No. 22-1096

United States Court Of Appeals

FOR THE THIRD CIRCUIT

STATE OF DELAWARE, *Plaintiff-Appellee*

v.

BP AMERICA, INC., et al., *Defendants-Appellants*

On Appeal From The United States District Court,
District of Delaware
Case No. 20-cv-1429
(Hon. Leonard P. Stark)

BRIEF OF AMICI CURIAE ROBERT BRULLE, CENTER FOR CLIMATE INTEGRITY, CHESAPEAKE CLIMATE ACTION NETWORK, JUSTIN FARRELL, BENJAMIN FRANTA, STEPHAN LEWANDOWSKY, NAOMI ORESKES, GEOFFREY SUPRAN, and the UNION OF CONCERNED SCIENTISTS IN SUPPORT OF PLAINTIFF-APPELLEE AND AFFIRMANCE

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CORPORATE DISCLOSURE STATEMENT

Under Federal Rule of Appellate Procedure 26.1, Amicus Center for Climate Integrity certifies that it is a non-profit organization. The Center for Climate Integrity does not have a parent corporation, and no publicly held company has any ownership of the organization. Amicus Chesapeake Climate Action Network also certifies that it is a non-profit organization. The Chesapeake Climate Action Network does not have a parent corporation, and no publicly held company has any ownership of the organization. Amicus Union of Concerned Scientists also certifies that it is a non-profit organization. The Union of Concerned Scientists does not have a parent corporation, and no publicly held company has any ownership of the organization. All other amici are private individuals and not corporations.

IDENTITY AND INTEREST OF AMICUS CURIAE

Individual Amici are scholars and scientists with strong interests, education, and experience in the environment and the science of climate change, with particular interest in public information and communication about climate change and how the public and public officials learn about and understand climate change.

Dr. Naomi Oreskes is Professor of the History of Science and Affiliated Professor of Earth and Planetary Sciences at Harvard University. Dr. Oreskes' research focuses on the earth and environmental sciences, with a particular interest in understanding scientific consensus and dissent. **Dr. Geoffrey Supran** is a Research Associate in the Department of the History of Science at Harvard University. Working alongside Dr. Oreskes, Dr. Supran's applied social science research investigates the history of climate communications and denial by fossil-fuel interests. **Dr. Robert Brulle** is a Visiting Professor of Environment and Society at Brown University, and an Emeritus Professor of Sociology and Environmental Science at Drexel University. His research focuses on U.S. environmental politics, critical theory, and the political and cultural dynamics of climate change. **Dr.**

Justin Farrell is a Professor in the School of Forestry and Environmental Science, the School of Management, and the Department of Sociology at Yale University. He studies environment, misinformation, rural inequality, and social movements using a range of methods from large-scale computational text analysis, network science, machine learning, and qualitative and ethnographic fieldwork.

Dr. Benjamin Franta is a Ph.D. Candidate in the Department of History at Stanford University, where he studies the history of climate science and fossil-fuel producers. He holds a separate Ph.D. in Applied Physics from Harvard University and a J.D. from Stanford Law School.

Stephan Lewandowsky is a Professor and Chair in Cognitive Science at the University of Bristol. His research examines the potential conflict between human cognition and the physics of the global climate.

The Center for Climate Integrity is a non-profit organization that works to empower communities and elected officials with the knowledge and tools they need to hold polluters accountable for their contributions to the climate crisis. Through campaigns, communications, and strategic legal support, the organization works to

ensure that the fossil-fuel industry pays its fair share of the costs of climate change.

The Chesapeake Climate Action Network is a non-profit organization dedicated to fighting climate change and addressing the harms caused by fossil-fuel infrastructure in Maryland, Virginia, and Washington, D.C., and to securing policies that will put the world on a path to climate stability.

The Union of Concerned Scientists is a national non-profit organization that puts rigorous, independent science to work to solve our planet's most pressing problems. The organization combines technical analysis and effective advocacy to create innovative, practical solutions for a healthy, safe, and sustainable future.

Amici submit this brief because they understand that the conduct at the core of the Plaintiff-Appellee's Complaint is that the Defendants affirmatively and knowingly concealed and denied the hazards that they knew would result from the normal use of their fossil-fuel products by misrepresenting those products and deliberately discrediting scientific information related to climate change. As such, it is critical to the ultimate outcome of this appeal that full documentation of these

misrepresentations is available to the Court as it considers the arguments and claims made by Defendants-Appellants.

All parties have consented to the filing of this brief. No party's counsel authored the brief in whole or in part, no party or party's counsel contributed money that was intended to fund preparing or submitting the brief, and no person other than amici or their counsel contributed money that was intended to fund preparing or submitting the brief.

INTRODUCTION

At least 50 years ago, Defendants-Appellants (hereinafter "Defendants") had information from their own internal research, as well as from the international scientific community, that the unabated extraction, production, promotion, and sale of their fossil-fuel products would result in material dangers to the public. Defendants failed to disclose this information or take steps to protect the public. Instead, they acted to conceal their knowledge and discredit climate science, running misleading nationwide marketing campaigns and funding scientists and third-party organizations to exaggerate scientific uncertainty and promote contrarian theories, in direct contradiction to their own research and actions taken to protect their assets from climate change impacts.

Defendants' coordinated, multi-front effort, demonstrated by their own documents and actions, justifies the claims that Plaintiff-Appellee (hereinafter "Plaintiff") has made. As early as the late 1950s and no later than 1968, Defendants had actual knowledge of the risks associated with their fossil-fuel products. In the decades that followed, Defendants took affirmative steps to sow doubt and uncertainty about

climate change, in part by funding contrarian science that advanced alternative theories. While they told the world there was no reason for concern, Defendants took climate risks into account in managing their infrastructure, for example, by raising the height of their oil rigs to account for rising sea levels.

While their tactics have changed, Defendants' overall strategy of deception continues to this day. Defendants now acknowledge that the climate is changing and claim to be leaders in efforts to combat climate change. However, they continue to run marketing and lobbying campaigns intended to mislead policymakers and the public about climate change and their role in causing it, effectively reframing climate change as a "risk" rather than a reality and shifting responsibility for reducing fossil fuel emissions from producers to consumers.

In taking these actions, Defendants created—and continue to create—the harms Plaintiff alleges and therefore should be held liable in state court.

I. DEFENDANTS HAD ACTUAL KNOWLEDGE OF THE RISKS ASSOCIATED WITH THEIR FOSSIL-FUEL PRODUCTS

A. Defendants had early knowledge that fossil-fuel products were causing an increase in atmospheric CO_2 concentrations, and that this increase could result in "catastrophic" consequences.

Defendants knew about the potential risks associated with their products decades ago, independently and through their membership and involvement in trade associations such as the American Petroleum Institute (API), American Fuel & Petrochemical Manufacturers, and Western States Petroleum Association.

API and its members were aware of research on carbon dioxide as early as 1954, when Harrison Brown and other scientists at the California Institute of Technology measured and assessed increased CO_2 concentrations in the atmosphere.[1] Although the results were not published, API and other researchers within the petroleum industry were aware of this research.[2] In 1957, Roger Revelle and Hans Suess at the Scripps Institute of Oceanography published a paper in which they

[1] Benjamin Franta, *Early oil industry knowledge of CO_2 and global warming*, 8 Nature Climate Change 1024 (Nov. 19, 2018), https://www.nature.com/articles/s41558-018-0349-9.
[2] *Id.*

predicted large increases in atmospheric CO_2 if fossil-fuel production continued unabated.[3] Shortly thereafter, H.R. Brannon of Humble Oil (now ExxonMobil) published research on the same question. His conclusions were in "excellent agreement" with Brown's findings: increased fossil-fuel combustion caused an increase in atmospheric CO_2.[4]

In 1959, physicist Edward Teller delivered the earliest known warning of the dangers of global warming to the petroleum industry, at a symposium held at Columbia University. Teller described the need to find energy sources other than fossil fuels to mitigate these dangers, stating

> a temperature rise corresponding to a 10 per cent increase in carbon dioxide will be sufficient to melt the icecap and submerge New York. All the coastal cities would be covered, and since a considerable percentage of the human race lives

[3] Roger Revelle and Hans Suess, *Carbon Dioxide Exchange Between Atmosphere and Ocean and the Question of an Increase of Atmospheric CO_2 during the Past Decades*, 9 Tellus 18 (1957), http://www.tandfonline.com/doi/pdf/10.3402/tellusa.v9i1.9075?needAccess=true.

[4] H.R. Brannon, A.C. Daughtry, D. Perry, W.W. Whitaker, and M. Williams, *Radiocarbon evidence on the dilution of atmospheric and oceanic carbon by carbon from fossil fuels*, 38 Trans. Am. Geophys. Union 643, 646 (Oct. 1957), https://ar.booksc.org/book/52489873/5edd87.

> in coastal regions, I think that this chemical contamination is more serious than most people tend to believe.[5]

In 1965, API President Frank Ikard delivered a presentation at the organization's annual meeting. Ikard informed API's membership that President Lyndon Johnson's Science Advisory Committee had predicted that fossil fuels could cause significant climatic changes by the end of the century.[6] He issued the following warning about the consequences of CO_2 pollution to industry leaders:

> This report unquestionably will fan emotions, raise fears, and bring demands for action. The substance of the report is that there is still time to save the world's peoples from the catastrophic consequence of pollution, but time is running out.[7]

Over the next few years, scientific research continued to bolster the conclusion that the combustion of fossil fuels would be the primary driver of climate change. A 1968 Stanford Research Institute (SRI) report—commissioned by API and made available to its members—

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[5] Edward Teller, *Energy patterns of the future*, 38 Energy and Man: A Symposium 53, 58 (1960).

[6] Frank Ikard, *Meeting the challenges of 1966*, Proceedings of the American Petroleum Institute 12-15 (1965), http://www.climatefiles.com/trade-group/american-petroleum-institute/1965-api-president-meeting-the-challenges-of-1966/.

[7] *Id.* at 13.

warned that "rising levels of CO_2 would likely result in rising global temperatures and that, if temperatures increased significantly, the result could be melting ice caps, rising sea levels, warming oceans, and serious environmental damage on a global scale."[8] The scientists acknowledged that the burning of fossil fuels provided the best explanation for an increase in atmospheric CO_2 levels.[9]

In 1969, API commissioned a supplemental report by SRI that provided a more detailed assessment on CO_2. The report stated that atmospheric concentrations of CO_2 were steadily increasing, 90% of this increase could be attributed to fossil-fuel combustion, and continued use of fossil fuels would result in further increases of CO_2 levels in the atmosphere.[10] The report projected that, based on current fuel usage, atmospheric CO_2 concentrations would reach 370 ppm by 2000—exactly

[8] *Smoke and Fumes: The Legal and Evidentiary Basis for Holding Big Oil Accountable for the Climate Crisis*, Center for International Environmental Law 12 (Nov. 2017), https://www.ciel.org/wp-content/uploads/2017/11/Smoke-Fumes-FINAL.pdf.

[9] Elmer Robinson and R.C. Robbins, *Sources, Abundance, and Fate of Gaseous Atmospheric Pollutants*, Stanford Research Institute 3 (1968), https://www.smokeandfumes.org/documents/document16.

[10] *Smoke and Fumes, supra* note 8, at 12.

what they turned out to be.[11] This research was summarized and shared with API members, including Defendants.[12]

A 1977 presentation and 1978 briefing by senior Exxon scientist James F. Black warned the Exxon Corporation Management Committee that CO_2 concentrations were building in the Earth's atmosphere at an increasing rate, that CO_2 emissions were attributable to fossil fuels, and that CO_2 would contribute to global warming.[13] Speaking to the emerging scientific consensus on climate change at the time, Black acknowledged that there was general scientific agreement that carbon dioxide released from the burning of fossil fuels was likely influencing global climate. He stated:

> Present thinking holds that man has a time window of five to ten years before the need for hard decisions regarding changes in energy strategies might become critical.[14]

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[11] *Global Mean CO_2 Mixing Ratios (ppm): Observations*, NASA Goddard Institute for Space Studies, https://data.giss.nasa.gov/modelforce/ghgases/Fig1A.ext.txt.

[12] *Environmental Research, A Status Report*, American Petroleum Institute (Jan. 1972), http://files.eric.ed.gov/fulltext/ED066339.pdf.

[13] Memo from J.F. Black to F.G. Turpin re The Greenhouse Effect, Exxon Research and Engineering Company 2 (June 6, 1978), http://www.climatefiles.com/exxonmobil/1978-exxon-memo-on-greenhouse-effect-for-exxon-corporation-management-committee/.

[14] *Id.*

Black expressed no uncertainty as to whether the burning of fossil fuels would cause climate change. Former Exxon scientist, Ed Garvey, described the situation as follows: "By the late 1970s, global warming was no longer speculative."[15] In another interview, Garvey stated: "The issue was not were we going to have a problem, the issue was simply how soon and how fast and how bad was it going to be. Not if."[16]

Through the 1950s and 1960s, there was agreement among industry, government, and academic scientists that the observed increase in CO_2 concentrations, caused by fossil fuel combustion, would likely cause an increase in average global temperatures and, therefore, a variety of climate-related impacts. By the late 1970s, there was a general scientific consensus that this would occur.

[15] James Osborne, *INTERVIEW: Former Exxon scientist on oil giant's 1970s climate change research*, Dallas News (Oct. 2015), https://www.dallasnews.com/business/business/2015/10/02/interview-former-exxon-scientist-on-oil-giants-1970s-climate-change-research.

[16] Amy Westervelt, *Drilled: A True Crime Podcast about Climate Change*, Episode 1, The Bell Labs of Energy (interview with Ed Garvey at 11:10) (Nov. 14, 2018), https://open.spotify.com/show/6zrL0QQWBhlVFsCveE2mtE.

B. Defendants conducted their own climate science research that confirmed fossil-fuel combustion was increasing atmospheric CO_2 concentrations and that this would affect the climate.

From the late 1970s through early 1980s, Defendants' own research repeatedly confirmed the findings of leading scientists and institutions studying climate change.[17]

Exxon was particularly active in the growing field of climate science. Following warnings by Black and others, Exxon launched an ambitious research program to study the environmental effects of greenhouse gases. The company assembled a team of scientists, modelers, and mathematicians to deepen the company's understanding of an environmental problem that posed an existential threat to its business interests.[18] As Exxon senior scientist Morrel Cohen explained: "Exxon was trying to become a research power in the energy industry

[17] Between 1983-84, Exxon's researchers published their results in at least three peer-reviewed papers in the *Journal of the Atmospheric Sciences* and *American Geophysical Union*. *See e.g. Atmospheric Greenhouse Effect: Is Burning of Fossil Fuels Affecting World Climate?*, Mobil Oil Corp., Status Report Environmental & Toxicology Issue No. 83-2 (June 1, 1983), https://perma.cc/6A6Y-GQSF.

[18] Geoffrey Supran and Naomi Oreskes, *Assessing ExxonMobil's climate change communications (1977–2014)*, 12(8) Environmental Research Letters 084019 (Aug. 23, 2017), http://iopscience.iop.org/article/10.1088/1748-9326/aa815f.

the way that Bell Labs was in the communications industry."[19] By 1982, Exxon's scientists had created climate models that confirmed the scientific consensus that the continued increase of CO_2 from fossil fuels would cause significant global warming by the middle of the 21st century with "potentially catastrophic" effects.[20]

In 1979, W.L. Ferrall described the findings of an internal Exxon study, concluding that the "present trend of fossil fuel consumption will cause dramatic environmental effects before the year 2050."[21] With a doubling of CO_2 concentration (using 1860 as a baseline), Ferrall predicted that "ocean levels would rise four feet" and the "Arctic Ocean would be ice free for at least six months each year, causing major shifts in weather patterns in the northern hemisphere."[22]

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[19] Westervelt, *supra* note 16 (interview with Morrell Cohen at 6:21); *see also* John Walsh, *Exxon Builds on Basic Research*, 225 Science 1001 (1984), https://www.documentcloud.org/documents/5690867-1984-Walsh-Exxon-Builds-on-Basic-Reseach.html.

[20] *See e.g.* Memo from M.B. Glaser to Exxon Management re CO_2 "Greenhouse" Effect, Exxon Research and Engineering Company 11 (Nov. 12, 1982), https://www.climatefiles.com/exxonmobil/1982-memo-to-exxon-management-about-co2-greenhouse-effect/.

[21] Memo from W.L. Ferrall to R.L. Hirsch re "Controlling Atmospheric CO_2", Exxon Research and Engineering Company 1 (Oct. 16, 1979), http://insideclimatenews.org/sites/default/files/documents/CO2%20and%20Fuel%20Use%20Projections.pdf.

[22] *Id.*, Appendix A at 1.

In 1980, Dr. John Laurman presented to the API Task Force, referencing "strong empirical evidence" that climate change is caused by fossil-fuel combustion and identifying the "scientific consensus on the potential for large future climatic response to increased CO_2 levels" as a reason for concern.[23] Laurman also warned that foreseeable temperature increases could have "major economic consequences" and "globally catastrophic effects."[24]

By 1981, Exxon had internally acknowledged the risks of climate change and the role that fossil-fuel combustion played in increasing CO_2 concentrations in the atmosphere. In an internal memorandum, Exxon scientist Henry Shaw wrote that a doubling of CO_2 would result in a 3°C increase in average global temperature and a 10°C increase at the poles, causing major shifts in rainfall and agriculture and melting polar ice.[25] Also in 1981, Roger Cohen, director of Exxon's Theoretical and

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[23] *AQ-9 Task Force Meeting Minutes*, American Petroleum Institute, Attachment B at 1-2 (Mar. 18, 1980), https://insideclimatenews.org/documents/aq-9-task-force-meeting-1980/.

[24] *Id.*, Attachment B at 5.

[25] Memo from Henry Shaw to Dr. E.E. David, Jr. re "CO_2 Position Statement", Exxon Inter-Office Correspondence 2 (May 15, 1981), https://insideclimatenews.org/documents/aq-9-task-force-meeting-1980/.

Mathematical Sciences Laboratory, warned about the magnitude of climate change: "we will unambiguously recognize the threat by the year 2000 because of advances in climate modeling and the beginning of real experimental confirmation of the CO_2 effect."[26] He added that "it is distinctly possible that [Exxon Planning Division's] scenario will later produce effects which will indeed be catastrophic (at least for a substantial fraction of the earth's population)."[27]

In 1982, Cohen summarized the findings of Exxon's research in climate modeling, stating that "over the past several years *a clear scientific consensus has emerged* regarding the expected climatic effects of increased atmospheric CO_2."[28] Cohen acknowledged that Exxon shared the views of the mainstream science community, stating that there is "unanimous agreement in the scientific community that a

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[26] Memo from R.W. Cohen to W. Glass re possible "catastrophic" effect of CO_2, Exxon Corporation 1 (Aug. 18, 1981), http://www.climatefiles.com/exxonmobil/1981-exxon-memo-on-possible-emission-consequences-of-fossil-fuel-consumption.

[27] *Id.*

[28] Memo from R. W. Cohen to A.M. Natkin, Exxon Research and Engineering Company 1 (Sept. 2, 1982), https://www.climatefiles.com/exxonmobil/1982-exxon-memo-summarizing-climate-modeling-and-co2-greenhouse-effect-research (emphasis added).

temperature increase of this magnitude would bring about significant changes in the earth's climate," and that Exxon's findings were "consistent with the published predictions of more complex climate models" and "in accord with the scientific consensus on the effect of increased atmospheric CO_2 on climate."[29]

Industry documents from the 1980s provide further evidence that Exxon and other Defendants internally acknowledged that the threat of climate change was real, it was caused by fossil fuels, and it would have significant impacts on the environment and human health. Notably, a 1982 corporate primer—circulated internally to Exxon management—recognized the need for "major reductions in fossil fuel combustion" in order to mitigate global warming. In the absence of such reductions, "there are some potentially catastrophic events that must be considered . . . [O]nce the effects are measurable, they might not be reversible[.]"[30]

The 1982 Exxon primer predicted a doubling of CO_2 concentrations (above pre-industrial levels) by 2060 and increased temperatures of 2 to 4°C (above 1982 levels) by the end of the 21st

[29] *Id.* at 2.

[30] Memo from M.B. Glaser to Exxon Management re CO_2 "Greenhouse" Effect, *supra* note 20, at 2 and 11.

century. It also provided a detailed assessment of the "potentially catastrophic" impacts of global warming.[31]

A 1988 Shell report issued similar warnings to those of Exxon: "by the time the global warming becomes detectable it could be too late to take effective countermeasures to reduce the effects or even to stabilise the situation."[32] Acknowledging the need to consider policy changes, the report provided that "the potential implications for the world are . . . so large that policy options need to be considered much earlier" and that research should be "directed more to the analysis of policy and energy options than to studies of what we will be facing exactly."[33]

The Shell report made detailed projections of the likely impacts of global warming, including the melting of the West Antarctic Ice Sheet, which could result in sea level rise of 5 to 6 meters. It also predicted the "disappearance of specific ecosystems or habitat destruction," and

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[31] *Id.* at 12-14.

[32] R.P.W.M Jacobs et al., *The Greenhouse Effect*, Shell Internationale Petroleum Maatschappij B.V., The Hague 1, 4 (May 1988), https://www.documentcloud.org/documents/4411090-Document3.html#document/p9/a411239.

[33] *Id.* at 4 and 9.

an increase in "runoff, destructive floods, and inundation of low-lying farmland." The report predicted that changes in global atmospheric temperature would "drastically change the way people live and work."[34]

In the 1970s and 1980s, Defendants pursued cutting-edge research and amassed considerable data on climate change. This body of research confirmed their earlier knowledge, and led to the undeniable conclusion that continued fossil-fuel production and use would lead to irreversible and catastrophic climate change. Armed with this information, Defendants faced a turning point in the early 1980s.

II. DEFENDANTS TOOK PROACTIVE STEPS TO CONCEAL THEIR KNOWLEDGE AND DISCREDIT CLIMATE SCIENCE

Despite acknowledging that increased CO_2 concentrations due to fossil-fuel combustion posed a considerable threat, Exxon, Shell, and the other Defendants decided not to take steps to prevent the risks of climate change. Instead, they stopped pursuing internal climate research, and launched campaigns to discredit climate science and

[34] Benjamin Franta, *Shell and Exxon's secret 1980s climate change warnings*, The Guardian (Sept. 19, 2018), https://www.theguardian.com/environment/climate-consensus-97-per-cent/2018/sep/19/shell-and-exxons-secret-1980s-climate-change-warnings (citing The Greenhouse Effect, Shell International).

delay actions perceived as contrary to their business interests.[35] Defendants carried out these campaigns by: (1) developing public relations strategies that were contradictory to their knowledge and scientific insights, (2) engaging in public communications campaigns to promote doubt and downplay the threats of climate change, and (3) funding individuals, organizations, and research aimed at discrediting the growing body of publicly available climate science.

A. Defendants developed sophisticated public relations strategies to hide the risks of climate change and create doubt about the scientific consensus of global warming.

Defendants responded to public policy efforts to address the dangers of their products by concealing and denying the known hazards, in contradiction to earlier internal acknowledgments and statements made by industry scientists and executives.

In a 1988 internal memo, Exxon acknowledged that atmospheric CO_2 concentrations were increasing and could double in 100 years, that the combustion of fossil fuels was emitting five billion gigatons of CO_2

[35] Memo from A.M. Natkin to H.N. Weinberg re CRL/CO_2 Greenhouse Program, Exxon Corporation 1 (June 18, 1982), https://insideclimatenews.org/wp-content/uploads/2015/11/Budget-Cutting-Memo-1982.pdf.

per year, and that the "[g]reenhouse effect may be one of the most significant environmental issues for the 1990s."[36] But in this same memo, Exxon identified that its position would be to "[e]mphasize the uncertainty in scientific conclusions regarding the potential enhanced Greenhouse effect[.]"[37]

Shell followed suit. In contrast to Shell's 1988 report that recommended the prompt consideration of policy solutions, a 1994 internal report focused on scientific uncertainty, noting that "the postulated link between any observed temperature rise and human activities has to be seen in relation to natural variability, which is still largely unpredictable." Shell asserted that "[s]cientific uncertainty and the evolution of energy systems indicate that policies to curb greenhouse gas emissions beyond 'no regrets' measures could be premature, divert resources from more pressing needs and further distort markets."[38]

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[36] Memo from Joseph Carlson to DGL re The Greenhouse Effect 2 (Aug. 3, 1988), http://www.climatefiles.com/exxonmobil/566/.

[37] *Id.* at 7.

[38] P. Langcake, *The Enhanced Greenhouse Effect: A Review of the Scientific Aspects*, Shell Internationale Petroleum Maatschappij B.V. 17 (Dec. 1994), https://www.documentcloud.org/documents/4411099-Document11.html#document/p15/a411511.

Industry associations and groups, such as the Global Climate Coalition (GCC), exerted significant influence on the industry, including *inter alia* through their communications strategies.[39] Established in 1989, the GCC identified itself as "an organization of business trade associations and private companies . . . to coordinate business participation in the scientific and policy debate on the global climate change issue."[40] But in reality, the group opposed greenhouse gas regulation through lobbying, the funding of front groups, denial and disinformation campaigns, and other tactics.

In 1993, the GCC hired the public relations firm E. Bruce Harrison to develop and execute a communications plan,[41] which was implemented by API, the National Association of Manufacturers, the Chamber of Commerce, and other associations or coalitions of which Defendants were members. The central elements of this plan were to

[39] *See generally* Robert Brulle, *Advocating inaction: A historical analysis of the Global Climate Coalition*, Environmental Politics (2022), https://doi.org/10.1080/09644016.2022.2058815.

[40] *Global Climate Coalition: An Overview*, Global Climate Coalition 1 (Nov. 1996), http://www.climatefiles.com/denial-groups/global-climate-coalition-collection/1996-global-climate-coalition-overview/.

[41] O'Dwyer's Directory of Public Relations Firms, J.R. O'Dwyer Co., New York, NY (1995), at 85.

emphasize the potential economic costs of mitigation and to cast doubt on the science.[42]

In 1996, the GCC developed a primer that provided an overview of the group's position on climate change. While acknowledging that the planet was warming, the GCC claimed that humankind's role was "very small":

> The GCC believes that the preponderance of the evidence indicates that most, if not all, of the observed warming is part of a natural warming trend which began approximately 400 years ago. If there is an anthropogenic component to this observed warming, the GCC believes that it must be very small and must be superimposed on a much larger natural warming trend.[43]

This statement stands in contradiction not only to the internal memos and peer-reviewed papers published by Defendants' own scientists, but also to the final internal draft of the GCC primer itself, which stated that the "scientific basis for the Greenhouse Effect and the potential impacts of human emissions of greenhouse gases such as CO_2

[42] *See e.g.* Benjamin Franta, *Weaponizing economics: Big Oil, economic consultants, and climate policy delay*, Environmental Politics (2021), https://www.tandfonline.com/doi/full/10.1080/09644016.2021.1947636.
[43] *Global Climate Coalition: An Overview*, *supra* note 40, at 2.

on climate is well established and cannot be denied."[44] This language was removed before final publication. The final draft also concluded that contrarian theories failed to "offer convincing arguments against the conventional model of greenhouse gas emission-induced climate change."[45] This section was also removed by the GCC before final publication.

As their memoranda and statements show, Defendants deliberately shifted toward a strategy of uncertainty and delay that contradicted their own prior research.

B. Defendants engaged in public communications campaigns designed to manufacture doubt and downplay the threats of climate change.

Communications efforts aimed at the general public were a key part of Defendants' strategy. Defendants, individually and through their membership in trade associations, launched campaigns that

[44] Memo from Gregory J. Dana to AIAM Technical Committee re Global Climate Coalition (GCC) – Primer on Climate Change Science – Final Draft, Association of International Automobile Manufacturers 5 (Jan. 18, 1996), http://www.climatefiles.com/denial-groups/global-climate-coalition-collection/global-climate-coalition-draft-primer/.

[45] *Id.*

directly contradicted earlier statements recognizing a general scientific consensus on climate change and the magnitude of its effects.

In 1996, Exxon issued a publication titled "Global warming: who's right? Facts about a debate that's turned up more questions than answers," in which Exxon CEO Lee Raymond stated that "taking drastic action immediately is unnecessary since many scientists agree there's ample time to better understand climate systems[.]" The publication characterized the greenhouse effect as "unquestionably real and definitely a good thing," and as "what makes the earth's atmosphere livable." Directly contradicting the company's internal reports and peer-reviewed science, the publication attributed the increase in global temperature to "natural fluctuations that occur over long periods of time" rather than to anthropogenic sources.[46]

Also in 1996, API published "Reinventing Energy: Making the Right Choices," a book that stated that "there is no persuasive basis for forcing Americans to dramatically change their lifestyles to use less oil."

[46] *Global warming: who's right? Facts about a debate that's turned up more questions than answers*, Exxon Corporation 5 (1996), http://www.climatefiles.com/exxonmobil/global-warming-who-is-right-1996/.

The book denied the human connection to climate change, stating that no "conclusive—or even strongly suggestive—scientific evidence exists that human activities are significantly affecting sea levels, rainfall, surface temperatures or the intensity and frequency of storms."[47]

In addition to these public statements, Defendants developed, implemented and/or funded public affairs programs, aimed at shifting "America's social consciousness" by targeting specific people or groups with tailored messages.[48] From 1972 through 2014, Mobil and ExxonMobil ran advertorials (paid advertisements styled like op-eds or editorials) in *The New York Times* and other national newspapers.[49] They bought these advertorials because they wanted the "public to know where [they] stand" on climate change and other issues.[50]

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[47] Sally Brain Gentille et al., *Reinventing Energy: Making the Right Choices*, American Petroleum Institute 77 (1996), http://www.climatefiles.com/trade-group/american-petroleum-institute/1996-reinventing-energy/.

[48] *See e.g. Evolution of Mobil's Public Affairs Programs 1970-81*, Mobil 2, https://www.documentcloud.org/documents/5396414-Reduced-Evolution-of-Mobil-Public-Affairs-Program.html.

[49] *Exxon and Mobil Ads*, Polluter Watch, http://polluterwatch.org/exxon-and-mobil-ads.

[50] Mobil, *CNN and the value of instant replay*, New York Times (Oct. 16, 1997), http://www.documentcloud.org/documents/705559-mob-nyt-1997-oct-16-cnnslam.html.

In a 2017 peer-reviewed study, Dr. Supran and Dr. Oreskes compared ExxonMobil's internal and peer-reviewed scientific papers to its non-peer-reviewed external public communications on climate change (including 36 *Times* advertorials from 1989 to 2004), finding a stark contrast between the two. Dr. Supran and Dr. Oreskes found that 83% of peer-reviewed papers and 80% of internal documents acknowledged that climate change is real and human-caused, compared to only 12% of advertorials. Instead, 81% of advertorials emphasized doubt.[51]

Similarly, an industry-funded organization called the Information Council on the Environment (ICE) launched a national climate denial campaign (ICE was formed and supported by affiliates, predecessors and/or subsidiaries of Defendants).[52] ICE's primary strategy was to

[51] Supran and Oreskes, *supra* note 18, at 1.

[52] Among others, members included: Western Fuels Association, National Coal Association, Edison Electric Institute, Island Creek Coal Company (subsidiary of Occidental Petroleum), Peabody Coal Company, and Pittsburgh and Midway Coal Mining (subsidiary of Chevron). Kathy Mulvey and Seth Shulman, *The Climate Deception Dossiers: Internal Fossil Fuel Industry Memos Reveal Decades of Corporate Disinformation*, Union of Concerned Scientists 22 (July 2015), https://www.ucsusa.org/sites/default/files/attach/2015/07/The-Climate-Deception-Dossiers.pdf.

"reposition global warming as theory (not fact),"[53] a clear acknowledgement that global warming had previously been positioned and accepted as fact within the scientific community.

In 1996, API created the Global Climate Science Communications Team (GCSCT), which included representatives of fossil-fuel companies, public relations firms, and industry front groups and had the mission of undermining the global scientific consensus that climate change was real and human caused. In 1998, after the Kyoto Protocol was signed, the GCSCT developed a plan to launch a multi-million-dollar, multi-year "national media relations program to inform the media about uncertainties in climate science" and to "generate national, regional and local media coverage on the scientific uncertainties."[54]

In contrast to what the industry's scientists acknowledged for more than two decades internally and in peer-reviewed literature, the

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[53] Letter from Dr. Patrick Michaels, Information Council on the Environment 9 (May 15, 1991), http://www.ucsusa.org/sites/default/files/attach/2015/07/Climate-Deception-Dossier-5_ICE.pdf.

[54] *Global Climate Science Communications Team Action Plan*, American Petroleum Institute 4 (Apr. 3, 1998), http://www.climatefiles.com/trade-group/american-petroleum-institute/1998-global-climate-science-communications-team-action-plan/.

API strategy memo declared that "it not [sic] known for sure whether (a) climate change actually is occurring, or (b) if it is, whether humans really have any influence on it."[55] The memo articulated the association's intent to undermine the scientific consensus on climate change, stating that "Victory Will Be Achieved When":

- "Average citizens 'understand' (recognize) uncertainties in climate science; recognition of uncertainties becomes part of the 'conventional wisdom.'
- Media 'understands' (recognizes) uncertainties in climate science. . . .
- Those promoting the Kyoto treaty on the basis of extant science appear to be out of touch with reality."[56]

Exxon, Chevron, and API contributed to the development of the plan through their representatives Randy Randol, Sharon Kneiss, and Joseph Walker, respectively. Exxon, Chevron, and Occidental Petroleum also exerted influence through Steve Milloy, the executive director of a front group called The Advancement of Sound Science Coalition, which was funded in part by these companies. The roadmap further identified an array of industry trade associations, front groups,

[55] *Id.* at 1.
[56] *Id.* at 3.

fossil-fuel companies, and free-market think tanks that would underwrite and execute the plan.

C. Defendants funded individuals, organizations, and research to discredit the growing body of publicly available climate science.

Martin Hoffert, an Exxon scientist who authored several of Exxon's peer-reviewed papers on the CO_2 greenhouse effect, described the situation at Exxon as follows:

> Even though we were writing all these papers which were basically supporting the idea that climate change from CO_2 emissions was going to change the climate of the earth according to our best scientific understanding, the front office, which was concerned with promoting the products of the company, was also supporting people that we call climate change deniers . . . they were giving millions of dollars to other entities to support the idea that the CO_2 greenhouse [effect] was a hoax."[57]

Defendants advanced these arguments and contrarian theories as a means to manufacture public uncertainty and undermine climate science. For example, ExxonMobil, API, Southern Company, and other fossil fuel interests funded Harvard-Smithsonian aerospace engineer Dr. Wei-Hock Soon to publish and aggressively promote research

[57] Westervelt, *supra* note 16, Episode 2, The Turn (interview with Martin Hoffert at 11:07) (Nov. 15, 2018).

asserting that solar variability is the primary cause of global warming, even though the GCC had internally dismissed this theory as "unconvincing." Between 2001 and 2012, Soon received more than $1.2 million from the fossil fuel industry, including Defendants, to conduct research purported to be independent and to promote climate change theories that Defendants knew were not supported by the peer-reviewed scientific literature, including publications by their own scientists.[58]

In addition, Defendants funded industry front groups that denied and sought to discredit climate science. From 1998 through 2019, Exxon spent at least $37 million funding 69 organizations that misrepresented and persistently sought to discredit the scientific consensus that Defendants' fossil-fuel products were causing climate change.[59] In June 2021, Exxon senior director of federal relations Keith McCoy admitted to as much when he stated that the company

[58] Mulvey and Shulman, *supra* note 52, at 6.

[59] *ExxonMobil Foundation & Corporate Giving to Climate Change Denier & Obstructionist Organizations*, Union of Concerned Scientists (2019), https://ucs-documents.s3.amazonaws.com/clean-energy/exxon-mobil-grants-1998-2019.pdf.

"aggressively [fought] against some of the science" by using third party "shadow groups."[60]

In 2007, in response to an unprecedented rebuke by The Royal Society of London for Improving Natural Knowledge, ExxonMobil pledged to stop funding climate denier groups.[61] However, in direct contradiction to this public commitment and more recent statements acknowledging that the "climate change is real and [Exxon is] committed to being part of the solution,"[62] the company has continued to fund individuals and groups that spread misinformation on climate science or obstruct policy efforts to address global warming.[63] From 2008 through 2019, Exxon spent more than $14 million funding think

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[60] Lawrence Carter, *Inside Exxon's Playbook: How America's biggest oil company continues to oppose action on climate change*, https://unearthed.greenpeace.org/2021/06/30/exxon-climate-change-undercover/.

[61] *2007 Corporate Citizenship Report*, ExxonMobil 39 (2007), http://www.documentcloud.org/documents/2799777-ExxonMobil-2007-Corporate-Citizenship-Report.html.

[62] Suzanne McCarron, *A Better Approach on Climate Change*, ExxonMobil (Jan. 10, 2018), https://energyfactor.exxonmobil.com/perspectives/better-approach-climate-change/.

[63] Riley Dunlap and Aaron McCright, *Organized Climate Change Denial*, The Oxford Handbook of Climate Change and Society (2011), https://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780199566600.001.0001/oxfordhb-9780199566600-e-10.

tanks and lobby groups that reject established climate science, spread misinformation, and oppose the company's public positions on climate policy,[64] a clear indication that ExxonMobil continues to fund climate science misinformation through third-party individuals and organizations to this day.[65]

III. DEFENDANTS MOVED TO PROTECT THEIR OWN ASSETS FROM CLIMATE IMPACTS BASED ON THE SCIENCE THEY PUBLICLY DISCREDITED

While promoting public campaigns to undermine climate science and block policy action on climate change because the science was "too uncertain," Defendants took affirmative steps to protect their own assets from climate risks through internal research, infrastructure improvements, and plans to exploit new reserves in a warming world.

In 1989, Shell announced that its engineers were redesigning a $3 billion North Sea natural gas offshore platform to protect against sea

[64] *ExxonMobil Foundation & Corporate Giving to Climate Change Denier & Obstructionist Organizations, supra* note 59.

[65] Pattanun Achakulwisut et al., *Ending ExxonMobil Sponsorship of the American Geophysical Union* (Mar. 2016), https://www.documentcloud.org/documents/2803702-AGU-Report-Final-20160325.html.

level rise,[66] raising the 1.5 million metric ton structure by one to two meters at a cost of $16 million per meter.[67]

In 1994, when planning the Europipe project jointly owned and operated by Shell, Exxon, Conoco, Total and Statoil, the companies took sea level rise and other climate impacts into account in the design of the natural gas pipeline leading from a North Sea offshore platform to the German coast. In a document submitted to European authorities, the companies noted the impacts of sea level rise and the likely increase in frequency of storms as a result of climate change. While recognizing climate change as a "most uncertain parameter," they determined that the pipeline should be designed to account for climate impacts.[68]

In 1996, Mobil, Shell, and Imperial Oil (now majority owned by ExxonMobil) took similar steps to protect their investments in the Sable gas field project off the coast of Nova Scotia, Canada. Company

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[66] Amy Lieberman and Susanne Rust, *Big Oil braced for global warming while it fought regulations*, Los Angeles Times (Dec. 31, 2015), http://graphics.latimes.com/oil-operations/.

[67] *Greenhouse Effect: Shell Anticipates A Sea Change*, New York Times (Dec. 20, 1989), https://www.nytimes.com/1989/12/20/business/greenhouse-effect-shell-anticipates-a-sea-change.html.

[68] Lieberman and Rust, *supra* note 66.

engineers designed and built a "collection of exploration and production facilities along the Nova Scotia coast that made structural allowances for rising temperatures and sea levels."[69] As described in the design specifications, "[a]n estimated rise in water level, due to global warming, of 0.5 meters may be assumed" for the 25-year life of the Sable gas field project.[70]

As described above, Defendants took steps to protect their own assets from climate change, while concealing and denying the climate dangers caused by their products and blocking policies that could have protected the public from those same dangers.

IV. DEFENDANTS CONTINUE TO MISLEAD AND DECEIVE THE PUBLIC THROUGH GREENWASHING AND OTHER MISREPRESENTATIONS

Although Defendants no longer use the same tactics of outright climate denial, they continue to deceive the public through greenwashing and other forms of misleading advertising. Between 2016 and 2018, while touting their commitment to climate action, BP, Chevron, ExxonMobil, Shell, and Total spent nearly $200 million

[69] *Id.*
[70] *Id.*

annually on lobbying intended to control, delay, or block climate action and $195 million on climate-related advertising campaigns,[71] many of which mislead consumers about the impacts of their products. For example, Chevron's *Energy Challenge*[72] and API's *We're on it*[73] campaigns disingenuously promote natural gas as a means to reduce greenhouse gas emissions, despite the fact that natural gas is a significant source of CO_2 and methane.

More recently, Defendants have announced widely publicized commitments to the Paris Climate Accord or to achieve "net zero" emissions, typically by the year 2050, in a clear effort to appear committed to solving climate change. These commitments have been roundly discredited in academic literature,[74] investor analyses,[75] and a

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[71] InfluenceMap, *Big Oil's Real Agenda on Climate Change* 10 (Mar. 2019), https://influencemap.org/report/How-Big-Oil-Continues-to-Oppose-the-Paris-Agreement-38212275958aa21196dae3b76220bddc.

[72] Chevron, *The Power of Human Energy*, https://www.chevron.com/stories/the-power-of-human-energy).

[73] American Petroleum Institute, *Natural Gas Solutions: We're On It!*, https://www.api.org/news-policy-and-issues/natural-gas-solutions.

[74] Mei Li, Gregory Trencher and Jusen Asuka, *The clean energy claims of BP, Chevron, ExxonMobil and Shell: A mismatch between discourse, actions and investments*, PLOS ONE 17(2): e0263596 (2022), https://doi.org/10.1371/journal.pone.0263596.

[75] Global Climate Insights, *Initiation of coverage: BP* (2022), https://www.accr.org.au/research/initiation-of-coverage-bp/; Engine No.

wide range of independent assessments.[76] Nonetheless, Defendants and their executives continue to tout these pledges, even as they expand and increase production of oil and natural gas. Multiple independent analyses have concluded that BP,[77] Shell,[78] and Chevron[79] will all increase emissions by 2030, despite their highly publicized ambitions.

While Defendants promote these discredited pledges, their trade association, API, is working hard to defeat the very climate and energy policy that is needed to achieve the net zero goal, for example, by

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1, *Reenergize ExxonMobil: Investor Presentation* (2021), https://assets.contentstack.io/v3/assets/bltc7c628ccc85453af/bltab8cd50fae615bf1/6131f287504fe365615e557d/Engine-No.-1-Reenergize-ExxonMobil-Investor-Presentation.pdf; Follow This, *Investor Briefing* (2021), https://www.follow-this.org/investor-briefing/.

[76] Climate Action 100+, *Net Zero Company Benchmark* (2022), https://www.climateaction100.org/net-zero-company-benchmark/; Carbon Tracker, *Company Profiles* (2022), https://carbontracker.org/company-profiles/; World Benchmarking Alliance, *Oil and Gas Benchmark: Measuring the 100 most influential companies on their progress to 1.5°C* (2021), https://www.worldbenchmarkingalliance.org/publication/oil-and-gas/.

[77] Global Climate Insights, *Initiation of coverage: BP*, *supra* note 75.

[78] Global Climate Insights, *Initiation of coverage: Royal Dutch Shell* (2021), https://www.accr.org.au/research/initiation-of-coverage-royal-dutch-shell-rds-1/.

[79] World Benchmarking Alliance, *supra* note 76.

pledging to use "every tool at [its] disposal" to remove the climate provisions from Build Back Better currently before Congress.[80]

V. CONCLUSION

Defendants had actual knowledge of the risks associated with their fossil-fuel products as early as the late 1950s and no later than 1968. Despite their knowledge and expertise on climate science, Defendants publicly sowed doubt and contradicted these findings while affirmatively promoting the use of their products through various deceptive means. Defendants thus created the harms alleged by Plaintiff and therefore should be held liable in state court. Amici urge this Court to affirm the decision below.

RESPECTFULLY SUBMITTED this 21st day of April, 2022.

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[80] Matt Egan, *Big Oil is going all-out to fight climate rules in Build Back Better*, CNN (Oct. 3, 2021), https://www.cnn.com/2021/10/03/business/climate-biden-oil-reconciliation/index.html.

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Ron Kilgard