Attorney General Josh Stein
Office of the Attorney General
114 West Edenton Street
Raleigh, NC 27603

Secretary of State Elaine F. Marshall
2 South Salisbury St.
Raleigh, NC 27601-2903

Dear Attorney General Stein and Secretary of State Marshall —

The Board of Trustees of Duke University, as fiduciary of a non-profit educational institution, is bound by the laws of North Carolina to promote the well-being of Duke's students and community and to further the University's commitment to educational excellence. Duke's mission is, in part, "to advance the frontiers of knowledge and contribute boldly to the international community of scholarship; to promote an intellectual environment built on a commitment to free and open inquiry; to help those who suffer, cure disease, and promote health."[1]

Under the North Carolina Uniform Prudent Management of Institutional Funds Act, the Board of Trustees has a fiduciary duty to invest with consideration for the University's charitable purposes — a duty that distinguishes non-profit institutions from other investors. It may be problematic, then, that the Board of Trustees has invested a portion of the University's 12.7 billion dollar endowment in the fossil fuel industry — damaging the world's natural systems, disproportionately harming youth, low-income people, and communities of color, and imperiling the University's financial and physical condition. In the midst of the climate crisis, powerful institutions must take responsibility for their contributions to global warming. As concerned students, faculty, and civic groups, we ask that you investigate this conduct and use your enforcement powers to bring the Board's investment practices into compliance with its fiduciary obligations.

North Carolina law provides rules that charitable managers and investors must follow in managing institutional funds. As stewards of the Duke endowment, the Board of Trustees is required to act in good faith and with loyalty, taking care that its investments further the purposes of the University. The Board of Trustees may not seek profit at any cost: the privileges that Duke enjoys as a non-profit institution come with the responsibility to ensure that its resources are put to socially beneficial ends. By investing an estimated 250 million dollars in fossil fuel stocks, the Board of Trustees is in violation of these duties to Duke and the public.

The values that should guide the Board of Trustees' investments are clear. Its bylaws declare a commitment to "to advance learning in all lines of truth [and] to defend scholarship against all false notions and ideals,"[2] while its Climate Change and Sustainability Strategic Task Force notes that "[a]s anthropogenic greenhouse gases have accumulated in the atmosphere for

[1] Mission Statement, Duke University Board of Trustees (2001).
[2] Bylaws of Duke University, Duke University Board of Trustees, Art. 1 (2021).

more than two centuries, it is clear that near term climate change is unavoidable and thus will require a global shift toward a climate resilient world to reduce and reverse the impacts, inequalities, and injustices that climate change engenders . . . the world must mitigate these threats by moving to a net-zero carbon society, justly and equitably."[3] And yet, despite the demonstrable financial and social benefits of institutional fossil fuel divestment, the Board of Trustees continues to provide financial support for an industry whose business model inexorably leads to environmental destruction and social injustice.

It is now widely recognized that climate change is an existential threat to humanity and our environment. In addition to sea level rise, extreme weather events, and species die-off, climate change causes injuries to all members of society, and particularly to the most vulnerable. Pollution from the combustion of fossil fuels results in an estimated 10,000 premature deaths daily. Communities of color disproportionately suffer pollution and health burdens from fossil fuel extraction and combustion. Low-income people bear the brunt of climate-based economic dislocation, as illustrated by the plight of climate migrants and refugees already forced from their homes by drought, flooding, and social conflict. Indigenous communities are regularly invaded and harmed by the spread of fossil fuel infrastructure. And, as a result of the economic precarity and increased burden of care work that results from climate disruptions, women suffer more serious detriments.

The need to refrain from promoting such outcomes is obvious for any institution that calls itself a charity. Yet the Board of Trustees has repeatedly refused to apply Duke's values to its investment activity. From managers of an institution of higher education, this conduct is especially galling. Fossil fuel companies have long engaged in a well-documented campaign to undermine climate science and distort public debate about how to deal with the climate crisis. The industry's spread of scientific misinformation and funding of questionable research undermines the work of faculty and students who are designing solutions for a sustainable future. Likewise, the flow of fossil fuel money to politicians and think tanks has diverted or delayed serious government action to address the climate crisis, placing a special burden on young people whose futures will be most impacted by these investments. Even as the Board's own task force has declared a vision of Duke as "the Climate University," focusing "on creating sustainable and equitable solutions to the climate crisis that will place society on the path to a resilient, flourishing, net-zero carbon world by 2050,"[4] the Board channels funds to an industry committed to winning short-term profits at the expense of the public good.

A similar inversion of values underlies the Board of Trustees' funding of climate degradation despite its duty to protect Duke's physical property. Climate change impacts such as sea level rise, higher temperatures, extreme rainfall, mental health challenges, and other sources of disruption are likely to pose serious threats to University land, buildings, and operations in the coming decades. Administrators may be forced to retrofit facilities and manage infrastructure disruptions. Instead of facilitating such injuries, the Board of Trustees should be doing everything in its power to prevent them.

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[3] Executive Summaries of the Reports from the 2020-2021 Strategic Task Forces at 1, Duke University (2021).
[4] *Id.*

The Board of Trustees is bound by an additional legal duty: the requirement to manage Duke's assets with prudence. Prudent investment practice cannot be squared with the ownership of fossil fuel assets. Investment in the oil, gas, and coal sectors has become excessively risky thanks to increased government regulation and the fossil fuel industry's own failure to diversify its operations and avoid capital-intensive extraction. Fossil fuel stocks have performed significantly worse than market averages in recent years. The domestic coal sector has nearly collapsed, and natural gas likewise stands to lose much of its value as cheaper, more sustainable energy sources become more readily available. For any prudent investor, these signs clearly indicate that continued investment in fossil fuels is a losing proposition.

Exacerbating the industry's poor financial performance is a well-documented pattern of alleged fraud. Fossil fuel companies such as ExxonMobil have allegedly misled investors by concealing the anticipated impact of climate change and energy regulation on the value of assets such as untapped oil reserves. Despite its legal duty to exercise care and prudence in avoiding dangerous securities, however, the Board of Trustees continues to invest in the fossil fuel sector.

The Board cannot plead ignorance of its duty to divest. For years, Duke students and faculty have pushed for investment practices that align with the University's mission. This pressure was instrumental in the Board's decision in 1986 to withdraw investments from companies doing business in apartheid South Africa and its 2008 decision to divest from companies contributing to violence in Darfur: acknowledgments that its investment activity must comport with the University's missions and values. In recent years, the Duke Student Government has passed a unanimous resolution calling for fossil fuel divestment, a position endorsed by a majority in a student referendum. Repeated rallies, reports, and requests for negotiation have alerted the Board of Trustees to its fiduciary responsibility.

It is too late for the Board of Trustees to deny the relation between its investments and climate change. Its obligations under North Carolina law and its own governing documents are clear, and fossil fuel investment is incompatible with those obligations.

We have included below a fuller description of the Board's violations, along with documents and reports supporting the claims made in this complaint. Under Chapter 131F of the North Carolina General Statutes, and the related Rules found in Chapter 11 of Title 18 of the North Carolina Administrative Code, your offices may investigate violations of North Carolina's charitable contribution laws. We would appreciate the opportunity to have members of our group meet with your staff to discuss legal avenues to address this matter.

Sincerely,

Concerned students, faculty, scientists, and civic groups (listed on the pages that follow):

Duke Climate Coalition
Michelle Carter, *Duke Graduate Student*
Helene Gu, *Duke Undergraduate Student*
Sarah Kelso, *Duke Undergraduate Student*
Yujin Kim, *Duke Undergraduate Student*
Brennan McDonald, *Duke Undergraduate Student*
Abigail Saks, *Duke Undergraduate Student*

Climate Science and Policy Community
Dr. Alyssa Battistoni, *Assistant Professor of Political Science, Barnard College*
Dr. J. Mijin Cha, LLM, JD, *Assistant Professor of Urban and Environmental Policy, Occidental College*
Dr. Jacquelyn Gill, *Associate Professor of Paleoecology and Plant Ecology, School of Biology and Ecology and Climate Change Institute, University of Maine*
Dr. Jade d'Alpoim Guedes, *Associate Professor in the Department of Anthropology and the Scripps Institution of Oceanography, University of California, San Diego*
Dr. Genevieve Guenther, *Founder and Director, End Climate Silence; Affiliate Faculty, Tishman Environment and Design Center, The New School*
Dr. Noel Healy, *Associate Professor of Geography and Sustainability, Salem State University; Contributing Author for Working Group 3 of IPCC AR6*
Dr. Jason Hickel, *Professor, Institute for Environmental Science and Technology (ICTA-UAB) and the London School of Economics*
Dr. Robert W. Howarth, *David R. Atkinson Professor Ecology and Environmental Biology, Cornell University; Co-Editor in Chief, OLAR, journal of Ocean-Land-Atmosphere Research*
Bill McKibben, *Schumann Distinguished Scholar, Middlebury College; Co-founder and Senior Advisor, 350.org*
Dr. Mark Paul, *Assistant Professor of Economics and Environmental Studies, New College of Florida*
Dr. Juliet Schor, *Ecological Economist and Professor of Sociology, Boston College*
Dr. Gernot Wagner, *Visiting Associate Professor, Columbia Business School; Clinical Associate Professor, Department of Environmental Studies, New York University; Associated Clinical Professor, Robert F. Wagner Graduate School of Public Service, New York University*
Dr. Gary Yohe, *Huffington Foundation Professor of Economics and Environmental Studies Emeritus, Wesleyan University*
Benjamin Zaitchik, *Professor in the Department of Earth and Planetary Sciences, Johns Hopkins University*

Duke University Faculty
Dr. William H. Chafe, *Alice Mary Baldwin Distinguished Professor Emeritus of History, former Vice Provost, Undergraduate Education*
Dr. Jim S. Clark, *Nicholas Distinguished Professor of Environmental Science*
Dr. Michaeline A. Crichlow, *Chair, Department of African and African American Studies*
Dr. Tobias Egner, *Professor of Psychology and Neuroscience*
Dr. Shai Ginsburg, *Chair, Department of Asian and Middle Eastern Studies*
Dr. Nancy MacLean, *William H. Chafe Distinguished Professor of History and Public Policy, former Associate Chair, Department of History*

Dr. Thomas Mitchell-Olds, *Newman Ivey White Distinguished Professor of Biology*
Dr. Sayan Mukherjee, *Professor of Statistical Science*
Dr. Stuart L. Pimm, *Doris Duke Distinguished Professor of Conservation Ecology in the Nicholas School of the Environment and Earth Sciences,*
Dr. Drew Todd Shindell, *Nicholas Distinguished Professor of Earth Science*
Dr. Gregg E. Trahey, *Robert Plonsey Distinguished Professor of Biomedical Engineering*

Organizations
Asian American Studies Working Group, *Duke University Student Organization*
Duke Asian Students Association, *Duke University Student Organization*
Duke Conservation Tech, *Duke University Student Organization*
Duke Environmental Justice Network, *Duke University Student Organization*
Duke Southeast Asian Student Association (ASEAN), *Duke University Student Organization*
Duke Sustainable Ocean Alliance (SOA), *Duke University Student Organization*
Duke Undergraduate Energy Club, *Duke University Student Organization*
Environmental Alliance, *Duke University Student Organization*
Food Bank of Central Eastern North Carolina
Operation Climate
Sunrise Movement, Durham Hub
Undergraduate Environmental Union, *Duke University Student Organization*

For individual signatories, affiliations are for identification purposes only.

Prepared with assistance from attorneys at Climate Defense Project.

Cc:

Vincent E. Price, President, Duke University

Daniel G. Ennis, Executive Vice President, Duke University

Magaret W. Epps, Secretary, Duke University Board of Trustees

Laurene Sperling, T‘83, Chair, Duke University Board of Trustees

Carmichael S. Roberts, T‘90, G’95, Vice Chair, Duke University Board of Trustees

Adam Silver, T’84, Vice Chair, Duke University Board of Trustees

Mary T. Barra, Trustee, Duke University Board of Trustees

Michael J. Bingle, E’94, Trustee, Duke University Board of Trustees

Lisa M. Borders, T’79, Trustee, Duke University Board of Trustees

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Thurston B. Morton, III, Director, DUMAC Board of Directors

Geoffrey S. Rehnert, Director, DUMAC Board of Directors

James C. Zelter, Director, DUMAC Board of Directors

Lawrence Baxter, Chair, Advisory Committee on Investment Responsibility

SUPPORTING DOCUMENTATION

Table of Contents

I. The Board of Trustees' violation of North Carolina law

The Duke University Board of Trustees is the governing body of Duke University, a charitable corporation founded in 1924 and organized under North Carolina law and Section 501(c)(3) of the Internal Revenue Service Code. The Board notes that "[a]s the university's fiduciary, the board is responsible for Duke's long term health, overseeing and aligning its strategic direction, educational policy, finances and operations with the mission of the university."[5] The Board's purpose is to provide "a superior liberal education to undergraduate students, attending not only to their intellectual growth but also to their development as adults committed to high ethical standards and full participation as leaders in their communities . . . to advance the frontiers of knowledge and contribute boldly to the international community of scholarship; to promote an intellectual environment built on a commitment to free and open inquiry; to help those who suffer, cure disease, and promote health."[6]

The Board and its Executive Committee "[e]xercise oversight of the management of the investment assets of the University and its affiliated entities."[7] The Board delegates investment operations to DUMAC, Inc.,[8] a nonprofit corporation established by the Board in 1989 which "operate[s] under a trustee-approved investment policy."[9]

- Continued investment in fossil fuels by the Board ***violates the fiduciary duties spelled out in the North Carolina Uniform Prudent Management of Institutional Funds Act (NCUPMIFA)***.
    - NCUPMIFA states that, "[s]ubject to the intent of a donor expressed in a gift instrument, an institution, in managing and investing an institutional fund, shall consider the charitable purposes of the institution and the purposes of the institutional fund."[10] The model UPMIFA drafting committee describes consideration of "charitable purposes" as a "fundamental duty,"[11] and this requirement distinguishes charitable investors like the Board from other entities such as pension funds.
    - NCUPMIFA further requires that, "[i]n addition to complying with the duty of loyalty imposed by law other than this Chapter, each person responsible for managing and investing an institutional fund shall manage and invest the fund in good faith and with the care an ordinarily prudent person in a like position would exercise under similar circumstances."[12]
    - NCUPMIFA lists several factors that must be considered in managing and investing an institutional fund, including: "general economic conditions . . . the role that each investment or course of action plays within the overall

[5] The Board of Trustees, Duke University Board of Trustees (2022).
[6] Mission Statement, Duke University Board of Trustees (2001).
[7] Bylaws of Duke University, Duke University Board of Trustees, Art. VI(2)(d) (2021).
[8] *Id.*
[9] About, DUMAC, Inc. (2022).
[10] N.C.G.S.A. § 36E-3(a).
[11] National Conference of Commissioners on Uniform State Laws, Uniform Prudent Management of Institutional Funds Act, with Prefatory Notes and Comments at 15 (2006).
[12] N.C.G.S.A. § 36E-3(b).

investment portfolio of the fund . . . the expected total return from income and the appreciation of investments . . . [and] an asset's special relationship or special value, if any, to the charitable purposes of the institution."[13]

    - Although the directors of charitable institutions may delegate investment authority to an external agent,[14] such delegation does not suspend the duty of each director to "discharge his duties as a director, including his duties as a member of a committee: (1) In good faith; (2) With the care an ordinarily prudent person in a like position would exercise under similar circumstances; and (3) In a manner the director reasonably believes to be in the best interests of the corporation."[15]

- The Board has ***failed to consider the charitable purposes of the institution and the purposes of the institutional fund*** by financially supporting the degradation of the climate, widespread damage to ecological and human health, and massive injuries to environmental and social equity. The duty to consider the charitable purposes for which Duke was established distinguishes the Board from other investors, imposing a special legal responsibility to screen assets for their possible interference with the university's goals. Yet the outcomes of the Board's fossil fuel investments are directly contrary to Duke's mission to "to create a climate and sustainability literate student body that not only understands the origins of this crisis, but can address them through the development and implementation of creative, scientifically informed, just, and responsible solutions."[16] The well-known scientific misinformation campaigns of the fossil fuel industry likewise contravene Duke's commitment "to advance learning in all lines of truth [and] to defend scholarship against all false notions and ideals."[17] As such, continued investment in fossil fuel holdings ***violates the Board's duty to consider an asset's special relationship or special value, if any, to the charitable purposes of the institution.***
- The Board has ***violated its duty of loyalty*** to the Duke community by funding activity that directly imperils the lives and prospects of young people and that poses a physical threat to Duke property, thus failing to act in the best interests of the institution. The Board has also violated their duty of loyalty by indulging conflicts of interest with the fossil fuel industry, maintaining personal, professional, and financial ties to oil, gas, and coal companies even as these companies harm Duke.
- The Board has ***violated its duty to act in good faith*** by refusing to abide by their previous commitments to socially responsible investing; by ignoring the warnings of students, faculty, alumni, and regulators that investments in fossil fuel companies are immoral, financially risky, and based on fraudulent information; and by spurning efforts by campus groups to push the University's investment practices toward a more consistent and sustainable approach.
- The Board has ***violated its duty of care*** by investing the University's endowment in financially risky and volatile fossil fuel stocks, which have underperformed for years and are currently at risk of a general collapse in value. This violation is exacerbated

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[13] N.C.G.S.A. § 36E-3(e).
[14] N.C.G.S.A. § 36E-5.
[15] N.C.G.S.A. § 55A-8-30(a).
[16] Executive Summaries of the Reports from the 2020-2021 Strategic Task Forces at 1, Duke University (2021).
[17] Bylaws of Duke University, Duke University Board of Trustees, Art. 1 (2021).

by the Board's failure to follow the lead of peer institutions who, in a like position under similar circumstances, have recognized the prudence of divestment.

- Former Securities and Exchange commissioner Bevis Longstreth, whose scholarship on non-profit investment helped inform the drafting of the original UPMIFA, has called for the application of the prudence standard to the threats of climate change. As Longstreth writes, the risks posed by fossil fuel investments are so serious that institutional investors will be hard-pressed to justify continued holdings in the industry: "The prudence standard of the Act can easily support a decision not to continue to hold or invest in fossil fuel companies. The risks and rewards now offered by such securities are asymmetric, in the sense that the foreseeable rewards are not likely to be equal to the foreseeable risks. The risk that, at some unknown and unknowable, yet highly likely, point in the future, markets will begin to adjust the equity price of fossil fuel company securities downward to reflect the swiftly changing future prospects of those companies, is as serious as it is immense. Moreover, the possibility of that adjustment being a swift one is also a serious risk. A decision to linger in an investment with such an overhanging risk, and expect to time one's exit before the danger is recognized in the market, is a strategy hard to fit within the concept of prudence."[18]
- In a report analyzing fiduciary duties owed by public pension funds, the Center for International Environmental Law concludes that "climate change should be considered an independent risk variable when making investment decisions, and it will trigger the obligations of pension fund fiduciaries . . . If pension fund fiduciaries do not take the financial risks posed by climate change seriously, they may be subject to liability. A failure to properly consider climate change as a risk factor could result in lawsuits under various theories of liability for breaches of fiduciary duties."[19]
    - The report identifies four categories of risk to the value of fossil fuel assets: 1) impact risk (the risk of loss due to the physical effects of global warming, such as sea level rise and wildfires); 2) carbon asset risk (the risk that fossil fuel reserves will never be exploited and remain unprofitable; 3) transition risk (the risk that regulation and the growth of renewable energy will render fossil fuel products too expensive for or unappealing to consumers); and 4) litigation risk (the risk of financial penalties from lawsuits and other legal actions, such as the Attorney General of Massachusetts' action against ExxonMobil).
    - As a result of these risks, the report concludes that fossil fuel investments may violate the fiduciary duties of inquiry, monitoring, loyalty, diversification, impartiality, and acting with reasonable care. The report concludes that "[t]he cleanest and simplest way to avoid climate vulnerability in a portfolio is to divest or, at minimum, dramatically reduce exposure to fossil fuel and other highly climate-vulnerable holdings."[20]
- Duke has never confirmed the value of its holdings in fossil fuel companies; however, publicly available data from other prominent research universities

[18] Bevis Longstreth, Outline of Possible Interpretative Release by States' Attorneys General Under The Uniform Prudent Management of Institutional Funds Act (Jan. 26, 2016).
[19] Trillion Dollar Transformation at 1-2, Center for International Environmental Law (Dec. 2016).
[20] *Id.* at 5-7, 12-17, 19.

and peer schools suggest Duke has hundreds of millions of dollars invested in the industry. Harvard, whose endowment in FY 2021 of 53.2 billion dollars was higher than Duke's 12.7 billion dollars,[21] disclosed in February 2021 that its investments in fossil fuels made up less than two percent of its total portfolio, down from eleven percent in 2008.[22] Rutgers University, whose endowment of 1.6 billion dollars as of March 2021 was much lower than Duke's, disclosed in its divestment announcement that it had "approximately five percent" of its portfolio invested in fossil fuels.[23] Similarly, divestment campaigners at Duke have estimated that "only 2-6 percent of the endowment is likely to be held in fossil fuels".[24] Using the low end of this range, two percent, Duke's fossil fuel holdings are conservatively estimated at 250 million dollars. The value may be much higher.

II. Duke's social and environmental commitments

In addition to their general duties to the public as managers of a charity, the Board is legally bound to uphold the particular *charitable purposes* and values of Duke, which include commitments to social justice and environmental well-being. The Board has clearly acknowledged in the past that this legal duty extends to the manner in which they invest the University's assets.

- The Board's revised 2001 Mission Statement obligates the University "to provide a superior liberal education to undergraduate students, attending not only to their intellectual growth but also to their development as adults committed to high ethical standards and full participation as leaders in their communities . . . to advance the frontiers of knowledge and contribute boldly to the international community of scholarship; to promote an intellectual environment built on a commitment to free and open inquiry; to help those who suffer, cure disease, and promote health."[25]
- The Board's Bylaws express a commitment "to advance learning in all lines of truth [and] to defend scholarship against all false notions and ideals"[26]
- The Board's 2021 Climate Change and Sustainability Strategic Task Force noted that "As anthropogenic greenhouse gases have accumulated in the atmosphere for more than two centuries, it is clear that near term climate change is unavoidable and thus will require a global shift toward a climate resilient world to reduce and reverse the impacts, inequalities, and injustices that climate change engenders. Additional atmospheric accumulation will further intensify climate change in the long run, so the

[21] Endowment, Giving to Duke (last visited March 19, 2022).
[22] The Harvard Management Company recently reported that less than two percent of Harvard's $41.9 billion endowment is invested in fossil fuels. Climate Report, Harvard Management Company (Feb. 2021), at 2.
[23] Rutgers to Divest From Fossil Fuels, Rutgers University (last visited Feb. 13, 2022).
[24] Memorandum to the Advisory Committee on Investment Responsibility (ACIR), Duke University (last visited Mar. 22, 2022).
[25] Mission Statement, Duke University Board of Trustees (2001).
[26] Bylaws of Duke University, Duke University Board of Trustees, Art. 1 (2021).

world must mitigate these threats by moving to a net-zero carbon society, justly and equitably."[27]

- The Task Force announced a vision of making Duke "the Climate University", focusing "on creating sustainable and equitable solutions to the climate crisis that will place society on the path to a resilient, flourishing, net-zero carbon world by 2050."[28]
- The Task Force stated that "Duke will aim to create a climate and sustainability literate student body that not only understands the origins of this crisis, but can address them through the development and implementation of creative, scientifically informed, just, and responsible solutions . . . In our partner communities of Durham, Beaufort, and around the globe, Duke will seek to connect authentically so community insight and wisdom can help create more durable social and economic solutions that recognizes our mutual interdependency."[29]

- The Duke Nicholas School of the Environment's 2017 Strategic Plan states that the school aims "to create knowledge and global leaders of consequence for a sustainable future." The undergraduate program specifically is "designed to spread understanding of the Earth and the environmental ethic."[30]
- Through the Sustainable Duke initiative, Duke has committed to certain environmental values and outcomes:
    - In 2009, the University launched its first climate action plan (CAP), which aims for Duke to be carbon neutral by 2024 (using a combination of emission reductions and carbon offsets), as part of Duke's "deep-rooted culture of public engagement and the belief that the University has the duty to share the knowledge of faculty and students to address pressing global issues."[31]
        - The plan explains that sustainability goes beyond a reduction in greenhouse gas emissions: "Duke's considerable efforts to affect a culture that recognizes the broader impacts of the institution and values sustainable solutions has helped to distinguish the University's deep commitment to sustainability."[32]
- In the 2019 Updated CAP, the Duke leadership acknowledges the symbolic nature of climate neutrality: "Making its campus climate neutral will not even register a minor change in global greenhouse gas emissions. However, this institution, with its focus on innovation, public service and global connections, is uniquely situated to be an example of climate leadership and instill this ethic in all students."[33]
- The Board's Guideline on Investment Responsibility states that one of the Trustees' "primary responsibilities" is "to oversee the university's financial resources and the investment of its assets … and provide the best risk-adjusted returns possible." The Guideline states that the University's investment manager, DUMAC, "is committed

[27] Executive Summaries of the Reports from the 2020-2021 Strategic Task Forces at 1, Duke University (2021).
[28] *Id.*
[29] *Id.*
[30] 2017-2022 Strategic Plan at 1, 2, Duke Nicholas School of the Environment (2017).
[31] Going Green: Becoming a Carbon Neutral Campus: Duke University Climate Action Plan at 2, Duke University (Oct. 2009).
[32] *Id.* at 5.
[33] 2019 Duke University Climate Action Plan Update at 3, Sustainable Duke (Apr. 1, 2019).

to responsible investing, taking into account issues of integrity, quality, environmental impact, ethics, and governance. Investments provide financial support to advance the university's mission."[34]

  - According to the Guideline, DUMAC's Advisory Committee on Investment Responsibility (ACIR) — which was created in acknowledgment that "investments may have societal implications" — allows the Duke community to bring up issues of concern and "advises the executive vice president on any proxy votes on DUMAC's direct holdings that have societal implications."[35] The ACIR makes recommendations to the President on topics such as "whether to correspond with the management of corporations in which the University holds an identifiable equity position [and] when to divest." It makes these decisions based on a variety of factors, including "whether the offending firm's culpability is substantial and proven" and the degree of consensus within the Duke community.[36]
  - The ACIR understands that "actions the University takes may or may not materially affect an offending corporation, but such actions may have significant symbolic value. When the University community has engaged in substantive discourse on an issue and expressed broad concern that substantial social injury is being caused by such policies or practices, the president may make a recommendation to the Board of Trustees."[37]
- DUMAC claims that it is "is committed to responsible investing, taking into account issues of integrity, quality, environmental impact, ethics and governance. We believe adherence to good governance as well as promoting social awareness, racial equity and environmental stewardship is good business."[38]
- The Board has recognized that divestment is at times necessary when there is widespread support across the Duke community to divest from activity considered "morally abhorrent" (e.g. apartheid, genocide, or slavery).[39]
  - In 1986, in response to public pressure to align its investment activity with its charitable mission, the Board announced that it would divest from stocks of any company doing business in South Africa "if the structure of racial separation in that country has not been dismantled by January" of 1987.[40]
  - In 2008, in response to violence in Darfur, the Board voted to prohibit direct investments in companies "heavily engaged in business with the government of Sudan." The decision was based on the 2004 ACIR policy for socially responsible investment.[41]

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[34] Guideline on Investment Responsibility, Duke University Board of Trustees (May 8, 2020).
[35] Guideline on Investment Responsibility, Duke University (May 8, 2020).
[36] Advisory Committee on Investment Responsibility, Duke University Board of Trustees at 1, 2 (October 4, 2013).
[37] *Id.* at 4.
[38] Responsibility, Dumac, Inc. (2022).
[39] Guideline on Investment Responsibility, Duke University Board of Trustees.
[40] Duke would sell its holdings in South Africa, The New York Times (May 4, 1986).
[41] Resolution Relating to the Recommendation of the President's Advisory Committee on Investment Responsibility, Duke University Board of Trustees (February 29, 2008).

- In 2012, in response to conflict minerals in the Democratic Republic of Congo, the Board required DUMAC Inc. to ask companies to report on their avoidance of "conflict minerals and conflict mineral derivatives."[42]
- In 2019, in response to actions by the Duke Climate Coalition, the ACIR submitted a series of recommendations to University President Price regarding Duke's investments in fossil fuels. The recommendations expressed "the desire to use Duke's investment leverage to help reduce Greenhouse Gasses" but concluded that "divestiture is not a constructive option."[43] Rather, ACIR suggested other alternatives:
    - DUMAC should develop its proxy voting policies "to encourage companies to reduce their reliance on fossil fuels and the production of Greenhouse Gasses" (this recommendation was accepted by President Price);
    - Duke should consider seeking endowment funding for its Social Choice (ESG) Fund (this recommendation was not accepted in full by President Price);
    - Duke should look into creating a carbon tax on selected investments (this recommendation was not accepted by President Price);
    - DUMAC should release annual reports to the ACIR about Duke's fossil fuel and clean energy holdings.[44]
- In May 2020, the Board issued a "Statement on Climate Change and Investment" that read, in part: "Duke University is committed to responsible investing, considering issues of integrity, quality, environmental impact, ethics, and governance, and invests its financial assets in ways that are both financially prudent and in keeping with these institutional values. Accordingly, and aware of the grave challenges posed by climate change and the positive impact of investments in alternative sources of energy, the Duke University Board of Trustees has communicated to DUMAC and its Directors that, in managing the investment of university funds, DUMAC should take into account Duke's commitment to an environmentally sustainable future."[45]

III. The scientific reality and risks of climate change

The current and future effects of climate change jeopardize the physical integrity of Princeton's campus and the safety of its students, faculty, and staff, undermining the Trustees' *charitable purposes.* By investing in companies disproportionately responsible for the climate crisis, the Trustees expose the Princeton community and society at large to severe injury, thus failing to act in Princeton's best interests and violating the *duty of loyalty.*

- Statistically significant, historically unprecedented, and potentially irreversible changes are taking place in the Earth's oceans, atmosphere, and biosphere. These

[42] Resolution Relating to the Recommendation of the President's Advisory Committee on Investment Responsibility, Duke University Board of Trustees (June 15, 2012).
[43] Duke University's Contribution to Reducing Greenhouse Gasses: Toward A Climate-Responsible Investing Approach, Duke University at 1, 3, Duke University Board of Trustees Advisory Committee on Investment Responsibility (May 2019).
[44] *Id.* at 1, 2.
[45] Statement on Climate Change and Investment, Duke University Board of Trustees (May 8, 2020).

changes are collectively known as climate change. Such changes are "unequivocally" the result of human activities — primarily carbon dioxide emissions resulting from extraction and combustion of fossil fuels including but not limited to coal, oil, and fracked gas — according to the Sixth Assessment Report Summary for Policymakers by the Intergovernmental Panel on Climate Change (IPCC), the leading global authority responsible for synthesizing and producing much of the scientific research on climate change across the globe.[46]

- A small number of fossil fuel producers have been disproportionately responsible for greenhouse gas emissions since the Industrial Revolution: twenty companies account for nearly thirty percent of all emissions between 1751 and 2010.[47] A 2017 report by the Carbon Disclosure Project found that seventy-one percent of all global greenhouse gas emissions since 1988 "can be traced to just 100 fossil fuel producers."[48]
- There is a near-linear relationship between the cumulative amount of carbon dioxide emitted and the amount of global warming it causes.[49] Every one-half degree Celsius of further global warming results in discernible increases in intensity and frequency of temperature extremes, heavy precipitation and agricultural, hydrological and ecological droughts in some regions.[50]
- As a result of human-caused warming, climate change is already affecting every inhabited region across the globe, leading to observed changes in weather and climate extremes.[51]
- The Fourth National Climate Assessment, released in 2018 by thirteen federal agencies comprising the U.S. Global Change Research Program (USGCRP), noted that "[t]he impacts of climate change are already being felt in communities across the country. More frequent and intense extreme weather and climate-related events, as well as changes in average climate conditions, are expected to continue to damage infrastructure, ecosystems, and social systems that provide essential benefits to communities. Future climate change is expected to further disrupt many areas of life, exacerbating existing challenges to prosperity posed by aging and deteriorating infrastructure, stressed ecosystems, and economic inequality."[52] The USGRCP report concluded that, as a result of climate change, "annual losses in some economic sectors are projected to reach hundreds of billions of dollars by the end of the century — more than the current gross domestic product . . . of many U.S. states."[53]
- Continued global warming is projected to further intensify the global water cycle, including the severity of wet and dry events.[54] Many changes due to past and future

[46] *See* Summary for Policymakers at 7, in Climate Change 2021: The Physical Science Basis, Working Group I Contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (Aug. 2021).
[47] Richard Heede, Tracing anthropogenic carbon dioxide and methane emissions to fossil fuel and cement producers, 1854–2010, 122 Climatic Change 229, 234 (2014). These companies include Chevron, ExxonMobil, BP, Shell, ConocoPhillips, and Peabody. *Id.* at 237.
[48] New report shows just 100 companies are source of over 70% of emissions, Carbon Disclosure Project (July 10, 2017).
[49] IPCC, Summary for Policymakers, *supra* at note 46, at 37.
[50] *Id.* at 19.
[51] *Id.* at 10.
[52] Fourth National Climate Assessment, Volume II at 25, U.S. Global Change Research Program (Mar. 2021).
[53] *Id.* at 26.
[54] *Id.* at 25.

greenhouse gas emissions are irreversible for centuries to millennia, especially changes in the ocean, ice sheets, and global sea level.[55]

- Global warming will exceed two degrees Celsius by the end of this century unless drastic reductions in carbon dioxide and other greenhouse gas emissions occur in the coming decades.[56] To limit warming, cumulative carbon dioxide emissions must reach net zero, along with strong reductions in other greenhouse gasses.[57]
- The global mean water level in the ocean rose by 0.14 inches (3.6 millimeters) per year from 2006-2015, which was 2.5 times the average rate of 0.06 inches (1.4 millimeters) per year throughout most of the twentieth century. By the end of the century, global mean sea level is likely to rise at least one foot (0.3 meters) above 2000 levels, even if greenhouse gas emissions follow a relatively low pathway in coming decades.[58]
- According to the Environmental Protection Agency, climate change effects in North Carolina will include: increasing temperature and precipitation; rising sea levels and eroding coastlines; saltwater intrusion, which may kill wetland trees and cause loss of coastal habitats and water filtration ecosystem services; exacerbated flooding for coastal homes and infrastructure tied to coastal storms and rising sea level; reduced crop yield and harm to livestock metabolism due to heat; and threats to human health..[59]
- The increased frequency of intense storms and floods is an existential threat to towns along North Carolina's eastern coast. Towns like Fair Bluff and Seven Springs have each experienced drastic population declines. Fair Bluff's population fell fifty percent between 2018 and 2021, while Seven Springs is down to fifty-five people.[60] Frequent flooding causes businesses to close and people to leave, decreasing the tax base and hollowing out coastal towns.[61]
- With increases in temperature and precipitation, mosquito season in Raleigh has already grown from 114 days on average 1980-1989 to 147 days on average per year since 2006.[62] Mosquitoes are vectors of disease, including the West Nile Virus.[63] Increased flooding also contributes to area-specific mosquito outbreaks.[64]
- Climate change will continue to cause severe problems in North Carolina, with more-severe impacts expected under high-emissions scenarios. While many projections of harm extend only to 2050 or 2100, as a centuries-old institution Duke must consider the dramatic and unavoidable climate harms that will extend beyond this date.
    - As a result of climate change, North Carolina is predicted to experience an increasing number of dangerous heat days. According to a report by Climate

[55] *Id.* at 28.
[56] *Id.*
[57] *Id.* at 36.
[58] Rebecca Lindsey, Climate Change: Global Sea Level, Climate.gov (Aug. 14, 2020).
[59] What Climate Change Means for North Carolina, United States Environmental Protection Agency (Aug. 2016).
[60] Climate Change Poses Economic and Existential Threat to N.C. Towns, INDYweek (Sept. 3, 2021).
[61] *Id.*
[62] North Carolina's Climate Threats, Climate Central (last visited Mar. 15, 2022).
[63] *Id.*
[64] *Id.*

Central, "North Carolina currently averages about 10 dangerous heat days a year" and, by 2050, is "projected to see almost 60 of these days each year."[65]
  - "Today, North Carolina has 122,000 people at risk of coastal flooding. By 2050, an additional 44,000 people are projected to be at risk due to sea level rise." 100-year floods in the North Carolina Outer Banks will become eleven times more likely by 2050.[66]

IV. The societal effects of climate change and fossil fuel extraction

Mounting evidence demonstrates that fossil fuel investments create disproportionate burdens on people of color, Indigenous communities, low-income communities, and children. Fossil fuel investments also harm the public health and property of North Carolina residents, including those in the Duke community, violating the Board's duties to consider Duke's charitable purposes to act with loyalty toward its community and property.

- Climate change heavily impacts so-called frontline communities, including communities of color and Indigenous communities, with their disproportionate exposure to air pollution, sea level rise, drought, and other consequences of climate change.[67] In general, those who have contributed the least to the climate crisis by virtue of their economic position stand to suffer the most from dislocation and natural disasters caused by increased warming.
  - Climate change exacerbates racial inequality by focusing health and economic injuries on people of color, who tend to have fewer economic resources to adjust to rising temperature and tend to receive less government assistance to deal with emergencies.[68]
  - According to a study from the Program for Environmental and Regional Equity at the University of Southern California, racial minorities will disproportionately suffer from an inability to pay for basic necessities and from decreased job prospects in sectors such as agriculture and tourism as the climate crisis accelerates.[69]
  - According to the United Nations, "[c]limate change exacerbates the difficulties already faced by Indigenous communities, including political and economic marginalization, loss of land and resources, human rights violations, discrimination and unemployment."[70] Indigenous communities are also vulnerable to climate change impacts because of the enduring legacy of

[65] *Id.*
[66] *Id.*
[67] The Geography of Climate Justice, Mary Robinson Foundation (last visited Feb. 10, 2021).
[68] Steven Hiseh, People of Color Are Already Getting Hit the Hardest by Climate Change, The Nation *(*Apr. 22, 2014); Office of Health Equity's Climate Change and Health Equity Program, Racism Increases Vulnerability to Health Impacts of Climate Change, California Department of Public Health (Aug. 17, 2020).
[69] Rachel Morello Frosch, Manuel Pastor, Jim Sadd, & Seth Shonkoff, The Climate Gap: Inequalities in How Climate Change Hurts Americans & How to Close the Gap at 5, University of Southern California Program on Environmental and Regional Equity (May 2009).
[70] United Nations Department of Economic and Social Affairs — Indigenous Peoples, Climate Change (last visited Oct. 5, 2021).

colonialism, forced relocations, the loss of cultural practices, and other harms, which create health burdens.[71]
  - Throughout the world, migration due to climate change has increased in recent years and is anticipated to increase further as many areas of the globe become inhospitable to agriculture and human habitation, leading to political and social instability.[72]

- In September 2021, The Lancet published a Comment co-signed and co-published by the editors of more than 200 leading medical journals worldwide.[73] The authors noted that "[h]ealth institutions have already divested more than $42 billion of assets from fossil fuels" and urged others to join them, since "[t]he greatest threat to global public health is the continued failure of world leaders to keep the global temperature rise below 1.5°C and to restore nature."[74]
- According to a 2013 study co-authored by Denise Leonore Mauzerall, Professor of Environmental Engineering and International Affairs at Princeton, climate change modulates surface concentrations of fine particulate matter (PM2.5) and ozone (O3), leading to increased air pollution.[75] Exposure to this air pollution could increase annual premature deaths by more than 100,000 adults worldwide.[76] North Carolina receives about seventeen percent of its energy from coal power plants,[77] contributing to ground level ozone and particulate matter. These pollutants can irritate the lungs and respiratory system and contribute to or cause asthma, particularly in infants.[78]
- Children bear especially heavy burdens from the impacts of climate change and fossil fuel extraction.

[71] Jantarasami, L.C., *et al.*, Chapter 15: Tribes and Indigenous Peoples at 582, in Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II, U.S. Global Change Research Program (2018) ("A number of health risks are higher among Indigenous populations due in part to historic and contemporary social, political, and economic factors that can affect conditions of daily life and limit resources and opportunities for leading a healthy life. Many Indigenous peoples still experience historical trauma associated with colonization, removal from their homelands, and loss of their traditional ways of life, and this has been identified as a contributor to contemporary physical and mental health impacts. Other factors include institutional racism, living and working circumstances that increase exposure to health threats, and limited access to healthcare services. Though local trends may differ across the country, in general, Indigenous peoples have disproportionately higher rates of asthma, cardiovascular disease, Alzheimer's disease or dementia, diabetes, and obesity. These health disparities have direct linkages to increased vulnerability to climate change impacts, including changes in the pollen season and allergenicity, air quality, and extreme weather events. For example, diabetes prevalence within federally recognized tribes is about twice that of the general U.S. population. People with diabetes are more sensitive to extreme heat and air pollution, and physical health impacts can also influence mental health.").

[72] Michael Werz & Laura Conley, Climate Change, Migration, and Conflict: Addressing complex crisis scenarios in the 21st century, at 3-5, 12-14, Center for American Progress (Jan. 2012).

[73] Lukoye Atwoli, *et al.*, Call for emergency action to limit global temperature increases, restore biodiversity, and protect health, 398 (10304) The Lancet 939 (2021).

[74] *Id.*

[75] Yuanyuan Fang, *et al.*, Impacts of 21st century climate change on global air pollution-related premature mortality, 121(2) Climatic Change 239 (2013).

[76] *Id.*

[77] North Carolina - State Energy Profile Analysis, U.S. Energy Information Administration (EIA) (Nov. 18, 2021).

[78] What's The Problem?, North Carolina Department of Environmental Quality (last visited Mar. 13, 2022).

- According to UNICEF, one billion children live at extreme risk of climate and environmental hazards, shocks, and stresses.[79] The United States ranks among the countries in which children face at least five major climate and environmental shocks (extremely high category).[80]
- Children are more vulnerable than adults to extreme weather. They are less able to regulate their body temperature during heat waves,[81] breathe at twice the adult rate,[82] and are at crucial stages of brain and organ development.[83] Exposure to toxins has more potential to harm their cognitive ability and lung capacity,[84] and they suffer these deficits their entire lives. Climate change-caused disasters, air pollution extremes, and environmental degradation also disrupt education, and excessive heat interferes with learning capacity.[85]
- UNICEF concludes that "the climate crisis affects or will affect all children, everywhere, in often significant, life-changing ways, throughout their lives" and "undermines the effective enjoyment of the rights enshrined in the Convention on the Rights of the Child."[86]

- A 2020 analysis by RTI International examined the impacts of climate change on agriculture, energy, transportation infrastructure, property, public health and safety, and tourism in North Carolina.[87]
    - Impacts on agriculture include drought, flooding, and more-intense storms.
        - Extended periods with limited or no rainfall will be detrimental to crop yield, and North Carolina's recent history indicates just how much damage can occur under drought conditions. In an exceptional period of drought in 2007, 66.2% of arable land in North Carolina suffered.[88] The 2007 drought caused over 300 million dollars in total losses, with roughly 160 million dollars lostby soybean farmers.[89] Going forward, the state's agricultural sector will likely sustain more losses if droughts become more intense, as predicted by climate models.[90]
        - Agriculture and forestry in the coastal region are projected to become increasingly vulnerable to damage by increased flooding and wind.[91] Increased flooding is expected to be driven both by sea level rise and

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[79] UNICEF, The climate crisis is a child rights crisis: Introducing the Children's Climate Risk Index (Aug. 2021).
[80] *Id.* at 80.
[81] *Id.* at 110.
[82] *Id*.
[83] *Id*. at 20.
[84] *Id*.
[85] *Id.* at 110; Joshua Goodman, Michael Hurwitz, Jisung Park, & Jonathan Smith, Heat and Learning, National Bureau of Economic Research (May 2018).
[86] *Id*.
[87] *See* Climate Change and North Carolina: Near-term Impacts on Society and Recommended Actions, Environmental Defense Fund & RTI International (Oct. 2020).
[88] *Id.* at 20.
[89] *Id.*
[90] *Id.*
[91] *Id.*

more-severe hurricanes, whereas increased wind damage will be primarily due to stronger hurricanes.[92]

    - Even projected short-term increases in saltwater flooding from storm surges are a significant threat to forest and agricultural areas because salinity accumulates and contaminates the soil. Over the last decade, four hurricanes — Irene in 2011, Matthew in 2016, Florence in 2018, and Dorian in 2019 — together caused over 350 million dollars in crop-related damage.[93]
    - In the hog farming industry, fifty waste ponds used to collect animal manure overflowed due to these hurricanes, leading to roughly seven million gallons of waste that contaminated local waterways with pathogens and nutrients. Meanwhile, as a result of these hurricanes, poultry farmers dealt with 4.2 million dead chickens and turkeys that drowned in the flooding.[94]

- Impacts on energy production and demand are caused primarily by flooding and wind. As storms and hurricanes increase in severity, North Carolina's energy infrastructure will be at increased risk of flood and wind damage. This infrastructure includes power lines and pipelines that distribute electricity and gas, as well facilities that store fuels and generate electricity. A useful point of comparison is the impact Hurricane Florence had in 2018, which caused almost 700 million dollars in damage to electrical and gas infrastructure, leaving over 759,000 customers without power in North Carolina.[95]
- Impacts on transportation infrastructure and property will likewise be caused by flooding and wind.
  - By 2050, it is estimated that 1,400 bridges in the Southeast United States will be vulnerable to more frequent flooding caused by climate change, resulting in 430 million dollars per year in additional maintenance costs.[96] Applying these rates of vulnerability and maintenance, this results in costs of around fifty million dollars North Carolina in the year of 2050.[97]
  - Continued sea level rise will cause an increasing number of commercial and residential properties to experience more-frequent floods or even permanent flooding during high tides. Today, it is estimated that over 1,300 residential and commercial properties, valued at almost 340 million dollars, are at risk of chronic flooding (defined as at least twenty-six times per year).[98] Under a no-climate-action trajectory, this estimate increases to almost 15,600 properties

[92] *Id.*
[93] *Id.*
[94] *Id.*
[95] *Id.* at 28.
[96] *Id.* at 27.
[97] *Id.* at 30.
[98] *Id*. at 30.

by 2045, valued at nearly four billion dollars.[99] By 2060, it is estimated that almost 300,000 North Carolinians could be displaced by sea level rise.[100]

- Extreme heat and pathogens have detrimentally affected public health and safety.
  - Heat-related health emergencies are certain to increase across the state in response to the increase in the number of very hot days. "Heat events in North Carolina have been associated with substantially higher rates of emergency room visits for heat exhaustion and a wide range of other heat related illnesses."[101] The medical costs from these emergencies are likely to be over two million dollars per year, not including additional costs from lost income and other consequences of pain.[102]
  - In the Southeastern United States, changes in temperature and precipitation are projected to increase the ticks populations that carry and transmit the bacteria responsible for causing Lyme disease. Lyme disease is currently uncommon in the Southeast, with roughly 4,000 to 5,000 cases occurring from 2010 to 2020; however, roughly 600 additional cases are projected to occur during the period 2040-2050 as a result of climate change (under a no-climate-action scenario).[103] Changes in average temperature across the Southeast are also predicted to be favorable for the West Nile virus. Although the virus is still rare in North Carolina, with fewer than five cases per year statewide from 2003-2012, annual cases are projected to more than double by 2050 under a no-climate-action scenario.[104]
- Finally, coastal flooding has already caused negative effects for recreation and tourism. In the Coastal region, the value of beach tourism and recreation is predicted byon the width of the beaches. Beachgoers in North Carolina will experience lower value from beach trips as sea levels continue to rise, flood, and erode beaches, quantified by analyzing differences in beachgoers' willingness to pay to visit these beaches.[105] The accuracy of future loss estimates is uncertain; however, results from several economic studies indicate that beachgoers lose an average of one dollar in value per visit for each one meter (3.4 feet) decline in width.[106] Therefore, under this model, assuming there are twenty million beach visits per year in North Carolina, an

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[99] *Id.*
[100] Climate Change and North Carolina, *supra* at note 87, at 33.
[101] *Id.* at 33.
[102] *Id.* at 36.
[103] Id. at 36; Couper, L. I., MacDonald, A. J., & Mordecai, E. A. (2020). Impact of prior and projected climate change on US Lyme disease incidence. bioRxiv.
[104] *Id.* at 39.
[105] Daniel J. Phaneuf & George L. Van Houtven, Structural Benefit Transfer Using Bayesian Econometrics (2015), in The Economics of Non-Market Goods and Resources book series (Vol. 14).
[106] *Id.*

average of a thirty-four-foot loss in beach width implies a statewide annual loss of 200 million dollars.[107]

- North Carolina is the second-largest producer of hogs in the United States, after Iowa.[108] This hog waste is often kept in lagoons as an "efficiency measure" for the company.[109] When these lagoons flood, as seen during hurricanes Floyd (1999), Mathew (2016), and Florence (2019), there are drastic economic, ecological, and health-related damages, largely to low-income and predominantly African American communities in counties near hog farming operations.[110] Due to climate change and more frequent flood events, these communities will continue to be harmed disproportionately.[111]
- Previous extreme weather events make clear what is at stake for North Carolina in an era of intensified storms, including hurricanes. On September 5th and 6th, 1996, Hurricane Fran swept through North Carolina, killing twenty-four people, most of whom died from flash floods.[112]
    - "Damages for homes and businesses in North Carolina were estimated at approximately $2.3 billion. Damages/costs related to public property (debris removal, roads and bridges, public buildings, utilities, etc) were estimated at about $1.1 billion for NC. Agricultural damage (crops, livestock, buildings) in NC was over $700 million. Wake County (Raleigh and vicinity) alone reported over $900 million in damage to residential and commercial property. Finally, forestry/timber losses for the state probably exceeded $1 billion."[113]
    - The Duke University campus was also affected. On Friday September 6th, most faculty were unable to show up to teach, despite the school not closing until 10:30 am. Power was lost throughout the weekend in nearby neighborhoods.[114] There was damage across thirty-five miles of roads, and 1400 trees at the Duke forest were knocked down. Staff had difficulties assessing the damage, needing to cut through the trees first. The impacts can still be seen in the forest today, in unremoved decaying trees and upturned roots.[115]
- Burning fossil fuels has altered ocean chemistry, making it more acidic.[116] Acidification has caused serious economic harm to the global fishing industry and also threatens estuaries along North Carolina's coast.[117] North Carolina stands to be

[107] Geoff Van Houtven, Jared Woollacott, & Alison Bean, Climate Change and North Carolina: Near-Term Impacts on Society and Recommended Actions at 38, Environmental Defense Fund & RTI International (Oct. 2020).
[108] North Carolina Hog Farming: Impacts of Hog Waste on Local Communities, Medium (Feb. 3, 2021).
[109] *Id.*
[110] *Id.*
[111] *Id.*
[112] Hurricane Fran, September 1996, National Weather Service (last visited Mar. 13, 2022).
[113] *Id.*
[114] The days during and after Hurricane Fran (last visited Mar. 29, 2022).
[115] Hurricane Fran: Looking Back after 25 Years Duke Forest, Duke Forest (July 28, 2021).
[116] Scott Doney, Oceans of Acid: How Fossil Fuels Could Destroy Marine Ecosystems, Public Broadcasting Service (Feb. 12, 2014).
[117] Bryce R. Van Dam & Hongjie Wang, Decadal-Scale Acidification Trends in Adjacent North Carolina Estuaries: Competing Role of Anthropogenic CO2 and Riverine Alkalinity Loads, Frontiers in Marine Sci. (2019).

particularly impacted by these harms, with its coastal communities' economic reliance on the seafood and recreational fishing industries.[118]

  - The impact of fossil fuels on increased hurricanes may exacerbate these economic impacts. In hurricanes, fish populations move to calmer waters and take time to come back.
  - Floods also push fish onto shore and kill them, resulting in losses for fishermen. For example, during Hurricane Florence, one fisherman had one million dollars' worth of oysters in the water that were pushed on shore. All of them were lost.[119]

- Plastic waste — a direct by-product of fossil fuel extraction, with ninety-eight percent of plastics made from fossil fuels — further damages marine ecosystems.[120] The United Nations Environment Programme estimates that damage to marine ecosystems from plastic waste causes thirteen billion dollars' worth of damage every year.[121] Fossil fuel companies rely on plastic production to shore up profits.[122]
- Finally, climate change causes an increase in the frequency of pandemics such as COVID-19: according to the Intergovernmental Platform on Biodiversity and Ecosystem Services, climate change will "cause substantial future pandemic risks and other localized disease emergence."[123] A paper published in The New England Journal of Medicine concludes that the climate crisis exacerbates the effects of COVID-19, as high heat, wildfire smoke, and high pollen counts amplify underlying conditions such as pulmonary disease, and as emergency responses to events such as hurricanes and fires reduce the ability to mitigate COVID-19 spread. These effects are felt particularly by the most vulnerable communities.[124]

V. The failure of fossil fuel companies to address climate risks

The fossil fuel industry remains resolutely committed to a business model that produces and exacerbates climate change, and to the suppression of nonviolent protest. Investments that promote this activity directly contravene Duke's *charitable purposes.*

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[118] North Carolina commercial fishermen landed less seafood in 2020; Recreational harvest remained stable, North Carolina Department of Environmental Quality (July 23, 2021).
[119] How Did North Carolina's Commercial Fishing Industry Fare In Hurricane Florence?, North Carolina Public Radio (Oct. 9, 2018).
[120] Marty Mulvihill, Gretta Goldenman, & Arlene Blum, The Proliferation of Plastics and Toxic Chemicals Must End, The New York Times (Aug. 27, 2021).
[121] UNEP, Plastic Waste Causes Financial Damage of US$13 Billion to Marine Ecosystems Each Year as Concern Grows over Microplastics (June 23, 2014).
[122] Mulvihill, *et al.*, *supra* at note 120.
[123] Intergovernmental Platform on Biodiversity and Ecosystem Services, IPBES Workshop on Biodiversity and Pandemics: Workshop Report (Oct. 29, 2020).
[124] Renee N. Salas, James M. Shultz, & Caren G. Solomon, The Climate Crisis and Covid-19 — A Major Threat to the Pandemic Response, New Eng. J. Med. (2020).

- Fossil fuel companies knew about the connection between their products and climate change decades before the general public, "as early as the 1950s and no later than 1968."[125]
    - Coal industry publications suggested as early as 1966 that the combustion of fossil fuels could cause "vast changes in the climates of the earth."[126] By 1968, the American Petroleum Institute, an industry trade group, was familiar with a study concluding that the burning of fossil fuels was likely to create significant environmental consequences.[127]
    - As early as 1977, Exxon scientists had privately concluded that "there is general scientific agreement that the most likely manner in which [hu]mankind is influencing the global climate is through carbon dioxide release from the burning of fossil fuels."[128]
    - Shell internally reached similar conclusions by at least the 1980s,[129] as did Mobil (then separate from Exxon).[130] By the 1980s, major fossil fuel companies had "internally acknowledged that climate change was real, it was caused by fossil fuel consumption, and it would have significant impacts on the environment and human health."[131]
- A 2017 report by the Carbon Disclosure Project found that seventy-one percent of all global greenhouse gas emissions since 1988 "can be traced to just 100 fossil fuel producers."[132]
- No major fossil fuel company has established itself as a willing participant in the transition to renewable energy.
    - In 2018, all fossil fuel majors approved projects that are noncompliant with the Paris Agreement goals.[133] That same year, the fossil fuel industry as a whole spent only about one percent of capital expenditures on renewable energy initiatives.[134]
    - A study by the London School of Economics found that no fossil fuel major has carbon-reduction plans that are Paris-compliant as of October 2020.[135] A September 2020 report by climate research group Oil Change International

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[125] Brief of Amici Curiae Robert Brulle, Center for Climate Integrity, Justin Farrell, Benjamin Franta, Stephan Lewandowsky, Naomi Oreskes, and Geoffrey Supran in Support of Appellees and Affirmance, County of San Mateo v. Chevron Corporation, et al., County of Imperial Beach v. Chevron Corporation, et al., County of Marin v. Chevron Corporation, et al., County of Santa Cruz, et al., v. Chevron Corporation, et al., Nos. 18-15499, 18-15502, 18-15503, 18-16376 at 2 (9th Cir. 2019).
[126] Elan Young, Exxon knew -- and so did coal, Grist (Nov. 29, 2019).
[127] Oliver Milman, Oil industry knew of 'serious' climate concerns more than 45 years ago, The Guardian (Apr. 13, 2016).
[128] Shannon Hall, Exxon Knew about Climate Change almost 40 years ago, Sci. Am. (Oct. 26, 2015).
[129] John H. Cushman Jr., Shell Knew Fossil Fuels Created Climate Change Risks Back in 1980s, Internal Documents Show, Inside Climate News (Apr. 5, 2018).
[130] Nicholas Kusnetz, Exxon Turns to Academia to Try to Discredit Harvard Research, Inside Climate News (Oct. 20, 2020).
[131] Brief of Amici Curiae Robert Brulle, *et al.*, *supra* at note 125, at 15.
[132] New report shows just 100 companies are source of over 70% of emissions, Carbon Disclosure Project (Jul. 2017).
[133] Breaking the Habit - Why none of the large oil companies are "Paris-aligned", and what they need to do to get there, Carbon Tracker Initiative (Sept. 2019).
[134] Ron Bousso, Big Oil spent 1 percent on green energy in 2018, Reuters (Nov. 11, 2018).
[135] Anjli Raval, Big fossil fuel groups all failing climate goals, study shows, Financial Times (Oct. 6, 2020).

concluded that "[n]one of the evaluated oil majors' climate strategies, plans, and pledges come close to alignment with the Paris Agreement."[136]

- Fossil fuel companies continue to bet on long-term fossil fuel reliance.
    - Approximately half of the oil under BP's financial control is excluded from the company's decarbonization commitments.[137] As recently as November 2020, BP was buying up Canadian offshore oil parcels.[138]
    - According to leaked internal documents, ExxonMobil is betting on increases in future carbon emissions.[139] The 2018 investment plan by ExxonMobil, one of the world's largest oil companies, predicted that the firm's expanded oil and gas production would release an additional twenty-one million tons of carbon dioxide annually by 2025. When added to the emissions released by "end uses" of the company's products, the total additional emissions of ExxonMobil's growth strategy would amount to around 100 million tons of carbon dioxide per year. This figure — which represents only the anticipated *expansion* of ExxonMobil's business — is roughly equivalent to the entire annual emissions of the country of Greece.[140]
    - Several leading executives from Shell's renewable energy sectors recently quit in response to the company's lackluster efforts to decarbonize.[141] In December 2020, the company was actively engaged in litigation in the Netherlands in which it argued that emissions reduction commitments should not be legally binding.[142] In February 2021, the company revealed that it planned significant expansion of its gas export and production operations.[143]
    - Chevron plans to increase spending on exploration and extraction in the Gulf of Mexico and the Lower forty-eight states in 2021.[144]

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[136] Big Oil Reality Check: Assessing Oil and Gas Company Climate Plans, Oil Change International (Sept. 2020).

[137] Kelly Trout, The Loopholes Lurking in BP's New Climate Aims, Oil Change International (Mar. 11, 2020) ("BP's accounting of its production excludes any oil and gas that it produces but does not sell . . . . BP also excludes the production related to its 20% stake in Russia-based oil company Rosneft. We estimate that these accounting loopholes exclude from BP's net zero aim 46% of the total carbon that the company invested in extracting in 2018 . . . .").

[138] Julianne Geiger, From Billions To Millions: Canada's Offshore Oil Disappointment, OilPrice.com (Nov. 5, 2020).

[139] Kevin Crowley & Akshat Rathi, Exxon Carbon Emissions and Climate: Leaked Plans Reveal Rising CO2 Output, Bloomberg Green (Oct. 5, 2020); Emily Pontecorvo, Exxon's 'emission reduction plan' doesn't call for reducing Exxon's emissions, Grist (Dec. 15, 2020).

[140] Crowley & Rathi, *supra* at note 139. ExxonMobil's growth strategy has since changed in light of the Covid-19 pandemic.

[141] Anjli Raval & Leslie Hook, Shell Executives Quit Amid Discord Over Green Push, Financial Times (Dec. 8, 2020).

[142] Laurel Wamsey, Climate Case Against Shell Begins In The Netherlands, NPR (Dec. 1, 2020).

[143] Jillian Ambrose, Shell to expand gas business despite pledge to speed up net zero carbon drive, The Guardian (Feb. 11, 2021).

[144] Carolyn Davis, Chevron Sharply Reduces '21 Spending, but Permian, Gulf of Mexico Still Priorities - Natural Gas, Natural Gas Intelligence (Dec. 3, 2020).

  - The American Petroleum Institute recently asserted that the oil industry remains essential to the American economy and promised to resist President Biden's climate agenda.[145]
- The commitment of the fossil fuel industry to increased emissions makes fossil fuel investment incompatible with international targets to reduce greenhouse gas emissions. In a recent report, the International Energy Agency concluded that, in order to reach net zero emissions by 2050, "[t]here is no need for investment in new fossil fuel supply in our net zero pathway."[146]
- Shareholder engagement has not been an effective tactic for changing the industry's core business model, with recent attempts by shareholders to persuade fossil fuel companies to address climate risks going largely unheeded.
  - The Interfaith Center on Corporate Responsibility found that "150 requests from various responsible shareholders asking fossil fuel companies to evaluate financial risk from climate change regulation [between 1992 and 2015] were ignored or met with a dismissive reply," with leaders of companies including ExxonMobil and Shell explicitly stating their intentions to continue producing fossil fuels without interruption.[147]
  - Shareholder engagement group As You Sow noted in a 2018 report that, although oil and gas companies are disproportionate targets of shareholders' attempts to engage and intervene, the companies have been singularly unresponsive to requests to reduce greenhouse gas emissions.[148]
  - In August 2021, ExxonMobil announced that it had made a new oil discovery off the coast of Guyana. In the words of the Institute for Energy Economics and Financial Analysis, the announcement "reflects a business-as-usual approach for ExxonMobil. Earlier this year, the International Energy Agency warned there should be no new oil field developments if the planet is to mitigate catastrophic climate change… the new discovery (and maybe more importantly, the announcement of the new discovery) is a signal that drilling remains ExxonMobil's primary business, now and for the future."[149]
- The fossil fuel sector continues to undermine climate-friendly policymaking.
  - In the three years following the Paris Agreement, the five largest public fossil fuel companies "invested over $1 [billion] of shareholder funds on misleading climate-related branding and lobbying."[150]

[145] Nicholas Kusnetz, American Petroleum Institute Chief Promises to Fight Biden and the Democrats on Drilling, Tax Policy, Inside Climate News (Jan. 14, 2021).
[146] International Energy Agency, Net Zero by 2050: A Roadmap for the Global Energy Sector at 21 (July 2021).
[147] Taavi Tillmann, Jonny Currie, Alistair Wardrobe, & David McCoy, Fossil fuel companies and climate change: the case for divestment, 350 Brit. Med. J. (Jun. 2015).
[148] As You Sow, 2020: A Clear Vision for Paris-Compliant Shareholder Engagement (Sept. 2018). The report urges fiduciaries to divest from the oil and gas sector so as to "protect their beneficiaries" if the companies do not adopt Paris-compliant plans by the close of the 2020 proxy season. *Id.* at 25. That deadline has now passed without any meaningful change of course by the industry. Raval, Big fossil fuel groups all failing, *supra* at note 135.
[149] Tom Sanzillo, IEEFA: Months after tumultuous ExxonMobil annual meeting, no substantial change expected, Institute for Energy Economics and Financial Analysis (Aug. 6, 2021).
[150] Big Oil's Real Agenda on Climate Change, InfluenceMap (Mar. 2019).

- Each year, "the world's five largest publicly owned oil and gas companies spend approximately 200 million dollars on lobbying designed to control, delay or block binding climate-motivated policy."[151]
- In 2018, the industry spent nearly 100 million dollars to stymie three proposed climate initiatives in Western states: a carbon emissions fee in Washington, restrictions on hydraulic fracturing in Colorado, and improved renewable energy standards in Arizona.[152]

- As a 2013 article by environmental sociologists explained: "[a]lthough many factors have contributed to the failure to enact strong international and national climate change policies… a powerful and sustained effort to deny the reality and significance of human-induced climate change has been a key factor."[153]
- Finally, the fossil fuel industry has engaged in a sustained effort to silence climate protesters and increase the severity of criminal punishment for their activities.
    - Since 2017, the industry has pushed for the passage of numerous "critical infrastructure" bills in U.S. state legislatures, thirteen of which have become law.[154] Many of the bills are similar or identical to model legislation authored by the corporate lobbying group American Legislative Exchange Council, and at least three were accompanied by political contributions from oil and gas companies to the bills' sponsors.[155]
        - The majority of enacted "critical infrastructure" laws contain provisions for organizational as well as individual criminal liability.[156]
        - A wide range of commentators have criticized "critical infrastructure" laws as unnecessary, vague, and overly punitive, and two of the laws face litigation challenging their constitutionality.[157]
    - The industry has also used lawsuits and subpoenas to accuse environmental advocates of defamation, racketeering, and other crimes, to label advocates as terrorists, and to chill advocacy targeting the industry's activities.[158]

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[151] Niall McCarthy, Oil and Gas Giants Spend Millions Lobbying to Block Climate Change Policies, Forbes (Mar. 25, 2019). BP spends approximately $53 million, Shell $49 million, and ExxonMobil $29 million per year. *Id.*
[152] Amy Harder, With deep pockets, energy industry notches big midterm wins, Axios (Nov. 7, 2018).
[153] Shaun W. Elsasser & Riley E. Dunlap, Leading Voices in the Conservative Choir: Conservative Columnists' Dismissal of Global Warming and Denigration of Climate Science, 57(6) Am. Behav. Scientist 754, 755 (2013).
[154] Institute for Policy Studies, Muzzling Dissent: How Corporate Influence Over Politics Has Fueled Anti-Protest Laws (Oct. 2020). *See* US Protest Law Tracker, International Center for Not-for-Profit Law (last visited Feb. 10, 2022).
[155] New Report Details Impact of Secretive American Legislative Exchange Council on Communities of Color, Center for Constitutional Rights (Dec. 23, 2019); Gabrielle Cochette & Basav Sen, Muzzling Dissent: How Corporate Influence Over Politics Has Fueled Anti-Protest Laws at 8-9 (Oct. 2020).
[156] Namely, those enacted in Kentucky, Mississippi, North Dakota, Ohio, Oklahoma, North Dakota, South Dakota, Tennessee, Texas, and West Virginia. US Protest Law Tracker, *supra* at note 154.
[157] Nicholas Kusnetz, More States Crack Down on Pipeline Protesters, Including Supporters Who Aren't Even on the Scene, Inside Climate News (Mar. 28, 2019); Susie Cagle, 'Protesters as terrorists': growing number of states turn anti-pipeline activism into a crime, The Guardian (July 8, 2019).
[158] *See, e.g.*, Amal Ahmed, Energy Transfer Partners Files Lawsuit Against Greenpeace, Texas Monthly (Dec. 15, 2017); Exxon's Campaign of Intimidation against Climate Defenders Ushers in a New McCarthy Era, EarthRights International (Dec. 21, 2016); Green Group Holdings v. Schaeffer: Defense of Environmental

- There is mounting evidence of collusion between paramilitary firms hired by fossil fuel companies and local police departments in suppressing climate protest, and the use of heavy-handed tactics to suppress protest against fossil fuel infrastructure projects such as Energy Transfer Partners' Dakota Access pipeline.
    - In response to protests at the Standing Rock reservation in 2016 and 2017, Energy Transfer Partners hired TigerSwan, a military contractor with experience in Iraq and Afghanistan. In collaboration with local police, TigerSwan used legally questionable tactics against protesters, including digital surveillance.[159] Water cannons, tear gas, and rubber bullets were also used, resulting in hundreds of injuries.[160]
    - Energy Transfer Partners also retained TigerSwan to respond to vandalism targeting the Dakota Access pipeline in Iowa in 2017, using scare tactics, residential surveillance, and the hiring of locals to pursue suspects in a wide-ranging operation that swept in dozens of people.[161]
    - A multi-part reporting series by the investigative journalism publication The Intercept concluded that "[l]eaked documents and public records reveal a troubling fusion of private security, public law enforcement, and corporate money in the fight over the Dakota Access pipeline."[162]
    - In 2019, the Canadian pipeline company Enbridge used digital and aerial surveillance, along with embedded informants, against nonviolent protesters targeting the company's Line 3 pipeline in Minnesota, attempting to follow the same playbook used by law enforcement at Standing Rock.[163]
- The militarized response to climate protest by fossil fuel companies is at least a decade old. At a 2011 conference attended by members of the fossil fuel industry, an executive of Anadarko Petroleum recommended military-style tactics against citizen groups protesting hydraulic fracturing (also known as fracking): "I want you to download the US Army/Marine Corps counterinsurgency manual because we are dealing with an insurgency here."[164]

VI. The financial risk of fossil fuel investments

Protesters Against Defamation Lawsuit, American Civil Liberties Union (Feb. 7, 2017). A national coalition of civil rights organizations called Protect the Protest tracks and opposes these tactics.

[159] Antonia Juhasz, Paramilitary security tracked and targeted DAPL opponents as 'jihadists,' docs show, Grist (Jun. 1, 2017).

[160] Alleen Brown, Medics Describe How Police Sprayed Standing Rock Demonstrators with Tear Gas and Water Cannons, The Intercept (Nov. 21, 2016).

[161] Alleen Brown, Will Parrish & Alice Speri, Tigerswan Responded to Pipeline Vandalism by Launching Multi-State Dragnet, The Intercept (Aug. 26, 2017).

[162] *Id.*

[163] Will Parrish & Alleen Brown, How Police Are Preparing for a Standoff Over Enbridge Line 3, The Intercept (Jan. 30, 2019).

[164] Bill McKibben, Shake Harvard Free of Oil Stock, The Boston Globe (April 7, 2015).

As an asset manager, the Board has violated its *duty of care* by failing to adequately consider the risk of continued investment in fossil fuels despite ample evidence of the industry's financial precarity. The untenable value thesis of fossil fuel investments should be especially concerning for investors at charitable institutions. As a public charity that aims "to contribute in diverse ways to the local community, the state, the nation and the world,"[165] Duke is ostensibly committed to mitigating the worst effects of climate change. Such mitigation requires government regulation to reduce greenhouse gas emissions and the growth of the green technology sector — developments that pose an existential threat to the fossil fuel industry. Since the Board's fiduciary duties oblige it to promote the financial non-viability of the fossil fuel sector, continued investment in the sector is unreasonable on its face.

- Oil, gas, and coal companies face an extremely uncertain financial future due to mismanagement, the failure to prepare for a renewable energy economy, social pressures and unrest created by the unequally distributed health and economic burdens of fossil fuel products, and the pressures of COVID-19.
    - Oil and gas stocks have greatly underperformed other investments over the last ten years. While the S&P 500 has gained approximately 189 percent in value since 2011, the S&P Oil and Gas Exploration and Production Index has lost approximately 56 percent of its value and the S&P Oil and Gas Equipment Select Industry Index has lost approximately eighty-six percent of its value.[166] Even prior to the COVID-19 crisis, leading financial analyst Jim Cramer stated that fossil fuel stocks were "just done" as profitable investments, thanks to falling demand and the impact of divestment campaigns.[167]
    - From the fourth quarter of 2019 to August 2020, seven of the world's largest oil companies lost eighty-seven billion in value as a result of increased emissions regulations and collapsing demand during the COVID-19 pandemic.[168]
    - In January 2021, the S&P rating agency warned leading fossil fuel companies that they were at risk of imminent credit downgrades due to economic pressures resulting from the energy transition.[169]
    - Recent short-term rallies in fossil fuel stocks due to conflict in Ukraine are not a reason to assume that this long-term trend will reverse.
- In August 2020, ExxonMobil was dropped from the Dow Jones stock index, a reflection of the company's rapidly declining business: Since 2008, its market capitalization has shrunk from 500 billion dollars to around 350 billion dollars.[170]
- In February 2021, ExxonMobil reported quarterly losses of 20.1 billion dollars.[171]

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[165] Mission Statement, Duke University Board of Trustees (last visited Mar. 15, 2022).
[166] Data from S&P Dow Jones Indices, S&P Global (Dec. 23, 2021).
[167] Kevin Stankiewicz, There's no more money to be made in oil and gas stocks, Jim Cramer says, CNBC (Feb. 3, 2020).
[168] Jillian Ambrose, Seven top oil firms downgrade $87bn in nine months, The Guardian (Aug. 14, 2020).
[169] Ben Butler, Rating agency S&P warns 13 oil and gas companies they risk downgrades as renewables pick up steam, The Guardian (Jan. 27, 2021).
[170] Avi Salzman, Why Exxon Is Being Dropped From the Dow, Barron's (Aug. 25, 2020).
[171] Exxon Mobil Corporation, Yahoo Finance (last visited Apr. 5, 2022).

- Since 2010, the world's five oil "supermajors" — ExxonMobil, BP, Chevron, Shell, and Total SA — have spent far more on dividends and stock buybacks (556 billion dollars) than they have earned from business operations (340 billion dollars), indicating an unsustainable reliance on borrowing and asset sales to inflate their financial performance.[172]
- The coal industry, especially in the United States, is collapsing: the share of U.S. electricity produced by coal has declined from forty-five percent in 2008 to twenty-four percent in 2020, while eight coal companies, including the largest private coal firm, declared bankruptcy in 2019.[173]
- As outlined in "The Financial Case for Fossil Fuel Divestment" by the Sightline Institute and the Institute for Energy Economics and Financial Analysis, investment in the fossil fuel sector is now unacceptably risky thanks to price volatility, the rise of renewable energy sources, and government climate regulations. The traditional value thesis that justified investment in the sector — based on the assumptions that demand for oil, gas, and coal will continue to grow and that companies' extensive untapped reserves represent a sure source of future profits — is no longer tenable.[174]
    - There are various reasons for the fossil fuel industry's transformation from a secure source of investment returns to a dangerously speculative risk sector: "The world economy is shifting toward less energy-intensive models of growth, fracking has driven down commodity and energy costs and prices, and renewable energy and electric vehicles are gaining market share. Litigation on climate change and other environmental issues is expanding and campaigns in opposition to fossil fuels have matured. They are now a material risk to the fossil fuel sector and a force for the reallocation of capital to renewable energy and electric vehicles as a source of economic growth. The risks, taken cumulatively, suggest that the investment thesis advanced by the coal, oil and gas sector that worked for decades has lost its validity."[175]
    - The report notes that "[t]he financial case for fossil fuel divestment is strong. Over the past three and five years [prior to 2018], respectively, global stock indexes without fossil fuel holdings have outperformed otherwise identical indexes that include fossil fuel companies. Fossil fuel companies once led the economy and world stock markets. They now lag . . . Fossil fuel stocks, once prime blue-chip contributors to institutional funds, are now increasingly speculative. Revenues are volatile, growth opportunities are limited, and the outlook is decidedly negative."[176]
    - Comparing fossil fuel-free funds to traditional funds, the report concludes that divesting endowments of oil, gas, and coal holdings poses no risk to future

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[172] Clark Williams-Derry, Tom Sanzillo, and Kathy Hipple, In Q1, Four of Five Oil Majors Paid More Cash to Investors Than They Made From Operations, Institute for Energy Economics and Financial Analysis (May 2020).
[173] Fred Pearce, As Investors and Insurers Back Away, the Economics of Coal Turn Toxic, Yale Environment 360 (Mar. 10, 2020).
[174] Tom Sanzillo, Kathy Hipple, and Clark Williams-Derry, The Financial Case for Fossil Fuel Divestment, Sightline Institute and the Institute for Energy Economics and Financial Analysis (July 2018).
[175] *Id.* at 4.
[176] *Id.* at 1.

returns: "Over the past five years, the MSCI-All Country Global Index without fossil fuels has outperformed the Index that includes fossil fuels."[177]

- The Carbon Tracker Initiative calculates the remaining amount of carbon dioxide that may be released into the atmosphere if international warming limits are to be met. As of November 2019, the world could continue to release carbon dioxide at current rates for only thirteen more years in order to have a fifty percent chance of meeting the 1.5 degree Celsius target. Under this limited "carbon budget," fossil fuel majors would have to reduce emissions from oil and gas production forty percent below 2019 levels by 2040. Such reductions — which represent only a moderate chance at avoiding catastrophe — would render the majority of oil and gas reserves unexploitable and unprofitable.[178]
- According to a 2019 study by the Mercer consulting firm, investment portfolios will be greatly affected by future global warming. If warming is held to two degrees Celsius — the target set by the 2015 Paris Agreement and one which will still result in widespread harm — the global economy will suffer significant damage from climate change while also transitioning to a renewable energy base. In this scenario, according to the study, portfolio assets in the coal industry will suffer cumulative impacts of 58.9 percentage points by 2030 and 100 percentage points by 2050, while assets in oil and gas will suffer cumulative impacts of 42.1 and 95.1 percentage points, respectively.[179] Other studies have concluded that major energy companies who continue to rely on fossil fuels would lose between thirty and sixty percent of their value.[180]
- In its 2020 financial stability report, the Federal Reserve reported that "climate change, which increases the likelihood of dislocations and disruptions in the economy, is likely to increase financial shocks and financial system vulnerabilities that could further amplify these shocks."[181]
- A wave of litigation against companies responsible for climate change damages poses an additional risk to investment in the fossil fuel sector. A report from the law firm Clyde & Co LLP concludes that "[o]il majors are currently facing threatened or pending litigation on a number of fronts and across a number of jurisdictions. Their liability insurers and reinsurers will undoubtedly be watching these cases with keen interest . . . Companies in a number of sectors may find themselves exposed not just to damages claims for climate change, but also the cost of defending litigation, the reputational harm of being associated with such litigation and the consequential impacts on operations and value."[182]
- In a sign of the growing consensus that fund managers have a duty to assess climate risks in their portfolios, the multibillion-dollar Australian Retail Employees Superannuation Trust (REST) recently settled a beneficiary lawsuit that faulted the fund for failing to disclose how it would manage the risks posed by climate change

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[177] *Id.* at 38.
[178] Carbon Tracker Initiative, Balancing the Budget: Why deflating the carbon bubble requires oil & gas companies to shrink (Nov. 1, 2019).
[179] Mercer LLC, Investing in a Time of Climate Change: The Sequel 2019 at 34 (2019).
[180] European Green Party, The Carbon Bubble: The financial risk of fossil fuels and need for divestment at 7 (2020).
[181] Board of Governors of the Federal Reserve System, Financial Stability Report at 58 (Nov. 2020).
[182] Clyde & Co LLP, Climate change: Liability risks at 37 (Mar. 2019).

and the plummeting value of fossil fuel stocks. REST acknowledged that "climate change is a material, direct and current financial risk" and committed to manage its investments in a way that would support net-zero greenhouse gas emissions by 2050 and the Paris Agreement goal of 1.5 degrees Celsius warming.[183]

- In a 2020 report, the Commodity Futures Trading Commission warned that "Climate change poses a major risk to the stability of the U.S. financial system and to its ability to sustain the American economy."[184]
- In an August 2020 open letter, over 100 leading economists, including Nobel Prize laureate Joseph Stiglitz and former Secretary of Labor Robert Reich, identified the continued existence of the fossil fuel economy as "fundamentally incompatible" with long-term social and economic well-being and cited divestment as an essential tactic for bringing about systemic change: "When our largest banks, most influential investors and most prestigious universities place bets on the success of the fossil fuel industry, they provide it with the economic and social capital necessary to maintain the dangerous status quo. Instead, these institutions should divest from fossil fuel companies and end financing of their continued operations while reinvesting those resources in a just and stable future."

VII. The financial prudence of fossil fuel divestment

Despite the frequent claim that removing an asset class like fossil fuels from an endowment would violate the fiduciary duty to maintain a diverse portfolio, fossil fuel divestment poses no risk to a portfolio's diversity and flexibility, nor does it impact returns. The Board has violated its *duty of care* and its *duty of loyalty* by failing to embrace a divestment strategy that would both improve the endowment's performance and cure the fiduciary violations created by fossil fuel investment.

- Two major financial management firms, BlackRock and Meketa, have separately concluded that investment funds have experienced no negative financial impacts from divesting from fossil fuels. Instead, they found evidence that divestment improves returns.[185]
- The problem of stranded assets is a noted risk of fossil fuel investments. A 2019 report from the equity research firm Redburn warned that capital costs for conventional energy projects are rising due to "the growing concern of investors surrounding energy transition."[186]
- A 2018 London School of Economics analysis led by Jeremy Grantham, one of the world's leading asset managers, concluded that removing any one of ten major asset classes such as technology or utilities from a portfolio produced no discernible

[183] Michael Slezak, Rest super fund commits to net-zero emission investments after Brisbane man sues, ABC News (Nov. 2, 2020).
[184] Commissioner Rostin Behnam, David Gillers, Bob Litterman, Leonardo Martinez-Diaz, Jesse M. Keenan, Stephen Moch, Managing Climate Risk In the U.S. Financial System, Climate-Related Subcommittee, Market Risk Advisory Committee of the U.S. Commodity Futures Trading Commission (Sept. 2020).
[185] Tom Sanzillo, IEEFA: Major investment advisors BlackRock and Meketa provide a fiduciary path through the energy transition, Institute for Energy Economics and Financial Analysis (Mar. 22, 2021).
[186] Fossil fuel angst darkens oil sector funding outlook, S&P Global (last visited Nov. 18, 2021).

impact on overall long-term returns. The analysis states that the purported financial peril of fossil fuel divestment was "mythical," and that "[i]nvestors with long-term horizons should avoid oil . . . on investment grounds."[187]

- Divestment from fossil fuels does not threaten the profitability of invested funds and, as such, does not violate a fiduciary's duty to ensure the prudent management of an endowment. In recent years, investment portfolios lacking fossil fuel holdings have matched or outperformed funds containing them.
    - The most comprehensive study to date of the endowment performance at universities that have divested from fossil fuels concludes that divestment does not have a negative effect on investment returns.[188] Other research indicates that fossil fuel divestment does not significantly limit portfolio diversification opportunities, allowing investors to satisfy their fiduciary duty to maintain balanced holdings even as they avoid the risks posed by stranded assets and the energy transition.[189]
    - A 2019 study of university endowments that adopt "socially responsible investment" [SRI] policies concludes that such policies benefit the universities. Surveying SRI endowment returns from 2010 to 2019, the study reports that "donations are 33.3% per year higher among universities that incorporate SRI policies into their endowments" and that "SRI policies predict greater university donations, higher student enrollment, and more extensive risk management practices by the endowment fund."[190]
    - In 2020, the financial research agency Morningstar reported that European sustainable investment funds — defined as "funds that use environmental, social, and governance criteria as a key part of their security selection and portfolio-construction process, and/or indicate that they pursue a sustainability-related theme, and/or seek a measurable positive impact alongside financial return" — had outperformed traditional funds over the past ten years, generally posting higher returns and surviving longer than traditional funds.
    - A 2018 analysis concluded that the New York State Common Retirement Fund would have earned an additional 22.2 billion dollars (137 billion dollars versus 114.8 billion dollars) from 2008 to 2018 had it divested from fossil fuels.[191]

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[187] Jeremy Grantham, The mythical peril of divesting from fossil fuels, London School of Economics (June 13, 2018).
[188] Christopher Ryan and Christopher Mariscano, Examining the Impact of Divestment from Fossil Fuels on University Endowments, 17 NYU J. L. and Business, Roger Williams Univ. L. Studies Paper No. 195 (June 23, 2020).
[189] Auke Plantinga and Bert Scholtens, The financial impact of fossil fuel divestment, 21 Climate Policy 1 (2020).
[190] George O. Aragon, Yuxiang Jiang, Juha Joenväärä, and Cristian Ioan Tiu, Socially Responsible Investments: Costs and Benefits for University Endowment Funds at 5 (July 21, 2020).
[191] Toby A.A. Heaps, Divestment would have made NY pension fund $22B richer, Corporate Knights (Oct. 4, 2018).

VIII. Industry fraud and the fiduciary duty to avoid fraudulent investments

Despite well-known facts regarding the fossil fuel industry's alleged efforts to defraud investors, DUMAC continues to hold industry securities, violating its *duty of care*.

- Fossil fuel companies have allegedly long engaged in a fraudulent attempt to hide the financial risks associated with emissions regulations and future fossil fuel extraction. This alleged fraud has been a matter of public record since at least 2015[192] and a matter of common knowledge for investors in Massachusetts since at least 2019.
    - In 2019, the Massachusetts Attorney General sued ExxonMobil, one of the world's leading oil companies, for three alleged violations of the Massachusetts Consumer Protection Act.
        - The state's Second Amended Complaint alleges that "[f]or many years, Exxon Mobil Corporation . . . the world's largest publicly traded oil and gas company, systematically and intentionally has misled Massachusetts investors and consumers about climate change. In order to increase its short-term profits, stock price, and access to capital, ExxonMobil has been dishonest with investors about the material climate-driven risks to its business and with consumers about how its fossil fuel products cause climate change—all in violation of Massachusetts law."[193]
        - According to the Complaint, ExxonMobil scientists in the 1970s accurately predicted the rate of global warming that would be caused by fossil fuel use. The company was well aware of how its business activity would damage the planet; for example, a company scientist told management in 1981 that climate change will "produce effects which will indeed be catastrophic" and that it would be necessary to sharply reduce fossil fuel use.[194]
        - Despite this knowledge, ExxonMobil — like many of its peers in the industry — persisted in a "highly misleading" campaign to spread doubt about climate science and to prevent measures that would decrease the use of fossil fuels. As late as 2015, ExxonMobil's CEO was publicly disputing the scientific consensus that rising atmospheric carbon dioxide levels produce catastrophic warming.[195]
        - The Attorney General concluded that ExxonMobil's value will fall precipitously in coming years, thanks in large part to an expected transition to renewable energy that will make the companies' oil and gas reserves valueless: "When those reserves cease to have future value, other things being equal, ExxonMobil securities are likely to decline in value as well, perhaps dramatically, much as the market value of coal companies has collapsed in recent years as the

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[192] Neela Banerjee, Lisa Song, & David Hasemyer, Exxon's Own Research Confirmed Fossil Fuels' Role in Global Warming Decades Ago, Inside Climate News (Sept. 16, 2015).
[193] Second Amended Complaint, Massachusetts v. ExxonMobil, No. 1984-CV-03333-BLS1 (Mass. Sup. Ct. June 5, 2020) at 1.
[194] *Id.* at 5.
[195] *Id.* at 9, 50-51.

deployment of cleaner, more efficient fuel sources has reduced expected future coal demand."[196]

    - According to the Complaint, "[t]he systemic risk climate change poses to the world's financial markets is comparable to, and could well exceed, the impact of the 2008 global financial crisis . . . The risks of climate change and regulatory responses to it pose an existential threat to [the company's] business model and therefore to investments in ExxonMobil securities, including by Massachusetts investors."[197]
    - The Attorney General explicitly stated that investment in companies like ExxonMobil puts investors like DUMAC in danger of serious financial damage: "ExxonMobil's omissions and misrepresentations put its Massachusetts investors at increased risk of losses in the future, as greater recognition of the physical and transition risks of climate change to ExxonMobil, other fossil fuel companies, and the global economy increasingly diminishes the market valuation of ExxonMobil securities, potentially under sudden, chaotic, and disorderly circumstances."[198]
  - In September 2020, Connecticut sued ExxonMobil for violations of the state's Unfair Trade Practices Act, alleging that the company has for decades "misled and deceived Connecticut consumers about the negative effects of its business practices on the climate."[199]
    - The lawsuit alleges that, beginning in the 1980s, ExxonMobil defied its own scientists' warnings dating back to the 1950s and "began a systematic campaign of deception to undermine public acceptance of the scientific facts and methods relied upon by climate scientists who knew that anthropogenic (human-caused) climate change was real and dangerous to humanity."[200]
    - The complaint goes on to note that "ExxonMobil's strategy to create uncertainty about climate science successfully kept consumers purchasing ExxonMobil products by deceiving consumers about the serious harm caused by ExxonMobil's industry and business practices."[201]
  - In January 2021, a former senior accounting analyst for ExxonMobil alleged in a whistleblower complaint to the Securities and Exchange Commission that the company has repeatedly overstated the value of its U.S. oil and gas assets — which will likely prove unprofitable due to the collapse of the fracking boom — fraudulently inflating the company's worth to investors by as much as fifty-six billion dollars.[202]

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[196] *Id.* at 8.
[197] *Id.* at 65, 80-81.
[198] *Id.* at 138.
[199] Complaint, Connecticut v. ExxonMobil, No. HHDCV206132568S (Conn.. Super. Ct. Spe. 14, 2020) at 1.
[200] *Id.*
[201] *Id.* at 2.
[202] Nick Cuningham, Exclusive: Whistleblower Accuses Exxon of 'Fraudulent' Behavior for Overvaluing Fracking Assets For Years, DeSmog Blog (Feb. 2, 2021).

- In April 2021, New York City sued Exxon Mobil, Royal Dutch Shell, and the American Petroleum Institute (an industry trade association) for systematically and intentionally deceiving consumers.[203] A former senior accounting analyst for ExxonMobil has alleged in a whistleblower complaint to the Securities and Exchange Commission that the company has repeatedly overstated the value of its U.S. oil and gas assets — which will likely prove unprofitable due to the collapse of the fracking boom — fraudulently inflating the company's worth to investors by as much as fifty-six billion dollars.[204]
- In June 2021, an Exxon lobbyist admitted that ExxonMobil was engaged in a concerted effort to block climate change measures and deceive the public.[205] This revelation led the House Oversight Committee to ask the chief executives of Exxon Mobil, Chevron, BP, and Shell, along with the American Petroleum Institute and the Chamber of Commerce, to appear at a hearing and provide emails and documents about whether the industry led an effort to mislead the public and prevent action to fight climate change.[206]

- Despite the revelation of this alleged fraudulent behavior, and in the face of existential threats to their business models, oil companies continue to refuse to prepare for the effects of climate change and increasing government regulation. ExxonMobil and Chevron, for example, have blocked shareholder proposals that ask the companies to describe how they will adjust their operations to satisfy the warming targets established under the Paris Agreement.[207]

IX. The fossil fuel industry's scientific misinformation campaigns and attacks on academia

Fossil fuel companies have engaged in decades-long efforts to obscure scientific reality and undermine academic research. These anti-academic activities have been undertaken in bad faith and cannot be attributed to intellectual disagreement. By funding this activity, the Trustees contravene Duke's core *charitable purposes* as an educational institution and violate their *duty of loyalty.*

- Beginning in the 1980s, in response to mounting evidence of climate risks, fossil fuel companies halted their climate research and "began a campaign to discredit climate science and delay actions perceived as contrary to their business interests."[208] This

[203] New York City Sues ExxonMobil, Shell, BP, and The American Petroleum Institute for Systematically and Intentionally Deceiving New Yorkers, The Official Website of the City of New York (Apr. 22, 2021).
[204] Nick Cuningham, Exclusive: Whistleblower Accuses Exxon of 'Fraudulent' Behavior for Overvaluing Fracking Assets For Years, Desmog Blog (Feb. 2, 2021).
[205] Hiroko Tabuchi, In Video, Exxon Lobbyist Describes Efforts to Undercut Climate Action, The New York Times (Jun. 30, 2021).
[206] Timothy Gardner, U.S. House panel to probe oil companies over climate disinformation, Reuters (Sept. 16, 2021).
[207] Dana Drugman, Exxon, Chevron, Chase Reject Shareholder Requests to Address Climate Risk, The Climate Docket (Jan. 29, 2020).
[208] Brief of Amici Curiae Robert Brulle, Center for Climate Integrity, Justin Farrell, Benjamin Franta, Stephan Lewandowsky, Naomi Oreskes, and Geoffrey Supran in Support of Appellees and Affirmance at 17, County of San Mateo v. Chevron Corporation, et al., County of Imperial Beach v. Chevron Corporation, et al., County of

campaign was multi-pronged, consisting of the development of internal policies to suppress the companies' own knowledge, public communications to sow doubt about the dangers of fossil fuels, and the funding of organizations and research to undermine climate science.[209]

- In 2019 testimony to the Senate Special Committee on the Climate Crisis, Dr. Justin Farrell described a decades-old movement "to deceive the American people about the reality of climate change." This movement has been largely successful "sowing seeds of widespread popular doubt, transforming climate change into a sharply politicized issue, infusing climate denial into the highest levels of government, and obstructing policy solutions that are so direly needed to decarbonize our economy and mitigate the impacts of warming."
- Research shows that fossil fuel companies launched a "multi-pronged manipulation effort" to manufacture uncertainty around climate science by funding climate denial groups as well as creating "fake grassroots efforts" to promote climate misinformation. "Money facilitated coordination between 200 organizations," said Farrell, to create the "appearance of scientific credibility."[210]
- In his analysis of the funding sources of 164 climate denialist organizations, Farrell found that ExxonMobil and the Koch foundations were "the most reliable and theoretically important across-time indicators of corporate involvement."[211]
- Between 1998 and 2005, ExxonMobil alone spent nearly sixteen million dollars funding groups that promote climate denial, according to a report by the Union of Concerned Scientists.[212]
- Since 1997, Koch Industries, through its various foundations and institutes including the Koch Family Foundation, has donated more than 145 million dollars from 1997 to 2018, financing ninety organizations that attack climate science and policy solutions.[213]
- Over about the last three decades, "five major U.S. oil companies have spent a total of at least $3.6 [billion] on advertisements."[214] These ads, along with other public communications, have promoted narratives the companies know to be false: In the case of ExxonMobil, for example, between 1977 and 2014, only twelve percent of ads acknowledged that anthropogenic climate change is real, compared to eighty percent of internal documents.[215]

Marin v. Chevron Corporation, et al., County of Santa Cruz, et al., v. Chevron Corporation, et al., Nos. 18-15499, 18-15502, 18-15503, 18-16376 (9th Cir. 2019).

[209] *See generally id.*

[210] Senate Dems Special Committee on the Climate Crisis Hearing, Senate Dems (Oct. 29, 2019).

[211] Justin Farrell, Corporate Funding and Ideological Polarization, 113(1) Proceedings of the National Academy of Sciences 92-97 (2016).

[212] Smoke, Mirrors & Hot Air: How ExxonMobil Uses Big Tobacco's Tactics to Manufacture Uncertainty on Climate Science at 5, Union of Concerned Scientists (Jan. 2007).

[213] Koch Industries: Secretly Funding the Climate Denial Machine, Greenpeace (last visited Jan. 31, 2022).

[214] Emily Holden, How the oil industry has spent billions to control the climate change conversation, The Guardian (Jan. 8, 2020).

[215] Geoffrey Supran & Naomi Oreskes, Assessing ExxonMobil's climate change communications (1977–2014), 12(8) Envtl. Res. Letters (Aug. 2017).

- These activities were summarized in an amicus brief by academics and researchers as part of the ongoing tort litigation by California counties against fossil fuel companies,[216] and by the Massachusetts Attorney General's complaint against ExxonMobil in its deceptive advertising litigation.[217]
- Academic research has confirmed that the fossil fuel industry's "major tactic was and continues to be manufacturing uncertainty . . . [and] constantly asserting that the evidence is not sufficient to warrant regulatory action. Historically these efforts focused on specific problems such as secondhand smoke, acid rain, and ozone depletion, but in the case of [climate change] they have ballooned into a full-scale assault on the multifaceted field of climate science, the IPCC, scientific organizations endorsing [climate change], and even individual scientists."[218]
- Direct attacks on academics and scholars have become a regular tactic of the fossil fuel industry.
    - Following publication of his famous "hockey stick graph," climate scientist Michael E. Mann faced years of efforts to discredit him and his work, and "many [of these] attacks . . . trace directly to involvement by the fossil fuel industry."[219]
    - ExxonMobil has repeatedly sought to portray the Intergovernmental Panel on Climate Change — a coordinating body of respected scientists and academics, including Princeton scholar Professor Michael Oppenheimer, who publish periodic reports on climate science to aid policymakers — as biased and untrustworthy.[220]
    - In 2013, the Harvard Law School Environmental Law Program Policy Initiative released a report suggesting that existing disclosure regulations were insufficient to regulate the fracking industry's behavior.[221] An industry-funded website accused the study of being "fundamentally and transparently flawed."[222]
    - In 2015, an industry-funded group sought to win access to the private correspondence of University of Arizona climate scientists in order to cast doubt on their work.[223]
    - In 2017, Harvard researcher Geoffrey Supran and professor Naomi Oreskes published a peer-reviewed study analyzing ExxonMobil's climate communications.[224] Exxon's response included commissioning and paying

216 *See* Brief of Amici Curiae Robert Brulle, *et al.*, *supra* at note 125.
217 *See* Second Amended Complaint, Massachusetts v. ExxonMobil, *supra* at note 193, at Part IV.B.
218 Riley E. Dunlap & Peter J. Jacques, Climate Change Denial Books and Conservative Think Tanks: Exploring the Connection, 57(6) Am. Behav. Scientist 699, 700 (2013) (internal citations omitted).
219 Union of Concerned Scientists, How the Fossil Fuel Industry Harassed Climate Scientist Michael Mann (Oct. 12, 2017).
220 David Hasemyer & John H. Cushman Jr., Exxon Sowed Doubt About Climate Science for Decades by Stressing Uncertainty, Inside Climate News (Oct. 22, 2015).
221 Legal Fractures in Chemical Disclosure Laws: Why the Voluntary Chemical Disclosure Registry FracFocus Fails as a Regulatory Compliance Tool (Apr. 23, 2013).
222 John Krohn, Four Things to Know about the Harvard FracFocus Study, Energy in Depth (April 25, 2013).
223 Michael Halpern, Arizona Superior Court Protects Academic Freedom in Climate Email Disclosure Case, Union of Concerned Scientists (Mar. 30, 2015).
224 Geoffrey Supran & Naomi Oreskes, Assessing ExxonMobil's climate change communications, *supra* at note 215.

for a (non-peer-reviewed) academic analysis that accused Supran and Oreskes of bias,[225] running a Twitter ad calling its conclusions "manufactured,"[226] urging the European Parliament to ignore the study's conclusions,[227] and suggesting on a website known to take editorial direction from Exxon[228] that the study was written for the purpose of "suppressing free speech."[229]

    - In 2020, Harvard doctoral student Xiao Wu, professors Rachel Nethery and Francesca Dominici, and others released a study suggesting a correlation between exposure to air pollution and incidence of COVID-19.[230] The American Petroleum Institute lobbied the EPA to reject the study's conclusions, arguing that it could not "be used to draw policy inferences."[231]
- Even while engaging in these attacks, the fossil fuel industry has quietly courted academic institutions and individual researchers in an attempt to burnish its image and legitimize its policy positions. These efforts have taken the form of funding for research and programs at prominent universities,[232] including Duke.
    - The Duke Energy Initiative (DEI) is "is a university-wide interdisciplinary collaboration focused on advancing an accessible, affordable, reliable, and clean energy system."[233] One of DEI's signature programs is its yearly Energy Week at Duke University, which is a conference that "brings students, faculty, and industry professionals together for a week of energy events to promote collaboration, knowledge-sharing, and professional networking."[234] Energy Week programming reveals the program's close ties to fossil fuel corporations.
        - In 2021, DEI's Energy Week was sponsored by companies including Chevron, along with various American electric utilities that are major consumers of fossil fuels.[235]
        - One of the main events of Energy Week in 2021 was a "fireside chat" titled, "Energy Transition Plans, Projects, and Pathways."[236] This event featured executives from fossil fuel companies and other related industries, including the General Manager – Strategy, Corporate Affairs at Chevron, the Senior Vice President of Strategy and

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[225] Nicholas Kusnetz, Exxon Turns to Academia to Try to Discredit Harvard Research, Inside Climate News (Oct. 20, 2020).
[226] Just today, @exxonmobil ran Twitter ads, Fossil Fuel Divest Harvard (Jun. 16, 2020).
[227] ExxonMobil refused to attend a hearing, Food & Water Action Europe (Mar. 21, 2019).
[228] Hiroko Tabuchi, How One Firm Drove Influence Campaigns Nationwide for Big Oil, The New York Times (Nov. 11, 2020).
[229] Spencer Walrath, Activists Admit Climate Campaign Is About Attacking Free Speech, Energy In Depth (Aug. 22, 2017).
[230] X. Wiu, R. C. Nethery, M. B. Sabath, D. Braun & F. Dominici, Air pollution and COVID-19 mortality in the United States: Strengths and limitations of an ecological regression analysis, 6(45) Sci. Advances (Nov. 2020).
[231] Kelsey Tamborrino, Inside carbon capture tax credit claims, Politico (Apr. 30, 2020).
[232] These funding relationships are not unique to Duke. *See* Benjamin Franta & Geoffrey Supran, The fossil fuel industry's invisible colonization of academia, The Guardian (Mar. 13, 2017).
[233] About: Crossing boundaries to meet the needs of our energy future, Duke University Energy Initiative (last visited March 19, 2022).
[234] About Energy Week at Duke, Energy Week at Duke University (last visited March 19, 2022).
[235] Energy Week at Duke, Energy Week at Duke University (last visited March 19, 2022).
[236] Duke University Energy Conference, Energy Week at Duke University (last visited March 19, 2022).

Innovation, Utilities at Washington Gas, and the Business Director, Region North at Wartsila.[237]

  - The Center for the History of Political Economy (CHPE) is another Duke program with ties to the fossil fuel industry. In 2021, CHPE sponsored a lecture by Bjorn Lomborg, who is the Director of the Copenhagen Consensus Center and is a prominent climate change skeptic.[238] Lomborg's signature book, *False Alarm: How Climate Change Panic Costs Us Trillions, Hurts the Poor, and Fails to Fix the Planet*, tells of how "projections of Earth's imminent demise are based on bad science and even worse economics" and that climate change is "not the apocalyptic threat that we've been told it is."[239] Lomborg was part of CHPE's Hayek Lecture Series, which was funded with a five-million-dollar grant from the Charles Koch foundation.[240] The Charles Koch foundation, along with other philanthropies connected to the Koch family, have spent over 145 million dollars as of 2018 funding groups that attack climate science and policy.[241]

- At least one fossil fuel company has sought to influence the outcome of ongoing litigation by funding research at prominent universities, undermining the independence and integrity of those institutions and that of the academy as a whole.
  - In 1989, the Exxon Valdez oil spill led to a 5.3-billion-dollar verdict against the oil giant by an Alaskan jury in *In re Exxon Valdez*. By the 1980s Exxon had embraced an aggressive form of philanthropy known as "venture philanthropy,"[242] and rather than simply appeal the award, the company undertook to fund academic research that might undermine the verdict. As one Exxon official opined, "With the judges, there's at least a reasonably good chance that they'll be able to see things as they ought to be . . . ."[243]
  - The upshot of the funded research was that juries' punitive damage awards in cases that involve "normative judgments" are "arbitrary," "unpredictable," "erratic," and "incoherent," and ought to be replaced with a schedule-based

[237] *See id.*
[238] Hayek Lecture Series, Center for the History of Political Economy at Duke University (last visited March 19, 2022).
[239] False Alarm: How Climate Change Panic Costs Us Trillions, Hurts the Poor, and Fails to Fix the Planet, Amazon.com (preview) (last visited Mar. 19, 2022).
[240] Jasmine Banks, Elite schools must quit Koch money, The York Dispatch (Dec. 6, 2021).
[241] Koch Industries: Secretly Funding the Climate Denial Machine, Greenpeace USA (last visited Apr. 3, 2022).
[242] Lee Smith, The Unsentimental Corporate Giver, Fortune (Sept. 21, 1981). ("With relatively few employees and correspondingly little need to support local institutions that employees depend upon, Exxon [could] concentrate its charity on projects remote from immediate concerns, such as interdisciplinary studies at universities.") Exxon's charity program director at the time was Stephen Stamas, who was also on the Harvard Board of Overseers. *Id.*
[243] Stephanie Mencimer, Blocking the Courthouse Door: How the Republican Party and its Corporate Allies Are Taking Away Your Right to Sue 231 (2006) (quoting Freudenberg notes from conversation with Exxon official). "The authors of the studies have insisted they were given complete autonomy in pursuing their work. One academic who took Exxon money, however, was fired after he produced an article that conflicted with the company's political agenda." *Id.* at 230.

system of fines.[244] One professor called for the total abolishment of punitive damages.[245]
    - A comparison of industry-funded law review articles on punitive damages with those supported by universities "found that the former were uniformly critical of punitive damages and jury awards, while the latter overwhelmingly defended them."[246] The same study found that courts cited industry-funded studies more often.[247]
- Funding relationships like these call into question the intellectual independence of academic programming and the balance of perspectives within the academy. According to Robert Brulle, a visiting professor at Brown University, "[T]he financial steering of intellectual inquiry is a big issue. . . . The academy is really dependent on external funding sources, and it drives a certain research agenda. I'm not saying that the people they fund are dishonest or illegitimate. But this has a systematic effect, in that it heightens certain voices and leaves others invisible, or reduces their staying power, within the academy. And so you end up with a biased system."[248]
- Duke's founder James B. Duke directed the leaders of the university who followed him to pursue "those areas of teaching and scholarship that would 'most help to develop our resources, increase our wisdom, and promote human happiness.'"[249] Continued investment in an industry that undermines scientific knowledge, compromises the integrity of Duke's own research, and threatens young people's future runs directly contrary to this mission.

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[244] Mencimer at 230; Thomas O. McGarity, A Movement, A Lawsuit, and the Integrity of Sponsored Law and Economics Research, 21(1) Stan. L. & Pol'y Rev. 51, 52, 55-56 (2010); Cass Sunstein, Daniel Kahneman, & David Schkade, Assessing Punitive Damages (With Notes on Cognition and Valuation in Law), 107 Yale L.J. 2071 (1998); Cass Sunstein, Daniel Kahneman, et al, Predictably Incoherent Judgments, 54 Stanford L. Rev. 1153 (2002); Cass R. Sunstein, Reid Hastie, John W. Payne, David A. Schkade, & W. Kip Viscusi, Punitive Damages: How Juries Decide (University of Chicago Press 2002). In Exxon Shipping Co. v. Baker, the U.S. Supreme Court substantially reduced the damage award against Exxon, holding that punitive damages may not exceed actual damages in maritime cases. 554 U.S. 471, 513 (2008). The Court declined to rely on the funded studies but was aware of their existence. *Id.* at 501 n. 17.

[245] McGarity, *supra* at note 244, at 55-56 (citing W. Kip Viscusi, The Social Costs of Punitive Damages Against Corporations in Environmental and Safety Torts, 87 Geo. L.J. 285 (1998)).

[246] McGarity, *supra* at note 244, at 56 (citing Shireen A. Barday, Note, Punitive Damages, Remunerated Research, and the Legal Profession, 61 Stan. L. Rev. 711, 713 n. 9, app. A (2008)). Beyond power to control research, sponsorship can compromise research integrity by coloring peer evaluation and through the implicit threat of funding termination. *Id.* at 53. McGarity writes, "Since it is normally impossible to know whether a sponsor has in fact determined the outcome of research . . . it may be appropriate to conclude that sponsorship undermines the integrity of sponsored research when the researchers behave as if the sponsor controlled the research." *Id.*

[247] *Id.* at 56.

[248] Wen Stephenson, Other Universities Are Divesting From Fossil Fuels—but Harvard Is Doubling Down on Them, The Nation (May 4, 2016).

[249] Mission Statement, Duke University Board of Trustees (last visited Mar. 15, 2022).

X. Divestment by peer institutions

Hundreds of large institutional investors have opted in recent years to divest from fossil fuel producers, including many universities situated similarly to Duke. Their reasoning applies to Duke's circumstances as well as their own, and thus the Board has failed to *invest with the care that an ordinarily prudent person in a like position would exercise under similar circumstances.*

- Institutional divestment from the fossil fuel industry has become increasingly common. Many institutions have pointed to the moral and financial imperative of abandoning holdings in oil, gas, and coal, and there is broad consensus that fossil fuel divestment is both necessary and effective as a means of mitigating climate disaster.[250]
    - Institutional investment in fossil fuel firms "provid[es] [them] with the capital to continue oil and gas production, to persuade members of Congress to provide industry-specific tax breaks and other favors, and to thwart carbon taxes and new public-transportation projects and other policies — actions that ultimately delay the transition from the greenhouse gas-emitting fuels."[251]
    - In its lawsuit against ExxonMobil, the Massachusetts Attorney General concluded that institutional divestment is effective in reducing the fossil fuel industry's harmful effects on the climate: "Insofar as they damage companies' reputations for their social responsibility and environmental stewardship, and thus their societal 'license to operate,' divestment efforts pose an additional climate-related risk to oil and gas companies. In 2018, an oil major that competes with ExxonMobil acknowledged that divestment campaigns and related efforts pose a material risk to its business and the price of its securities."[252]
        - The Attorney General was referencing an investor disclosure by Shell, in which the company stated that the divestment movement "could have a material adverse effect on the price of our securities and our ability to access equity capital markets . . . other financial institutions also appear to be considering limiting their exposure to certain fossil fuel projects. Accordingly, our ability to use financing for future projects may be adversely impacted."[253]
        - Other fossil fuel companies have likewise acknowledged the effects of investors' decisions to pull their funds: Prior to its bankruptcy declaration, for example, Peabody Energy stated in SEC filings that

[250] *See, e.g.*, How falling demand for oil is set to transform international relations, World Economic Forum (Aug. 20, 2019) (citing the "global campaign in support of divestment from fossil fuels" as one of the key factors in the ongoing energy transition worldwide); Gunther Thallinger, The zero that every investment portfolio needs, World Economic Forum (Jan. 14, 2021) ("To address climate change effectively, investors must steer their entire portfolios towards climate neutrality. . . . [I]t could become necessary to reduce assets with a non-satisfactory sustainability approach. In the extreme case of non-existence of such approaches, divestment is the ultima ratio.").

[251] Prem Thakkar, Reading the Fine Print of University Fossil Fuel Divestment Pledges, The American Prospect (Mar. 1, 2021).

[252] Second Amended Complaint, Massachusetts v. ExxonMobil, *supra* at note 193, at 108-109.

[253] Royal Dutch Shell PLC, Annual Report and Form 20-F 2017 — Strategic Report at 13 (2017).

"[t]here have also been efforts in recent years affecting the investment community, including investment advisors, sovereign wealth funds, public pension funds, universities and other groups, promoting the divestment of fossil fuel equities and also pressuring lenders to limit funding to companies engaged in the extraction of fossil fuel reserves. The impact of such efforts may adversely affect the demand for and price of securities issued by us, and impact our access to the capital and financial markets."[254]

    - In addition to "hasten[ing] the [fossil fuel] industry's decline," divestment commitments from large institutions create pressure on governments to take action and make political space for the shift away from fossil fuels."[255]
- Duke's peer institutions have pledged to abandon their fossil fuel assets, citing the financial and ethical obligation to divest. Such institutions have often chosen divestment *in addition* to a suite of other policies, including producing climate- and sustainability-related research, reducing on-campus environmental impact through emissions reductions and other measures, and engaging in shareholder advocacy with companies that have demonstrated their real commitment to the goals of the Paris Agreement and whose core business model is not at odds with those goals. Many of Duke's peer institutions have also committed to meaningful climate action on a much more rapid timescale.
    - In February 2015, the Board of Trustees of Brevard College, one of Duke's neighbors in North Carolina, voted to divest its endowment from fossil fuels by 2018, becoming the first institution of any kind in the American Southeast to take such a step.[256] The Brevard College Investment Committee deemed their move "'a symbolic step to increase public awareness of climate change."[257]
    - On October 8, 2021, Dartmouth College announced that the Dartmouth Investment Office would let its remaining public investments in the fossil fuel industry expire.[258]
        - The decision was made based on both moral and financial considerations. Dartmouth's statement cited the worsening effects of climate change, saying that the "damaging effects will continue to exacerbate existing threats to global health, nutrition, and biodiversity while also creating new hazards."[259] Dartmouth President Phil Hanlon said the College has noticed "that investments in energy transitions

[254] Peabody Energy Corporation, Form 10-K: Annual Report at 30 (2014).
[255] Emma Howard, A beginner's guide to fossil fuel divestment, The Guardian (Jun. 23, 2015) (quoting Jamie Henn, of 350.org, who explains that institutional divestment commitments "hasten the [fossil fuel] industry's decline and help push governments to take action," while also serving to stigmatise fossil fuel companies in order to "make the space for progress" and reduce those companies' corrupting influence on politics).
[256] Robert J. Cabin, Green Light in the Southern Appalachians: How We Became the First Institution Below the Mason Dixon Line to Divest From Fossil Fuels, Huffington Post (Feb. 23, 2015).
[257] Brevard College Commits to Fossil Fuel Divestment, Brevard College (Feb. 20, 2015).
[258] Office of Communications, Darmouth Taking Formal Steps to Address Climate Crisis, Dartmouth College (Oct. 8, 2021).
[259] *Id.*

are now comparable or better than the investment opportunities in fossil fuel companies."[260]

- On October 6, 2021, California State University System, the largest in the US, announced that the system would no longer invest in fossil fuels.[261]
  - The California State University Chancellor said that the move was "consistent with our values" and that "it is an appropriate time to start to transition away from these types of investments, both to further demonstrate our commitment to a sustainable CSU but also to ensure strong future returns on the funds invested by the university."[262]
- On September 9, 2021, Harvard University divested from fossil fuels.[263]
  - Harvard's President Lawrence Bacow stated: "Given the need to decarbonize the economy and our responsibility as fiduciaries to make long-term investment decisions that support our teaching and research mission, we do not believe such investments are prudent."[264]
  - President Bacow also noted that "[c]limate change is the most consequential threat facing humanity… without concerted action, this dire situation is only going to get worse."[265]
- On September 23, 2021, Boston University announced that it would fully divest its endowment from fossil fuels as part of its overarching climate action strategy.[266]
  - Boston University President Robert Brown stated that the decision was motivated by the urgent new climate report released by the Intergovernmental Panel on Climate Change in 2021 and said that "'we face the challenge of changing our way of life at unprecedented speed if we are going to preserve Earth's environment as we know it.[267]
  - Brown added that the move to divest "'is putting us on the right side of history,'" highlighting the existential threat of climate change and the need to take immediate action on the issue.[268]
- In January 2021, Columbia University announced that it did not hold any direct investments in publicly traded oil and gas companies, and was formalizing this policy of non-investment for the foreseeable future. The university had already divested from thermal coal in 2017.[269] "There is an undeniable obligation binding upon Columbia and other universities to

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[260] Taylor Haber, College formally announces plan to divest from fossil fuels, The Dartmouth (Oct. 8, 2021).
[261] California State University Will Not Make Future Fossil Fuel Investments in University Investment Portfolios and Funds, The California State University (Oct. 6, 2021).
[262] *Id.*
[263] Anemona Hartocollis, Harvard Says It Will Not Invest In Fossil Fuels, The New York Times (Sept. 10, 2021).
[264] Harvard Office of the President, Harvard University (last visited Jan. 27, 2022).
[265] *Id.*
[266] Robert A. Brown, Board of Trustees Approves Fossil Fuel Divestment Policy, Boston University (Sept. 23, 2021).
[267] *Id.*
[268] *Id.*
[269] University Announcement on Fossil Fuel Investments, Columbia News (last visited Jan. 27, 2022).

confront the climate crisis across every dimension of our institutions," said Columbia University President Lee C. Bollinger.

- In March 2020, Brown University made public that it had begun selling its investments in fossil fuel extraction companies in October 2017, arguing that the climate crisis called for serious action beyond teaching and research.
    - "The urgency of the situation calls for additional action," Brown's president Christina Paxson wrote in a letter to the Brown community.[270]
    - Paxson explained the move as aligning with "the view that, as the world shifts to sustainable energy sources, investments in fossil fuels carry too much long-term financial risk."[271]
- On May 22, 2020, the Cornell University Board of Trustees announced a moratorium on new private investments focused on fossil fuels and a phase-out of existing investments in that area, effectively divesting the endowment from the fossil fuel industry.[272] Like many investors, when Cornell's Trustees announced their moratorium on fossil fuel investments, they cited the financial imperative behind their actions: "We're doing the right thing from an investment perspective, particularly for an endowment with a perpetual time horizon" said Ken Miranda, the university's chief investment officer, in a Cornell press release.[273]
- On October 1, 2020, the University of Cambridge announced plans to divest all direct and indirect holdings from the fossil fuel industry and to achieve net-zero greenhouse gas emissions by 2038.[274]
    - As of December 2020, the university had already withdrawn investments in "conventional energy-focused public equity measures," and planned to divest from "all meaningful exposure in fossil fuels" by 2030. It now aims to achieve net-zero greenhouse gas emissions across its entire investment portfolio by 2038 — eight years before Princeton's 2046 deadline.[275]
    - Cambridge's announcement was justified on moral grounds. "The University is responding comprehensively to a pressing environmental and moral need for action with an historic announcement that demonstrates our determination to seek solutions to the climate crisis," said Stephen Toope, the university's vice-chancellor.[276]
    - In addition to leveraging the university's endowment, Cambridge also made clear its continued commitment to research and teaching, emphasizing that all research funding and donations will now be

[270] Christina Paxson, Letter from President Paxson: Brown's actions on climate change, Brown University (Mar. 4, 2020).
[271] *Id.*
[272] Kathryn Stamm, Cornell to Effectively Divest from Fossil Fuels, Trustees Vote, Cornell Daily Sun (May 22, 2020).
[273] James Dean, Cornell announces moratorium on fossil fuel investments, Cornell Chronicle (May 22, 2020).
[274] Matthew Taylor, Cambridge University to divest from fossil fuels by 2030, The Guardian (Oct. 1, 2020).
[275] *Id.*
[276] Cambridge to divest from fossil fuels with 'net zero' plan, University of Cambridge (Oct. 1, 2020).

scrutinized against the university's goal of reducing greenhouse gas emissions "before any funding is accepted."[277]

- In April 2020, the University of Oxford announced plans to divest its endowment from fossil fuel companies.[278]
  - Oxford's divestment decision was made in accordance with its Oxford Martin Principles for Climate-Conscious Investment, a set of guidelines that led the university to determine that fossil fuel investments "hinder" worldwide efforts to (1) bring CO2 emissions to zero and (2) limit global warming to 1.5 degrees Celsius.[279]
  - While some universities have insisted on "shareholder engagement" *instead of* divestment, Oxford chose to pursue both strategies, divesting from fossil fuel companies while also pledging to work with companies around the world, "helping them assess whether investments are compatible with transition to a more stable climate and the goals of the Paris Agreement on climate change." Oxford also plans to engage with fund managers "to request evidence of net-zero carbon business plans across their portfolios."[280]
  - Oxford's divestment pledge was seen as consistent with the university's academic and teaching mission, and administrators did not see divestment as precluding climate- and sustainability-related research or efforts to promote sustainable campus operations. In fall 2020, months after announcing its divestment pledge, Oxford released drafts of a sustainability plan to achieve net-zero carbon and biodiversity net gain by 2035[281] — eleven years before Princeton committed to neutralizing its greenhouse gas emissions.
- In February 2020, Georgetown University announced the divestment of its endowment from all public and private fossil fuel assets.[282]
  - In its announcement, Georgetown stressed the financial risk of continued investment, with Michael Barry, Georgetown's chief investment officer, noting that "climate change, in addition to threatening our planet, is increasing the risk of investing in oil and gas companies, as we expect a more volatile range of financial outcomes."[283]
  - Georgetown President John J. DeGioia also identified moral concerns as important to the decision, noting that "caring for our environment is one of the most urgent moral and practical concerns of our time."[284]

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[277] *Id.*
[278] University of Oxford cuts ties to fossil fuels industry, BBC News (Apr. 28, 2020).
[279] Oxford Martin Principles for Climate-Conscious Investment, Oxford Martin Net Zero Carbon Investment Initiative (Feb. 2018) (adapted from R.J. Millar, C. Hepburn, J. Beddington, J., & M.R. Allen, Principles to guide investment towards a stable climate, 8 Nature Climate Change 2-4 (2018)).
[280] Oxford announces historic commitment to fossil fuel divestment, University of Oxford (Apr. 27, 2020).
[281] Aiming for zero carbon and biodiversity net gain by 2035, University of Oxford (Nov. 20, 2020).
[282] Fossil Fuels Divestment Continues Georgetown's Commitment to Sustainability, Georgetown University (Feb. 6, 2020).
[283] *Id.*
[284] *Id.*

    - In September 2019, the University of California system announced divestment of its over eighty-three billion dollar endowment and pension fund from fossil fuels.[285]
        - In an op-ed in the Los Angeles Times, fund managers cited their fiduciary duty to the long-term financial wellbeing of the institution, writing that "[t]he reason we sold some $150 million in fossil fuel assets from our endowment was the reason we sell other assets: They posed a long-term risk to generating strong returns for UC's diversified portfolios."[286]
        - The fund managers also pledged to take the opportunity to reinvest in climate change solutions, writing that "[w]e have been looking years, decades and centuries ahead as we place our bets that clean energy will fuel the world's future. That means we believe there is money to be made."[287]
- Aside from peer universities, many other large-scale charitable funds with analogous fiduciary duties have divested.
    - Pension funds that have divested from fossil fuels include the California Public Employees' Retirement System (coal), the California State Teachers' Retirement System (coal), the country of Ireland, the New York City Employees Retirement System, the New York State Common Retirement Fund, the Teachers Retirement System of the City of New York, and the City of Providence, Rhode Island (partial).[288] In September 2021 the Caisse de dépôt et placement du Québec — Canada's second-biggest pension fund at 310 billion dollars — announced it was divesting from oil production investments by the end of 2022.[289]
    - In the fall of 2021, two of America's largest and most prestigious foundations announced their divestment from fossil fuels. The MacArthur Foundation announced that it was divesting from fossil fuels, citing a number of reasons including fiduciary duty.[290] Shortly after, the Ford Foundation announced it was divesting its thirteen billion dollar endowment from fossil fuels.[291] The foundation president apologized for not having divested sooner.[292]
    - Other major funds that have divested include the five-billion-dollar Rockefeller Foundation,[293] Norway's 1.1 trillion dollar sovereign wealth fund

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[285] Jagdeep Singh Baccher & Richard Sherman, Opinion: UC investments are going fossil free. But not exactly for the reasons you may think, The Los Angeles Times (Sept. 17, 2019).
[286] *Id.*
[287] *Id.*
[288] 1000+ Divestment Commitments, GoFossilFree.org (updated Dec. 9, 2020).
[289] CDPQ announces its new climate strategy, Caisse de dépôt et placement du Québec (Sept. 28, 2021).
[290] Our Approach toAchieving Impact with Investment Assets, MacArthur Foundation (Sept. 22, 2021).
[291] Darren Walker, Aligning our investments and our value, Ford Foundation (October 18, 2021).
[292] InvestDivest 2021 Event Video, DivestInvest (last visited Jan. 27, 2022).
[293] *Id.*

(oil and gas exploration and production)[294] and the ninety-billion Storebrand hedge fund (ExxonMobil, Chevron, and other environmental bad actors).[295]

XI. Duke's ties to the fossil fuel industry and conflicts of interest

Several of Duke's Board of Trustees maintain professional and/or financial ties to the fossil fuel industry. These apparent conflicts of interest violate the Board's *duty of loyalty* because fossil fuel companies' business models are in fundamental tension with DUMAC's espoused values and responsibility to the Duke community.

- Trustee Robert Penn is president of three privately held independent oil and gas production companies.[296]
- Trustee Gerald Hassell is a former Chair and CEO of BNY Mellon, a global investments company that has millions of dollars in fossil fuel investments.[297]
- Trustee Jeffrey Ubben[298] has been a member of the ExxonMobil board of directors since March 2021.[299]

XII. The Board's refusal to consider divestment from fossil fuels

The Trustees have failed to act in *good faith* or with *due care* by ignoring repeated efforts by Duke students and faculty to align the university's investment practices with its charitable mission. Members of the Duke community have consistently argued that investment in fossil fuels is inconsistent with the university's values and with its mission as a public charity, research center, and institution of higher education.

- On November 19, 2012, leading climate activist Bill McKibben gave a presentation at Duke outlining the need for climate action and the new strategy of fossil fuel divestment.[300] His organization followed up by recruiting student leaders on campus to form Divest Duke, the original fossil fuel divestment organization on campus.[301]
- In Spring 2013, Divest Duke created a divestment proposal based on Duke's commitment to carbon neutrality in 2024 and presented it to then-President Richard Brodhead.[302]

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[294] Terje Solsvik, Norway sovereign wealth fund to divest oil explorers, keep refiners, Reuters (Oct. 1, 2019).
[295] Jillian Ambrose, Major investment firm dumps Exxon, Chevron and Rio Tinto stock, The Guardian (Aug. 24, 2020).
[296] Board of Trustees: Robert Penn. Duke University (last visited Apr. 1, 2022).
[297] *See* BNY Mellon Appreciation Fund, Inc., Fossil Free Funds (last visited Apr. 1, 2022); BNY Mellon International Stock Fund, Fossil Free Funds (last visited Apr. 1, 2022).
[298] Jeffrey W. Ubben T'83, Duke University Board of Trustees (last visited Apr. 1, 2022).
[299] Pippa Stevens, Exxon board member Jeff Ubben raises stake, as oil giant invests in carbon capture, CNBC (Apr. 22, 2021).
[300] Marc Maximov, Bill McKibben talks about the fight against climate change, Indy Week (Nov. 14, 2012).
[301] Margot Armbruster and Nathan Iyer, 'Jumping for a moving bar': A history of the push for fossil fuel divestment at Duke, The Duke Chronicle (May 14, 2020).
[302] *Id.*

- Over the course of Fall 2013, Divest Duke circulated a petition among the Duke student population calling for fossil fuel divestment, ultimately collecting 3,475 signatures.[303]
- In September 2013, Divest Duke sent a memo to the President's Special Committee on Investment Responsibility detailing the principal arguments for fossil fuel divestment.[304]
- On September 22, 2013, Divest Duke organized a student protest of the Keystone XL pipeline in front of Perkins Library.[305]
- On October 9, 2013, Divest Duke held a rally in front of the Allen Building to call for Duke to eliminate investments in the top-200 publicly-traded fossil fuel companies.[306]
- In December 2013, President Brodhead reinstated the Advisory Committee on Investment Responsibility (ACIR) after pressure from Divest Duke.[307] Divest Duke met with the ACIR in the same month, and later in April 2014.[308]
- In October 2014, Divest Duke gave a presentation to the ACIR on discussing the committee's concerns about fossil fuel divestment.[309]
- In October 2014, Divest Duke sent a thoroughly-researched report on the need for fossil fuel divestment at Duke,[310] along with a memorandum outlining their proposal for how ACIR could take action.[311]
- On October 1, 2014, Divest Duke held its Call-in Day of Action, leading hundreds of alumni to call President Brodhead's office in support of divestment.[312, 313]
- On November 19, 2014, Divest Duke and the Environmental Alliance sponsored a panel of faculty and students to debate the merits of divestment.[314]
- On February 3, 2015, the *Duke Chronicle* editorial board published an opinion article in support of Duke divesting its endowment from fossil fuels.[315]
- On February 13, 2015, Divest Duke organized various festivities for Global Divestment Day of Action, including an on-campus rally, signature-gathering for a petition, and a staged "wedding" between Duke and fossil fuels.[316]

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303 'Jumping for a moving bar': A history of the push for fossil fuel divestment at Duke, *supra* at note 301.
304 Divestment from Fossil Fuel Companies, on file with Divest Duke (last visited Mar. 21, 2022).
305 'Jumping for a moving bar': A history of the push for fossil fuel divestment at Duke, *supra* at note 301.
306 Timothy Mcdermott, Student group demands divestment from fossil fuel companies, The Duke Chronicle (Oct. 10, 2013).
307 Geoffrey Mock, New Committee on Investment Responsibility Begins Work, Duke Today (Dec. 11, 2013).
308 'Jumping for a moving bar': A history of the push for fossil fuel divestment at Duke,*supra* at note 301.
309 Meeting with the ACIR, on file with Divest Duke (Oct. 6, 2014).
310 Divest Duke, Report Proposing Fossil Fuel Divestment for the President's Advisory Committee on Investment Responsibility, ACIR (Oct. 2014).
311 Divest Duke, Memorandum to the Advisory Committee on Investment Responsibility, ACIR (Oct. 22, 2014).
312 Duke Students and Alumni and Students to President Brodhead: It's Time for Bold Climate Action – on All Fronts, on file with Divest Duke (last visited Mar. 21, 2022).
313 'Jumping for a moving bar': A history of the push for fossil fuel divestment at Duke, *supra* at note 301.
314 Zaynah Alam, Faculty, students talk merits of fossil fuel divestment, The Duke Chronicle (Nov. 19, 2014).
315 The Duke Chronicle Editorial Board, Divest and divulge, The Duke Chronicle (Feb. 3, 2015).
316 Global Divestment Day, on file with Divest Duke (last visited Mar. 21, 2022).

- On October 28, 2015, Divest Duke organized a faculty panel titled "Fossil Fuel Investments in a Carbon-Constrained World" that hosted researchers from the Nicholas School of the Environment and Sanford School of Public Policy.[317]
- On November 10, 2015, Divest Duke published an op-ed on divestment in the *Duke Chronicle*.[318]
- In late 2015, Divest Duke merged with organizers pressuring Duke to embrace renewable energy to form the Duke Climate Coalition (DCC), which has continued to lead divestment efforts to the present day.[319]
- In 2018, DCC collaborated with the Duke Interdisciplinary Social Innovators to write a report on the financial case for divestment.[320]
- In 2018, DCC persuaded the ACIR to create a Fossil Fuel Investment subcommittee to further study the issue of divestment, and nominated three DCC members to the subcommittee.
- In February 2018, DCC leaders met with the Executive Committee of the Academic Council to discuss gathering faculty support for divestment.[321]
- On March 17, 2018, DCC provided the ACIR with a second memorandum that countered arguments against divestment,[322] responding to the ACIR's 2014 report that rejected divestment.[323]
- On April 9, 2018, DCC members met with the ACIR and agreed to a plan on collecting additional research regarding divestment.[324]
- On April 23, 2018, DCC members protested in front of the Duke Chapel and gathered photo petitions from students in support of divestment.
- On May 11, 2018, DCC submitted a third memo to the ACIR providing additional reasons for why Duke should divest.[325]
- In October 2018, the Duke Graduate and Professional Student Council passed a resolution calling for Duke to divest from fossil fuels by 2024.[326]
- On October 17, 2018, the Duke Student Government Senate unanimously passed a resolution calling for Duke to divest from fossil fuel companies by 2024.[327]
- On October 17, 2018, DCC leaders submitted a fourth memorandum to the ACIR calling for immediate action on divestment.[328]

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[317] Faculty Dialogue October 2015, on file with Divest Duke (last visited Mar. 21, 2022).
[318] Divest Duke, An unwavering call for divestment, The Duke Chronicle (Nov. 10, 2015).
[319] 'Jumping for a moving bar': A history of the push for fossil fuel divestment at Duke, *supra* at note 301.
[320] Shantanu Jadhav, Tracy Darbeloff, Ziwei Zhou, Sardor Yusupov, Ziyan Liu, James Foster, Liyue Zhang, Aashit Patel, Mengting Xu, Anisha Ramakrishna Yarlapati, Pradeep Kumar Tamilmani, and Nicholas Williams, Duke Carbon Coalition–DISI Project, Divest Duke and Duke Interdisciplinary Social Innovators (2018).
[321] Academic Council Divestment Presentation, on file with Divest Duke (last visited Mar. 21, 2022).
[322] Duke Climate Coalition, Fossil Fuel Divestment by the Duke University Endowment: A Response to the ACIR Report and Recommendations, ACIR (Mar. 17, 2018).
[323] ACIR Report and Recommendations on Fossil Fuels, ACIR (Nov. 24, 2014).
[324] ACIR Next Steps, on file with Divest Duke (last visited Mar. 21, 2022).
[325] Duke Climate Coalition, Divestment of Duke University's financial holdings from fossil fuel corporations, on file with Divest Duke (May 11, 2018).
[326] 2018 GPSC Divestment Resolution, Duke Graduate and Professional Student Government (Oct. 2018).
[327] Matthew Griffin, DSG Senate unanimously passes resolution calling for Duke to divest from fossil fuel investments, The Duke Chronicle (Oct. 18, 2018).
[328] Duke Climate Coalition, A Resolution to Divest the Duke Endowment from Fossil Fuels, on file with Divest Duke (Oct. 17, 2018).

- On November 8, 2018, DCC's Lannette Rangel published a guest column in the *Duke Chronicle* calling on the student body to convince the Duke administration to divest.[329]
- On April 2, 2019, DCC hosted a panel of faculty members in Duke's Nicholas School of the Environment to discuss the reasons for divestment.[330]
- In late September 2020, DCC and 20 other student and community groups signed an open letter to the Duke administration calling for divestment as part of a campaign by the ACC Climate Justice Coalition.[331,332]
- On October 6, 2021, a coalition of DCC and GPSG members met with the ACIR to discuss the potential for new sustainable investment efforts.[333]
- On November 9, 2021, a coalition of DCC and GPSG members met with DUMAC to discuss the potential for new sustainable investment efforts.[334]
- On November 16, 2021, DCC member Abby Saks published a letter to the editor in the *Duke Chronicle* calling for Duke to uphold its commitment to carbon neutrality by divesting from fossil fuels.[335]
- On December 5, 2021, the Graduate and Professional Student Government passed a new resolution, which again called for divestment by 2024 and proposed a student referendum on the issue.[336]
- On February 16, 2022, the DSG Senate voted to place a referendum question on divestment on its next presidential election ballot.[337]
- On March 3, 2022, the undergraduate student population voted in support of a Duke Student Government referendum calling for Duke to divest, with 2456 out of 2757 students voting yes on the measure.[338]

Despite strong support for fossil fuel divestment among members of the Duke community, Duke's leaders have refused to engage with the question in good faith.

- The Duke administration has repeatedly rejected calls for divestment, despite its fiduciary obligations and the growing scientific and economic case for action.

[329] Lannette Rangel, Convince Duke to divest from fossil fuels, The Duke Chronicle (Nov. 18, 2018).
[330] Xinchen Li, Should the University divest from fossil fuels? Faculty panelists tackle issue at Tuesday forum, The Duke Chronicle (Apr. 3, 2019).
[331] ACC Climate Justice Coalition, Open Letter to Duke Admin on Divestment, on file with Divest Duke (Sept. 2020).
[332] Carter Forinash, Students push once more for fossil fuel divestment, backed by ACC-wide coalition, The Duke Chronicle (Oct. 20, 2020).
[333] ACIR Meeting Notes, on file with Divest Duke (last visited Mar. 21, 2022).
[334] Meeting with DUMAC, on file with Divest Duke (last visited Mar. 21, 2022).
[335] Abby Saks, Letter: Carbon neutrality cannot include Duke's continued fossil fuel investments, The Duke Chronicle (Nov. 16, 2021).
[336] GPSG Climate Crisis Resolution, Duke Graduate and Professional Student Government (Dec. 5, 2021).
[337] Audrey Wang, Duke Student Government reviews election by-laws, hears presentation from Duke Climate Coalition, The Duke Chronicle (Feb. 17, 2022).
[338] Leah Boyd, Lana Gesinsky elected DSG president, Devan Desai to be EVP, The Duke Chronicle (Mar 4, 2022).

- In its 2014 report on divestiture released in November 2014, the ACIR recommended against fossil fuel divestment despite the research and strong student support in favor of this action.[339]
    - The ACIR concluded that "There has not yet been substantial enough discourse on the impact and viability of fossil fuel divestment" among the campus community.[340] This runs against the various actions led by Divest Duke that demonstrated widespread student support [see above] for divestment, and presents an unreasonable burden to student organizers who also have to juggle the demands of their academic studies.
    - The ACIR also said that it would only consider divestment if the company in question has "'been afforded reasonable opportunity to alter its activities' and if divestment 'will not impair the capacity of the University to carry out its educational mission.'"[341] Addressing the first point, corporate pledges to take action on climate change are often riddled with loopholes,[342] meaning that companies can exempt themselves from scrutiny by appearing to make a commitment to sustainability. Furthermore, fossil fuel companies have intentionally falsified facts about climate science,[343] which detracts from Duke's mission as a research university that is home to leading experts on climate change.
- In its most recent report on the subject in May 2019, the ACIR again rejected fossil fuel divestment and refused to acknowledge the merits of the arguments proposed by DCC.[344]
    - The ACIR said that divestment would "serve merely as a symbolic gesture" and "would have no impact on the companies concerned."[345] However, this claim is questionable considering that institutions worldwide have collectively divested $40.43 trillion from fossil fuels,[346] having major financial consequences for fossil fuel extractors.
    - The report also argued that divestiture would likely end up being "counterproductive" and serve "to polarize the debate over climate change rather than contribute constructively."[347] This statement ignores the already highly polarized nature of the debate about climate action. Instead of increasing polarization, divestment by a prominent, well-regarded institution such as Duke would signal to the world that more decisive action on climate change is needed.

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339 ACIR Report and Recommendations on Fossil Fuels, ACIR (Nov. 24, 2014).
340 *Id.*
341 *Id.*
342 Jocelyn Timperley, The truth behind corporate climate pledges, The Guardian (July 26, 2021).
343 Alvin Powell, Tracing Big Oil's PR war to delay action on climate change, The Harvard Gazette (Sept. 28, 2021).
344 Duke University's Contribution to Reducing Greenhouse Gasses: Toward A Climate-Responsible Investing Approach, ACIR (May 16, 2019).
345 *Id.*
346 Global Fossil Fuel Divestment Commitments Database, Stand.earth and 350.org (last visited Mar. 19, 2022).
347 Duke University's Contribution to Reducing Greenhouse Gasses: Toward A Climate-Responsible Investing Approach, ACIR (May 16, 2019).

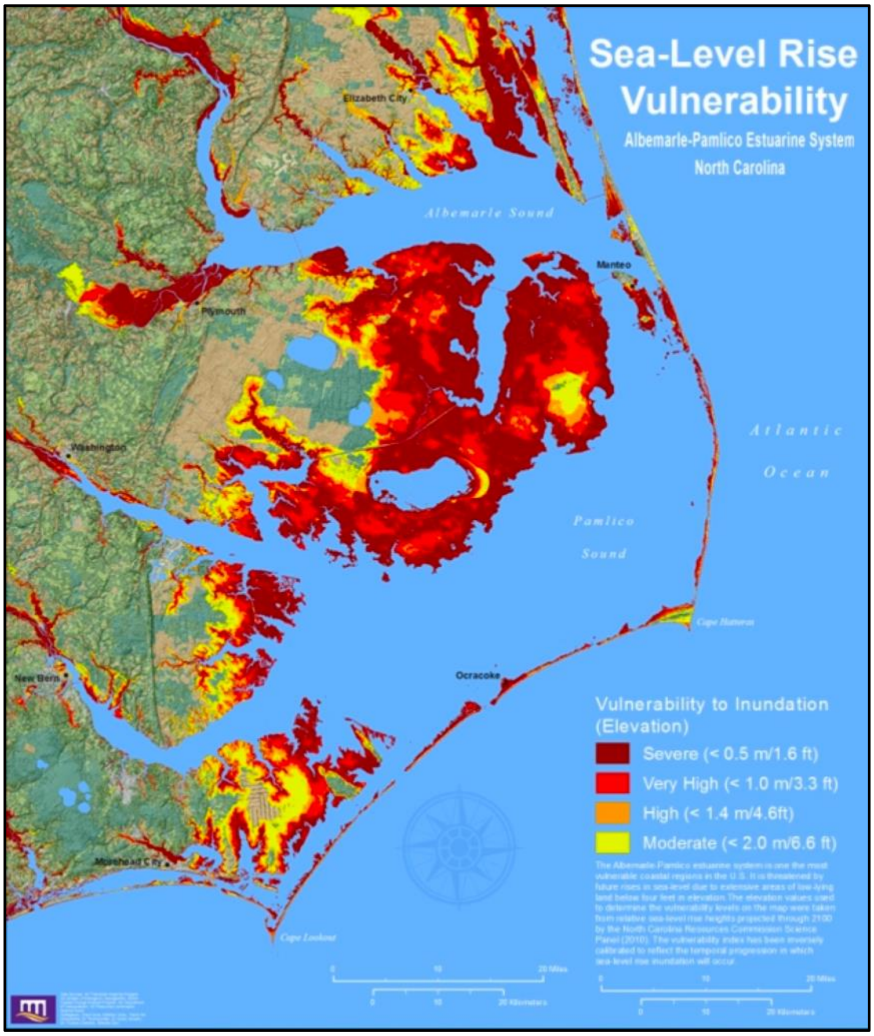
- Duke's stated commitment to partial divestment fails to satisfy its fiduciary obligations or to meaningfully engage with the concerns of divestment campaigners.
    - In his response to ACIR's report from May 2019, President Price accepted the recommendation that DUMAC "should further develop its proxy voting policies so as to use its investor voting power, where possible, to encourage companies to reduce their reliance on fossil fuels and the production of Greenhouse Gasses."[348] However, proxy voting is an insignificant and ineffective measure when compared to the scope of the climate crisis. Shareholder advocacy can do little to alter the fundamental business models of fossil fuel companies, which are centered around fossil fuel extraction and the release of carbon emissions.[349]
    - The Board of Trustees released a statement on May 8, 2020 directing DUMAC to "take into account Duke's commitment to an environmentally sustainable future" when managing university funds.[350] This vague proposition provides no concrete directions to DUMAC on how to make sustainable investing choices and does little to advance Duke toward its environmental commitments.
    - While it is important to note that Duke has "little to no direct investment" in the companies on the Carbon Tracker 200 list as of April 2021, the vast majority of the endowment that consists of third-party managed funds remains exposed to fossil fuel companies.[351] Only divestment of the entire endowment from fossil fuels would fulfill the Board's fiduciary duty to prudently manage Duke's investments in light of financial and climate considerations.

Conclusion

The Attorney General and the Secretary of State are responsible for ensuring that charitable assets are allocated appropriately and for investigating charitable managers' violations of fiduciary duties. We ask that you investigate the violations described above and that you take action to ensure that the investment activity of the Board no longer harms the Duke community, the State of North Carolina, or the public.

[348] Vincent E. Price, Response to ACIR Documents from May 2019, ACIR (Aug. 19, 2019).
[349] *See supra* at notes 143-45.
[350] Duke University Board of Trustees, Statement on Climate Change and Investment, DUMAC (May 8, 2020).
[351] Rosa Golchin, Duke moves forward on sustainability but stops short of fossil fuel divestment, The Duke Chronicle (Apr. 20, 2021).

Appendix A



Projected vulnerability of the Albemarle-Pamlico estuarine system in North Carolina to various degrees of sea level rise, as reprinted in North Carolina Public Radio, The Science (And Politics) Of Predicting Sea-Level Rise Along The NC Coast (Sept. 25, 2014). Source: Renaissance Computing Institute, East Carolina University.

Appendix B

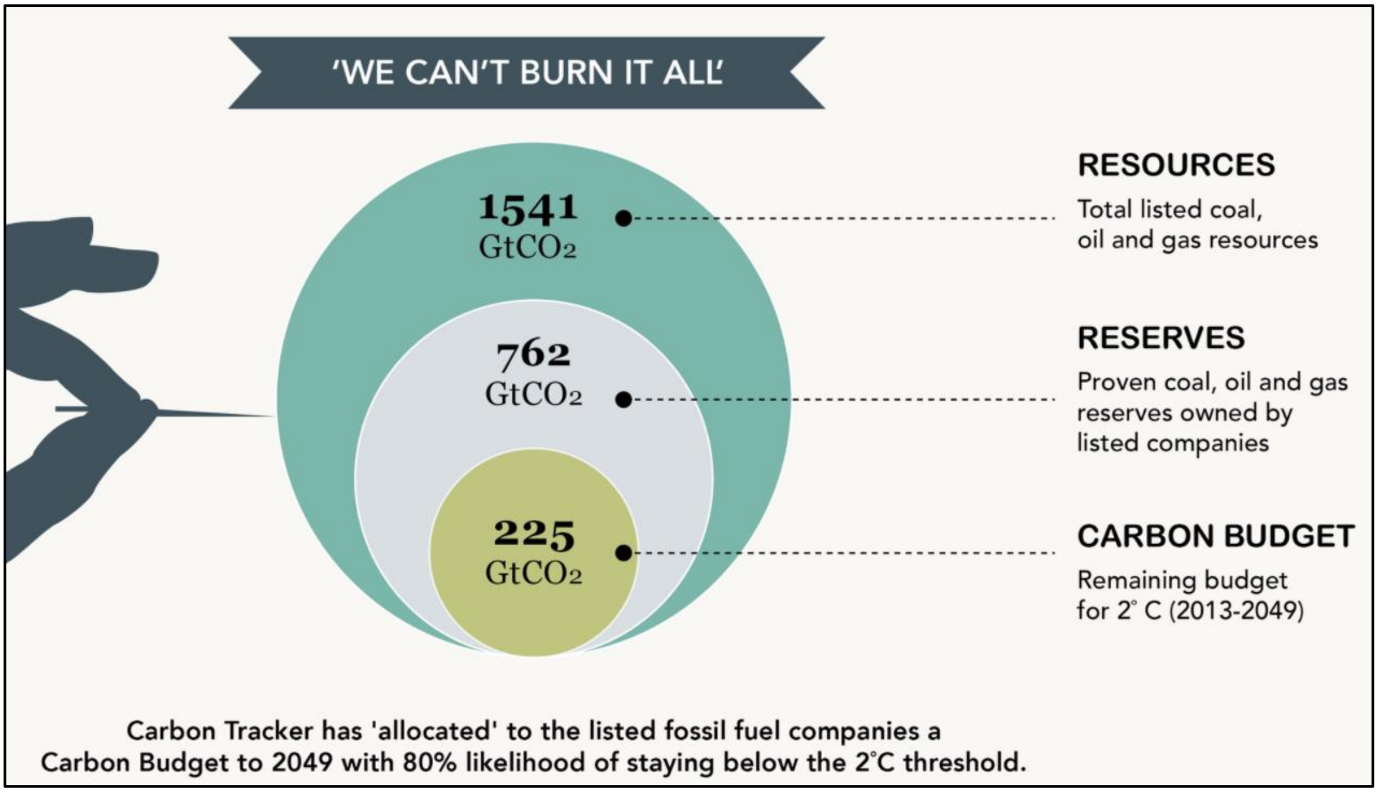


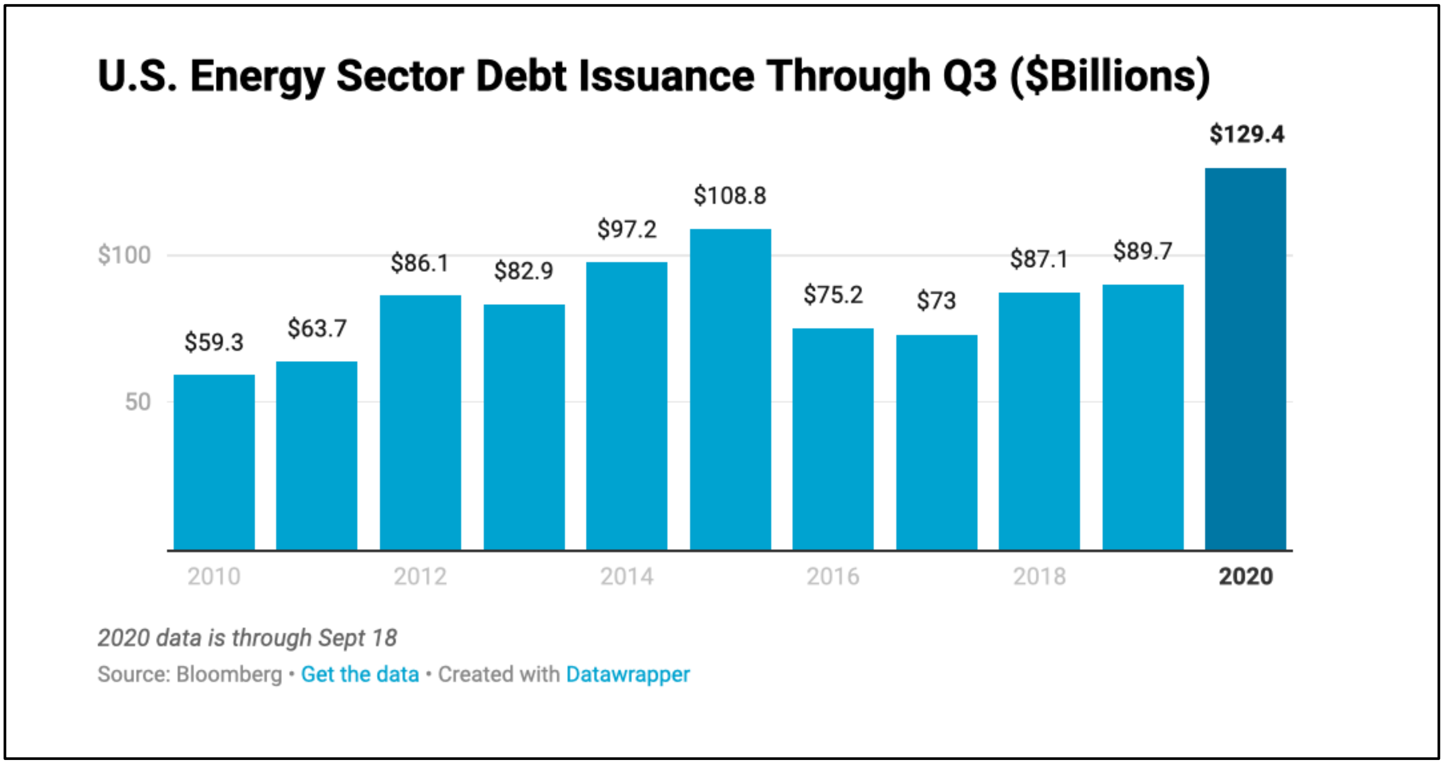
Illustration of carbon bubble, as reprinted in Katharine Earley, Carbon Tracker measures oil and coal risk for investors, The Guardian (Apr. 30, 2015). Source: Carbon Tracker Initiative.

Appendix C

Comparison of ten-year performance of S&P 500 Energy Index[352] (white) with S&P 500 Index (blue).[353] Created using comparison tool at S&P 500 Dow Jones Indices (as of Jan. 3, 2022).

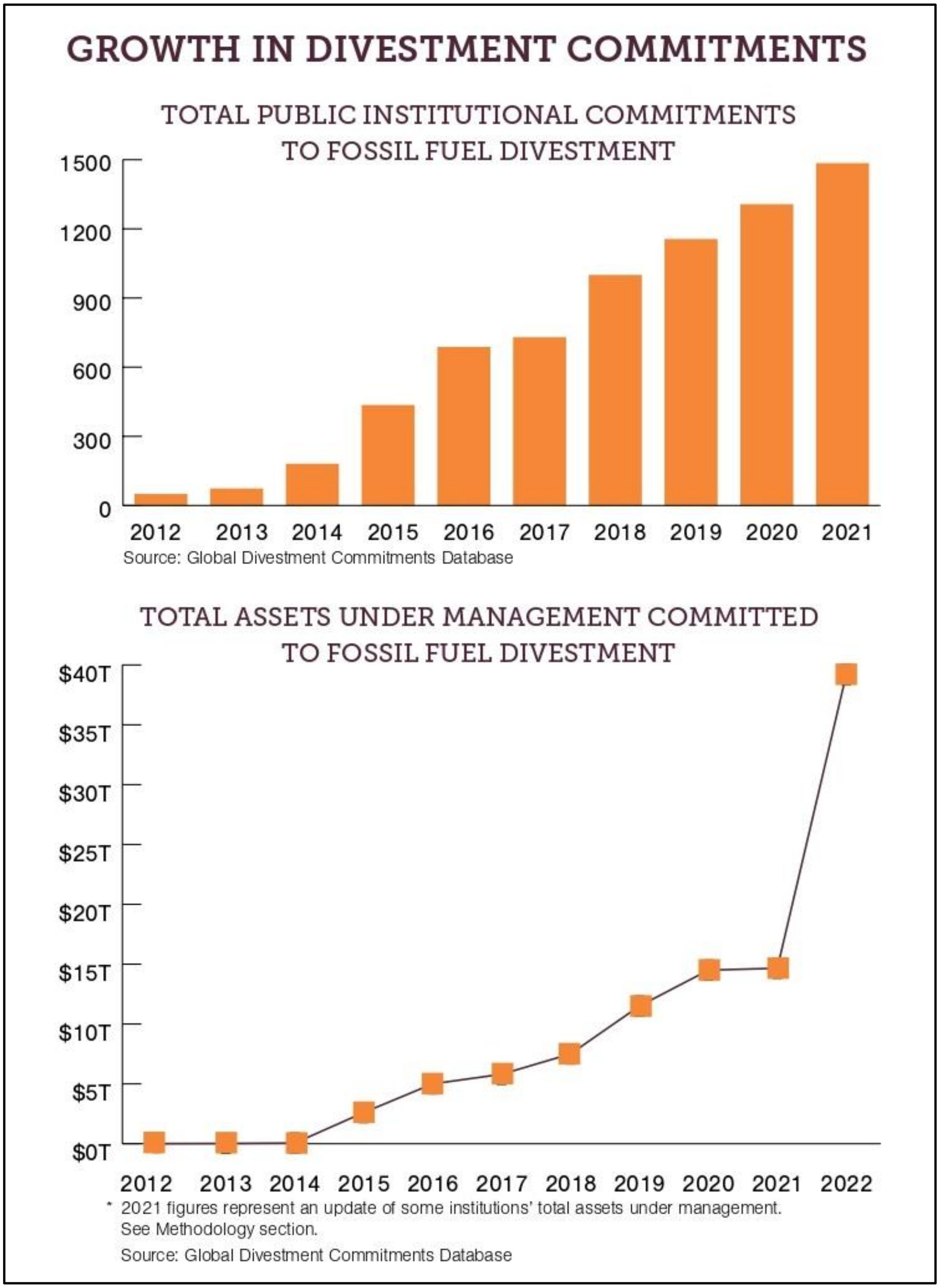
[352] The S&P 500 Energy Index includes only fossil fuel companies and does not encompass renewable energy.
[353] The energy sector's recovery in late 2020 came in part thanks to a large bailout of corporate debt markets by the federal government. *See* Lukas Ross, Alan Zibel, Dan Wagner & Chris Kuveke, Big Oil's $100 Billion Bender, Public Citizen (Sept. 30, 2020).

Appendix D



U.S. Energy Sector Debt Issuance Through Q3 ($Billions), as reprinted in Lukas Ross, Alan Zibel, Dan Wagner & Chris Kuveke, Big Oil's $100 Billion Bender, Public Citizen (Sept. 30, 2020). Source: Bloomberg.

Appendix E



Growth in Divestment Commitments. Source: [A Decade of Progress Towards a Just Climate Future](), Institute for Energy Economics and Financial Analysis, Stand.earth, C40, & Wallace Global Fund (2021).