

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF PUERTO RICO

THE MUNICIPALITY OF SAN JUAN
PUERTO RICO,

Plaintiff

v/

EXXON MOBIL CORP, SHELL PLC F.K.A.
ROYAL DUTCH SHELL PLC, CHEVRON
CORP, BP PLC, CONOCOPHILLIPS,
MOTIVA ENTERPRISES, LLC, OCCIDENT
AL PETROLEUM F.K.A. ANADARKO
PETROLEUM CORP, BHP, ARCH
RESOURCES INC. F.K.A. ARCH COAL
COMPANY, RIO TINTO PLC, PEABODY
ENERGY, XYZ CORPORATIONS 1-100, and
JOHN AND JANE DOES 1-100

Defendants

CIVIL NO.: 23-cv-_____

PLAINTIFF DEMANDS
TRIAL BY JURY

COMPLAINT

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As the United Nations Secretary General Gutierrez 2023 stated
“Climate Breakdown Has Begun”

I. NATURE OF THE CASE

1. Plaintiff, the **Municipality of San Juan, Puerto Rico**, for the primary role that the Defendants' production, promotion, refining marketing, and sale of fossil fuel-based consumer product played in causing the losses, deaths and destruction of property resulting from the catastrophic storms of September 2017 and their aftermath. Moreover, for the losses and economic damages the Defendants' acts continue to cause, accelerate, and contribute to the deleterious alteration of Puerto Rico's climate, thereby damaging the Municipality of San Juan, Puerto Rico, and damaging the health, safety, and welfare of the people who reside in the Municipality.

2. Plaintiff seeks to impose liability on Defendants who misrepresented the dangers of the carbon-based products which they marketed and sold despite their early awareness of the devastation they would cause in Puerto Rico and the Municipality of San Juan in particular. Decades ago, each of the five Defendant companies and their subsidiaries sought and obtained scientific information establishing that products they marketed and sold in Puerto Rico accelerated climate change and the concomitant likelihood that Puerto Rico and thus the Plaintiff Municipality of San Juan, would be ravaged by dangerous, deadly storms. Once the Defendants obtained this information, they jointly and severally embarked on a corporate worldwide strategy to hide that information from the Plaintiff through a campaign of climate change denial and obfuscation of the ominous threat of storms to Puerto Rico.

3. Defendants used this information to implement protective strategies to maintain their economic monopoly of the world's energy supply, thwart alternative energy development and protect their own oceanic equipment and personnel. These intentional misrepresentations were relied upon by the Municipality of San Juan, believing that the purchase and use of Defendants' carbon-based products were safe and would not endanger the lives or livelihood of the residents therein. The Municipality of San Juan, Puerto Rico and its citizens thus relied upon the Defendants' misrepresentations to their detriment, resulting in the devastating destruction from the 2017

Hurricanes Irma and Maria and the ongoing economic losses since 2017.

4. As has long been recognized by the law of this Circuit¹, a plaintiff that is singularly vulnerable to the acts and omissions of the Defendants has been colloquially referred to as an "eggshell plaintiff." Tragically, Puerto Rico is an island in the notorious Hurricane Alley with warming waters and a rising sea that had no defense or warning that monster storms-worse than had ever occurred-would pummel it in 2017.

5. The 2017 Atlantic Hurricane season completely wrecked San Juan's entire infrastructure, leaving its citizens without electricity or full power for months, stranded from medical care, causing thousands to die, and rendering them homeless. As a direct consequence, the Municipality of San Juan, Puerto Rico and its citizens' basic human rights of life, liberty, and property were stripped from them, and they had to pay to try to obtain them. Because of the ferocity of the storms, however, they were unable to do so. Therefore, the Municipality lost the value of all services and property provided by the Commonwealth, some of which still have not been fully recovered or restored.

¹ "In personal injury law, it is well settled that in an action for damages, the tortfeasor 'tackles his victim as he finds him.'" *Doty v. Sewall*, 908 F.2d 1053, 1059 (1st Cir. 1990) (quoting *United States v. Feola*, 420 U.S. 671,685 (1975), rev'g *U. S. v. Alsondo*, 486 F.2d 1339 (2d Cir. 1973)); & (citing *Rardin v. T & D Mach. Handling, Inc.*, 890 F.2d 24, 28 (7th Cir. 1989) (tortfeasor liable for full extent of injury, even if unforeseeable); *Stoleson v. United States*, 708 F.2d 1217, 1221 (7th Cir. 1983) (explaining eggshell skull rule); *Pierce v. Southern Pac. Transp. Co.*, 823 F.2d 1366, 1372 n. 2 (9th Cir. 1987) ("when emotional injury causes physical manifestations of distress we can see no principled reason why the eggshell plaintiff rule should not apply"); *Puerto Rico v. Starling*, 382 Mass. 423,416 N.E.2d 929 (1981); *Puerto Rico v. Giacomazza*, 311 Mass. 456, 463, 42 N.E.2d 506 (1942); *Vosburg v. Putney*, 80 Wis. 523, 50 N.W. 403 (1891); and W. Prosser, *Handbook of the Law of Torts* 261 (4th ed. 1971)).

5. Instead of disclosing the truth about their products and their impact on Puerto Rico and on San Juan the Oil Defendants mobilized with the Coal Defendants and other fossil fuel-dependent companies in 1989 to form the "Global Climate Coalition" ("GCC"). Through IT Defendants funded a marketing campaign of deception that continues to this day, in violation of federal and Puerto Rico consumer protection rules, anticompetitive practices, racketeering statutes, and common law. Defendants reduced their deception to writing in a "Victory" memo in the spring of 1998 and continued to collude by investing billions into a fraudulent marketing scheme to convince consumers that their fossil fuel-based products did not-and would not-alter the climate, knowing full well the consequences of their combined carbon pollution on Puerto Rico.

Shell predicted in an internal "TINA" (There Is No Alternative²) scenario that a "series of violent storm "from the Atlantic Ocean would hit the eastern coast of the United States in 2010 and those storms would spark a class -action consumer fraud suit against fossil-fuel companies because the Defendants ignored what their scientists had warned them about for decades: **something must be done.**

² "There is no alternative" (TINA) was a slogan often used by British prime minister Margaret Thatcher. BERLTNSKJ, CLAIRE, THERE IS NO ALTERNATIVE: WHY MARGARET THATCHER MATTERS (2011). The phrase was used to signify Thatcher's claim that the market economy is the only system that works, and that debate about this is over. One critic characterized the meaning of the slogan as: "Globalized capitalism, so called free markets and *free* trade *were* the best ways to build wealth, distribute services and grow a society's economy. Deregulation's good, if not God." Laura Flanders, *At Thatcher's Funeral, By TINA, Too*, THE NATION (Apr. 12, 2013) <https://www.thenation.com/article/archive/thatchers-funeral-bwv-tina-too/> (last visited Nov. 5, 2022).

Twenty-five years after Shell's prediction, the Municipality of San Juan validates that prediction by bringing this class action.

7. The Defendants' culpable conduct addressed in this Complaint includes, but is not limited to:

- a) First, the Defendants proclaimed that climate change³ was not a real, imminent threat when they secretly had knowledge to the contrary.
- b) Second, the Defendant had a duty of disclosure under Puerto Rico and United States consumer protection laws but failed to disclose the following: (a) their own scientists confirmed climate change was an actual threat (b) their products were a direct cause according to projected climate modeling and (c) the anticipated effect upon Puerto Rico of their carbon waste in the atmosphere if their products continued to be sold at the increasing pace of their collective extraction refining and production.
- c) Third, also in violation of Puerto Rico and United States consumer protection laws, the Defendants masked the true source of their marketing scheme behind front groups, dark money funding, and fringe scientists for hire, thereby hiding their deceitful agenda.
- d) Fourth, the Defendants failed to warn the public, including San Juan, Puerto Rico, and its consumers, of the effects of their products on the environment. Instead, they scheme to maintain the energy production monopoly, lower prices, and thereby block the development of alternative energy sources.
- e) Fifth, the Defendants, who claim to be competitors, violated their own Better Business Practices, when they colluded to deceive the Plaintiff, who have suffered and will continue to suffer the disastrous economic effects of their products on the environment. San Juan, Puerto Rico, and its consumers fell victim to this carefully crafted corporate subterfuge-which was adopted by all Defendants-when they purchased Defendants' products, unaware that such products would create monster

³ For purposes of this Complaint, the terms "climate change" and "global warming" are defined by the United States Environmental Protection Agency (hereinafter "USEPA"). "Global warming" refers to the recent and ongoing rise in global average temperature near Earth's surface. It is caused mostly by increasing concentrations of greenhouse gases in the atmosphere. Global warming is causing climate patterns to change. However, global warming itself represents only one aspect of climate change. "Climate change" refers to any significant change in the measures of climate lasting for an extended period of time. In other words, climate change includes major changes in temperature, precipitation, or wind patterns, among other effects, that occur over several decades or longer. United States Environmental Protection Agency, *Climate Change: Basic Information* (Jan. 19, 2017), https://19january2017snapshot.epa.gov/climatechange/climate-change-basic-information_.html.

storms, debilitating flooding, and an ongoing public health crisis in Puerto Rico.

- f) Sixth, the Defendants were required by their own Best Business Practices, which they each adopted in the 1980s, to disclose what they internally knew about the coming disasters in the North Atlantic, rather than fund, both directly and through dark money channels, false denials that their products were causing disastrous climate change. For example, after the Valdez disaster, Exxon adopted a corporate approach entitled the Operations Integrity Management System (OIMS) designed to improve the company's performance on safety, health and environmental issue.⁴ Exxon claimed that tough internal evaluations of the performance on these issues of every part of the company's global organization mandated that safety health, and the environment were now top priorities.⁵ The company ostensibly enforced individual accountability for meeting these best practices through its personnel evaluation system, as a requirement for career advancement.⁶ But, as to the environment, the "top priority" was to lie to its customers in Puerto Rico and elsewhere.
- g) Seventh, Exxon scientists "have known since the 1970s that increased fossil fuel use would destabilize the climate and imperil the company's future production of oil and natural gas. Exxon's management was made aware of these findings, but instead of transparency the company funded campaigns to throw doubt about climate science, defeat climate litigation, delay action on climate, and publish a series of 'advertorial' intended to mislead the public."⁷ In addition the Defendants increased their production to monopolize their control of the world's energy and assure that any non-carbon energy producers would fail. Exxon used this false public presentation to persuade those outside the organization, including Puerto Rico and its consumers that it was telling the truth about the lack of evidence for climate change and that its products did not contribute to it.
- h) Eighth this artificial "improvement" in the corporate culture as to climate change was so convincing that after BP's huge Macondo well oil spill in the Gulf of Mexico in 2010, William Reilly the co-chair of President Barack Obama's National Commission on the BP Deepwater Horizon Oil Spill and Off-Shore Drilling, cited the safety culture and systems that Exxon developed after the Exxon Valdez spill as the "gold standard for safety in environment protection" to which other

⁴ Joseph A. Pratt, *Exxon and the Control of Oil*, 99 J. AM. HIST. 145-154 (June 1, 2012).

⁵ *Id.*

⁶ *Id.*

⁷ Richard Heede, *Carbon Producers' Tar Pit: Dinosaurs Beware*, CLIMATE ACCOUNTABILITY INSTITUTE, at 2 (Oct. 17, 2017), <https://ineteconomics.org/uploads/assets/Heede-PathToAccountability-18Oct17.pdf> (last visited Nov. 14, 2022).

companies should aspire.⁸ San Juan and its consumers relied on this carefully crafted corporate sophistry, which was the coordinated script followed by all of the Defendants, when they purchased their fossil fuel-based products, rather than the non-carbon energy alternatives.

- i) Ninth, the Defendants,⁹ as publicly traded companies, were required by their adopted Best Business Practices and corporate law to disclose to their investors that their products were contributing to the magnitude and acceleration of climate change and that these corporate acts and their deceit of the public, including Puerto Rico and its consumers, would not only increase the ferocity of storms that hit Puerto Rico's shores but would inevitably result in a catastrophic loss of lives and property such as occurred in 2017. Instead, Exxon and the other Defendants used the public display of their so-called Best Business Practices to suppress from their investor and customers the truth about the actual effects on climate change of the increased use of their products and the likely liability that each Defendant would incur for the devastation of property, liberty and life of Puerto Rico and its consumers in September 2017.

9. The Defendants have intentionally interfered with the citizens and residents of the Municipality of San Juan's rights to life, liberty, and the enjoyment of property as guaranteed by Article II, Section 7 of the Constitution of Puerto Rico. The Defendants have also interfered with Puerto Rico and its consumer human rights as recognized in Section 20, Article 11 of the Puerto Rico Constitution guaranteeing citizens the right to education, to obtain employment, an adequate standard of living, social protection, and family assistance. The Defendants have built and maintained multiple business empires at the expense of these constitutional rights.

10. This Complaint does not seek to impose liability to restrain or interfere with Defendants' ability to participate in public debates about climate change, or otherwise interfere with Defendants' speech. This Complaint does not seek to enjoin any oil and coal operations or sales,

⁸ Pratt, *supra*, at 152, fn. 5 ("For a report that describes the inner workings of the Operations Integrity Management System and includes statistics on regulatory compliance, oil spills, and air emissions, see ExxonMobil, "Safety, Health, and Environment," in *Corporate Citizenship in a Changing World* (Irving, 2002), 6-15. William Remy repeated this assessment of Exxon's safety culture and systems in the commission's report and in the media. For a video that shows Reilly making this statement, see Day 2, Panel V, National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling: Meeting 5, <http://www.oilspillcommission.gov/meeting-5/meeting-details>. See also, Jeffrey Ball, "Lessons from the Gulf," *Wall Street Journal*, March 7, 2011, p. RS.").

⁹ Except for Motiva, LLC, a privately held company.

or to enforce emission controls of any kind, nor damages or abatement relief for damages to or occurring on federal lands. The Municipality of San Juan, does not seek damages, or any relief based on any activity by Defendants that could be considered petitioning federal, state, or local governments. Nor does the Plaintiff claim damages for future storms or catastrophes caused by Defendants' misconduct, but just the losses that Plaintiff Municipality of San Juan suffered beginning with the hurricane in September 2017 and all of the ensuing impacts upon it and the island's health, education, welfare, infrastructure, and economy.

11. This complaint alleges consumer fraud, racketeering, antitrust, fraudulent misrepresentation, negligent misrepresentation, negligent fraudulent concealment con piracy to defraud, products liability, strict liability failure to warn, negligent failure to warn, and unjust enrichment, as a result of the devastating storms of September 2017, and the aftermath of those storms which occurred as a result of the Defendant's acts and omissions.

II. JURISDICTION AND VENUE

12. This Court has jurisdiction over this action in accordance with 28 U.S. §1332(a) because the Municipality of San Juan and the named Defendants are citizens of different states and the amount in controversy exceeds \$75,000 exclusive of interest and costs.

13. Further, this Court has personal jurisdiction over Defendants because they conduct business in Puerto Rico, purposefully direct or directed their action toward Puerto Rico, marketed their campaign of deception in Puerto Rico sold their consumer product in Puerto Rico and some or all consented to be sued in Puerto Rico by registering an agent for service of process, and because they have the requisite minimum contacts with Puerto Rico to permit the Court to exercise jurisdiction.

14. The citizens and residents of the Municipality of San Juan and the Municipality itself, purchased Defendants' products, which burn carbon-based fuels.

15. The citizens and residents of the Municipality of San Juan have invested in the publicly traded corporate Defendants.

16. This Court also has personal jurisdiction over all the Defendants under 18 U.S.C. §1965(b). This Court may exercise nationwide jurisdiction over the named Defendants where the "ends of justice" require national service and Plaintiff demonstrate national contacts. Here, the interests of justice require that the Municipality of San Juan be permitted to bring the Defendants before the Court in a single trial.

17. Venue is proper in this District pursuant to 28 U.S.C. §1391 and 18 U.S. §1965, because a substantial part of the events or omissions giving rise to the claims occurred in this District, virtually all of the property that is the subject of the claim is located in the District, and each Defendant transacted affairs and conducted activity that gave rise to the claims for relief in this District. 28 U.S.C. §1391(b); 18 U.S.C. §1965(a).

III. NO STATUTE OF LIMITATIONS BARS PLAINTIFF'S CLAIMS

18. No statute of limitation can be pleaded against the Plaintiff as the allegations and losses are continuous, wrongful, and ongoing and the Defendants' wrongful conduct has just recently come to the knowledge of the Municipality of San Juan.

19. Plaintiff seeks redress for the protection, defense, and economic recovery of the public properties of the Municipality of San Juan, and the common right of the people of the Municipality to it. Puerto Rico Municipal Code, PRS ST T. 21 § 7001 et seq.¹⁰

20. Under Puerto Rican law, it is logical and necessary for the protection of such important goods held or distributed by the Plaintiff Municipality that clearly and

¹⁰ The patrimony of the Municipality of San Juan, will be constituted by the set of assets, rights and shares that belong to them. The assets of the Municipality of San Juan, will be in the public domain assets and patrimonial assets. Public domain assets are those intended for public use or service, such as squares, streets, avenues, promenades and public works and general service works paid for by the municipality with public funds. Public domain assets are inalienable, unattachable and are not subject to any taxes." PRS ST T. 21 § 7181.

unequivocally establish the non-applicability of the limitation period to the rights, interests, property losses, actions and claims of the Municipality of San Juan on behalf of public property as part of the public policy of the Government of the Municipality of San Juan in order to protect the people's assets that underpin the common welfare. *See, Caballero Velazquez v. Autonomo Municipality of Carolina*, 2014 WL 5343480 (2014).¹¹

21. Plaintiff's claims are further subject to equitable tolling, stemming from Defendants' knowingly and fraudulently concealing the facts alleged herein. Defendants knew of the wrongful acts set herein, retained material information pertinent to their discovery, and continue to conceal them from the Municipality of San Juan and its citizens. The Plaintiff did not know and could not have known through the exercise of reasonable diligence, of its causes of action, as a result of Defendants' misrepresentations.

22. The purpose of the statutes of limitation period is satisfied because Defendants cannot claim prejudice due to a late filing where the Plaintiff filed suit promptly upon discovering the facts essential to its claim, described herein, which Defendants knowingly concealed.

23. Defendants continually and secretly engaged in their scheme to avoid compliance with their legal obligations. Only Defendants and their agent knew or could have known about Defendants' unlawful actions because Defendants made deliberate efforts to conceal their conduct.

¹¹ In Puerto Rico, "[p]ublic goods are those private goods, belonging to the State or its subdivisions or individuals, who have been affected to allocate them to a public use or service. These public goods are called goods for use and public domain". Article 238 Puerto Rico Civil Code, Act 55-2020. "Other public assets are declared the patrimony of the People of Puerto Rico due to their interest or value ecological, historical, cultural, artistic, monumental archaeological, ethnographic, documentary or bibliographic". Article 239, *Id.* The Puerto Rico Civil Code further states that: "Public goods are inalienable, unattachable and imprescriptible. Its private use by people can be carried out only through the concessions permitted by law". Article 240, *Id.* The Civil Code also defines common goods as: "those whose property does not belong to anyone in particular and in which all persons have free use, in accordance with their own nature: such are the air, rainwater, the sea and its shores" Article 241, *Id.* Neither common goods nor public domain goods can be sold or mortgaged as they are inalienable, imprescriptible, and unambiguous. *Rubert Armstrong v. E.L.A.*, 97 DPR 588,615 (1969); *Figueroa v. Municipality of San Juan*, 98 DPR 534, 562-563 (1970). *See, M.J. Godreau, J.A. Giusti, Las Concesiones de la Corona and land ownership in Puerto Rico, XVI-XX centuries: A legal study*, 62 REV. Jur. U.P.R. 351, 562-564 (1993). Consequently, the right of use cannot be invoked against them because they are not eligible for appropriation, regardless of the time elapsed.

As a result of the above, the Plaintiff is, and has been, unable to obtain vital information bearing on its claims without any fault or lack of diligence on its part.

IV. THE PARTIES

A. Plaintiff: The Municipality of San Juan

~~24.~~ 24. Plaintiff, **Municipality of San Juan**, is a governmental entity formed as a municipality within and in accordance with the laws of the Commonwealth of Puerto Rico. San Juan, is the capital city of Puerto Rico and is a municipality located in the northern coastal valley of the island, with an area of 199 square kilometers (77.0 square miles) and a population of 342,259 living in 12 wards.

25. Municipalities in Puerto Rico are the second-order administrative divisions in the Commonwealth of Puerto Rico. There are 78 such administrative divisions covering all 78 incorporated towns and cities. Each Municipality is led by a mayor and divided into *barrios*, though the latter are not vested with any political authority. Every municipality in Puerto Rico is governed by the Municipal Code, which establishes that each Municipality is:

[A] legal entity of local government, subordinated to the Constitution of Puerto Rico and its laws, whose purpose is the local common good and, within this and primarily, attention to issues, problems, and collective needs of its inhabitants. Each municipality has independent and separate legal capacity from the state government of Puerto Rico, with perpetual succession and legislative, administrative, and fiscal capacity in all matters of municipal nature. 21 L.P.R.A. §7011.

26. The Municipality of San Juan, suffered devastating effects of the 2017 Atlantic Hurricane Season and is representative of the remaining 77 Municipalities in the Commonwealth of Puerto Rico.

27. Plaintiff has suffered independent damages to its property, resources, money paid to the Defendants, lost taxes, interests, costs of repairing and replacing the infrastructure, and devastation to the Plaintiff's economy as the direct and proximate cause of the tortious acts of the

Defendants as stated herein.

28. Plaintiff the Municipality of San Juan brings this action to recoup damages sustained and continue to be sustained, from the devastating effects of the monster storms of the 2017 Atlantic Hurricane Season.

29. The Plaintiff, therefore, has met the constitutional standing requirement of Article III of the United States Constitution, in that the Municipality of San Juan is more than a nominal party in this cause.

30. As the impacts of climate change grow more severe, they will do more harm to Plaintiff and cause greater damages. Alone, Plaintiff and its citizens cannot pay the full costs to abate continuing damages caused by climate change, nor should they.

31. Instead, the costs must be borne by the culpable Defendants because they knowingly caused and contributed to the worsening of the climate change by producing, promoting, refining, marketing, and selling fossil fuel products to the Plaintiff and others that have caused and continue to cause the devastating effects of climate change, while concealing and misrepresenting the dangers associated with the use of fossil fuel-based products, including the increased frequency of more dangerous storms.

32. Plaintiff asks, instead, that Defendants remediate the damages caused by their intentional, reckless, and negligent conduct and misrepresentations, specifically by paying the costs Plaintiff have incurred and continue to incur because of the Defendants' primary contribution to the alteration of the climate. In addition, Plaintiff seeks the return of the multi-millions of dollars it has spent purchasing the Defendants' products, plus interest.

33. The Municipality of San Juan, and its citizens and residents were not forewarned of the predicted storm devastation by the Defendants although it was Defendants' duty to do so. The Municipality has taken substantial steps to reduce its carbon footprint and protect itself from storms, but has been unable to stop, or even slow down, the onslaught because the Defendants hid the facts

while keenly aware that their products were the primary cause of the increase in magnitude and the acceleration of climate change, increasing the frequency of higher intensity storms by 2017.

34. Defendants cannot contest the reasonableness or necessity of the Municipality's climate response. While Defendants publicly fought against climate science - to protect their profits from the impacts of regulation and informed choice by the Municipality - they secretly relied on the same established science to protect their businesses from climate change impacts. Now that the Municipality has been forced to grapple with and respond to climate change, Defendants cannot contest the necessity of that response or their reliance on climate science.

B. The Defendants

35. Defendants' production, promotion, marketing, sale, and use of fossil fuel-based consumer products actually and proximately caused Puerto Rico and its consumers' damages in September 2017 and thereafter. The Defendants protected their energy monopoly and blocked alternative energy source development by increasing production and keeping prices low. While denying the known hazards of those products, they championed anti-regulation and anti-science propaganda, upon which consumers detrimentally relied. The Defendants are responsible for a substantial portion of the total worldwide greenhouse gases emitted between 1965 to present date and represent more than a substantial cause, jointly and severally, for the Atlantic Hurricane storms that devastated Puerto Rico in 2017.

36. About three quarters of all industrial CO₂ emissions in history have occurred since the 1960s and more than half have occurred since the late 1980's.¹² The annual rate of CO₂ emissions from production, consumption, and use of fossil fuels has increased by more than 60% since 1990.¹³ cumulative carbon analysis allows an accurate calculation of net annual CO₂ and methane emissions attributable to each Defendant by quantifying the amount and type of fossil fuel products

¹² R. J. Andres et al., *A synthesis of carbon dioxide emissions from fossil-fuel combustion*, 9 BIOGEOSCIENCES 1845, at 1851 (2012), <https://bmc-emicus.org/articles/9-1845/2012/b-9-1845-2012.df>. (last visited Nov. 14, 2022).

¹³ Le Quere et al., *Global Carbon Budget 2016*, 8 EARTH SYST. SCI. DATA 605, at 630 (2016), <https://essd.copernicus.org/articles/8/605/2016/essd-8-605-2016.pdf>. (last visited Nov. 14, 2022).

each Defendant extracted and placed into the stream of commerce, and multiplying those quantities by each fossil fuel product's carbon factor.¹⁴

37. The Defendants, listed below, (along with their co-venturer carbon majors) are directly responsible for at least **40.01%** of all global industrial Greenhouse Gases Emissions (GHG emissions) from 1965-2017 as follows and more detailed herein:

Exxon	3.73%
Shell	13.00%
Chevron	6.65%
BP	4.89%
ConocoPhillips	1.12%
Motiva	4.38%
Occidental	.8%
BHP	1.57%
Arch Resources	.53%
Rio Tinto	.49%
Peabody	<u>2.85%</u>
	40.01%

38. These GHG's are gases in the Earth's atmosphere that trap heat. Thus, these Oil and Coal Defendants were more than a substantial factor contributing to the Municipality's damages in September 2017 and thereafter.^{15 16}

¹⁴ Richard Heede, *Tracing Anthropogenic Carbon Dioxide and Methane Emissions to Fossil Fuel and Cement Producers, 1854-2010*, 122 CLIMACTIC CHANGE 229-241 (2014), <https://link.springer.com/content/pdf/10.1007/s10584-0J3-0986-v.pdf>; see also, Richard Heede, *Carbon Majors: Update of Top Twenty companies 1965-2017*, CLIMATE ACCOUNTABILITY INSTITUTE (Oct. 9, 2019), <https://climateaccountability.org/wp-content/uploads/2020/12/CAI-PrcessRelease-Top20-Oct19.pdf> (last visited Nov. 14, 2022).

¹⁵ As delineated in full below, the Oil Defendants are Exxon, Shell, Chevron, BP, ConocoPhillips, Motiva, and Anadarko. The Coal Defendants are BHP Billiton, Arch Coal, Rio Tinto, and Peabody.

¹⁶ Jiarni Chen, et al., *How Much Have the Oil Supermajors Contributed to Climate Change? Estimating the Carbon Footprint of the Oil Refining and Petroleum Product Sales Sectors*, NEW YORK: COLUMBIA CENTER ON SUSTAINABLE INVESTMENT, at 7 (Mar. 2022) <https://ccsi.columbia.edu/sites/default/files/content/docs/publications/ccsi-oil-supennajors-carbon-footprinl-refining-sales-climate-change.pdf> (last visited Nov. 14, 2022). ("The petroleum products sales sector sold a total of 1,128.06 billion barrels of petroleum products from 1980 to 2019, leading to emissions of 508.43 Gt C02e, nearly doubling its annual carbon footprint over the period. The super majors jointly account for 35.03% of the cumulative carbon footprint of the sector from 1980 to 2019, which reflects the market concentration in the sector. The oil refining sector refined a total of 984.45 billion barrels of crude oil from 1980-2019, leading to emissions of 442.84 Gt C02e, with a 51.08% increase in annual carbon footprint over the period. The super majors jointly account for 22.86% of the cumulative carbon footprint of sector from 1980-2018, which reflects a lower but still significant market concentration in the refining sector most super majors fail to report scope 3 emissions comprehensively, and in any event, there is a lack of time-series data of scope 3 emissions. In addition, the volume and emission accounting method might underestimate emissions in three ways: by omitting the emissions of third parties in the company's value chain playing with boundaries, or omitting data from non-operated JV s.").

39. Decades ago, the Oil Defendants knew that their fossil fuel activities were occurring at a level that substantially contributed to a dramatic rise in the concentration of GHG in the atmosphere; that significant temperature changes were likely to result, which would, in turn bring about climatic changes such as the increased frequency of higher intensity and dangerous storms; that immediate action was required and that there were only two choices: for our civilization to suffer a warmer planet with severe consequences for Puerto Rico in the hurricane-threatened Caribbean, or to avoid the danger by sharply curtailing the sale and use of fossil fuels.

40. Had the Defendants reduced their sale and use of carbon-based products, the effects of climate change which cause oceans to rise and warm would not have occurred at such an accelerated pace and, more likely than not the Municipality would not have suffered the intensity of the 2017 storm and subsequent losses and damages.

41. Despite this knowledge and a duty to act, the Oil Defendants -who claim to be competitors-nevertheless engaged in a coordinated, multi-front effort to conceal and deny their own knowledge of those threats, and persistently deceive customers, consumers, regulators, the media, journalists, teachers, and the public about the reality and consequences of the impact of their fossil fuel pollution. This was done so that the Municipality of San Juan, among others, would rely on the e misrepresentations and continue to purchase their products, unaware that the pace of the occurrence of such ferocious storm would be accelerated, culminating in September 2017.

42. At the same time, the Defendants collectively promoted and profited from a massive increase in the extraction and consumption of oil, coal, and gas, which has in turn caused an enormous, foreseeable (by the Defendants), and avoidable increase in GHG pollution and an increase in the concentration of GHG, most particularly CO₂ and methane, in the Earth's atmosphere and the concomitant likelihood that Puerto Rico would suffer from monster storms.

The production increase was initiated and continued to maintain the Defendants' monopoly on energy sales, maintain low prices and delay the development of alternative energy sources.

43. This deceptive conduct, and the Municipality of San Juan, reliance thereon, caused a wide range of dire climate-related effects, including global warming, rising atmospheric and ocean temperatures, ocean acidification, coral reef destruction, melting polar ice caps and glaciers, rising sea levels coastal erosion and more extreme and volatile storms.

44. Without disclosing the Defendants' knowledge of the dangers that continued fossil fuel overuse posed, the Defendants spent decades producing, promoting, refining, marketing, and selling fossil fuel-based consumer products to the Municipality and its citizens and residents, among others, at increasing levels that have caused and contributed to the alteration of the climate and the increased frequency of ferocious storms, while their profits rose, and alternative energy sources floundered.

45. Meanwhile, the Municipality and its citizens and residents became dependent on oil and coal without knowing about the coming devastation which the Defendants suppressed. Two-thirds of the energy used in Puerto Rico comes from petroleum products,¹⁷ which are all imported, principally through the ports of San Juan, Guayanilla, and Ponce.^{18, 19} The Defendants provided this immediate availability to the Municipality to prevent them from seeking other energy sources.

46. More than nine-tenths of Puerto Rico's petroleum imports are residential fuel, motor gasoline, and distillate fuel that serve Puerto Rico's electric power and transportation sectors.²⁰

¹⁷ U.S. Energy Information Administration ("EIA"), *Puerto Rico Territory Energy Profile*, U.S. ENERGY INFORMATION ADMINISTRATION (last updated December 16, 2021), <https://www.eia.gov/state/print.php?sid=R0> (last visited Nov. 14, 2022).

¹⁸ *Id.*

¹⁹ *Id.*

²⁰ *Id.*

Conventional motor gasoline makes up more than one-third of annual petroleum product imports.²¹ About 40% of Puerto Rico's electricity generating capacity is fired with No. 6 residual fuel oil and 30% with No. 2 diesel fuel.²² Thus, the Defendants maintained their energy monopoly in Puerto Rico by conspiring, and succeeding, in keeping prices low, to prevent the development of non-carbon-based energy sources.

47. The Oil Defendants' various refining "upstream" operations utilize Buckeye Partners, LP to provide their oil-based products in Puerto Rico.

48. The Defendants' current and future fossil fuel activities continue to accelerate and exacerbate climate change and its impacts. Defendants continue their fossil fuel activities at increased levels. While they may now begin to acknowledge the reality of climate change, and their contribution to it, Defendants still plan to increase their fossil fuel discovery and sales long into the future.

49. The Municipality of San Juan will have to bear the costs of the Defendants' past and future culpable acts, although they did not contribute thereto.

50. Defendants hid the dangers and harm they knew were occurring and would continue to occur because of their levels of fossil fuel sales and affirmatively misrepresented to the Plaintiff the dangers of unchecked fossil fuel use. Furthermore, Defendants protected fossil fuel demand, worked to lull consumers, like those represented by the Plaintiff, into a false sense of security with regard to the impacts of fossil fuels on climate change, and obstructed switching to alternative energy sources needed to prevent or at least minimize the impacts of climate change. Had they made those changes when they knew that a reduction in carbon-based fuels was necessary to avoid

²¹ *Id.*

²² *Id.*

these storm-related impacts, then the Plaintiff would, more likely than not, have avoided the severe storms of 2017 and the aftermath.

51. When reference in this complaint is made to an act or omission of the Defendants, unless specifically attributed or otherwise stated, such references mean that the officers, directors, agents, employees, or representatives of the Defendants committed or authorized such an act or omission, or failed to adequately supervise or properly control or direct their employees while engaged in the management, direction, operation or control of the affairs of Defendants, and did so while acting within the scope of their employment or agency. In addition, the Defendants were acting jointly and severally at all times when contributing to the damages claimed by the Plaintiff.

1. Oil Defendants

52. **Exxon Mobil Corp.** is incorporated in New Jersey, with its principal place of business in Irving, Texas. It is registered with the SEC and is traded as XOM. Exxon, along with Defendants, BP, Shell, Chevron and their predecessor corporations constituted a group in the 1970's known as the "Seven Sisters"²³ which controlled around 85% of the world's petroleum reserves.²⁴

53. Exxon is an American multinational oil and gas corporation and has consistently ranked as the world's second largest company by revenue.²⁵ It is one of the largest of the world's Big Oil companies.²⁶

²³ "Seven Sisters" was a common term for the seven transnational oil companies of the "Consortium for Iran" oligopoly or Enterprise, which dominated the global petroleum industry from the mid-1940s to the mid-1970s. Alluding to the seven mythological Pleiades sisters fathered by the titan Atlas, the business usage was popularized in the 1950s by businessman Enrico Mattei, then-head of the Italian state oil company Eni. The industry group consisted of Anglo-Iranian (started as Anglo-Persian) Oil Company (now BP), Gulf Oil (later part of Chevron), Royal Dutch Shell, Standard Oil Company of California (SoCal, now Chevron), Standard Oil Company of New Jersey (Esso, later Exxon, now part of Exxon Mobil), Standard Oil Company of New York (Socony, later Mobil, also now part of ExxonMobil), and Texaco (later merged into Chevron).

²⁴ Ian Mann, *Shaky industry that runs the world*, THE TIMES (Jan. 24, 2010),

<https://www.timeslive.co.za/ideas/2010-01-24-shaky-industry-that-runs-the-world/> (last visited Nov. 14, 2022)

²⁵ Fortune, *Global 500*, FORTUNE 500, <https://fortune.com/fortune500/2022/> (last visited Nov. 14, 2022)

²⁶ *Id.*

54. Exxon is vertically integrated and is active in every area of the oil and gas industry, including exploration and production, refining, transport, distribution and marketing, petrochemicals, plastics, power generation and trading.

55. When ranked by oil and gas reserves, Exxon is ranked 14th in the world.²⁷ Exxon's reserves were valued at \$20 billion at the end of 2017.²⁸ Exxon's total assets at the end of 2018 were valued at 346.2 billion.²⁹

56. Exxon manages directly, and controls it and its subsidiaries' policies, and practices related to climate change and fossil fuel production. Exxon is the second largest investor-owned greenhouse gas emitter.³¹

57. Exxon is the largest non-government owned company in the energy industry and produces about 3% of the world's oil and about 2% of the world's energy.³² Exxon is organized functionally into a number of global operating divisions, namely Upstream, Downstream and Chemical, such as Exxon Coal & Minerals, Inc. It also owns hundreds of smaller subsidiaries, all fossil fuel based, such as Imperial Oil Limited (69.6% ownership) in Canada, and SeaRiver Maritime a petroleum shipping company.

58. Exxon's upstream operation includes exploration, extraction, shipping, and wholesale operations, is based in Houston, Texas and constitutes the majority of ExxonMobil's revenue,

²⁷ Steve Forbes, *Will We Rid Ourselves of This Pollution?*, FORBES (Mar. 20, 2007)

https://www.forbes.com/forbes/2007/0416/033.html?sh=3_0a237f22f4 (last visited Nov. 14, 2022).

²⁸ Exxon Mobil, *Exxon Mobil Corporation All 2013 Reserves Replacement Totaled 103*, EXXONMOBIL (Feb. 21, 2014), <https://ir.exxonmobil.com/news-releases/news-release-detail/exxon-mobil-corporation-announce-2013-reserves-replacement> (last visited Nov. 14, 2022).

²⁹ Exxon Mobil, *2018 Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 (Form JOK)*, EXXONMOBIL (Feb. 27, 2019), <https://www.sec.gov/Archives/edgar/data/34088/000003408819000010/xoml0k2018.htm> (last visited Nov. 14, 2022).

³⁰ Exxon Mobil, *2018 Financial & Operating Review*, EXXONMOBIL (2019) <https://comorate.exxonmobil.com/media/Global/Files/annual-report/2018-Financial-and-Operating-Review.pdf> (last visited Nov. 14, 2022).

³¹ Rosian Khasawneh, *Exxon Mobil Eyes Multi-Billion Dollar Investment at Singapore Refinery: Executive*, REUTERS (Oct. 3, 2018), <https://www.reuters.com/article/us-singapore-bunker-sibcon-exxon-mobil-idUKKCN1MD0EF> (last visited Nov. 14, 2022).

accounting for approximately 70% of the total.³² In 2014, the company had 25.3 billion barrels (4.02x10⁹ m³) of oil-equivalent reserves.³³

59. Exxon's downstream operation, consisting of marketing, refining, and retail operations, is based in Houston, Texas. Exxon merged its refining and marketing divisions, namely ExxonMobil Refining and Supply Company and ExxonMobil Fuels, Lubricants & Specialties Marketing Company in 2018, which enables ExxonMobil to generate more cash flow from downstream activities - helping the energy giant to counter the volatility in its upstream business. ExxonMobil reported only \$196 million profit from its upstream operation during 2016, following persistent weak crude prices, compared to as high as \$8.8 billion earnings from the downstream (consumer) and chemical businesses.³⁴ Upon information and belief, Exxon's downstream operation includes sales of its petroleum-based consumer products in Puerto Rico.

60. Exxon is one of the top worldwide producers of polyolefins and other polymers and resins.³⁵

61. In 2008, Esso Standard Oil PR, a subsidiary of Exxon, sold its 145 service stations and access to terminals and airports in Puerto Rico and St. Thomas to Total Petroleum Puerto Rico Corp. (TPPRC), a subsidiary of the Total Group.³⁶

62. Exxon Mobil Chemical is a petrochemical company which was created by merging Exxon's and Mobil's chemical industries. Its principal products include basic olefins and

³² Exxon Mobil, *ExxonMobil Financial and Operations Summary: Overview and Highlights*, EXXONMOBIL (2018) <https://web.archive.org/web/20181024231915/https://corporate.exxonmobil.com/en/company/annual-report/financial-operating-highlights> (last accessed Apr. 5, 2018).

³³ Reuters, *Exxon Mobil 2014 Reserves Up on Oil Sands, Shale*, REUTERS (Feb. 23, 2015), <https://www.reuters.com/article/exxonmobil-reserves-idUKL1NOVXIIN20150223> (last visited Nov. 14, 2022).

³⁴ Reuters, *Exxon Mobil CEO makes first big changes to refining*, REUTERS (Nov. 27, 2017) <https://www.reuters.com/article/us-exxon-mobil-restructuring-idUSKBNIDROJJ> (last visited Nov. 14, 2022).

³⁵ Polymerdatabase.com, *Plastic Manufacturers*, PLASTICS TECHNOLOGY <https://polymerdatabase.com/Polymer%20Brands/Plastic%20Manufacturers.html>. (last accessed Apr. 5, 2018).

³⁶ Total Energies, *Total/Energies in Puerto Rico*, TOTALENERGIBS (2022) <https://totalenergies.com.pr/en/total-puerto-rico/totalenergies-puerto-rico> (last visited Nov. 14, 2022).

aromatics, ethylene glycol, polyethylene, and polypropylene along with specialty lines such as elastomers, plasticizers, solvents, process fluids, oxo alcohols and adhesive resins.

63. Exxon's "Mobil I" brand is the market leader in high-value synthetic lubricants and is sold in Puerto Rico.³⁷

64. Exxon's "Infineum" line is a joint venture with Royal Dutch Shell and manufactures and markets petroleum additives for the fuel and lubricant industries to commercial and consumer markets.³⁸ The Infineum line manufactures and markets crankcase lubricant additive, fuel additives, and specialty lubricant additives, as well as automatic transmission fluids, gear oils, and industrial oils.³⁹ Infineum is a formulator, manufacturer and marketer of petroleum additives for the fuel and lubricant industries. Their products include small engine, passenger car motor, heavy-duty engine, gas engine and marine oils along with fuels, transmission fluids, viscosity modifiers, and pour point depressants.⁴⁰ Their products are classified into five distinct groups: driveline additives engine oil additives, fuel additives, marine additive and industrial products and are sold worldwide, including Puerto Rico.

65. Exxon advertises, markets, and sells its products in Puerto Rico. At all relevant times, the Plaintiff has been, and remains, a customer of Exxon. The Municipalities of Puerto Rico and/or their citizens have invested in Exxon as a publicly traded company.

³⁷ ExxonMobil, *ExxonMobil 2018 Financial & Operating Review*, EXXONMOBIL (Apr. 2, 2019) <https://corporate.exxonmobil.com/-/media/Global/Files/annual-report/2018-Financial-and-Operating-Review>. (last visited Nov. 14, 2022).

³⁸ Jack W. Plunkett, *Plunkett's Chemicals, Coatings & Plastics Industry Almanac: The Only Complete Guide to the Chemicals Industry* (2009).

³⁹ *Id.*

⁴⁰ Bloomberg, *Infineum International Limited - Company Profile and News*, BLOOMBERG <https://www.bloomberg.com/profile/company/257346Z:LN?leadSource=veo20wall> (last visited Nov. 14, 2022).

66. Exxon also has a known joint venture with another carbon major, Petrobras,⁴¹ which is responsible for 0.64% of all global industrial GH emissions from 1965-2017.⁴²

67. Considering Exxon's responsibility, coupled with those of its joint venture carbon major partner, Exxon is responsible for **3.73%** of all global industrial GHG emissions from 1965-2017, totaling the sum of approximately 50,580 metric tons of GHG in both direct and indirect use of their products.⁴³

68. Shell PLC F.K.A. Royal Dutch Shell PLC (Shell) is a public limited company registered in England and Wales, with its international headquarters in The Hague, Netherlands. Shell's headquarters for its U.S. operations is in Houston, Texas. Shell manages, directs, and controls its and its subsidiaries' policies and practices related to climate change and fossil fuel production. Shell is the seventh largest investor-owned greenhouse gas emitter.⁴⁴

69. Shell has operations in over 70 countries, produces nearly 3.2 million barrels of oil equivalent per day, sold 64.2 million tons of liquefied natural gas (LNG) during 2021 and has interests in 10 refineries.⁴⁵ Like Exxon, Shell has billions in proven reserves. As of the end of December 2014, Shell boasted 13.7 billion barrels of oil equivalent.⁴⁶ Shell is registered with the SEC and is traded as RDSA. At the end of 2018, Shell reported \$339.2 billion in assets.⁴⁷

⁴¹ ExxonMobil, *Petrobras and ExxonMobil Form Strategic Alliance*, EXXONMOBIL (Dec. 14, 2017) <https://corporate.exxonmobil.com/news/newsroom/news-releases/2017/12/14-petrobras-and-exxonmobil-form-strategicalliance#:~:text=aPetrobras%20and%20ExxonMobil%20will%20evaluate.both%20inside%20and%20outside%20Brazil> (last visited Nov. 14, 2022).

⁴² Richard Heede, *Carbon Majors: Update of Top Twenty Companies*, CLIMATE ACCOUNTABILITY INSTITUTE (Oct. 9, 2019) https://issuu.com/ciecentral6/docs/cai_prccsrelease_lop20_ocr19 (last visited Nov. 14, 2022).

⁴³ *Id.*

⁴⁴ *Id.*

⁴⁵ Shell Global, *Who We Are*, SHELL PLC <https://www.shell.com/about-us/who-we-are.html> (last visited Nov. 14, 2022).

⁴⁶ Shell Global, *Recommended Cash and Share Offer for BG Group PLC by Royal Dutch Shell PLC*, SHELL PLC (Apr. 8, 2015) <https://www.shell.com/media/news-and-media-releases/2015/recommended-cash-and-share-offer-for-bg-group-plc.html> (last visited Nov. 14, 2022).

⁴⁷ Royal Dutch Shell PLC, *Form 20-F Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934* (Mar. 13, 2019) https://www.shell.com/about-us/annual-publications/annual-reports-download-centre/jcr_content/par/tabbedcontent_f645/tab_603d/textimage_18e7.stream/1594128317894/3358e41179b57db16dae76d29cf27e0elb45eaff/annual-report-rds-20f-2018.pdf (last visited Nov. 14, 2022).

70. Like Exxon, Shell is vertically integrated and is active in every area of the oil and gas industry, including exploration and production, refining, transport, distribution and marketing, petrochemicals (plastics), power generation and trading.⁴⁸

71. Shell branded gasoline was sold in Puerto Rico through the Sol Group ("Sol") and Sol Puerto Rico Limited ("Sol P.R."), the exclusive distributor of Shell Fuels in Puerto Rico.⁴⁹ Shell's website reflected 121 Shell gas stations in Puerto Rico as of November 14, 2022.⁵⁰

72. In 2022 Sol P.R. formalized a licensing agreement with ExxonMobil to use its "Mobil" brand and convert its 177 Shell-branded gasoline stations into the Mobil brand, starting September 11, 2022.⁵¹

73. Shell owns "Pennzoil," "Quaker State" and "Jiffy Lube." Shell sells its engine oil and lubricant in Puerto Rico and around the world. Shell claims to be the number one global lubricant supplier, delivering market-leading lubricants to consumers in over 100 countries.⁵² Shell advertises, markets, and sells its products, including consumer products, in Puerto Rico. At all relevant times, the Plaintiff has been, and remain, a customer of Shell. The Municipality of San Juan Puerto Rico and/or their citizens have invested in Shell as a publicly traded company.

⁴⁸ Vertical integration is the merging together of two businesses that are at different stages of production—for example, a food manufacturer and a chain of supermarkets. Merging in this way with something further on in the production process (and thus closer to the final consumer) is known as forward integration. The Economist, *Vertical Integration*, THE ECONOMIST (Mar. 20, 2019) <https://www.economist.com/news/2009/03/30/vertical-integration> (last visited Nov. 14, 2022).

⁴⁹ Business Wire, *Sol Puerto Rico limited Reaffirms Its Commitment of Exclusivity with Shell in Puerto Rico*, BUSINESS WIRE (Oct. 3, 2012) <https://www.businesswire.com/news/home/20121003005791/en/Sol-Puerto-Rico-Limited-Reaffirms-Its-Commitment-of-Exclusivity-with-Shell-in-Puerto-Rico> (last visited Nov. 14, 2022).

⁵⁰ Shell United States, *Gas Station Near Me*, SHELL UNITED STATES <https://www.shell.us/motorist/gas-station-near-me> (last visited Nov. 14, 2022).

⁵¹ News is my Business (NimB), *Sol Puerto Rico to re-brand Shell gas stations to Mobil*, NEWS JSMY BUSINESS (NIMB) (June 29, 2022) <https://newsismybusiness.com/sol-puerto-rico-to-re-brand-shell-gas-stations-to-mobil/> (last visited Nov. 17, 2022). See also, Madison Choudbry, *ExxonMobil Enters the Puerto Rican market*, THE WEEKLY JOURNAL (Oct. 12, 2022) https://www.theweeklyjournal.com/business/exxonmobil-enters-tbe-puerto-rican-market/article_534caa5a-4cfc-11ed-82a5-1bf5b14766fe.html (last visited Nov. 17, 2022).

⁵² Shell United States, *Shell Engine Oils and Lubricants*, SHELL UNITED STATES <https://www.shell.com/motorist/oils-lubricants> (last visited Nov. 14, 2022).

74. Shell is responsible for 2.36% of all global industrial GHG emissions from 1965-2017, totaling the sum of approximately 31,948 metric tons of GHG in both direct and end use of their products.⁵³

75. Shell also has joint ventures with another carbon major, Gazprom,⁵⁴ which is responsible for 3.19% of all global industrial GHG emissions from 1965-2017.⁵⁵ Shell also has known joint ventures with another carbon major, National Iranian Oil Company,⁵⁶ which is responsible for 2.63% of all global industrial GHG emissions from 1965-2017.⁵⁷

76. Shell also has known joint ventures with another carbon major, China Petroleum,⁵⁸ which is responsible for 1.15% of all global industrial GHG emissions from 1965-2017.⁵⁹ Shell also has known joint ventures with another carbon major, Pemex,⁶⁰ which is responsible for 1.67% of all global industrial GHG emissions from 1965-2017.⁶¹

77. Shell also has a known joint venture with another carbon major, Abu Dhabi National Oil Company,⁶² which is responsible for 1.01% of all global industrial GHG emissions from 1965-2017.⁶³

⁵³ Heede, *supra* footnote 15.

⁵⁴ Gazprom, *Gazprom and Shell Review Progress of Joint Projects*, GAZPROM (Mar. 16, 2018) <https://www.gazprom.com/press/news/2018/march/article412883/> (last visited Nov. 14, 2022).

⁵⁵ Heede, *supra* footnote 15.

⁵⁶ Tom DiChristopher, *The Billion-Dollar Gold Rush to Tap into Iranian Oil*, CNBC (Nov. 6, 2016) <https://www.cnbc.com/2016/11/03/the-billion-dollar-gold-rush-to-tap-into-iranian-oil.html> (last visited Nov. 14, 2022),

⁵⁷ Heede, *supra* footnote 15.

⁵⁸ Offshore Energy, *Shell, CNPC Form Well Manufacturing JV (The Netherlands)*, OFFSHOREENERGY (Jun. 20, 2011) <https://www.lngworldnews.com/shell-cnpc-form-well-manufacturing-jv-the-netherlands/> (last visited Nov. 14, 2022).

⁵⁹ Heede, *supra* footnote 15.

⁶⁰ Oil & Gas Journal, *Pemex to Acquire Interest in Shell Texas Refinery*, ORR, & GAS JOURNAL (Aug. 31, 1992) <https://www.ogj.com/home/article/17218678/pemex-to-acquire-interest-in-shell-texas-refinery> (last visited Nov. 14, 2022).

⁶¹ Heede, *supra* footnote 15.

⁶² Abu Dhabi National Oil Company, *Our Partners*, ABU DHABI NATIONAL OIL COMPANY <https://www.adnoc.ae/en/our-partners> (last visited Nov. 14, 2022).

⁶³ Heede, *supra* footnote 15.

78. Shell also has a known joint venture with another carbon major, Kuwait National Petroleum Corporation,⁶⁴ which is responsible for 1% of all global industrial GHG emissions from 1965-2017.⁶⁵

79. Considering Shell's responsibility, coupled with those of its joint venture carbon major partners, Shell, and its affiliates contribute approximately **13%** of all global industrial GHG emissions from 1965-2017.⁶⁶

80. Chevron Corp. is incorporated in Delaware, with its principal place of business in San Ramon, California. Chevron manages, directs, and controls its own and its subsidiaries' policies and practices related to climate change and fossil fuel production.⁶⁷ Chevron is a publicly traded corporation registered with the SEC and its symbol is CVX.

81. Chevron Corporation is an American multinational energy corporation. One of the successor companies of Standard Oil, it is headquartered in San Ramon, California, and active in more than 180 countries.

82. Like Exxon and Shell, Chevron is a fully integrated oil company, engaged in every aspect of the oil industry, including hydrocarbon exploration and production, refining, marketing, and transport; chemicals manufacturing and sales; plastics from petrochemicals and power generation.⁶⁸

⁶⁴ 360 Feed Wire, *Kuwait Petroleum and Shell Sign Agreement for Long-Term Supply of LNG to Meet Domestic Energy Needs*, OIL AND GAS 360 (Dec. 27, 2017) <https://www.oilandgas360.com/wired-news-kuwait-petroleum-and-sbell-sign-agreement-for-long-term-supply-of-lng-to-meet-domestic-energy-needs/> (last visited Nov. 14, 2022).

⁶⁵ Heede, *supra* footnote 15.

⁶⁶ *Id.*

⁶⁷ Richard Heede, *Tracing anthropogenic carbon dioxide and methane emissions to fossil fuel and cement producers, 1854-2010*, CLIMATIC CHANGE, (Nov. 22, 2013) <https://link.springer.com/content/pdf/10.1007/s10584-013-0986-v.pdf> (last visited Nov. 14, 2022).

⁶⁸ Chevron, *Our History*. CHEVRON, <https://www.chevron.com/about/history> (last visited Nov. 14, 2022).

83. Chevron sells the "Delo," "Ursa," "Havoline," "IsoClean" and "Tehron" heavy duty diesel engine oils, coolants/antifreeze, transmission fluids, gear oils, greases and hydraulic oils in the United States and Puerto Rico.

84. Chevron is engaged in every aspect of the oil, natural gas, and geothermal energy industries, including hydrocarbon exploration and production; refining, marketing, and transport; chemicals manufacturing (plastics) and sales; and power generation.

85. Chevron is one of the world's largest oil companies; as of 2017, it ranked nineteenth in the Fortune 500 list of the top U.S. closely held and public corporations and sixteenth on the Fortune Global 500 list of the top 500 corporations worldwide.⁶⁹ It was also one of the Seven Sisters that dominated the global petroleum industry from the mid-1940's to the 1970's.⁷⁰

86. In July 2012 Chevron sold its fuel distribution and storage businesses in Puerto Rico and the United States Virgin Islands to Puma Energy, including 192 Texaco service stations, an aviation fuel supply and storage tanks with a combined capacity of 430,000 barrels.⁷¹

87. According to its 2017 corporate disclosures, Chevron had \$253.8 billion in total assets and 11.7 billion barrels in proven reserves.⁷²

88. Chevron markets and sells its products in Puerto Rico. At all relevant times, the Plaintiff has been, and remains, a customer of Chevron. The Municipality of San Juan and/or its citizens and residents have invested in Chevron as a publicly traded company.

⁶⁹ Fortune, *Chevron* | 2022 Fortune 500, FORTUNE <https://fortune.com/company/chevron/fortune500/> (last visited Nov. 14, 2022).

⁷⁰ Id.

⁷¹ Caribbean Business, "Puma caps buy of Chevron in PR, USVJ". *Caribbean Business*, Aug. 1, 2012.

⁷² Chevron, *2017 Annual Report*, CHEVRON (2018) <https://www.chevron.com/-/media/chevron/annual-report/2017/2017-Annual-Report.pdf> (last visited Nov. 14, 2022).

89. Chevron is responsible for 3.20% of all global industrial GHG emissions from 1965- 2017, totaling the sum of approximately 43,345 metric tons of GHGs in both direct emissions from their industry and end use of their products.⁷³ Like Shell, Chevron partners with other carbon majors worldwide.

90. Chevron also has known joint ventures with another carbon major, PDSVA,^{74, 75} which is responsible for 1.16% of all global industrial GHG emissions from 1965-2017.⁷⁶ Chevron and BP also have known joint ventures with other carbon majors, Eni, Sonangol, and Total SA,⁷⁷ which Eni is responsible for 0.56% of all global industrial GHG emissions from 1965-2017, Sonangol is responsible for 0.20% of all global industrial GHG emissions from 1965-2017, and Total SA is responsible for an additional 0.91% of all global industrial GHG emissions from 1965-2017.⁷⁸ Chevron also has known joint ventures with Nigerian National Petroleum,⁷⁹ which is responsible for 0.62% of all global industrial GHG emissions from 1965-2017.⁸⁰

91. Considering Chevron's responsibility, coupled with those of its joint venture carbon major partners, Chevron and its affiliates contribute approximately **6.65%** of all global industrial GHG emissions from 1965-2017.⁸¹

92. **BP PLC** (BP) is a public limited company registered in England and Wales, with its international headquarters in London, England. The headquarters for BP's U.S. operations is in

⁷³ Heede, *supra* footnote 15.

⁷⁴ Chevron, *Venezuela*, CHEVRON, <https://www.chevron.com/worldwide/venezuela> (last visited Nov. 14, 2022).

⁷⁵ Abu Dhabi National Oil Company (ADNOC), *ADNOC Signs landmark Strategic Partnership Agreements with Eni and OMV in Refining and Trading*, ABUDHABINATIONAL OIL COMPANY (Jan. 27, 2019) <https://www.adnoc.ae/en/news-and-media/press-releases/2019/adnoc-signs-landmark-strategic-partnership-agreements> (last visited Nov. 14, 2022).

⁷⁶ Heede, *supra* footnote 15.

⁷⁷ NS Energy, *EU clears Angolan LNG joint venture by BP, Chevron, Eni, Sonangol and Total*, NS ENERGY (May 16, 2012) <https://www.nsenergybusiness.com/news/newseu-clears-aogolao-lng-joint-venture-by-bp-chevoo-eni-sonangol-and-total-170512/> (last visited Nov. 14, 2022).

⁷⁸ Heede, *supra* footnote 15.

⁷⁹ Chevron, *Nigeria*, CHEVRON, <https://www.chevron.com/worldwide/nigeria> (last visited Nov. 14, 2022).

⁸⁰ Heede, *supra* footnote 15.

⁸¹ Id.

Houston, Texas. BP manages, directs, and controls its and its subsidiaries' policies and practices related to climate change and fossil fuel production. BP is the third largest investor-owned greenhouse gas emitter.⁸²

93. BP is one of the world's seven oil and gas "supermajors" (including Exxon, Shell, Chevron, ConocoPhillips among others).⁸³ Like Exxon, Shell and Chevron, BP is vertically integrated in both the production and marketing of oil-based products.

94. BP upstream activities include exploring for new oil and natural gas resources, developing access to such resources, and producing, transporting, storing, and processing oil.⁸⁴ In 2017, BP produced around 3.6 million barrels per day of oil equivalent,⁸⁵ of which 2.26 million barrels per day were liquids and 7.744 billion cubic feet was natural gas. In 2017, BP boasted total proved reserves of 18.441 million barrels per day of oil equivalent.⁸⁶

95. BP downstream activities include the refining, marketing, manufacturing, transportation, trading and supply of crude oil, petrochemicals and petroleum-based plastic and resin products.⁸⁷ BP's downstream operation is responsible for BP's fuels, lubricants and petrochemical businesses and has major operations located in Europe, North America, and Asia.⁸⁸

96. Castrol is BP's main brand for industrial and automotive lubricants and is applied to a large range of BP oils, greases, and similar products for most lubrication applications, selling these

⁸² *Id.*

⁸³ Tom Bergin, *Oil Majors Output Grown Hinges On Strategy Shift*, REUTERS (Aug. 1, 2008) <https://www.reuters.com/article/us-oilmajors-production-idUSL169721220080801> (last visited Nov. 14, 2022).

⁸⁴ Forbes, *BP | Company Overview & News*, FORBES <https://www.forbes.com/companies/bp/?sh=6e11aa61384b#41b79e1c384b> (last visited Nov. 14, 2022).

⁸⁵ BP, *BP Annual Report and Form 20-F 2017*, BP (2018) <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/investors/bp-annual-report-and-form-20f-2017.pdf> (last visited Nov. 14, 2022).

⁸⁶ *Id.*

⁸⁷ Forbes, *BP | Company Overview & News*, FORBES <https://www.forbes.com/companies/bp/?sh=6e11aa61384b#41b79e1c384b> (last visited Nov. 14, 2022).

⁸⁸ Reuters, *BP.I - BP PLC's Stock Price & latest News*, REUTERS <https://www.reuters.com/markets/companies/BP.L> (last visited Nov. 14, 2022).

products worldwide,⁸⁹ including Puerto Rico. BP has three refineries located in the US that represent about 40% of their global refining capacity.⁹⁰ BP markets petroleum products in more than 50 countries worldwide.⁹¹ It has around 18,300 service stations.⁹²

97. In 2015, BP sold its aviation business at the Luis Munoz Marin International Airport in San Juan, which serviced over 4 million passengers per year, to Puma Energy.⁹³

98. BP is registered with the SEC and is traded as BP p.l.c. On July 28, 2018, it was reported that BP has acquired a portfolio of unconventional oil and gas assets from BHP Billiton Petroleum (North America) for \$10.5 billion.⁹⁴ BHP was also a member of the American Petroleum Institute (API).⁹⁵ BP markets and sell its products in Puerto Rico. At all relevant times, the Plaintiff has been, and remains, a customer of BP. The Municipality of San Juan, and their citizens have invested in BP as a publicly traded company.

99. BP is responsible for 2.51% of all global industrial GHG emission from 1965-2017.⁹⁶

100. As of February 27, 2022 BP held 19.75% of the shares of Rosneft Oil Company (OTC: OJSCY).⁹⁷ Rosneft serves as the leader of Russia's petroleum industry and remains the world's largest publicly traded petroleum company. BP and Rosneft have a joint-venture agreement to

⁸⁹ BP *Castrol* BP <https://www.bp.com/en/global/comorate/who-we-are/our-brand-castrol.html> (last visited Nov. 14, 2022).

⁹⁰ BP, Refineries, BP <https://www.bp.com/en-us/united-states/home/what-we-do/refining-and-operations/refineries.html> (last visited Nov. 14, 2022).

⁹¹ BP, *BP Annual Report and Form 20-F 2017* BP (2018) <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/dfs/investors/bp-annual-report-2017-and-form-20f-2017.pdf> (last visited Nov. 14, 2022)

⁹² Id.

⁹³ PR Newswire, *Puma Energy Acquires BP's Aviation Business In Puerto Rico*, PR NEWswire (May 18, 2015) <https://www.prnewswire.com/news-releases/puma-energy-acquires-bp-s-aviation-business-in-puerto-rico-300085122.html> (last visited Nov. 14, 2022)

⁹⁴ Sonali Paul and Ron Bousso, *BP pays \$10.5 billion for BHP assets to beef up U.S. business*, REUTERS (Jul. 26, 2018) <https://www.reuters.com/article/us-bhp-divestiture-bp-idUSKBN1KG34V> (last visited Nov. 14, 2022).

⁹⁵ BHP, *Industry Associations 2019 Review: Second Update*, BHP (2019) <https://www.bhp.com/about/industry-associations/2019-review-second-update> (last visited Nov. 14, 2022).

⁹⁶ Heede, *supra* footnote 15.

⁹⁷ BP, *BP to Exit Rosneft Shareholding*, BP (Feb. 27, 2022) <https://www.bp.com/en/global/comorate/news-and-insights/press-releases/bp-to-exit-rosneft-shareholding.html> (last visited Nov. 14, 2022).

develop prospective resources in East and West Siberia. Rosneft is responsible for 0.54% of all global industrial GHG emissions from 1965-2017.⁹⁸

101. BP, along with China Petroleum and Basra Oil Company, are working in partnership to develop Rumaila, an oil field in Iraq and the third-largest producing field in the world, estimated to have around 17 billion barrels of recoverable oil remaining.⁹⁹ BP is also providing technical assistance to the North Oil Company to aid the redevelopment of the Kirkuk field in Iraq. Kirkuk is estimated to have around 9 billion barrels of recoverable oil remaining. Basra Oil Company and North Oil Company are two of the nine companies that are owned by the Iraq National Oil Company,¹⁰⁰ another carbon major which is responsible for 0.93% of all GHG emissions from 1965-2017.)¹⁰¹

102. BP also has known joint ventures with another carbon major, Sonatrach,¹⁰² which is responsible for 0.91% of all GHG emissions from 1965-2017.¹⁰³

103. Considering BP's responsibility, coupled with those of its joint venture carbon major partners, BP and its affiliates contribute **4.89%** of all global industrial emissions from 1965-2017, totaling the sum of approximately 66,199 metric tons of GHGs in both direct emissions from their industry and end use of their products.¹⁰⁴

104. **ConocoPhillips** is incorporated in Delaware, with its principal place of business in Houston, Texas. ConocoPhillips manages, directs, and controls its and its subsidiaries' policies and practices related to climate change and fossil fuel production.

⁹⁸ Heede, *supra* footnote 15.

⁹⁹ BP, *What We do, Iraq, Reviving One of the World's Super-giant Oilfields*, BP <https://www.bp.com/en/global/corporate/what-we-do/bp-worldwide/bp-in-iraq.html> (last visited Nov. 14, 2022).

¹⁰⁰ Reuters, *Iraq transfers ownership of nine state oil companies to new National Oil Company*, REUTERS, (Oct. 18, 2018, 10:18 AM), <https://www.reuters.com/article/us-iraq-oil/iraq-transfers-ownership-of-nine-state-oil-companies-to-new-national-oil-company-idUSKCNIMS27E> (last visited Nov. 14, 2022).

¹⁰¹ Heede, *supra* footnote 15.

¹⁰² BP, *BP Has a Long History of Working in Algeria*, BP <https://www.bp.com/en/global/corporate/what-we-do/bp-worldwide/bp-in-algeria.html> (last visited Nov. 14, 2022).

¹⁰³ Heede, *supra* footnote 15.

¹⁰⁴ *Id.*

105. ConocoPhillips is the world's largest independent pure-play exploration and production company ranking No. 77 in the 2022 Fortune 500 list of the largest United States corporations by total revenue.¹⁰⁵ ConocoPhillips is the fifth largest investor-owned greenhouse gas emitter.¹⁰⁶

106. Like Exxon, Shell, Chevron and BP, ConocoPhillips is a fully integrated oil company. ConocoPhillips was created through the merger of American oil companies Conoco Inc. and Phillips Petroleum Co. on August 30, 2002.¹⁰⁷ In 2012, ConocoPhillips spun off its downstream assets as a new, separate company, Phillips 66.¹⁰⁸

107. Phillips 66 is the fourth-largest lubricants supplier in the United States.¹⁰⁹ Phillips 66 claims that, with its world-class research and development facilities and eight proprietary blending and packaging facilities, Phillips 66 lubricants are sold in more than 80 countries, including Puerto Rico under the brands of "Phillips 66," "Red Line" and "Kendall."¹¹⁰

108. ConocoPhillips participates in chemicals and plastics production worldwide through a 50 percent interest in Chevron Phillips Chemical Company LLC (CPChem), one of the world's largest producers of olefins, polyolefins, aromatics and styrenics, piping and proprietary plastics.¹¹¹

¹⁰⁵ Fortune, *Fortune 500 list*, FORTUNE <https://fortune.com/fortune500/> (last visited Nov. 14, 2022).

¹⁰⁶ Paul Griffin, *The Carbon Majors Database CDP Carbon Majors Report 2017*, CDP (Jul. 2017) <https://cdn.cdp.net/cdp-production/cms/reports/documents/000/002/327/original/Carbon-Majors-Report-2017.pdf?1501833772> (last visited Nov. 14, 2022).

¹⁰⁷ ConocoPhillips, *Form 8-K12G3*, (Aug. 30, 2002), <http://edgar.secdatabase.com/2323/89882202001082/filing-main.htm> (last visited Nov. 14, 2022).

¹⁰⁸ Christopher Helman, *As ConocoPhillips Spins Off Refining Assets, Think Twice Before Buying The New Phillips 66*, FORBES, (Apr. 30, 2012), <https://www.forbes.com/sites/christopherbelman/2012/04/30/as-conocophillips-spins-off-refining-assets-should-you-own-the-new-phillips-66/?sh=230ec05b4eb7> (last visited Nov. 14, 2022).

¹⁰⁹ Phillips 66 Lubricants, *Our Company*, PHILLIPS66 LUBRICANTS <https://phillips66lubricants.com/wby-phillips-66/our-company/> (last visited Nov. 14, 2022)

¹¹⁰ id.

¹¹¹ New York Encyclopedia, *ConocoPhillips*, NEW YORK ENCYCLOPEDIA,

<https://www.oewworldencyclopedia.org/entry/ConocoPhillips> (last visited Nov. 14, 2022).

109. As of 2014, CP Chem has 5,000 employees worldwide, \$9 billion in assets, and 36 manufacturing and research facilities in eight countries, including the United States, Belgium, China, Colombia, Qatar, Saudi Arabia, Singapore, and South Korea.¹¹²

110. ConocoPhillips is registered with the SEC and is traded as COP. ConocoPhillips markets and sells its products in Puerto Rico. At all relevant times, the Plaintiff has been, and remains, a customer of ConocoPhillips. The Municipality of San Juan and/or its citizens and residents have invested in ConocoPhillips as a publicly traded company.

111. ConocoPhillips is responsible for **1.12%** of all global industrial GHG emissions from 1965-2017, totaling approximately 15,229 metric tons of GHGs in both direct emissions from their industry, and end use of their products.¹¹³

112. The combined sea level rise credited to Chevron, ExxonMobil, Royal Dutch Shell, Peabody, BP, and ConocoPhillips "is equivalent to the water flowing over Niagara Falls *for 18 years.*"¹¹⁴

113. **Motiva Enterprises, LLC** (Motiva) is a wholly owned subsidiary of Saudi Arabia Refining Company (Aramco). Motiva has an interest in a joint-venture partnership with Shell and Texaco known as Motiva Enterprises, LLC, which refines and markets petroleum products in the eastern and Gulf Coast areas of the United States under the Texaco and Shell brands. Motiva Enterprises, LLC, is a fully owned affiliate of Saudi Arabia Oil Company (Aramco) and is headquartered in Houston, Texas.¹¹⁵

¹¹² Chevron Phillips Chemical, *Who We Are*, CHEVRON PHILLIPS CHEMICAL, <https://www.cpchem.com/who-we-are/company-history> (last visited Nov. 14, 2022).

¹¹³ Heede, *supra* footnote 15.

¹¹⁴ Richard Heede, *Carbon Producers' Tar Pit: Dinosaurs Beware*, CLIMATE ACCOUNTABILITY INSTITUTE I, 8 (Oct. 17, 2017) <https://www.ineteconomics.org/research/research-papers/carbon-producers-tar-pit-dinosaurs-beware> (last visited Nov. 14, 2022).

¹¹⁵ Aramco, *Saudi Aramco and Shell Finalize Agreement to Separate Motiva Assets*, ARAMCO (Mar. 7, 2017) <https://www.aramco.com/en/news-media/news/2017/motiva-shell-aramco-separation> (last visited Nov. 14, 2022).

114. State-owned Saudi Aramco is one of the world's largest petrochemical companies, with 2018 sales of almost \$356 billion. In 2019, Aramco announced plans to invest \$15 billion to acquire a 20% stake in a Reliance Industries Ltd. unit that includes one of the world's largest polypropylene businesses.¹¹⁶

115. In March, Aramco paid a little more than \$69bn (€61bn) for a 70% stake in global commodity and engineering resins supplier Saudi Basic Industries Corp.¹¹⁷ Saudi Aramco also has partnered with Dow Inc. on the Sadara plastic and petrochemicals joint venture in Saudi Arabia.

116. In 2017, Aramco purchased Motiva Enterprises LL from Co-Defendant Shell, including the Port Arthur Texas refinery and the right to sell Shell branded gasoline and diesel in numerous US states.

117. SABIC (Saudi Arabia Basic Industry Corporation) is a public petrochemical company founded in 1976 and based in Riyadh, Saudi Arabia. SABIC is 70% owned by Aramco.¹¹⁸

118. It is active in chemicals and intermediates industrial polymers, fertilizers, and metals. SABIC is the world's third-largest producer of polyethylene and the fourth-largest producer of polypropylene and polyolefins in general.¹¹⁹ The company operates in more than 40 countries across the world, has 60 manufacturing sites and employs over 40,000 people. According to Forbes, SABIC generated about \$35 billion in sales in 2017.¹²⁰

¹¹⁶ Frank Esposito, *Saudi Aramco continues growth with Texas acquisition*, (Aug. 21, 2019, 1:25 PM), PLASTICS NEWS EUROPE, <https://www.plasticsnewseurope.com/news/saudi-aramco-continues-growth-texas-acquisition> (last visited Nov. 14, 2022).

¹¹⁷ On March 27, 2019, SABIC announced that state-owned energy company Saudi Aramco signed a share purchase agreement to acquire a 70% majority stake in SABIC from the Public Investment Fund of Saudi Arabia in a private transaction worth \$69.1 billion. Aramco, *Saudi Aramco Signs Share Purchase Agreement to Acquire 70% Majority Stake in SABIC from the Public Investment Fund of Saudi Arabia*, ARAMCO (Mar. 27, 2019) <https://www.aramco.com/en/news-media/news/2019/aramco-sabic> (last visited Nov. 14, 2022).

¹¹⁸ Bloomberg, *Saudi Basic Industries CO1p. (SABIC: Saudi Arabia): Stock Quote & Company Profile - Businessweek*, BLOOMBERG, https://bloomberg.com/quote/SABIC:AB?leadSource=overflow_20wall (last visited Nov. 14, 2022).

¹¹⁹ Plastics Technology, *Top 10 Largest Plastic Producing Companies*, PLASTICS TECHNOLOGY <https://www.plastics-technology.com/articles/top-largest-plastic-producing-companies> (last visited Nov. 14, 2022).

¹²⁰ Forbes, *Saudi Basic Industries | Company Overview & News*, FORBES, <https://forbes.com/companies/saudi-basic-industries/#2aa3a7a073dc> (last visited Nov. 14, 2022).

119. Motiva's products include diesel, gasoline, liquefied petroleum gas (LPG), aviation fuel, and lubricants, which are supplied to American states in the South, Mid-Atlantic, and the Northeast. Marketing outlets include 5200 Shell and 76-branded service stations, and 24 storage and distribution terminals.¹²¹

120. Motiva markets and sells its products in Puerto Rico through its joint ventures with co-Defendants. At all relevant times, the Municipality of San Juan, and/or its citizens and residents have been customers of Motiva. Aramco's IPO is anticipated to be \$2 trillion.¹²²

121. Parent company Aramco is the world's largest contributor to global industrial GHG and is responsible for 4.38% of all global industrial GHG emissions from 1965-2017, totaling the sum of approximately 59,262 metric tons of GHGs in both direct emissions from their industry and end use of their products.¹²³

122. **Occidental Petroleum F.K.A. Anadarko Petroleum Corp.** (Anadarko) is an American Petroleum and natural gas exploration company headquartered in The Woodlands, Texas. Anadarko is ranked 257th on the Fortune 500¹²⁴ and is registered with the SEC and is traded as A.P.C.

123. Anadarko, in addition to exploration and production, engages in petroleum and natural gas gathering, processing, treating, and transportation. The company also participates in the hard minerals business through its ownership of non-operated joint ventures and royalty arrangements.

124. As of December 31, 2018, the company had approximately 1.473 billion barrels of oil equivalent of proved reserves, 45% of which was oil reserves, 37% of which was natural gas, and

¹²¹ William D. Reeves, *Historic Louisiana: An illustrated History* (HPN Books, 2003).

¹²² Douglas Ernst, *Saudi Aramco takes full ownership of largest U.S. oil refinery, hopes for \$2T IPO*, THE WASHINGTON TIMES, (May 1, 2017), <https://www.washingtontimes.com/news/2017/may/1/saudi-aramco-takes-full-ownership-of-largest-us-oil/> (last visited Nov. 14, 2022).

¹²³ Griffin, *supra* footnote 102.

¹²⁴ Fortune 500, *Anadarko Petroleum*, FORTUNE, <https://fortune.com/fortune500/2016/anadarko-petroleum/> (last visited Nov. 14, 2022).

18% was natural gas liquids. In 2018, the company produced 666 thousand barrels of oil equivalent per day.¹²⁵

125. In 2019, Anadarko was acquired by Occidental Petroleum. Occidental Petroleum is responsible for 0.38% of all global industrial GHG emissions from 1965-2017.¹²⁶

126. Anadarko operates in the upstream, midstream, and downstream marketing of its oil-based products, including plastics.¹²⁷

127. The company's international operations accounted for 14% of total sales volume during 2018 and 12% of total proved reserves at year-end 2018. The company has holding in Algeria, Ghana Mozambique, Colombia, and Cote d'Ivoire.¹²⁸

128. Anadarko markets and sells consumer products¹²⁹ worldwide, including in Puerto Rico. At all relevant times the Plaintiff has been, and remains, a customer of Anadarko. The Municipality of San Juan, and/or their citizens have invested in Anadarko as a publicly traded company.

129. Anadarko is responsible for 0.42% of all global industrial GHG emissions from 1965-2017 totaling the sum of approximately 5,370 metric tons of GHGs in both direct emissions from their industry and end use of their products.

130. Considering Anadarko's responsibility, coupled with its parent carbon major Occidental, Anadarko and its parent are responsible for **0.8%** of all global industrial GHG emissions from

¹²⁵ U.S. Securities and Exchange Commission, *Anadarko Petroleum Corporation 2018 Form 10-K Annual Report*, U.S. SECURITIES AND EXCHANGE COMMISSION, <https://www.sec.gov/Archives/edgar/data/773910/000077391019000009/apc201810k-IOk.htm> (last visited Nov. 14, 2022).

¹²⁶ Heede, *supra* footnote 14.

¹²⁷ Business Wire, *Occidental Completes Acquisition of Anadarko*, BUSINESS WIRE (Aug. 8, 2019, 11:21 AM) <https://www.businesswire.com/news/home/20190808005586/en/Occidental-Completes-Acquisition-of-Anadarko> (last visited Nov. 15, 2022).

¹²⁸ Fortune 500, *Anadarko Petroleum*, FORTUNE, <https://fortune.com/fortune500/2016/anadarko-petroleum/> (last visited Nov. 14, 2022).

¹²⁹ Forbes, *Anadarko Petroleum*, FORBES <https://www.forbes.com/companies/anadarko-petroleum/?sh=40deb73c468c> (last visited Nov. 15, 2022)

1965-2017, totaling the sum of approximately 10,584 metric tons of GHGs in both direct emissions from their industry and end use of their products.¹³¹

2. Coal Defendants

131. **BHP Group** ('BHP') is the trading entity of BHP Group Limited and BHP Group plc,¹³¹ an Anglo-Australian multinational mining, metals, and petroleum dual-listed public company headquartered in Melbourne, Victoria, Australia. Founded in 1885 in the isolated mining town of Broken Hill in New South Wales, by 2017 BHP ranked as the world's largest mining company, based on market capitalization.¹³² It is traded as BBL.

132. Along with Anglo American and Glencore, BHP is a 1/3 owner in Carbones del Cerrejon Norte ('Cerrejon') coal mine, a large open-pit coal mine in Colombia. The mine is one of the largest of its type, the largest in Latin America and the tenth largest in the world. Cerrejon was developed by a joint venture between the Colombian state organization, Carbones de Colombia (Carbocol) and Intercor, a subsidiary of ExxonMobil.¹³³

133. In 2000, Carbocol's assets were acquired jointly by Anglo American, BHP Billiton and Glencore, and in early 2002 the three partners bought out Intercor for \$366m.¹³⁴

134. Puerto Rico imports oil and coal for its electricity. For the fiscal year ending in June 2017, petroleum supplied just under half of the island's electricity¹³⁵ and coal continued to supply

¹³⁰ Griffin, *Supra* footnote 102.

¹³¹ BHP Billiton PLC, *Change of name to BHP Group*, (Nov. 20, 2018), https://markets.ft.com/data/announc/detail?dockey=1323-13872668-4L0FROBO16BO_89UDSS3DT75GU (last visited Nov. 14, 2022).

¹³² Statista, *Leading mining companies worldwide based on market capitalization in 2018*, STATISTA www.statista.com/statistics/272706/top-10-mining-companies-worldwide-based-on-market-value/ (last visited Nov. 14, 2022).

¹³³ Mining Technology, *Carbocol and Intercor Coal Mine*, MINING TECHNOLOGY, (March, 19, 2000), www.mining-technology.com/projects/cerrejon/ (last visited Nov. 14, 2022).

¹³⁴ Id.

¹³⁵ Autoridad de Energia Electrica, *Informe Mensual de Indicadores Principales Junio 2017*, AEE p. 3-4 (Jul. 20, 2017),

about one-sixth of electricity.¹³⁶ Typically, about 1.6 million short tons of coal are imported annually from Cerrejon to supply Puerto Rico's coal-fired electricity generating plant at Guayama.¹³⁷

135. Of the three partners, BHP Billiton is responsible for 0.72% of all global industrial GHG emissions from 1965-2017, totaling the sum of approximately 9,802 metric tons of GHGs in both direct emission from their industry and end use of their product .¹³⁸ Anglo American is responsible for 0.50% of all global industrial emission from 1965-2017, totaling the um of approximately 6,787 metric tons of GHG in both direct emission from their industry and end use of their products, and Glencore is responsible for 0.35% of all global industrial emission from 1965-2017, totaling the um of approximately 4,678 metric tons of GHGs in both direct emissions from their industry and end use of their products.¹³⁹

136. Thus, BHP Group is responsible for **1.57%** of all global industrial emission from 1965-2017, totaling the sum of 21,267 metric tons of GHGs in both direct emission from their industry and end use of their products.

137. The Municipalities of Puerto Rico and/or their citizens have invested in BHP as a publicly traded company. At all relevant times, the Municipality of San Juan and/or its citizens or residents have been, and remain, a customer of BHP.

<https://acepr.com/espr/QuienesSomos/Ley57/Estad%C3%ADsticos/Informe%20indicadores%20principales%20juni0%202017.pdf> (last visited Nov. 14, 2022).

¹³⁶ Id.

¹³⁷ U.S. EIA, *Puerto Rico Territory Energy Profile*, US ENERGY INFORMATION ADMINISTRATION (Dec. 16, 2021), <https://www.eia.gov/state/print.php?sid=RO> (last visited Nov. 14, 2022).

¹³⁸ Griffin, *Supra* footnote 102.

¹³⁹ Id.

138. **Arch Resources, Inc. F.K.A. Arch Coal, Inc.** ('Arch Coal') is a publicly traded company incorporated in Delaware with its principal place of business in St. Louis, Missouri and is traded as ARCH.

139. Arch Coal is the second largest coal producer in the United States, selling 128 million tons of coal in 2015, almost all of which it extracted from mines owned by the company and its wholly owned subsidiary. Arch Coal discovers, extracts, produces, markets, and distributes its fossil fuel products.

140. Arch Coal is also a major holder of US Coal Reserves, holding an estimated 2.9 billion short tons of US coal reserves.¹⁴⁰

141. Arch Coal is responsible for **0.53%** of all global industrial GHG emissions from 1965-2017, totaling the sum of approximately 7,167 metric tons of GHGs in both direct emissions from their industry and end use of their products.¹⁴¹ The Municipality of San Juan, Puerto Rico and/or their citizens have invested in Arch Coal as a publicly traded company.

142. **Rio Tinto, PLC** is incorporated in England and Wales, with its principal place of business in London, England. Rio Tinto, Limited is incorporated in the Australia with its principal place of business in Melbourne, Australia. Collectively, Rio Tinto, PLC and Rio Tinto, Limited, along with their affiliates, divisions and subsidiaries, including those described below, are referred to as 'Rio Tinto'.

143. Rio Tinto is a dual-listed, multinational, vertically integrated metals and mining corporation. Through its vast network of affiliates and subsidiaries, Rio Tinto extracts an array of metals and other commodities. Rio Tinto is registered with the SEC and is traded as RIO.

¹⁴⁰ National Mining Association, *2006 Coal Producer Survey*, NATIONAL MINING ASSOCIATION (May, 2007) http://www.nma.org/pdf/coal_producer_swvey2005.pdf (last visited Nov. 15, 2022).

¹⁴¹ Griffin, *Supra* footnote 102

144. Rio Tinto discovers, extracts, produces, transports and markets coal. Rio Tinto Energy America Inc. is a wholly owned subsidiary of Rio Tinto, incorporated in the State of Delaware, with its principal place of business in Gillette, Wyoming.

145. Rio Tinto is also a major holder of US Coal Reserves, holding an estimated 1.4 billion short tons of US coal reserves.¹⁴²

146. Rio Tinto is responsible for **0.49%** of all global industrial GHG emissions from J 965-2017, totaling the sum of approximately 6 699 metric tons of GHGs in both direct emissions from their industry and end use of their products.¹⁴³

147. The Municipalities of Puerto Rico and/or their citizen have invested in Rio Tinto as a publicly traded company.

148. **Peabody Energy Corporation** ('Peabody') is a multi-national energy company incorporated in the State of Delaware and with its principal place of business in St. Louis, Missouri. Through a diverse web of affiliates and subsidiaries, Peabody is the world largest coal extractor by volume. Peabody is registered with the SEC and is traded as BTU.

149. Peabody primary business consists of the mining, sale and distribution of coal, which is purchased for use in electricity generation and steelmaking. Peabody al o markets, brokers and trades coal through office in China, Australia, the United Kingdom and the United States.

150. In 2017, Peabody recorded sales of 191.5 million tons of coal.¹⁴⁴ Peabody markets coal to electricity generating and industrial customers in more than 25 nations on six continents. As of December 31, 2017, the company had approximately 5.2 billion tons of proven and probable coal reserves.¹⁴⁵

¹⁴² National Mining Association, *supra* footnote 140.

¹⁴³ Griffin, *supra* footnote 102.

¹⁴⁴ Peabody, *Annual report which provides a comprehensive overview of the company for the past year*, PEABODY (2021), [https:// www.eabodener.com/Investor-Info/Shareholder-Information/Annual-Report](https://www.eabodener.com/Investor-Info/Shareholder-Information/Annual-Report) (last visited Nov. 14, 2022).

¹⁴⁵ *Id.*

151. Peabody maintains ownership of majority interests in 23 surface and underground mining operations located throughout the United States and Australia.¹⁴⁶ In the United States, company-owned mines are located in Wyoming, Colorado, Arizona, New Mexico, Illinois, and Indiana. Peabody's largest operation is the North Antelope Rochelle Mine located in Campbell County, Wyoming, mining more than 92 million tons of coal in 2016.¹⁴⁷ Peabody spun off coal mining operations in West Virginia and Kentucky into Patriot Coal Corporation in October 2007.

152. Vitol Group, the biggest independent oil trader, and mining giant Coal Defendant Peabody Energy Corp. have joined forces. The companies have teamed with a U.K. startup which has developed a process to pulverize coal, remove impurities and pollutants, and blend it with crude or fuels for use by refineries and other customers.¹⁴⁸

153. The Municipalities of Puerto Rico and/or their citizens have invested in Peabody as a publicly traded company.

154. Peabody also has known joint ventures with another carbon major, Coal India.¹⁴⁹ Peabody Coal India ranks eighth among the top twenty companies behind a third of all global carbon emissions.¹⁵⁰ Coal India is responsible for 1.71% of all global industrial GHG emissions from 1965-2017, totaling the sum of approximately 23,124 metric tons of GHGs in both direct emissions from their industry and end use of their products.¹⁵¹

¹⁴⁶ Peabody Energy, *Operations*, PEABODY ENERGY, <https://www.peabodyenergy.com/> (last visited Nov. 14, 2022).

¹⁴⁷ Mine Safety and Health Administration, *MSHA Mine Overview*, MINE SAFETY AND HEALTH ADMINISTRATION, <https://www.msha.gov/> (last visited Nov. 14, 2022).

¹⁴⁸ Andy Hoffman, *Oil Trader Vito/ Teams with Peabody to Grind Coal for Refineries*, BLOOMBERG (Jul. 18, 2018), <https://www.bnnbloomberg.ca/oil-trader-vitol-teams-with-peabody-to-grind-coal-for-refineries-1.1109759> (last visited Nov. 14, 2022).

¹⁴⁹ Mineweb, *Coal India to ink joint venture with Peabody*, MINEWEB (May 18, 2011, 6:20 AM),

¹⁵⁰ <https://www.mining.com/coal-india-to-ink-joint-venture-with-peabody/102/> (last visited Nov. 14, 2022). Heede, *supra* footnote 15.

¹⁵¹ *Id.*

155. Peabody is responsible for 1.14% of all global industrial GHG emissions from 1965-2017, totaling the sum of approximately 15,385 metric tons of GHGs in both direct emissions from their industry and end use of their products.¹⁵²

156. Along with its joint venture, Peabody is responsible for a total of **2.85%** of all global industrial GHG emissions from 1965-2017.

157. The Oil and Coal Defendants listed above are collectively responsible for **40.01%** of all global industrial GHG emissions from 1965-2017, in both direct emissions from their industry and end use of their product.¹⁵³

3. The Defendants' Plastic Products

158. The plastic products produced by the above Defendants are used and sold in Puerto Rico.

159. Plastics originate as fossil fuels and emit greenhouse gases from cradle to grave of their life cycle.¹⁵⁴

160. Today, about 4-8% of annual global oil consumption is associated with plastics, according to the World Economic Forum. If this reliance on plastics persists, plastics will account for 20% of oil consumption by 2050.¹⁵⁵

161. In May 2019, a new report "Plastic and Climate"¹⁵⁶ was published. In 2019 alone, plastics contributed greenhouse gases in the equivalent of **850 million tons** of carbon dioxide (CO₂) to the atmosphere. In current trend, annual emissions will grow to

1.34 billion tons by 2030.

¹⁵² Griffin, *supra* footnote 102.

¹⁵³ Id.

¹⁵⁴ Brook Bauman, *How plastics contribute to climate change: They generate heat-trapping gases at every stage of their life cycle*, YALE CLIMATE CONNECTIONS (Aug. 21, 2019),

<https://www.valeclimateconnections.org/2019/08/how-plastics-contribute-to-climate-change/> (last visited Nov. 14, 2022).

¹⁵⁵ Id.

¹⁵⁶ Center for International Environmental Law, *Sweeping New Report on Global Environmental Impact of Plastics Reveals Severe Damage to Climate*, CENTER FOR INTERNATIONAL ENVIRONMENTAL LAW (CIEL), <https://www.ciel.org/news/plasticandclimate/> (last visited Nov. 14, 2022).

162. The groundbreaking Plastic and Climate report incorporates research on the greenhouse gas emissions of plastic at each stage of the plastic lifecycle—from its birth as fossil fuels through refining and manufacture to the massive emissions at (and after) plastic's useful life ends—to create the most comprehensive review to date of the climate impacts of plastic.

163. The Defendants now profit immensely from plastic products and their products and sale—adds to the Defendants' contribution to climate change. As of the filing of this litigation, the Plaintiff are unable to total the contribution of Defendants' plastic production and sales to the storms of September 2017 in Puerto Rico. The Plaintiff will calculate the total contribution and add it to the 40.01% noted in paragraph 35 and present the total at trial.

164. As noted above, the Defendants' plastic production continues to expand. For example, in western Pennsylvania, a new Shell natural gas products processing plant being constructed to provide ingredients for the plastics industry (called an "ethane cracker") could emit up to **2.25 million tons** of greenhouse gas pollution each year (carbon dioxide equivalent tons).

165. Also, ExxonMobil's Baytown refinery along the Texas Gulf Coast releases up to 1.4 million tons, according to the Plastic and Climate report. Annual emissions from just these two new facilities would be equal to adding almost 800,000 new cars to the road. Three hundred new petrochemical projects are being constructed in the US alone by the Defendants, primarily for the production of plastic and plastic additives. Thus, rather than do what they claimed they would do, invest in "green" energy, the Defendants have "doubled down" on their joint commitment to damage the Plaintiff.

4. Other Unnamed Corporations and Relevant Non-Parties

166. Jane and John Does 1-100, and XYZ Corporations 1-100 and Accomplices actively engaged in the management of Defendants' affairs within the course and scope of their duties and employment, Defendants at the expense of the Municipality of San Juan, and/or with Defendants' actual,

apparent, and/or ostensible authority for actions complained of herein and industry-funded organizations posing as neutral and credible professional societies and patient advocacy groups.

167. The combined acts and/or omissions of each Defendant resulted in indivisible damages to the Municipality of San Juan. Each of the above-named Defendants is a joint tortfeasor and/or co-conspirator and is jointly and severally liable to the Municipality of San Juan for the negligent acts and omissions alleged herein. Each of the above-named Defendants directed, authorized, or ratified the conduct of each and every other Defendant.

168. **Relevant Non-Parties: Fossil Fuel industry Associations.** As set forth in greater detail below, each Defendant had actual knowledge that its fossil fuel products were hazardous. Defendants obtained knowledge of the hazards of their products independently and through their membership and involvement in trade associations. Each Defendant's fossil fuel promotion and marketing efforts were assisted by the trade associations described below. Acting on behalf of the Defendants, the industry associations engaged in a long-term course of conduct to misrepresent, omit, and conceal the dangers of Defendants' fossil fuel-based consumer products as follows:

- a. **The American Petroleum Institute (API):** API is a national trade association representing the oil and gas industry, formed in 1919. The following Defendants and/or their predecessors in interest are and/or have been API members at times relevant to this litigation: Exxon, Shell, Chevron, BP ConocoPhillips, Motiva, and Anadarko, all of whom have actively served on boards, committees, and groups for APL.
- b. **The American Coalition for Clean Coal Electricity (ACC E):** ACC E is a national coal industry trade association. Arch Coal, Peabody were part of the ACCCE at times relevant to this complaint.
- c. **The National Mining Association (NMA):** NMA is a national trade organization that advocates for mining interests, including coal mining. BHP, Arch Coal, Inc., Rio Tinto and Peabody Energy are all members.
- d. **The Western States Petroleum Association (WSPA):** WSPA is a trade association representing oil producers in Arizona, California, Nevada, Oregon, and Washington. Its members include, and at times relevant to this Complaint, have included ExxonMobil, Shell, Chevron and BP.

- e. The **American Fuel and Petrochemical Manufacturers (AFPM)** is a national association of petroleum and petrochemical companies.¹⁵⁸ At relevant times, its members included, but were not limited to, Exxon, Shell, Chevron, BP and ConocoPhillips.
- t) The **Information Council for the Environment (ICE)**: ICE was formed by coal companies and their allies, including Western Fuels Association and the National Coal Association. Associated companies included Chevron and Peabody.
- g) The **Global Climate Coalition (GCC)**: GCC was incorporated in 1989 with the specific purpose to oppose the Kyoto Protocol. It was founded in 1989 shortly after the first Intergovernmental Panel on Climate Change (IPCC). Founding members included the National Association of Manufacturers, the National Coal Association, the Edison Electric Institute, and the United States Chamber of Commerce. The GCC's early individual corporate members included Exxon, Shell Oil, Texaco (Chevron), Chevron, Amoco (BP), API, Ford and Phillips Petroleum (ConocoPhillips). During the time of its existence, other members and funders included ARCO (BP), BHP, the National Mining Association, and the Western Fuels Association. The coalition also operated for several years out of the National Association of Manufacturers' offices. The Global Climate Coalition continues informally today as an association-in-fact of the Defendants.
- h) **Donors Trust** was formed in 1999 in full herance of the Defendants' scheme to fund climate denial and keep funders confidential, in violation of consumer protection laws. Donors Trust and its affiliated **Donors Fund Capital**, another non-profit donor-advised fund which funnels money to climate denial advertisers in violation of consumer protection laws.

V. AGENCY

169. At all times herein mentioned, each of the Defendants was the agent, servant, partner, aider and abettor, co-conspirator, and/or joint ventures of each of the remaining Defendants herein and was at all times operating and acting within the purpose and scope of said agency, service, employment, partnership, conspiracy, and joint venture and rendered substantial assistance and

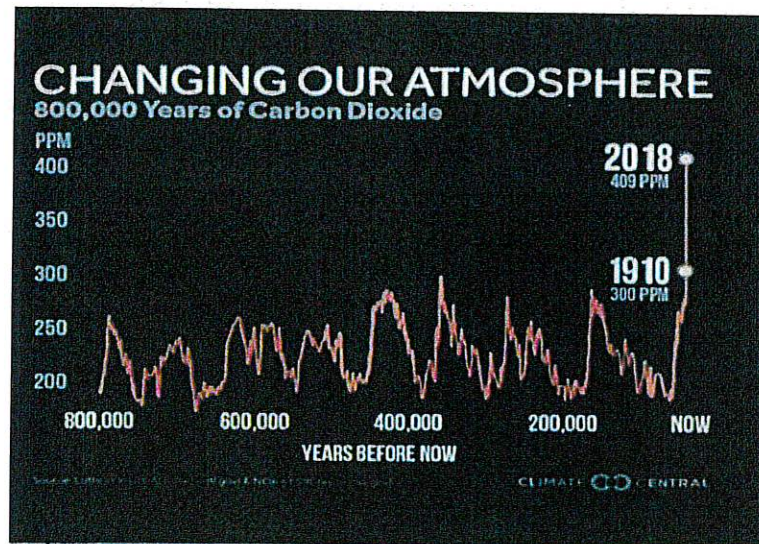
¹⁵⁷ American Fuel & Petrochemical Manufacturers (**AFMP**), *About Us*, AMERICAN FUEL & PETROCHEMICAL MANUFACTURERS (AFMP) <https://www.afpm.org/about-us> (last visited Nov. 15, 2022).

encouragement to the other Defendants, knowing that their conduct was wrongful and/or constituted a breach of duty.

VI. ALLEGATIONS OF FACT

A. Climate Change: A Warmer World

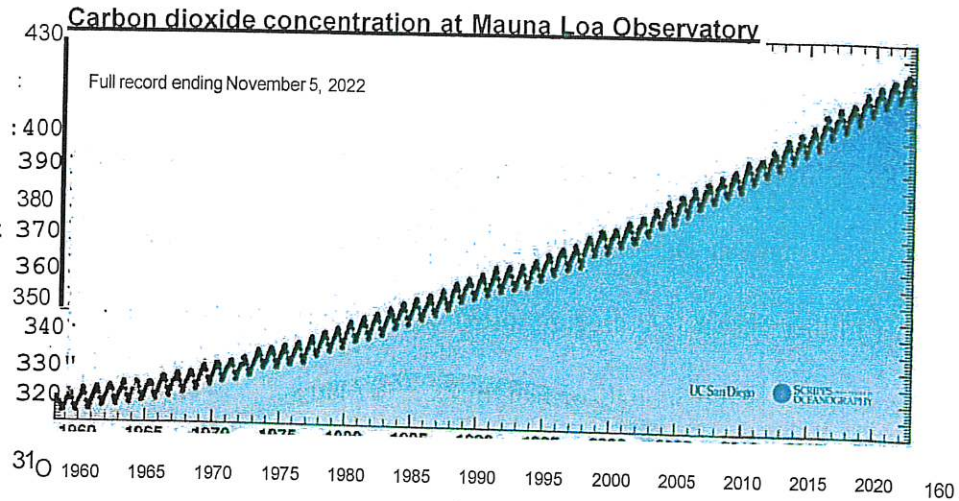
170. Atmospheric CO₂ levels have been higher in the past half century than in the previous 800,000 years as depicted in the below chart¹⁵⁸:



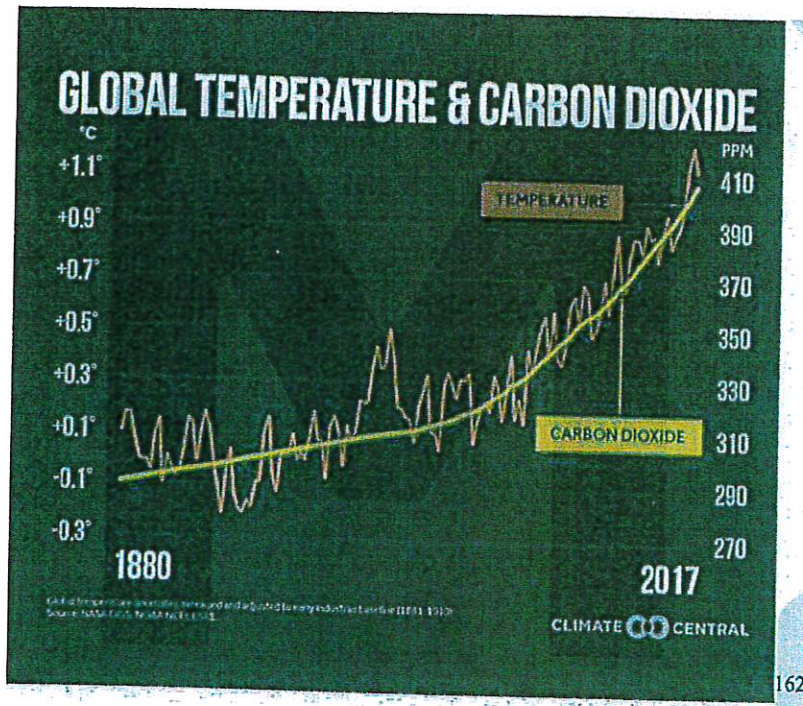
171. NASA also publishes the Earth's vital signs each day. On May 2022 CO₂ levels in the atmosphere were up to a dire **421** parts per million.¹⁵⁹ The record from Scripps Institute of Oceanography recorded the Keeling's curve from its discovery in 1958 to date:

¹⁵⁸ Dieter Luthi, Et. Al., *High-Resolution Carbon Dioxide Concentration Record 650,000-800,000 Years Before Present*, Letters (Mar. 17, 2008) <https://core.ac.uk/download/11762019.pdf> (last visited Nov. 15, 2022).

¹⁵⁹ NOAA, *Carbon dioxide now more than 50% higher than pre-industrial levels*, NATIONAL OCEANIC AND ATMOSPHERE ADMINISTRATION (Jun. 3, 2022), <https://www.noaa.gov/news-release/carbon-dioxide-now-more-than-50-higher-than-pre-industrial-levels> (last visited Nov. 14, 2022).



Both global temperature and carbon dioxide have increased since the 19th century:



172. Sea levels have risen, on average, over 8 inches (about 23 cm) since 1880, with about three of those inches gained in the last 25 years.¹⁶³ As global warming heats up ocean water, it

¹⁶⁰ Scripps Institution of Oceanography, *The Keeling Curve*, UC SAN DIEGO, <https://keelingcurve.ucsd.edu> (last visited Nov. 14, 2022).

¹⁶¹ Climate Central, *Global Temperature & Carbon Dioxide*, CLIMATE CENTRAL https://assets.climatecentral.org/images/uploads/galler:v/2018NCA_TempCO_UPDATED2.jpg (last visited Nov. 14, 2022).

¹⁶² Christina Nunez, *Sea level rise, explained*, NATIONALGEOGRAPHIC (Feb. 15, 2022),

expands- causing sea levels to rise. In addition, ice sheets and glaciers are melting, depositing formerly landlocked water back into the ocean.

173. By 2050, global average sea levels will likely rise by up to 16 more inches.¹⁶³ Increases in sea levels have devastating effects on coastal habitats.¹⁶⁴ As the ocean moves further inland, it causes further destructive erosion, often contaminates drinking water and agricultural soil with salt, and destroys the habitats of fish, birds, and plants.¹⁶⁵

174. Puerto Rico has been named the most affected by climate change in the world as a result of the storms of 2017.¹⁶⁶

175. The World Health Organization predicts that between 2030 and 2050, climate change will cause approximately 250,000 additional deaths per year, from malnutrition, malaria, disease, diarrhea, and heat stress.¹⁶⁷

176. The United States Government Accountability Office (GAO)¹⁶⁸ issued a report in June of 2019 entitled "**Climate Change: Opportunities to Reduce Federal Fiscal Exposure**" and outlined the potential environmental effects of climate change by 2100:¹⁶⁹

¹⁶³ Id.

¹⁶⁴ Christina Nunez, *supra* footnote 162.

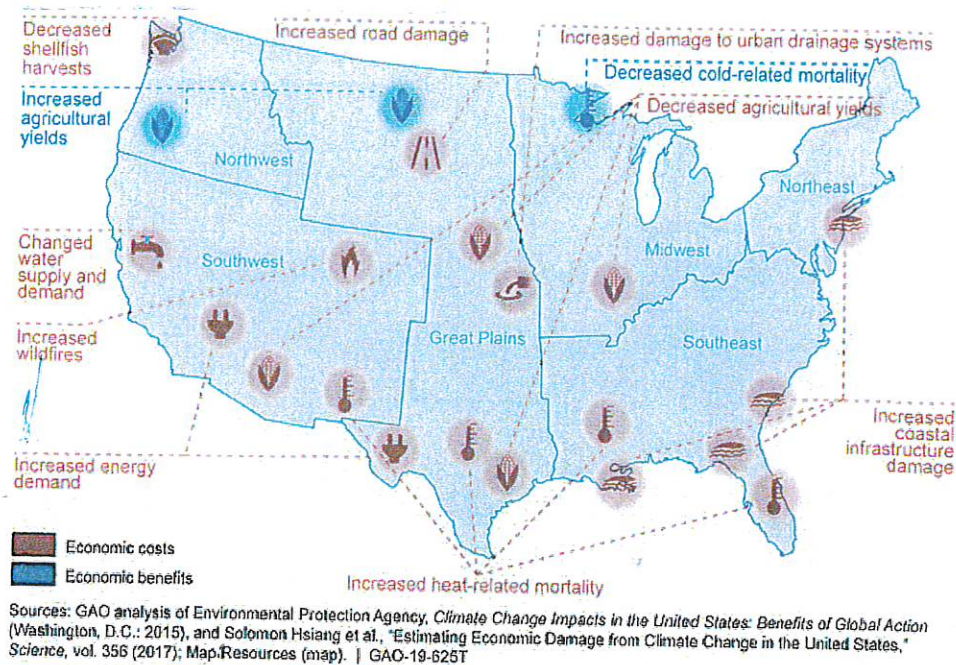
¹⁶⁵ Id.

¹⁶⁶ David Eckstein Vera Kilnzl Laura Schafer, Maik Wings, Global Climate Risk Index 2020 Who Suffers Most from Extreme Weather Events? Weather-Related Loss Events in 2018 and 1999 to 2018, GERMANWATCH (Dec. 4, 2019) <https://www.gcrilnwatch.org/site/default/file/20-2-01e%20Global%20Climate%20Risk%20Index%202020-14.pdf> (last visited Nov. 15, 2022)

¹⁶⁷ World Health Organization, *Climate Change and Health* (Oct. 30, 2021), WORLD HEALTH ORGANIZATION (WHO), <https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health> (last visited Nov. 15, 2022).

¹⁶⁸ The GAO is a legislative branch government agency that provides auditing, evaluation, and investigative services for the United States Congress. It is the supreme financial audit institution of the federal government of the United States. The GAO helps the Congress oversee federal programs and operations to ensure accountability to the American people. GAO's analysts, auditors, lawyers, economists, information technology specialists, investigators, and other multidisciplinary professionals seek to enhance the economy, efficiency, effectiveness, and credibility of the federal government both in fact and in the eyes of the American people.

¹⁶⁹ United States Government Accountability Office, *Climate Change: Opportunities to Reduce Federal Fiscal Exposure*, UNITED STATES GOVERNMENT ACCOUNTABILITY OFFICE (June 11, 2019) <https://www.gao.gov/assets/gao-19-625t.pdf> (last visited Nov. 15, 2022).



177. In this report, attached hereto as **Exhibit 2**, the GAO re-iterated its September 2017 finding:

" GAO reported that the potential economic effects of climate change could be significant and unevenly distributed across sectors and regions (see figure). This is consistent with the recent findings of the U.S. Global Change Research Program's Fourth National Climate Assessment, which concluded, **among other things, that the continued increase in the frequency and extent of high-tide flooding due to sea level rise threatens America's trillion-dollar coastal infrastructure.**" (*Emphasis added.*)

178. Likewise, the Department of Defense (DoD) released dire recommendations for the United States Army in its October 2019 report, attached hereto as **Exhibit 3**:

Climate Change

U.S. Military Could Collapse Within 20 Years Due to Climate Change, Report Commissioned By Pentagon Says

The report says a combination of global starvation, war, disease, drought, and a fragile power grid could have cascading, devastating effects.

179. As an organization that is--by law--non-partisan, the Department of Defense (DoD) admitted that it is "precariously unprepared" for the national security implications of climate change-induced global security challenges. The DoD study examines the implications of climate change for the United States Army and national security challenges associated with or worsened by climate change, and organizational challenges arising from climate change-related issues in the domestic environment.

180. Among other findings in its Executive Summary, the DoD found:

- a. Sea level rise, changes in water and food security, and more frequent extreme weather events are likely to result in the migration of large segments of the population. Rising seas will **displace tens (if not hundreds) of millions of people** creating massive, enduring instability. This migration will be most pronounced in those regions where climate vulnerability is exacerbated by weak institutions and governance and underdeveloped civil society. Recent history has shown that mass human migrations can result in increased propensity for conflict and turmoil as new populations intermingle with and compete against established populations. More frequent extreme weather events will also increase demand for military humanitarian assistance.
- b. Salt-water intrusion into coastal areas and changing weather patterns will also compromise or **eliminate fresh water supplies** in many parts of the world. Additionally, warmer weather increases hydration requirements. This means that in expeditionary warfare, the Army will need to supply itself with more water. This significant logistical burden will be exacerbated on a future battlefield that requires constant movement due to the ubiquity of adversarial sensors and their deep strike capabilities.

181. None of these dire findings are news to the Oil Defendants who prophesized these catastrophes in 1978 yet chose to deceive the Plaintiff with a different story, all to market their consumer products to the Plaintiff.

182. Climate models projecting global mean surface temperature (GMST) from 1970 to 2007 have proven to be scientifically accurate and consistent with observations, according to a peer

reviewed Geophysical Research Letter, dated December 4, 2019.¹⁷⁰

183. For three years in a row, the World Economic Forum's Global Risk Report has identified climate change as the gravest threat for global business and industry.¹⁷¹ Indeed, climate change is listed as one of the top three key forces transforming the economy.¹⁷² The Federal Reserve warned in a research report released on March 25, 2019, that climate-based risk could threaten the stability of the financial system as a whole.¹⁷³ Climate change will hit the banking system by storms, droughts, wildfires, and other extreme events making it harder for businesses to repay loans. That threat has come true for Puerto Rico, and the Municipality of San Juan.

184. An October 2018 report by a climate analytics firm and real estate technology company found that 35% of real estate investment trust properties have geographic exposure to climate hazards, including inland flooding, typhoons or hurricanes, and coastal flooding and elevated sea levels.¹⁷⁴ That exposure has also come true for Puerto Rico, and the Municipality of San Juan.

185. Anthropogenic (human-caused) greenhouse gas pollution (GHG), primarily in the form of CO₂, is far and away the dominant cause of global warming and sea level rise.¹⁷⁵ As the Oil Defendants have long known and even predicted, the primary source of this pollution is their extraction, production and consumption of coal, oil, natural gas, and their ubiquitous plastic

¹⁷⁰ Zeke Hausfather, Henri F. Drake, Tristan Abbott, Gavin A. Schmidt, *Evaluating the performance of past climate model projections*, GEOPHYSICAL RESEARCH LETTERS (Dec. 4, 2019) <https://agupubs.onlinelibrary.wiley.com/doi/fulV10.1029/2019GL085378> (last visited Nov. 15, 2022).

¹⁷¹ World Economic Forum, *The Global Risks Report 2019*, WORLD ECONOMIC FORUM (Jan. 15, 2019), <https://www.weforum.org/reports/the-global-risks-report-2019/> (last visited Nov. 15, 2022).

¹⁷² Id.

¹⁷³ Glen Rudebusch, *Climate Change and the Federal Reserve*, FEDERAL RESERVE BANK OF SAN FRANCISCO (Mar. 25, 2019), <https://www.frbsf.org/economic-research/publications/economic-letter/2019/march/climate-change-and-federal-reserve/> (last visited Nov. 15, 2022).

¹⁷⁴ Onica King, *Climate Risk, Real Estate, and the Bottom Line*, GEOPHY (Oct. 17, 2018), <https://geophy.com/insights/climate-risk-real-estate-and-the-bottom-line/> (last visited Nov. 15, 2022)

¹⁷⁵ IPCC, *AR5 Synthesis Report: Climate Change 2014*, IPCC, Page 6, Figure SMP.3, <https://www.ipcc.ch/report/ar5/syr/> (last visited Nov. 15, 2022).

consumer products offspring, referred to collectively in this Complaint as "fossil fuel-based consumer products."¹⁷⁷

B. Hurricanes and Climate Change

186. Tragically, Puerto Rico became the "canary in the coal mine"¹⁷⁸ for climate change.¹⁷⁹ By 2016, NASA's Goddard Institute for Space Studies reported that the Earth's Land-Global Temperature warmed almost 1°C.¹⁸⁰ However, Puerto Rico's climate is changing more rapidly, having deadly results. Even more tragically, the Defendants' deception and hiding of this hurricane threat to the Caribbean meant that this knowledge came too late for Puerto Rico and its people.

187. On May 18, 2020, a scientific report from National Oceanic and Atmospheric Administration (NOAA) entitled "Global increase in major tropical cyclone exceedance probability over the past four decades", made these dire predictions.

188. The NOAA research team, led by James Kossin, Ph.D., for the Center for Weather and Climate, National Centers for Environmental Information division of NOAA, found that tropical cyclone intensities are increasing with the warmer world, at a rate of 8% per decade, which is consistent with expectations based on theoretical understanding and trends identified in numerical simulations in warming scenarios. Dr. Kossin found major tropical cyclones pose, by far, the

¹⁷⁶ Cumulative emissions since the beginning of the industrial revolution to 2015 were 413 GTC attributable to fossil fuels, and 190 GTC attributable to land use change. *id.* Global CO₂ emissions from fossil fuels and industry remained nearly constant at 9.9 GTC in 2015, distributed among coal (41 %), oil (34 %), gas (19 %), cement (5.6 %), and gas flaring (0.7 %). *id.* at 629. Le Quere et al., *Global Carbon Budget 2016*, EARTH SYSTEM SCIENCE DATA (Nov. 14, 2016), <https://essd.copernicus.org/articles/8/605/2016/> (last visited Nov. 15, 2022).

¹⁷⁷ This idiom commonly refers to "something whose sensitivity to adverse conditions makes it a useful early indicator of such conceptions; something which warns of the coming of greater danger or trouble by a deterioration in its health or welfare." An allusion to caged canaries (birds) that miners would carry down into the mine tunnels with them. If dangerous gases such as carbon monoxide collected in the mine, the gases would kill the canary before killing the miners, thus providing a warning to exit the tunnels immediately. Wiktionary, *canary in a coal mine*, WIKTIONARY, https://en.wiktionary.org/wiki/canary_in_a_coal_mine (last visited Nov. 15, 2022).

¹⁷⁸ Janice Cantieri, *Puerto Rico: A 'canary in the coal mine for climate change*, MEDICAL REPORTS CHICAGO (Dec. 7, 2016), <https://news.meillill.northwestern.edu/chicago/puerto-rico-a-canary-in-the-coal-mine-for-climate-change/> (last visited Nov. 15, 2022).

¹⁷⁹ NASA, *Global Climate Change. Vital Signs of the Planet*, NASA, <https://climate.nasa.gov> (last visited Nov. 15, 2022).

greatest threat to lives and property. Between the early and latter halves of the time period, the major tropical cycles exceedance probability increases by about 8% per decade, with a 95% CI of 2 to 15% per decade.

189. Dr. Kossin studied approximately 225,000 images and about 4,000 individual tropical cyclones worldwide. He concluded on page two of his study that, over the past forty (40) years and longer, anthropogenic warming has increased sea surface temperature in tropical cyclone-prone regions and, in combination with changes in atmospheric conditions, this has increased tropical cyclone potential intensity in these regions. His study also established a statistically significant worldwide trend representing a 25%, or over 6% per decade over forty (40) years, increase in the likelihood that any given hurricane will have a major increase in its surface winds. Moreover, Dr. Kossin found that the greatest changes were in the North Atlantic where the probability of major hurricane exceedance of average windspeed has increased by 49% per decade during the same time frame.¹⁸⁰

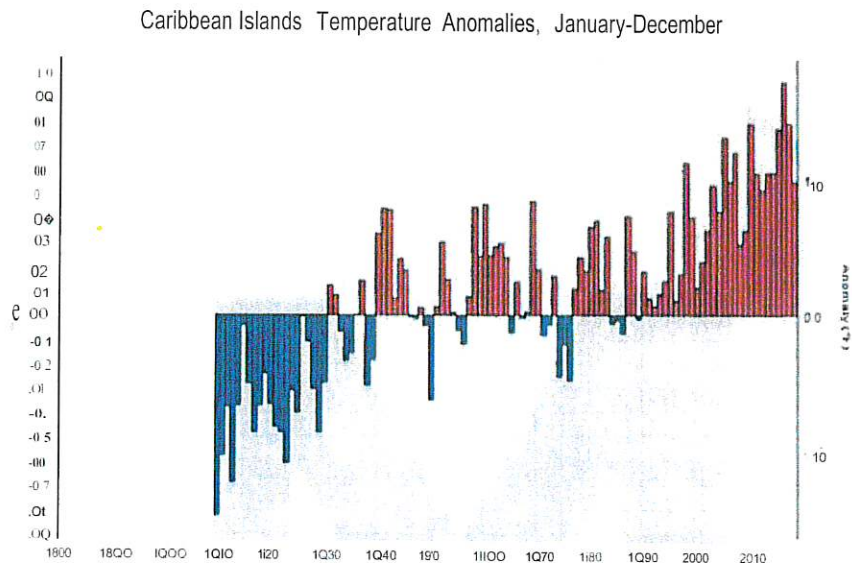
190. As Kerry Emanuel, Ph.D., a climatologist at Massachusetts Institute of Technology (MIT), explains, "[h]urricanes are powered by the evaporation of sea water," and "water evaporates faster from a hot surface than a cold surface."¹⁸¹ As water evaporates, the "moist air over the ocean surface fuels convection," i.e., air circulation is accelerated, because hot air rises

¹⁸⁰ See, Scott Dance & Kasha Patel, *How Climate Change is Rapidly Fueling Super Hurricanes*, WASHINGTON POST (Sept. 29, 2022) <https://www.washingtonpost.com/climate-environment/2022/09/29/ian-hurricane-rapid-intensification-climate> (last visited Nov. 15, 2022), ("A hotter ocean, along with low vertical wind shear, have helped drive the rapid intensification of recent storms."); see also, Adam Aton, *Hurricane Ian is a Peek Into the Future*, POLITICO (Aug. 27, 2022), <https://www.politico.com/newsletters/power-switch/2022/09/27/hurricane-ian-is-a-peek-at-the-future-00059055#> ("Warmer oceans are one of the most certain impacts of carbon pollution. That means more storms will intensify- resulting in more rain, higher storm surges and more major hurricanes.").

¹⁸¹ Craig Welch, *How Climate Change Likely Strengthened Recent Hurricanes*, NATIONAL GEOGRAPHIC (Sept. 20, 2017), <https://www.nationalgeographic.com/science/article/hurricane-harvey-climate-change-global-warming-weather> (last visited Nov. 15, 2022).

and cold air sinks.¹⁸² As convection accelerates, the storm whips itself into a fury, with wind speeds that can reach up to 200 miles per hour.

191. In the Caribbean, land, and ocean temperature anomalies¹⁸³ since 1880, as measured against the 1910-2000 global average temperatures, have dramatically increased.¹⁸⁴



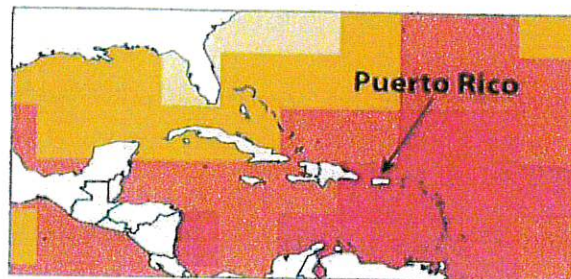
192. The USEPA reports that Puerto Rico has warmed more than 1° F¹⁸⁵ since the mid-20th century, and the sea surface temperatures of the surrounding waters have warmed more than 2°F since 1901, according to the EPA's new letter "What Climate Change Means for Puerto Rico" published in August 2016.

¹⁸² Becky Oskin, *Hurricanes Whip Up Faster in Warming World, Study Suggests*, NB NEWS (Sep. 7, 2012), <https://www.nbcnews.com/id/wbna48939906> (last visited Nov. 15, 2022).

¹⁸³ The term "temperature anomaly" refers to departure from a reference value or long-term average and provides a global-scale climate diagnostic tool and provides a big picture overview of average global temperature. National Centers for Environmental Information, *temperature anomaly*, NATIONAL CENTERS FOR ENVIRONMENTAL INFORMATION, www.ncdc.noaa.gov (last visited Nov. 15, 2022).

¹⁸⁴ National Centers for Environmental Information, *Climate at a Glance: Global Time Series*, NATIONAL CENTERS FOR ENVIRONMENTAL INFORMATION, <https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/national/time-series> (last visited Nov. 15, 2022).

¹⁸⁵ The EPA report refers to the NOAA sea surface temperature readings in Fahrenheit. United States Environmental Protection Agency, *What Climate Change Means to Puerto Rico*, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (Aug. 2016), <https://www.epa.gov/sites/production/files/2016-09/documents/climate-change-pr.pdf> (last visited Nov. 15, 2022).



Change in sea surface temperature (°F)

0 0.5 1 1.5 2 2.5

Rising sea surface temperatures since 1901. The waters around Puerto Rico have warmed by nearly two degrees. Sounder: EPA, Climate Change Indicators in the United States.

193. Warmer waters around Puerto Rico are akin to rocket fuel for hurricanes. Not only do warmer waters provide more energy for hurricanes, but warmer climate means also that hurricanes will carry more water until they make landfall because warm air has high water vapor content. This moisture then precipitates as rainfall during a hurricane, releasing the heat energy that was used to evaporate it.¹⁸⁷ Warmer water has more heat energy and evaporates more easily, increasing the intensity of the precipitation carried by the hurricane.¹⁸⁸

194. The extremely warm water around Puerto Rico caused by climate change, as accelerated by the Defendants' products and conduct, intensified Maria.¹⁸⁹ Warmer Sea surface temperatures intensify tropical storm wind speeds, delivering more damage if the storm makes landfall.

195. The average sea levels around Puerto Rico have increased since 2010 at a rate 10 times faster than the historical rate—an increase of about 1 centimeter (0.4 inches) per year, the resulting coastal erosion alone has caused significant property damage and flooding. The sea is rising about

¹⁸⁶ Umair Irfan, *One of the Clearest Signs of Climate Change in Hurricanes Maria, Irma, and Harvey was the Rain*, Vox (Sept. 29, 2017) <https://www.vox.com/energy-and-environment/2017/9/28/16362522/hurricane-maria-2017-irma-harvey-rain-flooding-climate-change> (last visited Nov. 15, 2022).

¹⁸⁷ Id.

¹⁸⁸ Carlos E. Ramos-Scharron & Eugenio Arima, *Hurricane Maria's Precipitation Signature in Puerto Rico: A Conceivable Presage of Rains to Come*, SCIENTIFIC REPORTS (Oct. 30, 2019), <https://www.nature.com/articles/s41598-019-52198-2> (last visited Nov. 15, 2022).

an inch every 15 years, and heavy rainstorms have become more severe. Rising temperatures have increased storm damages, caused significant harm to precious coral reefs, and increased the frequency of excessively hot days.

196. As the climate warms, the frequency of higher intensity storms increases. The intensification of hurricanes in the North Atlantic basin, in which Puerto Rico sits, has been linked to rising ocean temperatures.

197. Puerto Rico lies in "Hurricane Alley" an area of warm water in the Atlantic Ocean stretching from the west coast of northern Africa to the east coast of Central America and Gulf Coast of the southern United States. The sea surface temperature of the Atlantic in Hurricane Alley has grown warmer over past decades.¹⁸⁹

198. The warm waters of Hurricane Alley are depicted in the foregoing photograph in orange: Puerto Rico and its warm waters are centered directly in the deadly path.¹⁹⁰

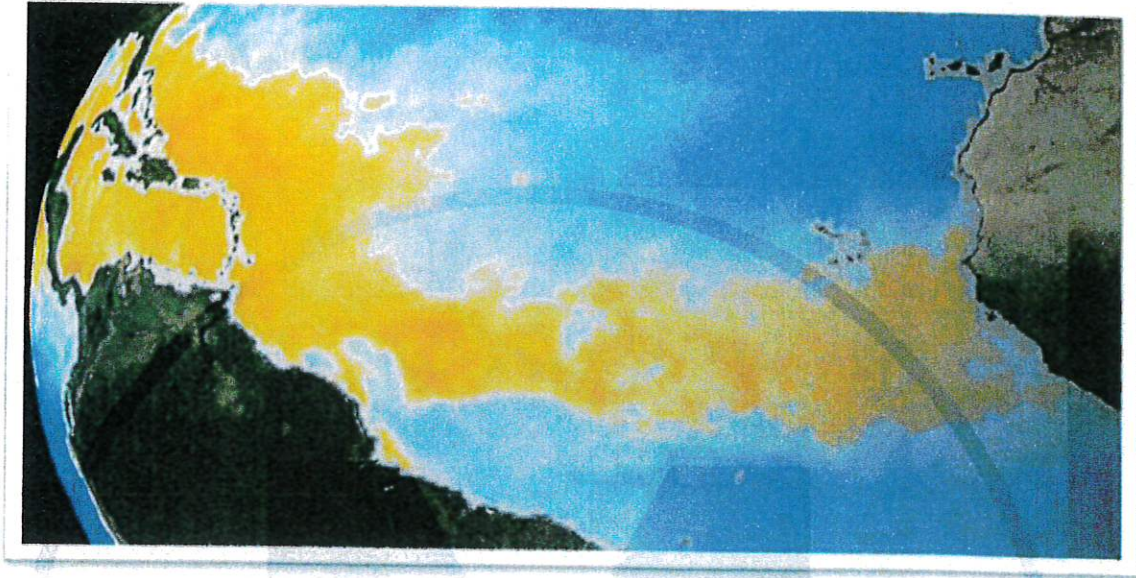
199. A recent study¹⁹¹ has evaluated Puerto Rico's rare susceptibility to flooding during hurricanes. "The study focuses on how Hurricane Maria and other extreme storms provoke riverine flooding in Puerto Rico. It uses historical data from the U.S. Geological Survey as well as previous research to compile a record of nearly 2,000 daily peak-streamflow measurements taken during hurricanes and tropical cyclones since 1898. Contextualizing these datapoints in terms of other world regions, the study finds that Puerto Rico' low-lying geography, hydrological landscape, and

¹⁸⁹ Sara Goudarzi, *Hurricane Alley Heats Up*, LIVE SCIENCE (May 2, 2006), <https://www.livescience.com/723-hurricane-alley-hcats.html> (last visited Nov. 15, 2022).

¹⁹⁰ NASA, *Hurricane Alley Heats Up*, NASA Earth Observatory, (Aug. 9, 2005) <https://earthobservatory.nasa.gov/images/5742/hurricane-alley-heats-up> (last visited Nov. 15, 2022).

¹⁹¹ Carlos E. Ramos-Scharrón, Caroline T. Garnett, and Eugenio Y. Arima, *A Catalogue of Tropical Cyclone Induced Instantaneous Peak Flows Recorded in Puerto Rico and a Comparison with the World's Maxima*. MDPJ (May 21, 2021), <https://www.mdpi.com/2306-5338/8/2/84> (last visited Nov. 15, 2022).

size make it one of Earth's most susceptible regions to riverine flooding during severe rainfall events."¹⁹²



C. The Deadly 2017 Atlantic Hurricane Season-Fueled by Climate Change

200. The 2017 Atlantic hurricane season - "a season that wouldn't quit" - produced multiple powerful and long-lived tropical cyclones with a damage total of at least **\$294.92 billion**, featuring 17 named storms, 10 hurricanes, and 6 major hurricanes.

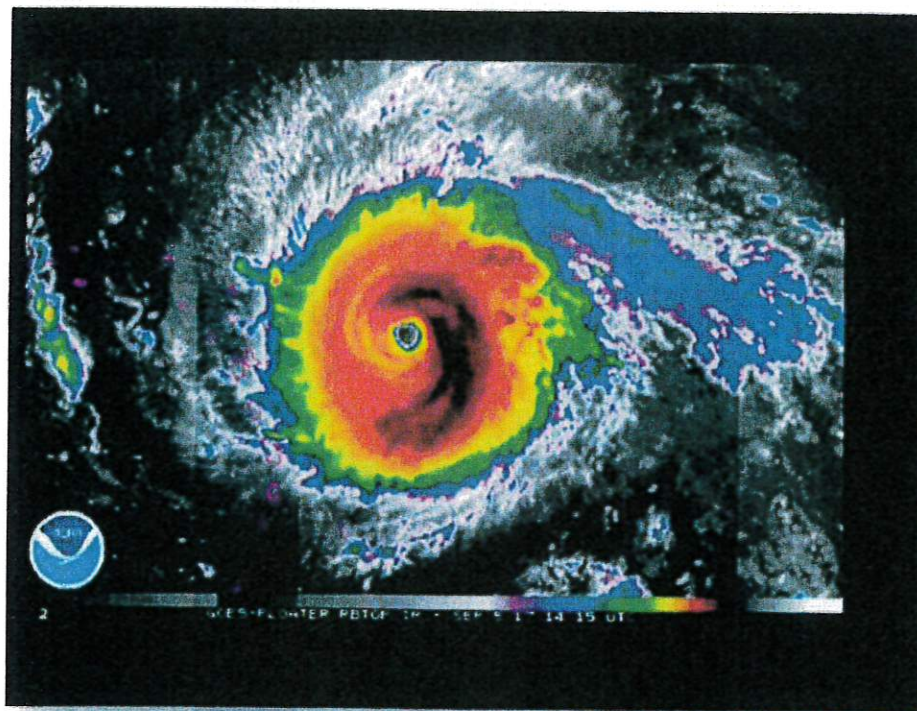
201. August and September of 2017 proved to be especially active and three catastrophic hurricanes: Harvey, Irma, and Maria, pummeled the Caribbean.¹⁹³

202. In early September of 2017, Hurricane Irma made its way through the Caribbean. A Category 5 hurricane, with registered winds up to 185 mph, Hurricane Irma destroyed everything along its path. The storm's eye moved 30 miles north of Puerto Rico on September 6, 2017 and its damaging winds and rain shook Puerto Rico. On its way through the island, Irma left flooded

¹⁹² Stormwater Report, *Puerto Rico particularly vulnerable to climate change, research suggests*, STORMWATER REPORT (Jun. 21, 2021), <https://stormwater.wef.org/2021/06/puerto-rico-particularly-vulnerable-to-climate-change-research-suggests/> (last visited Nov. 15, 2022).

¹⁹³ National Oceanic and Atmospheric Administration, *Extremely active 2017 Atlantic hurricane season finally ends*, NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (Nov. 30, 2017), <https://www.noaa.gov/media-release/extremely-active-2017-atlantic-hurricane-season-finally-ends> (last visited Nov. 15, 2022).

streets and snapped trees and electrical posts which were leveled to the ground. Over a million people had no electricity and approximately 6,000 people were evacuated. Hurricane Irma set a new record for the longest duration at Category 5 intensity of any storm on the planet, killing 52 people directly, 82 people indirectly and an estimate \$77.16 billion in damages.¹⁹⁴



203. Almost immediately after September 20, 2017 Hurricane Maria ravaged Puerto Rico and left an official death toll of no less than **2,975** and more than **\$120 billion** in damages to Puerto Rico. In addition, the Municipality of San Juan, and their citizens sustained billions in property damages, loss of business income and economic injury themselves.

¹⁹⁵ James Daniell, Bernhard Muhr, Antonios Pomonis, Andreas Schafer, Susanna Mohr, *Hurricane Irma: Report No. I, Focus on Caribbean up until 8th September 2017*, CENTER FOR DISASTER MANAGEMENT AND RISK REDUCTION TECHNOLOGY (Aug. 9, 2017), https://www.cedim.kit.edu/download/FDA_Irma_2017_Report!.pdf (last visited Nov. 15, 2022).

204. Two police officers who were on their way home after working long hours during the hurricane in Aguada lost their lives in the tragedy.¹⁹⁵ Scores of people died and families, in some instances, were given no alternative but to bury dead family members in makeshift graves. According to the Centers for Disease Control and Prevention (CDC), deaths can be directly attributed to a tropical cyclone if they are caused by forces related to the event, such as flying debris, or if they are caused by unsafe or unhealthy conditions resulting in injury, illness, or loss of necessary medical services.¹⁹⁶

205. On May 19, 2018, Kishore *et al*/¹⁹⁷ surveyed 3,299 randomly chosen households across Puerto Rico to produce an independent estimate of all-cause mortality after the hurricane. Respondents were asked about displacement, infrastructure loss, and causes of death.

206. This survey yielded a total of **4,645 excess deaths** during this period, equivalent to a 62% increase in the mortality rate as compared with the same period in 2016. However, the researchers concluded that their estimate "...is likely to be **conservative** since subsequent adjustments for survivor bias and household-size distributions increase this estimate to more than 5,000."

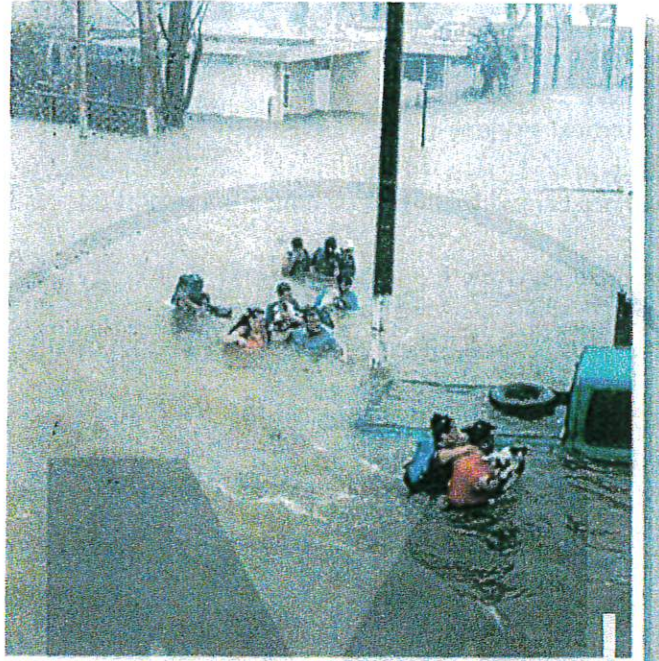
207. The deadly storm crossed the island from southeast to northwest trajectory, entering through Yabucoa and leaving a path of destruction on its way-out to Arecibo. Prior to landfall Maria hit the extremely warm waters on the east coast of Puerto Rico, Maria then accelerated and made landfall in Puerto Rico as a Category 5, with sustained winds of 155 mph. Maria caused catastrophic results to the island and its already debilitated infrastructure from Irma just a few weeks before. Coasts were flooded with storm surges. Trees fell, leaving communities without communication. Roads were completely washed

¹⁹⁵ Danica Coto, *After Maria, humanitarian crisis grows in Puerto Rico*. THE FREDERICK NEWS-POST (Sep. 23, 2017), https://www.fredericknewspost.com/public/ap/after-maria-humanitarian-crisis-grows-in-puerto-rico/article_20b72530-01a2-5273-bb16-0709d35d5506.html (last visited Nov. 15, 2022).

¹⁹⁶ Centers for Disease Control and Prevention, *A reference guide for certification of deaths in the event of a natural, human-induced, or chemical radiological disaster*, CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC) (Oct. 2017), <https://stacks.cdc.gov/view/cdc/49294> (last visited Nov. 15, 2022).

¹⁹⁷ *Id.*

out; thousands of houses were damaged or destroyed. There were 45 mudslides, and it took three weeks just to open main roads.¹⁹⁸



208. Critical infrastructure failure to the Guajataca Dam in the island's northwest corner caused flood. Dams fell apart and represented great danger to an estimated 70 000 people." ¹⁹⁹ Residents below the dam were told to evacuate on September 27, 2017, according to the National Guard. With more than 95% of wireless cell sites out of service, authorities had to physically go to thousands of homes to warn people of the potential collapse.²⁰⁰

¹⁹⁸ Heidee Rolon Cintron, *La compleja y extensa labor para restaurar El Yunque*. EL NUEVO DIA (Jan. 27, 2018, 12:00 AM), <https://www.elnuevodia.com/noticias/locales/notas/Ja-com-te-a--extensa-labor-para-restaurar-el-yunque/> (last visited Nov. 15, 2022)

²⁰⁰ Id.

²⁰¹ Id.

209. Health care disruption contributes to both morbidity and mortality in natural disasters.²⁰¹

²⁰² ²⁰³ This phenomenon has been observed in the aftermaths of Hurricane Katrina, Superstorm Sandy, and more recently Hurricanes Harvey and Inna, in which nursing home residents and those dependent on life-sustaining equipment were disproportionately affected.²⁰⁴

210. The damage to the Puerto Rico's power grid was so severe that three months after Hurricane Maria 45% of Puerto Ricans still had no power, accounting for 1.5 million people.

211. The Municipality's entire power grid was destroyed, leaving 100% of the population of San Juan without power. Due to the cascading infrastructure failure from flooding, broken roads, downed trees and powerlines, restoration of power was quite slow. Four months after Maria, only 70.9% of the population in Puerto Rico had power.²⁰⁵

212. The hurricane also devastated Puerto Rico's Municipality of San Juan's transportation infrastructure. A month after the hurricane, only 392 miles of Puerto Rico's 5,073 miles of road were open. Many residents were stranded and could only be reached by helicopter. Elderly, the infirm, handicapped, and disabled were especially disadvantaged and constituted the majority of those whose lives were lost in the apocalyptic aftermath.

²⁰¹ Linda B. Bourque, Judith M. Siegel, Megumi Kano, Michele M. Wood, *New Morbidity and mortality associated with disasters. Handbook of Disaster Research*, SPRINGER, https://link.springer.c-0m/chapter/10.1007/978-0-387-32353-4_6 (last visited Nov. 15, 2022).

²⁰² L. P. Boss, M. J. Toole, R. Yip, Assessments of mortality, morbidity, and nutritional status in Somalia during the 1991-1992 famine: recommendations for standardization of methods. NATIONAL LIBRARY OF MEDICINE (Aug. 3, 1994), <https://pubmed.ncbi.nlm.nih.gov/8028168/> (last visited Nov. 15, 2022).

²⁰³ C. Bern, J. Sniezek, G. M. Mathbor, et al, *Risk/actors/or mortality in the Bangladesh cyclone of 1991*, NATIONAL LIBRARY OF MEDICINE (1993), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC239344/> (last visited Nov. 15, 2022).

²⁰⁴ K. Lempert and J. Kopp, *Hurricane Sandy as a kidney failure disaster*, AMERICAN JOURNAL OF KIDNEY DISEASES (Jun. 1, 2013), [https://www.ajkd.org/article/S0272-6386\(13\)00679-3/fulltext](https://www.ajkd.org/article/S0272-6386(13)00679-3/fulltext) (last visited Nov. 15, 2022).

²⁰⁵ Ann Simmons, *Four months after Hurricane Maria, Puerto Rico struggles with lack of electricity, food and water*, LOS ANGELES TIMES (Jan. 30, 2018), <https://www.latimes.com/nation/la-na-puerto-rico-aid-20180130-story.html> (last visited Nov. 15, 2022).

213. Puerto Rico sustained serious crop damage. Roughly 80% of Puerto Rico's crop value vanished overnight, a loss of approximately **\$780 million**.²⁰⁶ Severe food shortages resulted, and the lack of intact transportation infrastructure made it difficult to distribute food aid.

214. The Municipality lost access to clean water. Tens of thousands of homes were destroyed, and the road infrastructure was left crippled. Blue tarps as makeshift roofs still pepper Puerto Rico from the widespread destruction.

215. The "nearly insurmountable catastrophe" damaged hospitals, shelters, and food stores. To ameliorate the damage, Salvador Gómez-Colón, who was 15-years-old at the time, created a fundraising campaign to bring solar-powered lamps and hand-powered washing machines to thousands of affected families.²⁰⁷

216. In the months following the 2017 Atlantic Hurricane Season, morgue at many Puerto Rico hospitals were at full capacity and many citizens of San Juan, still struggle to this day.

217. Thousands of corals in Puerto Rico were snapped by the intensity of the 2017 storms, affecting the island's tourism and the protection of valuable coastal infrastructure. Hurricanes Inna and Maria caused extensive damage to the reefs around Puerto Rico when they made landfall in September of 2017²⁰⁸ delaying Puerto Rico's adaptation and mitigation efforts, as well as causing severe coastal erosion.

218. Hurricane Maria dumped almost a quarter of Puerto Rico's annual rainfall in just one day. The rain alone was terribly destructive, causing flash flooding and killing scores of people, ruining livelihoods, and trade. Widespread flooding destroyed crucial dams and disrupted drinking

²⁰⁶ Lauren Lluveras, *Puerto Rico's bankruptcy will make hurricane recovery brutal - here's why*, THE CONVERSATION (Sep. 26, 2017), <https://theconversation.com/puerto-ricos-bankruptcy-will-make-hurricane-recovery-brutal-heres-why-84559> (last visited Nov. 15, 2022).

²⁰⁷ Salvador Gómez-Colón, *Hurricane: My Story of Resilience* (Dave Eggers et al., eds. 2022).

²⁰⁸ Federal Emergency Management Agency (FEMA), *Scientists Working to Restore Puerto Rico's Coral Reefs Battered by 2017 Hurricanes*, FEMA (Apr. 17, 2018), <https://www.fema.gov/press-release/20210318/scientists-working-restore-puerto-ricos-coral-reefs-battered-2017-hurricanes> (last visited Nov. 15, 2022).

water and electricity to nearly the entire island. The rain triggered tens of thousands of landslides in the island's interior, in some cases isolating communities for days and weeks²⁰⁹ with residents unable to seek aid and healthcare.

219. Former medical director of the Blue Cross Blue Shield of Texas, Lilly Ramphal, conducted a study for the University of North Texas School of Public Health that followed a community clinic set up to treat homeless and dislocated populations affected by climate disasters in Puerto Rico. The study described the country as a "human laboratory" demonstrating the impact of climate change events and the resulting human sequelae. The study found that the suicide rate in Puerto Rico increased by 16% 4 months after Hurricane Maria and the overall rate of suicides increased by 26% 6 months after Maria, totaling to nearly one suicide per day.²¹⁰ A separate study conducted for the Society for Disaster Medicine and Public Health found that in the town of Punta Santiago, during the same period, 54.1 % of participants scored as clinically significant for major depressive disorder, 48.6% for generalized anxiety disorder, and 41.9% for PTSD.²¹¹

220. In the **Municipality of San Juan**, a month after the passing of Hurricane Maria, emergency management services were removing 1,000 cubic yards of debris daily and most of the municipality's almost 342,000 residents remained without electricity and water service was unstable.²¹²

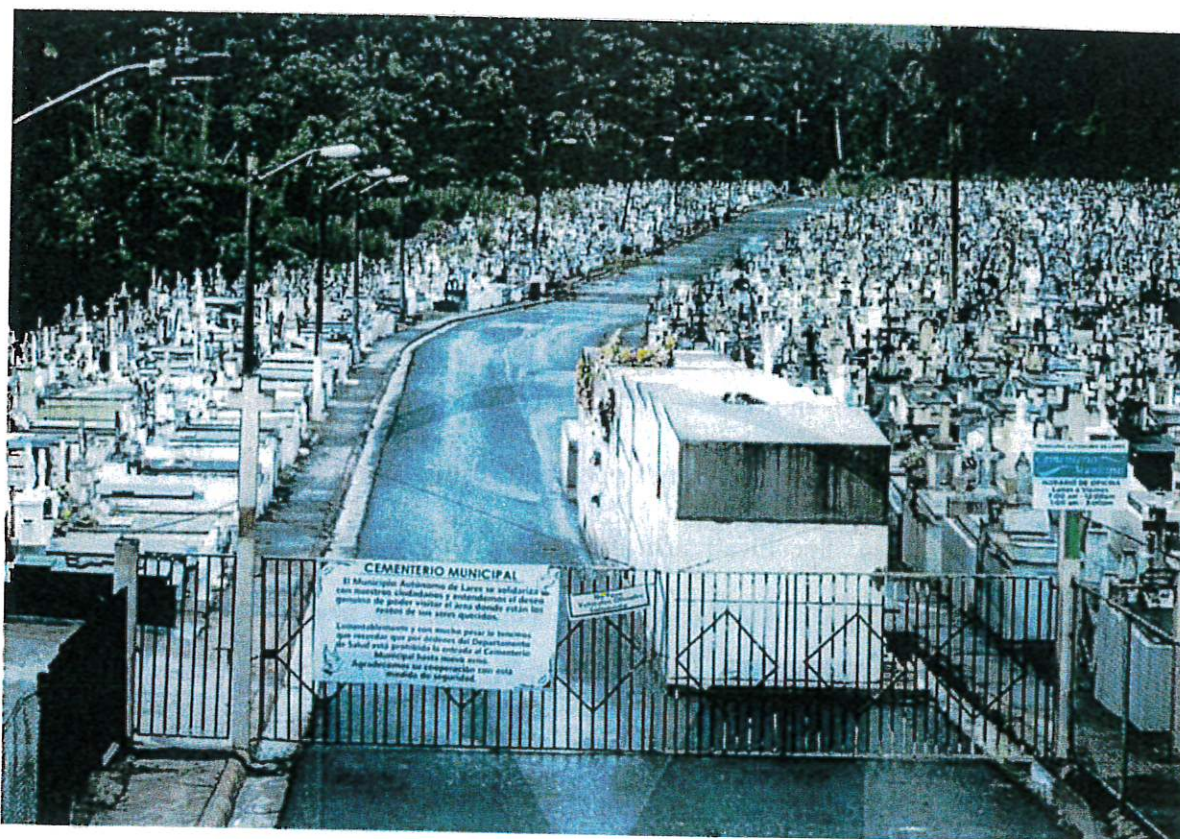
²⁰⁹ Erin K. Bessette-Kirton, Ona Arlovski-Dan-iau, et al, *Landslides Triggered by Hurricane Maria: Assessment of an Extreme Event in Puerto Rico*, THE GEOLOGICAL SOCIETY OF AMERICA (Jan. 5, 2019), <https://www.geosociety.org/gsatoday/science/G383A/article.htm> (last visited Nov. 15, 2022).

²¹⁰ Lilly Ramphal, *Medical and psychosocial needs of the Puerto Rican people after Hurricane Maria*, NATIONAL LIBRARY OF MEDICINE (Jul. 31, 2018), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5997087/> (last visited Nov. 15, 2022).

²¹¹ Compare with global statistics: 3.4% of adults in 2017 had depression and 3.8% had an anxiety disorder (including generalized anxiety disorder and PTSD). Isabella M. Ferre et al, *Hurricane Maria's Impact on Punta Santiago, Puerto Rico: Community Needs and Mental Health Assessment Six Months Postimpact*, National Library of Medicine (Nov. 5, 2018), <https://pubmed.ncbi.nlm.nih.gov/30394256/> (last visited Nov. 15, 2022).

²¹² El Nuevo Dia & Primera Hora, *Maria, un nombre que no vamos a olvidar*. EL NUEVO DIA & PRIMERAHORA (Nov. 27, 2017), <https://huracanmaria.elnuevodia.com/2017/> (last visited Nov. 15, 2022).





D. The Deadly 2017 Atlantic Hurricanes Are Only the Beginning

221. Dr. Emanuel reveals that if warming continues at its current pace, it will greatly increase the probability of extreme events such as Harvey, Irma, and Maria.²¹⁵ "We are seeing some of the hottest ocean temperatures in the planet in the western Caribbean Sea," said Michael Ventrice, a research meteorologist. "This is like rocket fuel for developing tropical cyclones."²¹⁶

²¹⁵ David L. Chandler, *Kerry Emanuel: This year's hurricanes are a taste of the future*, MIT NEWS (Sept. 21, 2017) <https://news.mit.edu/2017/kenv-emanuel-hurricanes-are-taste-future-0921> (last visited Nov. 15, 2022).

²¹⁶ Angela Fritz, *Harvey. Irma. Maria. Why is this hurricane season so bad?* THE WASHINGTON POST (Sep. 23, 2017), <https://www.washingtonpost.com/news/capital-weather-gang/wp/2017/09/23/harvey-irma-maria-wby-is-this-hurricane-season-so-bad/> (last visited Nov. 15, 2022).

222. The intensity of Hurricane Irma and Hurricane Maria was increased by climate change as accelerated by Defendants' consumer products and conduct. According to a peer-reviewed article by Professor Alistair Woodward of the University of Auckland, Hurricane Irma and Hurricane Maria are consistent with model-based projections of more severe weather associated with climate change.²¹⁷ More severe tropical storms will occur as the climate warms, thus severely impacting and affecting the Municipality of San Juan.

223. Dr. Emanuel, in a June 2019 Report demonstrated that global warming has tangibly increased the risk of high intensity hurricanes and of heavy hurricane-related rains in Puerto Rico. Specifically, Dr. Emanuel applied basic physical theory and an established technique called downscaling for estimating hurricane risk from global climate simulations to analyze hurricane risk in Puerto Rico and how it is changing in response to anthropogenic climate change. Consistent with previous analyses and a recently published review of hurricanes and climate change, Dr. Emanuel's results demonstrate that the likelihood of hurricane winds in Puerto Rico of a magnitude equal to or greater than those experienced during Hurricane Maria of 2017 increased by a **factor of about 8** between the middle of the twentieth century and the 20 years centered on 2017. In addition, Dr. Emanuel's results demonstrate that the probability of regionally averaged rainfall of 600 mm or greater increased by about **a factor of 10** during the same time frame.

224. Warmer ocean water from climate change contributed to Hurricane Maria dumping almost 36 inches of rain on Puerto Rico in a single day.²¹⁸ For comparison, Hurricane Harvey, which caused \$125 billion of devastation in Texas, took three days to drop the same amount of

²¹⁸ Alistair Woodward & Jonathan Samet, *Climate Change, Hurricanes, and Health*, AMERICAN PUBLIC HEALTH ASSOCIATION (Dec. 6, 2017), <https://ajph.aphapublications.org/doi/10.2105/AJPH.2017.304197> (last visited Nov. 15, 2022).

²¹⁹ Umair Irfan, *One of the clearest signs of climate change in Hurricanes Maria, Irma, and Harvey was the rain*, VOX (Sep. 29, 2017), <https://www.vox.com/energy-and-environment/2017/9/28/16362522/hurricane-maria-2017-irma-harvey-rain-flooding-climate-change> (last visited Nov. 15, 2022).

rain.²¹⁹ A group of researchers, using attribution modeling, found that the amount of rainfall dropped in Harvey was up to 38% higher than would occur in the absence of human-induced climate change.²²⁰

225. A new study analyzing Puerto Rico's hurricane history finds 2017's Maria had the highest average rainfall of the 129 storms to have struck the island in the past 60 years. Researchers concluded that a storm of Maria's magnitude is nearly **five times more likely** to form now than during the 1950s, an increase due largely to the effects of human-induced warming, according to the study's authors.²²¹

226. Researchers analyzed rainfall from the 129 hurricanes that have struck Puerto Rico since 1956 and found Hurricane Maria produced the largest maximum daily rainfall of those 129 storms: a whopping 1,029 millimeters (41 inches) of rain.²²² "What we found was that Maria's magnitude of peak precipitation is much more likely in the climate of 2017 when it happened versus the beginning of the record in 1950," said David Keellings, a geographer at the University of Alabama in Tuscaloosa, who co-authored a study released in April, 2019, in American Geophysical Union's journal *Geophysical Research Letters*, along with Jose Javier Hernandez Ayala, a climate researcher at Sonoma State University in California.

227. "Some things that are changing over the long-term are associated with climate change-like the atmosphere getting warmer, sea surface temperatures increasing, and more moisture being available in the atmosphere-together they make something like Maria more likely in terms of its magnitude of precipitation," Keellings concluded.

²¹⁹ *Id.*

²²⁰ Henry Fountain, *Scientists link Hurricane Harvey's Record Rainfall to Climate Change*, THE NEW YORK TIMES (Dec. 13, 2017), <https://www.nytimes.com/2017/12/13/climate/hurricane-harvey-climate-change.html> (last visited Nov. 15, 2022).

²²¹ David Keellings, *Climate change to blame for Hurricane Maria's extreme rainfall*, ADVANCING EARTH AND SPACE SCIENCE (Apr. 16, 2019), <https://news.agu.org/press-release/climate-change-to-blame-for-hurricane-marias-extreme-rainfall/> (last visited Nov. 15, 2022).

²²² *Id.*

228. Keellings and Hernandez Ayala also studied whether Maria's extreme rain was a result of natural climate variability or longer-term trends like human-induced warming. To do so, they analyzed the likelihood of an event like Maria happening in the 1950's versus today. They concluded an extreme event like Hurricane Maria was **4.85 times more likely** to happen in the climate of 2017 than in 1956, and that change in probability cannot be explained by natural climate cycles.²²³

229. At the beginning of the observational record in the 1950s, a storm like Maria was likely to drop that much rain once every 300 years. But in 2017, that likelihood dropped to about once every 100 years, according to the study. "Due to anthropogenic climate change, it is now much more likely that we get these hurricanes that drop huge amounts of precipitation," Keellings said.²²⁴

230. The findings show **human influence** on hurricane precipitation has already started to become evident, according to Michael Wehner, a climate scientist at Lawrence Berkeley National Laboratory in Berkeley, California. "Because so much of Maria's damage was due to flooding from the extreme amount of rain, it is safe to say that part of those damages was exacerbated by climate change," Wehner said.²²⁵

231. In the North Atlantic Basin, including the Caribbean, the long-term (1966-2009) average number of tropical storms is about eleven annually, with about six becoming hurricanes. More recently (2000-2013), the average is about sixteen tropical storm per year, including about eight hurricanes. This increase in frequency is correlated with the rise in North Atlantic Sea surface temperatures, which is in part driven by global warming.²²⁶

²²³ *Id.*

²²⁴ *Id.*

²²⁵ *Id.*

²²⁶ *Id.*

232. When energy system modeling accounts for extreme weather risks, the cost of electricity in Puerto Rico is projected to increase by 32% in 2040 based on historical hurricane frequencies and by 82% for increased hurricane frequencies, further profiting Defendants.²²⁷

E. The Coral Reef Degradation

233. The degradation of coral reefs due to climate change, as accelerated by the Defendants' products and conduct, has had devastating impacts on Puerto Rico's and San Juan's coastline ecosystem, citizens, and economy and exacerbated the damage to the Municipality of San Juan, and its citizens. Ocean acidification, which refers to a reduction in the pH of the ocean caused primarily by uptake of CO₂ from the atmosphere, makes building and maintaining shells and other calcium carbonate structures difficult for calcifying organisms such as corals. As levels of atmospheric CO₂ increase due to the burning of fossil fuels, so do the levels in the ocean.²²⁸

234. About one-fourth of the CO₂ in the atmosphere is absorbed by the ocean, dissolving to form carbonic acid, which increases the acidity of the ocean.²²⁹ Since pre-industrial times, the acidity of the ocean has increased by 30%.²³⁰

235. Many types of ocean life cannot cope with the increased acidity. Ocean acidification makes calcification more difficult by reducing the number of free-floating carbonate ions available in ocean water.²³¹

236. "Potential of Hydrogen" (pH) is a measure of a liquid's acidity. The lower the pH, the more acidic the liquid. Experiments show that at a pH level of 7.8, many types of species cannot

²²⁷ Jeffrey A. Bennett et al, *Extending energy system modelling to include extreme weather risks and application to hurricane events in Puerto Rico*, NATURE ENERGY (Jan. 11, 2021), <https://www.nature.com/articles/s41560-020-00758-6> (last visited Nov. 15, 2022).

²²⁸ National Ocean Service, *What is Ocean Acidification*, National Ocean Service, National Oceanic and Atmospheric Administration, NATIONAL OCEAN SERVICE, <https://oceanservice.noaa.gov/facts/acidification.html> (last visited Nov. 15, 2022).

²²⁹ The Conversation, *Global Warming's Evil Twin: Ocean Acidification*, THE CONVERSATION (Oct. 9, 2013), <https://theconversation.com/global-warmings-evil-twin-ocean-acidification-19017> (last visited Nov. 15, 2022).

²³⁰ Id.

²³¹ Elizabeth Kolbert, *The Sixth Extinction: An Unnatural History*, p.121 (2014).

survive this acidity and will die, but three-quarters of the missing species will be calcifiers.²³² Global warming has already caused ocean pH levels to drop to 8.1. At the current rate, ocean pH will have dropped to 7.8 by 2100.²³³ The extinction of the calcifiers is near.²³⁴

237. Among the calcifiers are key families of animals, including the echinoderms (such as starfish and sea urchins), mollusks (such as clams and oysters), and corals.²³⁵ Corals form the "backbone" of a reef ecosystem.²³⁶ As corals die, so will the reefs they build. Many species of fish depend on the reefs for survival, so fish become scarce. This also affects coastal erosion.

238. Coral reefs in the Caribbean Sea including off the coast of Puerto Rico, have suffered more disturbances from climate change than in any other region.²³⁷ Fish are now also scarce in Puerto Rico. Between 1950 and 2010, the total amount of fish in Puerto Rico dropped by 62%.²³⁸

239. The 2017 Hurricane Season caused extensive damage to the coral reefs around Puerto Rico when the hurricanes made landfall. In a one-two punch, Irma pummeled the north coast, followed two weeks later by Maria the strongest storm to hit the island in nearly a century. The intense storm snapped hundreds of thousands of coral from reefs around the island. Assessment teams from the Federal Emergency Management Agency (FEMA) discovered structural damage to individual coral and the reefs as well as a heavy sediment accumulation, which prevent corals from getting enough sunlight. With an average economic value of nearly **\$1.1 billion per year**,

²³² Id.

²³³ Smithsonian, *Ocean Acidification*, SMITHSONIAN, <http://ocean.si.edu/ocean-life/invertebrates/ocean-acidification> (last visited Nov. 15, 2022).

²³⁴ Elizabeth Kolbert, *The Acid Sea*, NATIONAL GEOGRAPHIC (Apr. 2011), <https://www.nationalgeographic.com/magazine/article/ocean-acidification> (last visited Nov. 15, 2022).

²³⁵ Id.

²³⁶ NATIONAL SCIENCE FOUNDATION, <https://www.nsf.gov> (last visited Nov. 15, 2022).

²³⁷ Aileen T. Velazco-Dominguez et al, *Climate Change and Coral Bleaching in Puerto Rico: Efforts and Challenges*, Doc PLAYER (Jun. 18-20, 2003), <https://docplayer.net/15622896-Climate-change-and-coral-bleaching-in-puerto-rico-efforts-and-challenges.html> (last visited Nov. 15, 2022).

²³⁸ Richard S. Appeldoorn, et al, *A 50-year Reconstruction of Fisheries Catch in Puerto Rico*, FISHERIES CENTRE, UNIVERSITY OF BRITISH COLUMBIA (2015), <http://www.seaaroundus.org/doc/publications/wp/2015/Appeldoorn-et-al-Puerto-Rico.pdf> (last visited Nov. 15, 2022).

the reefs support the island's vibrant tourism industry while protecting lives and valuable coastal infrastructure by reducing heavy swells during storms and preventing coastal erosion.²³⁹

240. A damaged coral ecosystem has been devastating to the Municipality of San Juan. One quarter of all ocean species such as red snapper, lobster and octopus depend on coral reefs for food and shelter. Because they contain natural chemical compounds, corals also serve as treatment for different diseases including cancer.

241. Coral reefs provide necessary wave protection during hurricanes and flooding. During extreme storm events, coral reefs minimize wave energy up to 97 percent, reducing destruction from floodwaters.²⁴⁰ Coral reefs function like low-crested breakwaters, with hydrodynamic behavior acknowledge by coastal engineering models. The U.S. Department of the Interior and U.S. Geological Survey quantified the economic value provided by flooding protection of coral reefs in Puerto Rico in its 2019 report. The value of buildings and economic industry flooding protection provided by Puerto Rico coral reefs annually, is \$183,616,924.00.²⁴¹

242. In the next several decades, wanning waters will further harm coral reef ecosystems, due to warming and increasing acidity of coastal waters. Rising water temperatures harm the algae that live inside corals and provides food for them. This loss of algae weakens corals and will eventually kill them, leaving coral brittle and prone to breakage. This process is commonly known as "coral bleaching" because the loss of algae also causes corals to turn white.²⁴² Coral is expected to suffer a 90% die-off at a 1°C warming, a temperature that we have already reached.²⁴³

243. Degradation of coral reefs due to climate change has already exposed Puerto Rico and the Municipality of San Juan to increasing flood hazards and damage from September 2017

²³⁹ Federal Emergency Management Agency (FEMA), *supra*, footnote 208.

²⁴⁰ *Id.*

²⁴¹ Curt D. Storlazzi, et al, *Rigorously Valuing the Role of US Coral Reefs in Coastal Hazard Risk Reduction*, USGS (2019), <https://pubs.usgs.gov/of/2019/1027/ofr20191027.pdf> (last visited Nov. 15, 2022).

²⁴² Federal Emergency Management Agency (FEMA), *supra*, footnote 208.

²⁴³ *Id.*

storms. Coastal flooding and erosion from extreme weather events affected vulnerable coastal communities, in Puerto Rico in 2017.

244. Puerto Rico and the Municipality of San Juan were already vulnerable to the storms of 2017 as a result of climate change, all of which accelerated by the Defendants' products and conduct. The sea level rise in Puerto Rico is consistent with global averages, i.e., an 8-inch rise in sea levels during the industrial period, with the rate of sea level rise accelerating in recent years.²⁴⁴ Since 2010 however, the average sea levels around the island increased at a rate 10 times faster than the historical rate, once again, putting Puerto Rico and the Municipality of San Juan, at great risk in 2017.²⁴⁵

245. As a result of the already observed sea level rise, by 2017 coastal erosion had caused a retreat of the coastline in Puerto Rico of up to 3.3 feet per year.²⁴⁶ This inward movement of the coastline threatened many hotels, condos and homes that are along the coastline and beaches of the Municipality of San Juan, often just feet away from the shoreline.²⁴⁷ The coast erosion that had already occurred in Puerto Rico due to global warming contributed to and exacerbated the significant property damage and flooding that occurred from the 2017 storms.²⁴⁸

246. For example, in Ocean Park, San Juan, a neighborhood in San Juan, sections of homes have fallen into the sea, including palm trees.²⁴⁹ The below image shows an example of the damage:²⁵⁰

²⁴⁴ Puerto Rico Climate Change Council *Puerto Rico's State of the Climate*, PUERTO RICO CLIMATE CHANGE COUNCIL (2013), http://pr-ccc.org/download/PR%20State%20of%20the%20Climate-FTNAL_ENE2015.pdf (last visited Nov. 15, 2022).

²⁴⁵ Cantieri, *supra*, footnote 177.

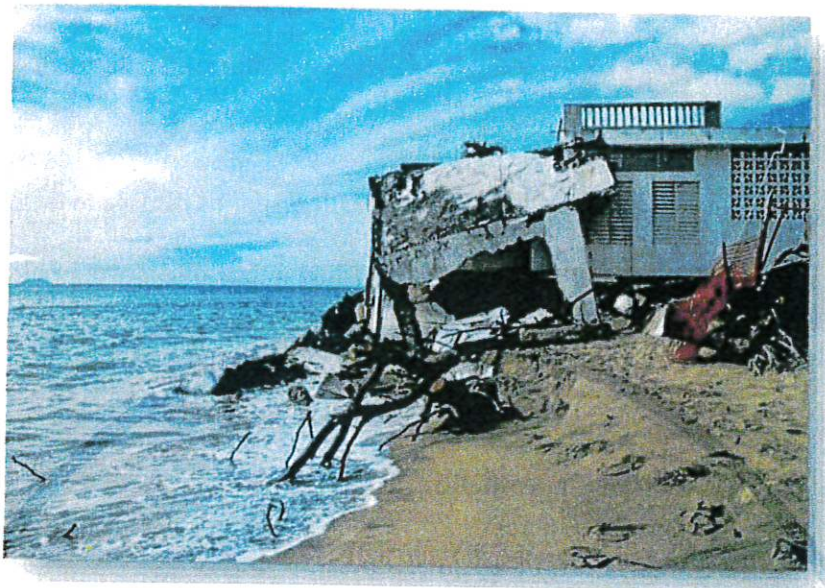
²⁴⁶ *Id.* at 64.

²⁴⁷ Arianna Skibell, 'You build castles on the sand, they will fall into the sea', E&E NEWS (Jan. 24, 2018), <https://www.eenews.net/articles/you-build-castles-on-the-sand-they-will-fall-into-the-sea/> (last visited Nov. 15, 2022).

²⁴⁸ Cantieri, *supra*, footnote 177.

²⁴⁹ *Id.*

²⁵⁰ *Id.*



F. Social, Educational, and Economic Losses

247. Tourism is the lifeblood of the Puerto Rico's economy where more than 5 million persons come to Puerto Rico each year, pumping up to \$4 billion into the economy. The tourism industry once provided about 80,000 jobs.²⁵¹ Winter is usually the high season for Puerto Rico tourism, but not in 2017. One month after the storm, one third of hotels in the Island remained shuttered. Most restaurants were left without power and those that were open for business were operating with a limited menu. Beaches were closed for fear of contamination, after sewers overflowed. San Juan being the capitol of Puerto Rico and having most of the hotels and restaurants in the Greater Metropolitan Areas suffered significantly. The taxes previously collected by the Municipality of San Juan were significantly reduced.

²⁵¹ Associated Press, "It's like a ghost town": Puerto Rico tourism craters in wake of Hurricane Maria, CBS NEWS (Oct. 24, 2017) <https://www.cbsnews.com/news/puerto-rico-tourism-hurricane-maria/> (last visited Nov. 15, 2022).

248. Puerto Rico closed **266 schools** for the 2018-2019 school year, nearly a third of its public schools, to save money and address declining enrollment that resulted from the September storms.

252 253

²⁵² Valerie Strauss, *Puerto Rico re Close Nearly One-Third of its Public Schools as it Pushes Charters and Vouchers*, THE WASHINGTON POST (Apr. 6 2018) <https://www.washingtonpost.com/news/answer-sheet/wp/2018/04/06/puerto-rico-to-close-nearly-one-third-of-its-public-schools-as-it-pushes-charters-and-vouchers/> (last visited Nov. 15, 2022).

²⁵³ Id.

²⁵⁴ Wilma Maldonado Arrigoitia, *Lejos de Recuperarse el Sector Ganadero de Leche*. EL NUEVO DIA (Oct. 5, 2017, 6:54 PM) <https://www.elnuevodia.com/noticias/economia/notas/lejos-de-recuperarse-el-sector-ganadero-de-leche/> (last visited Nov. 15, 2022).

²⁵⁵ EFE, *Marfa Dejó Más de 2 Mil Millones de Pérdidas en Sector Agropecuario* METRO (Nov. 29, 2017, 2:17 PM) <https://www.metro.pr/pr/noticias/2017/11/29/marfa-dejo-mas-2-mil-millones-perdidas-sector-agropecuario.html> (last visited Nov. 15, 2022).

²⁵⁶ Mildred Rivera Marrero, *Al Desnudo la Vulnerabilidad de los Ancianos tras el Paso de María*, EL NUEVO DIA. (Jan. 29, 2018, 12:00 AM) <https://www.elnuevodia.com/noticias/locales/notas/al-desnudo-la-vulnerabilidad-de-los-ancianos-tras-el-paso-de-maria/> (last visited Nov. 15, 2022). Municipality of San Juan, Puerto Rico vs. Exxon Mobil, *et al*

249. Businesses were wiped out and families' livelihoods were destroyed. The economy of San Juan came to a standstill and the recovery has been slow and sporadic and incomplete.

250. The most palpable impact on the Municipality of San Juan, is increasing emigration. Lack of power, loss of jobs and a poor economy has moved many to emigrate from San Juan. The exodus from Puerto Rico has been estimated at about 200,000, with the majority relocating to the United States, particularly to the state of Florida.²⁵⁷ Demographic projections contained in the new fiscal plan estimate a decrease in population from 3.2 to 2.7 million by 2022, or 1 out of every 5 people in Puerto Rico ²⁵⁸ representing a huge loss of tax base for Puerto Rico and the economy of Puerto Rico's capital city, San Juan, continues to struggle.

251. Streets, sidewalks, dams, rivers, powerlines, cell phone towers, water lines, sewer and other infrastructure are permanently affected. San Juan suffers daily catastrophic fallout from Hurricanes Maria and Irma today.

252. In brief, Puerto Rico and the Municipality of San Juan suffered apocalyptic damage from the Hurricanes Maria and Irma.²⁵⁹

253. In November 2017, estimated damages from Maria alone to the Puerto Rican governments totaled **\$94 billion**.²⁶⁰

²⁵⁷ Agencia EFE, *El Otro Huracán que Enfrenta Puerto Rico*. PRIMERA HORA (Dec. 6, 2017, 12:19 PM) <https://www.primerahora.com/noticias/puerto-rico/notas/el-otro-huracan-que-enfrenta-puerto-rico/#> (last visited Nov. 15, 2022).

²⁵⁸ Ricardo Cortes Chico, *Emigrara Uno de Cada Cinco Habitantes de Puerto Rico*. EL NUEVO DIA (Jan. 26, 2018, 12:00 AM) <https://www.elnuevodia.com/noticias/locales/notas/emigrara-uno-de-cada-cinco-habitantes-de-puerto-rico/> (last visited Nov. 15, 2022).

²⁵⁹ CNN, *Hurricane Maria*, CNN <https://edition.cnn.com/specials/weather/hurricane-maria> (last visited Nov. 15, 2022).

²⁶⁰ Gov. Ricardo Rosello, *Build Back Better Puerto Rico: Request for Federal Assistance for Disaster Recovery*, GOVERNMENT OF PUERTO RICO (Nov. 13, 2017) on page 2 <https://s3.documentcloud.org/documents/4197335/Build-Back-Better-Puerto-Rico.pdf> (last visited Nov. 15, 2022).

254. The Economic and Disaster Recovery Plan (draft for public opinion) released for comment on July 7, 2018 estimated **\$124 billion** will be necessary to rebuild Puerto Rico.²⁶¹

G. Unprecedented Sargassum Accumulation

255. Puerto Rico and San Juan, are experiencing an unprecedented, massive bloom of sargassum across its coasts. While periodic brown mats of sargassum that drift along the coastline during fall and winter month serve as habitats and nurseries to marine life, their unprecedented year-around presence has caused concern for oceanographers and local fisheries. More than 24 million tons have darkened the Caribbean coastline in June 2022 - 20% higher than the previous record set in May 2018. Sargassum floats on the surface of the sea obscuring clear waters and preventing sunlight from reaching life at the bottom. Decomposing algae alter water temperature, pH balance, and oxygen levels choking out the populations of seagrasses, coral reefs, and sponges that regulate the ecosystem's delicate balance.²⁶²

256. Climate change caused the rising water temperature, marine heat waves, and changing current that has forced the Sargasso Sea to move South and fostered the ideal environment for massive sargassum growth.²⁶³

257. The unprecedented amounts of sargassum harmed the Puerto Rican tourist and fishing industries, causing damages to boat engines and fishing gear, prevented fishermen from getting to their boats and fishing grounds, limiting fishing option, causing the death of thousands of fish, entangling endangered turtle populations, jeopardizing the native biodiversity of one of the most

²⁶¹ Gov. Ricardo Rosello, *Transformation and Innovation in the Wake of Devastation: An Economic and Disaster Recovery Plan for Puerto Rico*, GOVERNMENT OF PUERTO RICO (Aug. 8, 2018) <https://prsciencetrust.org/wp-content/uploads/2018/01/r-transformation-innovation-Ian.df> (last visited Nov. 15, 2022).

²⁶² Danica Coto, *Una cantidad record de algas "devastadoras" asfixian las costas del Caribe, desde Puerto Rico hasta Barbados*, EL NUEVO DIA (Aug. 3, 2022, 5:29 PM), <https://www.elnuevodia.com/ciencia-ambiente/flora-fauna/notas/una-cantidad-record-de-algas-devastadoras-asfixian-las-costas-del-caribe-desde-puerto-rico-hasta-barbados/> (last visited Nov. 15, 2022).

²⁶³ Id.; Elizabeth M. Johns et al., *The establishment of a Pelagic Sargassum Population in the Tropical Atlantic: Biological Consequences of a Basin-Scale Long Distance Dispersal Event*, 182 PROGRESS IN OCEANOGRAPHY at 21 (2020).

ecologically complex locations in the world, and compromising the natural appeal of beaches that were once popular with both tourists and ecologists with a constant rotting stench. The sweeping scale of the sargassum invasion is so great, that programs to clean up beaches have failed because the level of decomposition made them impracticable.²⁶⁵

H. The Losses, Injuries, and Deaths Continue

258. The Municipality of San Juan is at an increased risk of dangerous flooding. In fact, the rain that the storms brought made the Federal Emergency Management Agency (FEMA), in coordination with Puerto Rico Planning Board, review the existing flood maps for the island, which had been in effect since 2009.

259. After their review and update of the flood maps for the island, it was determined that an additional **92,180** structures on the island now fall within flood zones, for a total of **252,748** structures total. The term "structures" includes homes, businesses, and industries. These maps include an additional 11% in flood zones to areas that were already identified with that risk, said the president of the Planning Board, Maria del C. Gordillo Perez. "We have a high number in what is flood. We thought, during the review of the maps, that we would stay within the comfort zone, but the increase was considerable within what is a flood zone," commented Ms. Perez.²⁶⁶

²⁶⁴ Coto, *supra* footnote 262.

²⁶⁵ Yaritza Rivera Clemente, *Cambio el Mapa de Inundaciones*, EL VOCERO (Sept. 20, 2018) https://www.elvocero.com/actualidad/cambi-el-mapa-de-inundaciones/article_d85a0c04-bc2f-11e8-addb-f34aa2de69ed.html (last visited Nov. 15, 2022).



260. The cascade of financial fallout from more homes designated in flood zones is devastating to Puerto Rico and the Municipality of San Juan’s citizens and residents who will not qualify for mortgages on their homes and businesses causing property value reduction and a loss of the taxes derived therefrom to plummet.

261. The Global Climate Risk Index 2020 December 4, 2019 report, found Puerto Rico has been affected by climate change more than anywhere else in the world considering the number of weather-related event as well as the impact of the catastrophes in the 20-year period:²⁶⁷



262. All of this was not only foreseeable it was, in *foretold* by the Oil Defendants.

L. Exacerbated Medical Disasters

²⁶⁶ Raquel Reicherd, *Report Finds Puerto Rico Is Affected by Climate Change More Than Anywhere Else in the World*, REMEZCLA (Dec. 4, 2019) <https://remezcla.com/culture/report-puerto-rico-most-affected-climate-chan-e/>. (last visited Nov. 15, 2022).

263. Several studies documented the destruction Hurricane Maria caused to the Municipality of San Juan's health care facilities, medical services, communications, water, and transportation, resulting in devastation to the health of citizens, especially those who are disabled.²⁶⁷

264. Many medical professionals left Puerto Rico. Those clinical care sites reopened with limited services amidst hazardous living conditions.²⁶⁸ In sum:

Emergency rooms were rendered inoperative and hospitals were forced to close surgical suites. Patients incapable of fending for themselves were transferred to other locations when possible. Clinics remained closed, while patients waiting for dialysis, chemotherapy, and transfusions became impatient. For those with chronic respiratory disorders, the lack of electricity to power mechanical ventilators, oxygen concentrators, and nebulizers further exacerbated their anxiety and their conditions.²⁶⁹

265. Heart disease and diabetes were among the top causes for *excess* deaths after Hurricane Maria, with a study attributing these deaths to the lack of access to treatment caused by the hurricane.²⁷⁰ This was not surprising to medical professionals who remained to care for an

²⁶⁷ See Bianca DiJulio, Cailey Munana, & Mollyann Brodie, *Views and Experience of Puerto Ricans One Year After Hurricane Maria* HENRYJ. KAISER FAMILY FOUNDATION (Sep. 12, 2018); Olga Rodriguez de Arzola, *Emergency Preparedness and Hurricane Maria: The Experience of a Regional Academic Medical Center in Southwest Puerto Rico*, 10 J. Grad Med. Educ. 447 (2018); Jessica Sharac & Sara Rosenbaum, *The State of Recovery: An Update on Community Health Centers in Puerto Rico and the Virgin Islands*, WASHINGTON, D.C. GEIGER GIBSON/RCHN COMMUNITY HEALTH FOUNDATION RESEARCH COLLABORATIVE (2018); Anita Chandra et al., *Health and Social Services in Puerto Rico Before and After Hurricane Maria*, HOMELAND SECURITY OPERATIONAL ANALYSIS CTR. (2020); George Mellgard, *Hurricanes and healthcare: a case report on the influences of Hurricane Maria and managed Medicare in treating a Puerto Rican resident*, 19 BMC HEALTH SERVICES RESEARCH 1 (Nov. 8, 2019); Saria Hassan et al., *Management Of Chronic Noncommon Diseases After Natural Disasters in The Caribbean: A Scoping Review*, 39 HEALTH AFFAIRS 2136 (2020); Zachary A. Morris, R. Anna Hayward, & Yamirelis Otero, *The Political Determinants of Disaster Risk: Assessing the Unfolding Aftermath of Hurricane Maria for People with Disabilities in Puerto Rico*, 11 ENVIRO. JUSTICE 89 (Apr. 1, 2018).

²⁶⁸ Sharac, *supra* footnote 267.

²⁶⁹ Jesse Roman, *Hurricane Maria: A Preventable Humanitarian and Health Care Crisis Unveiling the Puerto Rican Dilemma*, 15 ANNALS OF AM. THORACIC Soc (Nov. 29, 2017).

²⁷⁰ Raul Cruz-Cano & Erin L. Mead, *Causes of Excess Deaths in Puerto Rico After Hurricane Maria: A Time-Series Estimation*, AM. PUB. HEALTH Assoc. (June 5, 2019).

increased number of patients with hyperosmolar coma, hyponatremia, decompensated obstructive airway disease and heart failure, hypertensive crises, and end-stage renal disease with fluid overload and hyperkalemia from delayed dialysis.²⁷¹

266. A study comparing more than 800 participants before and after Hurricane Maria found that twice as many participants reported eye disease, fatty liver disease, and osteoporosis after the hurricane.²⁷²

267. A climate change study performed in 2008 predicted sporadic or erratic toxigenic cholera outbreaks should a "perfect storm" ever occurs,²⁷³ while studies noted increases in influenza-like illnesses, dengue zika, leptospirosis, and chikungunya after the hurricane.²⁷⁴

J. Hurricane Fiona: Compounded Losses and the Race to Catch Up

268. Almost exactly five years after the passing of hurricane Maria, Puerto Rico faced the embattlement of yet another hurricane. Hurricane Fiona made landfall in southwestern Puerto Rico on September 18th, 2022 with wind speeds around 90 mph.

269. The next morning, close to 2,500 Puerto Rican had to abandon their homes and stay at storm shelters due to intense rain severe flooding, mudslides and fallen trees.²⁷⁵ At that time, Puerto Rico Governor, Pedro Pierluisi, estimated damages at over 1 billion dollars, calling the emergency catastrophic.²⁷⁶

²⁷¹ Roman, *supra* footnote 269.

²⁷² Josiemer Mattei, Martha Tamez, & June O'Neill, Chronic Diseases and Associated Risk Factors Among Adults in Puerto Rico After Hurricane Maria, JAMA NETWORK (Jan. 12, 2022).

²⁷³ Bernard Christenson, Hurricanes, *Climate Change and the Cholera Epidemic in Puerto Rico of 1855-1856*, 100 BOL. ASOC. MED. P.R. 99 (Oct. I, 2008).

²⁷⁴ Jeniffer Concepción-Acevedo et al., *Initial public health laboratory response after Hurricane Maria-Puerto Rico, 2017*, 67 MORBIDITY & MORTALITY WEEKLY REPORT 333 (Mar. 23, 2018).

²⁷⁵ Noticel, *Cerca de 2,500 personas permanecen refugiadas*. NOTICEL, (Sept. 19, 2022) <https://www.noticel.com/ahora/gobierno/20220919/cerca-de-2500-personas-permanecen-refugiadas>(last visited Sept. 26, 2022.)

²⁷⁶ *Id.*

270. The south part of Puerto Rico was hit with 12 to 20 inches of rain, with some areas getting over 30 inches and leaving a total of 30 deaths associated with its passing.²⁷⁷ For context, Hurricane Maria, which was a category 4 storm, dumped 41 inches of rain.

271. The winds and extreme rainfall stripped the pavement from roads, tore off roofs and sent torrents pouring into homes. Some residents even reported their roofs being tom off their homes while they slept. Even worse, over 3,000 homes still had blue tarps for roofs because of the damages suffered during Hurricane Maria, five years before, which left them in an extremely vulnerable state against the 90 mph winds of Fiona.²⁷⁸

272. It is significant that the massive rainfall brought upon by Hurricane Fiona fits a pattern of Climate Change causing hurricanes to produce increasing amounts of precipitation, as the warmer atmosphere can hold more moisture.²⁷⁹

273. But the catastrophic flooding is only a part of the problem. Hurricane Fiona affected Puerto Rico's complete infrastructure, responsible for essential services such as power, potable water, and communications.

274. As a result of the passing of hurricane Fiona, Puerto Ricans experienced a total power blackout, leaving all 3.3 million residents in Puerto Rico without power. Luma Energy, the private company tasked with energy distribution throughout the island, publicly stated complete recovery

²⁷⁷ Jaclyn Diaz, *5 numbers that show Hurricane Fiona's devastating impact on Puerto Rico*. NPR (Oct. 3, 2022) <https://www.npr.org/2022/09/23/1124345084/impact-hurricane-fiona-puerto-rico> (last visited Oct. 10, 2022); Redaccion, EL VOCERO, *Aumentan a 30 las fatalidades asociadas al paso del Huracán Fiona en Puerto Rico*. EL VOCERO (Oct. 10, 2022) https://www.elvocero.com/gobierno/agencias/aumentan-a-30-las-fatalidades-asociadas-al-paso-del-huracan-fiona-en-puerto-rico/article_69aadbb0-4891-11ed-8f6b-8f60f8Jc109d.html (last visited Oct. 10, 2022).

²⁷⁸ Associated Press, *Puerto Rico suffers 'catastrophic' damage from Hurricane Fiona, governor says*. PBS (Sept. 19, 2022) <https://www.pbs.org/newshour/nation/puerto-rico-suffers-catastrophic-damage-from-hurricane-fiona-governor-says> (last visited Oct. 10, 2022).

²⁷⁹ Thomas Frank, Benjamin Storrow, Chelsea Harvey, *Why did Fiona wreck Puerto Rico? Blame climate, fragile grid*. E&E NEWS (Sept. 20, 2022) <https://www.eenews.net/articles/why-did-fiona-wreck-puerto-rico-blame-climate-fragile-grid/> (last visited Oct. 10, 2022).

could take multiple days.²⁸⁰ Two days later, over a million clients remained without power, 89 percent of Puerto Rico customers.²⁸¹

275. Not only this, but also over 750,000 Puerto Ricans were left without potable water after the passing of the hurricane, a staggering 66%.²⁸²

276. Complete industries, such as agriculture, were devastated, with Hurricane Fiona ravaging Puerto Rico near the peak of the agricultural season affecting the harvest of Puerto Rico's nearly 9,000 farms. As a result, ninety percent of the island's major crop, plantains, were lost due to the wind and torrential rains. Given the fact that many of these farms generate less than \$10,000 in annual revenue, many of them do not qualify for crop insurance.²⁸³

277. Throughout the island, complete roads were blocked because of the strong winds and massive amounts of pouring rain. In Sabana Grande and Maricao, between 300 and 400 families were left stranded as a result of fallen trees throughout the municipality's roads.²⁸⁴ In Bayamón, on the Chorrera sector, a road collapsed leaving 40 families stranded and unable to leave their homes, while in Vega Baja Mayor Marcos Cruz reported 500 houses were flooded. The Naranjos, El Boqueron and Sabana communities were completely or partially under water.²⁸⁵

²⁸⁰ Gerardo E. Alvarado Leon, *El huracán Fiona provoca 1111 apag611 general*, EL NUEVODIA (Sept. 18, 2022) <https://www.clnuevodia.com/noticias/locales/nolas/cl-huracan-fiona-provoca-un-apagon-general/> (last visited Sept. 26, 2022.)

²⁸¹ Noticel, *Mas de mi/1611 de clientes permanecen sin hi=, Non EL* (Sept. 24 2022) <https://www.noticel.com/la-calle/ahora/20220920/mas-de-un-millon-de-clientes-permanecen-sin-luz/> (last visited Sept. 26, 2022.)

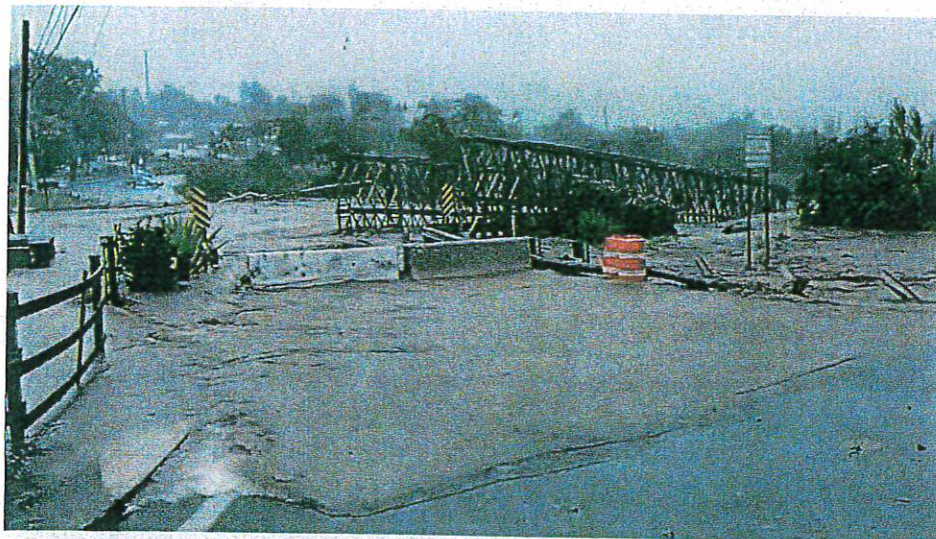
²⁸² Kevin Rodriguez Resto, *obre 750,000 abonados 110 cuentan con el se11icio de agua potable*, EL Vocero (Sept. 19, 2022) https://www.elvocero.com/gobicrno/agencias/sobre-750-000-abonados-no-cuentan-con-el-servicio-de-agua-potable/article_lefe_O_-3830-11ed-b497-73457b9b6467.html (last visited Sept. 26, 2022).

²⁸³ Laura Reiley, *Hurricane Fiona ravages Puerto Rican farms near peak harvest.farmers say*, THE WASHINGTON POST (Sept. 24, 2022) <https://www.washingtonpost.com/business/2022/09/24/fiona-puerto-rico-farm-damage/> (last visited Sept. 26, 2022.)

²⁸⁴ Rosalina Marrero-Rodriguez, *Ramas y arbo/es ca/dos provocan el cierre de la carretera 120 de Sabana Grande a Maricao*, PRIMERA HORA (Sept. 18, 2022) <https://www.primerahora.com/noticias/puerto-rico/notas/ramas-y-arboles-caidos-provocan-el-cierre-de-la-carretera-120-de-sabana-grande-a-maricao/> (last visited Oct. 10, 2022).

²⁸⁵ Shakira Vargas Rodriguez, *Colapso de carretera en sector La Chorrera de Bayamon deja 40 familias incomunicadas*. EL NUEVO DIA (Sept. 19, 2022) (<https://www.elnuevodia.com/noticias/locales/notas/colapso-de-carretera-en-sector-la-chorrera-de-bayamon-deja-40-familias-incomunicadas/>) (last visited Oct. 10, 2022.); ²⁸⁶

Damaris Hernandez Mercado, *El alcalde de Vega Baja estima entre \$10 a \$15 millones los daños preliminares en su municipio*. EL NUEVO DIA (Sept. 20, 2022) <https://www.elnuevodia.com/noticias/locales/notas/el-alcalde-de-vega-baja-estima-entre-10-a-15-millones-los-danos-preliminares-en-su-municipio/> (last visited Oct. 10, 2022.)



²⁸⁶ Nacho Giron, *Así quedó el puente de Puerto Rico que fue arrastrado por el Huracán Fiona*. CNN EN ESPAÑOL (Sept. 20, 2022) <https://cnnespanol.cnn.com/video/fiona-huracan-puerto-rico-puente-redaccion-buenos-aires/> (last visited Oct. 10, 2022.)

278. The devastation brought upon by hurricane Fiona was recognized by President Biden, who on October 3rd, 2022, visited Puerto Rico to survey the damages. President Biden acknowledged the ongoing struggles Puerto Rico faces as a result of the passing of hurricane Maria and was quoted saying: "I'm heading to Puerto Rico because they haven't been taken very good

care of. They've been trying like hell to catch up from the last hurricane. I want to see the state of affairs today and make sure we push everything we can."²⁸⁷

279. These damages resulted in all 78 Puerto Rico Municipality of San Juan, being declared disaster zones by the Federal Emergency Management Agency (FEMA).²⁸⁸

280. And this is just the beginning. Michael Weimer, senior scientist at the Lawrence Berkeley National Laboratory, sees a trend of wetter storms coming in a warmer future. He says, "The worst storms will get worse."²⁸⁹

281. Kevin Reed, an associate professor of atmospheric science at Stony Brook University in New York says "If you have warmer water, you'll have more evaporation, which means you have more moisture in the atmosphere, which means you can get more precipitation."²⁹⁰

K. The Knowledge Followed by Deception and Cover-up

²⁸⁷ Jaclyn Diaz, *5 numbers that show Hurricane Fiona's devastating impact on Puerto Rico*. NPR (Oct. 3, 2022) <https://www.numberof/2022/09/23/112434508/im-act-hurricane-fiona-puerto-rico> (last visited Oct. 10, 2022).

²⁸⁸ Tai Axelrod, Ben Gittleson, and Isabella Murray, *Biden visits Puerto Rico after Fiona, commits to recovery 'as long as it takes'*. ABC NEWS (Oct. 3, 2022) <https://abcnews.go.com/Politics/biden-visits-puerto-rico-fiona-commits-recovery-long/story?id=90871372> (last visited Oct. 10, 2022).

²⁸⁹ Delianne Ayala-Ramos, *Hurricane Fiona hits Puerto Rico, causing extensive damage*, *THE CHARGER BULLETIN*, (Oct. 11, 2022) <https://chargerbulletin.com/hurricane-fiona-hits-puerto-rico-causing-extensive-damage> (last visited Oct. 11, 2022.); *See also*: FEMA Disaster Declaration - Puerto Rico Hurricane Fiona (DR-4671-PR) (<https://www.fema.gov/disaster/4671>, last visited: Oct. 11, 2022.)

²⁹⁰ Denise Chow, *Wetter and Stronger: Hurricane Fiona and two typhoons drive home climate concerns*. NBC NEWS (Sept. 19, 2022) <https://www.nbcnews.com/science/environment/climate-change-hurricane-fiona-stronger-storms-rcna48327> (last visited Oct. 10, 2022).

²⁹¹ Id.

282. On March 29, 1958, Charles Keeling began recording daily carbon in the Earth's atmosphere at the Mauna Loa observatory in Hawaii.²⁹² Keeling's first reading on March 29, 1958, measured the atmospheric CO₂ concentration at 313 ppm.²⁹³

283. By the 1950's, the Oil Defendants discovered that climate change would present dangerous risks to the world's population, but particularly, the Caribbean Islands.²⁹⁴ ²⁹⁵ ²⁹⁶ In response, they engaged in decades-long concerted efforts to hide from the Caribbean Islands those risks, while they reaped profits by false and deceptive consumer advertising misinformation.

284. Then, in 1967, Shell, with assistance from Exxon, Chevron and BP, gathered ocean data concerning its oil platforms in the Gulf of Mexico and studied wave, wind, barometric pressure, storms, sea level, and current changes and trends on its six platforms in the Gulf of Mexico.²⁹⁷ The report was necessary to develop and calibrate environmental forecasting theories to protect the industry's platforms. What they found out guided their marketing strategies for the next five decades.

285. Thus, more than fifty years ago, scientists for the Oil Defendants concluded that "doubling in CO₂ could increase average global temperature 1°C to 3°C by 2050....10°C predicted at poles." In the 1968 report for the American Petroleum Institute (API), the scientists stated:

²⁹² Britannica, *Keeling Curve*, BRITANNICA, <https://www.britannica.com/science/Keeling-Curve> (last visited Nov. 15, 2022).

²⁹³ ACS, *The Keeling Curve: Carbon Dioxide Measurements at Mauna Loa*, ACS, <https://www.acs.org/content/acs/en/education/whatischemistry/landmarks/keeling-curve.htm> (last visited Nov. 15, 2022).

²⁹⁴ American Institute of Physics. *The discovery of Global Warming*, AMERICAN INSTITUTE OF PHYSICS, (2022) <https://history.aip.org/climate/index.htm#contents> (last visited Nov. 15, 2022).

²⁹⁵ Craig Harmon, *The Natural Distribution of Radiocarbon and the Exchange Time of Carbon Dioxide Between Atmosphere and Sea*, *Tellus*, 1-17 (9TH Ed. 1957)

²⁹⁶ Roger Revelle & Hans E. Suess, *Carbonates and carbon dioxide*, *Memoirs of the Geological Society of America* 239-295 (1957).

²⁹⁷ M. Patterson, *An Ocean Data Gathering Program for the Gulf of Mexico*, Society of Petroleum Engineers (1969), (Available at: <https://www.onepetro.org/conference-paper/SPE-2638-MS>.)

- a. "Significant temperature changes are almost certain to occur by the year 2000 and these could bring about climatic change. If the Earth's temperature increases significantly, a number of events might be expected to occur including the melting of the Antarctic ice cap, a rise in sea levels, warming of the oceans and an increase in photosynthesis."
- b. "It is clear that we are unsure as to what our long-lived pollutants are doing to our environment; however, there seems to be no doubt that the potential damage to our environment could be severe."²⁹⁸

286. A 1969 supplemental report by scientists for API, projected that based on current fuel usage at the time, atmospheric CO₂ concentrations would reach 370 ppm by the turn of the century.²⁹⁹ They proved to be ominously correct. It was 369.34 ppm in 2000.³⁰⁰

287. API's scientists connected the rise in atmospheric CO₂ concentrations to the use of fossil fuels, warning that the temptations and consequences of ignoring CO₂ as a pollutant could be of global importance as a factor that could change man's environment.³⁰² This report was disseminated to the oil industry through API, including to Oil Defendants Exxon, Shell, BP, ConocoPhillips, Motiva and Anadarko (or their predecessors in interest) in a 1972 status report.³⁰³

288. Surreptitiously, the oil industry began to prepare for climate change. In 1973 and 1974, Exxon obtained a patent for a cargo ship capable of breaking sea ice and for an oil tanker designed specifically for use in previously unreachable areas of the Arctic.³⁰⁴³⁰⁵ Chevron also obtained a

²⁹⁸ E. Robinson & R.C. Robbins, Final Report, Sources, Abundance, and Fate of Gaseous.

Atmospheric Pollutants, SRI Project PR-6755, prepared for American Petroleum Institute, at 109-110.

²⁹⁹ E. Robinson & R.C. Robbins, Sources, Abundance, and Fate of Gaseous Atmospheric Pollutants Supplement, Stanford Research Institute (June 1969).

³⁰⁰ NASA Goddard Institute for Space Studies, *Global Mean CO₂ Mixing Ratios (ppm): Observations*, NASA GODDARD INSTITUTE FOR SPACE STUDIES, https://data.giss.nasa.gov/modelforce/ghgases/fig_1a_ext.txt (last visited Nov. 15, 2022).

³⁰¹ Elmer Robinson and R.C. Robbins, *Sources, Abundance, and Fate of Gaseous Atmospheric Pollutants Supplement*, STANFORD RESEARCH INSTITUTE (Jun. 1969), <http://chr.gov.ph/wp-content/uploads/2019/11/Sources-Abundance-and-Fate-of-Gaseous-Atmospheric-Pollutants-Supplement.pdf> (last visited Nov 15, 2022).

³⁰² Committee for Air and Water Conservation American Petroleum Institute, *Environmental Research, A Status Report, Committee for Air and Water Conservation*, AMERICAN PETROLEUM INSTITUTE (Jan. 1972), <https://files.eric.ed.gov/fulltext/ED066339.pdf> (last visited Nov 15, 2022).

³⁰³ ExxonMobil Research Engineering Co., *Icebreaking cargo vessel*, GOOGLE PATENTS (Apr. 17, 1973), <https://patents.google.com/patent/US3727571A/en> (last visited Nov. 15, 2022).

³⁰⁴ ExxonMobil Research Engineering Co., *Tanker vessel*, GOOGLE PATENTS (Jul. 17, 1973), <https://patents.google.com/patent/US3498249> (last visited Nov. 15, 2022)

patent for a mobile arctic drilling platform designed to withstand significant interference from lateral ice masses,³⁰⁵ allowing for drilling in areas with increased ice float movement due to elevated temperature.

289. Texaco (now Chevron) sought a patent for an apparatus for reducing ice forces on a marine structure prone to being frozen in ice through natural weather conditions, allowing for drilling in previously unreachable Arctic areas that would become seasonally accessible.³⁰⁶ Shell obtained a patent similar to Texaco's (Chevron) in 1984.³⁰⁷

290. Norske Shell, Royal Dutch Shell's Norwegian subsidiary³⁰⁸ factored rising sea levels into plans for its "Troll A platform" to account for higher anticipated average sea levels and increased storm intensity due to global warming over the platform's 70-year operational life³⁰⁹ at a cost of nearly \$40 million.

291. In 1978 Henry Shaw, Exxon's Manager of the Environmental Area of research and Engineering, and part of the accomplished group at Exxon tasked with studying greenhouse effects stated in a memo to David Edward, Jr. Exxon's President of Research and Engineering, that Exxon needed to understand the "CO2 problem" and wanted to "assess the possible impact of the greenhouse effect on Exxon business. Exxon must develop a credible scientific team that can critically evaluate the information generated on the subject and be able to carry bad news, if any, to the corporation" (emphasis added).³¹⁰

³⁰⁵ Chevron Research & Technology Co., *Arctic offshore platform*, GOOGLE PATENTS (Aug. 27, 1974) <https://patents.google.com/patent/US3831385A/en> (last visited Nov. 15, 2022)

³⁰⁶ Texaco Inc., *Mobile, arctic drilling and production platform*, GOOGLE PATENTS (Feb. 26, 1974), <https://patents.google.com/patent/US379384Q> (last visited Nov. 15, 2022)

³⁰⁷ Shell Oil Co., *Arctic offshore platform*, GOOGLE PATENTS (Jan. 24, 1984), <https://patents.google.com/patent/US4427320A/en> (last visited Nov. 15, 2022); N.Y. Times, *Greenhouse Effect: Shell Anticipates A Sea Change*, N.Y. TIMES (Dec. 20, 1989), <http://www.nytimes.com/1989/12/20/business/greenhouse-effect-shell-anticipates-a-sea-change.html> (last visited Nov. 14, 2022).

³⁰⁸ N.Y. Times, *Greenhouse Effect: Shell Anticipates A Sea Change*, N.Y. TIMES (Dec. 20, 1989), <http://www.nytimes.com/1989/12/20/business/greenhouse-effect-shell-anticipates-a-sea-change.html> (last visited Nov. 14, 2022).

³⁰⁹ *Id.*; Amy Lieberman and Susanne Rust, *Big Oil braced for global warming while it/ought regulations*, L.A. TIMES (Dec. 31, 2015), <https://graphics.latimes.com/oil-operations/> (last visited Nov. 14, 2022).

³¹⁰ Henry Shaw, *Memo from Henry Shaw to Edward David Jr., The "Greenhouse Effect,"* EXXON RESEARCH AND ENGINEERING COMPANY (Dec. 7, 1978), <https://www.climatefiles.com/exxonmobil1978-exxon-memo-on-programs-developed-to-measure-co2-uptake-and-request-credible-scientific-team/> (last visited Nov. 15, 2022).

292. From 1979 to 1982, the Exxon Research and Engineering (ER&E) Company pursued major global warming-based projects.³¹¹ Exxon's described the projects thusly: "Establish a scientific presence through research program in climate modeling: selective support of outside activities; maintain awareness of new scientific developments" (emphasis added).³¹²

293. At a presentation for Exxon's Corporation Management Committee in 1978 Exxon was warned that CO₂ concentration were building in the Earth's atmosphere at an increasing rate, that CO₂ emissions attributable to fossil fuels were retained in the atmosphere, and that CO₂ was contributing to global warming.³¹³³¹⁴ An Exxon executive expressed the concern that humans have a "window of five to ten years before the need for hard decisions regarding changes in energy strategies might become critical."³¹⁵

294. Steve Knisely was a summer intern at Exxon Research and Engineering in 1979 when Exxon asked him to analyze how global warming might affect fuel use.³¹⁶ Knisley's report, predicted that if nothing was done and that if fossil fuel use was not limited, there would be noticeable temperature changes and 400 ppm of CO₂ in the atmosphere by 2010. His prediction was remarkably accurate. There was 388.61 ppm carbon in the atmosphere on January 16, 2010, per NASA data.³¹⁷

³¹¹ G.H. Long, *Atmospheric CO₂ Scoping Study*, EXXON RESEARCH AND ENGINEERING COMPANY (Feb. 5, 1981), <https://www.climatefiles.com/exxonmobil/1981-exxon-report-potential-climate-change-research-programs/> (last visited Nov. 15, 2022); A.M. Natkin *Memo summarizing Climate Modeling and CO₂ Greenhouse Effect Research*, EXXON RESEARCH AND ENGINEERING COMPANY (Sept. 2, 1982), <http://www.climatefiles.com/exxonmobil/1982-exxon-memo-summarizing-climate-modeling-and-co2-greenhouse-effect-research/> (last visited Nov 15, 2022).

³¹² A.J. Callegari *Corporate Research Program in Climate/CO₂ Greenhouse*, Exxon Corporate Research Program (Feb. 2, 1984), <https://www.climatefiles.com/exxonmobil/1984-exxon-report-on-climate-modeling-and-co2-effects/> (last visited Nov. 15, 2022).

³¹³ Id.

³¹⁴ Id.

³¹⁵ Id.

³¹⁶ Lisa Song, Neal Banerjee and David Hasemyer, *Exxon Confirmed Global Warming Consensus in 1982 with In-House Climate Models*, INSIDE CLIMATE NEWS (Sept. 22, 2015), <https://insideclimatenews.org/news/22092015/exxon-confirmed-global-warming-consensus-in-1982-with-in-house-climate-models/> (last visited Nov. 14, 2022).

³¹⁷ NASA, *Vital Signs*, NASA GLOBAL CLIMATE CHANGE, <https://climate.nasa.gov/vital-signs/carbon-dioxide/> (last visited Nov. 14, 2022).

295. Knisely even concluded that the fossil fuel industry might need to leave 80% of its recoverable reserves in the ground to avoid doubling CO₂ concentrations.

296. At this time, Exxon scientists expressed grave concern about the potential impacts of fossil fuel-driven global warming and advocated internally for additional fossil fuel industry-generated research in light of the growing consensus that consumption of fossil fuel products was changing the planet's climate. Indeed, on November 19, 1979, Exxon's Henry Shaw, the company's lead climate researcher at the time, wrote an inter-office memorandum concerning "Research in Atmospheric Science", wherein he stated:

We should determine how Exxon can best participate in all these [atmospheric science research] areas and influence possible legislation on environmental controls. It is important to begin to anticipate the strong intervention of environmental groups and be prepared to respond with reliable and credible data. It behooves [Exxon] to start a very aggressive defensive program in the indicated areas of atmospheric science and climate because there is a good probability that legislation affecting our business will be passed. Clearly, it is in our interest for such legislation to be based on hard scientific data. The data obtained from research on the global damage from pollution, e.g., from coal combustion, will give us the needed focus for further research to avoid or control such pollutants.³¹⁸

297. That same year, Exxon's W.L. Ferrall an Engineer in the Research and Engineering Company summarized Exxon's internal findings in a memo concerning "Controlling Atmospheric CO₂", concluding that:

- a. the increase [in CO₂ concentration] is due to fossil fuel combustion,
- b. increasing CO₂ concentration will cause a warming of the Earth's surface.
- c. present trend of fossil fuel consumption will cause dramatic environmental effects before the year 2050.³¹⁹

³¹⁸ Henry Shaw, *Memo to H.N. Weinberg about Research in Atmospheric Science, inter-Office Correspondence*, EXXON CORP. (Nov. 19, 1979), <https://www.climatefiles.com/exxonmobil/1979-exxon-memo-on-atmospheric-science-research-to-influence-legislation/> (last visited Nov. 15, 2022).

³¹⁹ W.L. Ferrall, *Memo to R.L. Hirsch Controlling Atmospheric CO₂*, EXXON RESEARCH AND ENGINEERING COMPANY (Oct. 16, 1979), <https://www.climatefiles.com/exxonmobil/1979-exxon-memo-on-potential-impact-of-fossil-fuel-combustion/> (last visited Nov. 15, 2022).

298. Doubling of CO₂ 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."³²⁰

299. The American Petroleum Institute (API) and scientists from Exxon, Mobil, Amoco, Phillips (now ConocoPhillips), Texaco (now, Shell, Sunoco, Sohio (now BP)) as well as Standard Oil (now BP) and Gulf Oil (now Chevron), began the "CO₂ and Climate Task Force to monitor and to freely share industry knowledge on climate research between 1979 and 1983."³²¹

300. In 1979, API sent its members a background memo related to API's CO₂ and climate Task Force's efforts, stating that CO₂ concentrations were rising steadily in the atmosphere, and predicting when the first clear effects of climate change might be felt.³²²

301. In 1980, API's CO₂ Task Force member discussed the oil industry's responsibility to reduce CO₂ emissions by changing refining processes and developing fuels that emit less CO₂. The minutes from the Task Force's meeting on February 29, 1980 included a summary of a presentation on "The CO₂ Problem" given by Dr. John Laurnann, which identified the "scientific consensus on the potential for large future climatic response to increased CO₂ levels" as a reason for API members to have concern with the "CO₂ problem" and informed attendees that there was "strong empirical evidence" that rise in CO₂ concentration was caused by anthropogenic release of CO₂, mainly from fossil fuel combustion (emphasis added).³²³

³²⁰ *Id.*

³²¹ *Id.*

³²² Neela Banerjee, *Exxon's Oil Industry Peers Knew About Climate Dangers in the 1970s, Too*, INSIDE CLIMATE NEWS (Dec. 22, 2015), <https://insideclimatenews.org/news/22122015/exxon-mobil-oil-industries-knew-about-climate-change-dangers-1970s-american-petroleum-institute-amoco-shell-chevron-texaco/> (last visited Nov. 14, 2022).

³²³ American Petroleum Institute, AQ-9 Task Force Meeting Minutes. AQ-9 refers to the "CO₂ and Climate" Task Force.

302. Dr. Laurmann warned the Oil Defendants that the amount of CO₂ in the atmosphere could **double** by 2038, which he said would likely lead to a 2.5° C (4.5° F) rise in global average temperature, resulting in "major economic consequences." He then told the task force that climate models predicted a 5° C (9° F) rise by 2067, with "globally catastrophic effects."³²⁴ A Texaco (now Chevron) representative posited that the API CO₂ Task Force should develop ground rules for energy release of fuels and the cleanup of fuels as they relate to CO₂ creation.

303. In 1980, the API CO₂ Task Force also discussed a potential area for investigation: alternative energy sources as a means of mitigating CO₂ emissions from Defendants' fossil fuel products. These efforts called for research and development to "Investigate the Market Penetration Requirements of Introducing a New Energy Source into Worldwide Use." Such investigation was to include the technical implications of energy source changeover, research timing, and requirements.

304. Minutes from the February 29, 1980 meeting of the CO₂ and Climate Task Force, reflected a dire prediction:

CLIMATE MODELING - CONCLUSIONS

- GLOBAL AVERAGED 2.5° CRISE EXPECTED BY 2038 AT A 3% p.a. GROWTH RATE OF ATMOSPHERIC CO₂ CONCENTRATION
 - LARGE ERROR IN THIS ESTIMATE-1 IN IO CHANCE OF THIS CHANGE BY 2005
- NO REGIONAL CLIMATE CHANGE ESTIMATES YET POSSIBLE LIKELY IMPACTS:

1° C RISE (2005):	BARELY NOTICEABLE
2.5° CRISE (2038):	MAJOR ECONOMIC CONSEQUENCES, STRONG REGIONAL DEPENDENCE
5° C RISE (2067):	GLOBALLY CATASTROPHIC EFFECTS

³²⁴ Id.

305. The Climate Task Force estimated that the Earth would warm by 2.5° C by 2038. The February 29, 1980 meeting of API's CO2 and Climate Task Force concluded with the following warning:

CONCLUSIONS

AT A 3% PER ANNUM GROWTH RATE OF CO₂, A 2.5°C RISE BRINGS WORLD ECONOMIC GROWTH TO A HALT IN ABOUT 2025.³²⁵ (*emphasis added*).

306. Exxon scientist Roger Cohen warned his colleagues in a 1981 internal memorandum, that "future developments in global data gathering and analysis, along with advances in climate modeling, may provide strong evidence for a delayed CO₂ effect of a truly substantial magnitude," and that under certain circumstances it would be "very likely that we will unambiguously recognize the threat by the year 2000."³²⁶ Cohen previously expressed concern that the memorandum mi characterized potential effects of unabated CO₂ emissions from Defendants' fossil fuel products: "(l)it is distinctly possible that the . . . [Exxon Planning Division's] scenario will produce effects which will indeed be catastrophic (at least for a substantial fraction of the world's population)."³²⁷

307. In 1981, Exxon's Henry Shaw prepared a summary of Exxon' current position on the greenhouse effect, for Edward David Jr., president of Exxon Research and Engineering, stating in relevant part that: "Atmospheric CO₂ will double in 100 years if fossil fuels grow at 1.4%/ a²"... there will be a "3° Celsius global average temperature rise and 10° Celsius.

³²⁵ Id.

³²⁶ Roger W. Cohen, *Exxon Memo to W. Glass about possible "catastrophic" effect of CO₂, Inter-Office Correspondence*, EXXONMOBIL CORP. (Aug. 18, 1981), <https://www.mass.gov/files/documents/2016/10/tp/exxon-appendix-memo-support.pdf> (last visited Nov. 15, 2022).

³²⁷ Id.

at poles if CO₂ doubles" and there will be "major shifts in rainfall/agriculture" and "polar ice may melt" (emphasis added).³²⁸

308. In 1982, another report prepared for API by scientists at the Lamont-Doherty Geological Observatory at Columbia University, recognized that atmospheric CO₂ concentration had risen significantly compared to the beginning of the industrial revolution from about 290 parts per million to about 340 parts per million in 1981 and acknowledged that despite differences in climate modelers' predictions, all models indicated a temperature increase caused by anthropogenic CO₂ within a global mean range of 4° C (7.2° F).

309. Roger W. Cohen at the time Director of Exxon's Theoretical and Mathematical Sciences Conservatory and later Manager of Strategic Planning and Programs at Exxon wrote a Memo, summarizing findings of research in climate modeling, Exxon Research Engineering Co. dated Sept. 2, 1982, reported and advised that there was scientific consensus that "a doubling of atmospheric CO₂ from pre-industrial revolution value would result in an average global temperature rise of (3.0 ± 1.5)°C [5.4 ± 2.7° F]." It went further, warning that "[s]uch a warming can have serious consequences for man's comfort and survival since patterns of aridity and rainfall can change, the height of the sea level can increase considerably, and the world food supply can be affected" (emphasis added).³²⁹ These results echoed Exxon's own modeling research which were later published in at least three peer-reviewed scientific papers.³³⁰

310. Also, in 1982, Exxon's Environmental Affairs Manager, M.B. Glaser, distributed a primer on climate change, to a "wide circulation [of] Exxon

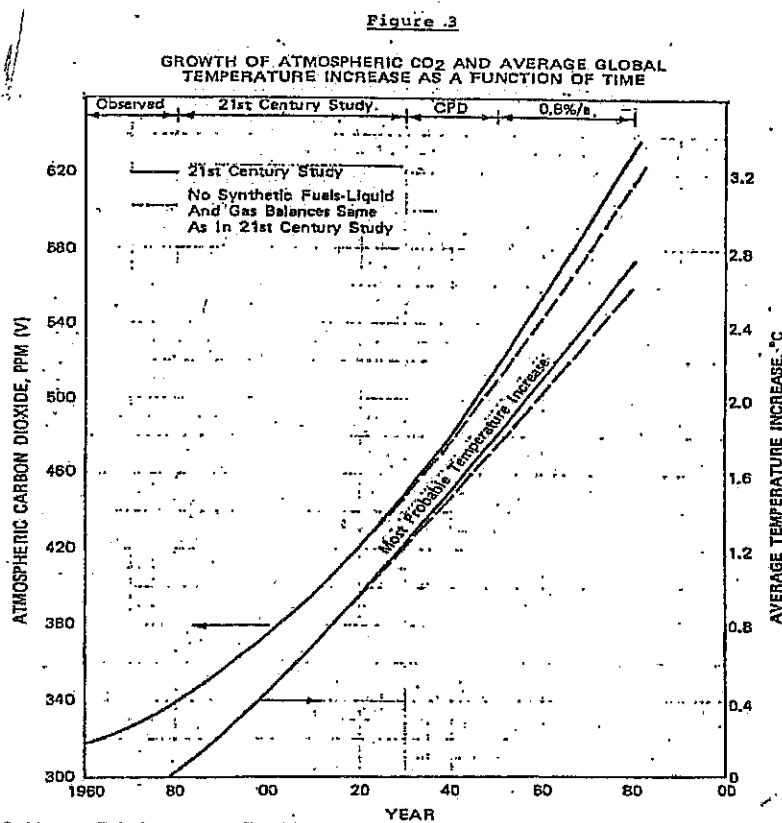
³²⁸ Henry Shaw, *Exxon Memo to E. E. David, Jr. about "COI Position Statement, Inter-Office Correspondence*, EXXONMOBILCORP (May 15, 1981), <https://docs.house.gov/meetings/GO/GO28/20190409/109294/HMTG-116-GO28-20190409-SD007.pdf> (last visited Nov. 15, 2022).

³²⁹ American Petroleum Institute, *Climate Models and CO₂ Warming: A Selective Review and Summary*, Lamont-DOHERTY GEOLOGICAL OBSERVATORY (COLUMBIA UNIVERSITY) (Mar. 1982), <https://insideclimatenews.org/wp-content/uploads/2016/02/API-1982-Climate-models-and-CO2-warming.pdf> (last visited Nov. 14, 2022).

³³⁰ See, Roger W. Cohen, *Exxon Memo summarizing findings of research in climate modeling and CO₂ Greenhouse Effect Research*, EXXON RESEARCH AND ENGINEERING CO. (Sept. 2, 1982), <https://www.climatefiles.com/exxonmobil/1982-exxon-memo-summarizing-climate-modeling-and-co2-greenhouse-effect-research/> (last visited Nov. 15, 2022).

management..... intended to familiarize Exxon personnel with the subject."³³¹ The primer also was "restricted to Exxon personnel and not to be distributed externally" (emphasis added).³³²

311. Glaser submitted a chart to Exxon which reflected CO₂ in the atmosphere, and how the temperature would increase by year.³³³



312. Glaser's primer compiled science on climate change available at the time and confirmed fossil fuel combustion as a primary anthropogenic contributor to global warming. The report estimated a CO₂ doubling around 2090 based on Exxon's long-range modeled outlook.

313. Glaser warned that "there are some potentially catastrophic events that must be considered," including increased sea surface temperatures, and the loss of Antarctic ice sheets.³³⁵

³³¹ M.B. Glaser, *Exxon Memo to Management about "CO₂ 'Greenhouse' Effect"*, EXXON RESEARCH AND ENGINEERING Co. (Nov. 12, 1982), <https://www.climatefiles.com/exxonunobil/1982-memo-to-exxon-management-about-co2-greenhouse-effect/> (last visited Nov. 14, 2022).

³³² Id.

³³³ Id. At 7.

³³⁴ Id.

It noted that some scientific groups were concerned "that once the effects are measurable, they might not be reversible."³³⁵

314. During the time the Task Force was in effect, the development of shale oil was of paramount concern to APL it was discussed that the production of oil shale may generate 3-5 times more carbon emissions.³³⁶

315. Director of Exxon's Theoretical and Mathematical Sciences Laboratory Roger Cohen agreed and wrote that "the time required for doubling of atmospheric CO₂ depends on future world consumption of fossil fuels." Cohen concluded that Exxon's own results were "consistent with the published predictions of more complex climate models" and "in accord with the scientific consensus on the effect of increased atmospheric CO₂ on climate."³³⁷

316. In October 1982, attended by members of API, Exxon Research and Engineering Company president E.E. David delivered a speech titled: "Inventing the Future: Energy and the CO₂ 'Greenhouse Effect.'"³³⁸ His remarks included the following statement: "[F]ew people doubt that the world has entered an energy transition away from dependence upon fossil fuels and toward some mix of renewable resources that will not pose problems of CO₂ accumulation." He went on, discussing the human opportunity to address anthropogenic climate change before the point of no return:

It is ironic that the biggest uncertainties about the CO₂ buildup are not in predicting **what the climate will do, but in predicting what people will do** ... (It] appears we still have time to generate the wealth and knowledge we will need to invent the transition to a stable energy system.³³⁹ (*emphasis added*).

³³⁵ Id.

³³⁶ Id.

³³⁷ Cohen, *supra*. Footnote 330.

³³⁸ Dr. E. E. David, Jr., *inventing the Future: Energy and the CO₂ Greenhouse Effect: Remarks at the Fourth Annual Ewing Symposium, Tenafly, NJ, EXXON RESEARCH AND ENGINEERING COMPANY*, (Oct. 26, 1982),

<https://www.climatefiles.com/exxonmobil/inventing-future-energy-co2-greenhouse-effect/> (last visited Nov. 15, 2022).

³³⁹ Id.

317. Throughout the early 1980s, at Exxon's direction, Exxon climate scientist Henry Shaw forecasted emissions of CO₂ from fossil fuel use. Those estimates were incorporated into Exxon's 21st century energy projections, and were distributed among Exxon's various divisions.

318. Shaw's conclusions included an expectation that atmospheric CO₂ concentrations would double in 2090 per the Exxon model, with an attendant 2.3-5.6° F average global temperature increase. Shaw compared his model results to those of the U.S. EPA, the National Academy of Sciences, and the Massachusetts Institute of Technology indicating that the Exxon model predicted a longer delay than any of the other models, although its temperature increase prediction was in the mid-range of the four projections.³⁴⁰

319. During the 1980s, these Defendants additionally formed their own research units focused on climate modeling. The API, including the API CO₂ Task Force, provided a forum for Defendants to share their research efforts and corroborate their findings related to anthropogenic greenhouse gas emission.³⁴¹

320. James J. Nelson, the former director of the task force, was interviewed by Inside Climate News' Neela Banerjee and said that by 1983, the CO₂ and Climate Task Force was maneuvered by API into lobbying against regulation. "They (API) were less interested in pushing the envelope of science and more interested in **how to make it more advantageous politically or economically for the oil industry.**"³⁴²

321. By the early 1980s the Defendants had initiated a five-point plan in response to their unique knowledge of the terrible danger faced by the world's population, but most particularly,

³⁴⁰ Neela Banerjee, *More Exxon Documents Show How Much it Knew About Climate 35 Years Ago*, INSIDE CLIMATE NEWS (Dec. 1, 2015), <https://insideclimatenews.org/news/01122015/documents-exxons-earl-co2-position-senior-executives-engage-and-warming-forecast> (last visited Nov. 15, 2022).

³⁴¹ Banerjee, *supra*, Footnote 321.

³⁴² Id.

to the Caribbean Island. As a result of the ever-increasing sale and use of their products. First, hide or obfuscate the dangers of climate change; second, increase supply and production; third, decrease prices; fourth, prevent non-carbon energy sources from developing; fifth, stop or deter regulation of the carbon industry.

322. During this time, the Oil Defendants' statements express an understanding of their obligation to consider and mitigate the externalities of unabated promotion, marketing, and sale of their fossil fuel products, but they failed to do so, leaving our planet exposed to untold dangers.

323. Richard Tucker, then president of Mobil Oil, presented at the American Institute of Chemical Engineers National Meeting, the premier educational forum for chemical engineers, where he stated:

[H]umanity, which has created the industrial system that has transformed civilizations, is also responsible for the environment, which sometimes is at risk because of unintended consequences of industrialization.... Maintaining the health of this life-support system is emerging as one of the highest priorities...[W]e must all be environmentalists. The environmental covenant requires action on many fronts...the low-atmosphere ozone problem, the upper-atmosphere ozone problem and the greenhouse effect, to name a few. Our strategy must be to reduce pollution before it is ever generated - to prevent problems at the source. Prevention means engineering a new generation of fuels, lubricants and chemical products.... Prevention means designing catalysts and processes that minimize or eliminate the production of unwanted byproducts. Prevention on a global scale may even require a dramatic reduction in our dependence on fossil fuels- and a shift towards solar, hydrogen, and safe nuclear power. It may be possible that-just possible-that the energy industry will transform itself so completely that observer will declare it a new industry B r u t e force, low-tech responses and money alone won't meet the challenges we face in the energy industry" (*emphasis added*).³⁴³

324. Also, in 1988, the Shell Greenhouse Effect Working Group issued a confidential internal report, "The Greenhouse Effect," which acknowledged global warming's anthropogenic nature:

³⁴³ Richard E. Tucker, *High Tech Frontiers in the Energy Industry: The Challenge Ahead*, AICHE NATIONAL MEETING (Nov. 30, 1988).

"Man-made carbon dioxide released into and accumulated in the atmosphere is believed to warm the earth through the so-called greenhouse effect." The authors also noted the burning of fossil fuel as a primary driver of CO₂ buildup and warned that ocean warming would impact marine species populations and that "shifts in ranges and migration patterns could result in local losses of food source revenues and could require [fishing] operations in other (more distant) grounds" (emphasis added).³⁴⁴

325. Similar to early warnings by Exxon scientists, the Shell report notes that "by the time the global warming becomes detectable it could be too late to take effective countermeasures to reduce the effects or even to stabilize the situation." The authors mention the need to consider policy changes on multiple occasions, noting 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."³⁴⁵

326. The Oil Defendants, Exxon, Shell, ConocoPhillips, Motiva and Anadarko (and their predecessors in interest), were at the forefront of carbon dioxide research for much of the latter half of the 20th century. Collectively, they studied and developed cutting edge and innovative technology, working with top researcher to produce exceptionally sophisticated greenhouse gas studies and climate change models.

327. The Oil Defendants actively participated in committees, boards and groups for the American Petroleum Institute and received numerous studies and updates from various committees regarding industry wide knowledge.

328. Defendants failed to act with any degree of responsibility to mitigate or avoid those dire adverse impacts. Defendants instead adopted the position, as described below, that the absence of

³⁴⁴ Shell Int' Petroleum, *Greenhouse Effect Working Group, The Greenhouse Effect*, SHELL INTERNATIONALE PETROLEUM (May 30, 1988) <https://www.climatefiles.com/shell/1988-shell-report-greenhouse/> (last visited 1/15/2022).

³⁴⁵ Id.

meaningful regulations on the consumption of their fossil fuel products was the equivalent of a social license to continue the unfettered pursuit of profits from those products. This position was an abdication of Defendants' obligation to consumers and the public, including Puerto Rico and the Municipality of San Juan, to act on their unique knowledge of the hazards of unabated production and consumption of their fossil fuel products.

329. By 1988, Defendants had amassed a compelling body of knowledge about the role of anthropogenic greenhouse gases—specifically those emitted from the normal use of Defendants' fossil fuel products causing global warming, increased mean sea surface temperature, marine heatwaves, harmful algal blooms, and attendant consequences for humans and the environment.

330. By this time, the Oil Defendants were on more than sufficient notice that their products were causing global climate change and predicted dire effects on the planet. The Oil Defendants, then, were faced with the decision of whether or not to take steps to limit the damages their fossil fuel products were causing and would continue to cause for virtually every area of the globe, including Puerto Rico.

331. It was also during this time that the Oil Defendants were investing billions in offshore platforms and needed to study climate change to protect their own assets from rising sea levels. Realizing the devastating effects to the climate their operations had, defendants had to take steps for continued operations. These investments included (among others), raising offshore oil platforms to protect against sea level rise; reinforcing offshore oil platforms to withstand increased wave strength and storm severity; and developing and patenting designs for equipment intended to extract crude oil and/or natural gas in areas previously unreachable because of the presence of polar ice sheets.³⁴⁶ The Defendants understood that to effectuate their conspiracy, they must find more oil and gas, produce

³⁴⁶ Amy Lieberman and Suzanne Rust, Big Oil braced for global warming while it fought regulations, L.A. TIMES (Dec. 31, 2015), <https://graphics.latimes.com/oil-operations/> (last visited Nov. 14, 2022).

more, maintain low prices, and stifle the alternative energy source companies and the governmental regulators.

332. Best Business Practices required Defendants to have taken any of several steps to mitigate the damages caused by their fossil fuel products, and their own comments reveal an **awareness** of the steps they were required to take.

333. Just as defendants knew the devastating effects their operations had to climate change at this time, Best Business Practices **required** Defendant to have made reasonable warnings to consumers, the public, and regulators of the danger known to them of the unabated consumption of their fossil fuel product and were required to have taken reasonable steps to limit the potential greenhouse gas emissions arising out of those products.

334. This, however, did not happen. Instead of acting to limit the potential greenhouse gas emissions they mobilized with the coal and fossil fuel dependent industries to manufacture and spread propaganda and deception about climate science, contrary to their own internal scientific conclusions, in order to ensure unabated emissions and the sale of their products to consumers worldwide and in Puerto Rico.

335. Exxon instructed Duane LeVine, Exxon's science and strategy development manager, to give a primer to the company's board of directors on February 22 1989.

336. Levine told the board of directors what they already knew ten years prior: that there was general consensus among scientists that the burning of fossil fuels could raise global temperatures significantly by the middle of the 21st century - between 2.7 and 8.1° F - causing glaciers to melt and sea levels to rise."³⁴⁷ Speaking of impending regulation, Exxon's LeVine warned

³⁴⁷ Katie Jennings, Dino Grandoni and Susanne Rust, *How Exxon went from leader to skeptic on climate change research*, L.A. TIMES (Oct. 23, 2015), <https://graphics.latimes.com/exxon-research/> (last visited Nov. 14, 2022).

"arguments that we can't tolerate delay and must act now can lead to irreversible and costly Draconian³⁴⁸ steps."³⁴⁹

337. Levine quoted from the 1983 "Changing Climate Report" from the Natural Research Council.³⁵⁰

338. In a 1989 internal newsletter, Exxon's resident climate expert Brian Flannery confirmed that regulatory efforts to reduce the risk of climate change, would "alter profoundly the strategic direction of the energy industry." And he warned that the impact on the company from those efforts "will come sooner ... than from climate change itself."³⁵¹

339. Reiterating the position taken a decade earlier, Joseph M. Carlson, Exxon Memo on "The Greenhouse Effect" dated Aug. 3, 1988, described the "Exxon Position," which included among others, two important tenets:

- a. **emphasize the uncertainty** in scientific conclusions regarding the potential enhanced Greenhouse Effect; and
- b. **resist** the overstatement and sensationalization (sic) of potential greenhouse effect which could lead to noneconomic development of non-fossil fuel resources.³⁵²

L. The Global Climate Coalition: Propaganda Machine and More Cover-up

340. Though the companies are competitors, the Oil and Coal Defendants converged and formed the "Global Climate Coalition" to fund and coordinate a multi-year, multi-million-dollar,

³⁴⁸ Draconian comes from Draco, the name of a 7th-century B.C. Athenian legislator who created a written code of law. Draco's code was intended to clarify preexistent laws, but its severity is what made it really memorable. In Draco's code, even minor offenses were punishable by death, and failure to pay one's debts could result in slavery. Draconian, as a result, became associated with things cruel or harsh. Something draconian need not always be as cruel as the laws in Draco's code, though - today the word is used in a wide variety of ways and often refers to measures (steep parking fines, for example) that are relatively minor when compared with the death penalty. Merriam Webster, *Draconian*, MERRIAM WEBSTER <https://www.merriam-webster.com/dictionary/draconian> (last visited Nov. 15, 2022).

³⁴⁹ Jennings, *supra*, Footnote 347.

³⁵⁰ *Id.*

³⁵¹ *Id.*

³⁵² Joseph M. Carlson, *Exxon Memo on "The Greenhouse Effect"*, EXXONMOBIL CORP. (Aug. 3, 1988). <https://www.climatefiles.com/exxonmobil/566/#:~:text=In%20the%20document%2C%20Carlson%20states,can%20have%20disastrous%20environmental%20impacts> (last visited Nov. 14, 2022).

multi-organization propaganda deception campaign designed explicitly to undermine climate science in order to continue unfettered use of their consumer products, regardless of the consequences to the planet, to Puerto Rico, and to the consumers of Puerto Rico.

341. A pattern that will be noted throughout this Complaint is the Defendants' efforts to hide behind third parties, promoted as "green" or "pro-environment." Greenwashing, sometimes referred to as "green sheen," is a public relations spin to promote the public's perception that an organization's products, aim, or policies are environmentally friendly.³⁵⁴ This linguistic detoxification-greenwashing-was used when forming the Global Climate Coalition and became a repetitive scheme to dupe consumers.

342. The Global Climate Coalition (GCC) was formed in 1989 as a public relations and international lobbyist group of businesses that opposed action to reduce greenhouse gas emissions and publicly challenged the science behind global warming, even though the founders knew otherwise. The following is a list of the founding members of the GCC on November 16, 1989:

³⁵³The Age of Persuasion, *Season 5: It's Not Easy Being Green: Green Marketing*, CBC RADIO (Jan. 8, 2011).

Global Climate Coalition Membership



Aluminum Association	General Motors Corporation
American Electric Power Service Corporation	Georgia Pacific Corporation
American Gas Association	Hercules Inc.
American Iron & Steel Institute	IBM
American Mining Congress	Jefferson Energy Foundation
American Nuclear Energy Council	Maytag Corporation
American Paper Institute	Motor Vehicle Manufacturers Association
American Petroleum Institute	National Association of Manufacturers
Amoco Corporation	National Coal Association
ARCO	National Steel Corporation
Armco, Inc.	Occidental Chemical Corporation
Association of Home Appliance Manufacturers	Pacific Gas & Electric Company
Automobile Importers of America	Peabody Holding Company, Inc.
BHP - Utah International, Inc.	Petrochemical Energy Group
Business Roundtable	Petroleum Marketers Association of America
Chemical Manufacturers Association	Phillips Petroleum Company
Chrysler Corporation	Portland Cement Association
Clean Air Working Group	PPG Industries
Coalition Opposed to Energy Taxes	Process Gas Consumers Group
Consolidation Coal Company	Rubber Manufacturers Association
Consumers Power Company	Shell Oil Company
Council of Industrial Boiler Owners	Society of the Plastics Industry, Inc.
Dow Chemical Company	Southern Company Services, Inc.
E.I. Dupont de Nemours & Company, Inc.	Texaco, Inc.
Eastman Kodak	Union Carbide Corporation
Edison Electric Institute	UNOCAL Corporation
Electricity Consumers Resource Council	U.S. Chamber of Commerce
Ford Motor Company	U.S. Council for Energy Awareness
	U.S. Council for International Business

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343. The Global Climate Coalition (GCC), on behalf of Defendants and other fossil fuel companies, funded advertising campaigns and distributed material to misinform the public about climate change, with the specific purpose of preventing U.S. adoption of the Kyoto Protocol, an international treaty which extends the 1992 United Nations Framework Convention on Climate Change (UNFCCC) that commits state parties to reduce greenhouse gas emissions, based on the scientific consensus that global warming is occurring, despite the leading role that the U.S. had played in the Protocol negotiations.³⁵⁵

344. From the outset, the corporate interests that controlled the central components of the GCC were fossil fuel producers, including coal mining interests and oil companies, and fossil fuel dependent industries, including coal-burning utilities, railroads who moved coal, automobiles, and chemical companies. Approximately 53% of membership in the GCC centered around fossil fuel activities, namely coal, oil, and auto companies. These companies also represented approximately

³⁵⁵ Global Climate Coalition, *Global Climate Coalition Membership*, GLOBAL CLIMATE COALITION (Nov. 16, 1989), <https://www.climatefiles.com/denial-groups/global-climate-coalition-collection/1989-membership/> (Nov. 15, 2022).

³⁵⁶ Id.

38% of board membership.³⁵⁶ The Defendants were integral to the foundation and purpose of the GCC.

345. The GCC was "reorganized" in 1992 by Phillips Petroleum (now ConocoPhillips), BHP (now BP), Ford, National Mining Association, Shell, Texaco (now Chevron), Exxon, Chrysler (now FCA), General Motors, the National Association of Manufacturers, Motor Vehicle Manufacturers Association (now Auto Alliance) the American Petroleum Institute (Oil Defendant), the National Coal Association (Coal Defendants) among many fossils fuel dependent companies.³⁵⁷

346. The GC, considering member corporations, member trade associations, and business represented by member trade associations, represented hundreds of thousands of businesses and was managed by Ruder Finn, a public relation firm.³⁵⁸

347. Despite an **internal primer** stating that various "contrarian theories" [i.e., climate change skepticism] do not "offer convincing arguments against the conventional model of greenhouse gas emission induced climate change," **GCC excluded this section from the public version of the backgrounder** (talking points) and instead funded efforts to those same contrarian theories to this day.³⁵⁹

³⁵⁶ The Global Climate Coalition, *Big Business Funds Climate Change Denial and Regulatory Delay*, CLIMATE INVESTIGATIONS (Mar. 25, 2019), <https://climateinvestigations.org/wp-content/uploads/2019/04/the-Global-Climate-Coalition-Denial-and-Delay.pdf> (last visited Nov. 15, 2022).

³⁵⁷ Ian McGregor *Organizing to Influence the Global Politics of Climate Change*, AUSTRALIAN AND NEW ZEALAND ACADEMY OF MANAGEMENT CONFERENCE (2008), <https://opus.lib.uts.edu.au/bitstream/10453/11492/1/20080008IIOK.pdf> (last visited Nov. 15, 2022).

³⁵⁸ Wendy E. Franz, *Science, skeptics, and non-state actors in the greenhouse*, HELPER CENTER FOR SCIENCE AND INTERNATIONAL AFFAIRS (Sept. 1998), <https://www.belfercenter.org/sites/default/files/legacy/files/Science%20Skeptics%20and%20Non-State%20Actors%20in%20the%20Greenhouse%20-%20E-98-J8.pdf> (last visited Nov. 15, 2022).

³⁵⁹ Gregory J. Dana, *Memo to A/AM Technical Committee Re: Global Climate Coalition (GCC) - Primer on Climate Change Science -Final Draft*, ASSOCIATION OF INTERNATIONAL AUTOMOBILE MANUFACTURERS (Jan. 18, 1996), https://www.ucsusa.org/sites/default/files/attach/2015/07/Climate-Deception-Dossier-7_GCC-Climate-Primer.pdf (last visited Nov. 15, 2022).

348. The GCC's financial information is not publicly available, though some has been retrieved by researchers. GCC's advocacy activities including lobbying government officials, grassroots lobbying through press releases and advertising, participation in international climate conferences, criticism of the processes of international climate organizations, critiques of climate models, and personal attacks on scientists and environmentalists.

349. The effort included promoting their hazardous products through advertising campaigns and the initiation and funding of climate change denialist organizations, designed to influence consumers to continue using Defendants' fossil fuel products regardless of those products' damage to communities and the environment.

350. The Oil Defendants took affirmative steps to conceal from Puerto Rico, the Municipality of San Juan, its citizens and the public, the foreseeable impacts of the use of their fossil fuel products on the planet's climate and associated harms to people and communities. Using the GCC, the Oil Defendants embarked on a public relations campaign and colluded with the Coal Defendants, among others, to deceive the public about the science connecting global climate change to fossil fuel products and greenhouse gas emissions, in order to influence public perception of the existence of anthropogenic global warming. Under the guise of the GCC, the Oil Defendants were able to collude with other members to accomplish what it could not do on its own: discredit scientific consensus and foster deception.

351. A key strategy in Defendants' efforts to discredit scientific consensus on climate change and the IPCC was to bankroll and hide behind scientists who, although accredited, held fringe opinions that were even more questionable given the sources of their research funding, which was not publicly disclosed and contrary to the insiders' own conclusions about their consumer products. These scientists obtained part or all of their research budget from Defendants directly or

through Defendant-funded organizations like APJ,³⁶⁰ but failed to disclose their fossil fuel industry underwriters in violation of common law fraud and statutory consumer protections laws.³⁶¹

352. In 1991, the Coal Defendants formed another greenwashed front group, Information Council on the Environment (ICE), with the express purpose of deceiving the public about climate science. ICE was a U.S. organization created by the National Coal Association, the Western Fuels Association, and Edison Electrical Institute. Defendants Peabody, Arch Coal and Rio Tinto were all members.

353. ICE launched a \$500,000 advertising and public relations campaign to determine if their deceptive "science approach sells" ³⁶² and, in ICE's words, "reposition global warming as theory (not fact)" a framing that makes clear that by 1991 global warming was an accepted scientific fact, and that the groups objectives to "reposition global warming as a theory" were pure **propaganda**, not based in science. Patrick Michaels, Robert Balling and Sherwood B. Id o all lent their names in 1991 to its scientific advisory panel.³⁶³

354. The Coal Defendants' publicity plan called for placing these three scientists, along with fellow climate change denier S. Fred Singer (see below), in broadcast appearances, op-ed pages, and newspaper interviews by its public relations firm.³⁶⁴

355. Another company was contracted to conduct opinion polls, which identified "older, less-educated males from larger households who are not typically active information-seekers" and

³⁶⁰ Willie Soon & Sallie Baliunas, *Proxy Climatic and Environmental Changes of the Past 1000 Years*, 23 *Climate Research* at 88, 105 (Jan. 31, 2003) <https://www.istor.org/stable/24868339> (last visited Nov. 15, 2021)

³⁶¹ Smithsonian, *Smithsonian Statement: Dr. Wei-Hock (Willie) Soon*, LEGISTORM (Feb. 26, 2015), https://www.legistorm.com/stormfeed/view_rss/529271/organization/36823/title/smithsonian-statement-dr-wei-hock-willie-soon.htm (last visited Nov. 15, 2022).

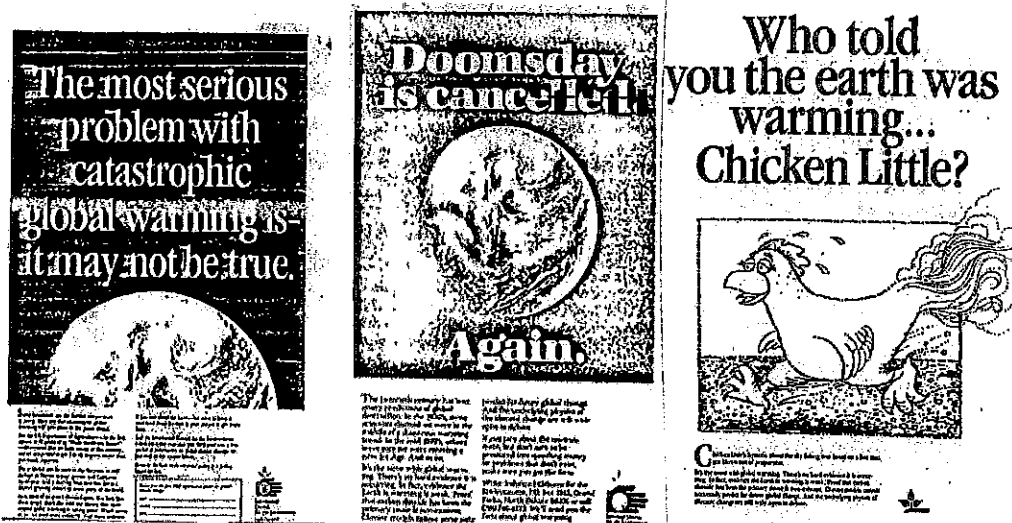
³⁶² May 7, 1991 correspondence from E. Erie to O. Mark DeMchele.

³⁶³ Kathy Mulvey & Seth Shulman, *The Climate Deception Dossier Internal Fossil Fuel Industry Memos Reveal Decades of Corporate Disinformation*, UNION OF CONCERNED SCIENTISTS (July 2015), at 20, <https://www.ucsusa.org/sites/default/files/attach/2015/07/the-climate-deception-dossiers.pdf> (last visited Nov 15, 2022).

³⁶⁴ Matthew L. Wald, *Pro-Coal Ad Campaign Disputes Warming idea*, N. Y. TIMES (Jul. 8, 1991), <https://www.nytimes.com/1991/07/08/business/pro-coal-ad-campaign-disputes-warming-idea.html> (last visited Nov. 15, 2022).

"younger, lower-income women" as "good targets for radio advertisements" that would "directly attack the proponents of global warming through comparison of global warming to historical or mythical instances of gloom and doom."³⁶⁶

356. One print advertisement prepared for the ICE campaign showed a sailing ship about to drop off the edge of a flat world into the jaws of a waiting dragon. The headline read: "Some say the earth is warming. Some also said the earth was flat." Another featured a cowering chicken under the headline, "Who Told You the Earth Was Warming... Chicken Little?" Another ad was targeted at Minneapolis readers and asked, "If the Earth is getting warmer, why is Minneapolis getting colder?"



357. The illicit goals of ICE's advertising campaign were to undermine the science, manufacture deception and dupe public opinion on global warming. A memo from Richard

³⁶⁶ Id.

Lawson president of the National Coal Association. asked members to contribute to the ICE campaign with the justification that policymakers are prepared to act on global warming, noting that opinion polls revealed 60% of Americans believed global warming was a serious environmental problem and that "our industry cannot sit on the sidelines in this debate."³⁶⁷

In December, 1992, the Global Climate Coalition's Executive Director, John Shales, wrote in a letter to *The New York Times*: "...there is considerable debate on whether or not man-made greenhouse gases (produced primarily by burning fossil fuels) are triggering a dangerous 'global warming' trend.' The letter in full reads as follows:

To the Editor:

" Cheapest Protection of Nature May Lie in Taxes, Not Laws" (Science Times, Nov. 24) echoes the theme that bad taxes become good taxes (alias "green fees") when they tax "bad" things. According to the article, these include fossil fuels, traffic and household garbage.

While tax policy can affect behavior, misguided tax policy can dampen economic prosperity in attempting to solve problems that might not exist or that could be solved in less onerous ways. The World Resources Institute study you cite asks Americans to pay higher energy price to prevent catastrophic global warming.

But there is considerable debate on whether or not man-made greenhouse gases (produced primarily by burning fossil fuels) are triggering a dangerous "global warming" trend. At an international meeting of climate experts in 1990, an intergovernmental panel on climate change concluded that "it is impossible to prove a cause-and-effect relationship" between man-made emissions and global warming. In the 1992 supplement to that report, the scientists stated, "It is still not possible to attribute with high confidence all, or even part of, the observed global warming to the enhanced greenhouse effect."

We know that climate change over the last 100 years is well within the planet's natural variation (the global climate has never been "stable"). If

³⁶⁷ Naomi Oreskes, *My Facts Are Better Than Your Facts: Spreading Good News about Global Warming*, in Peter Howlett et al., *How Well Do Facts Travel? The Dissemination of Reliable Knowledge*, CAMBRIDGE UNIVERSITY PRESS (2011), at 136-66, <https://doc.la.out.or/Others/Cambridge.University.Press-How.Well.Do.Facts.Travel.2010.RETAIL.EBook.df> (last visited Nov. 15, 2022).

scientists don't agree that man-made global warming is a problem, does the United States want to pay the costs incurred from an energy tax, including a diminished competitive position with our trading partners? A major Japanese Government agency has backed away from a carbon tax because of its impact on industry. You cite a \$5 trillion price tag in the study.

The American business community has made significant improvements in energy efficiency and now spends approximately \$100 billion a year complying with environmental regulations. These improvements have resulted in a substantial reduction in greenhouse gas emissions.

A green fee is a carbon tax, and a carbon tax is an energy tax. That translates into higher prices, lost jobs, reduced paychecks, and slower growth.³⁶⁸

358. That year, in 1992, the GCC distributed a video entitled *The Greening of Planet Earth*,³⁶⁹ to media, policy makers and its competitors, several Middle Eastern oil-producing countries, which claimed that increasing atmospheric carbon dioxide could boost crop yields and solve world hunger. These claims were inconsistent with climate models by the Oil Defendants that predicted global catastrophe.³⁷⁰

359. Amidst this propaganda to muddy the waters of climate change facts, the United Nations began preparation for the 1992 Earth Summit in Rio de Janeiro, Brazil. The Summit was a major, newsworthy gathering of 172 world governments, of which 116 sent their heads of state. On May 9, 1992, the United Nations Framework Convention on Climate Change ("UNFCCC") adopted an international environmental treaty providing protocols for future negotiations aimed at "stabiliz[ing] greenhouse gas concentrations in the atmosphere at a level that would prevent

³⁶⁹ John Schlaes, *What Global Warming?*, N.Y. TIMES (Dec. 22, 1992), <https://www.nytimes.com/1992/12/22/opinion/1-what-global-warming-250692.html> (last visited Nov 15, 2022).

³⁷⁰ A sequel, entitled, *The Greening of Planet Earth Continues*, was released in 1998. The video was narrated by Sherwood Idso. The Greening Earth Society, now defunct, was a public relations organization which denied the effects of climate change and the impacts of increased levels of carbon dioxide. The Society published the *World Climate Report*, a newsletter edited by Patrick Michaels of the Cato Institute.

³⁷¹ Amy Lieberman and Susanne Rust, *Big Oil braced for global warming while it fought regulations*, L.A. TIMES (Dec. 31, 2015), <https://graphics.latimes.com/oil-operations/> (last visited Nov. 14, 2022).

dangerous anthropogenic interference with the climate system." The treaty was opened for signature at the Earth Summit in Rio de Janeiro on June 14, 1992.

360. Candace Crandall of Science & Environmental Policy Project (SEPP) registered at the IPCC's Rio Earth Summit as a 'publicist' for the "science team" while the GCC ran an industry-wide collaborative delay and disinformation program to try to block decisions being taken at the Summit. These actions were coordinated by public relations giant Burson-Marsteller. The main anti-IPPC operation in Rio at the 1992 Earth Summit was run by the Global Climate Coalition.³⁷¹

361. These world events marked a shift in public discussion of climate change, and the initiation of international effort to curb anthropogenic greenhouse emissions-developments that had stark implications for, and diminished the Defendant profitability from fossil fuel products.

362. The GCC's indoctrination, which focused on concealing, discrediting and/or misrepresenting information that tended to support restricting consumption of (and thereby decreasing demand for) Defendants' fossil fuel products, enabled Defendants to accelerate their business practice of exploiting fossil fuel reserve, and concurrently externalize the social and environmental costs of their fossil fuel products.

363. These activities stood in direct contradiction to the Oil Defendants' own prior recognition that the science of anthropogenic climate change was clear and that the greatest uncertainties involved responsive human behavior not scientific understanding of the issue.

364. A 1994 Shell report titled "The Enhanced Greenhouse Effect: A Review of the Scientific Aspects", warned of the potentially dramatic economic effects of "ill-advised policy measures" relating to climate change. While this 1994 report recognized the IPCC

³⁷¹ The Center for Media and Democracy, *Candace C. Crandall*, CENTER FOR MEDIA AND DEMOCRACY(CMD) https://www.sourcewatch.org/index.php/Candace_C._Crandall (last visited Nov. 14, 2022).

conclusions as the mainstream view, the author **emphasized scientific uncertainty** and that the "evolution of energy systems indicates that policies to curb greenhouse gas emissions beyond 'no regrets' measures could be premature, divert resources from more pressing needs and further distort markets."³⁷²

365. When the GCC became a standalone organization in 1995, independent from the National Association of Manufacturers, the membership grew, adding at least eight new utilities and seven new oil and coal corporations as members. At the same time, the budget tripled, with tax documents showing three million dollars in corporate and trade association dues in tax years 1996 and 1997, compared to one million dollars in dues from the years 1994 and 1995.³⁷³

366. In 1995, GCC assembled an advisory committee of scientific and technical experts to compile an **internal-only**, 17-page report on climate science entitled *Predicting Future Climate Change: A Primer*, which stated: "The scientific basis for the Greenhouse Effect and the potential impact of human emissions of greenhouse gases such as CO₂ on climate is well established and **cannot be denied**."

367. However, that is not the message Defendants and their conspirators spun to consumers.

368. After the signing of the UNFCCC treaty in Rio in 1992, the parties to the UNFCCC met at a "Conferences of the Parties" - COPs in Berlin in 1995 to discuss how to achieve the treaty's aims. At the First Conference of the Parties (COP-I), the parties decided that the aim of stabilizing their emissions at 1990 levels by the year 2000 was "not adequate,"³⁷⁴ and further discussions at

³⁷² P. Langcake, *The Enhanced Greenhouse Effect: A review of the Scientific Aspects*, ROYALDUTCH SHELL (Dec. 1994), <https://www.climatefiles.com/shell/1994-shell-enhanced-greenhouse-effect-review-scientific-aspects/> (last visited Nov. 15, 2022).

³⁷³ Climate Investigations Center, *Global Climate Coalition Documents: Big Business Funds Climate Change Denial and Regulatory Delay*, CLIMATEINVESTIGATIONS CENTER, <https://climateinvestigations.org/global-climate-coalition-documents/> (last visited Nov. 14, 2022).

³⁷⁴ Joanna Depledge, *Technical paper: Tracing the Origins of the Kyoto Protocol: An Article-by-Article Textual History*, UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC) (Nov. 25, 2000), <http://unfccc.int/resource/docs/tp/tp0200.pdf> (last visited Nov. 14, 2022).

later conferences led to the Kyoto Protocol, to set emissions targets for developed countries.

369. Even though these GCC members knew that their products caused catastrophic effects, GCC disseminated climate denial claims that relied largely on the *World Climate Review* and its successor, the *World Climate Report*, which was edited by Patrick Michaels, funded by the Western Fuels Association³⁷⁵ and promoted by the Greening Earth Society, purportedly debunking the catastrophic effects of their products on our atmosphere.

370. The Greening Earth Society was a public relations organization which promoted the idea that there is considerable scientific doubt about the effects of climate change and increased levels of carbon dioxide.

371. Another example of "greenwashing" was the Greening Earth Society, made to look pro-environment, was a non-profit organization created by the Western Fuel Association with shared office space. The GCC promoted the views of climate skeptics such as Patrick Michaels, Fred Singer, and Richard Lindzen.³⁷⁶ In 1996, the GCC published a report titled "Hanging Weather? Facts and Fallacies about Climate Change." The GCC publicly opposed IPCC's scientific consensus.

372. In July 1996, at a Washington, D.C. press conference on the eve of the second United Nations Climate Change conference in Geneva, GCC's executive director said "The time for decision is not yet now."³⁷⁷

³⁷⁵ Wendy E. Franz, *Science, skeptics, and non-state actors in the greenhouse*, BELFER CENTER FOR SCIENCE AND INTERNATIONAL AFFAIRS (Sept. 1998),

<https://www.belfercenter.org/sites/default/files/leac/files/Science%20Skeptics%20and%20Non-State%20Actors%20in%20the%20Greenhouse%20-%20E-98-18.pdf> (last visited Nov. 15, 2022)"

³⁷⁶ David Levy and Sandra Rothenberg, *Corporate Strategy and Climate Change: Heterogeneity and Change in the Global Automobile Industry*, BELFER CENTER FOR SCIENCE AND INTERNATIONAL AFFAIRS (Sept. 30, 1999), <https://www.belfercenter.org/publication/corporate-strategy-and-climate-change-heterogeneity-and-change-global-automobile> (last visited Nov. 14, 2022).

³⁷⁷ John H. Cushman Jr., *Report says global warming poses threat to public health*. N.Y. TIMES, (Jul. 8, 1996) <https://www.nytimes.com/1996/07/08/world/report-says-global-warming-poses-threat-to-public-health.html> (last visited Nov. 14, 2022)

373. Exxon continued publish to the citizens of the Municipality of San Juan, more deceit. In 1996, Exxon released a publication titled "Global Warming: Who's Right? Facts about a debate that's turned up more questions than answers." Exxon CEO Lee Raymond stated that "taking drastic action immediately is unnecessary since many scientists agree there's ample time to better understand the climate system." The Municipalities reasonably relied on these statements.

374. In the publication, another article described the greenhouse effect as "unquestionably real and definitely, a good thing," while ignoring the severe consequences that would result from the influence of the increased CO2 concentration on Earth' climate. Exxon downplayed the greenhouse effect a simply "what makes the earth's atmosphere livable."

375. In this 1996 publication, Exxon contradicted its own internal reports and peer reviewed science, attributing the rise in temperature since the late 19th century to "natural fluctuations that occur over long periods of time" rather than to the anthropogenic emissions that Exxon and other scientists had confirmed were responsible. The article also falsely challenged the computer models that projected the future impacts of unabated fossil fuel product consumption, including those developed by Exxon's own employees, as having been proved to be inaccurate.

376. Exxon's article contradicted the numerous reports circulated among Exxon's staff, and by the API, by stating that "the indications are that a warmer world would be far more benign than many imagine ... moderate wanning would reduce mortality rates in the US, so a slightly warmer climate would be more healthful." Raymond concluded his preface by attacking advocates for limiting the use of hi company's fossil fuel products as "drawing on bad science, faulty logic, or unrealistic assumptions"-despite the important role that Exxon's own scientists had played in compiling those same scientific underpinnings.³⁷⁸

³⁷⁸ Exxon Corp., *Global warming: who's right?* (1996), EXXON CORP, <https://www.climatefiles.com/exxonmobil/global-warming-who-is-right-1996/> (last visited Nov. 15, 2022).

377. Tag teaming with Exxon, API published a report in the 1996 titled "Reinventing Energy: Making the Right Choices", warning against concern over CO₂ buildup and any need to curb consumption or regulate the industry. The same API that less than 20 years earlier had concluded that global warming from fossil fuel emissions could cause "globally catastrophic" effects now wrote that "there is no persuasive basis for forcing Americans to dramatically change their lifestyles to use less oil." The authors discouraged the further development of certain alternative energy sources, writing that "government agencies have advocated the increased use of ethanol and the electric car, without the facts to support the assertion that either is superior to existing fuels and technologies" and that "policies that mandate replacing oil with specific alternative fuel technologies freeze progress at the current level of technology, and reduce the chance that innovation will develop better solutions." The report denies the human connection to climate change, saying that no "scientific evidence exists that human activities are significantly affecting sea levels, rainfall, surface temperatures or the intensity and frequency of storms," concluding that "facts don't support the arguments for restraining oil use."³⁷⁹

378. To further turn deceptive practices every Thursday from 1985 to 2000, Mobil bought a full-page in the *New York Times* and used its ad space to publish what appeared to be scientific articles.³⁸⁰ At the same time, in 1996, Exxon, while publicly denying the threat of global warming, designed its drilling rigs off the Nova Scotia coast to account for a 0.5-meter rise in sea levels that climate models predicted would likely occur during the expected 25-year lifespan of the structures.³⁸¹

³⁷⁹ American Petroleum Institute, *Reinventing Energy*, AMERICAN PETROLEUM INSTITUTE (1996) <https://www.climatefiles.com/trade-group/american-petroleum-institute/1996-reinventing-energy/> (last visited Nov. 15, 2022).

³⁸⁰ Connor Gibson, *How Exxon Used the New York Times to Make You Question Climate Science*, ECOWATCH (Sept. 2, 2017) <https://www.ccowatch.com/exxon-new-york-times-2479595376.html> (last visited Nov. 15, 2022).

³⁸¹ Amy Lieberman and Susanne Rust, *Big Oil braced for global wanning while it fought regulations*, L.A. TIMES (Dec. 31, 2015), <https://graphics.latimes.com/oil-operations/> (last visited Nov. 14, 2022).

379. Mobil's advertorials continued until 2000 and Exxon continued to publish multiple 'Advertorials', again, designed to 'misinform' the general public.



383

380. In 1997, Mobil paid for an ad/article published in the *New York Times* proclaiming:

Let's face it: The science of climate change is too uncertain to mandate a plan of action that could plunge economies into turmoil... We still don't know what role man-made greenhouse gases might play in warming the planet.³⁸⁴

³⁸² NPR, *Climate Change Is 'Greatest Challenge Humans Have Ever Faced,' Author Says*, NPR (Apr. 16, 2019 1:59 PM) <https://www.npr.org/2019/04/16/713829853/climate-change-is-greatest-challenge-humans-have-ever-faced-author-says> (last visited Nov. 15, 2022). Photo source: Inside Climate News.

³⁸⁴ Dino Grandoni, *ExxonMobil asked people to 'read the documents' it produced on climate change. So, these Harvard researchers did.* THE WASHINGTON POST (Aug. 24, 2017) <https://www.washingtonpost.com/news/powerpost/wp/2017/08/24/exxonmobil-asked-people-to-read-the-documents-it-produced-on-climate-change-so-these-harvard-researchers-did/> (last visited Nov. 15, 2022).

381. In a speech presented at the World Petroleum Congress in Beijing in 1997 at which many of the Oil Defendants were present, Exxon CEO Lee Raymond reiterated these views. This time, he presented a false dichotomy between stable energy markets and abatement of the marketing, promotion, and sale of fossil fuel products known to Defendants to be hazardous knowing it was false and deceptive he stated:

Some people who argue that we should drastically curtail our use of fossil fuels for environmental reasons... my belief [is] that such proposals are neither prudent nor practical. With no readily available economic alternatives on the horizon, fossil fuels will continue to supply most of the worlds and this region's energy for the foreseeable future... Governments also need to provide a stable investment climate ... They should avoid the temptation to intervene in energy markets in ways that give advantage to one competitor over another or one fuel over another. We also have to keep in mind that most of the greenhouse effects comes from natural sources.... Leaping to radically cut this tiny sliver of the greenhouse pie on the premise that it will affect climate defies common sense and lacks foundation in our current understanding of the climate system. Let's agree there's a lot we really don't know about how climate will change in the 21st century and beyond.... It is highly unlikely that the temperature in the middle of the next century will be significantly affected whether policies are enacted now or 20 years from now. It's bad public policy to impose very costly regulations and restrictions when their need has yet to be proven.³⁸⁴

382. In 1997 the GCC launched an advertising campaign in the U.S. against any agreement aimed at reducing greenhouse gas emissions internationally. This was run through an organization called the Global Climate Information Project (GCIP), which was sponsored by the GCC and the American Association of Automobile Manufacturers, among other. The GCIP was represented by Shandwick Public Affairs, the second-largest PR firm in the United States.³⁸⁵

383. The GCIP's ads were produced by Goddard*Claussen/First Tuesday, a California-based PR firm, which falsely claimed "It's Not Global and It Won't Work." Among other things, the ads indicated that "Americans will pay the price ... 50¢ more for every gallon of gasoline," even though there was no proposal for such a tax. Actually, there was no treaty at that point, and no government

³⁸⁴ Lee R. Raymond, *Energy- Key to growth and a better environment for Asia-Pacific nations*, WORLD PETROLEUM CONGRESS (Oct. 13, 1997), <https://www.climatefiles.com/exxonmobil/1997-exxon-lee-raymond-speech-at-world-petroleum-congress/> (last visited Nov 15, 2022).

³⁸⁵ Sbandwick Public Affairs is a division of Weber Sbandwick Worldwide (WSW) was, in 2004, the world's largest public relations company. A subsidiary of the Interpublic Group, it was formed as the product of the mergers of Weber Public Relations and Shandwick Worldwide in late 2000. In 2001, Weber Sbandwick merged with BSMG to become the largest PR operation in the world. Other Shandwick clients include Browning-Ferris Industries, Central Maine Power, Georgia-Pacific Corp., Monsanto Chemical Co., New York State Electric and Gas Co., Ciba-Geigy, Ford Motor Company, Hydro-Quebec, Pfizer, and Procter & Gamble. SourceWatch, *Weber Shandwick*, THE CENTER FOR MEDIA AND DEMOCRACY, https://www.sourcewatch.org/index.php/Weber_Shandwick (last visited Nov. 15, 2022)


proposals, then or now, have suggested a "50 cent gallon gas tax."

384. In August 1997, a few months before the Kyoto Conference on Climate Change, the GCC helped launch a massive advertising campaign designed to prevent the United States from endorsing any meaningful agreement to reduce global carbon emissions. This group, including in its ranks these Defendants, some of the world's most powerful corporations and trade associations involved with fossil fuels, concentrated its efforts on a series of television ads that attempted to confuse and frighten Americans.

385. Mobil's 1997 advertise below³⁸⁷ argued that economic analysis of emissions restrictions was faulty and inconclusive and therefore a justification for delaying action on climate change.

³⁸⁶ Mobil, *When Facts Don't Square with the Themy, Throw Out the Facts*, N.Y. TIMES, (Aug. 14, 1997) at A31, <https://www.documentcloud.org/documents/705550-mob.nvt-1997-aug-14-whenfactsdentsquare.html>? (last visited Nov. 14, 2022).

When facts don't square with the theory, throw out the facts

 That seems to characterize the administration's attitude on two of its own studies which show that international efforts to curb global warming could peak a big run-up in energy prices.

For months, the administration—playing its cards close to the vest—has promised to provide details of the emission reduction plan it will put on the table at the climate change meeting in Kyoto, Japan, later this year. It also promised to evaluate the economic impact of that policy and measure its impact. Those results are important because the proposals submitted by other countries that it would be disruptive and costly to the U.S. economy.

Yet, when the results from its own economic models were finally generated, the administration started distancing itself from the findings and models that produced them. The administration's top economic advisor said that economic models can't provide a "definitive answer" on the impact of controlling emissions. The effort, she said, was "hazy." At best, the models can only provide a "range of potential impacts."

Frankly, we're puzzled. The White House has promised to lay the economic facts before the public. Yet, the administration's top advisor said such an analysis won't be based on models and it will "preclude... detailed numbers." If you don't provide numbers and don't rely on models, what kind of rigorous economic examination can Congress and the public expect?

We're also puzzled by administration over models. The administration downplays the utility of economic models to forecast cost impacts 10-15 years from now, yet its negotiators accept as gospel the 50-100-year predictions of global warming that have been generated by climate models—many of which have been criticized as seriously flawed.

The second study, conducted by Argonne National Laboratory under a contract with the Energy Department, examined what would

happen if the U.S. had to commit to higher energy prices under the emission reduction plans that several nations had advanced last year. Such increases, the report concluded, would result in "significant reductions in output and employment" in six industries—aluminum, cement, chemical, paper and pulp, petroleum refining and steel.

If hardest, the study noted, would be the chemical industry, with estimated that up to 30 percent of U.S. chemical manufacturing capacity would move offshore to developing countries. Job losses could amount to some 200,000 in that industry, with another 100,000 in the steel sector. And despite the substantial loss of U.S. jobs and manufacturing capacity, the net emission reduction could be insignificant since developing countries will not be bound by the emission targets of a global warming treaty.

Downplaying Argonne's findings, the Energy Department noted that the study used outdated energy prices (mid-1990s), don't reflect the plans that would come from international emissions trading and failed to factor in the benefits of accelerated developments in energy efficiency and low-carbon technologies.

What it failed to mention is just what these new technologies are and when we can expect their benefits to kick in. As for emissions trading, many economists have theorized about the role they could play in reducing emissions, but few have grappled with the practicality of implementing and policing such a scenario.

We applaud the goals the U.S. wants to achieve in these upcoming negotiations—namely, that a final agreement must be "flexible, cost-effective, realistic, achievable and ultimately global in scope." But until we see the details of the administration's policy, we are concerned that plans are being developed in the absence of rigorous economic analysis. Too much is at stake to simply ignore facts that don't square with preconceived theories.

Mobil The energy
to make a difference.

http://www.mobil.com

©1997 Mobil Corporation

386. An example of one of Mobil's advertisements in the *New York Times*, published on November 7, 1997, is reproduced below:

UISj)luj Ad Z6** No Title
 V... P...d. W... 1192, L(r), w, r, l/ld: "" t, l>-17.
 9, nQue, l, lli>1uric, il Nc>P"l"l", "llic Nev, YorkTime, (IS.SIOJ , nilh luck, {UJ I 19'1)
 n: AII

Science: what we know and don't know



As the debate over climate change heats up, science is being upstaged by the call for solutions. Although it is a complex issue with many questions, some things we know for certain. Others are far from certain.

First, we know greenhouse gases account for less than one percent of Earth's atmosphere. The ability of these gases to trap heat and warm Earth is an important part of the climate system because it makes our planet habitable. Greenhouse gases consist largely of water vapor, with smaller amounts of carbon dioxide (CO₂), methane and nitrous oxide and traces of chlorofluorocarbons (CFCs).

The focus of concern is CO₂. While most of the CO₂ emitted by far is the result of natural phenomena—namely respiration and decomposition, most attention has centered on the three to four percent related to human activities—burning of fossil fuels, deforestation. The amount of carbon dioxide in the atmosphere has risen in the last 100 years, leading scientists to conclude that the increase is a result of man-made activities.

Although the linkage between the greenhouse gases and global warming is one factor, other variables could be much more important in the climate system than emissions produced by man.

The UN-sponsored Intergovernmental Panel on Climate Change (IPCC) thought it had found the magic bullet when it concluded that the one-degree Fahrenheit rise in global temperatures over

the past century may bear a "fingerprint" of human activity. The fingerprint soon blurred when an IPCC lead author objected to the "uncertainty" inherent in computer climate modeling.

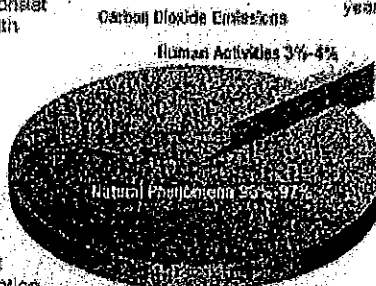
Nonetheless, nations at Kyoto are being asked to embrace proposals that could have potentially huge impacts on economies and lifestyles. Nations are being urged to cut emissions without knowing either the severity of the problem—that is, will Earth's temperature increase over the next 50–100

years?—or the efficacy of the solution—will cutting CO₂ emissions reduce the problem?

Within a decade, science is likely to provide more answers on what factors affect global warming, thereby improving our decision-making. We just don't have this information today.

Answers to questions on climate change will require more reliable measurements of temperature at many places on Earth, better understanding of clouds and ocean currents along with greater computer power.

This process shouldn't be short-circuited to satisfy an artificial deadline, like the conference in Kyoto. Whatever effect increased concentrations of man-made gases may have, it will develop slowly over decades. Thus, there is time for scientists to refine their understanding of the climate system, while governments, industry and the public work to find practical means to control greenhouse gases, if such measures are called for. Adopting quick-fix measures at this point could pose grave economic risks for the world.



Mobil The energy to make a difference.

<http://www.mobil.com/climatechange>

© 2007 Mobil Oil Corporation

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387. The GCC had an active subcommittee named the "Global Climate Coalition Science and Technology Assessment Committee" (STAC). In 1996, members of this subcommittee on science and technology were represented by Ford, Exxon, API, the NMA, BHP, and many others.

388. At the GCC's STAC's (Science & Technology Assessment Committee) June 20, 1996 meeting, which was held at the API headquarters, notes were prepared and distributed by the Association of International Automobile Manufacturers (AIAM), released talking points from Bronson Garnder to Jim Pinto and distributed to the STAC committee for addressing whether 1995 was "really that much hotter than normal or whether the data was "blown out of proportion" giving STAC and the GCC talking points for downplaying record setting temperatures.³⁸⁷

389. In 1997 alone, the GCC spent 13 million opposing the Kyoto Protocol.³⁸⁸

M. The GCSCT Action Plan--Double Down on Deception

390. Members of the GC created a task force which met at a "workshop" held at the APT headquarters in late March of 1998.³⁸⁹ A memorandum titled the "Global Climate Science Communication Team Action Plan" (GCSCT Action Plan) and written by API's Joe Walker memorializing the workshop's goals, strategies and tactics was emailed to the GCS T team members on April 3, 1998.

391. The email³⁹⁰ from Joe Walker with the GCSCT Action Plan which detailed a scheme on how the GC would achieve "Victory" by duping consumers through front groups, promoters, and media strategists:

³⁸⁷ Howard J. Feldman, *1996 GCC STAC June Meeting Minutes*, GLOBAL CLIMATE CHANGE COALITION (Jun. 20, 1996), <https://www.documentcloud.org/documents/S689156-AIAM-051229.html> (last visited Nov. 14, 2022).

³⁸⁸ Maggie Farley, *Showdown at Global Warming Summit*, L.A. TIMES (Dec. 7, 1997), <https://www.latimes.com/archives/la-xpm-1997-dec-07-mn-61743-story.html> (last visited Nov. 14, 2022).

³⁸⁹ The e-mail is undated but refers to a workshop that occurred the Friday before. As the attachment is dated April 3, 1998.

UNRECORDED

O: Global Climate Science Team
 TO: Michelle Ross; Susan Moya
 Subject: Draft Global Climate Science Communications Plan

As promised attached is the draft global climate science Communication Plan that we developed during our workshop last Friday. Thanks especially to those of you who participated in the workshop, and in particular to Jim Adams for his very helpful though following up our meeting, and Alan Caudill for tuning around the notes from our workshop so quickly.

Please review the plan and get back to me with your comment as soon as possible.

As those of you who were at the workshop know, we have scheduled a follow-up team meeting to review the plan in person on Friday, April 17, from 1 to 3 pm. at the API headquarters. After we hope to have a "Plan Champion" help us move it forward to potential funding sources, perhaps starting with the global climate Coordinating Council - that will be an item for discussion on April 17.

Again thanks for your hard work on this project. Please email, call or fax me with your comment. Thanks

Regards,
 Dan Walker

392. The cover page of the GCSCT Action Plan set out its goals, current reality and when "victory" would be achieved:³⁹¹

Global Climate Science Communications

Action Plan

Project Goal

A majority of the American public including industry leadership, recognizes that significant uncertainties exist in climate science, and therefore raises questions among those (e.g. Congress) who chart the future U. S. course on global climate change.

Progress will be measured towards the goal. A measurement of the public's perspective on climate science will be taken, before the plan is launched, and the same measurement will be taken at one or more as yet-to-be-determined intervals as the plan is implemented.

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
- Media coverage reflects balance on climate science and recognition of the validity viewpoints that challenge the current "conventional wisdom"
- Industry senior leadership understands uncertainties in climate science, making them stronger ambassadors to those who shape climate policy
- Those promoting the Kyoto treaty on the basis of extant science appear to be out of touch with reality.

Current Reality

Unless "climate change" becomes a non-issue, meaning that the Kyoto proposal is defeated and there are no further initiatives to thwart the threat of climate change, there may be no in comment when we can declare victory for our effort. It will be necessary to establish measurement for the science effort to track progress toward achieving the goal and strategic success.

³⁹¹ Re-typed for clarity.

393. The GSCT Action Plan named the following members as having contributed to the development:

- a. John Adams, John Adams Associates;
- b. Candace Crandall, Science and Environmental Policy Project;³⁹³
- c. David Rothbard, Committee for A Constructive Tomorrow;
- d. Jeffrey Salmon, The Marshall Institute;³⁹³
- e. Lee Garrigan, Environmental Issues Council;³⁹⁴
- f. Lynn Bouchey and Myron Ebell, Frontiers of Freedom;³⁹⁵
- g. Peter Cleary, Americans for Tax Reform;³⁹⁶
- h. Randy Randol, Exxon Corp.;
- i. Robert Gehri, The Southern Company;³⁹⁷
- j. Steve Milloy, The Advancement of Sound Science Coalition;³⁹⁸
- k. Joseph Walker, American Petroleum Institute.

³⁹² Candace Crandall was the wife of S. Fred Singer and registered for the Rio conference as a "publicist" for a science team at the Rio Conference where GCC participated in 1992. Sharon Kneiss, Chevron Corp.;

³⁹³ Also known as "The George C. Marshall Institute" (GMI) is a "non-profit" organization funded by the profits from oil and gas interests and co-founded by Frederick Seitz in 1984. It has received substantial funding from Exxon's Exxon Education Foundation. SourceWatch, *George C. Marshall Institute*, THE CENTER FOR MEDIA AND DEMOCRACY,

https://www.sourcewatch.org/index.php/George_C._Marshall_Institute (last visited Nov. 15, 2022).

³⁹⁴ The Environmental Issues Council (EiC) was established in 1993 by a number of leading U.S. industry trade associations to serve as a "new ally against ill-conceived environmental regulation."

SourceWatch, *Environmental Issues Council*, THE CENTER FOR MEDIA AND DEMOCRACY,

https://www.sourcewatch.org/index.php/Environmental_Issues_Council (last visited Nov. 15, 2022). Environmental Issues Council website no longer active. The EiC included membership of the Independent Petroleum Association of America (IPAA) "has represented independent oil and natural gas producers for three-quarters of a century."

United States Environmental Protection Agency (EPA), *Oil and Gas, Resources*, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (EPA)

<https://archive.epa.gov/sectors/web/html/oilandgas.html#:~:text=IPAA%20is%20a%20national%20trade.three%2Dquarters%20of%20a%20century> (last visited Nov. 15, 2022).

³⁹⁵ According to a 2003 *New York Times* report, Frontiers of Freedom, which has about a \$700,000 annual budget, received \$230,000 from Exxon in 2002, up from \$40,000 in 2001, according to Exxon documents. George Landrith, Frontiers of Freedom's President told the *New York Times* "They've determined that we are effective at what we do" and that Exxon essentially took the attitude, "We like to make it possible to do more of that."

Jennifer Lee, *Exxon Backs Groups That Question Global Warming*, THE NEW YORK TIMES (May 28, 2003), <https://www.nytimes.com/2003/05/28/business/exxon-backs-groups-that-question-global-warming.html> (last visited Nov. 22, 2022).

³⁹⁶ ATR is a member of the American Legislative Exchange Council (ALEC).

Noble Ellington, *National Chairman Of ALEC Responds To Report*, Interview with Terry Gross in Fresh Air, NPR (Jul. 21, 2011), <https://www.npr.org/2011/07/21/J38575665/national-chairman-of-alec-responds-to-report> (last visited Nov. 15, 2022).

³⁹⁷ Southern Company has been a corporate funder of the American Legislative Exchange Council (ALEC) Clearinghouse on Environmental Advocacy and Research, project of the Environmental Working Group. Information of the American Legislative Exchange Council, archived organizational profile by Wayback Machine, (Dec. 2, 2000).

³⁹⁸ The Advancement of Sound Science Coalition (TASSC) is a now-defunct, industry-funded **PR** front group run by the APCO Worldwide public relations firm. It worked to hang the label of "junk science" on environmentalists and health activists. TASSC was created in 1993 as a front for Philip Morris which was attempting to discredit ETS (Environmental Tobacco Smoke) research as a long-term cause of increased cancer and heart problems in the community -- especially among office workers and children living with smoking parents. APCO billed the tobacco company \$25,000 a month to run the operation. Chevron, Exxon and GM were all funders of TASSC which promoted climate change denial. Bob Burton and Sheldon Rampton, *Thinking Globally, Acting Vocally: The*

394. Defendants borrowed pages right out of the playbook of prior denialist campaigns. This team mirrored a front group created by the tobacco industry, known as "The Advancement of Sound Science Coalition," which purpose was to mislead consumers that cigarette smoke was not carcinogenic.

395. The GCSCT's membership included Steve Milloy (a key player on the tobacco industry's front group) for Exxon. Between 2000 and 2004, Exxon donated \$110,000 to Millay's efforts and another organization, the Free Enterprise Education Institute and \$50,000 to the Free Enterprise Action Institute, both registered to Millay's home address.³⁹⁹

396. The GCSCT Action Plan set out its goals: sow confusion for consumers, make global warming into a "non-issue," defeat the Kyoto Protocol, and ensure "there are no further initiatives to thwart the threat of climate change."⁴⁰⁰

No "Scientists" on the Science Team

397. There were no **scientists** on the "Global Climate Science Communications Team." (GCSCT). The GCSCT Action Plan's purpose was clear---keep consumers deceived and have them continue buying their products and retain value to their assets by directing the future of US global climate change policy.

398. The GCSCT Action Plan allocated an initial budget of \$7.9 million, most of which would fund efforts to inject fake science and bold-faced lies into the global climate debate.⁴⁰¹ From 1998 to 2008, Exxon alone invested more than \$20 million to think tanks that dedicated a large amount

International Conspiracy to Overheat the Earth, PR WATCH (1997) <https://www.prwatch.org/files/pdfs/prwatch/prwv4n4.pdf> (last visited Nov. 15, 2022).

³⁹⁹ Seth Shulman et al. *Smoke, Mirrors & Hot Air: How ExxonMobil Uses Big Tobacco's Tactics to Manufacture Uncertainty on Climate Science*, UNION OF CONCERNED SCIENTISTS, (Jan. 2007), at 19, https://www.ucsusa.org/sites/default/files/2019-09/exxon_report.pdf (last visited Nov. 15, 2022).

⁴⁰⁰ Joe Walker, *Global Climate Science Communications Action Plan*, GLOBAL CLIMATE SCIENCE COMMUNICATIONS TEAM(GCSCT) (Apr. 3, 1998), <https://insideclimatenews.org/wp-content/uploads/2015/12/Global-Climate-Science-Communications-Plan-1998.pdf> (last visited Nov 15, 2022).

⁴⁰¹ *Id.*

of effort to undermining the scientific consensus on climate change in fulfillment of the purpose of the GCSCT Action Plan.⁴⁰²

399. Naomi Oreskes and Erik M. Conway, authors of *Merchants of Doubt*, similarly note:

In 2005... Chris Mooney documented how in just a few years Exxon Mobil had channeled more than \$8 million to forty different organizations that challenged the scientific evidence of global warming. The organizations did not just include probusiness and conservative think tanks, but also "quasi-journalistic outlets like TechCentralStation.com (a website providing 'news, analysis, research, and commentary' that received \$95,000 from ExxonMobil in 2003), a *FoxNews.com* columnist, and even religious and civil rights groups". Mooney also noted how former ExxonMobil chairman and CEO Lee Raymond served as vice-chairman of the board of trustees for the American Enterprise Institute, which received \$960,000 in funding from ExxonMobil, and how in 2002, ExxonMobil explicitly earmarked \$60,000 for "legal activities" by the Competitive Enterprise Institute.

Mooney described what happened when scientists released the comprehensive *Arctic Climate Impact Assessment*, which concluded that the Arctic was warming at twice the rate of the rest of the world... The report was blasted in a column by Steve Milloy, now working as a columnist for *FoxNews.com* and serving as an adjunct scholar at the Cato Institute, which received \$75,000 from ExxonMobil. Milloy had received money from ExxonMobil: \$40,000 to The Advancement of Sound Science Center and \$50,000 to the Free Enterprise Action Institute-both of which are registered to Milloy's home address.⁴⁰³

400. GC members, through its GST Action Plan, doubled down on disseminating these contrarian theories, particularly through ghostwriters' front groups and think tanks. It needed to flood the public with false science, media blitzes, advertorials, and doubt. The multi-million-dollar, multi-year proposed budget included public outreach and the dissemination of educational

⁴⁰² Global Climate Science Communications Team, *Global Climate Science Communications Action Plan*, GLOBAL CLIMATE SCIENCE COMMUNICATIONS TEAM, <https://insideclimatenews.org/wp-content/uploads/2015/12/Global-Climate-Science-Communications-Plan-1998.pdf> (last visited Nov 15, 2022).

⁴⁰³ Naomi Oreskes & Erik M. Conway, *Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming*, BLOOMSBURY PRESS (2010), at 246-247.

materials to schools to begin to erect a barrier against further efforts to impose Kyoto-like measures in the future.⁴⁰⁴

401. Imperial Oil (now Exxon) CEO Robert Peterson also falsely denied the established connection between Defendants' fossil fuel products and anthropogenic climate change in the Summer 1998 Imperial Oil Review, "A Cleaner Canada":

[Climate change] has absolutely nothing to do with pollution and air quality. Carbon dioxide is not a pollutant but an essential ingredient of life on this planet. ... [T]he question of whether or not the trapping of 'greenhouse' gases will result in the planet's getting warmer... has no connection whatsoever with our day-to-day weather. There is absolutely no agreement among climatologists on whether or not the planet is getting warmer, or, if it is, on whether the warming is the result of man-made factors or natural variations in the climate.... I feel very safe in saying that the view that burning fossil fuels will result in global climate change remains an unproved hypothesis.⁴⁰⁵

402. In the early 1990s, both API and Exxon funded and promoted the work of Fred Seitz,⁴⁰⁶ Fred Singer and Singer' Science and Environmental Policy Project⁴⁰⁷ (SEPP). Singer's wife, Candace Crandall the Executive Director at SEPP, registered at the Rio conference as a 'publicist' for a "science team" in 1992.⁴⁰⁸ Neither Seitz nor Singer was trained in climate science, but both had previously been hired by industry, including tobacco companies, to create doubt in the public mind-again, where there should have been none.⁴⁰⁹

⁴⁰⁴ Global Climate Science Communication Team *supra*, Footnote 403.

⁴⁰⁵ Robert Peterson *A Cleaner Canada*, IMPERIALOIL REVIEW(1998) <https://www.climatefiles.co/exxonmobil/imperial-oil/1998-imperial-oil-article-a-cleaner-canada-by-robert-peterson/> (last viewed Nov. 15, 2022).

⁴⁰⁶ George C. Marshall Institute, *Recent Founders*, GEORGE C. MARSHALL INSTITUTE, <https://web.archive.org/web/2000082317091/www.marshall.orr/funder.htm> (last visited Nov. 14, 2022).

⁴⁰⁷ Exxon Education Foundation, *Corporate Giving Source: Dimensions*, EXXONMOBTL (1997); ExxonMobil, *Foundation Form 990*, DEPARTMENT OF THE TREASURY INTERNAL REVENUE SERVICE (IRS) (2000), <https://www.documentcloud.org/documents/1019871-2000-exxonmobil-foundation-form-990> (last visited Nov. 22, 2022).

⁴⁰⁸ The Center for Media and Democracy, *Candace C. Crandall*, CENTER FOR MEDIA AND DEMOCRACY (CMD) https://www.sourcewatch.org/index.php/Candace_C._Crandall (last visited Nov. 14, 2022).

⁴⁰⁹ D. Hevesi, *Frederick Seitz, 96, Dies; Physicist Who Led Skeptics of Global Warming*, THE NEW YORK TIMES (Mar. 03, 2008), <https://www.nimes.com/2008/03/06/us/06seitz.html?~:text=Frederick%20Seitz%2C%20ao2-renowned-confirmed%20by%20his%20son%2C%20Joachim> (last visited Nov. 15, 2022).

403. The GCSCT Action Plan went into high gear. Taking money from the GCC and its members, Seitz, Singer, and SEPP were used to attack climate science, and specifically the IPCC conclusions and process. In 1998, Seitz helped organize and distribute the "The Global Warming Petition Project" (also known as the "Oregon Petition"), a political petition designed to misinform and deceive the public about the scientific results and the consensus of climate change, urging the United States government to reject the global warming Kyoto Protocol of 1997 and similar policies.⁴¹⁰

404. The petition was formatted to appear sanctioned by the National Academy of Scientists and sent to thousands of American scientists. Supposedly signed by 17,000 "scientists," the petition claimed to find "no convincing scientific evidence that human release of greenhouse gases is causing or will, in the foreseeable future, cause catastrophic heating of the Earth's atmosphere and disruption of the Earth's climate." The list of signatories was filled not with 17,000 actual scientists, but fictitious names, deceased persons, and celebrities, including pranksters successfully submitting the names of Charles Darwin, a member of the Spice Girls, and characters from *Star Wars*, and getting them briefly included on the list.⁴¹¹

405. The petition:⁴¹²

Petition	
We urge the United States government to reject the global warming agreement that was written in Kyoto, Japan in December, 1997, and any other similar proposals. The proposed limits on greenhouse gases would harm the environment, hinder the advance of science and technology, and damage the health and welfare of mankind.	
There is no convincing scientific evidence that human release of carbon dioxide, methane, or other greenhouse gases is causing or will, in the foreseeable future, cause catastrophic heating of the Earth's atmosphere and disruption of the Earth's climate. Moreover, there is substantial scientific evidence that increases in atmospheric carbon dioxide produce many beneficial effects upon the natural plant and animal environments of the Earth.	
Please sign here _____	<input type="checkbox"/> Please send more petition cards for me to distribute.
My academic degree is <input type="checkbox"/> B.S. <input type="checkbox"/> M.S. <input type="checkbox"/> Ph.D. <input type="checkbox"/> in the field of _____	

⁴¹⁰ Sander van der Linden et al., *Inoculating the Public against Misinformation about Climate Change*, GLOBAL CHALLENGES (2017), <https://onlinelibrary.wiley.com/doi/epdf/10.1002/gch2.201600008> (last visited Nov. 15, 2022).

⁴¹¹ Michael E. Mann. *The Hockey Stick and the Climate Wars*. Columbia University Press (2012), at 66.

⁴¹² Global Warming Petition Project website, <http://www.petitionproject.org/> (last visited Nov. 14, 2022). Note: on April 25, 2019, the website claims that 31,487 American scientists have signed this petition, including 9,029 with PhDs.

406. The petition was organized and circulated by Arthur B. Robinson, president of the Oregon Institute of Science and Medicine (described as "a small independent research group") in 1998, and again in 2007.⁴¹³

407. Frederick Seitz then chairman of the George C. Marshall Institute, wrote a supporting cover letter signed as "Past President National Academy of Sciences USA, President Emeritus Rockefeller University."⁴¹⁴ The National Academy held a press conference to disclaim the mailing and distance itself from its former president.⁴¹⁵ Between 1998 and 2008, the George C. Marshall institute received a total of \$715,000 in funding from Exxon-Mobil alone.⁴¹⁶

408. The petition also included a 12 page "review article" with information on the subject of global warming. The article is titled "Environmental Effects of Increased

⁴¹³ Devin Henry, *Climate change petition pits scientists against each other*, THE MINNESOTA DAILY (May 28, 2008), <https://mndaily.com/2008/05/28/news/world/climate-change-edition-its-scientists-against-each-other/> (last visited Nov. 14, 2022).

⁴¹⁴ Gary J. Weisel, *Skeptics, Naysayers, Anomalies, and Controversies in Eds. Brian C. Black et al., Climate Change: An Encyclopedia of Science and History*, ABC-CLIO (2013) at 1241.

⁴¹⁵ *Id.*

⁴¹⁶ Ed Pilkington, *Palin fought safeguards for polar bears with studies by climate change sceptics*, THE GUARDIAN (Sep. 30, 2018), https://www.theguardian.com/world/2008/sep/30/uselections2008.sarah_alin#:~:tex=The+Republican+h%20Palin%20and+species%2C%20the%20Guardian%20can%20disclose (last visited Nov. 14, 2022).

Atmospheric Carbon Dioxide" by Arthur B. Robinson, Noah E. Robinson, Sallie Baliunas, and Willie Soon.^{417 418}

409. Matthew B. Crawford, former executive director of the George Marshall Institute who left after only five months in 2001, contended a conflict of interest existed in the funding of the institute.⁴¹⁹ In *Shop Class as Soulcraft*, Crawford said of the Institute:

... the trappings of scholarship were used to put a scientific cover on positions arrived at otherwise. These positions served various interests, ideological or material. For example, part of my job consisted of making arguments about global warming that just happened to coincide with the positions taken by the oil companies that funded the think tank.⁴²⁰

410. Outrage ensued. Opponents called out the GCC as a "club for polluters" and called for its members to withdraw their support.⁴²¹ Advocates started to call out **individual companies** and their support of the GCC. In 1998, Green Party delegates to the European Parliament introduced an unsuccessful proposal that the World Meteorological Organization name hurricanes after GCC members.⁴²² The consumers represented by Plaintiff were unaware of the controversy and relied on the information published by the Defendants and their cohorts.

411. In the late 90's, the direct members started publicly withdrawing from GCC due to public opposition. Even more insidious, Defendants maintained a Janus-like position with the public, their consumers.

⁴¹⁷ W. Soon, S. L. Baliunas, A. B. Robinson & Z. W. Robinson (Oct. 26, 1999). *Environmental Effects of Increased Atmospheric Carbon Dioxide*, CLIMATE RESEARCH, https://www.researchgate.net/publication/260851815_Environmental_Effects_of_Increased_Atmospheric_Carbon_Dioxide (last visited Nov. 15, 2022).

⁴¹⁸ *Id.*

⁴¹⁹ Carolyn Mooney, *A Hands-On Philosopher Argues for a Fresh Vision of Manual Work*, CHRONICLE OF HIGHER EDUCATION (Jun. 15, 2009), <https://www.chronicle.com/article/a-hands-on-philosopher-argues-for-a-fresh-vision-of-manual-work/> (last visited Nov. 15, 2022).

⁴²⁰ Matthew B. Crawford, *Shop Class as Soulcraft: An Inquiry into the Value of Work*. PENGUTN PRESS (2009).

⁴²¹ The New York Times, *DaimlerChrysler Leaving Climate Coalition*, N.Y. TIMES (Jan. 7, 2000), <https://www.nytimes.com/2000/01/07/business/daimlerchrysler-leaving-climate-coalition.html> (last visited Nov. 14, 2022).

⁴²² Joshua Karliner, *Petroleum Weather*, EARTH ISLAND JOURNAL (Dec. 1, 1998).

412. John Browne, Chairman of British Petroleum, in a speech at Stanford University on May 19, 1997, announced that "the time to consider the policy dimensions of climate change is not when the link between greenhouse gases and climate change is conclusively proven, but when the possibility cannot be discounted and is taken seriously by the society of which we are part. We in BP have reached that point." BP itself withdrew from the GCC, but stayed as a member of API, which is a member of GC. Shell also formally withdrew, but its trade groups did not.

413. In 1999, Ford, a founder of the GC in 1989, publicly withdrew from the GCC. Its young Chairman, William C. Ford, Jr., the great-grandson of Henry Ford, went on record saying, "I expect to preside over the demise of the internal combustion engine."⁴²³ Supposedly the company was already working on a fuel cell engine, one where the fuel of choice was hydrogen-not gasoline.⁴²⁴ Ford, a member of the Auto Alliance, however, privately remained a member of the GCC.

414. In February 1999, Atlantic Richfield Company, then a division of BP Chief Executive Officer Michael Bowlin said in a talk at an energy conference in Houston, Texas, "We've embarked on the beginning of the Last Days of the Age of Oil."⁴²⁵ He went on to discuss the need to convert our carbon-based energy economy into a hydrogen-based energy economy. However, BP maintained membership and private participation with the GCC through its trade association, API.

415. The companies who publicly left GCC then formed the Pew Center for Environmental Change (C2ES) and appointed a "Business Environmental Leadership Council" (BELC) in 1998 with the following statement: "We accept the views of most scientists that enough is known about

⁴²³ Lester Brown, *Plan B Updates: The Rise and Fall of the Global Climate Coalition*, EARTH POLICY INSTITUTE (Jul. 25, 2000), http://www.earth-policy.org/plan_b_updates/2000/alert6 (last visited Nov. 14, 2022).

⁴²⁴ *Id.*

⁴²⁵ *Id.*

the science and environmental impacts of climate change for us to take actions to address its consequences."⁴²⁶

416. But they did not. Publicly, the companies left GCC and formed the BELC to address the growing public outrage for blatantly funding climate denial and hid behind their trade associations to continue to profit from the efforts of the GCC, now as trade associations as a layer of unaccountability. This two-faced position would dominate for decades, all to the detriment of Puerto Rico and its consumers.

417. While the GCC members formed the new Pew Center to appease the public, the companies met privately and formed the "Global Climate Science Communications Team" (GCSCCT), setting out their marketing battle plan to undermine the science they knew was accurate regarding climate change.

418. In 2000, the GCC announced that it was restructuring as an association of trade associations and would henceforth only include trade associations in its membership. The companies, which had abandoned the GCC, as one journalist noted, like "rats leaving a sinking ship,"⁴²⁷ and adopted scientific consensus on climate change through the Pew Center were still represented by their trade associations in the GCC, which funded climate denial) of that scientific consensus. However, the Global Climate Coalition's 2000 archived webpage purports to represent **6,000,000** businesses including oil, coal, and transportation:

⁴²⁶ Center for Climate and Energy Solutions, *Business Environmental Leadership Council*, CENTER FOR CLIMATE AND ENERGY SOLUTIONS, www.c2es.org/our-work/belc/ (last visited Nov. 14, 2022).

⁴²⁷ Brown, *supra*. Footnote 424.



419. GCC's 2000 archived webpage promotes American Petroleum Institute; Center for the Study of Carbon Dioxide and Global Change (Now CO2 and coauthor of the NIPCC to oppose IPCC, created by Sherwood Idso); Competitive Enterprise Institute; Edison Electric Institute: Climate Change; International Petroleum Industry Environmental Conservation Association; the World Climate Report, a newsletter edited by Patrick Michaels that was produced by the Greening Earth Society, a non-profit organization created by the Western Fuels Association; and the Heartland Institute "Environment and Climate News" - a monthly report on climate change denial propaganda.⁴²⁸

420. In 1998, API distributed a roadmap memo, attached as **Exhibit 41**, outlining the fossil fuel industry's plan to use scientists as spokespersons for the industry's views. The innocuously

⁴²⁸ Committee on Oversight and Government Reform, *Allegations of Political Interference with Government Climate Change Science*, COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM (Mar. 19, 2007), at 51.

titled "Global Climate Science Communications Plan," written with the direct involvement of fossil fuel companies including Exxon Mobil and Chevron, detailed a plan for dealing with climate change that explicitly aimed to confuse and misinform the public. The API's Global Climate Science Communications Team ("GCSCT") consisted of representatives from the fossil fuel industry, trade associations, and public relations firms. At the time, the team's attention was focused on derailing the Kyoto Protocol-the international agreement committing participating countries to binding emissions reductions-that had been adopted by the Parties to the United Nations Framework Convention on Climate Change in December 1997. In response to this development, and to stave off approval of the treaty by the U.S. Senate and other climate action in the United States, the GCSCT's memo ("GCSCT Action Memo") mapped out a multifaceted deception strategy for the fossil fuel industry that continues to this day-outlining plans to reach the media, the public, and policy makers with a message emphasizing "uncertainties" in climate science.⁴²⁹

421. The GCSCT Action Memo outlined five distinct hierarchal levels:

- a. **Global Climate Coalition:** a group of trade associations representing the Defendants and many others.
- b. **Organizers of the GCSCT:** GCC members API (Shell, Chevron, BP, ConocoPhillips, Motiva, and Anadarko), Exxon, with CEI, CFACT, Lynn Bouchey, Myron Ebel1, SEPP, Fred Singer,⁴³⁰and others.
- c. **Funders:** National Mining Association {Arch Coal, RioTinto, and Peabody) API (Shell, Chevron, BP, ConocoPhillips, Motiva, and Anadarko), Business Round Table (all Defendants), Independent Petroleum Association of America and Edison Electric Institute (EEI).
- d. **Allocators:**⁴³¹ALEC, CEI, CFACT, Frontiers of Freedom, and The Marshall Institute.

⁴²⁹ *Id.*

⁴³⁰ Fred Singer was not personally present, but his wife, Candace Crandall was. Singer is the founder and chairman of SEPP.

⁴³¹ The word has an interesting connotation. "Allocate" means to set apart for a particular purpose; assign or allot: to allocate funds for new projects: to fix the place of; locate. Dictionary.com, *Allocate*, DICTIONARY.COM, <https://www.dictionary.com/browse/allocate> (last visited Nov. 15, 2022).

- e. **Promoters:** Heartland Institute, CFACT, ALEC, Frontiers of Freedom, the (George) Marshall Institute, SEPP, CO2, CEI, Myron Ebell, Marc Morano, Lord Christopher Monckton, Sherwood Idso, ICE, Fred Singer, Willie Soon, among many others.

422. The GCSCT Action Memo stresses how the Defendants individually and collectively have utilized propaganda to combat the perception of their fossil fuel products as hazardous.

423. The Defendants' GCSCT Action Memo included four strategies to achieve these goals:

- I. **National Media Relations Program:** Develop and implement a national media relations program to inform the media about uncertainties in climate science; to generate national regional and local media coverage on the scientific uncertainties, and thereby educate and inform the public, stimulating them to raise question with policy maker.
- II. **Global Climate Science Information Source:** Develop and Implement a program to inject credible science and scientific accountability into the global climate debate, thereby raising question about and undercutting the "prevailing scientific wisdom." The strategy will have the added benefit of providing a platform for credible, constructive criticism of the opposition's position on the science.
- III. **National Direct Outreach and Education:** Develop and implement a direct outreach program to inform and educate members of Congress, State officials, industry leadership, and schoolteachers/students about uncertainties in climate science. This strategy will enable Congress, state officials and industry leaders will be able to raise such serious question about the Kyoto treaty's scientific underpinnings that American policy-makers not only will refuse to endorse it, they will seek to prevent progress toward implementation at the Buenos Aires meeting in November or through other way Informing teachers/students about uncertainties in climate science will begin to erect a barrier against further efforts to impose Kyoto-like measures in the future.
- IV. **Funding/Fund Allocation:** Develop and implement program to obtain funding, and to allocate fund to ensure that the program it is carried out effectively.

424. There are a number of troubling elements in the memo. First, the GCSCT Action Memo influences the tenor of the climate change "debate" to establish that efforts to reduce greenhouse gas emissions were not necessary to responsibly address climate change.

425. Second, the GCSCT Action Memo maintains a strong working relationship between government regulators and communications-oriented organizations like the American Legislative Exchange Council, the Heartland Institute, and other groups carrying Defendants' message minimizing the hazards of the unabated use of their fossil fuel products and opposing regulation thereof.

426. Third, the GCSCT Action Memo builds the case for (and falsely dichotomizes) Defendants' positive contributions to a "long-term approach" (none is given) as a reason for society rejecting short term fossil fuel regulations and engaging in climate change science uncertainty research.

427. Fourth, the G SCT Action Memo presents Defendants' positions on climate change in domestic and international forums, including by preparing rebuttals to IPCC reports.

428. Defendants have funded and continue to fund dozens of think tanks, front groups, and dark money foundations as the GCC marketers, pushing climate change denial. These include the Competitive Enterprise Institute, the Heartland Institute, Frontiers for Freedom, Committee for a Constructive Tomorrow, and the Heritage Foundation.

429. From 1998 to 2014, Exxon alone spent almost **\$31 million** funding numerous organizations to undermine the scientific consensus that Defendants' fossil fuel products were causing climate change.⁴³² Several Defendants have been linked to other groups that undermine the scientific basis linking Defendants' fossil fuel products to climate change, including the Frontiers of Freedom Institute and the George C. Marshall Institute.

430. Researchers who scoured through advertorials and published internal documents of ExxonMobil concluded that "in essence, these public statements reflect only the 'doubt' side of

⁴³² Union of Concerned Scientists, *ExxonMobil Foundation & Corporate Giving to Climate Change Denier & Obstructionist Organizations*, UNION OF CONCERNED SCIENTISTS, <https://www.ucsusa.org/sites/default/files/attach/2015/07/ExxonMobil-Climate-Denial-Fundin-1998-2014> (last visited Nov. 15, 2022).

ExxonMobil's mixed internal dialogue."⁴³⁴ Geoffrey Supran and Naomi Oreskes' "Assessing ExxonMobil's climate change communications (1977-2014)" concluded that Exxon's peer-reviewed literature overwhelmingly acknowledges anthropogenic global warming as real, and human caused.

431. Exxon's non-peer reviewed documents, including industry targeted speeches, reports, and company pamphlets, contain more reference to misinform. The predominant stance taken in ExxonMobil's propaganda, however, according to the researchers in 'Doubt'. According to the researchers, of the 72% of climate change advertorials by Exxon that took a position, 81% of those take the position of 'Doubt', with the remainder split between 'Acknowledge' (11.5%) and 'Acknowledge and Doubt' (7.5%), Figure 2, page 7:

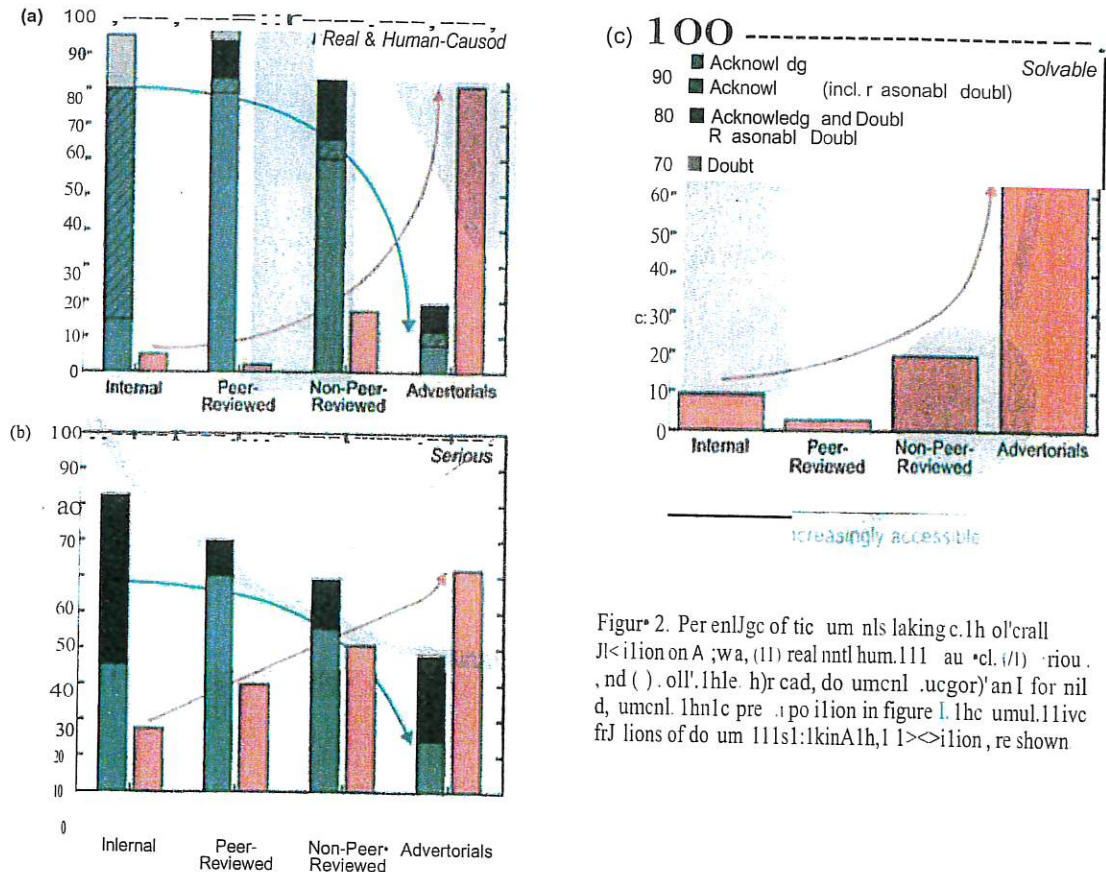


Figure 2. Percentage of climate change communications taking different positions across four categories: Internal, Peer-Reviewed, Non-Peer-Reviewed, and Advertorials. The chart shows that as the communication becomes increasingly accessible (moving from Internal to Advertorials), the percentage of communications that take a 'Doubt' position increases significantly, while the percentage that take an 'Acknowledge' position decreases.

⁴³³ Geoffrey Supran and Naomi Oreskes, *Assessing ExxonMobil's climate change communications (1977-2014)*, Environ. Res. Lett., (2017), <https://iopscience.iop.org/article/10.1088/1748-9326/aa815f> (last visited Nov. 15, 2022).

432. Roughly 80% of Exxon's external communications designed to hit big audiences-its consumers-emphasized uncertainty, while more than 80% of internal and scientific communications designed to be seen by no one other than internal communications or a very small number of academic audiences agree with the real scientific consensus that fossil fuels caused climate change and that it was very dangerous.

433. The Researchers concluded:

Available documents show a discrepancy between what ExxonMobil's scientists and executives discussed about climate change privately and in academic circles and what it presented to the general public. The company's peer-reviewed, non-peer-reviewed, and internal communications consistently tracked evolving climate science: broadly acknowledging that AGW is real, human-caused, serious, and solvable, while identifying reasonable uncertainties that most climate scientists readily acknowledged at that time. In contrast, ExxonMobil's advertorials in the NYT overwhelmingly emphasized only the uncertainties, promoting a narrative inconsistent with the views of most climate scientists, including ExxonMobil's own. This is characteristic of what Freudenberg et al term the **Scientific Certainty Argumentation Method** a tactic for undermining public understanding of scientific knowledge^{434 435}. Likewise, the company's peer-reviewed, non-peer-reviewed, and internal documents acknowledge the risks of stranded assets, whereas their advertorials do not. In light of these findings, we judge that ExxonMobil's AGW communications were misleading; we are not in a position to judge whether they violated any laws.⁴³⁶

0. Impact the False "Scientists" Had on Public Opinion

434. The creation of this false sense of disagreement in the scientific community is a direct contradiction of the consensus that the industry's own scientists, experts, and managers had

⁴³⁴ William R. Freudenberg, Robert Gramling and Debra J. Davidson, *Scientific Certainty Argumentation Methods (SCAMs): Science and the Politics of Doubt*, SOCIOLOGICAL INQUIRY (2008), <https://onlinelibrary.wiley.com/doi/epdf/10.1111/j.1475-682X.2008.00219.x> (last visited Nov. 15, 2022).

⁴³⁵ Robert N. Proctor and Londa Schiebinger, *Agnotology-The Making and Unmaking of Ignorance*, STANFORD UNIVERSITY PRESS (2008).

⁴³⁶ Supran & Oreskes, *supra*, Footnote 435.

previously acknowledged. It has had an evident and decisive impact on public opinion, which was the driving force of the GCSCT Action Memo.

435. The National Coal Association 1991 ICE campaign noted that opinion polls revealed 60% of Americans believed global warming was a serious environmental problem and that "our industry cannot sit on the sidelines in this debate."⁴³⁷ The GCSCT 1998 Action Memo mentions how public opinion can be wayed with fake science:

Charlton Research's survey of 1,100 "informed Americans" suggest that while Americans currently perceive climate change to be a great threat, public opinion is open to change on climate science. When informed that "some scientists believe there is not enough evidence to suggest that [what is called global climate change] is a long-term change due to human behavior and activities" 58 percent of those surveyed said they were more likely to oppose the Kyoto treaty. Moreover, half the respondents harbored doubts about climate science."⁴³⁸

436. The propaganda has been successful. A 2007 Yale University-Gallup poll found that while 71% of Americans personally believed global warming was happening, only 48% believed that there was a consensus among the scientific community, and 40% believed there was a lot of disagreement among scientists over whether global warming was occurring.⁴³⁹

437. Perceived expert consensus plays a vitally important role in the formation of public attitudes towards and the acceptance of general scientific principles, including climate change, and

⁴³⁷ Naomi Oreskes, *My Facts Are Berrer Than Your Facts: Spreading Good News about Global Warming*, in Peter Howlett et al., *How Well Do Facts Travel? The Dissemination of Reliable Knowledge*, CAMBRIDGE UNIVERSITY PRESS(2011), at 136-66, https://doc.la_out.or_Others/Cambridge.University.Press-How.Well.Do.Facts.Travel.2010.RETAiL.EBook_df (last visited Nov. 15, 2022).

⁴³⁸ Joe Walker, *Global Climate Science Communications Action Plan*, GLOBAL CLIMATE SCIBNCE COMMUNICATIONS TEAM (GCSCT) (Apr. 3, 1998), at 2, https://insideclimatenews.or-content/u_Joads/2015/12/Global-Climate-Science-Communications-Plan-1998_df (last visited Nov. 15, 2022).

⁴³⁹ *American Opinions on Global Warming: A Yale/Gallup/Clearvision Poll*, YALE PROGRAM ON CLIMATE CHANGE COMMUNICATION (July 31, 2007), <https://climatecommunication.vale.edu/publications/american-opinions-on-global-warming/> (last visited Nov. 14, 2022).

is considered a key "gateway belief."⁴⁴⁰ In 2015, researchers from Yale, Princeton, and George Mason University found that increasing public perceptions of the scientific consensus is significantly and causally associated with an increase in the belief that climate change is happening, human-caused, and a worrisome threat.⁴⁴¹

438. The researchers found that belief in the scientific consensus functions as an initial "gateway" to changes in key beliefs about climate change, which in turn, influence support for public action. They concluded that, "when in doubt about scientific facts, people are likely to use consensus among domain experts as a heuristic to guide their beliefs and behavior."⁴⁴²

439. The purpose of undermining public opinion was to sell products and the GCC and its members were-and are-wildly successful.

440. IPCC published its Fourth Assessment Report in 2007, in which it concluded that "there is very high confidence that the net effect of human activities since 1750 has been one of warming."⁴⁴³ The IPCC defined "very high confidence" as at least a 9 out of 10 chance.⁴⁴⁴ Despite these findings, and the fact that the Oil Defendants had concluded this knowledge decades earlier, the Defendants continued to market their products by funding climate change denial and undermining scientific consensus to avoid the "gateway belief" into its consumers making informed decisions.

⁴⁴⁰ Sander L. van der Linden et al., *The Scientific Consensus on Climate Change as a Gateway Belief: Experimental Evidence*, PLUS ONE, <https://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.018489&type=printable> (last visited Nov. 15, 2022).

⁴⁴¹ *Id.*

⁴⁴² *Id.*

⁴⁴³ Intergovernmental Panel on Climate Change (IPCC), Summary for Policymakers in Climate A report of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, CAMBRIDGE UNIVERSITY PRESS (2007), at 3, <https://www.ipcc.ch/site/assets/uploads/2018/02/ar4-wg1-spm-l.pdf> (last visited Nov. 15, 2022).

⁴⁴⁴ *Id.*

441. Exxon acknowledged its own previous success in sowing uncertainty-when there should have been none-and slowing mitigation through funding of climate denial groups. In its 2007 Corporate Citizenship Report, Exxon declared: "In 2008, we will discontinue contributions to several public policy research groups whose position on climate change could divert attention from the important discussion on how the world will secure the energy required for economic growth in an environmentally responsible manner."⁴⁴⁵ Despite this pronouncement, Exxon continued to support several such group after the report's publication.

442. The GCSCT Action Plan mentions developing and utilizing grass root organizations three times (pages 4, 5 and 7) in a PowerPoint presentation leaked in November of 2014 from the Western States Petroleum Association (WSPA)⁴⁴⁶, the top lobbyist for the oil industry in the western United States and the oldest petroleum trade association in the country. The WSPA "activates" and funds front groups that are designed to change public opinion on climate change when it opposed California's climate change law, the "Global Warming Solutions Act of 2006."⁴⁴⁷

443. The front groups, which included groups like the "California Drivers Alliance" and "Fed Up at the Pump", appeared to be grassroots groups representing consumer interests, while WSPA spent millions on public relations campaigns to further the oil industry's propaganda machine.⁴⁴⁸

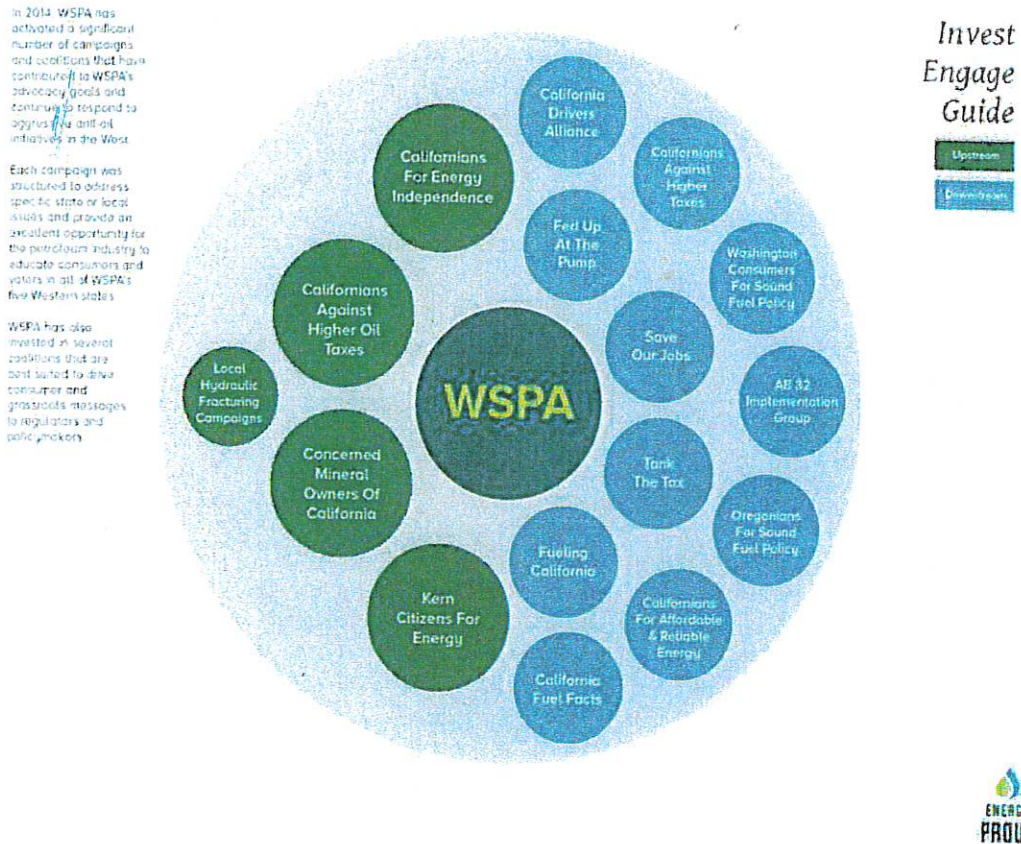
⁴⁴⁵ ExxonMobil, 2007 Corporate Citizenship Report, EXXONMOBIL (Dec. 31 2007), https://gri.t.org/wp-content/uploads/2009/07/community_ccr_2007.pdf (last visited Nov. 14, 2022).

⁴⁴⁶ Western States Petroleum Association (WSPA) is a non-profit trade association that represents companies that account for the bulk of petroleum exploration, production, refining, transportation and marketing in the six western states of Arizona, California, Hawaii, Nevada, Oregon and Washington. Founded in 1907, WSPA is the oldest petroleum trade association in the United States of America. WSPA's headquarter are in Sacramento, California. Additional WSPA locations include offices in Torrance; Santa Barbara; Bakersfield; Scottsdale, Arizona; and Olympia, Washington. Western States Petroleum Association, *About*, WESTERN STATES PETROLEUM ASSOCIATION, <https://www.wspa.org/about/> (last visited Nov. 15, 2022).

⁴⁴⁷ Bloomberg, *Leaked: The Oil Lobby's Conspiracy to Kill Off California's Climate law*. BLOOMBERG (Nov. 25, 2014), <https://www.bloomberg.com/news/articles/2014-11-25neaked-the-oil-lobb-s-cons-irac-to-kill-off-californias-climate-law?leadSource=uverify%20wall> (last visited Nov. 14, 2022).

⁴⁴⁸ Matt Connolly, *California's Friendly Neighborhood Citizens Groups Are Really Just Big Oil in Disguise*, MIC (Nov. 26, 2014) <https://www.mic.com/articles/105196-california-s-friendly-neighborhood-citizens-groups-are-really-just-big-oil-in-disguise> (last visited Nov. 14, 2022).

444. The slide below identifies groups that were "activated" by the Western States Petroleum Association's Deception Campaign to work against climate policy and many of the names are intentionally "greenwashed":



445. In fact, the groups-some of which WSPA created themselves-were all part of a deception campaign created to disseminate WSPA's message via groups designed to sound like grassroots public interest organizations. This leaked presentation from WSPA revealed a stealth campaign to change public opinion and keep the consumers lulled into purchasing their products.

446. In 2009, Congress was debating the American Clean Energy and Security Act of 2009, which proposed to institute a federal carbon emissions reduction plan. Two weeks prior to the vote, Rep. Tom Perriello (VA) received a letter opposing the legislation, ostensibly from *Creciendo Juntos*, a nonprofit Latino organization based in his Charlottesville district pleading to help "consumers."

447. "My organization, *Creciendo Juntos*,⁴⁵⁰ represents minorities in your district," the letter began. "We ask you to use your important position to help protect minorities and other consumers (emphasis added) in your district from higher electricity bills. Please don't vote to force cost increases on us, especially in this volatile economy."

448. Only after the vote on the bill did Rep. Perriello learn-from *Creciendo Juntos*-that the letter was a fraud. Thirteen other forgeries were also sent on behalf of organizations including the National Association of the Advancement of Colored People (NAACP), all to serve the purpose and intent of the GCC.

449. Testimony given during the congressional investigation reveal that Bonner and Associates was officially hired on June 10, 2009, by the Hawthorn Group, a public relations and communication firm employed by the American Coalition for Clean Coal Electricity (ACCCE), a member of the GCC. The ACCCE, which remains in operation today, counts among its corporate members, Defendants Arch Coal and Peabody Energy.

450. The GSTCT Action Plan identified an array of fossil fuel industry trade associations and front group, fossil fuel companies, and free market think tanks to underwrite and execute the plan, including the National Mining Association, whose members are Defendants, Arch, Peabody, BHO, and Rio Tinto. The National Mining Association was specifically mentioned as funders:

Potential funding sources were identified as American Petroleum Institute (API) and its members; Business Round Table (BKT) and its members, Edison Electric Institute (EEI) and its members; Independent Petroleum Association of America (IPAA) and its member; and the National Mining Association (NMA) and its members.

⁴⁴⁹Creciendo Juntos means "Growing Together" in Spanish.

451. The National Mining Associates and its members, Defendants BHP, Arch Coal, Peabody Energy, and Rio Tinto who actively participate in committees, boards, and groups for the National Mining Association, actively funded the GCC.

452. Integral to the media blitz to undermine science is the establishment of a countermovement, which refutes the general scientific consensus (and confirmed internally by the Defendants) that climate change was real and caused by fossil fuels. Pages 6 and 7 of the GCST Action Plan:

- a. Develop a global climate science information kit for media including peer-reviewed papers that undercut the "conventional wisdom" and climate science. This kit also will include understandable communications, including simple fact sheets that present scientific uncertainties in language that the media and public can understand.
- b. Conduct briefings by media-trained scientists for science writers in the top 20 media markets using the information kits. Distribute the information kits to daily newspapers nationwide with offer of scientists to brief reporters at each paper. Develop, disseminate radio news releases featuring scientists nationwide, and offer scientists to appear on radio talk shows across the country.
- c. Produce, distribute a steady stream of climate science information via facsimile and e-mail to science writers around the country.
- d. Produce, distribute via syndicate and directly to newspapers nationwide a steady stream of op-ed columns and letters to the editor authored by scientists.
- e. Convince one of the major news national TV journalists (e.g., John Stossel) to produce a report examining the scientific underpinnings of the Kyoto treaty.

453. Most of the publications questioning climate change came not from scientific journals, but from industry-funded think tanks masquerading as scientific. A study by Professors Peter Jacques and Mark Freeman, political scientists at University of Central Florida, found that **92.2%**

of the skepticism literature was published by GCC-funded think tanks or authors affiliated with those think tanks.⁴⁵⁰

454. In addition to think tanks, the GCSCT also recognized they would need to cultivate new scientific spokespeople to create a sense among the public that there was still serious debate among scientists.⁴⁵¹ So, the Defendants funded a small group of maverick scientists who maintain that global warming is not a threat.⁴⁵²

455. The Nongovernmental International Panel on Climate Change (NIPCC) is a climate change denial advocacy group established by S. Fred Singer' Science & Environmental Policy Project, and supported by the Heartland Institute,⁴⁵³ in opposition to the assessment reports of the Intergovernmental Panel on Climate Change (IPCC) on the issue of global warming⁴⁵⁴ located at the following web address: www.climatechangereconsidered.org.

P. Tobacco Industry Strategists Return

456. On its website, NIPCC "traces its beginnings to an informal meeting held in Milan, Italy in 2003 organized by Dr. S. Fred Singer and the Science & Environmental Policy Project (SEPP)."⁴⁵⁵ Singer is SEPP's founder. SEPP was represented at the March 27, 1998 workshop at API's headquarters.

⁴⁵⁰ James Hoggan & Richard Littlemore, *Climate over-Up: The Crusade to Deny Global Warming*, on 81 (2009).

⁴⁵¹ Seth Shulman et al. *make, Mirrors & Hot Air: How ExxonMobil Uses Big Tobacco's Tactics to Manufacture Uncertainty on Climate Science*, UNION OF CONCERNED SCIENTISTS (Jan. 2007), at 14, https://www.ucsusa.org/sites/default/files/2019-09/exxon_report.pdf (last visited Nov. 15, 2022).

⁴⁵² *CBC Fifth Estate: The Climate Denial Machine*, LIVE JOURNAL, (Nov. 15, 2006), <http://bit.ly/2BsxMIL> (last visited Nov. 14, 2022).

⁴⁵³ Nongovernmental International Panel on Climate Change, *Climate Change Reconsidered JI*, THE HEARTLAND INSTITUTE, <http://climatechangereconsidered.org/> (last visited Nov. 14, 2022).

⁴⁵⁴ Constance Lever-Tracy, *Routledge Handbook of Climate Change and Society*, ROUTLEDGE (Jul. 12, 2010), <https://www.routledge.com/Routledge-Handbook-of-Climate-Change-and-Society/Lever-Tracy/p/book/9780415544764> (last visited Nov. 14, 2022).

⁴⁵⁵ The Heartland Institute, *About the NIPCC*, NONGOVERNMENTAL INTERNATIONAL PANEL ON CLIMATE CHANGE, <http://climatechangereconsidered.org/about-the-nipcc/> (last visited Nov. 14, 2022).

457. Even this year, the NIPCC still maintains that "the global war on energy freedom ... was never founded on sound science or economics" and that the "world's policymakers ought to acknowledge this truth and end that war."⁴⁵⁶

The NIPCC authors conclude, "The global war on energy freedom, which commenced in earnest in the 1980s and reached a fever pitch in the second decade of the twenty-first century was never founded on sound science or economics. The world's policymakers ought to acknowledge this truth and end that war."

458. Those NIPCC authors are Fred Singer, Craig Idso, Roger Bedzek, and David Legates, all portrayed on Heartland Institute's current website under "Who We Are."⁴⁵⁷

459. According to its website the NIPCC has 14 publications to date:⁴⁵⁸

- a. Nature, Not Human Activity, Rules the Climate
- b. Climate Change Reconsidered: The 2009 Report of the Nongovernmental International Panel on Climate Change (NIPCC)
- c. Climate Change Reconsidered: 2011 Interim Report
- d. Climate Change Reconsidered II: Physical Science
- e. Climate Change Reconsidered II: Biological Impacts
- f. Scientific Critique of IPCC's 2013 'Summary for Policymakers'
- g. Commentary and Analysis on the Whitehead & Associates 2014 NSW Sea-Level Report
- h. Why Scientists Disagree About Global Warming
- i. Written Evidence Submitted to the Commons Select Committee of the United Kingdom Parliament

⁴⁵⁶Climate Change Reconsidered (CCR), *Message from the Coauthors*, CLIMATE CHANGE RECONSIDERED, <http://climatechangereconsidered.org/wp-content/uploads/2019/03/Message-from-the-Coauthors.pdf> (last visited Nov. 14, 2022).

⁴⁵⁷The Heartland Institute, *Who We Are*, THE HEARTLAND INSTITUTE, www.heartland.org/about-us/who-we-are/ (last visited Nov. 14, 2022).

⁴⁵⁸Nongovernmental International Panel on Climate Change (NIPCC) Climate Change, *About*, THE HEARTLAND INSTITUTE, <http://climatechangereconsidered.org/> (last visited Nov. 15, 2022)

- j. NIPCC vs. IPCC
- k. Chinese Translation of Climate Change Reconsidered
- l. Global Warming Surprises: Temperature data in dispute can reverse conclusions about human influence on climate
- m) Data versus Hype: How Ten Cities Show
- n) Sea-level Rise Is a False Crisis
- o) Climate Change Reconsidered II: Fossil Fuels

460. All these publications undermined the scientific consensus that climate change is real or is caused by fossil fuels in fulfillment of the intent, purpose, and goals of the GCSTC Action Plan. The 2009 report of the NIPCC added the Oregon Petition (*supra*) as Appendix 4. The Appendix claim its purpose is to demonstrate that the claim of "settled science" and "overwhelming consensus" in favor of the hypothesis of human-caused global warming and consequent climatological damage is wrong. The petition claims that "no such consensus or settled science exists. As indicated by the petition text and signatory list, a very large number of American scientists reject this hypothesis."⁴⁵⁹

461. The petition is still available on a website entitled www.petitionproject.org, and claims that **31,487** American scientists have allegedly signed this petition, including 9,029 with PhDs.⁴⁶⁰

462. One of the corporations present at the March 27, 1998 GC workshop at API's headquarters was the "Science and Environmental Policy Project"⁴⁶² (SEPP) represented by "publicist" Candace Crandall, the wife of S. Fred Singer, SEPP founder.

⁴⁵⁹Appendix 4, *The Petition Project*, CLIMATE CHANGE RECONSIDERED <https://www.heartland.org/template-assets/documents/CCR/CCR-2009/Appendix%204%20Petition.pdf> (last visited Nov. 15, 2022).

⁴⁶⁰Global Warming Petition Project website, <http://www.petitionproject.org/index.php>. (last visited Nov. 14, 2022).

⁴⁶¹The Science & Environmental Policy Project (SEPP) was founded by S. Fred Singer and is an advocacy group financed by private contributions based in Virginia in the United States. It was founded in 1990 by S. Fred Singer

463. Singer is funded to promote the intent and purpose of the GCSCT Action Plan. Singer got his start as one of the chief advocates for the cigarette industry in denying that secondhand smoke causes cancer.⁴⁶² There is no longer any denying the link between tobacco and the tragic damage that smoking has wrought on society. However, it took a long time for this knowledge to take hold due to the treachery of tobacco executives. A similar delay in the case of global climate change cannot be countenanced.

464. Singer maintains that human-caused global warming was not occurring and if it was, a warmer Earth was a good thing. He told the Canadian Broadcasting Corporation (CBC), "It was warmer a thousand years ago than it is today. Vikings settled Greenland. Is that good or bad? I think it is good. They grew wine in England, in northern England. I think that's good. At least some people think so."⁴⁶³

465. Singer was paid as a consultant by Exxon, Shell, Chevron, BP, the American Petroleum Institute, and ALEC. Fred Singer is also prominently displayed on the current website of the Heartland Institute⁴⁶⁴ and is considered a senior fellow, as a climate change denier.

466. Also, personally present at the March 1998 workshop at API's headquarters meeting was Myron Ebell. Ebell is CEI's Director of the Energy and Environment on its current website. Ebell is also referenced under "Who We Are" for the Heartland Institute and posts **206** articles and blogs

and is known for disputing the prevailing scientific views of climate change and ozone depletion. SEPP also questioned the science used to establish the dangers of secondhand smoke, arguing the risks are overstated. The Science and Environmental Policy Project (SEPP), *Key Issues*, SCIENCE AND ENVIRONMENTAL POLICYPROJECT (updated Jul. 2006), <https://web.archive.org/web/20060717173008/http://www.sepp.org/keyissue.html>, (last visited Nov. 16, 2022).

⁴⁶² David Biello and John Pavlus, *Even Skeptics Admit Global Warming is Real*, SCIENTIFIC AMERICAN (Mar. 18, 2008), https://www.scientificamerican.com/article/even-skeptics-admit-global-warming-is-real-video/?gclid=CjwKCAiA68ebBhB-EjwALVC-Ns0vkbnUH9Hm9V4kDAubRo5u7LbalhYuhNAOifa8djNKTu3Rr284xoC02AOAvD_BwE (last visited Nov. 14, 2022).

⁴⁶³ Astronautix, *Singer, Siegfried Fred*, ASTRONAUTIX <http://www.astronautix.com/s/singer.html> (last visited Nov. 14, 2022)

⁴⁶⁴ The Heartland Institute, *S. Fred Singer (1924 - 2020)*, THE HEARTLAND INSTITUTE, <https://www.heartland.org/about-us/who-we-are/s-fred-singer> (last visited Nov. 14, 2022).

written by or involving Ebell. Heartland Institute presented Myron Ebell with the "Speaks Truth to Power" award at the Twelfth International Conference on Climate Change on March 23, 2017.⁴⁶⁵

467. After the meeting in March of 1998, even though Exxon was aware as early as 1979 that fossil fuels affected climate change and that its fossil fuels posed an existential threat to the future, Exxon began funding Frontiers of Freedom, where Ebell was a staff member. In 1999, Ebell transferred to the Competitive Enterprise Institute (CEI), and from 1998 to 2005 ExxonMobil provided CEI with over 2 million in funding.⁴⁶⁶

468. According to CEI's website, Ebell also chairs the "Cooler Heads Coalition," which comprises representatives from more than two dozen non-profit organizations based in the United States and abroad that challenges global warming "alarmism" and opposes energy rationing policies.⁴⁶⁷

469. From 1981 to present, CEI which also runs the "Cooler Heads Coalition" on its website www.globalwarming.org, has **3805** blog posts, **29** court cases references, **99** events, **4007** media appearances, **16** personal appearances, and **1804** publications involving the subject climate change denial and all posts promote the intent and purpose of the GSCCT Action Plan and advertises Ebell prominently on its website.⁴⁶⁸

470. In a June 16, 2017 interview with Heartland Institute's H. Sterling Burnett, Ebell, said:

I try to follow the best science available, but, unfortunately, a lot of the science promoted by the global warming alarmists and the mainstream media is junk science. The work that The Heartland Institute and

⁴⁶⁵ The Heartland Institute, *Myron Ebell*, THE HEARTLAND INSTITUTE <https://www.heartland.org/about-us/who-we-are/myron-ebell> (last visited Nov. 14, 2022).

⁴⁶⁶ Seth Shulman et al. *Smoke, Mirrors & Hot Air: How ExxonMobil Uses Big Tobacco's Tactics to Manufacture Uncertainty on Climate Science*, UNION OF CONCERNED SCIENTISTS, (Jan. 2007), https://www.ucsusa.org/sites/default/files/2019-09/exxon_report.pdf (last visited Nov. 15, 2022).

⁴⁶⁷ Competitive Enterprise Institute, *Myron Ebell*, COMPETITIVE ENTERPRISE INSTITUTE, <https://cei.org/expert/myron-ebell> (last visited Nov. 14, 2022).

⁴⁶⁸ *Id.*

Nongovernmental International Panel on Climate Change do to sort out the real science from all the junk is absolutely critical to the debate.

and

The alarmist case exaggerates the rate of warming based on model projections; exaggerates or, in many cases, makes up the negative impacts of warming; completely ignores the positive impacts and the direct beneficial impacts of higher carbon-dioxide concentrations; and substantially underestimates the cost of reducing emissions.

471. The GSCT also funded Willie Soon, another lead climate skeptic.⁴⁶⁹ Soon co-authored the article which accompanied the Oregon Petition, *supra*. Most famously, Soon wrote one of the few denialist articles to be published in a peer-reviewed scientific journal.⁴⁷⁰ But that article quickly turned into a scandal where the editorial staff quit. Despite this, soon earned a "Courage in Defense of Science Award" from Heartland.

472. From 2005 to 2015, Soon received \$1.2 million from the fossil fuel industry (including Exxon Mobil, the API, and others)⁴⁷¹

473. Soon's peer reviewed article, published in *Climate Research* in 2003, concluded that "the 20th century is probably not the warmest nor a uniquely extreme climatic period of the last millennium." The paper was immediately debunked in a publication by 13 climate scientists, who pointed out that Soon's data measured changes in moisture, not changes in temperature, and confused regional changes in temperature with global changes.

474. Following the 2003 publication, nearly half of *Climate Research's* editorial board resigned in protest, citing the failure of the journal's peer review process to catch these glaring

⁴⁶⁹ Note-many of the articles authored by Lord Monckton cited by the Heartland Institute are co-authored with Willie Soon.

⁴⁷⁰ Justin Gillis and John Schwartz, *Deeper Ties to Corporate Cash for Doubtful Climate Researcher*, **N.Y. TIMES** (Feb. 21, 2015), <https://www.nytimes.com/2015/02/22/us/ties-to-corporate-cash-for-climate-change-researcher-Willie-Soon.html> (last visited Nov. 14, 2022).

⁴⁷¹ Id.

errors. Furthermore, the journal's parent company stated that *Climate Research* "should have been more careful and insisted on solid evidence and cautious formulations before publication."⁴⁷²

475. It was also subsequently discovered that Soon's research budget for the article was funded by the API, which Soon did not disclose in his paper.⁴⁷³

476. Soon has also advanced the claim that polar bears do better in a warmer climate. !!!_1998, Soon argued that "For polar bears... you do want to watch out for ice. Too much ice is really bad for polar bears.... I would suggest that the current [ice] condition today is nowhere optimal for the polar bear which mean it can grow a little bit warmer." In reality, global warming melts sea ice, which threaten the polar bear ' survival by reducing their food supplies and forcing them to swim longer distances.⁴⁷⁴

477. In order to achieve the change in public opinion, the Defendants mobilized its "allocators" and other affiliate think tanks to change public opinion.

478. The fund "allocators" named in the GCSCT Action Plan were:

Potential fund allocators were identified as the American Legislative Exchange Council (ALE), Committee for A Constructive Tomorrow (F A C T), Competitive Enterprise Institute, Frontiers of Freedom, and The Marshall Institute.

479. The GCSCT members who contributed to the development of the GCSCT Action Plan were A. John Adams, John Adams Associates; Candace Crandall, Science and Environmental Policy Project; David Rothbard, Committee for a Constructive Tomorrow; Jeffrey Salmon, The Marshall institute; Lee Ganigaru, Environmental Issues Council· Lynn Bouchey and Myron Ebell,

⁴⁷² Richard Monastersky, *Storm Brews Over Global Warming*. THE CHRONICLE OF HIGHER EDUCATION (Sep. 2003), <https://www.chronicle.com/article/storm-brews-over-global-warming/> (last visited Nov. 14, 2022).

⁴⁷³ Suzanne Goldenberg, *Work of prominent climate change denier was funded by energy industry*, THE GUARDIAN, (Feb. 21, 2015) <https://www.theguardian.com/environment/2015/feb/21/climate-change-denier-willie-soon-funded-energy-industry> (last visited Nov. 14, 2022).

⁴⁷⁴ Skeptical Science, *How will global warming affect polar bears?* SKEPTICAL SCIENCE, <http://bit.ly/1UhCSHn> (last visited Nov. 14, 2022).

Frontiers of Freedom; Peter Cleary, Americans for Tax Reform; Steve Milloy, the Advancement of Sound Science Coalition; and Joseph Walker, American Petroleum Institute.

480. These organizations have direct ties with others, unnamed in the GCSCT Action Plan, but carried out its mission: to undermine scientific consensus on climate change.

481. The SEPP, using seed money from GCC members, joined forces with The Heartland Institute to develop and promote the NIPCC and its reports to refute the IPCC, even though the Defendants knew that the deception it marketed was false and contrary to its own internal findings.

482. The Heartland Institute also promotes Willie Soon on its current website,⁴⁷⁵ claiming Soon's bio and account of *his* work "debunk lies of the generously funded environmental left's attacks on an honest climate scientist."

483. Soon, who is a part-time employee at the Smithsonian Institution, had failed to disclose his oil industry funding in **11** papers since 2008, which violated the disclosure rules of at least **8** of the journals. Correspondence between Soon and his corporate funders, obtained by the *NY Times*, shows that Soon described his scientific papers as 'deliverables', a project management term denoting services delivered on a specific timeline in exchange for funding.⁴⁷⁶

484. A notable climate denier at the Heartland Institute (which is funded and promoted currently by all the Defendants) to undermine scientific consensus is Lord Christopher Monckton of Brenchley, displayed prominently on the Heartland Institute's current website where hundreds of climate denial articles are posted.

⁴⁷⁵ As of May 21, 2019.

⁴⁷⁶ Justin Gillis and John Schwartz, *Deeper Ties to Corporate Cash for Doubtful Climate Researcher*, N.Y. TIMES (Feb. 21, 2015), <https://www.names.com/2015/02/22/us/ties-to-corporate-cash-for-climate-change-researcher-Wei-Hock-Soon.html> (last visited Nov. 14, 2022).

485. While Lord Monckton holds no scientific degree, the Heartland Institute brags that he can change the viewpoint of thousands of people on climate change, break YouTube records (for having the fastest-ever YouTube platform for a political speech) and crash websites.⁴⁷⁷

486. Lord Monckton stated that those who warn of the dangers of climate change should be jailed, calling them "bogus."⁴⁷⁸ Heartland Institute currently promotes **135** of Lord Monckton's scientific articles on climate modeling and climate change denial on its "policybot" search engine.⁴⁷⁹

487. Heartland Institute also prominently displays CFACT's Marc Morano on its current website to undermine scientific consensus.⁴⁸⁰ Also, like Lord Monckton, Morano has no science credentials. Morano has a Bachelor of Art in Political Science at George Mason University.⁴⁸¹

488. Heartland Institute boasts that "Morano spearheaded the 2007 groundbreaking report of 400-plus dissenting scientists and the follow-up 2008 report of 650-plus scientists dissenting from man-made global warming fears. In 2010, a new 321-page "Climate Depot Special Report" featured over 1,000 international scientists who had turned against the UN IPCC. Morano released his "A-Z Climate Reality Check" report at the UN COP17 conference in South Africa in December 2011.

489. Heartland has over **150** articles⁴⁸³ on its site written or involving Marc Morano on climate change denial. One article dated May 22 2018, is titled the "Politically Incorrect Guide to Climate

⁴⁷⁷ The Heartland Institute, *Christopher Monckton of Brenchley*, THE HEARTLAND INSTITUTE <https://www.heartland.org/about-us/who-we-are/lord-christopher-monckton> (last visited Nov. 14, 2022).

⁴⁷⁸ Monckton's push for an Australia Fox News, by Graham Readfeam, at the Australian Broadcasting Corporation; published February 2, 2012; "So to the bogus scientists who have produced the bogus science that invented this bogus scare I say, we are coming after you. We are going to prosecute you, and we are going to lock you up." Graham Readfeam, *Monckton's push for an Australia Fox News*, ABC NEWS (Feb. 2, 2012) <https://www.abc.net.au/news/2012-02-02/readfeam-monckton-and-fox-news/3807130> (last visited Nov. 15, 2022).

⁴⁷⁹ The Heartland Institute, *Policybot*, THE HEARTLAND INSTITUTE, www.heartland.org/policybot/index.html?g=monckton&from.Date=&toDate=#results (last visited Nov. 14, 2022).

⁴⁸⁰ The Heartland Institute, *Marc Morano*, THE HEARTLAND INSTITUTE, <https://www.heartland.org/about-us/who-we-are/marc-morano> (last visited Nov. 14, 2022).

⁴⁸¹ *Id.*

⁴⁸² The website also features another 54 articles on the Committee for a Constructive Tomorrow (CFACT).

Change: Guest Marc Morano." CFACT, which was present at the April 3, 1998 meeting at the API headquarters, was supporting his book of the same title, and described "the battle to bring sound science and civility to the climate war."

490. According to the Heartland Institute's current webpage "..., Joseph Bast served as Heartland's executive director from 1984 until 1994, as president and CEO from 1994 until July 2017, and as CEO until January 2018. Bast served as a member of Heartland's Board of Directors until 2019 and is currently a Senior Fellow on Climate Change and Energy Policy.

491. Joseph Bast also holds no scientific degree and is the President and CEO of the Heartland Institute. In fact, Joseph Bast did not obtain a degree from University of Chicago, according to Amir Nijem, Media Relation Specialist of the University of Chicago, who confirmed that Joseph Bast attended the University of Chicago College between September 27, 1976 through March 24, 1979, but no degree was awarded.

492. Bast is one of the co-editors of the "Climate Change Reconsidered"⁴⁸⁴ scientific series by NIPCC. He was also involved in the creation of the State Policy Network, and has written several books, some of which challenge mainstream claims about cigarette smoking.^{485 486}

493. In 2014, Bast co-authored an article titled "The Myth of the Climate Change '97%' in the *Wall Street Journal*, along with Roy Spencer, which argued that the oft-cited claim that "97% of the world's scientists believe climate change is an urgent problem" is misleading because the

The Heartland Institute, *Joseph Bast*, THE HEARTLAND INSTITUTE, <https://www.heartland.org/about-us/who-we-are/joseph-bast> (last visited Nov. 15, 2022).

⁴⁸⁴ *Id.*

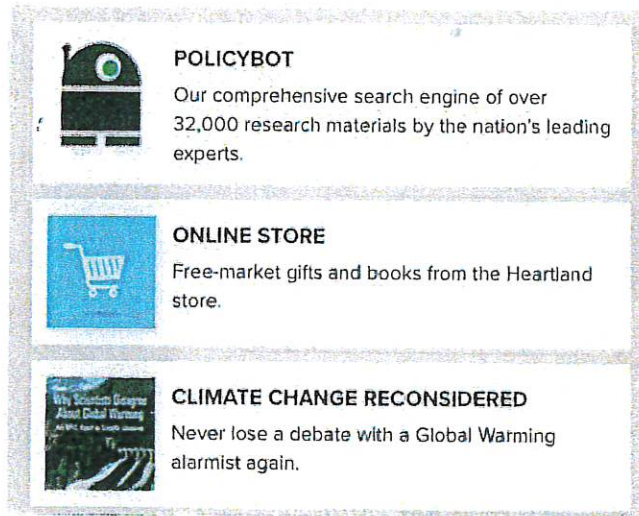
⁴⁸⁵ Daniel Libit, *Climate skeptics look to prove THEIR skeptics, like Obama, wrong*, CNBC (Jul. 7, 2014), <https://www.cnbc.com/2014/07/06/climate-skeptics-look-to-prove-their-skeptics-like-obama-wrong.html> (last visited Nov. 14, 2022).

⁴⁸⁶ Joseph Bast and Sterling Burnett, *Heartland's History and Future (Guest: Joe Bast)*, THE HEARTLAND INSTITUTE (Aug. 8, 2018), www.heartland.org/multimedia/podcasts/looking-back-and-ahead-at-the-heartland-institutes-triumphs-and-prospects-guest-joe-bast (retrieved Apr. 9, 2019) (last visited Nov. 14, 2022).

figure is derived from surveys with small sample sizes, and the questionnaire conflates belief in negligible global warming with belief in dangerous global warming.⁴⁸⁷

494. Joe Bast and Fred Singer coordinated their efforts promoting the climate change denial advocacy organization NIPCC, in opposition to the assessment reports of the IPCC on the issue of global warming.⁴⁸⁸

495. To disseminate its literature, Heartland maintains a 'policybot' which has a database of over 32,000 research materials by the nation's leading expert:



496. Articles by Soon, Singer, Lord Monckton, Morano, and Bast appear on this "Policybot" promoting climate change denial.

497. Heartland holds climate conferences and publishes literature that has the "veneer of scientific credibility."⁴⁸⁹ For its International Conference on Climate Change, the Heartland Institute offers to pay \$1,000 to any scientist willing to help generate international media attention for the proposition that rapid warming is not supported by sound science.⁴⁹⁰

⁴⁸⁷ Joseph Bast and Roy Spencer, *The Myth of the Climate Change '97%*, WALL STREET JOURNAL (May 26, 2014), <https://www.wsj.com/articles/ose-b-bast-and-roy-spencer-the-myth-of-the-climate-change-7-1401145980> (last visited Nov. 14, 2022).

⁴⁸⁸ Constance Lever-Tracy, *Routledge Handbook of Climate Change and Society*, ROUTLEDGE (Jul. 12, 2010).

⁴⁸⁹ John Abrahams, *Fossil fuel funded report denies the expert global warming consensus*, The Guardian (Feb. 22, 2016), <https://www.theguardian.com/environment/climate-consensus-97-per-cent/2016/feb/22/fossil-fuel-funded-report-denies-the-expert-global-warming-consensus> (last visited Nov. 14, 2022).

⁴⁹⁰ Hoggan & Littlemore, *supra* Footnote 452 on 86.

498. Heartland also sponsored a "petition-style attack" on the consensus viewpoint that fossil fuels cause global warming.⁴⁹¹ Heartland published a 'report' on its website titled, "500 Scientists Whose Research Contradicts Man-Made Global Warming Scares."⁴⁹² The "report" listed all **five hundred scientists** as "coauthors", implying that "each of the five hundred had a hand in [the] report or, at the very least, signed off on its conclusions."⁴⁹³

499. Immediately after the report's release, the scientists listed on the report began protesting. "I am horrified to find my name on such a list. I have spent the last 20 years arguing the opposite," wrote David Sugden, a professor of geography at the University of Edinburgh.⁴⁹⁴ "I don't believe any of my work can be used to support any of the statements listed in the article," said Robert Whittaker, a professor of biogeography at the University of Oxford.⁴⁹⁵ And Gregory Cutter, a professor of ocean and atmospheric sciences at Old Dominion University wrote, "I have NO doubts ... the recent changes in global climate ARE man-induced. I insist that you immediately remove my name from this list"⁴⁹⁶

500. To support its denialism methods, Heartland received nearly a million dollars from Exxon and \$13.5 million in dark money contributions from Donors Trust, a known front group for oil money.

501. In a December 2019 expose of Heartland's dark money funding from Donors Trust to undermine scientific consensus on climate change, Heartland's chief strategist, James Taylor, told undercover reporters that Donors Trust is now directing between two thirds and three quarters of

⁴⁹¹ *Id.* on 94.

⁴⁹² *Id.*

⁴⁹³ *Id.*

⁴⁹⁴ *Id.*

⁴⁹⁵ *Id.*

⁴⁹⁶ *Id.*

its budget to Heartland to support its climate-skeptical positions and claims that this is his personal doing.⁴⁹⁷

502. On March 19, 2020, Heartland announced it was launching a new website, Climate at a Glance" to "prepare you for climate crisis claims" and hired a 19-year-old German woman named Naomi Seibt to serve as the face of a new campaign for what Heartland calls "climate alarmism."⁴⁹⁸

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503. Heartland bragged of its effectiveness on its website, claiming that its six podcasts were downloaded **3.2 million times**, that **184 issues** were sent to prescribers across the country that it has **100,000 Facebook fans**, and that it hosted or attended **158 events** reaching over **34,000 people**. It says that in 2018 alone, it reached 78% of state elected officials who said that they read the Heartland's information "sometimes or always" and that 45% of state officials said they were influenced or the information from Heartland led to a change in public policy.⁵⁰⁰

504. Another key front group funded by GCC members and dedicated to undercutting conventional wisdom on climate science for the GCSCT, the Competitive Enterprise Institute, ran an "infamous series of TV commercials lauding the burning of fossil fuels and celebrating the production of carbon dioxide."⁵⁰¹

505. To implement the tactics, the GCSCT Action Plan specifically names the Competitive Enterprise Institute a one of it "allocators." CEI promotes Mark Morano and notes over **730** blog

⁴⁹⁷ Katarina Huth, *The Heartland lobby*, CORRECTIVE TV (Feb. 11 2020) <https://corrective.org/en/top-stories-en/2020/02/11/the-heartland-lobby> (last visited Nov. 15, 2022).

⁴⁹⁸ H. Sterling Burnett and Anthony Watts, *Announcing Climate at a Glance to Prepare You for Climate Crisis Claims*, THE HEARTLAND INSTITUTE, (Mar. 19, 2020), <https://www.heartland.org/multimedia/podcasts/announcing-climate-at-a-glance-to-reach-out-for-climate-crisis-claims-est-anthon-watts> (last visited Nov. 15, 2022)

⁴⁹⁹ Nicholas Kusnetz, *Heartland Launches Website of Contrarian Climate Science Amid Struggles with Funding and Controversy*, INSIDE CLIMATE NEWS (Mar. 13, 2020), <https://insideclimatenews.org/news/13032020/heartland-institute-climate-change-skeptic/> (last visited Nov. 14, 2022).

⁵⁰⁰ The Heartland Institute, *2018 by the numbers*, HEARTLAND INSTITUTE, <https://www.heartland.org/about-us/index.html> (retrieved Apr. 5, 2019) (last visited Nov. 15, 2022).

⁵⁰¹ Hoggan & Littlemore, *supra* Footnote 452 on 82.

posts, **539** media appearances, and **301** publications, mostly on climate change denial. CEI also promotes Lord Monckton, posting **104** blog references, **655** media appearances, and **183** publications. Willie Soon is promoted by CEI with **104** blog references, **655** media appearances, and **183** publication references. Fred Singer is promoted in **465** blog posts, **561** media posts, and **413** publications on CEI's website.⁵⁰²

506. Between May 18 and May 24, 2006, CEI released commercials claiming that the icebergs were growing.⁵⁰³ The commercials played a key role in promoting the falsehood that "Greenland's glaciers are growing, not melting" which drew fire from its author, University of Missouri professor Curt Davies.⁵⁰⁴

507. In support of its climate change denial, the Competitive Enterprise Institute took over \$2 million from Exxon alone, along with an additional \$4 million from Donors Trust.⁵⁰⁵

508. The Competitive Enterprise Institute commercials spurred the Royal Society of London, one of the most respected scientific bodies in the world, to demand that Exxon cease its funding of the Competitive Enterprise Institute. The Royal Society wrote to Exxon that "[t]or people to be still producing information that misleads people about climate change is unhelpful."⁵⁰⁶

509. Exxon confirmed that fossil fuels contributed to climate change in a letter from Kenneth Cohen, Vice President of Public Affairs for the Royal Society of London, on September 25, 2006.⁵⁰⁷ Lord Rees, of The Royal Society, met with Nick Thomas, Director of Corporate Affairs

⁵⁰² Competitive Enterprise Institute website, <https://cei.org/> (retrieved Apr. 12, 2019) (last visited Nov. 15, 2022).

⁵⁰³ Justin Bank, Scientist to CEI: You Used My Research To "Confuse and Mislead: The Competitive Enterprise Institute runs ads saying, 'The Antarctic ice sheet is getting thicker.' A professor objects, saying CEI deliberately misrepresents his research., FACTCHECK.ORG (May 6, 2006), www.factcheck.org (last visited Nov. 15, 2022).

⁵⁰⁴ *Id.*

⁵⁰⁵ DeSmog, *Competitive Enterprise Institute (CEI)*, DESMOG, <http://bit.ly/2st0ice> (last visited Nov. 14, 2022).

⁵⁰⁶ Hoggan & Littlemore, *supra* Footnote 452 on 83.

⁵⁰⁷ ExxonMobil Corp, *2006 Letter/ram ExxonMobil Vice President of Public Affairs Ken Cohen to the Royal Society*, ExxonMOBIL CORP, <http://www.climatefiles.com/exxonmobil/2006-Jetter-from-exxon-vice-president-of-public-affairs-ken-cohen-to-the-royal-society/> (last visited Nov. 14, 2022).

for Esso UK, Limited and Exxon in July 2006. At that meeting, Exxon purportedly pledged not to fund climate denial.

510. In a letter dated September 4, 2006, Lord Rees reminded Exxon of its pledge in July 2006, promising not to provide "any further funding for these organizations."⁵⁰⁸

511. The Royal Society demanded to know "when ExxonMobil plans to carry out this pledge."⁵⁰⁹ In response to this backlash, Exxon cut off all funding to the Competitive Enterprise Institute.⁵¹⁰

512. Continuing its Janus-like position Exxon continued to funnel money to thirty-seven other ghostwriters that spouted its message of "uncertainty" about climate change.⁵¹¹ These "ExxonMobil-funded think tanks ... constituted the backbone of the climate change-denier PR machine."⁵¹²

513. There was, and is, general scientific agreement that global warming is occurring and is caused primarily by burning of fossil fuels. The IPCC, including 2,000 scientists from 200 countries, endorse this view.⁵¹³ And a study found that 97% of peer-reviewed scientific articles agree with this view.⁵¹⁴ "This level of consensus is equivalent to the level of agreement among scientists that smoking causes cancer - a statement that very few people, if any, contest today."⁵¹⁵

514. The Committee for a Constructive Tomorrow (FACT) is noted in the GCSCT Action Plan as a fund allocator. FACT is a Washington, D.C. based 501(c)(3) nonprofit organization

⁵⁰⁸ *Id.*

⁵⁰⁹ *Id.*

⁵¹⁰ *Id.*

⁵¹¹ *Id.*

⁵¹² Elliott Negin, *Documenting Defendants' Climate Deception Enterprise*, CATALYST, UNION OF CONCERNED SCIENTISTS (2015) <https://www.ucsusa.org/sites/default/files/legacy/assets/documents/catalyst/catalyst-swnmer-2015.pdf> (last visited Nov. 15, 2022).

⁵¹³ *Id.*

⁵¹⁴ Union of Concerned Scientists, *Scientists Agree: Global Warming is Happening, and Humans are the Primary Cause*, UNION OF CONCERNED SCIENTISTS (Jan. 9, 2018), <https://www.ucsusa.org/resources/global-warming-happening-and-humans-are-primary-cause> (last visited Nov. 15, 2022).

⁵¹⁵ *Id.*

founded in 1985 and is a member of the "Cooler Heads Coalition" an informal group in the United States, financed and operated by the Competitive Enterprise Institute.⁵¹⁷ The group, which opposes the scientific consensus on climate change, is known to promote falsehoods about climate change and has been characterized as a leader in efforts to stop the government from addressing climate change.⁵¹⁷

515. CF ACT organizer Craig Rucker stated that mankind faces a threat "not from man-made global warming, but from man-made hysteria."⁵¹⁸

516. At the April 29, 2017 Climate March, leaflets distributed by CFACT claimed the scientific consensus that mankind is now driving global changes in the planet's climate are "bogus", that reports of record-setting temperature are "the hottest lie" being told, and "CO2 is not the 'control knob' of the climate."⁵¹⁹

517. CFACT produced "Climate Hustle," a 2016 film rejecting the existence and cause of climate change, narrated by Marc Morano.⁵²⁰ According to *Ars Technica*, the film offers "a fast-paced, uninterrupted delivery of superficial and false claims about climate science."⁵²²

⁵¹⁷ Global Warming.org, *Contributor*, COOLER HEADSCOALITION, <http://www.globalwarming.org/contributors/> (last visited Nov. 16 2022).

⁵¹⁸ Jerry Bielson, *Playing Climate-Telephone*, THE NEW YORKER, (Apr. 4, 2014), <https://www.nytimes.com/2014/04/06/nyregion/playing-climate-telephone.html> (last visited Nov. 14, 2022).

⁵¹⁹ Craig Rucker, *Introductory Remarks by Craig Rucker of F A C T, Climate Sense Conference, Copenhagen*, CFACT (Dec. 8, 2009), <https://www.cfact.org/2009/12/08/introductory-remarks-by-craig-rucker-of-cfact-climate-sense-conference-copenhagen/> (last visited Nov. 16, 2022).

⁵²⁰ DeSmog, *Committee for a Constructive Tomorrow (CFACT), Actions, April 29, 2017*, DESMOG, <https://www.desmog.com/committee-constructive-tomorrow/#s53> (last visited Nov. 16, 2022).

⁵²¹ Graham Readfean, *Why even climate science denier Marc Morano knows not to bet against global warming data*, THE GUARDIAN (Apr. 14, 2016), <https://www.theguardian.com/environment/planet-oz/2016/apr/14/why-even-climate-science-denier-marc-morano-knows-not-to-bet-against-global-warming-data> (last visited Nov. 14, 2022).

⁵²² Scott K. Johnson, *Climate Hustle wants you to believe you just can't trust climate science*, ARS TECHNICA (May 5, 2016), <https://arstechnica.com/science/2016/05/climate-hustle-wants-you-to-believe-you-cant-trust-climate-science/> (last visited Nov. 14, 2022).

518. CFACT has received direct funding from Defendants Exxon, Chevron and Peabody.⁵²² CFACT was endorsed and promoted by American Legislative Exchange Council (ALEC.) All the Defendants have supported ALEC.

519. Heartland Institute endorsed "Climate Hustle" claiming the movie "demolishes climate alarmism" in an opinion piece and urged its followings to watch.

520. FACT also published a national media relations program in the form of a pamphlet entitled 'Climate Truth File 2016' stimulating the public to raise questions with policy makers.

521. The Climate Truth File 2016 made the following claims:

- a. "The scientific reality is that on virtually every claim - from A to Z - the promoters of manmade climate fears are falling short or going in the opposite direction."
- b. "Global temperatures have been virtually flat for about 18 years according to satellite data, and peer-reviewed literature is now scaling back predictions of future warming."
- c. "Sea level rise rates have been steady for over a century, with recent deceleration."
- d. "Droughts and floods are neither historically unusual nor caused by mankind, and there is no evidence we are currently having any unusual weather."
- e. "Polar bears are doing fine, with their numbers way up since the 1960s."⁵²³

Q. Targeting School Children

522. The GCSCCT recognized that the tide might turn against fossil fuels unless they could reach the next generation and it needed to deceive schoolteachers and students about climate science.

⁵²² Desmog, *Committee for a Constructive Tomorrow (CFACT)*, DESMOG, <https://www.desmoblog.com/committee-constructive-tomorrow> (last visited Nov. 14, 2022).

⁵²³ Id.

523. So, under the guise of "presenting a credible, balanced picture of climate science," they opted to push out materials for teachers and their students that directly countered the scientific evidence. Children will be the most affected by climate change, having to endure more years of weather extremes and dire effects caused by the Enterprise.

524. Page 7 of the GCSCT Action Plan targeted children, tomorrow's consumers:

- Organize under the GCSDC a "Science Education Task Group" that will serve as the point of outreach, to the National Science Teachers Association (NSTA) and other influential science education organizations. Work with NSTA to develop school materials that present a credible, balanced picture of climate science for use in classrooms nationwide.
- Distribute educational materials directly to schools and through grassroots organizations of climate science partners (companies, organizations that participate in this effort).

525. This insidious directive has been implemented in lockstep. On March 27, 2017, the Heartland Institute mailed a book titled "Why Scientists Disagree about Global Warming: The NIPCC Report on Scientific Consensus", in addition to a DVD and letter to over 200,000 teachers.

526. The material would be sent to an additional 25,000 teachers every two weeks, until every public-school science teacher in the nation has a copy, Heartland president and CEO Joseph Bast said in an interview to PBS in 2017.⁵²⁴ Heartland claims on its website, that it reached over 300,000 K-12 science teachers.

527. Accompanying the materials is a cover letter from Lennie Jarratt, project manager of Heartland's Center for Transforming Education. He asks teachers to "consider the possibility" that the science is not settled. "If that's the case, then students would be better served by letting them

⁵²⁴ Katie Worth, *Climate Change Skeptic Group Seeks to Influence 200,000 Teachers*, PBS (Mar. 28, 2017), <https://www.pbs.org/wgbh/frontline/article/climate-change-skeptic-group-seeks-to-influence-200000-teachers/> (last visited Nov. 14, 2022).

know a vibrant debate is taking place among scientists," he writes. The letter also points teachers to an online guide to using the DVD in their classrooms.⁵²⁵

528. The Heartland initiative dismisses multiple studies showing scientists are in near unanimous agreement that humans are changing the climate. Even if human activity is contributing to climate change, the book argues, it "would probably not be harmful, because many areas of the world would benefit from or adjust to climate change."⁵²⁶

529. The Heartland Institute prominently display the DVD⁵²⁷ on its website with a link to the YouTube Channel (it had 2,677 views as of April 6, 2019).

530. The campaign elicited immediate derision from the National Center for Science Education (NCSE), a nonprofit in Oakland, California that monitors climate change education in classrooms.⁵²⁸ "It' not science, but it is dressed up to look like science," said NCSE executive director Ann Reid. "It's clearly intended to confuse teachers."⁵²⁹

R. Enter ALEC

531. Central to its GCSCCT Action Plan, Defendants mounted a campaign against regulation of their business practices. In order to keep their fossil fuel consumer products in the stream of commerce, they have undermined consensus regarding climate change, despite their own knowledge and the growing global scientific consensus on the hazards of doing so. Specifically, these efforts came despite Defendants' recognition that "risks to nearly every facet of life on Earth ... could be avoided only if timely steps were taken to address climate change."⁵³⁰

⁵²⁵ Id.

⁵²⁶ Id.

⁵²⁷ The Heartland Institute, *Climate Change Videos*, THE HEARTLAND INSTITUTE (Apr. 6, 2019), <https://www.heartland.org/multimedia/videos-climate-change> (last visited Nov. 14, 2022)

⁵²⁸ Katie Worth, *Climate Change Skeptic Group Seeks to Influence 200,000 Teachers*, PBS, (Mar. 28, 2017), <https://www.pbs.org/wgbh/frontline/article/climate-change-skeptic-group-seeks-to-influence-200000-teachers/> (last visited Nov. 14, 2022).

⁵²⁹ Id.

⁵³⁰ Banerjee, *supra*, Footnote 322.

532. The American Legislative Exchange Council (ALEC), otherwise known by the acronym ALEC, is a non-profit 501(c) political organization established in 1973 in Chicago.⁵³¹

533. The GCC Defendants have supported and funded ALEC. In fact, Exxon and Peabody specifically have served on its "Private Enterprise Board."⁵³² ALEC keeps its membership, activities, and communications confidential.⁵³³

534. As of December 2013, ALEC had more than 85 members of Congress and 14 sitting or former governor who were considered "alumni."⁵³⁴ Membership statistics presented at an ALEC board meeting in 2013 indicated that the 1,810 members represented 24% of all state legislative seats across the U.S. and that ALEC members represented 100% of the legislative seats in Iowa and South Dakota.⁵³⁵ It also has approximately 300 corporate, foundation, and other private-sector members.⁵³⁶

535. ALEC is specifically named in the GCSCT Action Plan on page 7 to carry out the Enterprise' mission as a fund "allocator."

536. Immediately before the GCSCT workshop, on March 20, 1998, the ALE Natural Resources Task Committee approved a state model bill to oppose the Kyoto Protocol. Then, the model bill to go out to policy makers nationwide was approved by the full ALEC Board of

⁵³¹ American Legislative Exchange Council *About Alec*, ALE AMERICAN LEGISLATIVE EXCHANGE COUNCIL, <https://www.alcc.org/about> (last visited Nov. 14, 2022).

⁵³² Source Watch, *ALEC "Private Enterprise" Board of Directors*, CENTER FOR MEDIA AND DEMOCRACY, https://www.sourcewatch.org/index.php/ALEC_%22Private_Enterprise%22_Board_of_Directors (last visited Nov. 16, 2022).

⁵³³ Beth Hawkins, *ALEC declares itself exempt from public-disclosure /all's, and is challenged*, MINNPOST (Aug. 22, 2013), <https://www.minnpost.com/politics-policy/2013/08/alec-declares-itself-exempt-public-disclosure-laws-and-challenged/> (last visited Nov. 16, 2022).

⁵³⁴ Ed Pilkington and Suzanne Goldenberg, *ALEC facing funding crisis from donor exodus in wake of Trayvon Martin row*, THE GUARDIAN, (Dec. 3, 2013). <https://www.theguardian.com/world/2013/dec/03/alec-funding-crisis-big-donors-trayvon-martin> (last visited Nov. 14, 2022).

⁵³⁵ *ALEC documents collection*, THE GUARDIAN, <https://www.documentcloud.org/documents/841593-alec-docs> (last visited Nov. 14, 2022).

⁵³⁶ Julie Bykowitz, *The Corporations, and Dentists, That Still Love ALEC* BLOOMBERG POLITICS (Dec 6, 2014.) <https://www.bloomber.com/news/articles/2014-12-05/the-corporations-and-dentists-that-still-love-alee> (last visited Nov. 14, 2022).

Directors in April 1998.⁵³⁷ It was successful, according to University of Michigan researcher, Barry Rabe's 2002 report, "Greenhouse & Statehouse:"

During 1998 and 1999, 16 states passed legislation or resolutions that were highly critical of the Protocol and opposed ratification by the U.S. Senate. Many of these were purely advisory and employed similar language from state to state. Some states, however, chose to go further and block any unilateral steps to reduce greenhouse gases. Michigan, for example, amended its Natural Resources and Environmental Protection Act in 1999 to prevent state agencies from proposing or promulgating any rule to reduce greenhouse gases unless it had been requested by the legislature. No such requests have been forthcoming, and the state has also shied away from pursuing federal grant for preliminary study of the issue. In West Virginia legislation passed in 1998, prevented state agencies from entering into any agreements with any federal agencies intended to reduce the state's GHG emissions.

537. Approximately 200 of ALEC' model bills become law each year.⁵³⁸ ALEC also serves as a networking tool among certain state legislators, allowing them to research conservative policies implemented in other states.⁵³⁹ Approximately 1,000 bills based on ALEC language were being introduced in state legislatures every year, with approximately 20% of those bills being enacted.⁵⁴⁰

538. ALEC has a long history of climate denial following its directive-and funds-from the Defendants since 1998.

⁵³⁷ The Center for Media and Democracy, *ALEC Exposed*, CENTER FOR MEDIA AND DEMOCRACY (CMD), <https://www.alecexposed.org> (last visited Nov. 14, 2022).

⁵³⁸ Brendan Greeley, *ALEC's Secrets Revealed; Corporations Flee*, BLOOMBERG (May 3, 2012), <https://www.bloomberg.com/news/articles/2012-05-03/alecs-secrets-revealed-corporations-tree?leadSource=verify%20wall> (last visited Nov. 14, 2022).

⁵³⁹ Alan Greenblatt, *What Makes Alec Smart?*, GOVERNING THE FUTURE OF STATES AND LOCALITIES (Oct. 2003), <https://www.governing.com/topics/politics/What-Makes-Alec-Smart.html> (last visited Nov. 14, 2022).

⁵⁴⁰ Molly Jackman, *ALEC's Influence Over Lawmaking in State legislatures*, BROOKINGS INSTITUTE (Dec. 6, 2013), <https://www.brookings.edu/articles/alecs-influence-over-lawmaking-in-state-legislatures/> (last visited Nov. 14, 2022).

539. ALEC, as a funding recipient issued the report "Global Warming and the Kyoto Protocol: Paper Tiger, Economic Dragon" in 2002, penned by Patrick Michaels, a climate change skeptic to its members. The report informed ALEC's influential members that:⁵⁴¹

The apocalyptic argument on global warming—that increased temperatures will increase drought by evaporating more moisture—is simply wrong.

It is clearly politically untenable to impose grave economic damage in return for no detectable environmental change — even if one assumed that global warming was a terrible threat.

540. Heartland's Alexandra Liddy Bourne, director of the its Energy, Environment, Natural Resources and Agriculture Task Force, wrote a 2004 report titled "Son of Kyoto", and promoted by ALEC.

541. Ian Murray of the Competitive Enterprise Institute wrote a segment for ALEC titled "Global Warming FAQ: What Every Citizen Needs to Know About Global Warming" in 2006⁵⁴² in which he stated on page 16 that "there is no "scientific consensus" that global warming will cause damaging climate change."

542. That year ALEC boasted that 30 states had introduced, and 15 states had adopted, legislation based on its pending "Resolution Opposing EPA 's Regulatory Train Wreck", i.e., greenhouse gas regulation.⁵⁴³

543. At ALEC's 2014 annual convention, ALE 's Energy, Environment and Agriculture Task Force meeting promoted S. Fred Singer and the NIPCC as a partnership of SEPP, Heartland,

⁵⁴¹ ALEC Exposed, *State Responses to Kyoto Climate Change Protocol Exposed*, THE CENTER FOR MEDIA AND DEMOCRACY, [https://www.alecexposed.org/wiki:i/State Responses to Kvoto Climate Change Protocol Exposed](https://www.alecexposed.org/wiki:i/State_Responses_to_Kvoto_Climate_Change_Protocol_Exposed) (last visited Nov. 16, 2022).

⁵⁴² *Id.* at Section III, page 16.

⁵⁴³ *Id.*

and the Center for the Study of Carbon Dioxide and Global Change (CO2 Science), a 501(c)(3) started in 1998 with seed money from Exxon Mobil and also funded by Peabody Energy.^{544 545}

IPCC Bias #2:

• We are an intergovernmental body and we do what the governments of the world want us to do. If the governments decide we should do things differently and come up with a vastly different set of products, we would be at their beck and call."

Rajendra Pachauri, in *The Guardian*, September 20, 2013

NIPCC

- Fonned in 2003 by Prof. S. Fred Singer
- Partnership of three organizations:
 - * The Center for the Study of Carbon Dioxide and Global Change
- Science and Environmental Policy Project
- The Heartland Institute

544. At the ALEC 2014 annual meeting, the Task Force showed slides discussing the findings of the NIPCC with the Heartland logo:⁵⁴⁶

What the NIPCC scientists found:

- There is no scienUfic **consensus** on the human role in climate change.
- Future warming due to human greenhouse gases will be much less than IPCC forecasts.
- Carbon dioxide has not caused weather to become more extreme, polar ice and sea ice to melt, or sea level rise to accelerate. These were all **false alarms**.
- The likely benefits of man-made global warming exceed the likelv costs.

What this means for public policy:

- Global warming is not a crisis. The threat was exaggerated.
- There is no need to reduce carbon dioxide emissions and no point in attempting to do so.
- It's time to repeal **unnecessary and expensive policies**.
- Future policies should aim at fostering economic growth to adapt to natural climate **change**.

⁵⁴⁴ Jeff Nesmith, *Foes of global warming theory have energy ties*, SEATTLE POST-INTELLIGENCER (Jun. 1, 2003), <https://www.seattlepi.com/national/article/Foes-of-global-warming-theory-have-energy-ties-1116097.php> (last visited Nov. 14, 2022).

⁵⁴⁵ Mother Jones, *Put a Tiger in Your Think Tank*, MOTHER JONES (May 2005), <https://www.motherjones.com/politics/2005/05/put-tiger-your-think-tank/> (last visited Nov. 14, 2022).

⁵⁴⁶ Nongovernmental International Panel on Climate Change, *Nongovernmental International Panel on Climate Change Update*, THE HEARTLAND INSTITUTE (Jul. 31, 2014.), at 18-19, https://www.ucsusa.org/sites/default/files/attach/2015/07/Climate-Deception-Dossier-6_ALEC.pdf (last visited Nov. 16, 2022).

545. "ALEC is unique in the sense that it puts legislators and companies together and they create policy collectively," said Scott Pruitt, then an Oklahoma state representative and ALEC task force chair, and who later became the Administrator of the EPA.⁵⁴⁷

546. ALEC is a forum which allows its members to write model laws and discuss legislative language with other members: ALEC meetings are an opportunity for the corporate and non-profit leaders to meet and provide feedback to legislators.

547. According to a study at The Brookings institution, during the 2011-2012 legislative session, 132 bills based on ALEC models were introduced in the states. Of those legislators who sponsored ALEC model legislation, 57% can be explicitly connected to ALEC.⁵⁴⁸

548. The Renewable Fuel Standard (RFS) is an American federal program that requires transportation fuel sold in the United States to contain a minimum volume of renewable fuels. The RFS originated with the Energy Policy Act of 2005⁵⁴⁹ and was expanded and extended by the Energy Independence and Security Act of 2007.⁵⁵⁰ The RFS program requires renewable fuel to be blended into transportation fuel in increasing amounts each year, escalating to 36 billion gallons by 2022. Each renewable fuel category in the RFS program must emit lower levels of greenhouse gases relative to the petroleum fuel it replaces.⁵⁵¹

⁵⁴⁷ Alan Greenblatt, *What Makes Alec Smart?*, GOVERNING THE FUTURE OF STATES AND LOCALITIES (Oct. 2003), <http://www.governimg.com/topics/politics/What-Makes-Alec-Smart.html> (last visited Nov. 14, 2022).

⁵⁴⁸ Molly Jackman, *ALEC's Influence Over Lawmaking in State Legislatures*, BROOKINGS INSTITUTE (Dec. 6, 2013), <https://www.brookings.edu/articles/alecs-influence-over-lawmaking-in-state-legislatures/> (last visited Nov. 14, 2022).

⁵⁴⁹ 42 U.S. Code § 15801 *et seq.*

⁵⁵⁰ 42 U.S. Code § 17001 *et seq.*

⁵⁵¹ US Department of Energy, *Renewable Fuel Standard*, ALTERNATIVE FUELS DATA CENTER, <https://afdc.energy.gov/laws/RFS#:~:text=The%20RFS%20requires%20renewable%20fuel.the%20petroleum%20fuel%20it%20replaces> (last visited Nov. 14, 2022).

549. API launched a nationwide juggernaut to repeal the RFS in July 2013, using a print, radio, and television advertising campaign designed to generate public support for repealing the federal RFS.⁵⁵²

550. Said Robert Greco, API's downstream and industry operations group director at a press conference launching this attack:

- R) 'The new ads are the first in a series designed to educate American consumer on why we must end this unworkable mandate.'
- b) "The (RFS) is broken beyond repair."
- c) "By mandating higher ethanol content in gasoline than is safe, it threaten American consumers, the investments they've made in their vehicles and our economic well-being."⁵⁵³

551. ALEC submitted a letter to its members in advance of the December 6 2017 meeting from its "Coalition" which consists of Heartland Institute, Joe Bice, CEI, and others on behalf of ALEC in support of the repeal of the Endangerment Finding.⁵⁵⁴ The correspondence makes numerous claims that the "**threat of catastrophic climate change was grossly overstated**" and that the public is "**evenly divided**" whether "**manmade climate change is occurring.**"

552. All the Defendants had supported the agencies behind this correspondence, which was in keeping with the intent and purpose of the GCST Action Memo:

⁵⁵² Nick Snow, *API launches 'fuel for thought' campaign aimed at repealing RFS*, OIL & GAS JOURNAL (Jul. 16, 2013), <https://www.oilandgasjournal.com/refining-processing-refining-operations/article/17259246/api-launches-fuel-for-thought-campaign-aimed-at-repealing-rfs> (last visited Nov. 16, 2022). API weblink removed.

⁵⁵³ Nick Snow, *API launches 'Fuel for thought' campaign aimed at repealing RFS*, OIL AND GAS JOURNAL (Jul. 16, 2013), <https://www.oilandgasjournal.com/articles/2013/07/api-launches-fuel-for-thought-campaign-aimed-at-repealing-rfs.html> (last visited Nov. 14, 2022).

Endangerment Finding Resolution Coalition, *Coalition Letter to Members of the ALEC Energy, Environment, and Agricultural Task Force*, THE HEARTLAND INSTITUTE (Dec. 5, 2017), <https://www.heartland.org/publications-resources/publications/coalition-letter-to-members-of-the-alec-energy-environment-and-agriculture-task-force> (last visited Nov. 14, 2022).

MEMORANDUM - December 5, 2017



To: Members of the ALEC Energy, Environment, and Agriculture Task Force

From: Endangerment Finding Resolution Coalition

Re: Open Letter in Favor of Endangerment Finding Resolution

We welcome discussion and debate over the resolution to support a review of EPA's Endangerment Finding and we hope public and private sector members will keep in mind the following facts:



- The President of the United States is Donald Trump, not Barack Obama. Scott Pruitt, not Gina McCarthy, is Administrator of EPA. The President and the Administrator have said they want the "war on coal" to end, that the threat of catastrophic climate change was grossly exaggerated by the past administration, and that it is time to pursue a pro-environment, pro-energy, and pro-jobs agenda. They have taken dramatic steps to reverse the reckless and costly mistakes of the past administration. Opponents to the resolution ignore this new political reality.
- Public opinion is strongly on the President's side, as opinion polls show the public is evenly divided over the question of whether man-made climate change is occurring (despite billions of dollars spent over the past decade to convince them that a "climate crisis" was underway), barely a third favor government action to somehow change the weather, and only a fifth are willing to pay higher taxes or energy prices to pay for such action. Virtually no one favors spending as much as *is already being spent* in the futile campaign to change the weather.
- Scientific opinion is on the President's side, as revelations of scientific misconduct (such as the [Climategate](#) and [Climategate II](#) scandals, the [InterAgency Council audit of the IPCC](#), and the [John Beale scandal at EPA](#)) make it clear that the science relied on by EPA in 2009 did not pass the requirements of the Information Quality Act. Moreover, estimates of climate sensitivity have fallen steadily since 2009, and calculations of the social costs and benefits of fossil fuels cited in 2009 were off by orders of magnitude and have been formally disavowed by the current administration. A strong scientific case for rescinding the Endangerment Finding is easily assembled and defended in court.
- "Tort and nuisance suits" do not pose a threat to industry, especially in light of President Trump's judicial nominations and list of candidates for the U.S. Supreme Court. If such suits have a legal basis at all, it derives from the Endangerment Finding, making this an argument for rescinding that finding, not keeping it.

- continued -

553. This correspondence, a call to action upon some of its members to vacate the EPA's Greenhouse Gas Endangerment Finding, was precisely the purpose of the GCSCT's 1998 Action

554. Finally, this letter was sent to ALEC's members. Those members include more than 85 members of Congress, 14 sitting or former governors who were considered "alumni" and some 1,810 members of state legislature and many others as well as being published on the internet in an effort to deceive consumers.^{555 556}

555. ALEC/Heartland and CEI sent the December 5, 2017 letter to its members, including Congress state officials, and industry leaders requesting to undo those Endangerment Findings. Reversing those Endangerment Findings benefits the Oil and Coal Defendants and fulfills the GCSCT Action Plan. As part of the larger view of the Defendants' purpose and plan, this was the horrific denouement of Defendants' conspiracy, happening only 90 days after Inna, September 7, 2017, struck this Island and then Maria on September 20, 2017. The losses and damage forecast for Puerto Rico by the Defendant more than three decades earlier had come to pass. The people and property of the Municipalities of Puerto Rico had been sacrificed in the name of corporate profits and market dominance.

556. Each of the Defendants have actively funded climate change denial directly or through their trade groups and profited from that perpetuation of deceit. The exact amount of the funds is unknown, and most of the GCSCT Action Plan' "allocators" records are private.

S. Donors Trust-Dark Money Funding to Deceive the Plaintiff Municipality of San Juan's Consumers

557. Donors Trust, is an American non-profit donor-advised fund founded in 1999 with the goal of "safeguarding the intent of libertarian and conservative donor " and its donors remain

⁵⁵⁵ Julie Bykowitz, *The Corporations, and Dentists, That Still Love ALEC*. BLOOMBERG POLITICS (Dec 6, 2014.) <https://www.bloomberg.com/news/articles/2014-12-05/the-corporations-and-dentists-that-still-love-alec> (last visited Nov. 14, 2022).

⁵⁵⁶ Also note that the Heartland institute is an Illinois not for profit and is IL-990 forms since 2015 are not published on the Illinois Charitable Trust site.

anonymous.⁵⁵⁷ It is affiliated with Donors Capital Fund, another donor-advised fund. In September 2015, Lawson Bader, former president of the Competitive Enterprise Institute, was announced as the new president of both Donors Trust and Donors Capital Fund.⁵⁵⁸

558. Heartland admitted in late December 2019 that Donors Trust is now directing between two thirds and three quarters of its budget annually to Heartland to support its climate-skeptical positions. Heartland has launched a new climate website and hired a new promoter, all in furtherance of the 1998 GCST Action Memo.

559. Professor Robert Brulle of Drexel University has spent the past 25 years studying the climate denial machine. The main conclusion of his research is that the consensus about global warming was clear in 1979, when the National Academy of Sciences issued its report, yet there have been 40 years of inaction: "The basic parameters of the long-term threat posed by climate change were well described and known by 1979 ... But here we are, coming up on nearly 40 years, and there still is confusion and a lack of willingness to act. So, I guess in that sense, the effort to stop climate action has won ..."⁵⁵⁹

560. In March of 2019, the non-profit research organization Influence Map released a report tracing nearly **\$1 billion** in lobbying funds and narrative capture by four big oil companies, including Exxon, Shell, Chevron, and BP since December 2015.⁵⁶⁰

⁵⁵⁸ David Callahan, *Inside Donors Trust: What This Mission-Driven DAF Offers Philanthropists on the Right*, INSIDE PHILANTHROPY (Mar. 3, 2016), <https://www.insidePhilanthropy.com/home/2016/3/3/inside-donorstrust-what-this-mission-driven-daf-offers-philanthro.html> (last visited Nov. 14, 2022).

⁵⁵⁹ Donors Trust, *Donors Trust's New CEO*, DONORS TRUST (Sept. 22, 2015), <https://www.donorstrust.org/philanthro/donorstrusts-new-ceo/> (last visited Nov. 14, 2022).

⁵⁶⁰ Id.

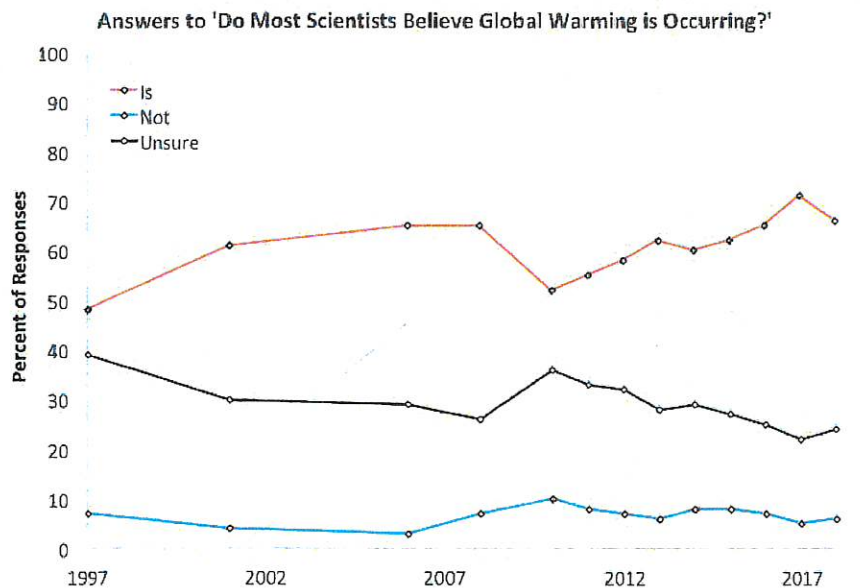
⁵⁶¹ Influence Map, *Big Oil's Real Agenda on Climate Change: How the oil majors have spent \$1b since Paris on narrative capture and lobbying on climate*, INFLUENCE MAP (Mar. 2019), <https://influencemap.org/report/How-Big-Oil-Continues-to-Oppose-the-Paris-Agreement-38212275958aa21196dae3b76220bdc> (last visited Nov. 15, 2022).

561. The report states that in just a month before the US midterm elections, these Oil Defendants spent \$2 million in targeted Facebook and Instagram ads opposing key climate ballot initiatives.⁵⁶² The report also reveals that the companies spent \$63 million to APJ since 2015.⁵⁶²

562. Annually, Influence Map found that Exxon, Shell, Chevron, and BP alone were spending a total of **\$135 million** a year just on climate lobbying.⁵⁶³

563. Despite the scientific consensus around the existence and causes of climate change, uncertainty in the minds of the American public and Defendants' consumer grew throughout the 1990s and 2000 as a result of Defendants' efforts.

564. In 1997, Gallup poll found that more than half of Americans either did not believe or were unsure that there was scientific consensus regarding climate change.⁵⁶⁴ Twenty years later, that figure has not changed, even though there is more evidence of climate change and the scientific consensus of climate change is stronger.



⁵⁶¹ Id.

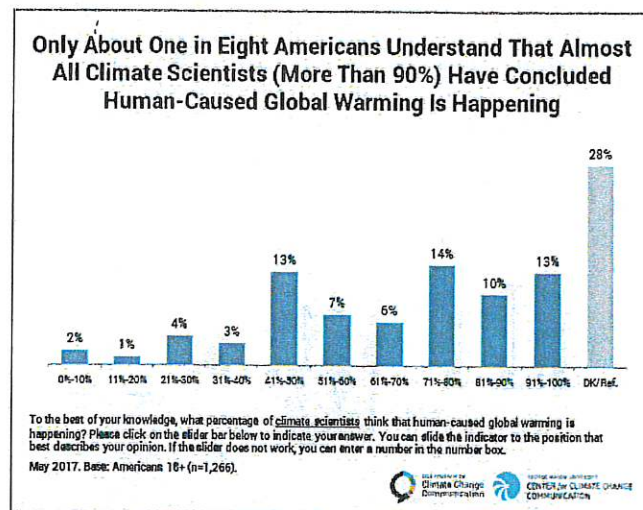
⁵⁶² *id.* at 14.

⁵⁶³ *id.* at 10.

⁵⁶⁴ Megan Brenna and Lydia Saad, *Global Warming Concern Steady Despite Some Partisan Shifts*, GALLUP (Mar. 28, 2018), <https://news.gallup.com/poll/231530/global-warming-concern-steady-despite-partisan-shifts.aspx> (last visited Nov. 14, 2022).

565. The Gallup polling data reflects that, consistently over the past 20 years, less than 10% of Americans have believed that most scientists do not believe global warming is happening. Most Americans were unaware of the expert consensus.

566. Data from Yale and George Mason universities tells a similar story- only about 10% of Americans think less than 50% of climate scientists agree on global warming.⁵⁶⁶ While Americans badly underestimate the expert consensus-just 13% are aware there is over 90% expert agreement, and the average American thinks the consensus is just 67%-despite growing polarization, few believe that most scientists reject global warming.



² Cook, J., Oreskes, N., Dornan, P. T., Anderegg, W. R. J., Verheggen, B., Malbach, E. W., Carlton, J. S., Levendowsky, S., Skuce, A. G., Green, S. A., Nuccitelli, D., Jacobs, P., Richardson, M., Winkler, B., Painting, R., & Rice, K. (2016). Consensus on consensus: A synthesis of consensus estimates on human-caused global warming. *Environmental Research Letters* 11(4). doi:10.1088/1748-9326/11/4/049602

³ Respondents were asked to estimate the percentage of climate scientists who have concluded that human-caused global warming is happening by moving a simulated "slider bar" which appeared on the screen of their computer. This slider allowed respondents to move the marker from "0%" on the left to "100%" on the right, or to any whole number between the two.



567. The Yale and George Mason researchers found that only 13% understand that nearly all climate scientists (more than 90%) are convinced that human-caused global warming is happening. While half of the public believes that a majority (more than half) of climate scientists think humans caused global warming, the rest, almost 28%, do not know.

⁵⁶⁵ A. Leiserowitz, et al., *Climate change in the American Mind*, YALE UNIVERSITY AND GEORGE MASON UNIVERSITY (May 2017), <https://climatecommunication.yale.edu/wp-content/uploads/2018/04/Climate-Change-American-Mind-March-2018-1.pdf> (last visited Nov 15, 2022).

568. In furtherance of the GCSCT Action Plan, the Defendants successfully undermined science it knew to be true in order to avoid the "gateway belief," thus driving consumers to continue purchasing their products.

569. Each of the above carefully devised actions was taken by the Defendants because they knew that the unabated production and sale of their products was a substantial contributing factor to the acceleration of climate change and would cause the intensity, frequency, and duration of North Atlantic hurricanes as well as the frequency of the strongest hurricane to increase. Consequently, the Defendants engaged in those carefully devised action in order to defraud the Municipalities of Puerto Rico, to continue to produce and sell their product unabated at low prices, earn billion in profit, and delay the development of energy production alternative.

T. The Defendants Failed to Prevent or Warn Puerto Rico and its Consumers of the Increasing Risk of Severe Storms

570. Defendants individually and collectively extracted a substantial percentage of all raw fossil fuels extracted globally since 1965.

571. CO₂ emissions that are attributable to fossil fuels that Defendants extracted from the earth and injected into the market are responsible for a substantial percentage of greenhouse gas pollution since 1965.

572. By 1988, the Oil Defendants had amassed a compelling body of knowledge regarding the role of anthropogenic greenhouse gases, and specifically those emitted from the normal use of fossil fuel product, which caused global warming, increased mean sea surface temperature, rising sea levels, melting icecaps, and the attendant catastrophic consequences for human communities and the environment.

573. Rather than collaborating with the international community by acting to forestall, or at least decrease, their fossil fuel products' contributions to global warming, increased mean sea surface temperature, intense storm surges, intense hurricanes, extreme heat, mudslides, drought,

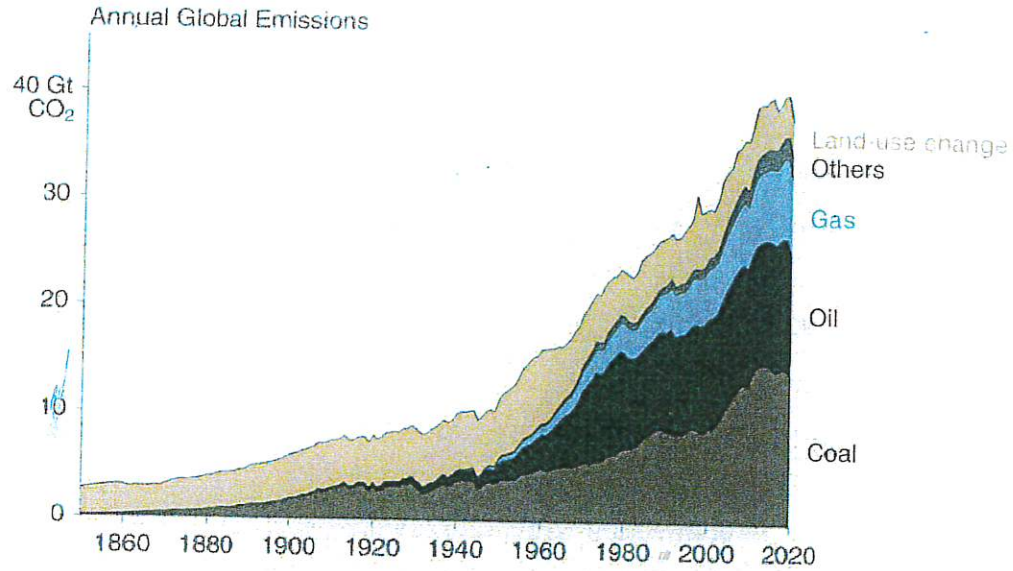
health hazards, flooding, diminishing coast, coral bleaching, harmful algal blooms, and consequent losses to the Plaintiff Municipality of San Juan, Defendants embarked on a decades-long marketing campaign designed to deceive consumers cover-up the climate change implications of their operations, maximize continued dependence on their products, and undermine national and international efforts to rein in greenhouse gas emissions.

574. By this time, the Oil Defendants had been on notice for decades that their products were causing global climate change and dire effects to the planet. The Oil Defendants, then, were faced with the decision of whether to take steps to limit the damages their fossil fuel products were causing and would continue to cause for virtually every area of the globe, including Puerto Rico.

575. From 1965 to 2017, the Defendants and their co-venturers have been responsible for 40.01 % of all global industrial GHG emissions from 1965-2017 in both direct emissions from their industry and end use of their product.⁵⁶⁶ The Defendants' collective emissions were a substantial factor in the increase in intensity of the 2017 Atlantic Hurricane Season.

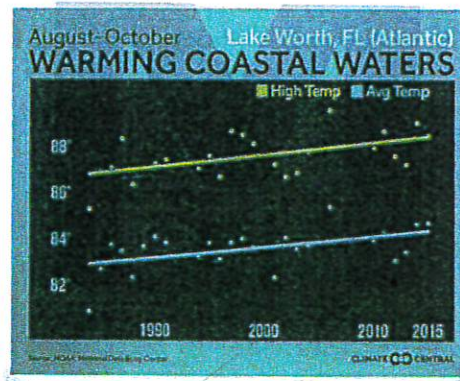
576. The graph below shows that the total emissions attributable to fossil fuels have increased dramatically since the late 1980's:

[GRAPH PENDING INSERTION]



577. In the Atlantic, water in hurricane sea on, August to October have drastically warmed 2-4 °s in this time frame:

Lake Worth, FL (Atlantic)

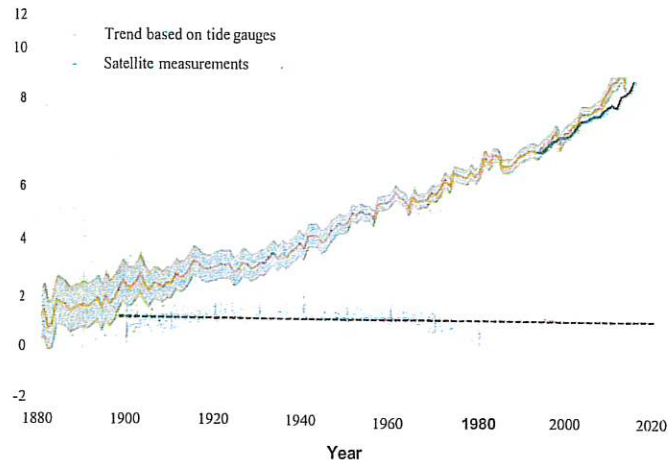


578. During this time frame the global sea level as increased almost three inches:

⁵⁶⁷ Global Carbon Project, *Global Carbon Budget 2018*, INTEGRATED CARBON OBSERVATION SYSTEM, <https://www.icos-cp.eu/science-and-impact/global-carbon-budget/2018> (last visited Nov. 16, 2022).

⁵⁶⁸ Climate Central, *U.S. Coastal Water Temperature Trends*, NOAA NATIONAL DATA CLIMATE CENTER (Sept. 7, 2016), <https://www.climatecentral.org/climate-matters/us-coastal-water-temperature-trends> (last visited Nov. 16, 2022).

Global Average Absolute Sea Level Change, 1880-2015

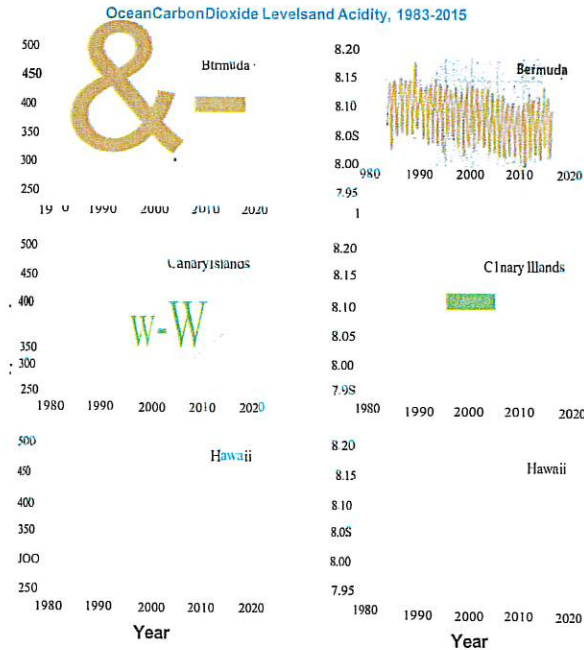


Data sources:

- CSIRO/Commonwealth Scientific and Industrial Research Organisation (2011). 2015 update to data originally published in Church, J.J., and N.J. White. 2011. Sea-level rise from the late 19th to the early 21st century. *Surveys in Geophysics*, 32:585-602. www.csiro.au/sea-level_data.cma.html.
- NOAA (National Oceanic and Atmospheric Administration). 2016. Laboratory for Satellite Altimetry. Sea Level Rise. Accessed June 2016. http://ibis.gfdl.noaa.gov/SLR/ScaleLevelRise/SLR.html#series_glob_11p1p.

For more information, visit U.S. EPA's climate change indicators on the United States at www.epa.gov/climate-indicators

579. During this time frame, dissolved carbon in the ocean has increased and alkalinity has decreased, all indicators of climate change:

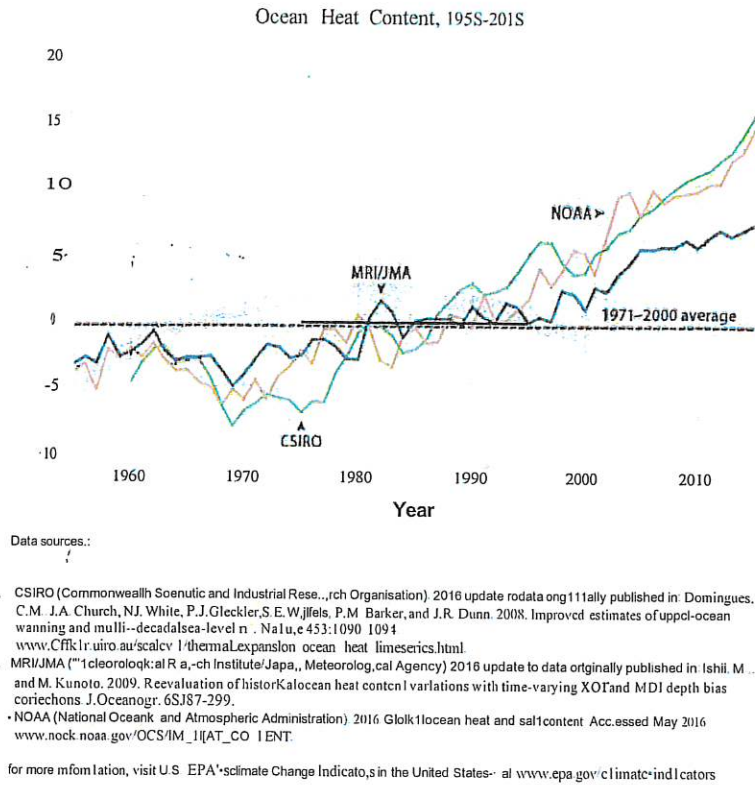


Data sources:

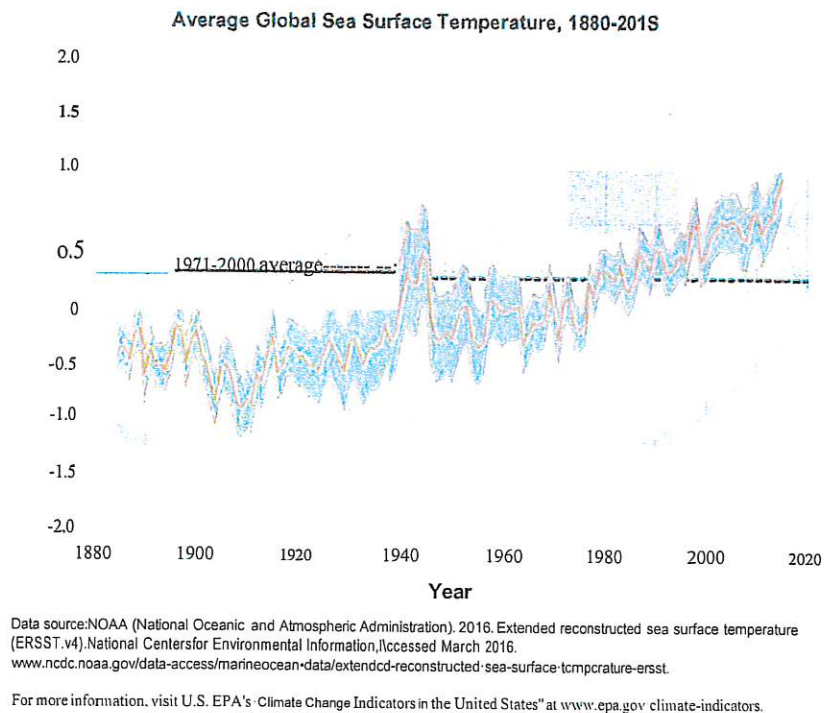
- Stettin, N.A. 2016. Update to data on increasing atmospheric CO2. <https://www.epa.gov/climate-indicators/indicators-atmospheric-co2>
- Gerz, J., O. A. M. 2012. Update to data on increasing atmospheric CO2. <https://www.epa.gov/climate-indicators/indicators-atmospheric-co2>
- Dorland, J. 2015. Update to data on increasing atmospheric CO2. <https://www.epa.gov/climate-indicators/indicators-atmospheric-co2>

For more information, visit U.S. EPA's climate change indicators on the United States at www.epa.gov/climate-indicators

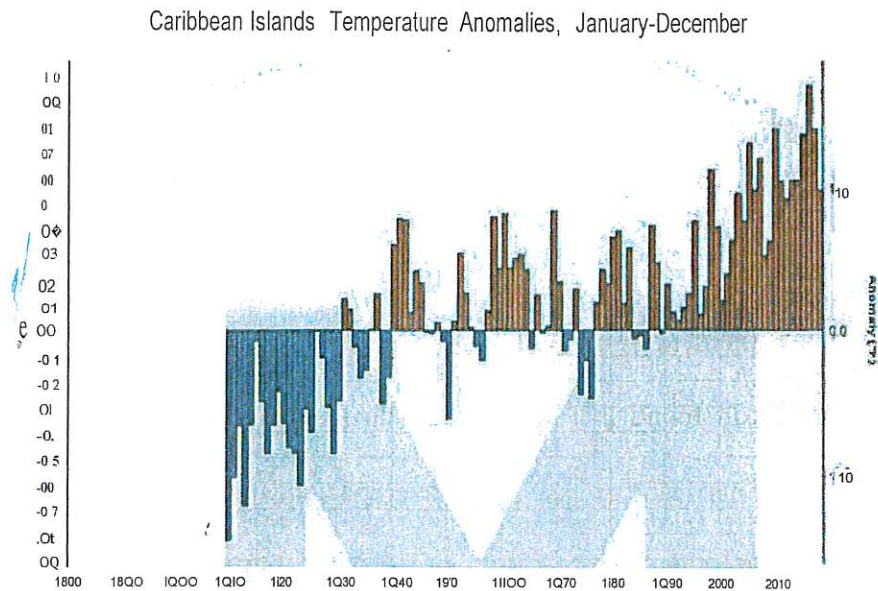
580. During this time frame, the ocean temperature has increased:



581. During this time frame, the average global sea temperature has increased:



582. During this time frame, the temperature anomaly for the Caribbean has increased at a rate



569

583. As of this filing, the Oil Defendants, including Exxon, Shell, Chevron, BP, and ConocoPhillips **publicly** purport to accept the consensus embodied in the most recent IPCC reports, that global warming is occurring, and that human activity has been the dominant cause of global warming and related climactic changes, but massive damage to the Municipality of San Juan has already occurred and continues.

584. At the same time, however, Defendants continue to play up the "uncertainty" (where there was none) of future climate modeling, and the purported historic uncertainty, imprecision, and inconsistency of climate science to disguise and distract from their own knowledge and intensive research dating back to at least 1960s. While Defendants claim to accept the scientific consensus on climate change, they continue to promote and expand their exploration, production, promotion, marketing, and sale of fossil fuels that are the dominant cause of

⁵⁶⁹ National Centers for Environmental Information, *Climate at a Glance: Global Time Series*, NOAA NATIONAL CENTERS FOR ENVIRONMENTAL INFORMATION (Apr. 2019), <https://www.ncdc.noaa.gov/cag/> (last visited Nov. 14, 2022).

anthropogenic global warming. The Plaintiff Municipality of San Juan relied on Defendants' marketing to their detriment, completely unprepared for the devastating storms of 2017 and their aftermath.

585. All of the Defendants were required by Best Business Practices to inform its consumers of the reality of its operations and to contribute to the global effort to mitigate the impacts of greenhouse gas emissions by, for example, delineating practical policy goals and regulatory structures that would have allowed them to continue their business ventures while reducing greenhouse gas emission and supporting a transition to a lower carbon future. Instead, the Defendants undertook a momentous effort to evade international and national regulation of greenhouse gas emission to enable them to continue unabated fossil fuel production.

586. As a result of Defendants' tortious, false and misleading conduct, reasonable consumers of Defendants' fossil fuel products, the Municipalities and their citizens have been deliberately and unnecessarily deceived about: the role of fossil fuel products in causing ocean warming and consequent harmful algal blooms and domoic outbreaks; the acceleration of global warming since the mid-20th century and the continuation thereof; and about the fact that the continued increase in fossil fuel product consumption creates severe environmental threats and significant economic costs for members of the ocean-dependent economy. Reasonable citizens of the Municipality of San Juan, and its policy makers have also been deceived about the depth and breadth of the state of the scientific evidence on anthropogenic climate change, and particularly on the strength of the scientific consensus demonstrating the role of fossil fuels in causing climate change and its potentially destructive impacts. The Defendant have been successful by their deceptive representations to generate reliance by the Plaintiff to its detriment.

587. The harms and benefits of Defendants' conduct can be balanced-in part-by weighing the social benefit of extracting and burning a unit of fossil fuels against the costs that a unit of fuel imposes on society, known as the "social cost of carbon" or "SCC."

588. Because climatic responses to atmospheric temperature increases are non-linear, and because greenhouse gas pollution accumulates in the atmosphere, some of which does not dissipate for potentially thousands of years (namely CO₂), it is now clear that SCC increases as emissions rise and the climate warms.

589. A critical corollary of the non-linear relationship between atmospheric CO₂ concentrations and SCC is that delayed efforts to curb those emissions have increased environmental harms and increase the magnitude and cost to remediate harms that have already occurred or are locked in by previous emissions. Therefore, Defendants' campaign to obscure the science of climate change and to expand the extraction and use of fossil fuel greatly increased and continues to increase the losses and rate of losses suffered by Plaintiff Municipality of San Juan in 2017 and continuing to this filing.

590. The consequences of delayed action on climate change, exacerbated by Defendants' tortious actions as described herein, has already drastically increased the cost to the Municipality of San Juan mitigating further harm. Had concerted action by the Defendants begun even as late as 2005, an annual 3.5% reduction in CO₂ emissions to lower atmospheric CO₂ to 350 ppm by the year 2100 would have restored Earth's energy balance and halted future global warming, although such efforts would not forestall committed sea level rise already locked in.⁵⁷⁰

591. The costs of inaction and the opportunities to confront anthropogenic climate change caused by normal consumption of their fossil fuel products, were not lost on Defendants.

592. At a time when BP was leaving the GCC, in a 1997 speech by John Browne, Group Executive for BP America, at Stanford University, Browne described Defendants' and the entire fossil fuel industry's responsibility and opportunities to reduce use of fossil fuel products, reduce

⁵⁷⁰ Hansen et al., *Assessing "Dangerous Climate Change": Required Reduction of Carbon Emissions to Protect Young People, Future Generations and Nature*, PLOS ONE (Dec. 3, 2013), <https://doi.org/10.1371/journal.pone.0081648> (last visited Nov. 16, 2022).

global CO₂ emissions, and mitigate the harms associated with the use and consumption of such products:

A new age demands a fresh perspective of the nature of society and responsibility. We need to go beyond analysis and to take action. It is a moment for change and for a rethinking of corporate responsibility.... [T]here is now an effective consensus among the world's leading scientists and serious and well-informed people outside the scientific community that there is a discernible human influence on the climate, and a link between the concentration of carbon dioxide and the increase in temperature. The prediction of the IPCC is that over the next century temperatures might rise by a further 1 to 3.5 ° centigrade [1.8° - 6.3° F], and that sea levels might rise by between 15 and 95 centimeters (5.9 and 37.4 inches). Some of that impact is probably unavoidable because it results from cumulative emissions [I]t would be unwise and potentially dangerous to ignore the mounting concern. The time to consider the policy dimensions of climate change is not when the link between greenhouse gases and climate change is conclusively proven ... but when the possibility cannot be discounted and is taken seriously by the society of which we are part.... We [the fossil fuel industry] have a responsibility to act, and I hope that through our actions we can contribute to the much wider process which is desirable and necessary. BP accepts that responsibility and we're therefore taking some specific steps. To control our own emissions. To fund continuing scientific research. To take initiatives for joint implementation. To develop alternative fuels for the long term. And to contribute to the public policy debate in search of the wider global answers to the problem. *(emphasis added)*.⁵⁷¹

593. Despite Defendants' knowledge of the foreseeable, measurable harms associated with the unabated consumption and use of their fossil fuel products, and despite the existence and Defendants' knowledge of technologies and practices that they were required by Best Business Practices to employ to help reduce the foreseeable dangers associated with their fossil fuel products, Defendants continued to market and promote heavy fossil fuel use to Puerto Rico and the Municipality of San Juan, dramatically increasing the cost of abatement.

⁵⁷¹ John Browne, *BP Climate Change Speech to Stanford*, BRITISH PETROLEUM (BP America) (May 19, 1997), <http://www.climatefiles.com/bp/bp-climate-change-speech-to-stanford> (last visited Nov. 14, 2022).

594. At all relevant times, Defendants were deeply familiar with opportunities to reduce the use of their fossil fuel products, reduce global CO₂ emissions associated therewith, and mitigate the harms associated with the use and consumption of such products. Examples of that recognition include, but are not limited to the following:

- a. In 1963, Exxon (then Esso) obtained multiple patents on technologies for fuel cells, including on the design of a fuel cell and necessary electrodes, and on a process for increasing the oxidation of a fuel, specifically methanol, to produce electricity in a fuel cell.^{572 573}
- b. In 1970, Exxon (then Esso) obtained a patent for a "low-polluting engine and drive system" that used an interburner and air compressor to reduce pollutant emissions, including CO₂ emissions, from gasoline combustion engines (the system also increased the efficiency of the fossil fuel products used in such engines, thereby lowering the amount of fossil fuel product necessary to operate engines equipped with this technology).⁵⁷⁴

595. Defendants were required by Best Business Practices to make inroads to mitigate the damages to the Municipality of San Juan, through technology by developing and employing technologies to capture and sequester greenhouse gases emissions associated with conventional use of their fossil fuel products. Defendants had knowledge dating at least back to the 1960s, and indeed, internally researched and perfected many such technologies. For instance:

- a. The first patent for enhanced oil recovery technology, a process by which CO₂ is captured and reinjected into oil deposits, was granted to an ARCO (BP) subsidiary in 1952.⁵⁷⁵ This technology could have been further developed as a carbon capture and sequestration technique;
- b. Phillips Petroleum Company (ConocoPhillips) obtained a patent in 1966 for a "Method for recovering a purified component from a gas" outlining

⁵⁷² ExxonMobil Research Engineering Co., *Fuel cell and fuel cell electrodes*, GOOGLE PATENTS (Dec. 31, 1963), <https://www.google.com/patents/US3116169> (last visited Nov. 14, 2022).

⁵⁷³ ExxonMobil Research Engineering Co., *Direct production of electrical energy from liquid fuels*, GOOGLE PATENTS (Dec. 3, 1963), <https://www.google.com/patents/US3113049> (last visited Nov. 14, 2022).

⁵⁷⁴ ExxonMobil Research Engineering Co., *Low-polluting engine and drive system*, GOOGLE PATENTS (May 16, 1970), <https://www.google.com/patents/US3513929> (last visited Nov. 14, 2022).

⁵⁷⁵ James P. Meyer, *Summary of Carbon Dioxide Enhanced Oil Recovery (CO₂EOR) Injection Well Technology*, AMERICAN PETROLEUM INSTITUTE <http://www.api.org/-/media/Files/EHS/climate-change/Summary-carbondioxide-enhanced-oil-recovery-well-tech.pdf> (last visited Nov. 15, 2022).

a process to remove carbon from natural gas and gasoline streams,⁵⁷⁶
and

- c. In 1973, Shell patented a process to remove acidic gases, including CO₂, from gaseous mixtures.

596. Despite this knowledge, Defendants' later attempts into the alternative energy sector were merely duplicitous pretense aimed at the Plaintiff and their citizens. For instance, in 2001, Chevron developed and shared a sophisticated information management system to gather greenhouse gas emissions data from its explorations and production to help regulate and set reduction goals.⁵⁷⁷ Beyond this technological breakthrough, Chevron touted "profitable renewable energy" a part of its business plan for several years and launched a 2010 advertising campaign promoting the company's move towards renewable energy. Despite all this, Chevron rolled back its renewable and alternative energy projects in 2014.⁵⁷⁸

597. Similarly, ConocoPhillips' 2012 Sustainable Development report declared developing renewable energy a priority in keeping with their position on sustainable development and climate change.⁵⁷⁹ However, this report was contradicted with its own 10-K filing in 2012 which told a different story: "As an independent E&P company, we are solely focused on our core business of exploring for developing, and producing crude oil and natural gas globally."⁵⁸⁰

⁵⁷⁶ Phillips Petroleum Co., *Method for recovering a purified component from a gas*, GOOGLE PATENTS (Jan. 11, 1966), <https://www.google.com/patents/US3228874> (last visited Nov. 14, 2022).

⁵⁷⁷ Chevron, *Press Release, Chevron Press Release - Chevron Introduces New System to Manage Energy Use*, CHEVRON CORP. (Sept. 25, 2001), <https://web.archive.org/web/20170510120220/https://www.chevron.com/stories/chevron-introduces-new-system-to-manage-energy-use> (last visited Nov. 16, 2022).

⁵⁷⁸ Benjamin Elgin, *Chevron Dims the Lights on Green Power*, BLOOMBERG (May 29, 2014), <https://www.bloomberg.com/news/articles/2014-05-29/chevron-dims-the-lights-on-renewable-energy-projects> (last visited Nov. 14, 2022).

⁵⁷⁹ ConocoPhillips, *Sustainable Development*, CONOCOPHILLIPS (2013), <http://static.conocophillips.com/files/resources/2012-sd-report.pdf> (last visited Nov. 16, 2022).

⁵⁸⁰ U.S. Securities and Exchange Commission, *ConocoPhillips 2012 Form 10-K Annual Report*, U.S. SECURITIES AND EXCHANGE COMMISSION, <https://www.sec.gov/Archives/edgar/data/773910/000077391019000009/apc201810k-I0k.htm> (last visited Nov. 14, 2022).

598. After posting a \$10 billion quarterly profit, Exxon in 2005 stated that "We're an oil and gas company. In times past, when we tried to get into other businesses, we didn't do it well. We'd rather re-invest in what we k.now."⁵⁸¹

599. Even if the Oil Defendants did not adopt technological or energy source alternatives that would have reduced use of fossil fuels, reduced global greenhouse gas pollution, and/or mitigated the harms associated with the use and consumption of such products, Defendants were required by Best Business Practices to have taken other practical, cost-effective steps to reduce the use of their fossil fuel products, reduce global greenhouse gas pollution associated therewith, and mitigate the harms associated with the use and consumption of such products. These alternatives included, among other measures:

- a. Accepting scientific evidence on the validity of anthropogenic climate change and the damages it will cause people and communities, including the consumers in Puerto Rico and the Municipality of San Juan, and the environment. Mere acceptance of that information would have altered the debate from whether to combat global warming to how to combat it; and avoided much of the public confusion that has ensued over nearly 30 years, since at least 1988.
- b. Forthrightly communicating with Defendants' shareholders, consumers, banks, insurers, the public, regulators, and its clients including Puerto Rico and the Municipality of San Juan about the global warming and ocean temperature increase hazards of Defendants' fossil fuel products that were known to Defendants, would have enabled those groups to make material, informed decisions about whether and how to address climate change vis-a-vis Defendants' products.
- c. Refraining from affirmative efforts, whether directly, through coalitions, or through front groups, to distort public debate, and to cause many consumers and business and political leaders to think the relevant science was far less certain than it actually was.
- d. Sharing their internal scientific research with the public, and with other scientists and business leaders, so as to increase public understanding of

⁵⁸¹ James R. Healy, *Alternate Energy Not in Cards at ExxonMobil*, USA TODAY (Oct. 28, 2005), https://usatoday30.usatoday.com/money/industries/energy/2005-10-27-oil-invest-usat_x.htm (last visited Nov. 14, 2022).

the scientific underpinnings of climate change and its relation to Defendants' fossil fuel products.

- e. Supporting and encouraging policies to avoid dangerous climate change and demonstrating corporate leadership in addressing the challenges of transitioning to a low carbon economy.
- t) Prioritizing alternative sources of energy through sustained investment and research on renewable energy sources to replace dependence on Defendants' inherently hazardous fossil fuel products.
- g) Adopting their shareholders' concern about Defendant need to protect their businesses from the inevitable consequences of profiting from their fossil fuel products. Over the period of 1990-2015, Defendants' shareholders proposed hundreds of resolutions to change Defendants' policies and business practices regarding climate change. These included increasing renewable energy investment cutting emissions and performing carbon risk assessments, among others.

600. Despite their knowledge of the foreseeable harms associated with the consumption of Defendants' fossil fuel products, and despite the existence and fossil fuel industry knowledge of opportunities that would have reduced the foreseeable dangers associated with those products, Defendants wrongfully and falsely promoted, campaigned against regulation of, and concealed the hazards of use of their fossil fuel products.

601. Defendants' individual and collective conduct-including, but not limited to, their extraction, refining, and/or formulation of fossil fuel products; their introduction of fossil fuel products into the stream of commerce; their wrongful promotion of their fossil fuel products and concealment of known hazards associated with use of those products and their failure to pursue less hazardous alternatives available to them-in a substantial contributing factor in causing the increase in global sea surface temperature, frequency and increased intensity of tropical storms and hurricanes, flooding, storm surges, drought, harmful algal blooms, loss of coral ecosystems, coastal erosion, health effects from increased heat and mold and related damages, among other consequences.

602. The Defendants have deceived and continue to deceive the Municipality of San Juan, and its citizens. The Plaintiff relied on those deceptions and therefore was unprepared for the impact of the ferocious storms of 2017 and the ongoing losses from them.

603. On February 8, 2010, the Securities and Exchange Commission (SEC) required publicly traded companies to disclose climate change related impacts.⁵⁸² The Defendants are publicly traded companies and as such, have been required to disclose "significant physical effect of climate change, such as effects on the severity of weather (for example, floods or hurricanes), sea levels, the arability of farmland, and water availability quality,⁵⁸³ have the potential to affect a registrant's operations and result . For example, severe weather can cause catastrophic harm to physical plants and facilities and can disrupt manufacturing and distribution processes."

604. The SEC went further and required disclosures of "Possible consequences of severe weather could include":

- a. For registrants with operations concentrated on coastlines, property damage and disruptions to operations, including manufacturing operations or the transport of manufactured products;
- b. Indirect financial and operational impacts from disruptions to the operations of major customers or suppliers from severe weather, such as hurricanes or floods;
- c. Increased insurance claims and liabilities for insurance and reinsurance companies,⁵⁸⁴
- d. Decreased agricultural production capacity in areas affected by drought or other weather-related changes; and

⁵⁸² 17 CFR Parts 211, 231 and 241 Commission Guidance Regarding Disclosure Related to Climate Change; Final Rule.

⁵⁸³ See, US Government Accountability Office, *Climate Change: Financial Risks to Federal and Private Insurers in Coming Decades Are Potentially Significant: U.S. Government Accountability Office Report to the Committee on Homeland Security and Governmental Affairs, U.S. Senate GAO-07-285* (Mar. 16, 2007) <https://www.gao.gov/products/gao-07-285> (last visited Nov. 15, 2022).

⁵⁸⁴ The SEC footnoted: "Many insurers already have plans in place to address the increased risks that may arise as a result of climate change, with many reducing their near-term catastrophic exposure in both reinsurance and primary insurance coverage along the Gulf Coast and the eastern seaboard. *id.* at 32."

- e. Increased insurance premiums and deductibles, or a decrease in the availability of coverage, for registrants with plants or operations in areas subject to severe weather."⁵⁸⁵

605. The Defendants made no such disclosure. Therefore, Puerto Rico and the Municipality of San Juan, its citizens, who invest in these publicly traded companies, detrimentally relied upon the non-disclosure of climate related impacts.

U. Conclusion: An Accurate Prediction; A Sinister Response

606. The above review of the history of the oil industry's research, evolution, commentary and actions compel the following conclusions: (1) one, by 1989, the "window of 5 to 10 years" an Exxon executive had forewarned the deadline for "hard decisions" regarding energy strategies becoming critical had passed; (2), the Defendant companies controlled nearly 100% of worldwide energy production; (3) that their energy products were the "primary cause" of climate change; (4), if their production and sales continued unabated, a global catastrophe would occur involving: sea level rise warming of the ocean dramatic weather change in the Northern Hemisphere, severe storms, increased rainfall, reduction of food supply, serious consequences for man's survival, marine life would be negatively affected, shorelines would decrease, and coral reef: would disappear.

607. Given this specialized knowledge, the Defendants collectively made the following decisions: (1), they must work together to fight this threat to their energy monopoly; (2), they must prevent this coming disaster from promoting legislation detrimental to their interests; (3), they must increase drilling and production to keep their products so cheap that the alternative energy companies could not survive; (4), they must make sure that their offshore drilling platforms in the Gulf, vulnerable to hurricanes, be constructed to withstand the coming severe

⁵⁸⁵ Securities and Exchange Commission 17 CFR Parts 211, 231 and 241 Commission Guidance Regarding Disclosure Related to Climate Change.

storms; (5), they would not warn anyone, even those people living in Puerto Rico and the Municipality of San Juan, who were most at risk for the coming devastation; and (6), that they would jointly establish a propaganda campaign of misinformation that their products did not contribute to climate change to delay any recognition by the Plaintiff of the dangerous condition their products were creating before 2017.

608. In the three decades that the carbon industry instituted the above strategy their profits soared after natural energy sources floundered, no effective legislation was passed and just as predicted storm intensity including the two disastrous storms hit Puerto Rico in September 2017.

609. The Defendants knew that their acts, omission, and deceit of the consumers represented by the Plaintiff as detailed above, would and did, prevent Puerto Rico, the Municipality of San Juan and their citizens and residents from having the knowledge that they needed to adequately prepare for the "stronger, hotter and wetter" storms that pummeled the Island in 2017. The Defendants understood through their research and special expertise that the Island's position in the North Atlantic, its history of storms, the exceptionally warm surrounding sea, plus the rise in the sea level, substantially caused by their acts and hidden from the consumers represented by the Plaintiff, would inevitably result in the type of severe storm disasters that occurred in 2017 and cause the Municipality of San Juan, and its citizens to incur billions of dollars in damages. Despite this knowledge and understanding, the Defendants wrongfully and falsely promoted, campaigned against regulation of, and concealed the hazards of using their fossil fuel products. The Municipality of San Juan, and its citizens were injured and damaged by the unlawful acts of Defendants.

VII. CAUSES OF ACTION

A. First Cause of Action: Common Law Consumer Fraud

610. Plaintiff reallege and reaffirm each and every allegation set forth in all the preceding paragraphs as if fully stated herein.

611. Defendants engaged in and caused others to engage in consumer fraud and deceptive

trade practices in violation of common law rules against fraud.

612. From on or about November 16, 1989 to the present, the Defendants, individually and through both legitimate and illegitimate means, engaged in a nationwide marketing campaign with the purpose and intent of representations, omissions, and/or practices to deceive or mislead consumers regarding the hazardous effects of their fossil fuel products.

613. The Oil Defendants constitute the "hub" of this conspiracy. The Oil Defendants are supposedly competitors and are vertically integrated, meaning that they control the extraction, refining and marketing of their oil-based fossil fuel products. Accordingly, it was simple for the Defendants to agree to conspire to maintain their monopoly by increasing production, fixing prices, feigning interest in alternative energy sources and lying about the climate change threat to the Plaintiff. Some of these Oil Defendants also have coal interests, such as Exxon, Shell, and BP and thus the coal Defendants actively participated in the illegal acts out of a common interest in the goods of the enterprise.

614. By 1988, the Oil Defendants had amassed a compelling body of knowledge regarding the role of anthropogenic greenhouse gases, and specifically those emitted from the normal use of fossil fuel products, which caused global warming, increased mean sea surface temperature, rising sea levels, melting icecaps, and the attendant catastrophic consequences for human communities and the environment.

615. Rather than collaborating with the international community by acting to forestall or at least decrease, their fossil fuel product ' contributions to global warming, increased mean sea surface temperature, intense storm urges, intense hurricane , extreme heat, mud lides drought, health hazards, flooding, diminishing coast, coral bleaching, harmful algal blooms, and consequent losses to Puerto Rico and the Municipality of San Juan, Defendants embarked on a decades-long marketing campaign designed to maximize continued dependence on their product and undermine national and international efforts to rein in greenhouse gas emissions.

616. By this time, the Oil Defendants had long been on notice that their products were causing global climate change and dire effects to the planet. The Oil Defendants, then, were faced with the

decision of whether to take steps to limit the damages their fossil fuel products were causing and would continue to cause for virtually every area of the globe, including Puerto Rico and the Municipality of San Juan, or exacerbate the problem by increasing production and sales. They chose the latter.

617. As the Defendants were aware prior to 1988, an increase in air and sea surface temperature was predicted to promote the development of stronger tropical cyclones (also known as hurricanes). Key factors that lead to the development of hurricanes are the warm temperatures of the air and sea surface. The higher temperatures increase the probability of a storm to become a hurricane. This provides the energy for the hurricane to intensify and even more severe hurricanes.⁵⁸⁷ Thus, greenhouse gases are known causes of hurricanes.⁵⁸⁶

618. Rather than amp up their fossil fuel production, Best Business Practices required the Oil Defendants to take any multiple steps to mitigate the damages caused by their fossil fuel products, and their own comments reveal an awareness of what those steps would have been. Puerto Rico's and the Municipalities of San Juan's losses and losses occurred, because the Defendants jointly refused to take those steps.

619. Further, Best Business Practices required the Oil Defendants to reasonably warn Puerto Rican and the Municipality of San Juan consumers, the public, and regulators of the danger known to them of the unabated consumption of their fossil fuel products, and their Best Business Practices required them to have taken reasonable step to limit the potential greenhouse gas emissions arising out of those products. Instead, the Defendants chose to increase fossil fuel production and use.

620. Under the guise of the GCC, the Oil Defendants were able to conspire with others to accomplish what they could not do on their own: discredit scientific consensus, spread deception, and hide behind trade groups and "green sheened" organizations.

621. At the height of their deceit, they sought to profit from the consumer's desire to use environmentally sound products. Thus, GCC's marketing campaign focused on concealing,

deceiving, discrediting, and/or misrepresenting information to support restricting consumption of (thus decreasing demand for) Defendants' fossil fuel products and took many forms.

⁵⁸⁶ Jennifer Wall, *What Are Hurricanes?*, NASA, (June 9, 2015), <https://www.nasa.gov/audience/forstudents/k-4/stories/nasa-knows/what-are-hurricanes-k4.html> (last visited Nov. 14, 2022).

⁵⁸⁷ EPA United States Environmental Protection Agency, *Endangerment and Cause or Contribute Findings for Greenhouse Gases under the Section 202(a) of the Clean Air Act*, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY <https://19janury2017snapshot.epa.gov/climatechange/endangerment-and-cause-or-contribute-findings-greenhouse-gases-under-section-202a.html> (last visited Nov. 15, 2022). These findings were signed by the Administrator on December 7, 2009. On December 15, 2009, the final findings were published in the Federal Register (www.regulations.gov) under Docket ID No. EPA-HQ-OAR-2009-0171. The final rule was effective January 14, 2010.

622. The GCC did so in violation of 15 U.S.C. §45. The Federal Trade Commission (FTC) first issued its "Green Guides" in 1992 to help marketers avoid making misleading environmental claims. The FTC Green Guides provide marketers with:

- a. general principles that apply to all environmental marketing claims;
- b. how consumers are likely to interpret particular claims, and how marketers can substantiate these claims; and
- c. how marketers can qualify their claims to avoid deceiving consumers.

623. The FT Green Guides, namely 16 C.F.R. Part 260.2, provides:

§260.2 Interpretation and substantiation of environmental marketing claims.

Section 5 of the FTC Act (15 U.S.C. 45) prohibits deceptive acts and practices in or affecting commerce. A representation, omission, or practice is deceptive if it is likely to mislead consumers acting reasonably under the circumstances and is material to consumers' decisions. See FTC Policy Statement on Deception, 103 FTC 174 (1983). To determine if an advertisement is deceptive, marketer must identify all express and implied claims that the advertisement reasonably conveys. Marketers must ensure that all reasonable interpretations of their claims are truthful, not misleading, and supported by a reasonable basis before they make the claims. See FTC Policy Statement Regarding Advertising Substantiation, 104 FTC 839 (1984). In the context of environmental marketing claims a reasonable basis often requires competent and reliable scientific evidence. Such evidence consists of tests, analyses, research, or studies that have been conducted and evaluated in an objective manner by qualified persons and are generally accepted in the profession to yield accurate and reliable results. Such evidence should be sufficient in quality and quantity based on standard generally accepted in the relevant scientific field, when considered in light of the entire body of relevant and reliable scientific evidence, to substantiate that each of the marketing claims is true.

624. The GC marketing campaign violated this "Green Guide" and enabled Defendants to accelerate their business practice of exploiting fossil fuel reserves and concurrently externalize the social and environmental costs of their fossil fuel products. These activities stood in direct contradiction to the Oil Defendants' prior recognition that the science of anthropogenic climate

change was manifest and that the greatest uncertainties involved responsive human behavior, not scientific understanding of the issue.

625. Even more treacherous proceeding gradually but in a harmful manner, between the late 1980's to 2015, more than half of all industrial CO2 emissions in history occurred. The annual rate of carbon dioxide emissions from production, consumption, and use of fossil fuels has increased by **more than 60% since 1990**. The Defendants are accountable for the dominant share which they produced after they knew the imminent damage it presented for Puerto Rico and the Municipality of San Juan.

626. Also, during this time, the waters of the Atlantic in hurricané season, August to October **warmed 2-4 °s**. As the Defendants predicted, the warmer Atlantic Ocean around Puerto Rico coupled with more water in the ocean and atmosphere proximately caused the devastation of the 2017 Atlantic Hurricane Season. A result which was reasonably foreseen by the "hub" (i.e., the Oil Defendants) decades before.

627. Through the Defendants' scheme, the GCC members repeatedly engaged in both material misrepresentations and fraudulent omissions regarding the hazardous effects of their fossil fuel products, and, while doing so, the Defendants produced and sold more and more of their products and prevented alternative fuel sources from competing with their price fixing.

628. The Municipality of San Juan reasonably and justifiably relied on the Defendants' misrepresentations. The Municipality's reliance was reasonable because Best Business Practices required the Defendants to have made reasonable warnings to consumers the public, and regulators of the dangers known to them of the unabated consumption of their fossil fuel products, to have taken reasonable steps to limit the potential greenhouse gas emissions arising out of those products, and to mitigate the damages caused by their fossil fuel products by permitting a fair marketplace for alternative fuel sources.

629. The Defendants' scheme allowed them to earn billions in sales of fossil fuels based upon fraudulent marketing, misrepresentations, and material omissions of known facts regarding their fossil fuel products and their effects.

630. As a direct result of the Defendants' fraudulent and deceptive marketing scheme and price fixing, they were able to extract billions of dollars of revenue from the unfettered sale of fossil fuel products, including significant revenue from the Municipality of San Juan and its citizens and residents.

631. As a direct and proximate result of the Municipality's reliance upon Defendants' misrepresentations the Municipality of San Juan and its citizens suffered damages in the form of hundreds of millions of dollars in losses and losses caused by the unfettered use of fossil fuel and Plaintiff reliance on those misrepresentations.

632. In recent year, consumers have become significantly more aware of and sensitive to the toxicity and impact of products on the environment. Consumers seek, and will pay a premium for, products that are safe and responsibly made, including products that will not negatively affect the environment. As well as products made to protect Global Warming.

633. As a result, demand has increased for "green" products that are naturally derived, environmentally sound, non-toxic, and do not harm global warming.

634. To unfairly compete with these "green" products, and in furtherance of the GCSCT Acton Plan, Defendants used third party promoters to state that their fossil fuel products were environmentally responsible, especially when viewed in the context of the additional representations and suggestive label imagery. They created a false premise that their fossil fuel products were natural, safer, and environmentally sound and **would not lead to oceanic and atmospheric warming.** The Defendants knew this was false.

635. By deceiving consumers about the nature, quality, and/or effects of their fossil fuel products as detailed herein, the Defendants were able to sell, or sell more of, or charge more for, fossil fuel products than if the fossil fuel products were accurately advertised or described.

636. The allocators and promoters as detailed in the GCSCT Action Plan marked fossil fuel products by undermining scientific consensus and changing public opinion, in violation of 15 U.S.C. §45, FTC rules 16 C.F.R Part 260 *et seq* (FTC Green Guides).

637. The FTC Green Guides include: 1) general principles that apply to all environmental marketing claims; 2) how consumers are likely to interpret particular claims and how marketers can substantiate these claims; and 3) how marketers can qualify their claims to avoid deceiving consumers. At all times relevant to this complaint, these Green Guides were in full force and effect.

638. The Defendants have and are promoting their fossil fuel products in violation of 15 U.S.C. §45, FTC's Green Guides in that the representations, omissions, or practices were and are deceptive because:

- a) the funding sources were not disclosed by the allocators, promoters, and marketers;
- b) the allocators, promoters, and marketers' representations on behalf of the GCC were like to mislead customers; and
- c) the omissions from the representations by the allocators, promoters, and marketers on behalf of the GCC were likely to mislead customers.

639. The Defendants' promotions and advertisements are deceptive, and the marketers did not identify all express and implied claims that their advertisement reasonably conveys.

640. The Defendants did not ensure that all reasonable interpretations of their claims are truthful, not misleading, and supported by a reasonable basis before they made their claims.

641. In violation of the FTC Green Guides, particularly 16 C.F.R. Part 260.2, the GCSCCT Action Plan set out its goals: make global warming into a "non-issue," defeat the Kyoto Protocol and ensure "there are no further initiatives to thwart the threat of climate change."⁵⁸⁸

642. The *GCSCCT* Action Plan allocated an initial budget of \$7.9 million, most of which would fund efforts to inject the Defendants' own science into the global climate debate.⁵⁸⁹ From 1998 to 2008, Exxon alone invested more than \$20 million to "think tanks" that dedicated a large amount of effort to questioning whether climate change was sound science.⁵⁹⁰

643. As of May 8, 2019 the Competitive Enterprise Institute, an allocator of the GCSCCT Action Plan, boasted 3590 blog posts, 97 events, 3840 media events and 1752 articles concerning climate change.⁵⁹¹

644. On its website, NIPCC "traces its beginnings to an informal meeting held in Milan, Italy in 2003 organized by Dr. S. Fred Singer and the Science & Environmental Policy Project (SEPP)."⁵⁹² Singer is SEPP's founder. SEPP was represented at the March 27 1998 workshop at API's headquarters, and he has been one of the Defendants' highly paid leaders of misinformation for more than 30 years.

645. Singer was paid as a consultant by Exxon, Shell, Chevron, BP, the American Petroleum Institute, and ALEC. Fred Singer is also prominently displayed on the current website of the Heartland Institute⁵⁹³ and is considered a senior fellow at climate change denial.

⁵⁸⁸ Joe Walker, *Global Climate Science Communications Action Plan*, GLOBAL CLIMATE SCIENCE COMMUNICATIONS TEAM (GCSCCT) (Apr. 3, 1998), <https://insideclimatenews.org/wp-content/uploads/2015/12/Global-Climate-Science-Communications-Plan-1998.pdf> (last visited Nov 15, 2022).

⁵⁸⁹ Id.

⁵⁹⁰ Hoggan & Littlemore, *supra* Footnote 452 on 82

⁵⁹¹ See, Competitive Enterprise Institute Website: <https://cei.org/search/site/climate%20change> (last visited Nov. 14, 2022).

⁵⁹² The Heartland Institute, *About the NIPCC*, NONGOVERNMENTAL INTERNATIONAL PANEL ON CLIMATE CHANGE, <http://climatechangereconsidered.org/about-the-nipcc/> (last visited Nov. 14, 2022).

⁵⁹³ The Heartland Institute, *S. FRED SINGER (1924 - 2020)*, THE HEARTLAND INSTITUTE, <https://www.heartland.org/about-us/who-we-are/s-fred-singer> (last visited Nov. 14, 2022).

646. The SEPP, which was also present at the GCSCT workshop and contributed to the Action Plan through Candace Crandall, wife of S. Fred Singer, developed the NIPCC with CO₂ and the Heartland Institute in 2003. Candace Crandall was listed as a "publicist" for a "science team" in 1992.

647. As of May 8, 2019, the Community for a Constructive Tomorrow (CFACT) which was present at the GTS meeting in April 1998 boasted hundreds of articles concerning climate change under the web address of www.climatedepot.com.

648. FACT has received funding from Exxon since 1998.

649. Among many other examples, in CFAT's "Climate Truth File 2016", *supra* CFACT claims:

- a. "The scientific reality is that on virtually every claim -from A to Z - the promoters of manmade climate fears are falling short or going in the opposite direction."
- b. "Global temperatures have been virtually flat for about 18 years according to satellite data, and peer-reviewed literature is now scaling back predictions of future warming."
- c. "Sea level rise rates have been steady for over a century, with recent deceleration."
- d. "Droughts and floods are neither historically unusual nor caused by mankind, and there is no evidence we are currently having any unusual weather."
- e. "Polar bears are doing fine, with their numbers way up since the 1960's."
- f. Carbon Dioxide -CO₂- is a harmless trace essential gas in the atmosphere that humans exhale from their mouth (after inhaling oxygen). [...] Carbon dioxide fertilizes algae, trees, and crop to provide food for humans and animals. We inhale oxygen and exhale CO₂. Slightly higher atmospheric CO₂ levels cannot possibly supplant the numerous complex and inter-connected forces that have always determined Earth's climate."
- g. "So-called 'hottest year' claims are just a fancy way of saying that the 'global wanning pause' has essentially continued."

- h. "Arctic ice changes are not 'proof' of man-made global warming, nor are they unprecedented, unusual, or cause for alarm, according to experts and multiple peer-reviewed studies."
- i. "Sea levels have been rising since the last ice age ended more than 10,000 years ago. There is currently no acceleration in sea level rise."
- j. "Many in the media repeatedly cite the various Climategate investigations as an 'exoneration' of the UN global warming scientists. But a closer look reveals that the investigations were nothing more than the global warming industry pretending to investigate itself, and of course finding no wrongdoing."
- k. "The reality is that politician who say government 'can do something about droughts, floods, sea levels, hurricanes, and tornadoes are practicing the equivalent of medieval witchcraft.'"⁵⁹⁴

650. In order to change public opinion and keep the Municipality of San Juan, of Puerto Rico fooled into purchasing their products, the Defendants individually and through their enterprise-in-fact, the GCC and its members, over the course of decades, used promoters, influencers and advertisers to promote climate change denial and undermine scientific consensus as a deceptive means to manipulate the Municipality of San Juan, and their citizens into continuing to purchase their products and avoid the energy source alternative. The Municipality of San Juan, and its citizens were unaware of the Defendants' actual scientific findings because the Defendants lied to them in violation of 15 U.S.C. §45, 15 U.S.C. §55, FTC Rules 16 CFR Part 255, 16 C.F.R. Part 260, among others, and the common law rule against fraud.

651. Defendants fraudulently concealed their knowledge that climate change would be accelerated through use of their product and not utilizing competing alternative non-carbon fuel sources.

⁵⁹⁴ Marc Morano, *Climate Truth File 2016, O M M J T I E E F O R A* CONSTRUCTIVE TOMORROW (2016), <https://web.archive.org/web/20161103191014/https://www.cfact.org/wp-content/uploads/2016/10/CFACT-Climate-Truth-File-2016.pdf> (last visited Nov. 14, 2022).

652. The allocators, promoters, and endorsers of the GCSCT Action Plan did intentionally hide the source of the funders to the public, including Puerto Rico and the Municipality of San Juan.

653. The omissions from the representations of the allocators, promoters, and endorsers of the GCSCT Action Plan misled the Municipality of San Juan, and its citizens and residents, and the Plaintiff relied on these misrepresentations.

654. The Defendants also misled the Plaintiff to take away market share from competing alternative energy products, thereby increasing their own sales and profits.

655. Defendants' failure to disclose such information induced the Plaintiff to enter into transactions for the continued and expanding use of fossil fuels and fossil fuel products, rather than the products of alternative energy sources.

656. Defendants' misrepresentations, false representations, concealment, and omissions concerning their goods and services were materially false statements that induced the Plaintiff to act or to refrain from acting and deceived the recipient Plaintiff in purchasing their products because the products did cause climate change that endangered the Plaintiff.

657. The material information Defendants failed to disclose was information Defendants knew at the time of their advertisement or sale of their fossil fuels and fossil fuel derived products that they substantially contributed to climate change and made devastating storms in 2017 far more likely and even imminent for Puerto Rico.

658. Defendants' deceptive trade practices occurred in the course of Defendants' business and was designed to maintain their energy monopoly and prevent market penetration by alternative energy sources.

659. Defendants' deceptive trade practices significantly impacted the Municipality of San Juan and who were its citizens, who were in 2017 and continue to be directly affected by Defendants' deceptive trade practices. The Plaintiff directly affected by the deceptive trade practices and had no

effective bargaining power. The deceptive practices have previously impacted the Municipality of San Juan, and the Defendants' deceptive trade still are impacting the energy purchase choices of the Plaintiff.

660. Defendants engaged in bad faith conduct in their deceptive trade practices meaning they acted fraudulently, willfully, knowingly, and/or intentionally, causing damages and losses to the Municipality of San Juan.

661. Municipality of San Juan including the herein plaintiff Municipality of San Juan who were the targets of these deceptive trade practices were in 2017 and are, actual and potential consumers of Defendant ' goods or services. They purchased the Defendants products because of the deceptive trade practices.

662. The Municipality of San Juan and its citizens suffered in the course of their business as a result of such deceptive trade practices. Defendants' deceptive trade practices directly and proximately caused actual damages and losses to the Plaintiff.

663. The Defendants knew that their acts, omissions and deceit of the consumers represented by the Plaintiff as detailed in this Count, would, and did, prevent the Plaintiff from having the knowledge that it needed to adequately prepare for the "hotter and wetter" monster storms that pummeled the Island in 2017. The Defendants understood through their research and unique expertise that the island's position in the North Atlantic, its history of storms, the exceptionally warm surrounding sea, plus the rise in the sea level, substantially caused by their acts and hidden from the Plaintiff, would inevitably result in the severe storm disasters of 2017 and cause the Plaintiff billions of dollars in damages and losses, past and present. The Defendants fraudulently concealed their knowledge that climate change would accelerate because they sought to hide their conspiracy and complicity from the Plaintiff.

664. Wherefore, the Municipality of San Juan seeks punitive and compensatory damages in excess of \$75,000 from all Defendants, jointly and severally.

665. Plaintiff realleges and reaffirms each and every allegation set forth in all the preceding

paragraphs as if fully stated herein.

B. Second Cause of Action: Conspiracy to Commit Common Law Consumer Fraud and Deceptive Businesses Practices

666. Defendants together through their acts and omissions described above, and through the acts of other subsidiaries, joint ventures and affiliates not named as Defendants, conspired to perform, and did perform conduct which caused and/or contributed to alteration of the climate and resulting damages and losses to the Municipality of San Juan and its citizens and residents in September 2017 and since.

667. The Defendants and their co-conspirators jointly targeted their fossil fuel activities at the Municipality of San Juan and its citizens and residents, including through the co-conspirators based in, doing business in, and/or incorporated in Puerto Rico.

668. The Defendants and their co-conspirators had concerted goals to maintain and/or to increase fossil fuel usage at levels they knew were sufficient to alter the climate, and to fail to disclose material information concerning their fossil fuel activities-specifically including, the damage to the climate that the use of their good and services would cause- o as to maintain their energy monopoly, prevent market entry by alternative energy sources, and increase their profits from the sale of their fossil fuel products and services in spite of the increasing alteration of the climate.

669. The Defendants and their co-conspirators had a meeting of the minds to accomplish their goals to maintain and/or to increase fossil fuel usage at levels they knew would alter the climate, and to withhold material information concerning the continuing and increasing harm to the Plaintiff caused by their fossil fuel activities, specifically concerning the acceleration of climate

change that the use of their goods and services would cause and the impacts of the use of their fossil fuels and fossil fuel-derived products, such as the plastics they produced, and services on the Municipality of San Juan and its citizens and residents.

670. The Defendants and their co-conspirators acted to accomplish their goal to maintain and/or to increase fossil fuel usage through unlawful means, namely through misrepresentations, false representations, fraudulent concealment, and omissions concerning their goods and services which were materially false statements that induced the Plaintiff to purchase their goods and service. The material information Defendants failed to disclose was information Defendants knew at the time of their advertisement promotion, and sale of their fossil fuels and fossil fuel-derived products was false and would maintain the Defendants monopoly on energy sales and unfairly keep the alternative fuel sources from the marketplace.

671. The Defendants' conduct, as well as that of the other co-conspirators, was and is negligent, reckless, and unlawful because they knew or should have known their actions were substantially certain to interfere with the Municipality of San Juan's property rights and interests. Defendants have known for decades that their conduct was certain to alter or contribute to alterations in the climate and exacerbate climate change, thereby likely harming the Plaintiff.

672. The Defendants' and co-conspirators' concerted unlawful actions performed to accomplish their goal were and are a direct and proximate cause of injurious damages and losses to the Municipality of San Juan and its citizens and residents.

673. The Municipality of San Juan, and its citizens and residents reasonably and justifiably relied on the Defendants' and co-conspirators' misrepresentations. The Municipality's reliance was reasonable because Best Business Practices required the Defendants and their co-conspirators to warn the Plaintiff consumers, the public, and regulators of the dangers uniquely known to them of the unabated consumption of their fossil fuel products, to have taken steps to limit the potential greenhouse gas emissions generated by those products, and to take any of a number of steps to

mitigate the damages caused by their fossil fuel products before September 2017.

674. As a direct and proximate result of the Plaintiff reliance upon Defendants' and their co-conspirators' misrepresentations, the Municipality of San Juan, suffered damages in the form of hundreds of millions of dollars in injury caused by the unfettered promotion, sale, and use of the Defendants' fossil fuel.

675. The Defendants knew that their acts, omissions, and deceit of the Plaintiff as detailed in this Complaint, would, and did, prevent the Plaintiff from having the knowledge that it needed to adequately prepare for the "hotter and wetter" storms that pummeled the Island in 2017. The Defendants understood through their research and special expertise that the island's position in the North Atlantic, its history of storms, the exceptionally warm surrounding sea, plus the rise in the sea level, substantially caused by their acts and hidden from the Plaintiff, would inevitably result in the type of severe storm disasters that occurred in 2017 and cause the Municipality of San Juan, and its citizens and residents to incur billions of dollars in damages.

676. Wherefore, the Municipality of San Juan seeks punitive and compensatory damages in excess of \$75,000 from all Defendants, jointly and severally.

C. Third Cause of Action: Rule 7 of Puerto Rico Rules Against Misleading Practices and Advertisements

677. Plaintiff realleges and reaffirms each and every allegation set forth in all the preceding paragraphs as if fully stated herein.

678. Defendants engaged in and caused others to engage in deceptive trade practices in Puerto Rico.

679. Puerto Rico law prohibits false or misleading ads or practices under Rule 7 (A) and (B) which provides:

- a. False or misleading ads or practices are banned.

b. The term misleading practices includes, among others, the following cases:

(1) Representing or expressing an act or an offer if such declaration is misleading or false, or has the tendency or capacity of creating confusion, or does not have the sufficient information to support itself or hides a relevant fact.

680. Defendants' deceptive trade practices included, but were not limited to:

- a) knowingly making false representations as to the characteristics, ingredients use, or benefits of their fossil fuel activities;
- b) failing to disclose material information concerning their goods and services, which information was known at the time of an advertisement or sale, including: the true cost and harms from the use of their products; the damage to the climate that the use of their goods and services would cause; and the impacts of the use of their fossil fuels and fossil fuel-derived products and services on Puerto Rico's property, social services, health, education, infrastructure, and immigration; and
- c) fraudulently concealing their knowledge that the purchase of goods and services would accelerate climate change.

681. Defendants' failure to disclose such information was intended to induce the Plaintiff to enter into transactions for the continued and expanding use of fossil fuel and fossil fuel products.

682. Defendants' misrepresentations, false representations, fraudulent concealment, and omissions concerning their goods and services were materially false statements that induced the Plaintiff to whom they were made to act or to refrain from acting had the capacity to deceive the Plaintiff and did so.

683. The material information Defendants failed to disclose was information Defendants knew at the time of their advertisement or sale of their fossil fuels and fossil fuel derived products.

684. Defendants' deceptive trade practices occurred in the course of Defendants' business and involved the maintenance of their energy monopoly and price fixing to block competitors from entering the marketplace.

685. Defendants' deceptive trade practices significantly impacted the Municipality of San Juan and its citizens and residents, and they continue to be directly affected by Defendants' deceptive trade practices. The

Plaintiff was directly affected by the deceptive trade practices and had no bargaining power.

686. Defendants engaged in bad faith conduct in their deceptive trade practices meaning they acted fraudulently, willfully, knowingly, and/or intentionally, causing damages and losses to the Plaintiff.

687. Plaintiff reasonably and justifiably relied on the Defendants' and co-conspirators' misrepresentations. The Municipality of San Juan's reliance was reasonable because Best Business Practices required the Defendants and their co-conspirators to make warnings to consumers, the public, and regulators of the dangers known to them of the unabated consumption of their fossil fuel products, to have taken steps to limit the potential greenhouse gas emissions arising out of those products and take steps to mitigate the damages caused by the sale and use of their fossil fuel products.

688. As a direct and proximate result of the Municipality's reliance upon Defendants' and their co-conspirators' misrepresentations, Plaintiff suffered damages in the form of hundreds of millions of dollars in losses caused by the unfettered sale of fossil fuels by the Defendants and its impact on the climate of the Municipality of San Juan.

689. Plaintiff who was the target of these deceptive trade practices was in 2017, and is now actual and potential consumer of Defendants' good or services.

690. The Municipality of San Juan and its citizens and residents were injured in the course of their business as a result of such deceptive trade practices. Defendants' deceptive trade practices directly and proximately caused actual damages and losses to the Plaintiff and its citizens and residents which were the direct and proximate result of Defendants' deceptive trade practices.

691. The Defendants knew that their acts, omissions, and deceit of the Plaintiff as detailed in this Complaint, would, and did, prevent the Plaintiff from having the knowledge it needed to adequately prepare for the "hotter and wetter" storms that pummeled the Island in 2017. The Defendants understood through their research and unique expertise that the island's position in the North Atlantic, its history of storms, the exceptionally warm surrounding sea plus the rise in the

sea level, substantially caused by their acts and hidden from the Plaintiff, would inevitably result in the type of severe storm disaster of September 2017 and cause the Plaintiff to incur billions of dollars in damages and losses.

692. Wherefore, the Municipality of San Juan seeks punitive and compensatory damages in excess of \$75,000 from all Defendants, jointly and severally.

D. Fourth Cause of Action: Racketeering Influenced and Corrupt Organizations Act, 18 U.S.C. § 1962(C)

693: Plaintiff reallege and reaffirm each and every allegation set forth in all the preceding paragraphs as if fully stated herein.

694. The GCC is an ongoing organization of the Defendants and their associates functioning as a continuing unit to fund advertising campaigns and distribute material, via mail and wire, to generate public inaction around the climate debate, despite the Defendants' knowledge that the products they marketed and sold in Puerto Rico were substantially contributing factors to climate change and the concomitant near certainty that Puerto Rico would be ravaged by dangerous, deadly storms.

695. Defendants, conducted and participated for decades in the conduct of the enterprise's affairs, and continue to conduct and participate, through a pattern of racketeering activity for the unlawful purpose of intentionally defrauding the Plaintiff, persons of ordinary prudence and comprehension, into accepting a substantial risk that it otherwise would not have taken - purchasing the Defendants' carbon-based products - by and through the following predicate acts and material misrepresentations, including, but not limited to:

- a. In 1992, the Defendants, present or by their predecessors in interest, reorganized an entity called the Global Climate Coalition which purpose was to represent the interests of the major producers and users of fossil fuels to oppose regulation to mitigate Defendants, and to publicly challenge the science behind climate change while hiding their knowledge which was contrary to their public position.
- b. From 1992-1998, the Defendants caused the publication of a series of newspaper articles undermining the science of global warming which they knew to be false.

- c. At a workshop on or about March 27, 1998, the following persons met to discuss an action plan to defeat the Kyoto agreement and greenhouse gas regulation, namely: A. John Adams, John Adams Associates; Candace Crandall, Science and Environmental Policy Project (Fred Singer); David Rothbard, Committee for A Constructive Tomorrow; Jeffrey Salmon, The Marshall Institute; Lee Garrigan, Environmental Issues Council; Lynn Bouchey and Myron Ebell, Frontiers of Freedom; Peter Cleary, Americans for Tax Reform; Randy Randol Exxon Corp.; Robert Gehri, The Southern Company; Sharon Kneiss, Chevron Corp; Steve Milloy, The Advancement of Sound Science Coalition and Joseph Walker, American Petroleum Institute.
- d. Following this in person meeting, a written memorandum of the meeting was distributed via the United States wire by e-mail on April 3, 1998 entitled: the "Global Science Communication Team Action Plan."
- e. The Global Science Communication Team Action Plan was a plan to undermine the science behind climate change which the members knew to be untrue in a coordinated and concerted effort to deceive and profit from the deception and sell their consumer products and maintain their energy monopoly.
- f. The Global Science Communication Team Action Plan developed an organized structure to have false information flooding the United States mail and wire (internet and newspapers), that their products did not contribute to climate change, that the phenomena of climate change or global warming was not true, was a hoax, that there was no scientific consensus; and there was no threat of global warming, though the Defendants knew all this to be false.
- g. The Global Science Communication Team Action Plan developed an organized structure and hierarchy, funders, and allocators to undermine scientific consensus and change public opinion on the subject of climate change, in an effort to keep their products useful, maintain their energy monopoly, prevent non-carbon energy alternatives from entering the marketplace, their assets valuable, and the public continuing to purchase their products, all which affected interstate commerce and for which the Defendants were greatly enriched.
- h. From 1998 to present date, the organizers have funded and supported various groups to perpetuate their pattern of deception in order to increase profits, expand their business, fix prices, defeat competitors and continue to deceive the Plaintiff.

696. In addition to the predicate acts and material misrepresentations described above, pursuant to and in furtherance of their fraudulent scheme, Defendants have conducted and participated, and continue to conduct and participate in the affair of the enterprise through a

pattern of racketeering activity that includes multiple related acts of mail and wire fraud indictable under 18 U.S.C. §1341 (mail fraud), 18 U.S.C. §1343 (wire fraud), as further detailed in Plaintiff's **RICO Case Statement** in compliance with this Court's Standing Order and incorporated herein. The numerous predicate acts are related and pose a threat of continued criminal activity.

697. The acts listed individually on Plaintiff's **RICO Case Statement** constitute a continuous pattern of racketeering activity pursuant to 18 U.S.C. §1961(5).

698. The Defendants have directly and indirectly conducted and participated in the conduct of the enterprise's affairs through the pattern of racketeering and activity described above, in violation of 18 U.S.C. §1962(c).

699. As a direct and proximate result of Defendants' racketeering activities and violations of 18 U.S.C. §1962(c), and by rea on thereof, Plaintiff has been injured in its business, property, and basic services.

700. Plaintiff's claim pursuant to this RICO count from the Defendants, namely:

- a. Infrastructure losses and cost of repair of public water system, school buildings, communication, transportation, public road, bridges, municipal transit systems, bridges, airports, ports, energy system, public building, roads, and water;
- b. Costs for providing healthcare, medical care, custodial care and housing;
- c. Estimates for repairs to all sidewalks, public roads and bridges, (emergency and permanent), municipal transit systems, Ports in San Juan, San Juan bus system, airports;
- d. Costs of training emergency and/or first responders;
- e. Costs associated with providing police officers, firefighters, and emergency and/or first responders;
- f. Costs for providing mental-health services, treatment, counseling, rehabilitation services;
- g) Loss of tax revenue due to emigration;
- h) Damage for all buildings and homes in the Municipality of San Juan, and its citizens and residents;

- i) Loss of tourism revenue;
- j) Losses caused by diminished property values;
- k) Value of destroyed natural resources, including trees, crops and vegetation;
- l) Value of livestock;
- m) Cost to replace endangered species, including coral, fish, frogs, turtles, and all other animals and vegetation killed;
- n) Economic loss to businesses within the Municipality of San Juan;
- o) Infrastructure improvements to the Municipality of San Juan to withstand climate change effects; as well as damages to the Municipality of San Juan its citizens and residents as a consequence of Coastal Erosion, and;
- p) Other related economic costs to the Municipality of San Juan.

701. Plaintiff seeks relief not only for its own damages to business and property but also for others including its citizens and residents to pursue damages in their stead under civil RICO violations of 18 U.S.C. §1962(a) and 1962(d) and 1964(c) in this Complaint, excepting therefrom the judge and his or her immediate family.

702. The Defendants knew that their predicate acts, material misrepresentations, fraudulent concealments, omissions and deceit of the Plaintiff as detailed in this Count, would, and did, cause the Plaintiff and its citizens and residents to face an unknown substantial risk that they otherwise would not have taken, by purchasing the Defendants' carbon-based products, and prevented the Plaintiff and its citizens and residents from having the knowledge they needed to adequately prepare for the "hotter and wetter" storms that pummeled Puerto Rico in 2017, causing damage and losses at the time and ongoing. The Defendants understood through their early research, and unique expertise, that they had the capability to prevent or delay violent storms, but that the Island's position in the North Atlantic, its history of storms the exceptionally warm surrounding sea plus the rise in the sea level, substantially caused by their acts and hidden from the Plaintiff, would inevitably re ult

in the type of severe storm disasters that occurred in 2017. These storms would cause the consumers represented by the Plaintiff as well as the Plaintiff's citizens and residents to incur billions of dollars in damages, including to business and property. Had the Municipality of San Juan known that the sale and use of the Defendants' products would cause the more frequent, hotter, and wetter storms, it would not have accepted the substantial risk caused by the Defendants by purchasing those products and would have appropriately prepared for the "hotter and wetter" storms that pummeled Puerto Rico in 2017. This preparation would have substantially reduced the injuries, deaths, and losses of the Plaintiff.

703. Wherefore, Plaintiff, individually, and on behalf of its citizens and residents, bring this claim against Defendants individually and by and through their associates accomplices, mouthpieces, funders, ghostwriters, scientists, lobbying groups, agents, and other affiliated entities, who organized as a continuing unit to defraud the public and consumers, including the Plaintiff and its citizens and residents, persons of ordinary prudence and comprehension, concerning their goods and services, in an effort to earn income from the enterprise which affected interstate commerce and for which the Plaintiff and its citizens and residents suffered direct and foreseeable injury from the predicate acts and material misrepresentations. Accordingly, the Plaintiff requests that this Court enter judgment against the Defendants for damages to the Municipality of San Juan, treble damages, and attorneys' fees and costs as allowed for by statute.

E. Fifth Cause of Action: Racketeer Influenced and Corrupt Organizations Act, 18 U.S.C. § 1962(a)

704. Plaintiff realleges and reaffirms each and every allegation set forth in all the preceding paragraphs as if fully stated herein.

705. The Defendants used and invested income that was derived from a pattern of racketeering activity to operate an enterprise which affected interstate commerce. Specifically, the Defendants, all interdependent on each other for the operation of their industry monopoly all used and invested income derived from the pattern of racketeering activity to fund and support the GC enterprise

to deceive the public, investors, regulators, and the Plaintiff and its citizens and residents, persons of ordinary prudence and comprehension, that their products and business model did not cause climate change, and/or that climate change was not a real or a threat to the public, including to the Plaintiff. The Defendants fraudulently concealed their knowledge that climate change would accelerate, subsequently increasing the rain and wind in Hurricane Alley and causing the storms of September 2017.

706. The Defendant's conduct constitutes a pattern of continuous racketeering activity pursuant to 18 U.S. §1961(5).

707. As a direct and proximate result of the Defendants' racketeering activities and violations of 18 U.S.C. §1962(a), and by reason thereof, Plaintiff has been damaged in its business and property as stated herein.

708. Plaintiff's claim pursuant to this RICO count from the Defendants, namely:

- a. Infrastructure losses and cost of repair of public water system, school buildings, communication, transportation, public road, bridges, municipal transit systems, bridges, airports, ports, energy system, public building, roads, and water;
- b. Costs for providing healthcare, medical, custodial care, and housing;
- c. Estimates for repairs to all sidewalks, public roads, and bridges, (emergency and permanent), municipal transit systems, Ports in San Juan, San Juan's bus system, airports;
- d. Costs of training emergency and/or first responder;
- e. Costs associated with providing police officers, firefighters, and emergency and/or first responders;
- f. Costs for providing mental-health service, treatment, counseling, rehabilitation services;
- g. Loss of tax revenue due to emigration;
- h. Damage for all buildings and homes in the Municipality of San Juan and its citizens and residents;
- i. Loss of tourism revenue;

- j. Losses caused by diminished property values;
- k. Value of destroyed natural resources: trees, crops and vegetation,
- l. Value of livestock.
- m. Cost to replace endangered species, including coral, fish, frogs, turtles, and all other animals and vegetation killed;
- n. Economic loss to businesses within the Municipality of San Juan;
- o. Infrastructure improvements to the Municipality of San Juan to withstand climate change effects; as well as damages to the Municipality of San Juan, its citizens, and residents as a consequence of Coastal Erosion; and
- p. Other related economic costs to the Municipality of San Juan.

709. Plaintiff seeks relief not only for its own damages to business and property, but also for the its citizens and residents under civil RICO violations of 18 U.S.C. §1962(a) in this Complaint, excepting therefrom the judge and his or her immediate family.

710. The Defendants knew that their predicate acts, material misrepresentations, fraudulent concealments, omissions and deceit of the Plaintiff and its citizens and residents as detailed in this Count, would, and did, cause the Plaintiff and its citizens and residents to accept a substantial risk that they otherwise would not have taken, by purchasing the Defendants' carbon-based products, and prevent the Plaintiff, its citizens and residents from having the knowledge that they needed to adequately prepare for the "hotter and wetter" storms that pummeled the Island in 2017. The Defendants understood through their early research and unique expertise that the island's position in the North Atlantic, its history of storms, the exceptionally warm surrounding sea, plus the rise in the sea level, substantially caused by their acts and hidden from the Plaintiff, its citizens and residents, would inevitably result in the type of severe storm disasters that occurred in 2017 and cause the Plaintiff its citizens and residents to incur and continue to incur billions of dollars in damages, including to business, property, and basic services provided by the Municipality of San Juan. The Defendants fraudulently concealed their knowledge that their products would accelerate

climate change, subsequently increasing the magnitude of rain and wind in Hurricane Alley, where Plaintiff citizens reside. Had the Plaintiff known that the Defendants' products were causing more frequent, hotter, and wetter storms, it would not have accepted the substantial risk by purchasing Defendants' products and would have appropriately prepared for the "hotter and wetter" storms that pummeled Puerto Rico in 2017.

711. Wherefore, Plaintiff, individually and on behalf of its citizens and residents brings this claim against Defendants individually and by and through their associates, accomplices, mouthpieces, funders, ghostwriters, scientists, lobbying groups, agents, and other affiliated entities, who organized as a continuing unit to defraud the public and consumers, including the Plaintiff and its citizens and residents, persons of ordinary prudence and comprehension, concerning their goods and services in an effort to earn income from the enterprise which affected interstate commerce and for which the Plaintiff and its citizens and residents suffered and continue to suffer direct and foreseeable losses from the predicate acts and requests that this Court enter judgment against the Defendants for damages to the Municipality of San Juan, for damages, treble damages, and attorneys' fees and costs as allowed for by statute.

F. Sixth Cause of Action: Racketeer Influenced and Corrupt Organizations Act, 18 U.S.C. § 1962(b)

712. Plaintiff realleges and reaffirms each and every allegation set forth in all the preceding paragraphs as if fully stated herein.

713. The Defendants acquired and maintained interests in and control of the enterprise through a pattern of racketeering activity. Specifically, the Defendants were able to profit and invest in their GCC enterprise, create a monopoly, and acquire more assets including patents, intellectual property, additional reserves, and other investment income all related to the furtherance of the maintained interests in the enterprise through a pattern of racketeering activity.

714. The Defendants' conduct constitutes a pattern of racketeering activity pursuant to 18 U.S.C. §1961(5).

715. The Defendant have directly and indirectly acquired and maintained interests in and control of the GCC enterprise through the pattern of racketeering activity described above, in violation of 18 U.S. §1962(b).

716. As direct and proximate result of Count III Defendant(s)' racketeering activities and violations of 18 U.S.C. §1962(b), and by reason thereof, Plaintiff has been injured in its business and property as stated herein.

717. Plaintiff claim pursuant to this RICO count from the Defendants, namely:

- a. Infrastructure losses and cost of repair of public water system, school buildings, communication, transportation, public road, bridges, municipal transit systems, bridges, airports, ports, energy system, public building, roads, and water;
- b. Costs for providing healthcare, medical care, custodial care, and housing;
- c. Estimates for repairs to all sidewalks, public roads, and bridges, (emergency and permanent), municipal transit systems, Ports in San Juan, and San Juan bus system and airports;
- d. Costs of training emergency and/or first responders;
- e. Costs associated with providing police officers, firefighters, and emergency and/or first responders;
- f. Costs for providing mental-health services, treatment, counseling, rehabilitation services;
- g. Loss of tax revenue due to emigration;
- h. Damage for all buildings and homes in the Municipality of San Juan, its citizens, and residents;
- i. Loss of tourism revenue;
- j. Losses caused by diminished property values;
- k. Value of destroyed natural resources, including trees, crops, and vegetation;
- l. Value of livestock;
- m. Cost to replace endangered species, including coral, fish, frogs, turtles and all other animals and vegetation killed;

- n. Economic loss to businesses within the Municipality of San Juan;
- o. Infrastructure improvements to the Municipality of San Juan to withstand climate change effects; and
- p. Other related economic costs to the Municipality of San Juan.

718. Plaintiff seeks relief for all of the Municipality of San Juan and its citizens and residents, to pursue damages under civil RICO violations of 18 U.S.C. §1962(b) in this Complaint, excepting therefrom the judge and his or her immediate family.

719. The Defendants knew that their predicate acts, material misrepresentations, fraudulent concealments, omissions, and deceit of the Plaintiff and its citizens and residents as detailed in this Count, would, and did, cause the Plaintiff its citizens and residents to accept a substantial risk that they otherwise would not have taken by purchasing the Defendants' carbon-based products, and prevent the consumers represented by the Plaintiff from having the knowledge that they needed to adequately prepare for the "hotter and wetter" storms that pummeled the Island in 2017. The Defendants understood through early research and unique expertise that the island's position in the North Atlantic, its history of storm , the exceptionally warm surrounding sea, plus the rise in the sea level), substantially caused by their acts and hidden from the Plaintiff and its citizens and residents would inevitably result in the type of severe storm disasters that occurred in 2017 and cause the Plaintiff to incur billions of dollars in damages, including to business, property, and basic services. Had the Municipality of San Juan known that the Defendants' products would cause more frequent, hotter, and wetter storms, they would not have accepted the substantial risk by purchasing those products and would have appropriately prepared for the "hotter and wetter" storms that pummeled Puerto Rico in 2017. The Defendants fraudulently concealed their knowledge that their products accelerated climate, subsequently increasing the magnitude of rain and wind in Hurricane Alley.

720. Wherefore, Plaintiff, individually, and on behalf of its citizens and residents brings this claim against Defendants individually and by and through their associates, accomplices,

mouthpieces, funders, ghostwriters, scientists, lobbying groups, agents, and other affiliated entities, who organized as a continuing unit to defraud the public and consumers, including the Plaintiff and its citizens and residents, persons of ordinary prudence and comprehension, concerning their goods and services, in an effort to earn income from the enterprise which affected interstate commerce and for which the Plaintiff suffered direct and foreseeable injury from the predicate acts and requests that this Court enter judgment against the Defendants for damages to the Municipality of San Juan, for damages, treble damages, and attorneys' fees and costs as allowed for by statute.

G. Seventh Cause of Action: Racketeer Influenced and Corrupt Organizations Act, 18 U.S.C. § 1962(d)

721. Plaintiff realleges and reaffirms each and every allegation set forth in all the preceding paragraphs as if fully stated herein.

722. Defendants agreed and conspired to violate 18 U.S.C. §1962(a), (b) and (c). Specifically, the Defendants formulated, funded, and supported the GCC enterprise to deceive the public, investors, regulators, Plaintiff and its citizens and residents, persons of ordinary prudence and comprehension, that their products and business model did not accelerate climate change, and/or that climate change was not real or a threat to the public, including the Municipality of San Juan, and its citizens and residents. Internally, the Defendants had an extensive and unique understanding that their products proximately caused more CO₂ in the atmosphere and predicted with precision forty years ago that their business model would cause the catastrophic effects of climate change to islands such as Puerto Rico to occur much earlier than would have occurred if the Defendants had told the truth about the effect of their products on climate change, not sought to maintain their energy monopoly, fostered alternative energy sources and supported regulations to reduce Puerto Rico's and the Municipality of San Juan's dependence on fossil fuels. Externally, the Defendants conspired and concocted a different story. Despite their internal knowledge, Defendants marketed false,

misleading public statements, through mail and wire, concealed, suppressed internal research data from the public and investors which proximately caused the damage to the Municipality of San Juan, as alleged herein. Defendants fraudulently concealed their knowledge that climate change would accelerate, subsequently increasing rain and wind in Hurricane Alley. Despite their internal knowledge, when the public was informed what they already knew, they chose to hijack science and falsely denied, distorted, and minimized the significant adverse consequences of their products, all to (1) use or invest income that is derived from a pattern of racketeering activity in an interstate enterprise (§1962(a)); (2) acquire or maintain interests in the enterprise through a pattern of racketeering activity (§1962(b)); and (3) conduct and participate in the conduct of the affairs of the enterprise through a pattern of racketeering activity (§1962(c)).

723. The Defendants have intentionally conspired and agreed to directly and indirectly use or invest income that is derived from a pattern of racketeering activity in an interstate enterprise, acquire or maintain interests in the enterprise through a pattern of racketeering activity, and conduct and participate in the conduct of the affairs of the enterprise through a pattern of racketeering activity. The Defendants knew that their predicate acts and material misrepresentations were part of a pattern of racketeering activity and agreed to the commission of those acts to further the schemes described above. That conduct constitutes a conspiracy to violate 18 U.S. §1962(a), (b) and (c), in violation of 18 U.S.C. §1962(d).

724. As direct and proximate result of the Defendants' conspiracy, the overt acts taken in furtherance of that conspiracy, and violations of 18 U.S.C. §1962(d), Plaintiff has been injured in its business, property, and basic services as stated herein.

725. Plaintiff claims pursuant to this RICO count from the Defendants, namely:

- a. Infrastructure losses and cost of repair of public water system, school buildings, communication, transportation, public road, bridges, municipal transit systems, bridges, airports, ports, energy system, public building, roads, and water;
- b. Costs for providing healthcare, medical care, custodial care and housing;

- c. Estimates for repairs to all sidewalks, public roads and bridges, (emergency and permanent), municipal transit systems, Ports in San Juan, San Juan bus system, airports;
- d. Costs of training emergency and/or first responders;
- e. Costs associated with providing police officers, firefighters, and emergency and/or first responders;
- f. Costs for providing mental-health services, treatment, counseling, rehabilitation services;
- g. Loss of tax revenue due to emigration;
- h. Damage for all buildings and homes in the Municipality of San Juan, its citizens, and residents;
- i. Loss of tourism revenue;
- j. Losses caused by diminished property values;
- k. Value of destroyed natural resources, including trees, crops and vegetation;
- l) Value of live tock;
- m) Cost to replace endangered species, including coral, fish, frogs, turtles and all other animals and vegetation killed;
- n) Economic loss to businesses within the Municipality of San Juan its citizens and residents;
- o) Infrastructure improvements to the Municipality of San Juan, its citizens, and residents to withstand climate change effects; as well as for damages to the Municipality of Sn Juan, its citizens, and residents as a consequence of Coastal Erosion; and
- p) Other related economic costs to the Municipality of San Juan.

726. Plaintiff seeks relief not only for its own damages to business and property, but also for all its citizens and residents to pursue damages in their stead under civil RICO violations of 18 U.S. §1962(d) in this Complaint, excepting therefrom the judge and his or her immediate family.

727. The Defendants knew that their predicate acts, material misrepresentations, fraudulent concealments, omissions and deceit of the Plaintiff and its citizens and residents as detailed in this

Count, would, and did, cause the Plaintiff to accept an unnecessary, substantial risk that it otherwise would not have taken, by purchasing the Defendants' carbon-based products, and prevent the Plaintiff and its citizens and residents from having the knowledge that they needed to adequately prepare for the "hotter and wetter" storms that pummeled the Island in 2017. The Defendants understood through their research and unique expertise that the island's position in the North Atlantic, its history of storms, the exceptionally warm surrounding sea, plus the rise in the sea level, substantially caused by their acts and hidden from the Plaintiff would inevitably result in the type of severe storm disasters that occurred in 2017 and cause the Plaintiff and its citizens and residents to incur billions of dollars in damages including to business, property, and basic services. The Defendants fraudulently concealed their knowledge that climate change would accelerate, subsequently increasing the magnitude of rain and wind in Hurricane Alley. Had the Municipality of San Juan its citizens and residents known that the Defendants' products would cause more frequent, hotter, and wetter storms, the Municipality of San Juan its citizens and residents would not have accepted the substantial risk by purchasing those products and would have appropriately prepared for the "hotter and wetter" monster storms that pummeled Puerto Rico in 2017.

728. Wherefore, Plaintiff, on behalf of itself as its citizens and residents brings this claim against Defendant individually and by and through their associates, accomplices, mouthpieces, funders ghostwriter , scientists, lobbying groups, agents, and other affiliated entities, who organized as a continuing unit to defraud the public and consumers, including the Plaintiff and its citizens and residents, persons of ordinary prudence and comprehension, concerning their goods and services, in an effort to earn income from the enterprise which affected interstate commerce and for which the Plaintiff suffered direct and foreseeable injury from the predicate acts and requests that this Court enter judgment against the Defendants for damages, past and ongoing, to the Municipality of San Juan its citizens and residents and its consumers for damages, treble damages, and attorneys' fees and costs as allowed for by statute.

H. Eighth Cause of Action: Antitrust pursuant to 15 U.S.C. §1 et seq.

729. Plaintiff realleges and reaffirms each and every allegation set forth in all the preceding paragraphs as if fully stated herein.

730. Defendants, separate economic actors, and competitors who have substantial market power in the energy market, and each of them, consciously committed to a common scheme designed to restrain trade.

731. At a time when the Defendants knew climate change was a threat to the Municipality of San Juan, its citizens and residents, businesses and economy, the Defendants engaged in a conspiracy in which they overtly acted to form an enterprise with an anticompetitive purpose, to suppress competition in the market, to benefit their economic interests.

732. The Defendants' agreement deprived the marketplace of independent centers of decision-making, of diversity of entrepreneurial interests, and thus of actual and potential competition. The Defendants increased production to maintain their energy monopoly, fix prices, and increase obstacles for competitive entry into the market by alternative energy companies. The Defendants' agreement had a substantially adverse effect on competition in Puerto Rico because, had the Plaintiff and its citizens and residents known that their purchase and use of the Defendants' products would lead to increasingly intense hurricanes as a result of the acceleration of climate change, Plaintiff would have substantially reduced its purchases of the Defendants' products and instead implemented alternative, non-carbon-based energy sources, such as wind and solar energy, many years ago. This would have prevented the storms of September 2017.

733. The anticompetitive conduct described herein, the Defendants' unlawful entry into a conspiracy to restrain trade or commerce, has damaged the Plaintiff and its citizens and residents, and is in violation of 15 U.S.C. §1 et seq.

734. The Plaintiff brings this count pursuant to 15 U.S.C. §15 and for all applicable subsections thereof on behalf of itself and its citizens and residents to secure monetary relief as

provided in this section for injury sustained by the Defendants to such natural persons to their property by reason of any violation of sections 1 to 7 of 15 U.S.C. §1 et seq.

735. The Defendants knew that their acts, omissions, and deceit of the Plaintiff and its citizens and residents as detailed in this Court would, and did, prevent the Municipality of San Juan, represented by the Plaintiff from having the knowledge that it needed to adequately prepare for the "hotter and wetter" storms that pummeled the Island in 2017. The Defendants understood through their research and special expertise that the island's position in the North Atlantic, its history of storms, the exceptionally warm surrounding sea, plus the rise in the sea level, substantially caused by their acts and hidden from the Plaintiff its citizens and residents, would inevitably result in the type of severe storm disasters that occurred in 2017 and cause the Plaintiff and its citizens and residents to incur billions of dollars in damages. The Defendants fraudulently concealed their knowledge that climate change would accelerate, subsequently increasing the rain and wind in Hurricane Alley.

736. Wherefore Plaintiff, individually, and on behalf of its citizens and residents bring this claim against Defendants individually and by and through their associates, accomplices, mouthpieces, funders, ghostwriters, scientists, lobbying groups, agents, and other affiliated entities conspired among themselves more than two times within a time frame of ten years, in an effort to earn income from the enterprise which affected interstate commerce and for which the Plaintiff and their citizens suffered direct and foreseeable injury and requests that this Court enter judgment against the Defendants for damage to the Municipality of San Juan and its citizens and residents for damages, treble damages, and attorneys' fees and costs as allowed for by statute.

I. Ninth Cause of Action: Public Nuisance pursuant to 32 L.P.R.A. §2761

737. Plaintiff realleges and reaffirms each and every allegation set forth in all the preceding paragraphs as if fully stated herein.

738. Puerto Rican law provides:

Anything which is injurious to health so as to interfere with the

comfortable enjoyment of life or property, or that is a nuisance to the wellbeing of a neighborhood, or to a large number of persons ... constitutes a nuisance and the subject of an action. Such action may be brought by any person, public agency, or municipality whose property is injuriously affected or whose personal enjoyment is lessened by the nuisance, and by the judgment the nuisance may be enjoined or abated, as well as damages recovered. 32 L.P.R.A. §2761.

739. Defendants' conduct has caused unreasonable and substantial interference with public health and comfortable enjoyment of life and property, such as by causing more intense tropical storm that destroyed Puerto Rico and the Municipality of San Juan's power grid, transportation infrastructure, homes and public buildings, dams, and other critical infrastructure, while claiming the lives of more than of 2,975 people throughout the Island. The destruction of the storms also took away the citizens and residents of the Municipality of San Juan's basic services provided to them by the Municipality, including, but not limited to, access to medical care and educational costs. The Municipality of San Juan and its citizens and residents have been forced to bear, and continues to bear, substantial costs to replace and rebuild its infrastructure.

740. Unmitigated global warming also causes rising sea levels and Coastal Erosion, necessitating investment in sea walls or other mechanisms to dissipate wave energy and/or investment in hardening sea-adjacent structures. Unmitigated global warming also causes more extreme weather events, ocean acidification, necessitating investments to shore up infrastructure and safeguard the fisheries and coral reef: upon which Puerto Rico economy depends. The Municipality of San Juan, its citizens and residents are injured by having to pay these costs.

741. Defendants' conduct was a substantial factor in causing Plaintiff and its citizens and residents having to pay these costs. Defendants engaged in a decades-long misinformation campaign to convince the Municipality's public that climate science was uncertain; that there were bona fide disputes in the scientific community about whether global warming was occurring and/or was human-caused and that immediate action was unnecessary. Defendants successfully achieved inaction on climate change, quashed clean energy alternatives and ensuring that the worst

scenarios for global warming-which they were warned more than sixty years ago-would occur.

742. By causing the worst global warming scenarios to unfold, Defendants have injuriously affected rights common to the public, such as the rights of the people to public health, public safety public peace, public comfort, and public convenience. The public nuisance caused by Defendants' conduct has caused substantial annoyance, inconvenience, and injury to the public.

743. Because of their agreement to maintain their energy monopoly, Defendants have engaged and are engaging in a continuing course of conduct to promote inaction on climate change, quashing clean energy alternatives and the use of fossil fuels at dangerous levels that will result in the worst-case impacts of climate change, thereby injuriously affecting the safety, health, and welfare of a consider number of people who reside in Plaintiff's territory and injuriously affecting the welfare of the neighborhoods in Plaintiff's territory.

744. The effects of inaction and worst-case climate change are permanent and long-lasting.

745. The occurrence of the worst global warming scenarios and their consequences (e.g., harsher tropical storms, higher sea levels, more extreme precipitation events, ocean acidification) is the direct and proximate result of the Defendants' campaign to manufacture the appearance of uncertainty and lack of consensus about the causes and effects of climate change.

746. The Defendants knew that their acts omissions and deceit of the Plaintiff and its citizens and residents as detailed in this Count, would, and did, prevent the Plaintiff from having the knowledge that it needed to adequately prepare for the "hotter and wetter" storms that pummeled the I land in 2017. The Defendants understood through their research and special expertise that the island's position in the North Atlantic, its history of storms, the exceptionally warm surrounding sea, plus the rise in the sea level, substantially caused by their acts and hidden from the Plaintiff and its citizens and residents would inevitably result in the type of severe storm disasters that occurred in 2017 and cause the Plaintiff to incur billions of dollars in damages. The defendants fraudulently concealed their knowledge that climate change would accelerate, subsequently increasing the rain and wind in

Hurricane Alley.

747. Wherefore, Plaintiff seeks punitive and compensatory damages in excess of \$75,000 from all Defendants, jointly and severally.

J. Tenth Cause of Action: Strict Liability- Failure to Warn

748. Plaintiff reallege and reaffirm each and every allegation set forth in all the preceding paragraphs as if fully stated herein.

749. Defendants, and each of them, marketed and sold fossil fuel products to the consumer markets of Puerto Rico, including the Municipality of San Juan and its citizens and residents.

750. Throughout the times at issue, Defendants individually and collectively knew or should have known of the risks inherent in their products, in light of the scientific knowledge they obtained. Defendants knew or should have known that the fossil fuel products they marketed and sold to the Municipality of San Juan its citizens and residents, whether used as intended or misused in a foreseeable manner, contributed to the acceleration of climate change and the concomitant likelihood that Puerto Rico would be devastated by storm of increasing intensity in September 2017.

751. Throughout the times at issue, the ordinary consumer, including the Municipality of San Juan and its citizens and residents would not recognize that the use or foreseeable misuse of fossil fuel products causes global and localized change in climate and oceans, including those effects described herein.

752. Throughout the time at issue, Defendants individually and in concert widely disseminated marketing materials, refuted the generally accepted scientific knowledge at the time, and advanced pseudo-scientific theories of their own, and developed public relations campaigns and materials that prevented reasonable consumers such as Puerto Rico, the Municipality of San Juan and its citizens and residents and its consumers from recognizing the risk that fossil fuel products would cause grave climate changes, including those described herein. The Defendants

fraudulently concealed their knowledge that climate change would accelerate, subsequently increasing the rain and wind in Hurricane Alley.

753. Defendants, and each of them, failed to adequately warn customers, consumers, elected officials, and regulators, including the Municipality of San Juan and Municipality of San Juan and its citizens and residents of their knowledge of foreseeable risk of climate change acceleration and the consequences that inevitably follow from the normal, intended use and foreseeable increased use of Defendants' fossil fuel products.

754. The absence of warning by the Defendants to their customers, consumers, elected officials, and regulators, including the Municipality of San Juan and its citizens and residents, made their products inherently dangerous.

755. The absence of adequate warning or instructions by the Defendants to their customers, consumers, elected officials, and regulators, including the Municipality of San Juan and its citizens and residents, was the proximate cause of Plaintiff's losses.

756. Defendants' wrongful conduct was knowingly false, oppressive, malicious, and fraudulent in that their conduct was willful, intentional and in conscious disregard for the rights of others, including the Municipality of San Juan and its citizens and residents.

757. Defendants' conduct was so vile, base, and contemptible that it would be looked down upon and despised by reasonable people, justifying an award of punitive and exemplary damages in an amount subject to proof at trial, and justifying equitable disgorgement of all profits Defendants obtained through their unlawful and outrageous conduct.

758. Plaintiff is entitled to recover damages and other appropriate relief for the foregoing failure to warn of product defects.

759. Plaintiff claims from the Defendants, namely:

- a. Infrastructure losses and cost of repair of public water system, school buildings, communication, transportation, public road, bridges,

municipal transit systems, bridges, airports, ports, energy system, public building, roads and water;

- b. Costs for providing healthcare, medical care, custodial care, and housing;
- c. Estimates for repairs to all sidewalks, public roads, and bridges, (emergency and permanent), municipal transit systems, Ports in San Juan, San Juan bus system, airports;
- d. Costs of training emergency and/or first responders;
- e. Costs associated with providing police officers, firefighters, and emergency and/or first responders;
- f. Costs for providing mental-health services, treatment, counseling, rehabilitation services;
- g. Loss of tax revenue due to emigration;
- h. Damage for all buildings and homes for the Municipality of San Juan, its citizens, and residents;
- i. Loss of tourism revenue;
- j. Losses caused by diminished property values;
- k. Value of destroyed natural resources, including trees, crops and vegetation;
- l. Value of livestock;
- m. Cost to replace endangered species, including coral, fish, frogs, turtles, and all other animals and vegetation killed;
- n. Economic loss to businesses within the Municipality of San Juan;
- o. Infrastructure improvements to the Municipality of San Juan to withstand climate change effects; as well as damages to the Municipality of San Juan, its citizens, and residents as a consequence of Coastal Erosion; and
- p. Other related economic costs to the Municipality of San Juan.

760. Plaintiff seeks relief not only for its own damages to business and property, but also for all Municipality of San Juan its citizens and residents to pursue damages in their stead, for the foregoing failure to warn of product defects.

761. The Defendants knew that their acts, omissions, and deceit of the Plaintiff and its citizens and residents as detailed in this Count, would, and did, prevent the Municipality of San Juan and its citizens and residents, and those represented by the Plaintiff from having the knowledge that they needed to adequately prepare for the "hotter and wetter" storms that pummeled the Island in 2017. The Defendants understood through their research and special expertise that the island's position in the North Atlantic, its history of storms, the exceptionally warm surrounding sea, plus the rise in the sea level, substantially caused by their act and hidden from the Plaintiff and its citizens and residents, would inevitably result in the type of severe storm disasters that occurred in 2017 and cause the Plaintiff to incur billions of dollars in damages. The Defendants fraudulently concealed their knowledge that climate change would accelerate, subsequently increasing the rain and wind in Hurricane Alley.

762. Wherefore Plaintiff seeks punitive and compensatory damages in excess of \$75,000 from all Defendants, jointly and severally.

K. Eleventh Cause of Action: Strict Liability-Design Defect

763. Plaintiff realleges and reaffirms each and every allegation set forth in all the preceding paragraphs as if fully stated herein.

764. Defendants, and each of them, marketed and sold fossil fuel products to the consumer market in Puerto Rico, including the Municipality of San Juan, and its citizens and residents.

765. Throughout the time at issue, the design of the Defendants' fossil fuel products is defective and thus the products have not performed as safely as an ordinary consumer, including the Municipality of San Juan, and its citizens and residents, would expect them, because their use causes numerous global and local changes to Earth's climate. In particular, ordinary consumers, including the Municipality of San Juan, and its citizens and residents, did not expect that:

- a. fossil fuel products are the primary cause of global warming since the dawn of the industrial revolution, and by far the primary cause of global warming acceleration in the 20th and 21st centuries;

- b. fossil fuel products would cause increase mean sea surface temperature;
- c. fossil fuel products would cause increased frequency and intensity of tropical cyclones, rapid intensification of hurricanes and hotter and wetter hurricanes;
- d. unmitigated use of fossil fuel products causes damage to precious corals which supply physical support to the island, its economy and wildlife;
- e. the social cost of each ton of CO₂ emitted into the atmosphere increases a total global emissions increase, so that unchecked extraction and consumption of fossil fuel products is more harmful and costly than moderated extraction and consumption;
- f. fossil fuel products would cause increased frequency of higher intensity hurricanes, including those that devastated Puerto Rico in 2017; and
- g. for these reasons and others, the unmitigated use of fossil fuel products present significant threats to the environment and human health and welfare, especially to coastal and ocean-dependent communities.

766. Throughout the times at issue, Defendants individually and in concert widely disseminated marketing materials, refuted the generally accepted scientific knowledge at the time, advanced pseudo-scientific theories of their own, and developed public relations materials, among other public messaging efforts, that prevented reasonable consumers, including the Municipality of San Juan and its citizens and residents, from forming an expectation that fossil fuel products would cause grave climate changes, including those described herein. The Defendants fraudulently concealed their knowledge that climate change would accelerate, subsequently increasing the rain and wind in Hurricane Alley.

767. Additionally, Defendants' fossil fuel products are defective because the risks they pose to consumers and to the public, including and especially to Plaintiff and its citizens and residents, outweigh their benefits.

768. Defendants' individual and aggregate fossil fuel products were used in a manner for which they were intended to be used or misused in a manner foreseeable to Defendants and each

of them, by individual and corporate consumers, the result of which was the addition of CO₂ emissions to the global atmosphere with attendant global and local consequences.

769. As a direct and proximate result of the design defects in the Defendants' fossil fuel products described herein, Plaintiff sustained and will continue to sustain the losses and damages fully set forth in this Complaint.

770. Plaintiff claim from the Defendants, namely:

- a. Infrastructure losses and cost of repair of public water system school building, communication, transportation, public road, bridges, municipal transit systems, bridges, airports, ports, energy system, public building, roads, and water;
- b. Costs for providing healthcare medical care, custodial care, and housing;
- c. Estimates for repairs to all sidewalks, public roads and bridges, (emergency and permanent), municipal transit systems, Ports in San Juan, San Juan bus system, airports;
- d. Costs of training emergency and/or first responders;
- e. Costs associated with providing police officers, firefighters, and emergency and/or first responders;
- f. Cost for providing mental-health services, treatment, counseling, rehabilitation services;
- g. Loss of tax revenue due to emigration;
- h. Damage for all buildings and homes in the Municipality of San Juan, and its citizens and residents;
- i. Loss of tourism revenue;
- j. Losses caused by diminished property values;
- k. Value of destroyed natural resources, including trees, crops and vegetation;
- l. Value of livestock;
- m. Cost to replace endangered species, including coral, fish, frogs, turtles, and all other animals and vegetation killed;

- n. Economic loss to businesses within the Municipality of San Juan;
- o. Infrastructure improvements to the Municipality of San Juan to withstand climate change effects; as well as for damages to the Municipality of San Juan and its citizens and residents as a consequence of Coastal Erosion; and
- p. Other related economic costs to the Municipality of San Juan.

771. Plaintiff is entitled to recover damages and other appropriate relief for the foregoing design defects. Plaintiff seeks relief not only for its own damages to business and property, but also for *all* its citizens and residents to pursue damages in their stead, for the foregoing design defects.

772. The Defendants knew that their acts, omissions, and deceit of the Plaintiff and its citizens and residents as detailed in this Count, would, and did, prevent the Plaintiff from having the knowledge that it needed to adequately prepare for the "hotter and wetter" storms that pummeled the Island in 2017. The Defendants understood through their research and special expertise that the island's position in the North Atlantic, its history of storms, the exceptionally warm surrounding sea, plus the rise in the sea level, substantially caused by their acts and hidden from the Plaintiff and its citizens and residents would inevitably result in the type of severe storm disasters that occurred in 2017 and cause the Plaintiff to incur billions of dollars in damages. The Defendants fraudulently concealed their knowledge that climate change would accelerate, subsequently increasing the rain and wind in Hurricane Alley.

773. Wherefore, Plaintiff seeks punitive and compensatory damages in excess of \$75,000 from all Defendants, jointly and severally.

L. Twelfth Cause of Action: Negligent Design Defect

774. Plaintiff realleges and reaffirms each and every allegation set forth in all the preceding paragraphs as if fully stated herein.

775. Defendants knew or should have known of the climate effects inherently caused by the normal use and operation of their fossil fuel products, including the likelihood and likely severity of global and local sea level rise, more frequent and extreme precipitation events, increased frequency and severity of heat waves and extreme temperatures, and the associated consequences of those physical and environmental changes, and including losses to the Municipality of San Juan and its citizens and residents.

776. Defendants' individual and aggregate fossil fuel product were used in a manner for which they were intended to be used or misused in a manner foreseeable to Defendant and each of them, by individual and corporate consumers, the result of which was the addition of CO₂ emissions to the global atmosphere with attendant global and local consequences.

777. Defendants, collectively and individually, owed a duty to consumers of their products, including the Municipality of San Juan and its citizens and residents, to exercise reasonable care in developing, designing, testing, inspecting, and distributing their fossil fuel product. That duty obligated the Defendants to prevent defective products from entering the stream of commerce and prevent reasonably foreseeable harm that could have resulted from the ordinary and reasonably foreseeable use of Defendants' products.

778. Defendants, collectively and individually, breached the duty of care owed by failing to prevent defective products from entering the stream of commerce and preventing the reasonably foreseeable harm resulting from the ordinary and reasonably foreseeable use of their products.

779. The breach of the duty of care owed to the consumers, including the Plaintiff Municipality of San Juan and its citizens and residents, directly and proximately caused the Plaintiff's losses as alleged herein.

780. Plaintiff claims from the Defendants, namely:

- a) Infrastructure losses and cost of repair of public water system, school buildings, communication, transportation, public road, bridges,

municipal transit systems, bridges, airports, ports, energy system, public building, roads, and water;

- b) Costs for providing healthcare, medical care, custodial care, and housing;
- c) Estimates for repairs to all sidewalks, public roads, and bridges, (emergency and permanent), municipal transit systems, Ports in San Juan, San Juan bus system, airports;
- d) Costs of training emergency and/or first responders;
- e) Costs associated with providing police officers firefighters, and emergency and/or first responders;
- f) Costs for providing mental-health services, treatment, counseling, rehabilitation services;
- g) Loss of tax revenue due to emigration;
- h) Damage for all buildings and homes in the Municipality of San Juan, and its citizens and residents;
- i) Loss of tourism revenue;
- j) Losses caused by diminished property values;
- k) Value of destroyed natural resources, including trees crops and vegetation;
- l) Value of livestock;
- m) Cost to replace endangered species, including coral, fish, frogs, turtles, and all other animals and vegetation killed;
- n) Economic loss to businesses within the Municipality of San Juan;
- o) Infrastructure improvements to the Municipality of San Juan to withstand climate change effects as well as for damages to the Municipality and its citizens and residents as a consequence of Coastal Erosion; and
- p) Other related economic costs to the Municipality of San Juan.

781. Plaintiff is entitled to recover damages and other appropriate relief for the foregoing design defects. Plaintiff seeks relief not only for its own damages to business and property, but also for its citizens and residents to pursue damages in their stead, for the foregoing design defects.

782. The Defendants knew that their acts, omissions, and deceit of the Plaintiff and its citizens and residents as detailed in this Count, would, and did, prevent the Municipality of San Juan, represented by the Plaintiff from having the knowledge that it needed to adequately prepare for the "hotter and wetter" storms that pummeled the Island in 2017. The Defendants understood through their research and special expertise that the island's position in the North Atlantic, its history of storms, the exceptionally warm surrounding sea, plus the rise in the sea level, substantially caused by their acts and hidden from the Plaintiff and its citizens and residents, would inevitably result in the type of severe storm disasters that occurred in 2017 and cause the Plaintiff to incur billions of dollars in damages. The Defendants fraudulently concealed their knowledge that climate change would accelerate, subsequently increasing the rain and wind in Hurricane Alley.

783. Wherefore, Plaintiff seeks punitive and compensatory damages in excess of \$75,000 from all Defendants jointly and severally.

M. Thirteenth Cause of Action: Private Nuisance Pursuant to 32 L.P.R.A. §2761

784. Plaintiff realleges and reaffirms each and every allegation set forth in all the preceding paragraphs as if fully stated herein.

785. Puerto Rican law provide:

Anything which is injurious to health ... so as to interfere with the comfortable enjoyment of life or property ... constitute a nuisance and the subject of an action. Such action may be brought by any person, public agency, or municipality whose property is injuriously affected or whose personal enjoyment is lessened by the nuisance, and by the judgment the nuisance may be enjoined or abated, as well as damages recovered. 32 L.P.R.A. §2761.

786. Defendants' conduct has caused unreasonable and substantial interference with the Municipality of San Juan, and its citizens and residents' comfortable enjoyment of their property, such as by causing more intense tropical storms, rising sea levels, more extreme weather events, and ocean acidification. The destruction of the storms also took away the citizens and residents of the Municipality of San Juan's basic services provided to them by the Municipality of San Juan, including,

but not limited to, access to medical care and educational services. The Municipality of San Juan, suffered, and continues to suffer, losses by having to pay the cost to abate these risks to their property and maintain that property.

787. Defendants' conduct was a substantial factor in causing Plaintiff to have to pay these costs and damages. Defendants engaged in a decades-long misinformation campaign to convince the public that climate science was uncertain; that there were bona fide disputes in the scientific community about whether global warming was occurring and/or was human-caused; and that immediate action was unnecessary. Defendants successfully achieved inaction on climate change, ensuring that the worst scenarios for global warming would occur.

788. By causing the worst global warming scenarios to occur, including more severe tropical storms, Defendants have imposed a burden on the Plaintiff greater than they should be required to bear, thereby upsetting the equilibrium necessary to harmonize the parties' correlative rights. Defendant have no right to disseminate false or misleading information, nor do they have an entitlement to maintain a specific share of the energy market.

789. Defendants have engaged and are engaging in a continuing course of conduct to promote inaction on climate change and the use of fossil fuels at dangerous levels that will result in the worst-case impact of climate change, thereby injuriously affecting Plaintiff's property.

790. The occurrence of the worst global warming scenarios and their consequences (e.g., harsher tropical storms, higher sea levels, more extreme precipitation events, ocean acidification) is the direct and proximate result of the Defendants' campaign to manufacture the appearance of uncertainty and lack of consensus about the causes and effects of climate change. Plaintiff does not seek to impose liability on Defendants for their direct emissions of greenhouse gases under common Law, nor does it seek to restrain Defendants from engaging in their business operations, and do not seek any injunctive, equitable relief or damages with respect to any federal land or fossil fuels extracted from federal land.

791. The Defendants knew that their acts, omissions, and deceit of the Plaintiff and its citizens and residents as detailed in this Count, would, and did prevent the Plaintiff from having the knowledge that they needed to adequately prepare for the "hotter and wetter" storms that pummeled the Island in 2017. The Defendants understood through their research and special expertise that the island's position in the North Atlantic, its history of storms, the exceptionally warm surrounding sea, plus the rise in the sea level, substantially caused by their acts and hidden from the Plaintiff and its citizens and residents, would inevitably result in the type of severe storm disasters that occurred in 2017 and cause the Plaintiff to incur billions of dollars in damages. The Defendants fraudulently concealed their knowledge that climate change would accelerate, subsequently increasing the rain and wind in Hurricane Alley.

792. Wherefore, Plaintiff seeks punitive and compensatory damages in excess of \$75,000 from all Defendants, jointly and severally.

N. Fourteenth Cause of Action: Restitution - Unjust Enrichment

793. Plaintiff realleges and reaffirms each and every allegation set forth in all the preceding paragraphs as if fully stated herein.

794. Defendants have avoided liability for these costs and have been and are able promoting the sale of their products to Puerto Rico, the Municipality of San Juan, and its citizens and residents by continuing to misinform the federal and State authorities about the true nature and effects of their carbon-based products.

795. In equity and fairness, it is the Defendants, and not the Municipality of San Juan, of Puerto Rico, should bear the costs of healthcare for its citizens as a result of the storms. By avoiding their own duties to stand financially responsible for the harm done by their carbon-based products, the Defendants wrongfully have forced the Municipality of San Juan, to perform such duties and to pay the health care costs of those who have been impacted by the storms. The destruction of the storms also took away the citizens of the Municipality of San Juan's basic services provided to them by

the Municipality of San Juan, including but not limited to, access to medical care and educational services. As a result, the Defendants have been unjustly enriched to the extent that the Municipality of San Juan, have had to pay these costs.

796. As a result of the Defendants' acts and omissions specified herein, the Plaintiff were forced to expend far more in administrative and actual healthcare costs to provide health care, custodial care and public health care to its citizens and residents in response to the devastation of the storms in late 2017, the healthcare expenditures nearly tripled; a substantial portion of this amount was healthcare required because of injuries and illnesses directly related to the increased ferocity of the 2017 storms.

797. The Defendants knew that their acts, omissions, and deceit of the Plaintiff and its citizens and residents as detailed in this Count, would, and did, prevent the Plaintiff from having the knowledge that they needed to adequately prepare for the "hotter and wetter" monster storms that pummeled the Island in 2017. The Defendants understood through their research and special expertise that the island's position in the North Atlantic, its history of storms, the exceptionally warm surrounding sea, plus the rise in the sea level, substantially caused by their acts and hidden from the Plaintiff and its citizens and residents, would inevitably result in the type of severe storm disasters that occurred in 2017 and continue to cause the Plaintiff to incur billions of dollars in damages. The Defendants fraudulently concealed their knowledge that climate change would accelerate, subsequently increasing the rain and wind in Hurricane Alley.

798. Wherefore, Plaintiff seeks punitive and compensatory damages in excess of \$75,000 from all Defendants, jointly and severally, as follows:

- a. for damages in an amount which is sufficient to provide restitution and re-pay the Municipality of San Juan, and its citizens and residents for the sums they have expended on account of the Defendant ' wrongful conduct, including the wrongful death of those who perished, with said amount to be determined at trial;
- b. for damages in restitution for the sums of money currently being paid

and to be paid by the Municipality of San Juan, and its citizens and residents in the future on account of the Defendant ' wrongful conduct with said amount to be determined at trial.

- c. for pre-judgment interest, as well as the Municipality's reasonable attorney's fees, expert witness' fees and other costs of this action;
- d. for disgorgement of profits accumulated by the Defendant emanating from their wrongful conduct.
- e. for punitive damages in such amount as will sufficiently punish the Defendants for their conduct and as will serve as an example to prevent a repetition of such conduct in the future;
- f. for such other and further extraordinary equitable, declaratory, and/or injunctive relief as permitted by law as necessary to assure that the Municipality of San Juan, and its citizens and residents have an effective remedy and
- g. for such other and further relief, as the Court deem just and proper, to which the Municipality of San Juan, and its citizens and residents may be entitled.

Respectfully submitted along with the Racketeer Influenced and Corrupt Organization Act ("RICO"), 18 U.S.C. §1961-1968, Case Statement, conforming to the requirements of the Order of this Circuit, this _____ day of December, 2023.

Plaintiff demands a trial by jury.

THE MUNICIPALITY OF SAN JUAN

By David Efron

Respectfully submitted,

s/David Efron

David Efron, Esq.

221 Plaza Bldg.

221 Ponce de Leon Ave. 6th Floor

San Juan, PR 00917

(t): (787) 753-6455

efron@davidefronlaw.com