called for wage and price guidelines and attempted to address social issues using corporate resources according to ambiguous standards. He even fantasized about an “ideal” private-property-based free market with no “social values” nor “responsibilities.” Ironically, executives with the sole goal of short-term profit-making had become associated with “short-sightedness” and bad governance since the 1980s.

<sup>39</sup> Carroll and Goodpaster, *Corporate Responsibility*, 307.

<sup>40</sup> Exec. Order No.12,329, 46 Fed. Reg. 200 (Oct. 16, 1981).

<sup>41</sup> Carroll and Goodpaster, *Corporate Responsibility*, 311; Krippner, *Capitalizing on Crisis*, 7; One example of corporate philanthropy was the Five Percent Club, consisting of companies who donated 5 percent of their annual taxable income to charities or civic causes.

good conscience.” The pension officer John Ordway claimed that instead of sacrificing returns for social ends, the UCC fund tried to steer particular companies towards “socially sensitive policies” through investor communications. The author observed that “determining a clear path of social responsibility” was “very difficult” in the deregulated corporate environment.<sup>42</sup> While the UCC fund preferred “persistent persuasion” over “radical approaches,” the rise of shareholder activism and public awareness of international human rights abuse prompted new approaches to corporate social responsibility and responsible investing.

In the mid to late 1980s, the promise of corporate “self-regulation” faced backlash due to the shock of industrial catastrophes and the public awakening to the human rights crisis abroad. During 1984 and 1985, chemical giant Union Carbide alone was responsible for two plant ruptures that killed thousands of residents in Bhopal, India and injured hundreds in Institute, West Virginia. Disillusioned with the fragile “safety-net” of private, voluntary initiatives, the public demanded federal intervention and the “right to know” of risks and externalities in their communities.<sup>43</sup> Meanwhile, amid the growing Anti-Apartheid movement, institutional investors not only encountered public dissent and legislative restrictions on state pension investment in South African companies, but also faced pressure from clients who exerted “shareholder activism” on behalf of the divestment movement. Repeatedly, *Institutional Investor* had to advise its readers on “coping with (shareholder) activists,” who exerted their powers to protest executive decisions on investing and pushed for sound governance.<sup>44</sup> While institutional investors continued to question whether “performance (can) have a conscience,” the

---

<sup>42</sup> Molly Brauer, “Good Returns with Good Conscience,” *Institutional Investor* 15, no. 9, (Sep 1981): 111.

<sup>43</sup> Carroll and Goodpaster, *Corporate Responsibility*, 316-317.

<sup>44</sup> Julie Rohrer, “The New Activism at Institutions,” *Institutional Investor* 17, no. 10, (Oct 1983): 177; Debbie Galant, “Coping with Activists,” *Institutional Investor* 22, no. 6, (Jun 1988): 127.

Comprehensive Anti-Apartheid Act of 1986 banned US investment in South Africa, marking a triumph of the federal efforts to formalize corporate social responsibility.<sup>45</sup>

### **1990s to 2005: “Groping Towards a Balance” of Regulation and Responsibility**

In 1990, *Institutional Investor* provided an industry outlook for the banking industry: “Regulation in the 1990s will be a painstaking, case-by-case balancing of interests with deregulation and reregulation both playing a part. Global competition will be a major complicating factor as US regulators and lawmakers approach the financial services industry.”<sup>46</sup> The complexity of policy-making in a globalized economy also held true for other industries. As businesses navigated environmental regulations, social demands, and governance challenges at home and abroad, they formed coalitions, invented structures, and negotiated standards to stay afloat. During this period, *Institutional Investor* produced extensive observations, advice, and opinions on corporate social responsibility that mainly revolved around three themes—Environmental Protection and Financing, Social Justice and Community Engagement, and Corporate Governance—the three pillars of “ESG” as we know it.

### **Environmental Protection and Climate Financing**

Assessing environmental risks for businesses in the 1990s and early 2000 required multi-layered considerations. Corporations needed to not only comply with existing EPA regulations like the Clean Air Act, but also respond to the “potent consumer environmental movement” and

---

<sup>45</sup> Richard Chimberg, “Can Performance Have a Conscience?” *Institutional Investor* 19, no. 10, (Oct 1985): 191; Comprehensive Anti-Apartheid Act of 1986, H.Res.4868 - 99th Congress (1985-1986). Another example of government efforts to institutionalize corporate responsibility was the quota of minority-owned underwriting firms in the municipal bond market. For instance, the city of Houston had an ordinance mandating that nineteen percent of the city’s total contracts for bond underwritings and other professional services would go to minority-owned businesses; See Fran Hawthorn, “Is the Muni Market Color-Blind?” *Institutional Investor* 22, no. 6, (Jun 1988): 43.

<sup>46</sup> “Regulation: Groping Toward a Balance,” *Institutional Investor* 24, no. 1, (Jan 1990): 103.

growing awareness of the climate crisis. In addition, the launch of the United Nations Framework Convention on Climate Change (UNFCCC) in 1992 and the Kyoto Protocol in 1997 marked the beginning of multilateral climate policy-making.<sup>47</sup> While institutional investors began to consider environmental and climate issues as “material” risks due to the projected significant disruption of global warming to the economy on production, workforce, and properties, the fossil fuel industry mobilized against climate regulation.

It is first important to discuss the history of climate science and the industry’s early awareness of the crisis. While in the mid 1970s scientists had recognized “human activity” as the driver behind “global warming,” it took decades for climate change to gain public attention and political resources.<sup>48</sup> In 1988, the American public finally became familiar with “climate change” through the widely publicized congressional testimony of NASA scientist John Hansen, whose research demonstrated a 99 percent certainty of the man-made, or anthropogenic, nature of climate change.<sup>49</sup> In the same year, the UN established the Intergovernmental Panel on Climate Change (IPCC) to provide comprehensive studies on the science and socioeconomic impacts of climate change.<sup>50</sup> IPCC science became a foundation for the UNFCCC and the Kyoto Protocol. While scientists assumed a “linear model of expertise” in the early stage of international climate

---

<sup>47</sup> United Nations Framework Convention on Climate Change, May 9, 1992, S. Treaty Doc No. 102-38, 1771 U.N.T.S. 107; Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 10, 1997, 2303 U.N.T.S. 162.

<sup>48</sup> G. S. Callendar, “The Artificial Production of Carbon Dioxide and Its Influence on Temperature,” *Quarterly Journal of the Royal Meteorological Society* 64, no. 275 (April 1, 1938): 223–40; Wallace S. Broecker, “Climatic Change: Are We on the Brink of a Pronounced Global Warming?” *Science* 189, no. 4201 (1975): 460–63. Scientists had become aware of the greenhouse effect of carbon dioxide in the 1930s.

<sup>49</sup> Philip Shabecoff, “Global Warming Has Begun, Expert Tells Senate,” *Special to the New York Times*, June 24, 1988, <https://www.nytimes.com/1988/06/24/us/global-warming-has-begun-expert-tells-senate.html>.

<sup>50</sup> UN General Assembly Resolution 43/53, “Protection of Global Climate for the Present and Future Generations of Mankind,” December 6, 1988.



policymaking, believing that “better science” led to “better policy,” the model deteriorated due to the politicization of science and the concerted challenge from the industry.<sup>51</sup>

In 1992, the Bush administration supported the UNFCCC as the public memory of the Hansen testimony on the scientific consensus on climate change remained fresh. In the first Conference of the Party (COP) under the UN Framework in 1995, the international community decided to exempt developing countries from carbon reduction targets in the next ten years, according to the “common but differentiated responsibilities” principle that recognized the unequal historical emission patterns and distinct socio-economic capacities of its member states.<sup>52</sup> The largest historical and per-capita emitter by far, the U.S. was nevertheless reluctant to take on its responsibility, fearing the cost to its economy.<sup>53</sup> In 1997, the Senate unanimously passed the Byrd–Hagel resolution that prevented the U.S. from signing on to any international agreement that would mandate “new commitments to limit or reduce greenhouse gas emissions,” unless it regulated both the developed and developing countries in the same compliance period.<sup>54</sup>

In 1997, Vice President Al Gore led the U.S. delegation to the highly anticipated negotiation of the Kyoto Protocol, that set a legally-binding emission reduction target for each developed country, despite a weak system of international treaty auditing and enforcement. Developed countries were also committed to supporting the sustainable transition of developing countries

---

<sup>51</sup> Silke Beck, “Moving beyond the Linear Model of Expertise? IPCC and the Test of Adaptation,” *Regional Environmental Change* 11, no. 2 (June 1, 2011): 297–306, <https://doi.org/10.1007/s10113-010-0136-2>. The scientific study and public perception of climate change differed from other natural disasters’. While the general public could see air pollution, feel acid rain, and get skin disease through ozone depletion, the unprecedented accumulation of man-made carbon dioxide since the industrial revolution had yielded no visible impacts for human life, until disasters like the 2005 hurricane Katrina and California wildfires that forced the public to confront climate reality.

<sup>52</sup> UNFCCC, Preamble.

<sup>53</sup> “Regional CO2 Emission Shares by Region 1750-2020,” Statista, December 2021, accessed March 30, 2023, <https://www.statista.com/statistics/1177911/cumulative-co2-emissions-worldwide-by-region/>.

<sup>54</sup> The Byrd-Hagel Resolution, S.Res.98 - 105th Congress (1997-1998). To protect the U.S. economy from “serious harm” brought by international treaties like the Kyoto Protocol, the Senate ordered “an analysis of the detailed financial costs and other impacts” on the U.S. economy for Senate ratification.

through climate finance and technology transfer. Building upon the U.S. tradition of “cap-and-trade”<sup>1</sup>, the Protocol established the “clean development mechanism (CDM),” allowing developed countries to purchase emission credits from developing countries.<sup>55</sup>

Al Gore signed the Kyoto Protocol at the conference despite pessimism about Senate approval. President Clinton signed the Protocol but never submitted it to the Senate for ratification. The federal policy stance on international climate policy-making became clearer as President Bush unilaterally announced the Kyoto Protocol dead in 2001. In the same year, the EPA General Counsel declared that the Clean Air Act did not authorize greenhouse gas regulation, a decision only overturned by the Supreme Court in 2007.<sup>56</sup>

In the void of federal climate policy, state and local governments developed their own climate change laws, along with coalition building in the financial sector like the Principle of Responsible Investment, the landmark UN resolution discussed previously. Many municipalities established sustainability programs, adopted green building codes, and supported renewable energy projects.<sup>57</sup> On a state level, the state of California established its carbon trading program in 2006, following the model of the EU carbon trading program launched in 2002. In 2009, the

---

<sup>55</sup> For example, if the U.S. financed the conservation of a patch of Brazilian Rainforest that resulted in the saving of trees and the sequestration of 100 tons of carbon, the U.S. received the 100-ton credit that could be applied towards its emission reduction targets. However, the market-based solution in fact created a leak in the bubble of developed countries’ emission. Since developing countries were not subject to any emission reduction target under the Protocol, the CDM projects might not reduce the net overall global emission, and could dampen climate action by not forcing drastic energy transitions in developed countries. See more at David A. Wirth, “The Multilateral Climate Regime,” in *Global Climate Change and U.S. Law*, 3rd ed. eds. Michael Gerrard, Jody Freeman, and Michael Burger (Chicago: American Bar Association, Environment, Energy, and Resources Section 2023).

<sup>56</sup> *Massachusetts v. EPA*, 549 U.S. 497 (2007). In the aftermath of the Protocol, environmental groups filed a petition in 1999 to call on the EPA to regulate greenhouse gasses (GHGs). EPA denied the petition, citing its regulatory limitation under the Clean Air Act to issue mandatory regulations to address climate change, alleging the lack of congressional direction and the “uncertainty” regarding the link between GHGs and global warming. The ruling was overturned in the Supreme Court in 2007 that confirmed EPA’s authority to regulate GHGs. However, in its July 2022 decision on *West Virginia v. EPA*, 142 S. Ct. 2587 (2022), the Court overruled the EPA’s Clean Power Plan, and specifically limited its authority to regulate coal plants. Notably, the ruling does not affect the 2007 *Massachusetts v. EPA* decision. See more at Thomas Lorenzen et al., “Regulation of Greenhouse Gases Under the Clean Air Act,” Chapter 4 in Gerrard Freeman & Burger, 113-137.

<sup>57</sup> Sheila R. Foster and Chiara Pappalardo, “Local Initiatives,” Chapter 12 in Gerrard Freeman & Burger, 361-401.

Regional Greenhouse Gas Initiative formed the largest interstate climate coalition and launched the first mandatory cap-and-trade program between eleven Northeastern and Mid-Atlantic states to reduce CO<sub>2</sub> emission from the power sector.<sup>58</sup>

Environmentally-minded political leaders like Al Gore collaborated with nonprofits, private funds, and the media to mobilize public support for climate actions. Back in 1992, he wrote about the corporate social responsibilities for environmental protection in his book *Earth in the Balance*. In 2006, the Academy-winning documentary, *An Inconvenient Truth* (2006), helped reenergize the international environmental movement by broadcasting Gore's educational campaign on climate change.<sup>59</sup> Gore was also leading the ESG investing movement: He co-founded the asset management firm Generation Investment Management (Generation) in 2004 with former Goldman Sachs Asset Management CEO David Blood. *Institutional Investor* discussed Generation's ESG investing approach:

Generation will pursue a different approach from that of other environmentally and socially conscious money managers. In identifying large-cap stocks to buy and hold for several years, the firm won't ban companies or industries that give sustainability concerns short shrift. Instead, Generation will consider environmental policies, community involvement and social responsibility as important fundamentals that affect equity values, alongside such purely financial measures as price-earnings multiples and growth forecasts.<sup>60</sup>

The new ESG approach of Generation differed from previous socially responsible investing (SRI) approaches through the systematic and quantitative integration of ESG issues as risks in the portfolio. Previous SRI mainly focused on the divestment from certain taboo products like tobacco or alcohol, under ad hoc client requests or voluntary measures of faith-based funds.

---

<sup>58</sup> Original members included Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont, and in 2020 and 2022 Virginia and Pennsylvania joined respectively.

<sup>59</sup> *An Inconvenient Truth*, directed by Davis Guggenheim (Paramount Classics, 2006).

<sup>60</sup> "Gore: The Next Steps," *Institutional Investor*, December 2004, 12.

Under the ESG regime, Generation's founders believed in the double meaning of its namesake: the "generation of returns" and the "future generations who will benefit from sustainability."<sup>61</sup> Both the long-term financial benefits to shareholders and the positive impact to stakeholders rendered ESG investing desirable for mainstream institutional investors.

Despite regional and private efforts, the lack of climate policy guidance and investment on the federal level eliminated the possibility of mobilizing climate actions on a critical scale to achieve net-zero goals. One main driver against federal climate action was the oil and gas industry, who formed "coalitions" in response to growing international climate regulations. In 1989, the Global Climate Coalition (GCC) emerged as the largest international business lobbyist group on climate policy. Framing itself as a "nonprofit" with scientific and economic expertise, GCC included about forty industry associations and represented over 230,000 businesses worldwide, mainly from the energy-heavy and carbon-intensive sectors of petroleum, power generation, chemicals, paper, and transportation. Publicized U.S. State department papers from 2001 revealed the influence of Exxon and GCC on climate change policies.<sup>62</sup> While GCC was disbanded in 2001 due to decline in membership and the infeasibility of climate denialism in the face of pronounced global consensus, GCC claimed proudly on its website that it had achieved what it was designed for, namely the shaping of climate policy and the rejection of IPCC expertise and the Kyoto Protocol.<sup>63</sup>

---

<sup>61</sup> "Gore: The Next Steps."

<sup>62</sup> A memo to Paula Dobriansky, the 2001 Under Secretary of State for Global Affairs and the head of delegation on US climate change policy, demonstrated that the Bush administration took the advice of GCC into consideration for its opposition of the Kyoto Protocol. The memo recalled Dobriansky's communication with GCC from previous meetings: "POTUS rejected Kyoto, in part, based on input from you." See "2001 State Department Briefing Meeting with Global Climate Coalition," accessed March 30, 2023, <https://www.climatefiles.com/denial-groups/global-climate-coalition-collection/2001-state-department-meeting/>.

<sup>63</sup> "Global Climate Coalition Is the Voice of Business and Industry on Global Warming Issues.," January 27, 2006, <https://web.archive.org/web/20060127223742/http://www.globalclimate.org/>.

The financial sector recognized the long-term risk and opportunities of climate change despite federal inaction and industry opposition. Institutional investors, banks, energy start-ups, and corporations acted upon it through diverse strategies like energy innovation, climate financing, carbon trading, and public relations strategies that colored the company “green.”<sup>64</sup>

In the early 1990s, in response to the “proliferation” of EPA regulations, the rise of consumer movement, and the surging cost of compliance, chief executive officers (CEO) and investors considered environmental liabilities a “jungle” that challenged them to reshape corporate and investment strategies. To “survive the environmental movement,” the CEOs were advised by *Institutional Investor* to resort to four approaches: 1) “Self-Vigilance,” to establish an internal monitoring system for environmental compliance; 2) “Side-Stepping problems,” to diversify portfolio and eventually divest from potential liabilities; 3) “Profiting From The Peril,” by developing environmental research centers and clean-up capabilities<sup>65</sup>; and 4) “Joining the Movement,” to integrate environmentalism into the company culture and management through the recruitment of environmentally-minded executives.<sup>66</sup> While the initial motivation was to “survive” the public pressure and regulation, this technocratic approach to “manage” environmental issues as financial and public relations risks became mainstream, as investors recognized the need to proactively identify ESG issues according to their fiduciary duty.

Companies whose services or products relied on energy had even more incentives to lobby, comply, or transform their business models. The proposal to impose environmental-externalities tax on electric utility firms raised questions on who should bear the cost of pollution and climate

---

<sup>64</sup> Clark A. Miller, “Climate Science and the Making of a Global Political Order,” *States of Knowledge*, 2004, 57–77, <https://doi.org/10.4324/9780203413845-8>.

<sup>65</sup> Following the example of General Electrics, Dupont, and 3M that aimed to profit from new technologies.

<sup>66</sup> Stephen E. Clark, “How to Survive in the Environmental Jungle,” *Institutional Investor* 24, no. 16, (Dec 1990): 89; Amy C. Pershing, “Environmental Risk: No place to Hide,” *Institutional Investor* 24, no. 10, (Aug 1990): 111.

crisis mitigation: the public utility industries, the government, or even the consumers? Was it the responsibility of corporations to address climate change?<sup>67</sup> One response came from Heinz Schimmelbusch, the executive chairman of nonferrous metals company Metallgesellschaft, who discussed the company's "green activities" in an interview. He called for a collaboration between legislators and industries to predict the industrial waste and emissions generated by specific regions through long-term development planning and demographic projections. The public-private partnership would then inform business procedures and legal enforcement based on a reasonable cost and timeframe. Schimmelbusch asserted that "a good environmental plan needs 2 elements - a scientific justification of what is being done and a consciousness of the competing possibilities for spending limited fund." Appealing to the middle way, he called for an environmental plan that would not interrupt normal business operations.<sup>68</sup>

In addition to the four approaches, institutional investors resorted to creative options. Title IV of the Clean Air Act Amendment of 1990 approved the trading of pollutants, and in 1992 the Commodity Futures Trading Commission launched the nation's first attempt at "establishing organized markets in the trading of property rights or allowances" at the Chicago Board of Trade. The investor community believed that the global warming treaty could adopt the model of the Clean Air Act and created "tradable carbon dioxide entitlements in a spot and futures market." Investors demanded global standards for pollutant trading and other environmental-friendly financing programs: "Standardization is critical and implicit in all aspects of the creation of a global carbon dioxide commodity market, from the method and formula for monitoring emissions to the issuance of tradable entitlements."<sup>69</sup> The demand for standards in carbon trading

---

<sup>67</sup> Kenneth Gordon, "Policing the Environment," *Institutional Investor* 26, no. 11, (Oct 1992): S10.

<sup>68</sup> Clem Morgello, "The Right Way to Protect the Environment," *Institutional Investor* 27, no. 10, (Oct 1993): 29.

<sup>69</sup> Richard L. Sandor, "Environmental Futures," *Institutional Investor* 26, no. 13, (Dec 1992): S23.

and corporate environmental programs precipitated the development of the ESG framework at the UN in early 2000s.

### **Social Justice and Community Engagement**

Socially responsible investing evolved in the 1990s with a growing premise on financial viability. Departing from the techniques of screening or divestment, institutional investors only resorted to socially-responsible investing when financial incentives were guaranteed. In 1993, a new form of socially responsible investing, “economically targeted investment (ETI),” appealed to pension sponsors with its alleged double win in both performance and social goods.

“Insisting” they were “motivated by the long-term interests of their beneficiaries,” pension managers opted for ETIs like affordable housing projects.<sup>70</sup> Again in 1998, when states received tax credits from the federal government to develop low-income housing, investors “flocked” to funding the projects “for one reason: tax credits.”<sup>71</sup> The investors’ adoption of “social goods” were contingent on financial incentive and policy guidance.

The goals of social equity intersected with responsible governance in efforts to diversify corporate boards and Wall Street firms. The enforcement of antidiscrimination law and greater accessibility to education and professional opportunities in general increased female and minority leadership in business since the 1970s.<sup>72</sup> But according to a 1999 survey, pension funds themselves remained “mostly negative on affirmative action” when it came to choosing an investment management firm. Only 28.1% reported currently working with minority-or-women-

---

<sup>70</sup> Ellen James Martin, “Social Investing’s 1990s Spin,” *Institutional Investor* 27, no. 3, (Mar 1993): 155. David Bronner, chief executive of Alabama’s \$11 billion public employee pension fund, for example, used \$180 million to underwrite the construction of office buildings, parking decks, and a day-care center to improve the living conditions of state workers in Montgomery.

<sup>71</sup> Howard Rudnitsky, “A Case of Doing Good and Doing Well,” *Institutional Investor* 33, no. 8, (Aug 1999): 161-162.

<sup>72</sup> “Girl Scouts on Wall Street,” *Institutional Investor* 25, no.5, (May 1991): 13.

owned asset management.<sup>73</sup> For corporate responsibility on social justice and community engagement as a whole, the uneven practices across businesses required standards that were even more elusive than those for environmental responsibility.

## Corporate Governance

Shareholder “inactivism” shaped corporate governance issues in early 1990s, as shareholders grew disillusioned with the process despite growing awareness of their right to speak up about corporate management decisions.<sup>74</sup> At the turn of the millennium, however, major recessions in developed economies exposed the vulnerability of the deregulated market structure. U.S. corporate scandals involving malfeasance and accounting gimmickry damaged investor confidence. Cash balance pension funds at companies like WorldCom and Enron Corp vanished overnight, sparking public outrage and Congressional oversight.<sup>75</sup> A 2002 *Institutional Investor* article summarized the renewed attention on fiduciary duties and the growing demand for a global standard of corporate governance:

The recent spectacular corporate failures, particularly in the US, have served as a wakeup call for global institutional investors, regulators, and corporations active in the financial markets. Investors will be much less tolerant of corporate abuses, while companies will have to prove why investors should place their trust in them. Capital mobility is now faster than ever and will come with increasing fiduciary duties.<sup>76</sup>

In addition to legal compliance, the business community grew interested in the financial incentive of sound governance. The 2002 article argued that investors valued companies with records of sound governance higher than their counterparts of mediocre governance evaluation.

---

<sup>73</sup> “Mostly Negative on Affirmative Action,” *Institutional Investor* 33, no. 11, (Nov 1999): 145; “The Disappearing Women Accountants,” *Institutional Investor* 28, no. 5, (May 1994): 111.

<sup>74</sup> Fran Hawthorne, “Union Activists,” *Institutional Investor* 29, no. 5 (May 1995): 115; “Shareholder Inactivism,” *Institutional Investor* 31, no. 8 (August 1997): 147.; “Hard Times for Activists,” *Institutional Investor* 32, no. 7, (Jul 1998): 42.

<sup>75</sup> Jinny St Goar, “Politically Incorrect,” *Institutional Investor* 36, no. 9, (Sep 2002): 193-194.

<sup>76</sup> Renato Grandmintm, “Fiduciary Duties: A Wakeup Call,” *Institutional Investor* 36, no. 9, (Sep 2002): B22.



In 2004, “pioneering shareholder activists” Robert Monks and John Higgins founded a hedge fund that would “invest purely on the quality of their governance.” Investors increasingly linked corporate governance with stock price performance based on empirical studies and the historical lessons of market failures.<sup>77</sup> Although *Institutional Investor* tracked the conversations about socially responsible investment in the 1990s, the business community as a whole had only begun to experiment with determining how to value such investments.

The sociopolitical environment in the 2000s demanded new strategies for investors and corporations to respond to internationalized stakeholders and constituents. Activism and protests in the period took new shapes, as protestors decried the “depredations of globalization” and denounced the World Trade Organization in 2000 Seattle. These activists targeted prominent financial institutions who they held responsible for “damaging the environment, trampling human rights and further impoverishing the poor.”<sup>78</sup> Philanthropy or local community engagement proved insufficient to address the global crisis the public were concerned with.

At the turn of the twenty-first century, the business community struggled to claim legitimacy in a globalized economy and a conflict-ridden society affected by climate change, social crisis, and corporate governance deterioration. Meanwhile, some business executives also recognized the financial and social opportunities of capitalizing corporate social responsibility. While responsible investing had gained traction, investors demanded a global standard on how to value the comparative social good of businesses in ways that combined environmental, social, and corporate governance issues. They also had to resolve whether responsible investing contradicted

---

<sup>77</sup> “Monks Sees Gold in Governance,” *Institutional Investor*, May 2004, 15.

<sup>78</sup> Deepak Gopinath, “The New Financial Activists,” *Institutional Investor*, New York Vol. 34, no. 6, (Jun 2000): 40-46.

fiduciary duties. To remain relevant and competitive in contemporary society, corporations sought public-private partnership and invented the structure of ESG.

## **Chapter II. ESG from 2005 to 2015: Trials and Errors of Market Self-Regulation**

While the UN-facilitated Principles for Responsible Investing (PRI) received global attention in 2005, ESG investing and corporate actions to address climate change did not follow directly. Robust self-regulation on emission control could only be achieved under an ESG market infrastructure, including but not limited to ESG scores, climate financiers, climate risk management, legal clearance on the compatibility of fiduciary duty and ESG strategy, supportive government climate policies, and UN facilitation. The process of valuing and standardizing ESG was contested as different financial institutions and corporations held different ideas of what constituted ESG and how to model climate risk despite the PRI framework. The tool of index investing and the growing collaboration across the financial sector under the UN framework allowed industry standards to be formed, albeit non-binding and limited in scope. Meanwhile, some investors capitalized on the business opportunity of ESG. From high profile and high net worth individuals like Al Gore and Bill Gates, to the new markets for ESG consulting and carbon traders, the financial sector claimed to strive for a sound “triple bottom line”: financial, environmental, and social gains.

Whether such institutions were opportunistic or mission-driven, they helped build an ESG infrastructure that still experienced constant friction and criticism due to the lack of policy guidelines. While the UN and many U.S. businesses called for climate risk disclosure in the early 2000s, the SEC and the rest of the American government remained reluctant to demand companies do so or to enforce regulation. Shaped by lobbying efforts from fossil fuel companies, the unanswered call for the standardization of ESG reflected the larger trend of climate inaction in the U.S. due to industry politics and an unyielding Senate that could not pass binding international agreements like the Kyoto Protocol. In this chapter, I hope to illustrate the trials and

errors of the market to “regulate itself” and establish ESG standards, and to demonstrate the necessity of consistent policy guidance to drive responsible corporate behavior and climate financing, namely the funding of enterprises on climate mitigation and adaptation.

### **Standard Setting: ESG Frameworks for Investors and Corporations**

Institutional investors worked with corporations, policymakers, and nonprofits to develop ESG framework to standardize the market and better inform investment decisions. While calling for SEC to provide guidance on ESG, American institutional investors joined and helped establish international standards that I distill into three main categories: 1) ESG investment standards that shape ESG portfolios; 2) ESG investor engagement guidance on how to use the clout of concentrated shareholding to drive changes in particular companies; and 3) industry-specific corporate disclosure criteria for how corporations should report their carbon emissions and other ESG issues. While these guidelines were all voluntary and aspirational, they represented the commitment of the financial sector to standardize ESG. The lack of enforcement mechanisms and the limited scope of their authority yielded questionable compliance, indicating the insufficient power of the financial system to regulate itself. In addition, institutional investors’ characterization of “policy advocacy” as a central ESG goal further demonstrates their need and willingness for federal policy guidance.

ESG investment standards provided guidelines on climate, social, and governance questions to consider when making a decision. Rather than quantitative restrictions, the guidelines were often abstract and up to the interpretation of each fund manager. The seminal framework, the UN-facilitated Principles for Responsible Investment (PRI), listed six principles and included “possible actions” for each. For the first goal to “incorporate ESG issues into investment analysis and decision-making processes,” the recommendations included addressing

ESG issues in investment policy statements, supporting the development of ESG-related tools, training investment managers to incorporate ESG issues, asking investment service providers (like financial analysts, consultants, brokers, research firms, or rating companies) to integrate ESG factors into evolving research and analysis, and encouraging academic research on this theme. Regarding enforcement, in 2005 the PRI board noted the potential “reputational risks” associated with failure of compliance, but considered the commitments of signatories “a work in progress” and “a direction to head in,” rather than “a prescriptive checklist with which to comply.”<sup>79</sup> While the membership of PRI had expanded to more than 5,300 signatories worldwide as of October 2022, the “voluntary and aspirational” nature of PRI remains unchallenged.<sup>80</sup> The broad PRI standard provided a launchpad and an investor network for asset managers to develop their own ESG investing strategies, which will be discussed in the next subsection.

The second category of ESG framework is guidance on engagement, meaning the intervention of shareholders on corporate development. Since institutional investors are major shareholders of businesses, they could resort to the formal method of proxy voting in shareholder meetings, or, more often, find informal ways to steer businesses away from decisions that are believed to have material impact on their investments. In 2015, asset management firm BlackRock and the leading sustainable finance nonprofit Ceres, published a whitepaper, *21st Century Engagement*. The 68-pages report was “practical” and instructive for U.S. institutional

---

<sup>79</sup> “Principles for Responsible Investment,” 8; the six principles are: 1) “incorporate ESG issues into investment analysis and decision-making processes,” 2) “be active owners and incorporate ESG issues into our ownership policies and practices”, 3) “seek appropriate disclosure on ESG issues by the entities in which we invest”, 4) “promote acceptance and implementation of the Principles within the investment industry”, 5) “work together to enhance our effectiveness in implementing the Principles”, and 6) “each report on our activities and progress towards implementing the Principles.”

<sup>80</sup> Principles for Responsible Investment, “Signatory Update: October to December 2022,” <https://www.unpri.org/signatories/signatory-resources/quarterly-signatory-update>. Signatories represented \$121 trillion assets under management.

investors to “engage companies and policymakers on sustainability issues,” drawing the lessons learned from over a decade of ESG investor engagements that helped company managers understand the financial and strategic stakes of long-term sustainability challenges.<sup>81</sup>

One insightful article provided an overview of the engagement process at the CalSTRS, the largest teachers’ pension fund in the U.S., Director of Corporate Governance Anne Sheehan and portfolio manager Brian Rice discussed the three main steps of engagement: the board shall 1) establish a publicized Investment Management Plan that outlines the fund’s commitment to ESG engagement on a high level, and use “independent fiduciary counsel and fiduciary consultants” to “review all investment considerations” and “ensure alignment of the Plan” with their fiduciary duty to beneficiaries, 2) implement diverse forms of engagement through direct conversations, educational outreach in the marketplace, and collaboration with other investors, and by convening summits to “identify and reach tipping points” for shareholder resolutions, soliciting shareholder proposals, and sponsoring academic analysis on the ESG issue, and 3) develop a focus list to tailor strategies to each company based on engagement history.<sup>82</sup> The largest US pension funds, CalPERS and CalSTRS successfully mobilized their powers as investors to shape corporate policies and climate disclosure at firms like ExxonMobil.<sup>83</sup>

The most substantive type of ESG framework is industry-specific corporate disclosure standards, facilitated by investors. Internationally, there are mainly three standards that are most recognized and subscribed to: the nonprofit Carbon Disclosure Project (founded in 2000, now known as CDP), Sustainability Accounting Standards Board (SASB, founded in 2011, chaired by

---

<sup>81</sup> Mindy Lubber and Michelle Edkins, “How Investors Can Engage Companies on Sustainability,” *Institutional Investor*, U.S. and International Editions, June 24, 2015.

<sup>82</sup> BlackRock and Ceres, “21st Century Engagement: Investor Strategies for Incorporating ESG Considerations into Corporate Interactions,” 2015; “About Us,” Ceres, accessed March 22, 2023, <https://www.ceres.org/about-us>.

<sup>83</sup> Shanna Cleveland, “ExxonMobil Needs to Serve Its Shareholders on Climate Risk,” *Institutional Investor*, U.S. and International Editions, September 11, 2016.

Michael Bloomberg from 2014-2018), and the Task Force on Climate Related Financial Disclosure of the Financial Stability Board of G20 (founded in 2015, also chaired by Bloomberg).<sup>84</sup> In addition to being industry-specific, the disclosure standards focus on carbon emission and other climate risks like water and deforestation. Investors demanded that corporations disclose information according to standards of the investors' choice. For instance, the current SASB has a separate framework for each of the seventy-seven industries, soliciting "financially-material" and "decision-useful" information for investors. In 2015, *Institutional Investor* observed the growing consensus on the value of corporate disclosure on climate risks and material ESG factors thanks to pressures from the investment community. According to CorporateRegister.com, companies around the world published 7,838 corporate social responsibility reports in 2015, thirty percent more than in 2010. Academics furthered the argument for the materiality of corporate ESG disclosure: researchers found that "firms operating in environmentally and socially sensitive industries such as oil and gas extraction, mining and weapons production enjoy significantly higher stock market valuations when they issue comprehensive corporate social responsibility reports," which were often correlated with a more active approach to addressing ESG.<sup>85</sup> In addition to investors, stock exchanges like Nasdaq and ESG advisory and rating companies joined forces to push for corporate disclosure and standard-setting.<sup>86</sup>

---

<sup>84</sup> SASB, "About Us," accessed March 26, 2023, <https://www.sasb.org/about/>; Task Force on Climate-Related Financial Disclosures, "Recommendations," accessed February 1, 2023, <https://www.fsb-tcfd.org/recommendations/>. Other investor coalitions include Climate Action 100+, Global Impact Investing Network (GIIN), etc.

<sup>85</sup> Katie Gilbert, "CSR Reporting Is on the Rise, and So Is Its Impact," *Institutional Investor*, U.S. and International Editions, July 28, 2015.

<sup>86</sup> Katie Gilbert, "Can the WFE Push Companies to Take ESG Reporting Seriously?" *Institutional Investor*, U.S. and International Editions, January 9, 2016.

However, global corporations and investors alike began to demand more uniformity in standard-setting, as the climate disclosure process was burdened by the proliferation of voluntary standards that varied from country to country, nonprofit to nonprofit, and became costly to comply with. Meanwhile, since the framing of ESG, debates persisted on whether climate change was a “material risk” for investors, and ESG considerations were a fiduciary duty. I will now turn to ESG investing initiatives and the development of institutional investors’ views on their responsibilities as fiduciaries.

### **Climate Change as a Material Risk and ESG as Fiduciary Duty**

The seminal 2005 Freshfields report attracted the attention of institutional investors on legal implications of ESG investing. The report, in what was seen as a radical conclusion at the time, stated that considering ESG factors during the investment process is “clearly permissible and is arguably required.” As a follow-up, a 2015 UN report “Fiduciary Duty in the 21st Century” furthered the Freshfield conclusion that based on the evidence of change in the previous ten years, fiduciary duty was at minimum “not an obstacle to action” and likely to impose a positive duty to consider ESG, suggesting that “a failure to take account of ESG issues could be seen as a breach of their fiduciary duties.” Through extensive interviews with investors as well as legal and financial advisors, the UN report observed the reluctance of financial consultants and legal advisors to provide broad interpretation of fiduciary duty in accordance with the PRI mandate and evolving public expectations. The consultants relied on the ERISA law’s emphasis on financial returns, “often in the erroneous belief that taking account of ESG issues will have a negative impact on investment returns.” One interviewee noted that financial advisors “find it easier to say ‘no’ when asked about these issues.” As foreshadowed by the climate activism documentary *An Inconvenient Truth* (2006), what was “inconvenient” was not



only the acknowledgement of climate change, but also the integration of climate change in financial and legal counsel without clear federal guidance.<sup>87</sup>

Both investors and advisors recognized public policy as a “key determinant” of the rate at which investors took action, including to “reduce portfolio-related emissions or to invest in clean technologies.” The 2015 report thus suggested that investors needed to advocate for government measures to “correct market failures and to require companies and investors to internalise externalities as an integral part of their fiduciary duties.” In addition, the report considered the definition of “materiality” as “dynamic,” dependent upon changes in 1) policy; 2) the understanding of risks; 3) the social, environmental and economic impacts of the ESG issue in question; and 4) the development of societal (and beneficiary) expectations. In other words, by the end of ESG’s first decade, the private sector recognized that it could not regulate itself alone for a sustainable transition of the market.<sup>88</sup>

In fact, institutional investors had been pushing for policy guidelines on ESG while developing ESG investing infrastructure and products. Amidst the 2008 financial crisis, the George W. Bush administration narrowed the 1994 ERISA guidance on impact investing (investments that targeted particular social goals) through a Department of Labor rule, that signaled to pension fiduciaries that such purposeful and selective investing could be considered “imprudent.”<sup>89</sup> The 2008 rule effectively dampened ESG investments due to concerns of the legal implications regarding fiduciary duties. A diverse set of policymakers, investors, entrepreneurs, and philanthropists had since worked to reverse the 2008 decision, precipitating the 2015 new Department of Labor guideline that permitted ESG investing. Hugh Lawson, the

---

<sup>87</sup> “Fiduciary Duty in the 21st Century,” PRI, UNEP FI and UN Global Compact, 2015, 11, 15, 18.

<sup>88</sup> “Fiduciary Duty in the 21st Century,” 19.

<sup>89</sup> Katie Gilbert, “How Investors Will React to the DoL’s New ESG Guidelines,” *Institutional Investor*, U.S. and International Editions, November 19, 2015.

head of ESG and impact investing at Goldman Sachs Asset Management, contended that institutional investors were instrumental in pushing the Labor Department to respond. “I think the question 'How do my investments line up with my broader sense of values?' is a question that's here to stay. I don't think this is just a passing fad or the province of some narrow portion of the market. I think the DoL's change in tone is just a sign of the times.”<sup>90</sup>

Without consistent policy guidance, institutional investors' interest in ESG investing grew and waned based on market conditions. According to Al Gore and David Blood, co-founders of the leading ESG fund Generation, the momentum for long-term ESG investing was rising heading into 2007. However, the “stress and uncertainty of the worldwide economic collapse left many investors and corporations fixated on immediate concerns.” An advocate of “Sustainable Capitalism,” Generation lamented that global progress towards constructing new norms had “reached a plateau,” largely due to “a widely shared failure to rigorously make and reinforce the economic case for Sustainable Capitalism.” Foreseeing no major international treaty to “shift the risk/reward equation for climate-related investing,” U.S. institutional investors expressed lukewarm attitudes, while their European counterparts “visibly advocated for a strong carbon-reducing accord in Cancun.”<sup>91</sup>

As a result, in 2010, Generation collaborated with consulting firm McKinsey to “convene a range of experts and practitioners” in the field and identified five barriers to “mainstreaming” Sustainable Capitalism. The corresponding solutions all called for public policy guidance, including to price ESG-risky businesses and products as “stranded assets,” to mandate ESG reporting, and to end the “short-termism” of business practices by reconsidering the requirement

---

<sup>90</sup> Gilbert, “How Investors Will React to the DoL’s New ESG Guidelines.”

<sup>91</sup> Mindy S. Lubber and President of Ceres, “Cancun Climate Talks: Institutional Investors Want Stronger Deal,” *Institutional Investor*, December 2010.

of issuing quarterly earnings and by aligning compensation structure with long-term sustainable performance.<sup>92</sup>

The institutional investor community furthered the findings from the Sustainable Capitalism report. In late 2011, at the Investor Summit on Climate Risk and Energy Solutions held at the United Nations headquarters in New York, global head of Deutsche Asset Management Kevin Parker conveyed to his peers and stakeholders that “to ignore the risks of climate change and sustainability in your portfolio could be, and will be, regarded as a dereliction of your fiduciary responsibilities.” *Institutional Investor* observed that some large U.S. pension plans leaders had “heeded the warning,” like the North Carolina State Treasurer Janet Cowell and New York State Comptroller Thomas DiNapoli, each the sole fiduciary for their state's pension system. Following in the footsteps of California and Florida, in 2010, North Carolina conducted a review of its real estate portfolio to assess real estate managers' response to climate change and evaluate building energy efficiency. In addition, the fund launched the process of developing its own “proprietary risk management software,” that would help assess climate change risk. In New York, the pension fund had designated \$500 million for sustainable investing and assembled a research team to review suitable models.<sup>93</sup>

In addition to the consideration of ESG risks, the financial system developed ESG products and trading capabilities. In 2012, banks like Morgan Stanley and UBS created “impact

---

<sup>92</sup> Generation Investment Management, “Sustainable Capitalism,” February 2012; Katie Gilbert, “David Blood Makes the Business Case for Sustainable Investing,” *Institutional Investor*, U.S. and International Editions, April 11, 2015; Al Gore and David Blood, “A Manifesto for Sustainable Capitalism,” *Wall Street Journal*, December 13, 2011, sec. Opinion, <http://online.wsj.com/article/SB10001424052970203430404577092682864215896.html>. Other investors concurred the need to align executive pay with long-term performance: see Nick Rockel, “New Evidence Shows That Investors See Through Short-Termism,” *Institutional Investor*, March 2014. Gore remained optimistic as “Europe's debt woes and the subprime meltdown” put “the problems associated with unsustainable forms of capitalism” on “vivid display.” By 2020, Gore predicted that Generation's long-term approach would be “mainstream financial thinking.”

<sup>93</sup> Imogen Rose-Smith, “Into the Green Tiptoe Investors,” *Institutional Investor*, December 2011.

platforms” that allowed investors to choose from a spectrum of socially responsible investing options, including screening, ESG-integrated investing, investing with special focus on the sustainability sector, and investment in social enterprises.<sup>94</sup> Merrill Lynch & Co. and pension funds developed an innovative investing product, which purchased future carbon credits to avoid deforestation through the UN-facilitated Reducing Emissions from Deforestation and Degradation program while generating profit.<sup>95</sup>

One notable example of ESG-related investing products is carbon trading, the exchange of carbon emission credits. *Institutional Investor* noted that in 2009, while there was no nationwide carbon trading platform, the country was “speckled with a patchwork of voluntary systems (the Chicago Climate Exchange) and regional schemes (the Regional Greenhouse Gas Initiative).”<sup>96</sup> Unlike the EU emission Trading System operating since 2005, the absence of a federally regulated system in the U.S. gave rise to “political uncertainty,” and added to the volatility of carbon prices and the inconsistency of carbon prices across different regions. The result was a “wildly inefficient” U.S. carbon credit market, which was exploited by “savvy traders.” Brett Hellerman, the CEO of the \$500 million alternative-asset management firm Wood Creek Capital Management in New Haven, said the firm considered carbon trading as “a new commodities market,” and was being “very opportunistic about relative-value trades.” In other words, hedge fund managers jumped at the window for “mining carbon's volatility and

---

<sup>94</sup> Katie Gilbert, “Morgan Stanley and Other Banks Get Serious about Sustainable Investing,” *Institutional Investor*, July 2012.

<sup>95</sup> Katie Gilbert, “Pensions Consider the Rain Forest,” *Institutional Investor*, May 2012.

<sup>96</sup> “Sandor’s Clean-Air Act,” *Institutional Investor*, December 2004, 14. Richard Sandor, a former banking executive, known for his ideation of the U.S. Treasury futures markets in the 1970s, founded the Chicago Climate Exchange (CXX), which received US regulatory approval in 2004 to begin trading futures contracts for six greenhouse gasses. However, CXX ceased trading in 2010 due to the inactivity of U.S. carbon credit market. See Michael Szabo, “ICE Cuts Staff at Chicago Climate Exchange-Sources,” Reuters, August 12, 2010, sec. Mergers & Acquisitions - Americas, <https://www.reuters.com/article/carbon-ccx-layoffs-idUSLDE6791WI20100812>.

mispricings for profit.”<sup>97</sup> While theoretically higher carbon prices discouraged emissions, the winners of the inefficient U.S. carbon trading system might be the opportunistic traders, instead of the planet.

A core part of ESG infrastructure, “green bonds,” high-grade fixed-income securities whose proceeds fund climate-friendly projects, emerged as an attractive option for ESG investing due to its relative lack of risk exposure: in February 2013, International Finance Corp. (IFC), the Washington-based World Bank Group's private sector division, launched its latest green bond, underwritten by Citigroup, J.P. Morgan and Morgan Stanley. Largest in the market yet, the three-year, triple-A-rated bonds were offered at a yield “15 basis points higher than comparable U.S. Treasuries.” The IFC issue received high demand, with one of the 56 investors being asset manager BlackRock, which began its investment in green bonds back in 2010. A director at BlackRock noted that the main driver of the firm’s \$3.8 trillion investment in green bonds was client demand from corporate and public institutions, which were likely to embrace green investing decisions as long as there was “no premium,” that is, incurring no extra cost compared to options with similar financial returns and without the “green” label.<sup>98</sup> However, when there were potentially more costs associated with green bonds, underwriters were reluctant to proceed. While in 2014 UN Secretary General Ban Ki-moon “encouraged the private sector to boost investment in green bonds” at the UN climate summit, in 2015 financial institutions noted the lagging of interests in green bond, likely due to the “perceived difficulty of issuing such bonds and a lack of financial reward for the extra work.”<sup>99</sup> The dependency of demand for green

---

<sup>97</sup> Loch Adamson, “Cashing in on Carbon Credits,” *Institutional Investor*, October 2009.

<sup>98</sup> Katie Gilbert, “Green Bonds Gain Investors and Climate-Friendly Credentials,” *Institutional Investor*, April 2013. Other notable investors in the IFC issue included the California State Teachers' Retirement System and New York-based financial services firm TIAA-CREF.

<sup>99</sup> Katie Gilbert, “Underwriters Pull Back, Slowing Rise of Green Bond Market,” *Institutional Investor*, U.S. and International Editions, September 25, 2015.

bonds on the absence of green premiums again demonstrates the need for ESG investing to make business sense for large-scale impact.

Aside from managing climate change as “risks,” the financial system identified the crisis as an opportunity for investment and entrepreneurship. In the next section, I highlight the role of the financial sector in developing green tech and funding ESG businesses.

### **Green Tech and ESG Entrepreneurship**

Interests in Green Technology bloomed with investors betting on their potential to realize the “triple bottom line.” In 2008, at the UN Investor Summit on Climate Change in New York, a group of forty-nine institutional investors with \$1.75 trillion in assets under management pledged to invest \$10 billion over the next two years in clean technology. The pledge increased tenfold from the 2005 commitment at a global summit. Russel Read, CIO of the \$241 billion California Public Employees' Retirement System, noted the potential “revolution of green technology” and the associated financial opportunities. However, *Institutional Investor* again noted the political uncertainty on green tech development and the commitment of investors to pressure for national ESG standards:

Yet any sense of self-righteousness among these institutions was tempered by their recognition that the market for environmental technology won't reach full bloom until regulatory changes, such as carbon pricing, are clarified. That being the case, summit members remain committed to continuing to push for a mandatory national policy to reduce greenhouse-gas emissions and to maintain pressure on the Securities and Exchange Commission to require companies to disclose material climate risks.<sup>100</sup>

Environmentally-minded political figures and Wall Street executives identified the entrepreneurial opportunity for sustainable transition. In 2005, William Reilly, the U.S.

---

<sup>100</sup> “Clean Is the New Green: Big Investors Make Pledges on Climate Change but Say Tougher Standards Hold the Key,” *Institutional Investor*, March 2008.

Environmental Protection Agency administrator from 1989 to 1993, became the CEO of Aqua International Partners, a San Francisco-based private equity fund investing in clean-water systems.<sup>101</sup> In 2007, *Institutional Investor* noted the “People Gone Green,” who brought their financial skills to environmental groups. Former Morgan Stanley Vice chairman Jon Anda, for example, joined the “venerable New York-based green group” Environmental Defense last month as the President of the Environmental Markets Network, where he aimed to “recruit banking and finance gurus into a coalition pushing for a U.S. program to cap carbon emissions and to trade emissions credits.”<sup>102</sup>

In addition, hedge fund managers and high net worth individuals saw green investing as a “new source of alpha.” Pierre Lagrange, co-founder of \$22 billion hedge fund firm GLG Partners, claimed that he cared about sustainability, but not in a “tree-hugging hippie” way: to him, the existential crisis brought by greenhouse gasses “present[ed] an incomparable investment opportunity.”<sup>103</sup> At the 2015 Paris COP21 Conference, Microsoft CEO billionaire Bill Gates announced the Breakthrough Energy initiative, a coalition of 28 ultra high net-worth investors from 10 countries to fund clean energy innovation. While the timeframe for the return on investment (ROI) of traditional venture capitalists is five years, Breakthrough Energy investors turned to businesses with a ROI of twenty years to address the tenuous challenge of the energy sector. Earlier that year, a research paper from Goldman Sachs Group estimated the global market for low carbon technologies at \$602 billion a year, with the most opportunity in

---

<sup>101</sup> Steven Brull, “Energy Investing: Cleanup,” *Institutional Investor*, March 2005, 1.

<sup>102</sup> Loren Fox, “PEOPLE - Gone Green,” *Institutional Investor*, March 2007, 1. The group's aim was to advise Congress on how an “emissions-trading market” might be structured, specifically how to “handle derivatives, lending and clearing.”

<sup>103</sup> Katie Gilbert, “Asset Managers Find New Source of Alpha - Responsible Investing,” *Institutional Investor*, November 2010: “Lagrange isn't the only alpha-hungry hedge fund manager who has recently begun searching for investment returns in environmental, social and demographic issues, long considered either too soft or too irrelevant to turn the heads of cold, hard capitalists.”

renewable energy and electric vehicles. In addition to clean energy enterprises, other green tech opportunities emerged in response to anticipation of climate adaptation needs, like more accurate weather prediction apps, smarter infrastructure management, data analytics for water conservation at home and in the field, among others.<sup>104</sup>

While *Institutional Investor* recognized the promising impact of the clean tech investments, the business press worried about the lack of consensus on climate change as a “real concern” in U.S. politics. In fact, in 2015, as oil prices were “hitting an 11-year low,” investors split courses where some “saw a huge opportunity to buy up distressed oil, natural gas and coal assets,” even as others were betting on clean energy. The journalist rightfully predicted that the “roller coaster ride in carbon-based securities” was “far from over.”<sup>105</sup>

### **Socially Responsible Investment: Divestment and Impact Investing**

Divestment and impact investing represent forms of socially responsible investing that were dominant in the 1990s environmental movement, but eclipsed by the more systematic and market-based approach of ESG investing as favored by mainstream institutional investors. While this chapter focuses on the “mainstream” ESG behaviors, it is important to discuss the alternatives, notably divestment and impact investing.<sup>106</sup>

Investors resisted the fossil fuel divestment movement, which, like the divestment movement from apartheid in the 1980s, began on college campuses. Supported by better climate

---

<sup>104</sup> Daniel Nadler, “Climate Change Necessitates Climate Tech,” *Institutional Investor*, U.S. and International Editions, December 10, 2015.

<sup>105</sup> Imogen Rose-Smith, “Gates Leads Big Investors and UC in New Climate Effort,” *Institutional Investor*, U.S. and International Editions, December 22, 2015.

<sup>106</sup> This thesis investigates ESG investing with a premise of “growth” and continued global economic development. In contrast, radical climate activist groups like Extinction Rebellion argued that climate change poses a “state of emergency” and requires “degrowth.” While it lies beyond the scope of this thesis, it is important to consider the radical alternatives and the potential issues of climate justice that a global mandate of stalled economic growth would incur. See more at <https://www.xrebellion.nyc/> to follow their protests against NYC’s financial industry, including BlackRock and the Citi Bank, on their investments in fossil fuel.



science in the twenty-first century that necessitated drastic measures to reduce carbon emissions, the call for universities to divest intensified with the mobilization of climate activism from nonprofits like 350.org. While large state universities like the University of California (UC) and Ivy Leagues received the most public pressure, small colleges like the Vermont-based Sterling College with more agile endowments and sympathetic boards led the way. The larger university endowment community remained resistant. According to a survey published in 2012 by the New York-based nonprofit Investor Responsibility Research Center Institute and Boston think tank Tellus Institute, college endowments had given “Very little consideration” to ESG factors.<sup>107</sup> Representing a common view among endowment managers, executives at the University of Michigan endowment accused the logic of divestment movement of being “enticingly simple” and overlooking the “complex issue of the value of cheap energy to enable progress and democracy.”<sup>108</sup> In response to mounting pressure from the student body, in 2015 the UC announced divestment from coal and tar sands and “offered a new road map for responsible investing.” The CIO’s office at UC Berkeley presented a policy paper, “Sustainability Impacts Investment,” that affirmed the managers’ consideration of ESG factors as part of a prudent investment approach.<sup>109</sup>

Compared to university endowments, mainstream investors with much larger portfolios wielded stronger resistance to the divestment movement. To institutional investors who had a duty to diversify and were “universal owners” of the economy, divestment activists might even dampen their adoption of ESG strategies. In other words, in response to the growing publicity of

---

<sup>107</sup> Sterling College, a small liberal arts institution divested in 2013 in response to the 350.org campaign.

<sup>108</sup> Rafael Castilla and Erik Lundberg, “Why Endowments Should Resist Fossil Fuel Divestments,” *Institutional Investor*, September 2013.

<sup>109</sup> Imogen Rose-Smith, “California Regents Break with Yale on Ethical Investing,” *Institutional Investor*, U.S. and International Editions, September 24, 2015. Check UC divestment activism.

the fossil fuel divestment movement, the public and politicians began to mistake ESG investing for “divestment,” which often sacrifices financial returns for social purposes, thus accusing ESG investing of being uneconomic and unfavorable for institutionalization. In 2015, while the Paris COP21 ushered in new momentum for low-carbon product offerings, most asset owners and managers continued to “resist entreaties to factor climate change into their decisions.” The business press observed the “paradox” of the fossil fuel divestment movement: “The stronger it becomes, the more it takes on the coloration of an ethical, nonfinancial driver noise” that many fiduciaries believed they were “paid to tune out.”<sup>110</sup>

Funds also were reluctant to adopt other forms of a selective screening investment approach, citing the breach of their legal duty and the danger to financial performance. Impact investors complained about the stigma associated with their work: the market thought what “we do is help nice, small social enterprises filled with do-gooders,” lamented Andrew Kuper, president of LeapFrog Investments, one of the world's biggest impact private equity funds. In 2011, proposers of an impact investing exchange anticipated the challenges of the endeavor: “It's a nascent asset class, and if one major player fails, it stigmatizes the whole industry...Everyone wants this space to get to the point where it's deep enough and liquid enough to be a real asset class, and anyone's success reflects the industry's growth and maturity.”<sup>111</sup> While mainstream investors like BlackRock ventured to design impact investing products, the investments remained a negligible percentage of its portfolio.<sup>112</sup>

---

<sup>110</sup> Daniel Abbasi, “Climate Change and the Paradox of the Fossil Fuel Divestment Movement,” *Institutional Investor*, U.S. and International Editions, October 19, 2015. “Pressure from divestment activists may inadvertently strengthen this resistance, since the leveraging of activist engagement can imply a factor unable to stand on its own merits as an input to security analysis.”

<sup>111</sup> Katie Gilbert, “Impact Investors Move Closer to Getting Their Own Exchanges,” *Institutional Investor*, December 2011.

<sup>112</sup> Imogen Rose-Smith, “BlackRock Throws Its Weight Behind Impact Investing,” *Institutional Investor*, U.S. and International Editions, March 18, 2015; Aaron Timms, “Impact Investing Gains Traction with Big Institutions,” *Institutional Investor*, March 2014.

As environmental groups, religious institutions, and the new millennial generation of investors grew more interested in socially responsible investing (SRI), policy makers responded with proposals to codify SRI, which portfolio managers objected to.<sup>113</sup> In 2011, in response to requests from federal employees' thrift savings plan (TSP) participants to examine responsible investment options, Democratic representative James Langevin of Rhode Island sponsored a bill, Federal Employees Responsible Investment Act, that would legally require the Federal Retirement Thrift Investment Board (FRTIB) to "select a corporate sustainability index and offer it as an investment option." FRTIB plainly resisted the idea and cited congressional discretion on diversification, as well as its long history of rejecting social and political screening proposals. The FRTIB's director of external affairs, Thomas Trabucco, explained the opposition as "broad and structural": "Congress provided a structure for the TSP that employed broad-based, inclusive, passively managed index funds. We believe that remains the best approach... The record shows that we have consistently opposed all of these [SRI] efforts, regardless of how meritorious they may appear," including a South Africa-free fund proposal in 1987 and a sustainable energy fund option in 2005.<sup>114</sup> Examinations of mainstream investors' view on SRI and divestment further demonstrate the need to structure financial incentives into ESG investing, or at a minimum, for ESG portfolios to not suffer loss based on a "socially responsible" choice.

Through the UN-facilitated voluntary framework, ESG investing knowledge-building and products development, and discourse on ESG as a fiduciary duty, the U.S. financial sector competed to shape the ESG market infrastructure by considering climate change as both a risk and an opportunity. However, the lack of consistent federal policy guidance on carbon prices,

---

<sup>113</sup> Kathleen Kennedy Townsend, "Getting Religion on Sustainable Investing," *Institutional Investor*, U.S. and International Editions, August 19, 2015; David Turner, "How Millennials Shape Socially Responsible Investing," *Institutional Investor*, U.S. and International Editions, December 30, 2015.

<sup>114</sup> Katie Gilbert, "Socially Responsible Investing Could Become Law," *Institutional Investor*, August 2011.

green technology, or recognition of the urgency of climate change resulted in mixed corporate ESG compliance and a divided financial system (Figure 1). While in the 2008 Presidential election campaign both candidates Barack Obama and John McCain supported a cap-and-trade law for greenhouse gasses, the American Clean Energy and Security Act (Waxman-Markey cap and trade bill) died in the Senate in 2010, aborting efforts to establish a national cap-and-trade system. In regards to international climate treaty-making, the U.S. failed to reach a binding agreement due to anticipated rejection from the Senate. In the 2009 Copenhagen conference, President Obama was unable to make ambitious pledges due to the growing concern about continued unregulated emissions from the fast-industrializing countries of China and India, who competed for leadership in the global economy. From 2011 to 2013, as the Republican “Tea Party” faction gained a majority, the House passed numerous bills including the EPA Regulatory Relief Act, to defund EPA and eliminate its power over greenhouse gasses. Thankfully, none was passed in the Senate. In the 2012 presidential election, all major Republican Presidential candidates rejected climate change regulation, departing from the bipartisan support for market-based climate solutions just a few years earlier. In 2015, Obama negotiated a non-binding Paris Agreement, so that it was not subject to an impossible Senate approval.<sup>115</sup> The Agreement demanded both developed and developing countries to set voluntary targets in line with the goal to limit global temperature increase to well below 2 degrees, aiming for 1.5 degrees.

---

<sup>115</sup> Paris Agreement to the United Nations Framework Convention on Climate Change, Dec. 12, 2015, T.I.A.S. No. 16-1104.

While inconsistent climate policy guidance dampened the decade of ESG standardization and monetization, in 2016, the newly-elected President Donald Trump halted and reversed the limited federal climate regulations and ESG guidance. The future of ESG transition in the U.S. financial sector appeared uncertain, and investors resorted to international frameworks for policy guidance. The next chapter discussed the international efforts on climate finance, and the roles and intersecting interests of diverse U.S. financial institutions in the global market transition towards sustainable development.

Bill	Year	House vote	Senate vote
National Environmental Policy Act	1969	372-15	Unanimous voice vote
Clean Air Act	1970	375-2	73-0
Clean Water Act	1972	366-11	74-0
Endangered Species Act	1973	390-12	92-0
Toxic Subs. Control Act	1976	319-45	60-13
Resource Conservation & Recovery Act	1976	367-8	88-3
Clean Air Act Amendments	1977	326-49	73-7
Comprehensive Env. Response, Compensation & Liability Act	1980	351-23	78-9
Clean Air Act Amendments	1990	401-25	89-10
Waxman-Markey cap and trade bill	2009	219-212	--
EPA Regulatory Relief Act	2011	272-142	--
Inflation Reduction Act	2022	220-207	50-50+1

**Figure 1.** The U.S. congressional voting history on environmental issues (1969-2022) showed the polarization of climate politics.<sup>116</sup>

<sup>116</sup> Michael Gerrard, Lecture 6 “U.S. Policy,” *Climate Change and Law*, February 6, 2023.

### Chapter III. Climate Financing and ESG Financial Framework at the UN

“The core message today is that the money is there, the money is there for the transition, and it’s not blah blah blah.” Mark Carney, former head of Bank of England and the UN Special Envoy for Climate Action and Finance, expressed optimism for climate finance during the 2021 Glasgow COP26.<sup>117</sup> He announced the launch of Glasgow Financial Alliance for Net Zero (GFANZ), a global coalition of over 450 major financial institutions with the ambition to decarbonize the economy. Headed by Carney, business tycoon and former New York City mayor Michael Bloomberg, and former chair of SEC Mary Schapiro, GFANZ has a combined asset of \$130 trillion and covers “the entire waterfront of finance”: Banks, insurers, pension funds, asset managers, export credit agencies, stock exchanges, credit rating agencies, index providers and audit firms. GFANZ members were committed to “the goal of net zero by 2050,” and the disclosure of interim targets, transition plans, and climate risk along the way.<sup>118</sup>

In this thesis, climate finance refers to the funding of initiatives to address climate change in the global economy. Carney’s pledge was partly in response to Swedish youth activist Greta Thunberg, who condemned world leaders’ vain promise of climate action as “blah blah blah” earlier that year. Carney stressed that it was not capital, but rather “predictable and credible government policies” that were needed to drive climate finance. Recognizing the “common but differentiated” responsibilities of nations regarding climate finance, governments in the Global North promised to mobilize both public and private funding to contribute more resources to addressing the global crisis based on their wealth and historical emission stock.<sup>119</sup> There are three main categories of climate finance for developed nations : 1) The investment in climate

---

<sup>117</sup> “COP26: ‘Not Blah Blah Blah’, UN Special Envoy Carney Presents Watershed Private Sector Commitment for Climate Finance,” *UN News*, November 3, 2021, <https://news.un.org/en/story/2021/11/1104812>.

<sup>118</sup> Mark Carney, “A Financial System for Net Zero,” COP 26 Finance Day, November 3, 2021. To date, there are over 550 members from over 50 jurisdictions.

<sup>119</sup> UNFCCC, Preamble.

mitigation or adaptation projects like solar energy research or Venice Sea wall construction, 2) The loan, grants, or technological support to developing countries for their mitigation and adaptation efforts, and 3) The funding of developing countries' Greenhouse Gas (GHG) reduction projects under the Clean Development Mechanism, a GHG credit trading system established by the Kyoto Protocol of 2005 that allowed developed countries and companies to reduce overall emissions by purchasing emissions credits from firms that had operated under the cap.

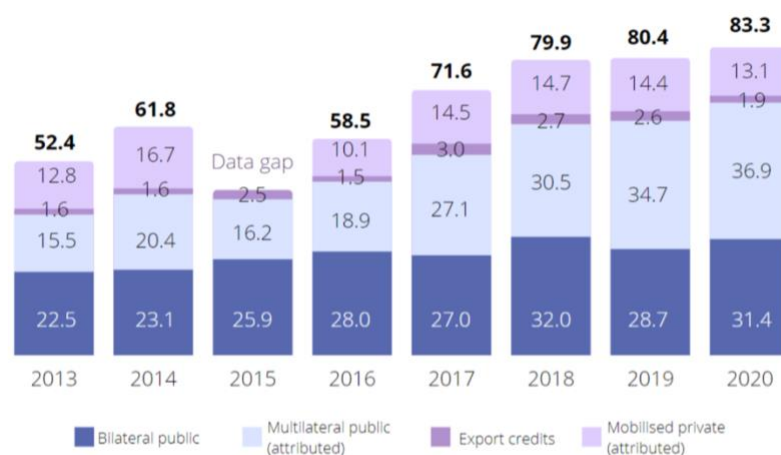
Despite the net-zero commitments of GFANZ members, the allocation of capital to green investment would only be possible with “policy certainty,” specifically through “binding targets,” “sector-specific policies,” and “a fair mix of both taxes and subsidies.” In other words, the financial sector considered consistent sustainability-driven policies a premise for successful climate financing. Climate-finance-friendly policies include Canada’s legislated carbon price floor and European Union (EU)’s Green Deal that integrated the climate targets of at least 55% emission reduction by 2030 into EU legislation (Fit for 55 Package).<sup>120</sup> GFANZ asserted the necessity of public-private partnerships to address climate change. Their insistence on climate policy support and subsidies indicates that the transition must make economic sense and not disrupt balance sheets. Competing for favor in the court of public opinion, the financial sector demands governments worldwide take their responsibility seriously.

For their part, policymakers recognized the necessity of private financing and corporate initiatives to realize net-zero pathways. In addition to mobilizing public capitals of community grants, public banks and financing, in 2019 a Congressional bill to launch the Green New Deal resolved to direct investments to “spur economic development, deepen and diversify industry

---

<sup>120</sup> “Fit for 55,” January 12, 2023, <https://www.consilium.europa.eu/en/policies/green-deal/fit-for-55-the-eu-plan-for-a-green-transition/>.

and business in local and regional economies, and build wealth and community ownership.”<sup>121</sup> The Inflation Reduction Act of 2022 incentivized private investment in the development and purchase of electric vehicles through subsidies.<sup>122</sup> Internationally, while in 2009 developed countries committed to a collective annual contribution of 100 billion dollars for climate action in developing countries by 2020, the annual goal has not been met, with the most recent report from 2020 reaching 83.3 billion (Figure 2).<sup>123</sup> To assume its climate financing responsibility, the U.S. needs to enlist private financiers to fulfill promises made both at home and abroad.



Note: The sum of components may not add up to totals due to rounding. The gap in time series in 2015 for mobilised private finance results from the implementation of enhanced measurement methods. As a result, grand totals in 2016-20 and in 2013-14 are not directly comparable.  
Source: Based on Biennial Reports to the UNFCCC, OECD DAC and Export Credit Group statistics, complementary reporting to the OECD.

**Figure 2.** Aggregate Trends of Climate Finance Provided and Mobilised by Developed Countries in 2013-2020, Climate Finance and the USD 100 Billion Goal.

<sup>121</sup> “Recognizing the duty of the Federal Government to create a Green New Deal,” H.Res.109 –116th Congress (2019-2020).

<sup>122</sup> Inflation Reduction Act of 2022, H.R. 5376 - 117th Congress (2021-2022).

<sup>123</sup> OECD (2022), ‘Aggregate Trends of Climate Finance Provided and Mobilised by Developed Countries in 2013-2020, Climate Finance and the USD 100 Billion Goal,’ OECD Publishing, Paris, <https://doi.org/10.1787/d28f963c-en>.



Calling for more public-private partnership, publications from GFANZ also reflect the intertwining of interests within the private sector. In a June 2022 GFANZ report, “The Managed Phaseout of High-emitting Assets,” banks (Citi, Banco Estado, Deutsche Bank, Goldman Sachs, HSBC, Mitsubishi UFJ Financial Group ), assets managers (Blackrock, Ninety One), pension fund (Nordea Life & Pension), accounting firm (PWC), nonprofit (Carbon Tracker Initiative), and insurance company (WTW) joined a workstream to plan the gradual retirement of high emitting assets from the coal, oil & gas sectors and fossil-fuel dependent industries like automobile and air travel. Advised by consulting firm McKinsey, the workstream argues that the “responsible” net-zero approach is to “manage down the GHG emissions from their portfolios,” but not to divest, which could lead to unintended counter effects of GHG emission increase when the assets are transferred to companies with less “climate ambitions.”<sup>124</sup>

The validity of GFANZ’s argument is contingent on factors that beg verification: The availability of climate disclosure information across the asset transfer chain, the integrity of the disclosure process, and the rigor of analysis.<sup>125</sup> However, regardless of the conclusion, the process of coalescing different interests through this report is itself worth investigating. What brought them to the table? Why did each join an UN-facilitated financial coalition on climate change, be it financial, legal, or moral matters? From their past business operations and policy environment, what prepared or incentivized them to take responsibility on the path to net-zero? I will discuss BlackRock, MSCI, ExxonMobil (the “managed” corporation with high-emitting assets), and McKinsey, in exploration of their embrace or rejection of ESG.

---

<sup>124</sup> Glasgow Financial Alliance for Net Zero, “The Managed Phaseout of High-Emitting Assets: How to Facilitate the Early Retirement of High-Emitting Assets as Part of a Just Transition to a Net-Zero World,” June 2022.

<sup>125</sup> Availability of data is limited as disclosure to the transition of assets is not common, and companies that are not affiliated with UN-facilitated financial coalitions like GFANZ are not obligated to conduct climate disclosure and report on emissions.

## **BlackRock: “Shades of Brown to Shades of Green”**

Founded in 1988 New York, Blackrock is now the largest asset manager in the world with more than \$9 trillion in assets under management. The global firm offers a wide range of investment products and advisory services to clients, including individual retirement accounts, exchange-traded funds, mutual funds, etc. With the majority of clients as pensions, BlackRock adopts a long-term value investment approach that prioritizes risk management through technological innovation, macroeconomic research, and active understanding and shaping of policies. While green investing at the firm only gained traction since 2014, BlackRock now claims leadership in the financial sector’s transition to net-zero. Its impact on ESG investing has been recognized by both Republican politicians and climate activists, who respectively accused BlackRock of being too green or not green enough.<sup>126</sup>

At the heart of BlackRock’s corporate principle is its “fiduciary duty” to its clients. Uncertain about the financial incentive and legal implication of ESG in the early 2010s, BlackRock and its CEO Larry Fink first took a passive approach in ESG investing. The firm chose to fulfill its fiduciary duty by responding to specific requests from ESG-minded clients, providing investors with options rather than managing climate risks across all portfolios. In the 2014 Annual Report, Fink observed the growing demand from investors for ESG investing guidance: “An increasing number of investors are looking for investment strategies that advance not only financial outcomes, but social outcomes as well. While the roots of this movement can be traced back many years, the frequency and complexity of these mandates are increasing.” In

---

<sup>126</sup> BlackRock, “2021 Annual Report”; Angel Au-Yeung, “Missouri Pension Fund Pulls Out Of BlackRock, Citing ‘A Woke Political Agenda,’” October 18, 2022, [https://www.wsj.com/livecoverage/stock-market-news-today-2022-10-18/card/missouri-pension-fund-pulls-out-of-blackrock-citing-a-woke-political-agenda--Zp1sWaQZdJ13a45mecHu?mod=Searchresults\\_pos2&page=2](https://www.wsj.com/livecoverage/stock-market-news-today-2022-10-18/card/missouri-pension-fund-pulls-out-of-blackrock-citing-a-woke-political-agenda--Zp1sWaQZdJ13a45mecHu?mod=Searchresults_pos2&page=2); Angel Au-Yeung, “BlackRock Takes Heat From New York City Over Climate Stance,” *Wall Street Journal*, September 22, 2022, sec. Markets, <https://www.wsj.com/articles/blackrock-takes-heat-from-new-york-city-over-climate-stance-11663864059>.

response, BlackRock integrated ESG considerations into the portfolio of interested clients, through strategies like low carbon ETFs and impact investing platform, BlackRock Impact, that allowed investors to “target specific, measurable social or environmental objectives in addition to their financial goals.”<sup>127</sup> In 2015, in response to growing investor interests in ESG, BlackRock launched a sustainable investing platform that provided investors with more comprehensive corporate ESG information and a wider range of sustainable investment strategies “across asset classes, investment vehicles and impact profiles.”<sup>128</sup>

As a fiduciary, BlackRock also engages in proxy voting, which means it votes on the proposals of publicly-traded companies on behalf of its clients. Its notable financing power earned BlackRock a seat at thousands of companies’ shareholding meetings worldwide.<sup>129</sup> Among the companies, engagements with fossil fuel companies generated extensive press and annual report coverage due to the substantial volume of investments and their climate implications. In 2016, as a key shareholder, BlackRock protested against ExxonMobil, demanding proper disclosure of climate risk and emission profiles. Along with other major, long-term shareholders like California Public Employees Retirement System, BlackRock “withheld support from two prominent directors,” citing concerns about corporate governance due to ExxonMobil’s rejection of shareholder engagement.<sup>130</sup> In 2017, BlackRock supported a shareholder proposal that requested the reporting of “financial risks” associated with the “2-degree Scenario,” a key resolution of the 2015 Paris Agreement to control global temperature rise well under 2 degrees. In the same year, BlackRock’s engagement with Royal

---

<sup>127</sup> BlackRock, “2014 Annual Report,” 24; 2014 saw the launch of CRBN, a Low Carbon iShares ETF.

<sup>128</sup> BlackRock, “2015 Annual Report,” 4, 11.

<sup>129</sup> To demonstrate the scale of its involvement, during the 2021-2022 proxy year alone, BlackRock voted on 173,000 proposals at 18,100 shareholder meetings, and engaged 2460 companies to voice shareholder concerns and facilitate sound governance.

<sup>130</sup> Cleveland, “ExxonMobil Needs to Serve Its Shareholders on Climate Risk.”

Dutch Shell yielded a more victorious outcome: the CEO of Shell, Ben Van Beurden, announced the company's goal of halving its carbon footprint by 2050.<sup>131</sup>

In 2018, BlackRock and Larry Fink began to adopt a more proactive approach in ESG investing. Framing ESG insights as essential for long-term value creation and risk management, Fink also articulated the significance of stakeholder consents:

Only by meeting the needs of our various stakeholders can BlackRock achieve sustainable profitability, and only by achieving sustainable profitability can we continue to meet our stakeholders' needs over the long term... It's not about imposing anyone's personal environmental or social values on the companies we're invested in on behalf of clients, nor is it BlackRock taking political positions. It's about providing a strategic and risk management framework that supports and enhances a business's ability to operate and deliver value to its key stakeholders over the long term.<sup>132</sup>

In his 2020 Letter to CEOs, Fink further crystalized the financial implication of climate change: "climate risk is investment risk."<sup>133</sup> BlackRock thus claimed to fulfill its fiduciary duty by managing climate risk, advocating for regulation of corporate climate disclosure, and demanding corporations follow the industry standards it helped establish.

However, BlackRock is far from being an all-time "woke" green champion.<sup>134</sup> When it comes to the actual voting process, the BlackRock Investment Stewardship team often voted against climate action proposals when they might conflict with the corporation's key business model for profit generation. For example, in May 2022, BlackRock voted against four proposals for ExxonMobil to "Reduce Company Emissions and Hydrocarbon Sales" and report on "Low Carbon Business Planning," "Reducing Plastic Production," and "Political Contributions." Congratulating Exxon's current climate "ambition" to achieve scope 1 and 2 net zero carbon

---

<sup>131</sup> Joe McGrath, "Investors Victorious in Shell Climate Fight," *Institutional Investor*, U.S. and International Editions, November 28, 2017.

<sup>132</sup> BlackRock, "2018 Annual Report," 19.

<sup>133</sup> Larry Fink, "2020 Letter to CEOs: A Fundamental Reshaping of Finance."

<sup>134</sup> David Gelles and Hiroko Tabuchi, "How an Organized Republican Effort Punishes Companies for Climate Action," *The New York Times*, May 27, 2022, sec. Climate, <https://www.nytimes.com/2022/05/27/climate/republicans-blackrock-climate.html>.

emissions by 2050, BlackRock justified its decision citing “methodological complexity,” “regulatory uncertainty,” and the “overly prescriptive” and “unduly constraining” nature of proposals on management, that might hurt Exxon Mobil’s “long-term economic interests.”<sup>135</sup>

Fink further explained the firm’s selective discretion of climate risk and considerations of energy transition in the 2021 Annual Report. Calling BlackRock’s investments in the natural gas pipelines of the Middle East a “great example” of climate financing, Fink considered the abundance of “transition fuels” like natural gas important to ensure the continuity of affordable energy prices. Investing in pipelines was therefore ESG-driven, as it would help countries like the Gulf nations go from “dark brown to lighter brown” by using a cleaner base fuel for power production. Fink responded to calls of fossil fuel divestment with a color play: “In the transition to net zero we will need to pass through many shades of brown to shades of green.”<sup>136</sup>

### **MSCI: “Navigating Uncertainties” through Matrices and AI Analytics**

Also a GFANZ member, MSCI is a leading provider of financial tools and services, most notably indexes, data analytics, and ESG rating and advisory services. Established under the Morgan Stanley Bank fifty years ago to develop international investment indexes, MSCI launched the first Socially Responsible Investing index in the 1990s (MSCI KLD 400 Social Index), began ESG rating based on industry material risk in 1999, then separated from Morgan Stanley in 2007. The largest provider of ESG data and analytics, the MSCI ESG segment currently analyzes around 100,000 entities and works with 1700 plus global asset managers, financial institutions, consultants, corporations, academics, and regulators to design ESG portfolios and understand ESG risks. Some notable MSCI clients include 79 of the top 100

---

<sup>135</sup> BlackRock Investment Stewardship, “Vote Bulletin: ExxonMobil Corporation,” May 25, 2022.

<sup>136</sup> BlackRock, “2021 Annual Report.”

pension funds, Bloomberg, and BlackRock, who is the largest client organization by revenue (12.7% of total) and uses MSCI ESG indexes to inform its Exchange Traded Funds.<sup>137</sup>

However, despite MSCI's efforts to portray itself as a far-sighted, sophisticated platform with "over forty years of experience measuring and modeling ESG performance of companies," only since 2007 had MSCI began to offer live-updated scores that reflected the latest news, shareholder meetings' decisions, and industry trends.<sup>138</sup> Previous efforts on ESG rating that came in the language of "responsible investing" were conducted on an ad hoc basis without systematic methodology and database. It was not until 2010 that MSCI mentioned its ESG index and rating service in its annual SEC filings, indicating that ESG research only became a key business function in the recent decade.<sup>139</sup> Since 2010, MSCI developed and acquired financial technology, like RiskMetrics and artificial intelligence, to enable rigorous ESG rating and risk management on an unprecedented scale with thousands of data points for analysis on each company.<sup>140</sup>

There has been a proliferation of ESG rating services as demand from investors and corporations grew in the last five years. Many traditional financial services companies, among them Bloomberg LP, S&P Global, Nasdaq, and Moody, followed the trend of MSCI and Sustainalytics at Morningstar to expand their ESG capabilities through developing an in-house ESG branch, acquire other climate data and analytics providers, or integrate established ESG rating scores with their own methodology. Like its peers, MSCI ESG Research adopts a sector-

---

<sup>137</sup> MSCI, "ESG Investing: ESG Ratings," accessed February 6, 2023, <https://www.msci.com/our-solutions/esg-investing/esg-ratings>;

<sup>138</sup> MSCI, "ESG Investing: ESG Ratings." See time series excel sheet on the change of ESG scores for companies over time, available on MSCI client portal and upon request.

<sup>139</sup> MSCI, "Form 10-K Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934," filed January 31, 2011, sec.gov.

<sup>140</sup> "MSCI Completes Acquisition of RiskMetrics," June 1, 2010, <https://ir.msci.com/news-releases/news-release-details/msci-completes-acquisition-riskmetrics>; MSCI, "ESG Investing." Currently, MSCI provides ratings on 8,500 companies, collecting thousands of data points for each company using both publicly disclosed data sources and unstructured alternative sources (45% of data), extracted and verified using artificial intelligence.

based approach to identify and analyze key ESG issues for the sector. The team then designs a sector-specific methodology of ESG rating based on the social and environmental impact of a corporation's core business operation and industry standard. The rating is conducted using a wide range of data that are analyzed in three processes: 1) Readily available data on over a thousand indicators of ESG policies, programs, and performances from company disclosures, government and NGO reports, and 3400+ media sources, over twenty years of shareholder meeting results, and record on individual directors, 2) Exposure Metrics and Management Metrics, which evaluates the company's exposure to its sector-unique and geography-specific ESG risks, then considers a company's managerial capability to address the material risks, 3) 35 Key Issues selected annually for each industry, then weighted based on MSCI research framework. With a separate score each for environmental, social, and governance issues, the final ESG score (AAA-CCC) is combined and weighted based on the company's industry peers.<sup>141</sup>

ESG rating reports on the last two decades are valuable for both tracking historical corporate ESG practices and correlating ESG score and financial returns. However, while MSCI's ESG rating methodology relies on similar data sets and adopts comparable procedures with its peers, each financial service provider holds a different philosophy across the chain of decision-making. According to a report by CFA, a non-profit financial information organization, in 2021, the correlations of ESG scores between different rating firms were around 50% to 60%, while correlations of debt ratings were at 96%.<sup>142</sup> In addition, the methodology chart is constantly evolving and often updated annually. For instance, companies differ on what informs good

---

<sup>141</sup> MSCI ESG Research LLC, "ESG Ratings Methodology," November 2022, <https://www.msci.com/esg-and-climate-methodologies>.

<sup>142</sup> Kevin Prall, "ESG Ratings: Navigating Through the Haze," CFA, August 2021, <https://blogs.cfainstitute.org/investor/2021/08/10/esg-ratings-navigating-through-the-haze/>.

management and governance, which are subject to shifting socio political events and expectations. Or, as Larry Fink has been updating his definition of responsible finance in response to market realities, ESG researchers also engage in the debate on the feasibility and impact of divestment and net-zero portfolio. International frameworks and domestic politics, like the 2015 UN sustainable development goals and the 2022 SEC proposal for climate disclosure, help provide a benchmark to evaluate a company's performance against. Other efforts of standard-setting include UN-facilitated coalitions like the Principles for Responsible Investment and the Task Force on Climate-related Financial Disclosures, as discussed in Chapter II. However, the regulatory powers of these coalitions are limited due to their “voluntary nature,” and the terms of coalition quickly grew obsolete without consistent amendment effort.<sup>143</sup>

Within the MSCI ESG universe, fossil fuel companies often receive close scrutiny. ExxonMobil, a long-time industry advocate against climate change regulations, received a score of BBB in the latest MSCI report, lagging behind its oil & gas peers.<sup>144</sup> The history of climate denial, investor proxy fights, and later climate public relation campaign at ExxonMobil fits into the larger story of ESG and the stalled progress of climate regulations at EPA, SEC, and Congress. As members of the Glasgow Financial Alliance for Net Zero engaged with ExxonMobil as investors and advisors, they faced a dilemma when the shareholders and stakeholders parted ways on their visions and demands for the oil giant.

---

<sup>143</sup> Mindy Lubber and Michelle Edkins, “How Investors Can Engage Companies on Sustainability,” *Institutional Investor*, U.S. and International Editions, June 24, 2015; “Quarterly Earnings,” ExxonMobil, January 31, 2023, <https://corporate.exxonmobil.com:443/investors/investor-relations/quarterly-earnings>.

<sup>144</sup> MSCI ESG Rating, “EXXON MOBIL CORPORATION,” rating action date May 26, 2022, updated February 03, 2023. ExxonMobil’s ESG score was lower than all of its Global North industry peers, Shell (AA), Chevron (A), and TotalEnergies SE (A). Ironically, it achieved a higher score than Saudi Arabian Oil Company and PetroChina due to its relatively high scores in “corporate behavior” and “community relations” despite its inferior environmental record, which raises questions about the U.S.-centric framework of the scoring system.



## Peer benchmarking

LARGEST 5 INDUSTRY PEERS (INTEGRATED OIL & GAS)	Biodiversity & Land Use	Carbon Emissions	Toxic Emissions & Waste	Health & Safety	Community Relations	Corporate Governance	Corporate Behaviour	Rating & Trend
SHELL PLC	●●	●●	●●●●	●●●	●●	●●●●	●●	AA ◀▶
CHEVRON CORPORATION	●●	●●	●●	●●	●●●	●●●	●●●	A ▲
TotalEnergies SE	●●●	●●●●	●●●●	●●	●●●●	●●●	●●●	A ▶▶
EXXON MOBIL CORPORATION	●	●	●	●●	●●	●●●	●●	BBB ◀▶
Saudi Arabian Oil Company	●●●	●●●	●●●	●●	●	●	●●	BB ◀▶
PetroChina Company Limited	●	●●●	●●●	●	●	●	●	B ▶▶

QUARTILE KEY : Bottom Quartile ● Top Quartile ●●●●

RATING TREND KEY : Maintain ◀▶ Upgrade ▲ Upgrade by two or more notches ▲▲ Downgrade ▼ Downgrade by two or more notches ▼▼

This table shows the company's positioning relative to five of its 22 industry peers. Industry peers are constituents of the MSCI ACWI Index in the ESG Ratings Industry classified as Integrated Oil & Gas, as of February 03, 2023. The selection of five industry peers in this distribution is based on market capitalization, sorted by ESG Ratings (best to worst).

Figure 3. MSCI ESG rating of Exxon Mobil in comparison with its industry peers.<sup>145</sup>

### ExxonMobil: Betting on a Future of Fossil Fuel

The company now known as “ExxonMobil” had gone through a series of transformations since the 1870s. Founded by John D. Rockefeller, Standard Oil Company was one of the “robber barons” that dominated the American oil industry through vertical integration. In 1911, the company was broken up into thirty-four separate firms by the Supreme Court due to antitrust concerns. Among them were Standard Oil of New Jersey (later named Exxon) and Standard Oil of New York (later named Mobil), which in 1999 merged to form ExxonMobil, one of the largest energy companies in the world that operates across the upstream, downstream, and chemical sectors.

“Corporate social responsibility” at the oil giant has evolved drastically from Rockefeller’s unsophisticated crisis management technique, that “silence is golden.”<sup>146</sup> In response to growing scientific consensus on climate change, ExxonMobil and the rest of the oil and gas industry mobilized massive climate denial campaigns and lobbying efforts against regulations.

<sup>145</sup> MSCI ESG Rating, “EXXON MOBIL CORPORATION,” rating action date May 26, 2022, last updated February 03, 2023.

<sup>146</sup> Marchand, *Creating the Corporate Soul*, 7.

The fossil fuel industries had been conducting research on climate change since the 1950s. According to the Washington D.C. Attorney General Karl A. Racine who sued Exxon Mobil, BP, Chevron, and Shell for “systematically and intentionally” deceiving D.C. consumers for the global warming effects of their products, the trade association American Petroleum Institute (API) funded science researches that identified fossil fuel’s contribution to climate change and measured CO<sub>2</sub> levels themselves in 1950s. In 1968, the API and its members received a commissioned report from the Stanford Research Institute, which “explicitly connected the rise in CO<sub>2</sub> levels to fossil fuel combustion.” In the 1980s, the API Climate Task Force and company-based climate research across all major oil and gas companies further confirmed the science of climate change.<sup>147</sup> However, in response to the overwhelming scientific evidence and international consensus on climate change, the fossil fuel industry formed lobbyists groups and mobilized systematic disinformation campaigns to thwart climate legislation, with their top targets being the UNFCCC and the Kyoto Protocol, the 1997 legally-binding climate agreement that was never ratified by the Senate.

ExxonMobil mobilized social media disinformation campaigns and recruited Cold War nuclear physicists to deny climate change. It also channeled money to conservative politicians in Congress. In their 2010 work *Merchants of Doubts*, Naomi Oreskes and Erik Conway detailed how industries funded conservative scientists and think tanks to discredit the harm of smoking and the effect of climate change. Journalist Chris Mooney documented the funding streams of ExxonMobil, who channeled more than “\$8 million to forty different organizations that challenged the scientific evidence of global warming” between 2000 and 2003. The organizations included not only “probusiness and conservative think tanks,” but also

---

<sup>147</sup> *Dist. of Columbia v. Exxon Mobil Corp.*, Civil Action 20-1932 (TJK) (D.D.C. Nov. 12, 2022)

“quasi-journalistic outlets like Tech CentralStation.com (a website providing “news, analysis, research, and commentary” that received \$95,000 from ExxonMobil in 2003), a Fox News columnist, and even religious and civil rights groups.”<sup>148</sup> ExxonMobil’s lobbying expenditures dwarfed its think tank finance: \$55 million were spent from 1999 to 2005 to support conservative candidates and block climate legislation, according to the Center for Public Integrity. While it is beyond the scope of this paper to provide a comprehensive study of ExxonMobil’s climate denialism, there has been a wealth of research and watching programs that tracked the oil giant’s “corporate irresponsibility” in deceiving consumers and the public.

Before ExxonMobil succumbed to shareholder activism and public pressure, it had a notorious climate record and public image even compared to its peers. A 2016 *Institutional Investor* article criticized ExxonMobil’s resistance of the industry norm for ESG and climate risk disclosure according to PRI:

Among boards of oil and gas majors, ExxonMobil's stands out for its silence, despite calls from its major investors to take action. The boards of Shell, BP, Statoil and BHP Billiton were not only willing to meet with investors to discuss low-carbon scenarios, but they were also already starting to provide research reports on the topic. ExxonMobil, in contrast, chose to wage a pitched battle at the Securities and Exchange Commission to prevent investors from voting on a shareholder proposal calling for a 2-degree scenario analysis.<sup>149</sup>

In 2015, the New York Attorney General sued ExxonMobil for fraud regarding its improper climate risk disclosure. In 2017, institutional investors filed a class action lawsuit against ExxonMobil for its deceitful disclosure of climate risks that could influence performance. Lead plaintiff Greater Pennsylvania Carpenters Pension Fund filed the securities fraud case on behalf of all investors, based on “alleged material misrepresentations or omissions” of climate

---

<sup>148</sup> Naomi Oreskes and Erik M. Conway, *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming* (Bloomsbury Press, 2010).

<sup>149</sup> Cleveland, “ExxonMobil Needs to Serve Its Shareholders on Climate Risk”; Thomas Murtha and John Rogers, “Combating Climate Risk Calls for Strong Stewardship,” *Institutional Investor*, U.S. and International Editions, March 20, 2016.

risks that resulted in ill-informed investing decisions.<sup>150</sup> The U.S. District Court at North Texas rejected the motion to dismiss, to which ExxonMobil replied that they would continue “vigorously defend” themselves from these “baseless claims.” In 2019, Massachusetts Attorney General sued ExxonMobil for its deception for both investors and consumers regarding its climate risks. While ExxonMobil tried to accuse the Attorney Generals of political retaliation, the complaint was dismissed. ExxonMobil continued to assert its climate misinformation campaign as “viewpoints” and “constitutional rights” in the courtroom, while it assumed ESG leadership and claimed net-zero goals in its sustainability report and marketing campaigns.

As discussed under the BlackRock section, the asset management firm has exerted proxy voting power to shape ESG issues at ExxonMobil. In addition to investor engagements, pressures of lawsuits and protests as well as market-driven recommendations from consulting firms drove corporate transformation at the oil giant. As a classic case of greenwashing, ExxonMobil spent more money on its “green algae” biofuel advertising campaign than the actual renewable energy research.<sup>151</sup> Under its green facade, ExxonMobil's management persists on betting on a future in which demand for oil and natural gas will continue to rise, and, ironically, this paid off in its industry-leading 2022 earning, that “achieved (the) best-ever annual refining throughput in North America and the highest globally since 2012.”<sup>152</sup> The record earnings for oil and gas industries challenged the “triple bottom line” assumption of ESG investors: Divestment from fossil fuels in 2022 would pose a huge opportunity cost to investors. When there were financial incentives to stay invested in the sector, institutional investors looked for frameworks—or excuses—to both

---

<sup>150</sup> *Pedro Ramirez, Jr. v. Exxon Mobil Corp*, No. 7:18-cv-00073-O (N.D. Tex. Mar. 20, 2018).

<sup>151</sup> Benjamin Storrow, “Exxon’s Climate Fix Is Algae. Experts Say It Won’t Work,” *E&E News*, November 2, 2020, <https://www.eenews.net/articles/exxons-climate-fix-is-algae-experts-say-it-wont-work/>.

<sup>152</sup> “Quarterly Earnings,” ExxonMobil, January 31, 2023, <https://corporate.exxonmobil.com:443/investors/investor-relations/quarterly-earnings>.

integrate ESG issues in their portfolios and maintain attractive performance. They sought out consulting firms for the “impartial recommendations” and “expert opinions.”

### **McKinsey: Schizophrenic “Expertise” on “Sustainable and Inclusive Growth”**

In 1926, James O’McKinsey, an economics Professor at the University of Chicago, founded a consulting firm to address inefficiency in business practices through technocratic management. In the next decades, McKinsey & Company became the world’s leading consulting firm through a model of rapid geographical expansion and knowledge base development. In the 1960s, along with its peers Boston Consulting Group and Bain & Company (together known as the “Big Three” or MBB) and Harvard Business School, McKinsey transformed corporate behavior by formalizing strategies and plannings with management “models” and “frameworks,” that often prioritized “efficiency” and “science” over the experiences of employees and resulted in cost-cutting measures.<sup>153</sup> Since 1964, it has been publishing white papers on global business issues through the publication *McKinsey Quarterly* and later its digital media outlets. Claiming intellectual leadership, McKinsey plays an important role in driving sustainable transitions for a diverse client base which constitutes a notable cross section of the economy, including most of the Fortune 500 Companies and the governments of many of the sixty-five countries it operates in.<sup>154</sup>

McKinsey mobilized to establish “thought leadership” on “sustainable growth” by publishing white papers, launching “knowledge centers” for sustainable technologies, and recruiting climate scientists and technicians. In addition to showcasing the firm’s expertise, the

---

<sup>153</sup> Walt Bogdanich and Michael Forsythe, *When McKinsey Comes to Town: The Hidden Influence of the World’s Most Powerful Consulting Firm* (New York: Doubleday, 2022).

<sup>154</sup> McKinsey, “Our Work,” accessed April 2, 2023, <https://www.mckinsey.com/locations/mckinsey-client-capabilities-network/our-work>; Bogdanich, *When McKinsey Comes to Town*, Chapter 1, “Wealth Without Guilt: McKinsey’s Values.”

“thought leadership” framework supported the development of revenue-generating services on sustainability. McKinsey listed “sustainability” as a core capability of its consulting service, advising on ESG issues for clients across all sectors through collaboration with ESG analytics from MSCI. An advocate for the compatibility of “sustainability” and “growth,” the firm sought to demonstrate the financial incentive of ESG investing and corporate behaviors, creating demand for its fast-expanding service on ESG consulting.<sup>155</sup> In addition to advising a major cross section of the private sector, McKinsey conducted significant policy advisory efforts on “sustainable growth.” With a controversial history of shaping public policy in the U.S. and the world on issues including healthcare, police, and defense, McKinsey advised on the sustainable transformation of cities, helped evaluate federal green infrastructure plans, and contributed to the organizing of UN climate initiatives like the Glasgow Financial Alliance of Net Zero.<sup>156</sup>

However, despite McKinsey’s claim to ESG leadership in its marketing campaigns, its client profiles and case involvement told conflicting stories. Based on internal documents and lawsuits records, a *New York Times* article revealed McKinsey’s extensive advisory involvement with the oil and gas sector, that often prioritized financial returns over ESG concerns and or commitment to “sustainable and inclusive growth”:

Among the 100 biggest corporate polluters over the past half-century, McKinsey has advised at least 43 in recent years, including BP, Exxon Mobil, Gazprom and Saudi Aramco, generating hundreds of millions of dollars in fees for the firm. Across the world, from China to the United States, McKinsey’s work with these companies is often not

---

<sup>155</sup> A keyword search on McKinsey Quarterly from 1993 to 2023 yielded more than fifty articles on environmental management and ESG strategy, including case studies of clients’ success in green transformation, interviews with business leaders on ESG, and McKinsey’s internal ESG corporate initiatives. See more at Susan Colby, Tony Kingsley, and Bradley Whitehead, “The Real Green Issue,” *The McKinsey Quarterly*, no. 2 (1995): 132; Adam Werbach, “When Sustainability Means More than Green,” *The McKinsey Quarterly*, no. 4 (2009): 74.

<sup>156</sup> See McKinsey’s four Social Responsibility Annual Reports from 2018-2021 (renamed as “ESG Report” in 2021) which discussed its ESG impact in length with extensive cases and graphics. On McKinsey’s troubling public influence: Michael Forsythe and Walt Bogdanich, “McKinsey Settles for Nearly \$600 Million Over Role in Opioid Crisis,” *The New York Times*, February 4, 2021, sec. Business, <https://www.nytimes.com/2021/02/03/business/mckinsey-opioids-settlement.html>. The firm also faces scrutiny for advising despotic leaders in Russian and the Middle East.

focused on reducing their environmental impact, but rather on cutting costs, boosting productivity and increasing profits.<sup>157</sup>

McKinsey responded to the call for its fossil fuel disengagement with an argument similar to BlackRock's response to criticism of its failure to divest. Citing the continued global demand for energy, McKinsey committed to "support (oil and gas) clients on their core operations," even as it claimed to "help to promote and scale sustainable alternatives."<sup>158</sup> In other words, when the core business function of its clients conflicts with its goal of sustainability, a "schizophrenic" McKinsey chose to put "client ('s financial interests) first" in its undisclosed business recommendation, leaving ESG issues and a pretty green earth graphics on the PowerPoint cover.

Tracing four actors of the ESG ecosystem created by one GFANZ report, I demonstrate the ever-shifting interest web and trade-offs in the financial system and corporate environment of sustainable transformation. Far from the invention of a maverick few, the ESG infrastructure developed and continues evolving in response to international agreements, domestic policy, and other peers in the financial system. When powerful institutions like BlackRock try to set their own ESG agenda and enforce the philosophy of stakeholder capitalism over shareholders and corporate CEOs, conservative politicians in industry-heavy states like Texas have retaliated by justifying their own "divestment" regime for state employees' pension funds. The mission of "triple bottom line" remains unrealistic, with the combination of inconsistent climate policy and the market's prioritization of only one bottom line, financial gains.

---

<sup>157</sup> Michael Forsythe and Walt Bogdanich, "At McKinsey, Widespread Furor Over Work with Planet's Biggest Polluters," *The New York Times*, October 27, 2021, sec. Business, <https://www.nytimes.com/2021/10/27/business/mckinsey-climate-change.html>.

<sup>158</sup> McKinsey, "Statement on The New York Times Story on McKinsey and Sustainability," October 27, 2021, <https://www.mckinsey.com/about-us/media/statement-on-new-york-times-story-on-mckinsey-and-sustainability>.

## Conclusion

In August 2022, the U.S. Congress passed the Inflation Reduction Act, a landmark legislation for the most aggressive federal climate action yet. The “Climate, Tax, and Health” package enacted corporate tax reform, enhanced medical care accessibility, and incentivized the investment in and adoption of sustainable energy.<sup>159</sup> The \$739 billion bill marks the largest single federal investment in climate and energy. Affecting investors, energy providers, and consumers alike, the federal government not only subsidizes renewable energy and clean electricity investment, production, and research, but also supports the purchase of clean appliances and electric vehicles through tax credits up to \$7500.<sup>160</sup> The Office of Management and Budget projects that the legislation would help reduce U.S. greenhouse gas emissions by forty percent below 2005 levels in 2030, bringing the nation closer to the pledge of halving emission by 2030 and reaching net-zero by 2050.<sup>161</sup>

While President Biden was optimistic about the U.S.’s progress on climate action in his State of the Union address in February 2023, the outlook for further climate legislation in a Republican-controlled House appears grim. The Inflation Reduction Act was not a bipartisan bill, as Republican politicians continue their defense of industry interests and denial of the climate crisis. This January, in response to the Department of Labor’s new rule to remove legal

---

<sup>159</sup> The Congress reached the deal through an almost “impossible” compromise: Originally introduced as the Build Back Better Act and the cornerstone of the Biden Administration, the bill passed the House yet was rejected by Sen. Joe Manchin, who finally reached a compromise after months of negotiation, resulting in IRA. See Emily Cochrane and Catie Edmondson, “Manchin Pulls Support From Biden’s Social Policy Bill, Imperiling Its Passage,” *The New York Times*, December 19, 2021, <https://www.nytimes.com/2021/12/19/us/politics/manchin-build-back-better.html>.

<sup>160</sup> Inflation Reduction Act of 2022; Vanessa Glavinskas, “8 Ways the Inflation Reduction Act Can Save You Money,” Environmental Defense Fund, September 8, 2022, <https://www.edf.org/article/8-ways-inflation-reduction-act-can-save-you-money>.

<sup>161</sup> Candace Vahlsing, “New OMB Analysis: The Inflation Reduction Act Will Significantly Cut the Social Costs of Climate Change” The White House, August 23, 2022, <https://www.whitehouse.gov/omb/briefing-room/2022/08/23/new-omb-analysis-the-inflation-reduction-act-will-significantly-cut-the-social-costs-of-climate-change/>.



barriers to considering ESG factors in pension investments, twenty-five states filed a federal lawsuit against the Biden administration, citing the breach of fiduciary duty by the “woke banks.” The chief plaintiff, Utah Attorney General Sean Reyes, complained to Fox Business: “The Biden administration is promoting its climate change agenda by putting everyday people’s retirement money at risk.”<sup>162</sup> Texas blacklisted ten financial companies and 350 ESG funds on the grounds of their “energy boycott,” ironically using the MSCI ESG scores as standards for their “anti-ESG” divestment. Republican senators and Joe Manchin also blocked the nomination of the climate-minded Sarah Bloom Raskin to the Federal Reserve Board of Governors, “sending a powerful message” to the Fed and “all financial regulators,” that “it is not their job to allocate capital, or stray from their mission to pursue extraneous or politically charged campaigns.”<sup>163</sup> Opposition from Republicans and industry also led SEC to consider softening its recent proposal for a federal standard on climate risk disclosure.<sup>164</sup>

Countering the political assault on ESG as “uneconomic,” “illegal,” and “insignificant” for investors, the public, or the government, the thesis shows that the integration of ESG considerations into investment decision-making is financially-viable, legally-encouraged, and over the last two decades has become a mainstream behavior for institutional investors as a way to manage the material risks of climate change and capitalize on the sustainable market

---

<sup>162</sup> Employee Benefits Security Administration, Department of Labor, “Prudence and Loyalty in Selecting Plan Investments and Exercising Shareholder Rights,” December 1, 2022, <https://www.federalregister.gov/d/2022-25783>; Brooke Masters and Patrick Temple-West, “Companies Attack Texas over ‘Politicised’ ESG Blacklist,” *Financial Times*, August 29, 2022, <https://www.ft.com/content/8031aaad-efc6-4829-ac02-bd9c151974f4>; “25 States Hit Biden Admin with Lawsuit over Climate Action Targeting Americans’ Retirement Savings,” *Fox Business*, January 26, 2023, <https://www.foxbusiness.com/politics/25-states-hit-biden-admin-lawsuit-climate-action-targeting-americans-retirement-savings>.

<sup>163</sup> Rachel Siegel et al., “Sarah Bloom Raskin Withdraws Nomination to Fed Board,” *Washington Post*, March 15, 2022, <https://www.washingtonpost.com/us-policy/2022/03/15/sarah-bloom-raskin-fed-withdraw/>.

<sup>164</sup> Gary Gensler, “Statement on ESG Disclosures Proposal,” May 25, 2022, <https://www.sec.gov/news/statement/gensler-statement-esg-disclosures-proposal-052522>; Jean Eaglesham and Paul Kiernan, “SEC Considers Easing Climate-Disclosure Rules After Investor Pushback,” *Wall Street Journal*, February 3, 2023, sec. Markets, <https://www.wsj.com/articles/sec-considers-easing-climate-disclosure-rules-after-investor-pushback-11675416111>.

transition, a high-stake issue for the U.S. and the world. On the long-term time horizon, ESG-integrated investment has a proven record to yield sound returns during both times of prosperity and crisis, including the COVID-19 pandemic.<sup>165</sup> The future-proof model of ESG investing and sustainable corporations not only makes the market more resilient against the imminent climate crisis and the subsequent major disruption to the global economy, but also yields the social goods of human welfare beyond measurable financial value.

Illustrating the inefficiency of the existing ESG infrastructure and the insufficiency of climate financing, the thesis further demonstrates that more financial incentives and legal framework are needed to drive mainstream investing and corporate behavior towards climate action. Instead of relying on the goodwill of a few “conscientious” investors, the financial sector has been building an ESG infrastructure that could only be sufficiently standardized, institutionalized, and enforced through consistent policy guidance. While the 2015 Principles for Responsible Investing report demonstrated academic consensus on the “lack of negative correlation” between ESG integrations and profits, the “absence of disincentivization” does not equal “incentivization,” that is necessary to drive a sustainable market transition on a critical scale.<sup>166</sup>

Learning from the trials and errors of ESG infrastructure-building of the financial sector in the last two decades, the government needs to work with the private sector to address climate change. Challenging the skeptics and doomists, the considerable progress of the European Union to cut CO<sub>2</sub> emissions by institutionalizing carbon trading, mandating climate disclosure, and

---

<sup>165</sup> Ceres, “Ceres Roadmap 2030,” October 6, 2020, <https://www.ceres.org/resources/reports/ceres-roadmap-2030>, 24.

<sup>166</sup> Northern Trust Asset Management, “Why Fundamental (ESG) Business Issues Are the Key to Driving Investment Performance,” *Institutional Investor*, U.S. and International Editions, November 3, 2021; Jessica Hamlin, “There’s a Better Way to Measure ESG Fund Performance,” *Institutional Investor*, U.S. and International Editions, July 22, 2021, <https://www.proquest.com/docview/2563369729/abstract/55143B34F2AF4493PQ/16>.

standardizing ESG behaviors indicates the feasibility of public-private coalitions to make meaningful changes towards authentic social progress and a sustainable future. As globalization and the climate crisis ties the fate of the international community ever so closely, only through the mass mobilization of financial resources and political will can the world have a future to hold on to.

## Bibliography

### I. Primary Sources

#### Journals

*Institutional Investor*, U.S. and International editions, 1970-2023.

*Wall Street Journal*, 2011, 2022-2023.

*New York Times*, 1970, 1988, 2021-2023.

#### U.S. Legislation, Public Policy, and Court Cases

Clean Air Act of 1963. Pub. L. No. 88-206, 77 Stat. 392 (1963).

Title VII of the Civil Rights Act of 1964, Pub. L. No. 88-352, 78 Stat. 241 (1964).

Occupational Safety and Health Act of 1970, Pub. L. No. 91-596, 84 Stat. 1590 (1970).

Consumer Product Safety Act of 1972, Pub. L. No. 92-573, 86 Stat. 1207 (1972).

Exec. Order No.12,329, “President’s Task Force on Private Sector Initiatives,” 46 Fed. Reg. 200 (Oct. 16, 1981).

Comprehensive Anti-Apartheid Act of 1986, H.Res.4868 - 99th Congress (1985-1986).

The 1990 Clean Air Act Amendments, Title IV: CAA § 401-416. 42 U.S.C. §§ 7651-7651o (2018).

The Byrd-Hagel Resolution, S.Res.98 - 105th Congress (1997-1998).

“2001 State Department Briefing Meeting with Global Climate Coalition.” *Climate Files* (blog), June 20, 2001. <https://www.climatefiles.com/denial-groups/global-climate-coalition-collection/2001-state-department-meeting/>.

*Massachusetts v. EPA*, 549 U.S. 497 (2007).

*Pedro Ramirez, Jr. v. Exxon Mobil Corp*, No. 7:18-cv-00073-O (N.D. Tex. Mar. 20, 2018).

“Recognizing the duty of the Federal Government to create a Green New Deal,” H.Res.109 –116th Congress (2019-2020).

Inflation Reduction Act of 2022, H.R. 5376 - 117th Congress (2021-2022).

Gensler, Gary. “Statement on ESG Disclosures Proposal,” May 25, 2022.

<https://www.sec.gov/news/statement/gensler-statement-esg-disclosures-proposal-052522>.

*West Virginia v. EPA*, 142 S. Ct. 2587 (2022).

*Dist. of Columbia v. Exxon Mobil Corp.*, Civil Action 20-1932 (TJK) (D.D.C. Nov. 12, 2022)

Employee Benefits Security Administration, Department of Labor. “Prudence and Loyalty in Selecting Plan Investments and Exercising Shareholder Rights,” December 1, 2022, <https://www.federalregister.gov/d/2022-25783>.

### **UN Publications**

UN General Assembly Resolution 43/53. “Protection of Global Climate for the Present and Future Generations of Mankind.” December 6, 1988.

United Nations Framework Convention on Climate Change. May 9, 1992. S. Treaty Doc No. 102-38, 1771 U.N.T.S. 107.

Kyoto Protocol to the United Nations Framework Convention on Climate Change. December 10, 1997, 2303 U.N.T.S. 162.

The Global Compact. “Who Cares Wins: Connecting Financial Markets to a Changing World,” 2004.

Freshfields Bruckhaus Deringer. “A Legal Framework for the Integration of Environmental, Social, and Governance Issues into Institutional Investing.” Asset Management Working Group of the UNEP Finance Initiative, October 2005.

PRI, UNEP FI and UN Global Compact. “Principles for Responsible Investment: An Initiative of the UN Secretary-General Implemented by UNEP Finance Initiative and the UN Global Compact.” 2005.

———. “Fiduciary Duty in the 21st Century.” 2015.

Paris Agreement to the United Nations Framework Convention on Climate Change. December 12, 2015, T.I.A.S. No. 16-1104.

Carney, Mark. “A Financial System for Net Zero.” COP 26 Finance Day, November 3, 2021.

Glasgow Financial Alliance for Net Zero. “The Managed Phaseout of High-Emitting Assets: How To Facilitate the Early Retirement of High-Emitting Assets as Part of a Just Transition to a Net-Zero World.” June 2022.

PRI. “Signatory Update: October to December 2022,” <https://www.unpri.org/signatories/signatory-resources/quarterly-signatory-update>.

### **Published Business, Trade Associations, and Nonprofit Communications**

*An Inconvenient Truth*. Directed by Davis Guggenheim. Paramount Classics, 2006.

BlackRock  
Annual Reports, 2014-2021.

BlackRock and Ceres. “21st Century Engagement: Investor Strategies for Incorporating

ESG Considerations into Corporate Interactions,” 2015.

“Vote Bulletin: ExxonMobil Corporation,” May 25, 2022,  
<https://www.blackrock.com/corporate/literature/press-release/vote-bulletin-exxonmobil-may-2022.pdf>.

Fink, Larry. “2020 Letter to CEOs: A Fundamental Reshaping of Finance,”  
<https://www.blackrock.com/americas-offshore/en/larry-fink-ceo-letter#:~:text=Dear%20CEO%2C,long%2Dterm%20goals%20like%20retirement>.

———. “2022 Letter to CEOs: The Power of Capitalism.”  
[https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter?cid=ppc:blk:ll:na:ol:goog:na:v2:bhv:tl&gclid=CjwKCAjwm8WZBhBUEiwA178UnF6aHBZKObmln\\_2fBteH\\_9KS9n9uctxWEa-kUWJ6v7i4lV24akZcGBocQfIQAvD\\_BwE&gclsrc=aw.ds](https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter?cid=ppc:blk:ll:na:ol:goog:na:v2:bhv:tl&gclid=CjwKCAjwm8WZBhBUEiwA178UnF6aHBZKObmln_2fBteH_9KS9n9uctxWEa-kUWJ6v7i4lV24akZcGBocQfIQAvD_BwE&gclsrc=aw.ds).

Bloomberg Professional Services. “EU Sustainable Finance Regulation.” Accessed February 5, 2023. <https://www.bloomberg.com/professional/eu-sustainable-finance-regulation/>.

Broecker, Wallace S. “Climatic Change: Are We on the Brink of a Pronounced Global Warming?” *Science* 189, no. 4201 (1975): 460–63.

Callendar, G. S. “The Artificial Production of Carbon Dioxide and Its Influence on Temperature.” *Quarterly Journal of the Royal Meteorological Society* 64, no. 275 (April 1, 1938): 223–40.

Ceres. “Ceres Roadmap 2030,” October 6, 2020.  
<https://www.ceres.org/resources/reports/ceres-roadmap-2030>.

“Extinction Rebellion NYC.” Extinction Rebellion NYC. Accessed April 5, 2023.  
<https://www.xrebellion.nyc>.

ExxonMobil. “Quarterly Earnings,” January 31, 2023.  
<https://corporate.exxonmobil.com:443/investors/investor-relations/quarterly-earnings>.

“Fit for 55.” January 12, 2023.  
<https://www.consilium.europa.eu/en/policies/green-deal/fit-for-55-the-eu-plan-for-a-green-transition/>.

Glavinskas, Vanessa. “8 Ways the Inflation Reduction Act Can Save You Money.” Environmental Defense Fund, September 8, 2022. <https://www.edf.org/article/8-ways-inflation-reduction-act-can-save-you-money>.

“Global Climate Coalition Is the Voice of Business and Industry on Global Warming Issues.” January 27, 2006.  
<https://web.archive.org/web/20060127223742/http://www.globalclimate.org/>.

Generation Investment Management. "Sustainable Capitalism." February 15, 2012.  
<https://web.archive.org/web/20120531205023/http://www.generationim.com/media/pdf-generation-sustainable-capitalism-v1.pdf>.

#### McKinsey & Company

Colby, Susan, Tony Kingsley, and Bradley Whitehead. "The Real Green Issue." *The McKinsey Quarterly*, no. 2 (1995): 132.

"Making the Shift to Sustainable and Inclusive Growth: Explore Insights on the New Era of Growth—One That Doesn't Treat Growth and Positive Impact as Opposing Forces." Accessed April 2, 2023.  
<https://www.mckinsey.com/featured-insights/sustainable-inclusive-growth>.

"Social Responsibility Report." 2018-2020.

"2021 ESG Report: Sustainable and Inclusive Growth."  
<https://www.mckinsey.com/about-us/social-responsibility/2021-esg-report/overview>.

"Statement on The New York Times Story on McKinsey and Sustainability." October 27, 2021. <https://www.mckinsey.com/about-us/media/statement-on-new-york-times-story-on-mckinsey-and-sustainability>.

Mendonca, Lenny T., and Jeremy Oppenheim. "Investing in Sustainability: An Interview with Al Gore and David Blood." May 1, 2007.  
[https://www.mckinsey.com/capabilities/sustainability/our-insights/investing-in-sustainability-an-interview-with-al-gore-and-david-blood#/.](https://www.mckinsey.com/capabilities/sustainability/our-insights/investing-in-sustainability-an-interview-with-al-gore-and-david-blood#/)

Werbach, Adam. "When Sustainability Means More than Green." *The McKinsey Quarterly*, no. 4 (2009): 74.

#### MSCI

"ESG Investing: ESG Ratings." Accessed February 6, 2023.  
<https://www.msci.com/our-solutions/esg-investing/esg-ratings>.

"Form 10-K Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934." Filed January 31, 2011.  
<https://www.sec.gov/Archives/edgar/data/1408198/000119312511017728/d10k.htm>.

"MSCI Completes Acquisition of RiskMetrics." June 1, 2010.  
<https://ir.msci.com/news-releases/news-release-details/msci-completes-acquisition-riskmetrics>.

MSCI ESG Rating. "EXXON MOBIL CORPORATION." Rating action date May 26,

2022, last updated February 03, 2023.

MSCI ESG Research LLC. “ESG Ratings Methodology.” November 2022.  
<https://www.msci.com/esg-and-climate-methodologies>.

Organisation for Economic Co-operation and Development (OECD)

“Forward-Looking Scenarios of Climate Finance Provided and Mobilised by Developed Countries in 2021-2025.” 2021. <https://www.oecd-ilibrary.org/content/publication/a53aac3b-en>.

“Climate Finance Provided and Mobilised by Developed Countries in 2016-2020.” 2022.  
<https://www.oecd-ilibrary.org/content/publication/286dae5d-en>.

SASB. “About Us.” Accessed March 26, 2023. <https://www.sasb.org/about/>.

Szabo, Michael. “ICE Cuts Staff at Chicago Climate Exchange-Sources.” Reuters, August 12, 2010, sec. Mergers & Acquisitions - Americas. <https://www.reuters.com/article/carbon-cx-layoffs-idUSLDE6791WI20100812>.

“Regional CO2 Emission Shares by Region 1750-2020.” Statista, December 2021, accessed March 30, 2023, <https://www.statista.com/statistics/1177911/cumulative-co2-emissions-worldwide-by-region/>.

Task Force on Climate-Related Financial Disclosures. “Recommendations.” Accessed February 1, 2023. <https://www.fsb-tcfd.org/recommendations/>.

### Lecture Notes

Gerrard, Michael B. *Law 6038/Sustainable Development UN3355 Climate Change and Law*, 2023 Spring. Notes in the author’s possession, available upon request.

Hong, Harrison, and José Scheinkman. *Economics GU4630 Climate Finance*, 2023 Spring. Notes in the author's possession, available upon request.

## II. Secondary Sources

### A. Books

Berle, Adolf A., and Gardiner Means. *The Modern Corporation and Private Property*. New York: Routledge, 1932.

Bogdanich, Walt, and Michael Forsythe. *When McKinsey Comes to Town: The Hidden Influence of the World’s Most Powerful Consulting Firm*. New York: Doubleday, 2022.

Carroll, Archie B., and Kenneth E. Goodpaster. *Corporate Responsibility: The American Experience*. Cambridge University Press, 2013.

Gerrard, Michael, Jody Freeman, and Michael Burger, eds. *Global Climate Change and U.S.*



Law. Third. Chicago: American Bar Association, Environment, Energy, and Resources Section, 2023.

Halvorson, Charles. *Valuing Clean Air: The EPA and the Economics of Environmental Protection*. New York: Oxford University Press, 2021.

Hawley, James, and Andrew Williams. *The Rise of Fiduciary Capitalism: How Institutional Investors Can Make Corporate America More Democratic*. Philadelphia: University of Pennsylvania Press, 2000.

Krippner, Greta R. *Capitalizing on Crisis: The Political Origins of the Rise of Finance*. Boston: Harvard University Press, 2011.

Marchand, Roland. *Creating the Corporate Soul: The Rise of Public Relations and Corporate Imagery in American Big Business*. United Kingdom: University of California Press, 2001.

Markowitz, Gerald, and David Rosner. *Deceit and Denial: The Deadly Politics of Industrial Pollution*. United Kingdom: University of California Press, 2012.

Oreskes, Naomi, and Erik M. Conway. *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming*. Bloomsbury Press, 2010.

Rogers, Heather. *Green Gone Wrong: How Our Economy Is Undermining the Environmental Revolution*. New York: Scribner, 2010.

Vogel, David. *Lobbying the Corporation: Citizen Challenges to Business Authority*. New York: Basic Books, 1978.

———. *The Market for Virtue: The Potential and Limits of Corporate Social Responsibility*. Washington D.C.: Brookings Institution Press, 2005.

### **B. Articles:**

“25 States Hit Biden Admin with Lawsuit over Climate Action Targeting Americans’ Retirement Savings.” *Fox Business*, January 26, 2023. <https://www.foxbusiness.com/politics/25-states-hit-biden-admin-lawsuit-climate-action-targeting-americans-retirement-savings>.

Atkins, Betsy. “Demystifying ESG: Its History & Current Status.” *Forbes*, June 8, 2020. <https://www.forbes.com/sites/betsyatkins/2020/06/08/demystifying-esgits-history--current-status/?sh=1cc02c72cdd3>.

Beck, Silke. “Moving beyond the Linear Model of Expertise? IPCC and the Test of Adaptation.” *Regional Environmental Change* 11, no. 2 (June 1, 2011): 297–306. <https://doi.org/10.1007/s10113-010-0136-2>.

- “COP26: ‘Not Blah Blah Blah’, UN Special Envoy Carney Presents Watershed Private Sector Commitment for Climate Finance.” *UN News*, November 3, 2021. <https://news.un.org/en/story/2021/11/1104812>.
- Hong, Harrison, G Andrew Karolyi, and José A Scheinkman. “Climate Finance.” *The Review of Financial Studies* 33, no. 3 (March 1, 2020): 1011–23. <https://doi.org/10.1093/rfs/hhz146>.
- Laplume, André O., Karan Sonpar, and Reginald A. Litz. “Stakeholder Theory: Reviewing a Theory That Moves Us.” *Journal of Management* 34, no. 6 (December 1, 2008): 1152–89. <https://doi.org/10.1177/0149206308324322>.
- Masters, Brooke, and Patrick Temple-West. “Companies Attack Texas over ‘Politicised’ ESG Blacklist.” *Financial Times*, August 29, 2022. <https://www.ft.com/content/8031aaad-efc6-4829-ac02-bd9c151974f4>.
- Prall, Kevin. “ESG Ratings: Navigating Through the Haze.” CFA, August 10, 2021. <https://blogs.cfainstitute.org/investor/2021/08/10/esg-ratings-navigating-through-the-haze/>.
- Siegel, Rachel, Tyler Pager, Mike DeBonis, and Seung Min Kim. “Sarah Bloom Raskin Withdraws Nomination to Fed Board.” *Washington Post*, March 15, 2022. <https://www.washingtonpost.com/us-policy/2022/03/15/sarah-bloom-raskin-fed-withdraw/>.
- Sklansky, Jeffrey. “The Work of Retirement.” *International Review of Social History*, 2023, 1–23. doi:10.1017/S0020859023000196.
- “Stakeholder Capitalism.” Google Books Ngram Viewer. [https://books.google.com/ngrams/graph?content=Stakeholder+Capitalism&year\\_start=1800&year\\_end=2019&corpus=en-2019&smoothing=3](https://books.google.com/ngrams/graph?content=Stakeholder+Capitalism&year_start=1800&year_end=2019&corpus=en-2019&smoothing=3).
- Storrow, Benjamin. “Exxon’s Climate Fix Is Algae. Experts Say It Won’t Work.” *E&E News*, November 2, 2020. <https://www.eenews.net/articles/exxons-climate-fix-is-algae-experts-say-it-wont-work/>.
- Townsend, Blaine. “From SRI to ESG: The Origins of Socially Responsible and Sustainable Investing.” *Bailard, The Journal of Impact and ESG Investing*, no. 1 (2020).
- Vahlsing, Candace. “New OMB Analysis: The Inflation Reduction Act Will Significantly Cut the Social Costs of Climate Change.” The White House, August 23, 2022. <https://www.whitehouse.gov/omb/briefing-room/2022/08/23/new-omb-analysis-the-inflation-reduction-act-will-significantly-cut-the-social-costs-of-climate-change/>.
- Vizcarra, Hana. “Understanding the New York v. Exxon Decision - Environmental & Energy

Law Program.” Harvard Law School, December 12, 2019.

<https://eelp.law.harvard.edu/2019/12/understanding-the-new-york-v-exxon-decision/>.