

IN THE UNITED STATES DISTRICT COURT
DISTRICT OF PUERTO RICO

**THE MUNICIPALITIES OF BAYAMÓN, CAGUAS, LOÍZA, LARES,
BARRANQUITAS, COMERÍO, CAYEY, LAS MARÍAS, TRUJILLO ALTO, VEGA
BAJA, AÑASCO, CIDRA, AGUADILLA, AIBONITO, MOROVIS, MOCA,
BARCELONETA, CAMUY, CATAÑO, SALINAS, ADJUNTAS, ARROYO, CULEBRA,
DORADO, GUAYNABO, HORMIGUEROS, JUNCOS, LAJAS, MANATÍ, NAGUABO,
NARANJITO, UTUADO, VILLALBA, COAMO, OROCOVIS, VIEQUES, and
YABUCOA on behalf of themselves and others similarly situated, known as the
MUNICIPALITIES OF PUERTO RICO,**

Plaintiffs

v.

No. 3:22-cv-01550

**EXXONMOBIL CORP, SHELL PLC F.K.A. ROYAL DUTCH SHELL PLC,
CHEVRON CORP, BP PLC, CONOCOPHILLIPS, MOTIVA ENTERPRISES, LLC,
OCCIDENTAL PETROLEUM F.K.A. ANADARKO PETROLEUM CORP, BHP, RIO
TINTO PLC, AMERICAN PETROLEUM INSTITUTE, XYZ CORPORATIONS 1-100,
and JOHN AND JANE DOES 1-100**

Defendants.

AMENDED COMPLAINT FOR DAMAGES

JURY TRIAL DEMANDED

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I. NATURE OF THE CASE

1. Plaintiffs, the **Municipality of Bayamón**, the **Municipality of Caguas**, the **Municipality of Loíza**, the **Municipality of Lares**, the **Municipality of Barranquitas**, the **Municipality of Comerío**, the **Municipality of Cayey**, the **Municipality of Las Marías**, the **Municipality of Trujillo Alto**, the **Municipality of Vega Baja**, the **Municipality of Añasco**, the **Municipality of Cidra**, the **Municipality of Aguadilla**, the **Municipality of Aibonito**, the **Municipality of Morovis**, the **Municipality of Moca**, the **Municipality of Barceloneta**, the **Municipality of Camuy**, the **Municipality of Cataño**, the **Municipality of Salinas**, the **Municipality of Adjuntas**, the **Municipality of Arroyo**, the **Municipality of Culebra**, the **Municipality of Dorado**, the **Municipality of Guaynabo**, the **Municipality of Hormigueros**, the **Municipality of Juncos**, the **Municipality of Lajas**, the **Municipality of Manatí**, the **Municipality of Naguabo**, the **Municipality of Naranjito**, the **Municipality of Utuado**, the **Municipality of Villalba**, the **Municipality of Coamo**, the **Municipality of Orocovis**, the **Municipality of Vieques**, and the **Municipality of Yabucoa** bring this action in their own right and on behalf of the proposed class, the **Municipalities of Puerto Rico**,¹ for the primary role that the Defendants' production, promotion, refining, marketing, and sale of fossil fuel-based consumer products 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

¹ All of Puerto Rico's Municipalities including Bayamón, Caguas, Loíza, Lares, Barranquitas, Comerío, Cayey, Las Marías, Cidra, Trujillo Alto, Vega Baja, Añasco, Aguadilla, Aibonito, Morovis, Moca, Barceloneta, Camuy, Cataño, Salinas, Adjuntas, Arroyo, Culebra, Dorado, Guaynabo, Hormigueros, Juncos, Lajas, Manatí, Naguabo, Naranjito, Utuado, and Villalba are: Adjuntas, Aguada, Aguadilla, Aguas Buenas, Aibonito, Añasco, Arecibo, Arroyo, Cabo Rojo, Canóvanas, Carolina, Ceiba, Ciales, Coamo, Corozal, Culebra, Dorado, Fajardo, Florida, Guánica, Guayama, Guayanilla, Guaynabo, Gurabo, Hatillo, Hormigueros, Humacao, Isabela, Jayuya, Juana Díaz, Juncos, Lajas, Las Piedras, Luquillo, Manatí, Maricao, Maunabo, Mayagüez, Moca, Morovis, Naguabo, Naranjito, Orocovis, Patillas, Peñuelas, Ponce, Quebradillas, Rincón, Río Grande, Sabana Grande, San Germán, San Juan, San Lorenzo, San Sebastián, Santa Isabel, Toa Alta, Toa Baja, Trujillo Alto, Utuado, Vega Alta, Vega Baja, Vieques, Villalba, Yabucoa, and Yauco.

Defendants' acts continue to cause, accelerate, and contribute to the deleterious alteration of Puerto Rico's climate, thereby damaging the Municipalities of Puerto Rico, and damaging the health, safety, and welfare of the people who reside in the Municipalities.

2. Plaintiffs seek to impose liability on Defendants who misrepresented the dangers of the carbon-based products which they marketed and sold despite their unique early awareness of the devastation they would cause Puerto Rico. Decades ago, each of the Defendants' 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 Municipalities 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 Plaintiffs through a campaign of climate change denial and obfuscation of the ominous threat of storms to Puerto Rico.

3. Incredibly, the 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 Municipalities of Puerto Rico, believing that the purchase and use of Defendants' carbon-based products were safe and would not endanger the lives or livelihoods of the residents therein. The Municipalities of Puerto Rico and their citizens thus relied upon the Defendants' misrepresentations to their detriment, resulting in the devastating destruction from the 2017 Atlantic Hurricane Season and the ongoing economic losses since 2017.

4. As has long been recognized by the law of this Circuit,² 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 its land in 2017.

5. The 2017 Atlantic Hurricane season completely wrecked each Municipality’s entire infrastructure, leaving its citizens without electricity for months, stranded from medical care, causing thousands to suffer and die, and rendering them homeless. As a direct consequence, the Municipalities and their citizens’ basic human rights of life, liberty, and property were stripped from them, and the Municipalities had to provide these basic necessities to them. Because of the ferocity of the storms and the destruction, however, they were unable to do so. Therefore, each Municipality lost all income from their citizens, but still had to provide virtually all the needs of their communities including food, water, shelter, and healthcare, at great expense to the Municipalities.

6. Instead of disclosing the truth about their products and their predicted impact on Puerto Rico, the Oil Defendants mobilized with the Coal Defendants and other fossil fuel-dependent companies in 1989 to form the “Global Climate Coalition” (“GCC”). Through the GCC, Defendants funded a marketing campaign of deception that continues to this day, in violation of

² “In personal injury law, it is well settled that in an action for damages, the tortfeasor ‘takes 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 United States v. Alsondo*, 486 F.2d 1339 (2d Cir. 1973)); and (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 an 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)).

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 certainly hundreds of millions,³ and probably billions,⁴ into a fraudulent marketing scheme to convince all consumers, including the citizens of these Municipalities, that their fossil fuel-based products did not—and would not—alter the climate, while knowing full well the disastrous consequences of their combined carbon pollution on Puerto Rico. That same year, Shell predicted in an internal “TINA” (There Is No Alternative⁵) scenario that a “series of violent storms” 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.** Fourteen years after Shell’s prediction, the Municipalities of Puerto Rico validate that prediction by bringing this class action seeking damages for ongoing deceit of the Defendants.

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

³ Robert Brulle & Christian Downie, *Following the money: trade associations, political activity and climate change*, CLIMATIC CHANGE, (2022); Robert Brulle & Carter Werthman, *The role of public relations firms in climate change politics*, CLIMATIC CHANGE, vol. 169:tk, (2021).

⁴ Brulle, Robert J., et al., *Corporate promotion and climate change: an analysis of key variables affecting advertising spending by major oil corporations, 1986–2015*, CLIMATIC CHANGE, (2021), at 14; Holden, Emily, *How the oil industry has spent billions to control the climate change conversation*, THE GUARDIAN (January 8, 2020), <https://www.theguardian.com/business/2020/jan/08/oil-companies-climate-crisis-pr-spending> (last visited Oct. 12, 2023).

⁵ “There is no alternative” (TINA) was a slogan often used by British prime minister Margaret Thatcher. BERLINSKI, 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: “Globalised 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, Bury TINA, Too*, THE NATION (Apr. 12, 2013), <https://www.thenation.com/article/archive/thatchers-funeral-bury-tina-too/> (last visited Sept. 22, 2023).

- a) First, the Defendants proclaimed that climate change⁶ was not a real, imminent threat when they secretly had knowledge to the contrary.
- b) Second, the Defendants 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 effects upon Puerto Rico of their carbon waste in the atmosphere if their deleterious 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 fraudulent agenda.
- d) Fourth, the Defendants failed to warn the public, including Puerto Rico and its consumers, of the effects of their products on the environment. Instead, they jointly schemed to maintain their 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 Best Business Practices, when they colluded to deceive the Plaintiffs, who have suffered and will continue to suffer the disastrous economic effects of Defendants' products on the environment. The Municipalities of Puerto Rico and their consumers fell victim to this carefully crafted corporate subterfuge—which was adopted entirely by all Defendants—when they purchased Defendants' products, unaware that such products would create monster 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

⁶ 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, which 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.

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 issues.⁷ Exxon claimed that tough internal evaluations of the performance on these issues of every level of the company's global organization mandated that safety, health, and the environment were now top priorities.⁸ The company ostensibly enforced individual accountability for meeting these best practices through its personnel evaluation system, as a requirement for career advancement.⁹ 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 sow doubt about climate science, defeat climate litigation, delay action on climate, and publish a series of 'advertorials' intended to mislead the public."¹⁰ All of the Defendants participated in this deception and, 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 be unable to compete with the Defendants because the Plaintiffs would keep their prices low. 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 Offshore 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 companies should aspire.¹¹ Puerto Rico and its consumers relied on this

⁷ Joseph A. Pratt, *Exxon and the Control of Oil*, 99 J. AM. HIST. 145-154 (June 1, 2012).

⁸ *Id.*

⁹ *Id.*

¹⁰ Richard Heede, *Carbon Producers' Tar Pit: Dinosaurs Beware*, CLIMATE ACCOUNTABILITY INSTITUTE, (Oct. 17, 2017), at 2, <https://www.ineteconomics.org/uploads/papers/Heede-PathToAccountability-18Oct17.pdf>. (last visited Oct. 22, 2023).

¹¹ Pratt, *supra*, at 152, fn. 7 ("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 Reilly repeated this assessment of Exxon's safety culture and systems in the commission's report and in the media. For a

carefully crafted corporate sophistry, which was the coordinated script followed by all of the Defendants, when they purchased and sold to the Plaintiff Municipalities their fossil fuel-based products, rather than the non-carbon energy alternatives.

- i) Ninth, the Defendants,¹² 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, its Municipalities, 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 and since. Instead, Exxon and the other Defendants used the public display of their so-called Best Business Practices to prevent their investors and customers from learning 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 consumers and their Municipalities in September 2017.

9. The Defendants have intentionally interfered with the citizens of the Municipalities of Puerto Rico'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 consumers' human rights as recognized in Section 20, Article II of the Puerto Rico Constitution guaranteeing citizens the right to education, to obtain employment, an adequate standard of living, social protection, and family assistance. Indeed, the Defendants have built and maintained multiple billion-dollar 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, or to enforce emission controls of any kind, nor damages or abatement relief for damages to or

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 (Mar. 7, 2011), at R5.

¹² Except for Motiva, LLC, a privately held company.

occurring on federal lands. Nothing in this Complaint seeks to enjoin Defendants from their fossil fuel production or compel them to curb or otherwise alter their greenhouse gas emissions. The Municipalities do not seek damages, nor any relief based on any activity by Defendants that could be considered petitioning federal, state, or local governments. Nor do the Plaintiffs claim damages for future storms or catastrophes caused by Defendants' misconduct, but the damages that the Plaintiff Municipalities of Puerto Rico have suffered beginning with the hurricanes in September 2017 and all of the ensuing impacts upon them and their island's health, education, welfare, infrastructure, and economy, including subsequent storms. Hurricane Maria caused \$100 billion in damages to Puerto Rico¹³ and over 4,500 deaths,¹⁴ but that was only the beginning of the danger experienced by the Municipalities.

11. This Complaint alleges consumer fraud, racketeering, antitrust, fraudulent misrepresentation, negligent misrepresentation, negligent fraudulent concealment, conspiracy to defraud, products liability, strict liability failure to warn, negligent failure to warn, and severe unjust enrichment, as a result of the devastating storms of September 2017, all subsequent storms, 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.C. §1332(a) because the Municipalities of Puerto Rico and the named Defendants are citizens of different states, and the amount in controversy exceeds \$75,000, exclusive of interest and costs.

¹³ Jeff Masters, *Hurricane Maria Damage Estimate of \$102 Billion Surpassed Only by Katrina*, WEATHER UNDERGROUND (Nov. 22, 2017), <https://www.wunderground.com/cat6/hurricane-maria-damages-102-billion-surpassed-only-katrina> (last visited Oct. 12, 2023).

¹⁴ Kishore et al., *Mortality in Puerto Rico after Hurricane Maria*, 379 N. ENGL. J. MED. 162-170 (July 12, 2018), <https://doi.org/10.1056/NEJMsa1803972>.

13. Further, this Court has personal jurisdiction over Defendants because they conduct business in Puerto Rico and the United States through marketing, transporting, trading, distributing, refining, manufacturing, selling, and/or consuming of oil and coal; Defendants purposefully direct or directed their actions toward Puerto Rico and the United States; Defendants targeted their campaign of deception at Puerto Rico and the United States; Defendants availed themselves of the benefits and protections of Puerto Rican law and U.S. law; some or all Defendants consented to be sued in Puerto Rico by registering an agent for service of process; and Defendants have the requisite minimum contacts with Puerto Rico and the United States to permit the Court to exercise personal jurisdiction.

14. Further, the targets of Defendants' deceit and misrepresentations included audiences and consumers in Puerto Rico and the United States. The Defendants' misrepresentations and omissions, directed at least in part to Puerto Rico, contributed to the Plaintiffs' injuries. Relying upon the deceit and misrepresentation of the Defendants, the citizens of the Municipalities of Puerto Rico and the Municipalities themselves have purchased millions of dollars of Defendants' products, which include carbon-based fuels, which are the primary cause of the acceleration of climate change and the storms that have hit Puerto Rico since 2017.

15. The citizens of the Municipalities of Puerto Rico, the Municipalities themselves have purchased Defendants' products, which burn carbon-based fuels.

16. The citizens of the Municipalities of Puerto Rico have invested in the publicly traded corporate Defendants.

17. The citizens of the Municipalities of Puerto Rico have invested in public infrastructure, such as roadways, wastewater treatments plants, bridges, port facilities, breakwater defenses, culverts, water diversions, storm water runoffs, public water supply protection, electricity

distribution, and other infrastructure that was left defenseless against storms they should have known would likely hit Puerto Rico, but for the assurances by Defendants that their products were safe.

18. 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 Plaintiffs demonstrate national contacts in the United States generally. Here, the interests of justice require that the Municipalities of Puerto Rico be permitted to bring the Defendants before the Court in a single trial.

19. Venue is proper in this District pursuant to 28 U.S.C. §1391 and 18 U.S.C. §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

20. No statute of limitation can be pleaded against the Plaintiffs as the allegations and losses are continuous, wrongful, and ongoing, and the Defendants’ wrongful conduct has just recently come to the knowledge of the Municipalities of Puerto Rico.

21. Plaintiffs seek redress for the protection, defense, and economic recovery of the public properties of the Municipalities of Puerto Rico, and the common right of the people of those Municipalities to them. Puerto Rico Municipal Code, PRS ST T. 21 § 7001 et seq.¹⁵

¹⁵ The patrimony of the municipalities will be constituted by the set of assets, rights and shares that belong to them. The assets of the municipalities 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.

22. Under Puerto Rican law, it is logical and necessary for the protection of such important goods held or distributed by the Plaintiff Municipalities that clearly and unequivocally establish the non-applicability of the limitation period to the rights, interests, property losses, actions and claims of the Municipalities of Puerto Rico on behalf of public property as part of the public policy of the Government of the Municipalities of Puerto Rico in order to protect the people's assets that underpin the common welfare. *See, Caballer Velazquez v. Autonomo Municipality of Carolina*, 2014 WL 5343480 (2014).¹⁶

23. Plaintiffs' 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 Municipalities of Puerto Rico and their citizens. The Plaintiffs 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.

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

¹⁶ 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 Amstrong 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.

25. Defendants continually and secretly engaged in their scheme to avoid compliance with their legal obligations. Only Defendants and their agents knew or could have known about Defendants' unlawful actions because Defendants made deliberate efforts to conceal their conduct. As a result of the above, the Plaintiffs are, and have been, unable to obtain vital information bearing on their claims without any fault or lack of diligence on their part.

IV. THE PARTIES

A. The Plaintiffs

26. Plaintiff, the **Municipality of Bayamón**, is a governmental entity formed as a municipality within and in accordance with the laws of the Government of Puerto Rico. Bayamón, is a municipality located in the northern coastal valley of the island, with an area of 115.34 square kilometers (44.53 square miles) and a population of 185,187 living in 12 *barrios*.

27. Plaintiff, the **Municipality of Caguas**, is a governmental entity formed as a municipality within and in accordance with the laws of the Government of Puerto Rico. Caguas is a municipality nestled in the central mountain range of the island with an area of 153.00 square kilometers (59.07 square miles) and a population of 127,244 living in 11 *barrios*.

28. Plaintiff, the **Municipality of Loíza**, is a governmental entity formed as a municipality within and in accordance with the laws of the Government of Puerto Rico. Loíza is a municipality nestled in the northeastern coast of Puerto Rico with an area of 170.19 square kilometers (65.71 square miles) and a population of 23,693 living in 6 *barrios*.

29. Plaintiff, the **Municipality of Lares**, is a governmental entity formed as a municipality within and in accordance with the laws of the Government of Puerto Rico. Lares is a municipality nestled in the central-western mountain range with an area of 159.6 square kilometers (61.64 square miles) and a population of 27,586 living in 12 *barrios*.

30. Plaintiff, the **Municipality of Barranquitas**, is a governmental entity formed as a municipality within and in accordance with the laws of the Government of Puerto Rico. Barranquitas, is a municipality located in the Cordillera Central of the island, with an area of 86.01 square kilometers (33.21 square miles) and a population of 28,938 living in 8 *barrios*.

31. Plaintiff, the **Municipality of Comerío**, is a governmental entity formed as a municipality within and in accordance with the laws of the Government of Puerto Rico. Comerío, is a municipality located in the center-eastern region of island, with an area of 73.13 square kilometers (28.24 square miles) and a population of 18,883 living in 9 *barrios*.

32. Plaintiff, the **Municipality of Cayey**, is a governmental entity formed as a municipality within and in accordance with the laws of the Government of Puerto Rico. Cayey is a municipality nestled in the central mountain range, south of San Juan, with an area of 128.74 square kilometers (49.71 square miles) and a population of 44,796 living in 22 wards. Municipality of Cayey's hospital, Hospital Menonita de Cayey, provided services to its residents from the humanitarian crisis of the 2017 Atlantic Hurricane Season.

33. Plaintiff, the **Municipality of Las Marías**, is a governmental entity formed as a municipality within and in accordance with the laws of the Government of Puerto Rico. Las Marías is a municipality nestled against the central mountain range in the western central side of Puerto Rico, with an area of 120.5 square kilometers (46.51 square miles) and a population of 8,874 living in 16 *barrios*. It is known for eco and agro-tourism.

34. Plaintiff, the **Municipality of Trujillo Alto**, is a governmental entity formed as a municipality within and in accordance with the laws of the Government of Puerto Rico. Trujillo Alto is a municipality located in the northern coastal plain of Puerto Rico, with an area of 55.61 square kilometers (21.47 square miles) and a population of 342,259 living in 8 *barrios*.

35. Plaintiff, the **Municipality of Vega Baja**, is a governmental entity formed as a municipality within and in accordance with the laws of the Government of Puerto Rico. Vega Baja is a municipality located in the north central coast of Puerto Rico, with an area of 144.28 square kilometers (55.71 square miles) and a population of 54,414 living in 13 *barrios*.

36. Plaintiff, the **Municipality of Añasco**, is a governmental entity formed as a municipality within and in accordance with the laws of the Government of Puerto Rico. Añasco is a municipality located in the west coast of Puerto Rico, with an area of 92 square kilometers (35.5 square miles) and a population of 25,596 living in 23 *barrios*.

37. Plaintiff, the **Municipality of Cidra**, is a governmental entity formed as a municipality within and in accordance with the laws of the Government of Puerto Rico. Cidra is a municipality located in the central region of the island, with an area of 94.42 square kilometers (36.46 square miles) and a population of 39,854 living in 14 *barrios*.

38. Plaintiff, the **Municipality of Aguadilla**, is a governmental entity formed as a municipality within and in accordance with the laws of the Government of Puerto Rico. Aguadilla is a municipality located in the northwestern tip of Puerto Rico, with an area of 198 square kilometers (76.3 square miles) and a population of 55,101 living in 16 *barrios*.

39. Plaintiff, the **Municipality of Aibonito**, is a governmental entity formed as a municipality within and in accordance with the laws of the Commonwealth of Puerto Rico. Aibonito is a municipality found in the central mountain range in the eastern central side of Puerto Rico, with an area of 82 square kilometers (31.5 square miles) and a population of 24,555 living in 9 *barrios*.

40. Plaintiff, the **Municipality of Morovis**, is a governmental entity formed as a municipality within and in accordance with the laws of the Commonwealth of Puerto Rico.

Morovis is a municipality found in the central eastern region of Puerto Rico, with an area of 100.3 square kilometers (38.7 square miles) and a population of 28,277 living in 14 *barrios*. The municipality contains 1 center for diagnostic treatment.

41. Plaintiff, the **Municipality of Moca**, is a governmental entity formed as a municipality within and in accordance with the laws of the Commonwealth of Puerto Rico. Moca is a municipality located in the northwestern region of Puerto Rico, with an area of 133 square kilometers (51.4 square miles) and a population of 37,279 living in 13 *barrios*.

42. Plaintiff, the **Municipality of Barceloneta**, is a governmental entity formed as a municipality within and in accordance with the laws of the Commonwealth of Puerto Rico. Barceloneta is a municipality located in the northern coast of Puerto Rico, with an area of 94.24 square kilometers (36.39 square miles) and a population of 22,416 living in 4 *barrios*. The municipality contains 1 center for diagnostic treatment.

43. Plaintiff, the **Municipality of Camuy**, is a governmental entity formed as a municipality within and in accordance with the laws of the Commonwealth of Puerto Rico. Camuy is a municipality located on the northwestern coast of Puerto Rico, with an area of 160.3 square kilometers (61.91 square miles) and a population of 32,620 living in 13 *barrios*. It is known for eco and agro-tourism. The municipality contains 1 center for diagnostic treatment.

44. Plaintiff, the **Municipality of Cataño**, is a governmental entity formed as a municipality within and in accordance with the laws of the Commonwealth of Puerto Rico. Cataño is a municipality located on the northern coast of Puerto Rico, with an area of 18.23 square kilometers (7.04 square miles) and a population of 22,364 living in 2 *barrios*. The municipality contains 1 center for diagnostic treatment.

45. Plaintiff, the **Municipality of Salinas**, is a governmental entity formed as a municipality within and in accordance with the laws of the Commonwealth of Puerto Rico. Salinas is a municipality found along the southern coast of Puerto Rico, with an area of 180.4 square kilometers (69.7 square miles) and a population of 25,000 living in 6 *barrios*. The municipality contains 2 centers for diagnostic treatment.

46. Plaintiff, the **Municipality of Adjuntas**, is a governmental entity formed as a municipality within and in accordance with the laws of the Commonwealth of Puerto Rico. Adjuntas is a municipality found in the central mountain range in the western central side of Puerto Rico, with an area of 173.8 square kilometers (67.10 square miles) and a population of 17,905 living in 17 *barrios*. It is known for eco and agro-tourism.

47. Plaintiff, the **Municipality of Arroyo** is a governmental entity formed as a municipality within and in accordance with the laws of the Commonwealth of Puerto Rico. Arroyo is a municipality located along the southwestern coast of Puerto Rico, with an area of 59.6 square kilometers (23 square miles) and a population of 15,289 living in 6 *barrios*. The municipality contains 1 center for diagnostic treatment.

48. Plaintiff, the **Municipality of Culebra**, is a governmental entity formed as a municipality within and in accordance with the laws of the Commonwealth of Puerto Rico. Culebra is an island municipality located off the northeastern coast of Puerto Rico, with an area of 30.1 square kilometers (11.6 square miles) and a population of 1,769 living in 6 *barrios*. It is known for eco and agro-tourism. The municipality contains 1 center for diagnostic treatment.

49. Plaintiff, the **Municipality of Dorado**, is a governmental entity formed as a municipality within and in accordance with the laws of the Commonwealth of Puerto Rico. Dorado is a municipality found on the northern coast of Puerto Rico, with an area of 60.16 square kilometers

(23.23 square miles) and a population of 35,663 living in 6 *barrios*. It is known for eco and agro-tourism. The municipality contains 2 centers for diagnostic treatment.

50. Plaintiff, the **Municipality of Guaynabo**, is a governmental entity formed as a municipality within and in accordance with the laws of the Commonwealth of Puerto Rico. Guaynabo is a municipality located in the northern coast of Puerto Rico, with an area of 70.2 square kilometers (27.1 square miles) and a population of 89,057 living in 10 *barrios*. The municipality contains 1 center for diagnostic treatment.

51. Plaintiff, the **Municipality of Hormigueros**, is a governmental entity formed as a municipality within and in accordance with the laws of the Commonwealth of Puerto Rico. Hormigueros is a municipality located in the western region of Puerto Rico, with an area of 29 square kilometers (11 square miles) and a population of 15,413 living in 6 *barrios*.

52. Plaintiff, the **Municipality of Juncos**, is a governmental entity formed as a municipality within and in accordance with the laws of the Commonwealth of Puerto Rico. Juncos is a municipality found in the central eastern region of Puerto Rico, with an area of 68.89 square kilometers (26.60 square miles) and a population of 36,672 living in 10 *barrios*. The municipality contains 1 center for diagnostic treatment.

53. Plaintiff, the **Municipality of Lajas**, is a governmental entity formed as a municipality within and in accordance with the laws of the Commonwealth of Puerto Rico. Lajas is a municipality found along the southwestern coast of Puerto Rico, with an area of 199.04 square kilometers (76.85 square miles) and a population of 22,936 living in 12 *barrios*. The municipality contains 1 center for diagnostic treatment.

54. Plaintiff, the **Municipality of Manatí**, is a governmental entity formed as a municipality within and in accordance with the laws of the Commonwealth of Puerto Rico. Manatí is a

municipality found on the northern coast of Puerto Rico, with an area of 145.53 square kilometers (56.19 square miles) and a population of 38,751 living in 9 *barrios*. The municipality contains 2 centers for diagnostic treatment.

55. Plaintiff, the **Municipality of Naguabo**, is a governmental entity formed as a municipality within and in accordance with the laws of the Commonwealth of Puerto Rico. Naguabo is a municipality located along the eastern coast of Puerto Rico, with an area of 155.57 square kilometers (60.1 square miles) and a population of 22,964 living in 10 *barrios*. The municipality contains 1 center for diagnostic treatment.

56. Plaintiff, the **Municipality of Naranjito**, is a governmental entity formed as a municipality within and in accordance with the laws of the Commonwealth of Puerto Rico. Naranjito is a municipality found in the central eastern region of Puerto Rico, with an area of 73.54 square kilometers (28.4 square miles) and a population of 29,208 living in 8 *barrios*. The municipality contains 1 center for diagnostic treatment.

57. Plaintiff, the **Municipality of Utuado**, is a governmental entity formed as a municipality within and in accordance with the laws of the Commonwealth of Puerto Rico. Utuado is a municipality in the central mountainous region of Puerto Rico, with an area of 297.83 square kilometers (114.99 square miles) and a population of 27,535 living in 24 *barrios*.

58. Plaintiff, the **Municipality of Villalba**, is a governmental entity formed as a municipality within and in accordance with the laws of the Commonwealth of Puerto Rico. Villalba is a municipality found in the central region of Puerto Rico, with an area of 97.61 square kilometers (37.69 square miles) and a population of 21,466 living in 8 *barrios*. The municipality contains 1 center for diagnostic treatment.

59. Plaintiff, the **Municipality of Coamo**, is a governmental entity formed as a municipality within and in accordance with the laws of the Commonwealth of Puerto Rico. Coamo is a municipality located in the south-central region of Puerto Rico, with an area of 202.15 square kilometers (78.05 square miles) and a population of 33,887 living in 11 *barrios*. The municipality contains 1 center for diagnostic treatment.

60. Plaintiff, the **Municipality of Orocovis**, is a governmental entity formed as a municipality within and in accordance with the laws of the Commonwealth of Puerto Rico. Orocovis is a municipality found in the central mountainous region of Puerto Rico, with an area of 184.17 square kilometers (71.1 square miles) and a population of 21,229 living in 17 *barrios*. The municipality contains 1 center for diagnostic treatment.

61. Plaintiff, the **Municipality of Vieques**, is a governmental entity formed as a municipality within and in accordance with the laws of the Commonwealth of Puerto Rico. Vieques is an island municipality ten miles off the eastern coast of Puerto Rico, with an area of 135 square kilometers (52 square miles) and a population of 8,043 living in 8 *barrios*. The municipality contains 1 center for diagnostic treatment.

62. Plaintiff, the **Municipality of Yabucoa**, is a governmental entity formed as a municipality within and in accordance with the laws of the Commonwealth of Puerto Rico. Yabucoa is a municipality found in the eastern region of Puerto Rico, with an area of 215.65 square kilometers (83.26 square miles) and a population of 29,305 living in 10 *barrios*. The municipality contains 2 centers for diagnostic treatment.

63. The Municipalities of Puerto Rico are the second-order administrative divisions in the Government 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.

64. The above listed municipalities suffered devastating effects of the 2017 Atlantic Hurricane Season and are representative of the remaining 41 municipalities in Puerto Rico.

65. Plaintiffs have suffered independent damages to their property, resources, money paid to the Defendants, lost taxes, interests, costs of repairing and replacing the infrastructure, and devastation to the Plaintiffs' economy as the direct and proximate cause of the tortious acts of the Defendants as stated herein.

66. Plaintiff Municipalities are representative of the municipalities of Puerto Rico and bring this action to recoup damages sustained and that continue to be sustained, from devastating effects of the monster storms of the 2017 Atlantic Hurricane Season and since.

67. The Plaintiffs, therefore, have met the constitutional standing requirement of Article III of the United States Constitution, in that the Municipalities of Puerto Rico are more than nominal parties in this cause.

68. As the impacts of climate change grow more severe, they will do more harm to Plaintiffs and cause greater damages. Alone, Plaintiffs and their citizens cannot pay the full costs to abate continuing damages caused by climate change, nor should they. Climate change threatens public health, economic security, and infrastructure within the Municipalities, so the Plaintiffs must spend now to not repair past damage but prepare for the dangerous future. Hurricane Maria alone led to

over \$100 billion in damages, which is 40 times more than the estimated annual climate-related costs for Puerto Rico.¹⁷

69. Instead, these 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 Plaintiffs and others that have caused and continue to cause the devastating effects of climate change to the Municipalities, while concealing and misrepresenting the dangers associated with the use of fossil fuel-based products, including the increased frequency of more dangerous storms.¹⁸

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

71. The Municipalities of Puerto Rico and their citizens were not forewarned of the predicted storm devastation by the Defendants, although it was Defendants' duty to do so. The Municipalities have taken substantial steps to reduce their carbon footprint and protect themselves from storms, but have 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

¹⁷ Ramón Bueno, et al., *The Caribbean and Climate Change: The Costs of Inaction*, TUFTS UNIVERSITY (May 2008), <https://tamug-ir.tdl.org/bitstream/handle/1969.3/29240/Caribbean-full-Eng.pdf?sequence=1>.

¹⁸ James P. Kossin, et al., *Global Increase in Major Tropical Cyclone Exceedance Probability over the Past Four Decades*, PNAS (May 18, 2020), <https://doi.org/10.1073/pnas.1920849117>; Katharine Hayhoe et al., *Our Changing Climate*, IMPACTS, RISKS, AND ADAPTATION IN THE UNITED STATES: FOURTH NATIONAL CLIMATE ASSESSMENT, VOLUME II (2018), https://nca2018.globalchange.gov/downloads/NCA4_Ch02_Changing-Climate_Full.pdf.

increase in magnitude and the acceleration of climate change, increasing the intensity of storms by 2017.¹⁹

72. Defendants cannot contest the reasonableness or necessity of the Municipalities' climate response. While Defendants publicly fought against climate science — to protect their profits from the impacts of regulation and informed choice by the Municipalities — they secretly relied on the same established science to protect their businesses from climate change impacts. Now that the Municipalities have 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

73. 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 jointly responsible for a substantial portion, **39.6%** and still increasing, of the total worldwide greenhouse gases emitted between 1965 to present date and represent far more than a substantial cause, jointly and severally, for the Atlantic Hurricane storms that devastated Puerto Rico in 2017.

74. About three quarters of all fossil fuel emissions and cement process emissions in history have occurred since 1972 and more than half have occurred since late 1994.²⁰ The annual rate of

¹⁹ Julio T. Bacmeister, et al., *Projected Changes in Tropical Cyclone Activity under Future Warming Scenarios Using a High-Resolution Climate Model*, 146 CLIMATIC CHANGE 547-560 (Aug. 1, 2016), <https://doi.org/10.1007/s10584-016-1750-x>.

²⁰ Pierre Friedlingstein, et al., *Global Carbon Budget 2022*, 14 EARTH SYST. SCI. DATA 4811, at 4900 (2022), <https://essd.copernicus.org/articles/14/4811/2022/essd-14-4811-2022.pdf> (last visited June 21, 2023).

CO₂ emissions from production, consumption, and use of fossil fuels has increased by more than 66% since 1990.²¹ 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 each Defendant extracted and placed into the stream of commerce, and multiplying those quantities by each fossil fuel product's carbon factor.²²

75. The Defendants, listed below, along with their joint-venture carbon majors ("JV"), are directly responsible for at least **39.6%** of all global industrial GHG emissions from 1965-2022 as follows and more detailed herein:²³

Defendants	JV 1	JV 2	JV3	JV4	Sum
Exxon 44,772 (2.87%)	Petrobras 10,747 (0.69%)	Pioneer 520.44 (0.03%)			ExxonMobil Sum 55,519 (3.59%)
Shell 34,469 (2.21%)	Gazprom 50,492 (3.24%)	Nat'l Iranian 41,527 (2.66%)	China NatPet 18,162 (1.17%)	Pemex 24,355 (1.56%)	
	Abu Dhabi 17,359 (1.11%)	Kuwait Pet 15,621 (1.00%)			Shell Sum 201,985 (12.96%)
Chevron 45,639	PDVSA	Eni	Sonangol	TotalEnergies	

²¹ Le Quéré 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 June 21, 2023).

²² 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/s10584-013-0986-y.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-PressRelease-Top20-Oct19.pdf> (last visited Sept. 22, 2023).

²³ Richard Heede, *Carbon Majors: Update of Top Twenty Companies 1965-2022*, CLIMATE ACCOUNTABILITY INSTITUTE (Updated Aug. 2023).

(2.93%)	16,756 (1.08%)	8,844 (0.57%)	3,294 (0.21%)	14,421 (0.93%)	
	Nigerian	Hess			Chevron Sum
	10,103 (0.65%)	2,665 (0.17%)			101,721 (6.53%)
BP	Rosneft	Iraq Nat'l	Sonatrach		BP Sum
36,506 (2.34%)	11,224 (0.72%)	Oil 15,183 (0.97%)	14,358 (0.92%)		77,270 (4.96%)
ConocoPhillips					ConocoPhillips Sum
16,576 (1.06%)					16,576 (1.06%)
Motiva	Saudi				Motiva Sum
0 (0%)	Aramco 68,472 (4.39%)				68,472 (4.39%)
Occidental	Anadarko				Occidental Sum
10,289 (0.66%)	(included)				10,289 (0.66%)
BHP	Anglo	Glencore			BHP Sum
10,990 (0.71%)	American 7,326 (0.47%)	6,286 (0.40%)			24,602 (1.58%)
Rio Tinto					Rio Tinto Sum
6,762 (0.43%)					6,762 (0.43%)
Non-Defendant Co-Conspirators					Sum
Peabody	Coal India				Peabody Sum
16,901 (1.08%)	29,389 (1.89%)				46,290 (2.97%)
Arch Res					Arch Res Sum
7,220 (0.46%)					7,220 (0.46%)
Sum Oil Defendants			Oil Defendants + JV Partners		
188,251 (12.08%)			531,833 (34.16%)		
Sum Coal Defendants			Coal Defendants + JV Partners		
17,752 (1.14%)			31,364 (2.01%)		
Sum Non-Defendant Co-Conspirators (Peabody + Arch)					
53,510 (3.43%)					53,510 (3.43%)
Sum Oil & Coal Defendants			Oil & Coal Defendants + JV Partners + Co-Conspirators		
206,002 (13.22%)			617,227 (39.6%)		

76. Thus, these Oil and Coal Defendants were, and are, more than a substantial factor contributing to the Municipalities' damages in September 2017 and thereafter.²⁴ ²⁵ Upon information and belief, the Defendants' contributions past, present, and future to climate change has and continues to be hidden from the Plaintiffs. Only extensive discovery will take down the barriers established by the Defendant to know what the actual numbers have been and will be.

77. 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;²⁶ 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 particularly for Puerto Rico in the hurricane-threatened Caribbean, or to avoid the danger by the Defendants sharply curtailing the

²⁴ As delineated in full below, the Oil Defendants are ExxonMobil, Shell, Chevron, BP, ConocoPhillips, Motiva, and Occidental. The Coal Defendants are BHP and Rio Tinto.

²⁵ Jiarui 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, (Mar. 2022), at 7,

<https://ccsi.columbia.edu/sites/default/files/content/docs/publications/ccsi-oil-supermajors-carbon-footprint-refining-sales-climate-change.pdf> (last visited Oct. 9, 2023) (“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 CO₂e, nearly doubling its annual carbon footprint over the period. The supermajors 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 to 2019, leading to emissions of 442.84 Gt CO₂e, with a 51.08% increase in its annual carbon footprint over the period. The supermajors jointly account for 22.86% of the cumulative carbon footprint of sector from 1980 to 2018, which reflects a lower but still significant market concentration in the refining sector. . . . most supermajors 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 JVs.”).

²⁶ Benjamin Franta, *Early oil industry knowledge of CO₂ and global warming*, 8 NATURE CLIMATE CHANGE, 1024-2015 (2018); Benjamin Franta, *On its 100th birthday in 1959, Edward Teller warned the oil industry about global warming*, THE GUARDIAN (January 1, 2018), <https://www.theguardian.com/environment/climate-consensus-97-percent/2018/jan/01/on-its-hundredth-birthday-in-1959-edward-teller-warned-the-oil-industry-about-global-warming> (last visited Oct. 12, 2023).

sale and use of fossil fuels. The latter choice, of course, would have required the Defendants to tell the truth to the Plaintiffs and their citizens and the Defendants refused to do so.

78. 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 Municipalities would not have suffered the intense 2017 storms and subsequent losses and damages and severe storms thereafter.

79. 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 Municipalities of Puerto Rico and their citizens, among others, would rely on these misrepresentations and continue to purchase their products, unaware that the pace of the occurrence of such ferocious storms would be accelerated, reaching a new peak in September 2017 and continuing its acceleration.

80. 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.²⁷ 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.

²⁷ Brenda Ekwurzel, et al., *The rise in global atmospheric CO₂, surface temperature, and sea level from emissions traced to major carbon producers*, 144 CLIMATIC CHANGE 579-590 (Sept. 7, 2017), at 585, <https://link.springer.com/article/10.1007/s10584-017-1978-0> (modeling the attribution of increased CO₂ concentration, temperatures, and sea-level rise to individual Carbon Majors) (last visited Oct. 12, 2023).

81. This deceptive conduct, and the Municipalities' 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 and more extreme and volatile storms.

82. 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 Municipalities and their citizens, 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.

83. Meanwhile, the Municipalities and their citizens became dependent on oil and coal without knowing anything about the coming devastation to their Island which the Defendants suppressed. Two-thirds of the energy used in Puerto Rico comes from petroleum products,²⁸ which are all imported, principally through the ports of San Juan, Guayanilla, and Ponce.^{29, 30} The Defendants provided this immediate availability to the Municipalities to prevent them from seeking other energy sources.

84. 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.³¹ Conventional motor gasoline makes up more than one-third of annual petroleum product imports.³² About 40% of Puerto Rico's electricity generating capacity is fired with No. 6 residual fuel oil and

²⁸ 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=RQ> (last visited Oct. 9, 2023).

²⁹ *Id.*

³⁰ *Id.*

³¹ *Id.*

³² *Id.*

30% with No. 2 diesel fuel.³³ 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 and maintain the dependency of the Municipalities and their citizens upon their products.

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

86. The Defendants' current and future fossil fuel activities continue to accelerate and exacerbate climate change and its impacts.³⁴ Defendants continue their fossil fuel activities at increased levels. While they may someday 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.³⁵

87. The Municipalities of Puerto Rico will have to bear the costs of the Defendants' past and future culpable acts, although they did not contribute thereto.

88. 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 Plaintiffs the dangers of unchecked fossil fuel use. Furthermore, Defendants protected fossil fuel demand, worked to fool consumers, like those represented by the Plaintiffs, into a false sense of security with regard to the impacts of fossil fuels on climate change, Puerto Rico, and obstructed switching

³³ *Id.*

³⁴ Paul Griffin, *The Carbon Majors Database: CDP Carbon Majors Report 2017*, CLIMATE ACCOUNTABILITY INSTITUTE (2017) <https://cdn.cdp.net/cdp-production/cms/reports/documents/000/002/327/original/Carbon-Majors-Report-2017.pdf> (last visited Oct. 12, 2023); Brenda Ekwurzel, et al., *The rise in global atmospheric CO₂, surface temperature, and sea level from emissions traced to major carbon producers*, 144 CLIMATIC CHANGE 579-590 (Sept. 7, 2017), at 585, <https://link.springer.com/article/10.1007/s10584-017-1978-0> (last visited Oct. 12, 2023).

³⁵ U.S. House of Representatives, Committee on Oversight & Reform, *Investigation of Fossil Fuel Industry Disinformation, Memorandum* (Dec. 9, 2022), https://oversightdemocrats.house.gov/sites/democrats.oversight.house.gov/files/2022-12-09.COR_Supplemental_Memo-Fossil_Fuel_Industry_Disinformation.pdf.

to alternative energy sources needed to prevent or even 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 these storm-related impacts, then the Plaintiffs would, more likely than not, have avoided the severe storms of 2017, the aftermath, and the severe storms since.

89. 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 intentionally, jointly, and severally at all times when causing to the damages claimed by the Plaintiffs and deceiving the Plaintiffs about their joint activities and the destruction their joint activities were causing.

1. Oil Defendants

90. **ExxonMobil 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. ExxonMobil, along with Defendants, BP, Shell, Chevron and their predecessor corporations constituted a group in the 1970's known as the "Seven Sisters"³⁶ which controlled around 85% of the world's petroleum reserves.³⁷

³⁶ "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 ExxonMobil), Standard Oil Company of New York (Socony, later Mobil, also now part of ExxonMobil), and Texaco (later merged into Chevron).

³⁷ 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 Oct. 22, 2023)

91. ExxonMobil is an American multinational oil and gas corporation and has consistently ranked as the world's second largest oil company by revenue.³⁸ It is one of the largest of the world's Big Oil companies.³⁹

92. ExxonMobil 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.

93. When ranked by oil and gas reserves, ExxonMobil is ranked 14th in the world.⁴⁰ ExxonMobil's reserves were valued at \$20 billion at the end of 2017.⁴¹ ExxonMobil's total assets at the end of 2022 were valued at \$369.1 billion.⁴²

94. ExxonMobil manages, directs, and controls its and its subsidiaries' policies and practices related to climate change and fossil fuel production. ExxonMobil is the second largest investor-owned greenhouse gas emitter.^{43 44}

95. ExxonMobil is the largest non-government owned company in the energy industry and produces about 2.6% of the world's global crude oil and about 2% of the world's energy.⁴⁵

³⁸ Fortune, *Global 500*, FORTUNE 500, <https://fortune.com/fortune500/2022/> (last visited Oct. 21, 2023)

³⁹ *Id.*

⁴⁰ Steve Forbes, *Will We Rid Ourselves of This Pollution?*, FORBES (Mar. 20, 2007)

<https://www.forbes.com/forbes/2007/0416/033.html?sh=350a237f22f4> (last visited Oct. 9, 2023).

⁴¹ Exxon Mobil, *Exxon Mobil Corporation Announces 2013 Reserves Replacement Totaled 103*, EXXONMOBIL (Feb. 21, 2014), <https://ir.exxonmobil.com/news-releases/news-release-details/exxon-mobil-corporation-announces-2013-reserves-replacement> (last visited Oct. 9, 2023).

⁴² ExxonMobil, *2022 Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934 (Form 10K)*, EXXONMOBIL (Feb. 27, 2019) <https://www.sec.gov/Archives/edgar/data/34088/000003408823000020/xom-20221231.htm> (last visited June 21, 2023).

⁴³ ExxonMobil, *2018 Financial & Operating Review*, EXXONMOBIL (2019), <https://corporate.exxonmobil.com/-/media/Global/Files/annual-report/2018-Financial-and-Operating-Review.pdf> (last visited Oct. 9, 2023); Taylor, Matthew & Jonathan Watts, *Revealed: the 20 firms behind a third of all carbon emissions*, THE GUARDIAN (Oct. 9, 2019) <https://www.theguardian.com/environment/2019/oct/09/revealed-20-firms-third-carbon-emissions> (citing Richard Heede, *Carbon Majors: Update of Top Twenty companies 1965-2017*, CLIMATE ACCOUNTABILITY INSTITUTE (Oct. 9, 2019)).

⁴⁴ The metric used here is for scope 1 (direct) and scope 2 (indirect) emissions that all oil companies report. It excludes scope 3 (product-related) emissions.

⁴⁵ Roslan Khasawneh, *ExxonMobil Eyes Multi-Billion Dollar Investment at Singapore Refinery: Executive*, REUTERS (Oct. 3, 2018) <https://www.reuters.com/article/us-singapore-bunker-sibcon-exxonmobil-mobil-idUKKCN1MD0EF> (last visited Oct. 9, 2023).

ExxonMobil is organized functionally into a number of global operating divisions, namely Upstream, Downstream and Chemical, such as ExxonMobil 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.

96. ExxonMobil's upstream operation includes exploration, extraction, shipping, and wholesale operations, is based in Houston, Texas and constitutes the majority of ExxonMobil's revenue, accounting for approximately 70% of the total.⁴⁶ In 2021, ExxonMobil's oil and gas reserves totaled 18.5 billion boe.⁴⁷

97. ExxonMobil's downstream operation, consisting of marketing, refining, and retail operations, is based in Houston, Texas. ExxonMobil 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.⁴⁸ Upon information and belief, ExxonMobil's downstream operation includes sales of its petroleum-based consumer products in Puerto Rico.

98. ExxonMobil is one of the top worldwide producers of polyolefins and other polymers and resins.

⁴⁶ ExxonMobil, *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 visited Oct. 29, 2023).

⁴⁷ ExxonMobil, *2021 Financial & Operating Data*, EXXONMOBIL (2021), at 24, <https://corporate.ExxonMobil.com/-/media/global/files/annual-report/2021-financial-and-operating-data.pdf> (last accessed Oct. 21, 2023).

⁴⁸ Ernest Scheyder & Erwin Seba, *Exxon Mobil CEO makes first big changes to refining*, REUTERS (Nov. 27, 2017), <https://www.reuters.com/article/us-ExxonMobil-mobil-restructuring-idUSKBN1DR0JJ> (last visited Sept. 22, 2023).

99. In 2008, Esso Standard Oil PR, a subsidiary of ExxonMobil, 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.⁴⁹

100. ExxonMobil Chemical is a petrochemical company which was created by merging ExxonMobil's and Mobil's chemical industries. Its principal products include basic olefins and aromatics, ethylene glycol, polyethylene, and polypropylene along with specialty lines such as elastomers, plasticizers, solvents, process fluids, oxo alcohols and adhesive resins.

101. ExxonMobil's "Mobil 1" brand is the market leader in high-value synthetic lubricants and is sold in Puerto Rico.⁵⁰

102. ExxonMobil'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.⁵¹ The Infineum line manufactures and markets crankcase lubricant additives, fuel additives, and specialty lubricant additives, as well as automatic transmission fluids, gear oils, and industrial oils.⁵² 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.⁵³ Their products are classified into five

⁴⁹ TotalEnergies, *TotalEnergies in Puerto Rico*, TOTALENERGIES (2022), <https://totalenergies.com.pr/en/total-puerto-rico/totalenergies-puerto-rico> (last visited Oct. 9, 2023).

⁵⁰ ExxonMobil, *ExxonMobil 2018 Financial & Operating Review*, EXXONMOBIL (Apr. 2, 2019), <https://corporate.exxonmobil.com/-/media/Global/Files/annual-report/2018-Financial-and-Operating-Review.pdf> (last visited Oct. 9, 2023).

⁵¹ Jack W. Plunkett, *Plunkett's Chemicals, Coatings & Plastics Industry Almanac: The Only Complete Guide to the Chemicals Industry* (2009).

⁵² *Id.*

⁵³ Bloomberg, *Infineum International Limited – Company Profile and News*, BLOOMBERG <https://www.bloomberg.com/profile/company/2573746Z:LN?leadSource=verify%20wall> (last visited Oct. 9, 2023).

distinct groups: driveline additives, engine oil additives, fuel additives, marine additives and industrial products and are sold worldwide, including Puerto Rico.

103. ExxonMobil advertises, markets, and sells its products in Puerto Rico. Upon information and belief, at all relevant times, the Plaintiffs have been, and remain, customers of ExxonMobil. The Municipalities of Puerto Rico and/or their citizens have invested in ExxonMobil as a publicly traded company.

104. ExxonMobil is responsible for 2.87% of all global industrial GHG emissions from 1965-2022, totaling the sum of approximately 44,772 million tonnes of CO₂e (“MtCO₂e”) in both direct and end use of their products.⁵⁴

105. ExxonMobil also has a known joint venture with another carbon major, Petrobras,⁵⁵ which is responsible for 0.66% of all global industrial GHG emissions from 1965-2020, totaling the sum of approximately 10,747 million tonnes of CO₂e (“MtCO₂e”) in both direct and end use of their products.⁵⁶

106. ExxonMobil most recently purchased Pioneer Natural Resources,⁵⁷ which is responsible for 0.03% of all global industrial GHG emissions from 1965-2020, totaling the sum of approximately 520.44 million tonnes of CO₂e (“MtCO₂e”) in both direct and end use of their products.⁵⁸

⁵⁴ Heede, *supra* footnote 23.

⁵⁵ ExxonMobil, *Petrobras and ExxonMobil Form Strategic Alliance*, EXXONMOBIL (Dec. 14, 2017), https://corporate.exxonmobil.com/news/news-releases/2017/1214_petrobras-and-exxonmobil-form-strategic-alliance#:~:text=IRVING%2C%20Texas%20%E2%80%94%20Petrobras%20and%20ExxonMobil,and%20evaluate%20potential%20business%20opportunities (last visited Sept. 22, 2023).

⁵⁶ Richard Heede, *Carbon Majors: Update of Top Twenty Companies*, CLIMATE ACCOUNTABILITY INSTITUTE (Oct. 9, 2019) https://issuu.com/ejecentral6/docs/cai_pressrelease_top20_oct19 (last visited Sept. 22, 2023).

⁵⁷ Al Barbarino, *ExxonMobil Pays \$60B For Pioneer in Top Deal of 2023*, LAW360 (Oct. 11, 2023), https://www.law360.com/environmental/articles/1730147?nl_pk=bed249b6-a109-40ce-8fa0-9b6b91b81be7&utm_source=newsletter&utm_medium=email&utm_campaign=environmental&utm_content=1730147&read_main=1&nlsidx=0&nlaidx=0.

⁵⁸ Heede, *supra* footnote 23.

107. Considering ExxonMobil's responsibility, coupled with those of its joint venture carbon major partner, ExxonMobil is responsible for **3.59%** of all global industrial GHG emissions from 1965-2022, totaling the sum of approximately 55,519 MtCO₂e in both direct and indirect use of their products.⁵⁹

108. **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 fourth largest investor-owned greenhouse gas emitter.⁶⁰

109. Shell has operations in over 70 countries, produces nearly 3.2 million barrels of oil equivalent per day, sold 64.2 million tonnes of liquefied natural gas (LNG) during 2021 and has interests in 10 refineries.⁶¹ Like ExxonMobil, Shell has billions in proven reserves. As of the end of December 2014, Shell boasted 13.7 billion barrels of oil equivalent.⁶² Shell is registered with the SEC and is traded as SHEL. At the end of 2018, Shell reported \$339.2 billion in assets.⁶³

⁵⁹ *Id.*

⁶⁰ *Id.*

⁶¹ Shell Global, *Who We Are*, SHELL PLC, <https://www.shell.com/about-us/who-we-are.html> (last visited Sept. 22, 2023).

⁶² 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 Sept. 22, 2023).

⁶³ Royal Dutch Shell PLC, *Form 20-F Annual Report Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934*, SHELL PLC (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/1594128317894/3358e41179b57db16dae76d29cf27e0e1b45eaff/annual-report-rds-20f-2018.pdf (last visited Sept. 22, 2023).

110. Like ExxonMobil, 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.⁶⁴

111. 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.⁶⁵ Shell’s website reflects 121 Shell gas stations in Puerto Rico as of November 14, 2022.⁶⁶

112. On 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 1st, 2022.⁶⁷

113. Shell owns “Pennzoil,” “Quaker State” and “Jiffy Lube.” Shell sells its engine oil and lubricants 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.⁶⁸ Shell advertises, markets, and sells its products, including consumer products, in Puerto Rico. Upon information and belief, at all relevant times, the Plaintiffs have been, and remain, customers of

⁶⁴ 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 Oct. 9, 2023).

⁶⁵ 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 Oct. 9, 2023).

⁶⁶ Shell United States, *Gas Station Near Me*, SHELL UNITED STATES, <https://www.shell.us/motorist/gas-station-near-me> (last visited Sept. 22, 2023).

⁶⁷ News is my Business (NimB), *Sol Puerto Rico to re-brand Shell gas stations to Mobil*, NEWS IS MY BUSINESS (NIMB) (June 29, 2022), <https://newsismybusiness.com/sol-puerto-rico-to-re-brand-shell-gas-stations-to-mobil/> (last visited Oct. 9, 2023). See also, Madison Choudhry, *ExxonMobil Enters the Puerto Rican market*, THE WEEKLY JOURNAL (Oct. 12, 2022) https://www.theweeklyjournal.com/business/Exxonmobil-enters-the-puerto-rican-market/article_534caa5a-4cfc-11ed-82a5-1bf5b14766fe.html (last visited Oct. 9, 2023).

⁶⁸ Shell United States, *Shell Engine Oils and Lubricants*, SHELL UNITED STATES, <https://www.shell.com/motorist/oils-lubricants> (last visited Oct. 9, 2023).

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

114. Shell is responsible for 2.21% of all global industrial GHG emissions from 1965-2022, totaling the sum of approximately 34,469 MtCO₂e in both direct and end use of their products.⁶⁹

115. Shell also has joint ventures with another carbon major, Gazprom,⁷⁰ which is responsible for 3.24% of all global industrial GHG emissions from 1965-2022.⁷¹ Shell also has known joint ventures with another carbon major, National Iranian Oil Company,⁷² which is responsible for 2.66% of all global industrial GHG emissions from 1965-2022.⁷³

116. Shell also has known joint ventures with another carbon major, China Petroleum,⁷⁴ which is responsible for 1.17% of all global industrial GHG emissions from 1965-2022.⁷⁵ Shell also has known joint ventures with another carbon major, Pemex,⁷⁶ which is responsible for 1.56% of all global industrial GHG emissions from 1965-2022.⁷⁷

117. Shell also has a known joint venture with another carbon major, Abu Dhabi National Oil Company,⁷⁸ which is responsible for 1.11% of all global industrial GHG emissions from 1965-2022.⁷⁹

⁶⁹ Heede, *supra* footnote 23.

⁷⁰ Gazprom, *Gazprom and Shell Review Progress of Joint Projects*, GAZPROM (Mar. 16, 2018), <http://www.gazprom.com/press/news/2018/march/article412883/> (last visited Oct. 9, 2023).

⁷¹ Heede, *supra* footnote 23.

⁷² 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 Oct. 9, 2023).

⁷³ Heede, *supra* footnote 23.

⁷⁴ Offshore Energy, *Shell, CNPC Form Well Manufacturing JV (The Netherlands)*, OFFSHORE ENERGY (Jun. 20, 2011), <https://www.lngworldnews.com/shell-cnpc-form-well-manufacturing-jv-the-netherlands/> (last visited Oct. 9, 2023).

⁷⁵ Heede, *supra* footnote 23.

⁷⁶ Oil & Gas Journal, *Pemex to Acquire Interest in Shell Texas Refinery*, OIL & GAS JOURNAL (Aug. 31, 1992), <https://www.ogj.com/home/article/17218678/pemex-to-acquire-interest-in-shell-texas-refinery> (last visited Oct. 9, 2023).

⁷⁷ Heede, *supra* footnote 23.

⁷⁸ Abu Dhabi National Oil Company, *Our Partners*, ABU DHABI NATIONAL OIL COMPANY, <https://www.adnoc.ae/en/our-partners> (last visited Oct. 9, 2023).

⁷⁹ Heede, *supra* footnote 23.

118. Shell also has a known joint venture with another carbon major, Kuwait National Petroleum Corporation,⁸⁰ which is responsible for 1.00% of all global industrial GHG emissions from 1965-2022.⁸¹

119. Considering Shell's responsibility, coupled with those of its joint venture carbon major partners, Shell and its affiliates contribute approximately **12.96%** of all global industrial GHG emissions, totaling the sum of approximately 201,985 million tonnes of CO₂e ("MtCO₂e"), from 1965-2022.⁸²

120. **Chevron Corp.** is incorporated in Delaware, with its principal place of business in San Ramon, California. Chevron manages, directs, and controls its and its subsidiaries' policies and practices related to climate change and fossil fuel production.⁸³ Chevron is a publicly traded corporation registered with the SEC and its symbol is CVX.

121. 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.

122. Like ExxonMobil 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.⁸⁴

⁸⁰ 360 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-shell-sign-agreement-for-long-term-supply-of-lng-to-meet-domestic-energy-needs/> (last visited Oct. 9, 2023).

⁸¹ Heede, *supra* footnote 23.

⁸² *Id.*

⁸³ 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-y.pdf> (last visited Oct. 9, 2023).

⁸⁴ Chevron, *Our History*, CHEVRON, <https://www.chevron.com/about/history> (last visited Oct. 12, 2023).

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

124. 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.

125. 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.⁸⁵ It was also one of the Seven Sisters that dominated the global petroleum industry from the mid-1940s to the 1970s.⁸⁶

126. 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.⁸⁷

127. According to its 2017 corporate disclosures, Chevron had \$253.8 billion in total assets and 11.7 billion barrels in proven reserves.⁸⁸

128. Chevron markets and sells its products in Puerto Rico. Upon information and belief, at all relevant times, the Plaintiffs have been, and remain, customers of Chevron. The Municipalities of Puerto Rico and/or their citizens have invested in Chevron as a publicly traded company.

⁸⁵ Fortune, *Chevron | 2022 Fortune 500*, FORTUNE, <https://fortune.com/company/chevron/fortune500/> (last visited Oct. 11, 2023).

⁸⁶ *Id.*

⁸⁷ Caribbean Business, *Puma caps buy of Chevron in PR, USVI*, CARIBBEAN BUSINESS (Aug. 1, 2012), https://web.archive.org/web/20131111122336/http://www.caribbeanbusinesspr.com/news03.php?nt_id=74733 (last visited June 21, 2023).

⁸⁸ Chevron, *2017 Annual Report*, CHEVRON (2018), <https://www.chevron.com/-/media/chevron/annual-report/2017/2017-Annual-Report.pdf> (last visited Oct. 11, 2023).

129. Chevron is responsible for 2.93% of all global industrial GHG emissions from 1965-2022, totaling the sum of approximately 45,639 MtCO₂e in both direct emissions from their industry and end use of their products.⁸⁹

130. Like Shell, Chevron partners with other carbon majors worldwide.

131. Chevron also has known joint ventures with another carbon major, PDVSA,^{90, 91} which is responsible for 1.08% of all global industrial GHG emissions from 1965-2022.⁹² Chevron also has known joint ventures with other carbon majors, Eni, Sonangol, and TotalEnergies SE,⁹³ which Eni is responsible for 0.57% of all global industrial GHG emissions from 1965-2022, Sonangol is responsible for 0.21% of all global industrial GHG emissions from 1965-2022, and TotalEnergies SE is responsible for an additional 0.93% of all global industrial GHG emissions from 1965-2022.⁹⁴ Chevron also has known joint ventures with Nigerian National Petroleum,⁹⁵ which is responsible for 0.65% of all global industrial GHG emissions from 1965-2022.⁹⁶ Chevron purchased Hess Oil in 2023,⁹⁷ which is responsible for 0.17% of all global industrial GHG emissions from 1965-2022.⁹⁸

132. Considering Chevron's responsibility, coupled with those of its joint venture carbon major partners, Chevron and its affiliates contribute approximately **6.53%** of all global industrial

⁸⁹ Heede, *supra* footnote 23.

⁹⁰ Chevron, *Venezuela*, CHEVRON, <https://www.chevron.com/worldwide/venezuela>. (last visited Oct. 11, 2023).

⁹¹ Abu Dhabi National Oil Company (ADNOC), *ADNOC Signs Landmark Strategic Partnership Agreements with Eni and OVM in Refining and Trading*, ABU DHABI NATIONAL OIL COMPANY, (Jan. 27, 2019) <https://www.adnoc.ae/en/news-and-media/press-releases/2019/adnoc-signs-landmark-strategic-partnership-agreements>. (last visited Oct. 11, 2023).

⁹² Heede, *supra* footnote 23.

⁹³ NS Energy, *EU clears Angolan LNG joint venture by BP, Chevron, Eni, Sonangol and Total*, NS ENERGY (May 16, 2012), <https://www.nsenerybusiness.com/news/newseu-clears-angolan-lng-joint-venture-by-bp-chevron-eni-sonangol-and-total-170512/> (last visited Oct. 11, 2023).

⁹⁴ Heede, *supra* footnote 23.

⁹⁵ Chevron, *Nigeria*, CHEVRON, <https://www.chevron.com/worldwide/nigeria> (last visited Oct. 11, 2023).

⁹⁶ Heede, *supra* footnote 23.

⁹⁷ Chevron, *Chevron Announces Agreement to Acquire Hess*, CHEVRON, <https://www.chevron.com/newsroom/2023/q4/chevron-announces-agreement-to-acquire-hess>.

⁹⁸ Heede, *supra* footnote 23.

GHG emissions, totaling the sum of approximately 101,721 million tonnes of CO₂e (“MtCO₂e”), from 1965-2022.⁹⁹

133. **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 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.¹⁰⁰

134. BP is one of the world’s seven oil and gas “supermajors” (including ExxonMobil, Shell, Chevron, ConocoPhillips among others).¹⁰¹ Like ExxonMobil, Shell and Chevron, BP is vertically integrated in both the production and marketing of oil-based products.

135. BP upstream activities include exploring for new oil and natural gas resources, developing access to such resources, and producing, transporting, storing, and processing oil.¹⁰² In 2022, BP produced around 2.3 million barrels per day of oil equivalent,¹⁰³ of which 1.214 million barrels per day were liquids and 7.101 billion cubic feet was natural gas. In 2017, BP boasted total proved reserves of 7.183 million barrels per day of oil equivalent.¹⁰⁴

136. BP downstream activities include the refining, marketing, manufacturing, transportation, trading and supply of crude oil, petrochemicals and petroleum-based plastic and resin

⁹⁹ *Id.*

¹⁰⁰ *Id.*

¹⁰¹ 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 Oct. 11, 2023).

¹⁰² Forbes, *BP | Company Overview & News*, FORBES, <https://www.forbes.com/companies/bp/?sh=6e11aa61384b#41b79e1c384b> (last visited Oct. 11, 2023).

¹⁰³ BP, *BP Annual Report and Form 20-F 2022*, BP (2022), <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/investors/bp-annual-report-and-form-20f-2022.pdf> (last visited June 26, 2023).

¹⁰⁴ *Id.*

products.¹⁰⁵ 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.¹⁰⁶

137. 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 products worldwide,¹⁰⁷ including Puerto Rico. BP has three refineries located in the US that represent about 40% of their global refining capacity.¹⁰⁸ BP markets petroleum products in more than 50 countries worldwide.¹⁰⁹ It has around 18,300 service stations.¹¹⁰

138. "BP has a larger presence in the United States than anywhere else in the world. Every major BP global business is active [in the United States]. Among [BP's] more than 80,000 employees in more than 60 countries, more than 30,000 work in the US."¹¹¹ BP operates and/or conducts business and/or produces, sells, and/or markets their products, including fossil fuels, in 39 states in the US.

139. 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.¹¹²

140. 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 Petroleum (North

¹⁰⁵ Forbes, *BP | Company Overview & News*, FORBES, <https://www.forbes.com/companies/bp/?sh=6e11aa61384b#41b79e1c384b> (last visited Oct. 11, 2023).

¹⁰⁶ Reuters, *BP.L – BP PLC | Stock Price & Latest News*, REUTERS, <https://www.reuters.com/markets/companies/BP.L> (last visited Oct. 11, 2023).

¹⁰⁷ BP, *Castrol*, BP <https://www.bp.com/en/global/corporate/who-we-are/our-brands/castrol.html> (last visited Oct. 11, 2023).

¹⁰⁸ BP, *Refineries*, BP, https://www.bp.com/en_us/united-states/home/what-we-do/production-and-operations/refineries.html (last visited Oct. 11, 2023).

¹⁰⁹ 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 Oct. 11, 2023)

¹¹⁰ *Id.*

¹¹¹ BP, *US Impact Report*, BP (Aug. 2023), https://www.bp.com/content/dam/bp/country-sites/en_us/united-states/home/documents/who-we-are/bp-US-Impact-Report-Investing-in-America.pdf.

¹¹² 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-bps-aviation-business-in-puerto-rico-300085122.html> (last visited Oct. 11, 2023).

America) for \$10.5 billion.¹¹³ BP markets and sells its products in Puerto Rico. Upon information and belief, at all relevant times, the Plaintiffs have been, and remain, customers of BP. The Municipalities of Puerto Rico and/or their citizens have invested in BP as a publicly traded company.

141. The above operations are directly related to Plaintiffs' claims given that the operations and products are largely related to gas and fossil fuel production which contributes to the climate change giving rise to Plaintiffs' injuries.

142. BP is responsible for 2.34%, or 36,506 MtCO₂e, of all global industrial GHG emissions from 1965-2022.¹¹⁴

143. As of February 27, 2022 BP held 19.75% of the shares of Rosneft Oil Company (OTC: OJSCY).¹¹⁵ 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 develop prospective resources in East and West Siberia. Rosneft is responsible for 0.72% of all global industrial GHG emissions from 1965-2022.¹¹⁶

144. 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.¹¹⁷ 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

¹¹³ Sonali Paul and Ron Bousso, *BP pays \$10.5 billion for BHP shale assets to beef up U.S. business*, REUTERS (Jul. 26, 2018) <https://www.reuters.com/article/us-bhp-divestiture-bp-idUSKBN1KG34V> (last visited Oct. 11, 2023).

¹¹⁴ Heede, *supra* footnote 23.

¹¹⁵ BP, *BP to Exit Rosneft Shareholding*, BP (Feb. 27, 2022), <https://www.bp.com/en/global/corporate/news-and-insights/press-releases/bp-to-exit-rosneft-shareholding.html> (last visited Oct. 11, 2023).

¹¹⁶ Heede, *supra* footnote 23.

¹¹⁷ 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 Oct. 11, 2023).

North Oil Company are two of the nine companies that are owned by the Iraq National Oil Company,¹¹⁸ another carbon major which is responsible for 0.97% of all GHG emissions from 1965-2022.¹¹⁹

145. BP also has known joint ventures with another carbon major, Sonatrach,¹²⁰ which is responsible for 0.92% of all GHG emissions from 1965-2022.¹²¹

146. Considering BP's responsibility, coupled with those of its joint venture carbon major partners, BP and its affiliates contribute **4.96%** of all global industrial emissions from 1965-2020, totaling the sum of approximately 77,270 MtCO₂e in both direct emissions from their industry and end use of their products.¹²²

147. **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.

148. 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.¹²³ ConocoPhillips is the fifth largest investor-owned greenhouse gas emitter.¹²⁴

149. Like ExxonMobil, Shell, Chevron and BP, ConocoPhillips is a fully integrated oil company. ConocoPhillips was created through the merger of American oil companies Conoco

¹¹⁸ Reuters, *Iraq transfers ownership of nine state oil companies to new National Oil Company*, REUTERS, (Oct. 18, 2018), <https://www.reuters.com/article/us-iraq-oil/iraq-transfers-ownership-of-nine-state-oil-companies-to-new-national-oil-company-idUSKCN1MS27E> (last visited Oct. 11, 2023).

¹¹⁹ Heede, *supra* footnote 23.

¹²⁰ 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 Oct. 11, 2023).

¹²¹ Heede, *supra* footnote 23.

¹²² *Id.*

¹²³ Fortune, *Fortune 500 List*, FORTUNE, <https://fortune.com/fortune500/> (last visited Oct. 11, 2023).

¹²⁴ 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 Oct. 11, 2023).

Inc. and Phillips Petroleum Co. on August 30, 2002.¹²⁵ In 2012, ConocoPhillips spun off its downstream assets as a new, separate company, Phillips 66.¹²⁶

150. Phillips 66 is the fourth-largest lubricants supplier in the United States.¹²⁷ 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.”¹²⁸

151. 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.¹²⁹

152. 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.¹³⁰

153. ConocoPhillips is registered with the SEC and is traded as COP. ConocoPhillips markets and sells its products in Puerto Rico. Upon information and belief, at all relevant times, the Plaintiffs have been, and remain, customers of ConocoPhillips. The Municipalities of Puerto Rico and/or their citizens have invested in ConocoPhillips as a publicly traded company.

¹²⁵ ConocoPhillips, *Form 8-K12G3*, (Aug. 30, 2002), <http://edgar.secdatabase.com/2323/89882202001082/filing-main.htm> (last visited Oct. 14, 2023).

¹²⁶ 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/christopherhelman/2012/04/30/as-conocophillips-spins-off-refining-assets-should-you-own-the-new-phillips-66/?sh=230ec05b4eb7> (last visited Oct. 11, 2023).

¹²⁷ Phillips 66 Lubricants, *Our Company*, PHILLIPS 66 LUBRICANTS, <https://phillips66lubricants.com/why-phillips-66/our-company/> (last visited Oct. 11, 2023).

¹²⁸ *Id.*

¹²⁹ New York Encyclopedia, *ConocoPhillips*, NEW YORK ENCYCLOPEDIA, <https://www.newworldencyclopedia.org/entry/ConocoPhillips> (last visited Oct. 11, 2023).

¹³⁰ Chevron Phillips Chemical, *Who We Are*, CHEVRON PHILLIPS CHEMICAL, <https://www.cpchem.com/who-we-are/company-history> (last visited Oct. 11, 2023).

154. ConocoPhillips is responsible for **1.06%** of all global industrial GHG emissions from 1965-2022, totaling approximately 16,576 MtCO₂e in both direct emissions from their industry, and end use of their products.¹³¹

155. The combined sea level rise credited to Chevron, ExxonMobil, Royal Dutch Shell, BP, and ConocoPhillips “is equivalent to the water flowing over Niagara Falls *for 18 years*.”¹³²

156. **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 Group (Aramco) and is headquartered in Houston, Texas.¹³³

157. 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.¹³⁴

¹³¹ Heede, *supra* footnote 23.

¹³² Richard Heede, *Carbon Producers’ Tar Pit: Dinosaurs Beware*, CLIMATE ACCOUNTABILITY INSTITUTE 1, 8 (Oct. 17, 2017), <https://www.ineteconomics.org/research/research-papers/carbon-producers-tar-pit-dinosaurs-beware> (last visited Oct. 11, 2023).

¹³³ *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 Oct. 11, 2023).

¹³⁴ Frank Esposito, *Saudi Aramco continues growth with Texas acquisition*, (Aug. 21, 2019, 1:25 PM), PLASTIC NEWS EUROPE, <https://www.plasticsnewseurope.com/news/saudi-aramco-continues-growth-texas-acquisition> (last visited Oct. 11, 2023).

158. 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.¹³⁵ Saudi Aramco also has partnered with Dow Inc. on the Sadara plastics and petrochemicals joint venture in Saudi Arabia.

159. In 2017, Aramco purchased Motiva Enterprises, LLC from Co-Defendant Shell. Motiva owns and operates the Port Arthur, Texas refinery and has the right to sell Shell branded gasoline and diesel in numerous US states.

160. SABIC (Saudi Arabia Basic Industries Corporation) is a public petrochemical company founded in 1976 and based in Riyadh, Saudi Arabia. SABIC is 70% owned by Aramco.¹³⁶

161. 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.¹³⁷ 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 sales in 2017.¹³⁸

162. 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.¹³⁹

¹³⁵ 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 Oct. 11, 2023).

¹³⁶ Bloomberg, *Saudi Basic Industries Corp. (SABIC: Saudi Arabia): Stock Quote & Company Profile - Businessweek*, BLOOMBERG, <https://www.bloomberg.com/quote/SABIC:AB?leadSource=verify%20wall> (last visited Oct. 11, 2023).

¹³⁷ Plastics Technology, *Top 10 Largest Plastic Producing Companies*, PLASTICS TECHNOLOGY, <https://www.plastics-technology.com/articles/top-largest-plastic-producing-companies> (last visited Oct. 11, 2023).

¹³⁸ Forbes, *Saudi Basic Industries | Company Overview & News*, FORBES, <https://www.forbes.com/companies/saudi-basic-industries/#2aa3a7a073dc> (last visited Oct. 11, 2023).

¹³⁹ William D. Reeves, *Historic Louisiana: An Illustrated History* (HPN Books, 2003).

163. Motiva markets and sells its products in Puerto Rico through its joint ventures with co-Defendants. At all relevant times, The Municipalities of Puerto Rico and/or their citizens have been customers of Motiva. Aramco's IPO is anticipated to be \$2 trillion.¹⁴⁰

164. Parent company Aramco is the world's largest contributor to global industrial GHG and is responsible for **4.39%** of all global industrial GHG emissions from 1965-2022, totaling the sum of approximately 68,472 MtCO₂e in both direct emissions from their industry and end use of their products.¹⁴¹

165. **Occidental Petroleum** (Occidental) is an American Petroleum and natural gas exploration company headquartered in Houston, Texas. In 2019, Occidental acquired Anadarko.¹⁴² Occidental is ranked 225th on the Fortune 500¹⁴³ and is registered with the SEC and is traded as OXY.

166. Occidental, 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.

167. As of 2022, Occidental had approximately 3.817 billion barrels of oil equivalent of proved reserves.¹⁴⁴ In 2022, the company produced 1,159 thousand barrels of oil equivalent per day.¹⁴⁵

¹⁴⁰ 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 Oct. 11, 2023).

¹⁴¹ Heede, *supra* footnote 23.

¹⁴² Business Wire, *Occidental Completes Acquisition of Anadarko*, BUSINESS WIRE (Aug. 8, 2019), <https://www.businesswire.com/news/home/20190808005586/en/Occidental-Completes-Acquisition-of-Anadarko> (last visited Oct. 11, 2023).

¹⁴³ Fortune 500, *Occidental Petroleum*, FORTUNE, <https://fortune.com/ranking/fortune500/2016/occidental-petroleum/> (last visited Oct. 11, 2023).

¹⁴⁴ U.S. Securities and Exchange Commission, *Occidental Petroleum Corporation 2022 Form 10-K Annual Report*, U.S. SECURITIES AND EXCHANGE COMMISSION, <https://www.sec.gov/Archives/edgar/data/797468/000079746823000011/oxy-20221231.htm> (last visited Oct. 13, 2023).

¹⁴⁵ *Id.*

168. Occidental operates in the Oil and Gas, Chemical, and Midstream and Marketing segments.¹⁴⁶ In Oil and Gas, Occidental explores for, develops and produces oil and condensate, natural gas, and natural gas liquids.¹⁴⁷ In Chemical, it manufactures and markets chemicals and vinyls. In Midstream and Marketing, it purchases, markets, gathers, processes, transports and stores oil, condensate, natural gas liquids, natural gas, carbon dioxide, and power.

169. Occidental markets and sells consumer products¹⁴⁸ worldwide, including in Puerto Rico. Anadarko did the same before Occidental's purchase.¹⁴⁹ Upon information and belief, at all relevant times, the Plaintiffs have been, and remain, customers of either Occidental or Anadarko. The Municipalities of Puerto Rico and/or their citizens have invested in Occidental and previously Anadarko as a publicly traded company.

170. Considering Occidental's responsibility, coupled with its subsidiary carbon major Anadarko, Occidental and its subsidiary are responsible for **0.66%** of all global industrial GHG emissions from 1965-2022, totaling the sum of approximately 10,289 MtCO₂e in both direct emissions from their industry and end use of their products.¹⁵⁰

2. Coal Defendants

171. **BHP Group** ('BHP') is the trading entity of BHP Group Limited and BHP Group plc,¹⁵¹ 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

¹⁴⁶ Fortune 500, *Occidental Petroleum*, FORTUNE, <https://fortune.com/ranking/fortune500/2016/occidental-petroleum/> (last visited Oct. 11, 2023).

¹⁴⁷ *Id.*

¹⁴⁸ Forbes, *Occidental Petroleum*, FORBES, <https://www.forbes.com/companies/anadarko-petroleum/?sh=40dcb73c468c> (last visited Oct. 11, 2023)

¹⁴⁹ Forbes, *Anadarko Petroleum*, FORBES, <https://www.forbes.com/companies/anadarko-petroleum/?sh=40dcb73c468c> (last visited Oct. 11, 2023)

¹⁵⁰ Heede, *supra* footnote 23.

¹⁵¹ BHP PLC, *Change of name to BHP Group*, (Nov. 20, 2018), <https://markets.ft.com/data/announce/detail?dockey=1323-13872668-4L0FRQBOI6BOC89UDSS3DT75GU> (last visited Oct. 11, 2023).

Broken Hill in New South Wales, by 2017 BHP ranked as the world's largest mining company, based on market capitalization.¹⁵² It is traded as BHP.

172. Along with Anglo American and Glencore, BHP is a 1/3 owner in Carbones del Cerrejón Norte ('Cerrejón') 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. Cerrejón was developed by a joint venture between the Colombian state organization, Carbones de Colombia (Carbocol) and Intercor, a subsidiary of ExxonMobil.¹⁵³

173. In 2000, Carbocol's assets were acquired jointly by Anglo American, BHP and Glencore, and in early 2002 the three partners bought out Intercor for \$366m.¹⁵⁴

174. 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 electricity¹⁵⁵ and coal continued to supply about one-sixth of electricity.¹⁵⁶ 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.¹⁵⁷

175. BHP conducts business in the United States through various exploration and remediation operations. BHP has had established interests in the US for over 40 years.¹⁵⁸ It has business

¹⁵² 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 Oct. 11, 2023).

¹⁵³ Mining Technology, *Carbocol and Intercor Coal Mine*, MINING TECHNOLOGY, (Mar. 19, 2000), www.mining-technology.com/projects/cerrejon/ (last visited Oct. 11, 2023).

¹⁵⁴ *Id.*

¹⁵⁵ Autoridad de Energía Eléctrica, *Informe Mensual de Indicadores Principales Junio 2017*, AUTORIDAD DE ENERGÍA ELÉCTRICA (Jul. 20, 2017), p. 3-4, <https://acepr.com/espr/QuienesSomos/Ley57/Estad%C3%ADsticos/Informe%20indicadores%20principales%20junio%202017.pdf> (last visited Oct. 11, 2023).

¹⁵⁶ *Id.*

¹⁵⁷ U.S. EIA, *Puerto Rico Territory Energy Profile*, US ENERGY INFORMATION ADMINISTRATION (Dec. 16, 2021), <https://www.eia.gov/state/print.php?sid=RQ> (last visited Oct. 9, 2023).

¹⁵⁸ BHP, *What We Do*, BHP, <https://www.bhp.com/what-we-do/global-locations/united-states> (last visited Oct. 20, 2023).

operations located in Arizona, California, New Mexico and Utah with corporate offices in Tucson and Washington, DC. BHP has also established a foundation headquartered in the United States. BHP was a member of the American Petroleum Institute (API) since at least 2019,¹⁵⁹ and likely before 2017. BHP continues to operate coal mines in Queensland and operates several mines in the US.

176. Further, BHP's contact with the United States is directly connected to the Plaintiffs' claim given that their operations in the United States are for mining which contributes to climate change. Their membership and participation with the GCC and other fossil fuel trade associations, in furtherance of the RICO enterprise, were performed in the US with US groups, and targeted US legislation and the US public, including the Plaintiffs and their citizens in Puerto Rico.

177. Of the three partners, BHP is responsible for 0.71% of all global industrial GHG emissions from 1965-2022, totaling the sum of approximately 10,990 MtCO_{2e} in both direct emissions from their industry and end use of their products.¹⁶⁰ Anglo American is responsible for 0.47% of all global industrial emissions from 1965-2022, totaling the sum of approximately 7,326 MtCO_{2e} in both direct emissions from their industry and end use of their products, and Glencore is responsible for 0.40% of all global industrial emission from 1965-2022, totaling the sum of approximately 6,286 MtCO_{2e} in both direct emissions from their industry and end use of their products.¹⁶¹

178. Thus, BHP Group is responsible for **1.58%** of all global industrial emissions from 1965-2022, totaling the sum of 24,602 MtCO_{2e} in both direct emissions from their industry and end use of their products.

¹⁵⁹ BHP, *Industry Associations 2019 Review: Second Update*, BHP (2019), <https://www.bhp.com/about/operating-ethically/industry-associations/2019-review-second-update> (last visited Oct. 20, 2023).

¹⁶⁰ Heede, *supra* footnote 23.

¹⁶¹ *Id.*

179. The Municipalities of Puerto Rico and/or their citizens have invested in BHP as a publicly traded company. Upon information and belief, at all relevant times, the Municipalities of Puerto Rico and/or their citizens have been, and remain, customers of BHP.

180. **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’.

181. 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.

182. 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.

183. Rio Tinto is also a major holder of US Coal Reserves, holding an estimated 1.4 billion short tons of US coal reserves.¹⁶² Rio Tinto operates in 35 different countries but “most of [Rio Tinto’s] assets are in...North America.”¹⁶³ Rio Tinto avails itself to the United States through their large mining operations in Utah, California, and Arizona. The Arizona Resolution Copper project has the potential to supply up to 25% of US copper demand.¹⁶⁴ 15.9% of all of Rio Tinto’s Consolidated Sales Revenue is from the United States.¹⁶⁵ In the US, Rio Tinto is involved in and

¹⁶² National Mining Association, *2006 Coal Producer Survey*, NATIONAL MINING ASSOCIATION (May 2007) http://www.nma.org/pdf/coal_producer_survey2005.pdf (last visited Oct. 12, 2023).

¹⁶³ Rio Tinto, *Operations*, RIO TINTO, <https://www.riotinto.com/operations> (last visited Oct. 20, 2023).

¹⁶⁴ Rio Tinto, *Annual Report 2022*, RIO TINTO, at 33 (available for download at: <https://www.riotinto.com/en/invest/reports/annual-report>) (last visited Oct. 20, 2023).

¹⁶⁵ *Id.* at 170.

contributes to several US groups. For example, Rio Tinto provides administrative support for the Rio Tinto America Political Action Committee (PAC). In 2022 alone, Rio Tinto has contributed \$626,000 to the US National Mining Association (NMA)—a US trade association that fosters climate denial and works against progressive climate policy.¹⁶⁶

184. Further, Rio Tinto's contact with the United States is directly connected to the Plaintiffs' claim given that their operations in the United States are for mining which contributes to climate change acceleration that caused Hurricane Maria and storms thereafter. Their membership and participation with the GCC and other fossil fuel trade associations like the NMA, in furtherance of the RICO enterprise, were performed in the US with US groups, and targeted US legislation and the US public, including the Municipalities and their citizens in Puerto Rico.

185. Rio Tinto is responsible for **0.43%** of all global industrial GHG emissions from 1965-2022, totaling the sum of approximately 6,762 MtCO₂e in both direct emissions from their industry and end use of their products.¹⁶⁷

186. Upon information and belief, the Municipalities of Puerto Rico and/or their citizens have invested in Rio Tinto as a publicly traded company.

187. The Oil and Coal Defendants listed above are collectively responsible for **39.6%** of all global industrial GHG emissions from 1965-2022, in both direct emissions from their industry and end use of their product.¹⁶⁸

¹⁶⁶ Rio Tinto, *Industry Association Disclosure 2022*, RIO TINTO (available for download at: <https://www.riotinto.com/en/sustainability/ethics-compliance/industry-association-disclosure>) (last visited Oct. 20, 2023).

¹⁶⁷ Heede, *supra* footnote 23.

¹⁶⁸ *Id.*

3. Non-Defendant Co-Conspirators

188. **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.

189. 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. Arch Coal is also a major holder of US Coal Reserves, holding an estimated 2.9 billion short tons of US coal reserves.¹⁶⁹

190. Arch was significantly involved in the Defendants’ conspiracy through its involvement as a member of the Information Council for the Environment and National Coal Association.

191. **Arch Resources** is responsible for 0.46% of all global industrial GHG emissions from 1965-2022, totaling the sum of approximately 7,220 MtCO₂e in both direct emissions from their industry and end use of their products.¹⁷⁰

192. **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’s largest coal extractor by volume. Peabody is registered with the SEC and is traded as BTU.

193. Peabody’s primary business consists of the mining, sale and distribution of coal, which is purchased for use in electricity generation and steelmaking. Peabody also markets, brokers and trades coal through offices in China, Australia, the United Kingdom and the United States.

¹⁶⁹ National Mining Association, *2006 Coal Producer Survey*, NATIONAL MINING ASSOCIATION (May, 2007) http://www.nma.org/pdf/coal_producer_survey2005.pdf (last visited Oct. 15, 2023).

¹⁷⁰ *Id.*

194. Peabody was significantly involved in the Defendants' conspiracy through its involvement as a member of the Information Council for the Environment and National Coal Association.

195. Peabody also has known joint ventures with another carbon major, Coal India.¹⁷¹ Peabody Coal India ranks eighth among the top twenty companies behind a third of all global carbon emissions.¹⁷² Coal India is responsible for 1.89% of all global industrial GHG emissions from 1965-2022, totaling the sum of approximately 29,389 metric tons of GHGs in both direct emissions from their industry and end use of their products.¹⁷³

196. Along with its joint venture, **Peabody** is responsible for **2.97 %** of all global industrial GHG emissions from 1965-2022, totaling the sum of approximately 46,290 MtCO₂e in both direct emissions from their industry and end use of their products.¹⁷⁴

4. The Defendants' Plastic Products

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

198. Plastics originate as fossil fuels and emit greenhouse gases from cradle to grave of their life cycle.¹⁷⁵

199. 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 2050.¹⁷⁶

¹⁷¹ Mineweb, *Coal India to ink joint venture with Peabody*, MINEWEB (May 18, 2011, 6:20 AM), <https://www.mining.com/coal-india-to-ink-joint-venture-with-peabody/102/> (last visited Oct. 14, 2023).

¹⁷² Heede, *supra* footnote 23.

¹⁷³ *Id.*

¹⁷⁴ *Id.*

¹⁷⁵ 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.yaleclimateconnections.org/2019/08/how-plastics-contribute-to-climate-change/> (last visited Oct. 9, 2023).

¹⁷⁶ *Id.*

200. In May 2019, a new report “Plastic and Climate”¹⁷⁷ was published and is attached hereto as **Exhibit 1**. 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.

201. 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.

202. 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 Plaintiffs are unable to total the contribution of Defendants’ plastic production and sales to the storms of September 2017 in Puerto Rico beyond the substantial factor **39.6%**. The Plaintiffs, however, are continuing to research the hundreds of deals, transactions, and conspiratorial acts of the Defendants, and will calculate the total contribution and add it to the **39.6%** noted in paragraph 72 and present the total during discovery and trial.

203. 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).

204. 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

¹⁷⁷ 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 Oct. 9, 2023).

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 Plaintiffs. Thus, the Defendants’ total contributed to Plaintiffs losses and damages will continue to grow.

5. Fossil Fuel Industry Associations

205. The **American Petroleum Institute (API)**: API is a national trade association representing the oil and gas industry, formed in 1919 to advocate for the petroleum industry’s interests. API has over 600 members which makes it the largest oil and trade association in the United States. The following Defendants and/or their predecessors in interest are and/or have been API members at times relevant to this litigation: ExxonMobil, Shell, Chevron, BP, ConocoPhillips, Motiva and Anadarko, all of whom have actively served on boards, committees and groups for API.

206. Through membership, participation in executive positions, and/or economic support for API, the Oil and Gas Defendants have collectively participated in the operation and control of the association’s policies and business practices. The Oil and Gas Defendants have created and carried out a climate change denial advertising and communications campaign via their influence over and participation in API. The Oil and Gas Defendants directly oversaw, took part in, and controlled API’s deceptive climate change propaganda.

207. In order to increase consumer use of oil and gas for Oil and Gas Defendants’ profit, API’s mission seek to “influence public policy in support of a strong, viable U.S. oil and natural gas industry.” API’s mission has always been to foster “a strong, viable U.S. oil and natural gas

industry,” encouraging production and consumption.¹⁷⁸ In reality, API serves as, and has served as, the marketing department and scapegoat for the Defendants. Since at the 1960s, API has known of the harms of climate change. Since the 1980s, API participated in and led a number of coalitions, front groups, and organizations that have disseminated false information about the climate impacts of fossil fuel products to consumers. These front organizations were established to spread misinformation and advocate for climate change from a supposedly neutral source. In reality, these front groups were funded and governed by the Fossil Fuel Defendants and other oil and gas firms. Such groups include, but are not limited to, the Global Climate Coalition, Partnership for a Better Energy Future, Coalition for American Jobs, Alliance for Energy and Economic Growth, and Alliance for Energy and Environmental Protection.

208. Today, API is one of the United States’ largest oil trade industry associations and continues as an association-in-fact of the Oil and Gas Defendants.

6. Other Unnamed Corporations, Relevant Non-Parties, and Defendants’ Agents:

209. 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 Municipalities 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 advocacy groups.

210. The combined acts and/or omissions of each Defendant resulted in indivisible damages to the Municipalities represented by the Class Plaintiffs. Each of the above-named Defendants is a joint tortfeasor and/or co-conspirator and is jointly and severally liable to the Municipalities represented by the Class Plaintiffs for the negligent acts and omissions alleged herein. Each of the

¹⁷⁸ American Petroleum Institute, *About*, API, <https://www.api.org/about>.

above-named Defendants directed, authorized or ratified the conduct of each and every other Defendant.

211. Relevant Non-Parties: Other 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 are as follows:

- a) 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 ExxonMobil, 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 GCC was discontinued in 2001 but continues informally today through other associations like API and the National Association of Manufacturers as an association-in-fact of the Defendants.
- b) The **National Mining Association (NMA)**: NMA is a national trade organization that advocates for mining interests, including coal mining. BHP, and Rio Tinto are all members.
- c) 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.

- d) The **American Fuel and Petrochemical Manufacturers (AFPM)** is a national association of petroleum and petrochemical companies.¹⁷⁹ At relevant times, its members included, but were not limited to, ExxonMobil, Shell, Chevron, BP and ConocoPhillips.
- e) 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.
- f) **Donors Trust** was formed in 1999 in furtherance 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.
- g) The **National Association of Manufacturers (NAM)** was founded in 1895 and is an advocacy group representing industry and promoting the increased of manufacturing. NAM has a history of launching front groups, public relations initiatives, and greenwashing efforts about various environmental issues. NAM has worked with twelve different PR firms to launch anti-climate solutions campaigns including through the GCC.
- h) The **International Emissions Trading Association (IETA)** was founded in 1999. IETA is an international, multi-sectoral, “business group” devoted to pricing and trading greenhouse gas reductions.¹⁸⁰ The IETA describes its original objective as “build[ing] on the economic mechanisms created by the Kyoto Protocol in order to achieve climate objectives with minimal economic harm. IETA is actually a conglomerate of companies that continues to profit from the fossil fuel industry and seeks to obstruct any and all actions to mitigate climate change.

V. AGENCY

212. At all times herein mentioned, each of the Defendants was the agent, servant, partner, aider and abettor, co-conspirator, and/or joint venturer of each of the remaining Defendants herein and was at all times operating and acting within the purpose and scope of said agency, service,

¹⁷⁹ American Fuel & Petrochemical Manufacturers (AFMP), *About Us*, AMERICAN FUEL & PETROCHEMICAL MANUFACTURERS (AFMP), <https://www.afpm.org/about-us> (last visited Oct. 15, 2023).

¹⁸⁰ International Emissions Trading Associations, *About*, IETA, <https://www.ieta.org/about/>.

employment, partnership, conspiracy, and joint venture and rendered substantial assistance and 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 Warming World

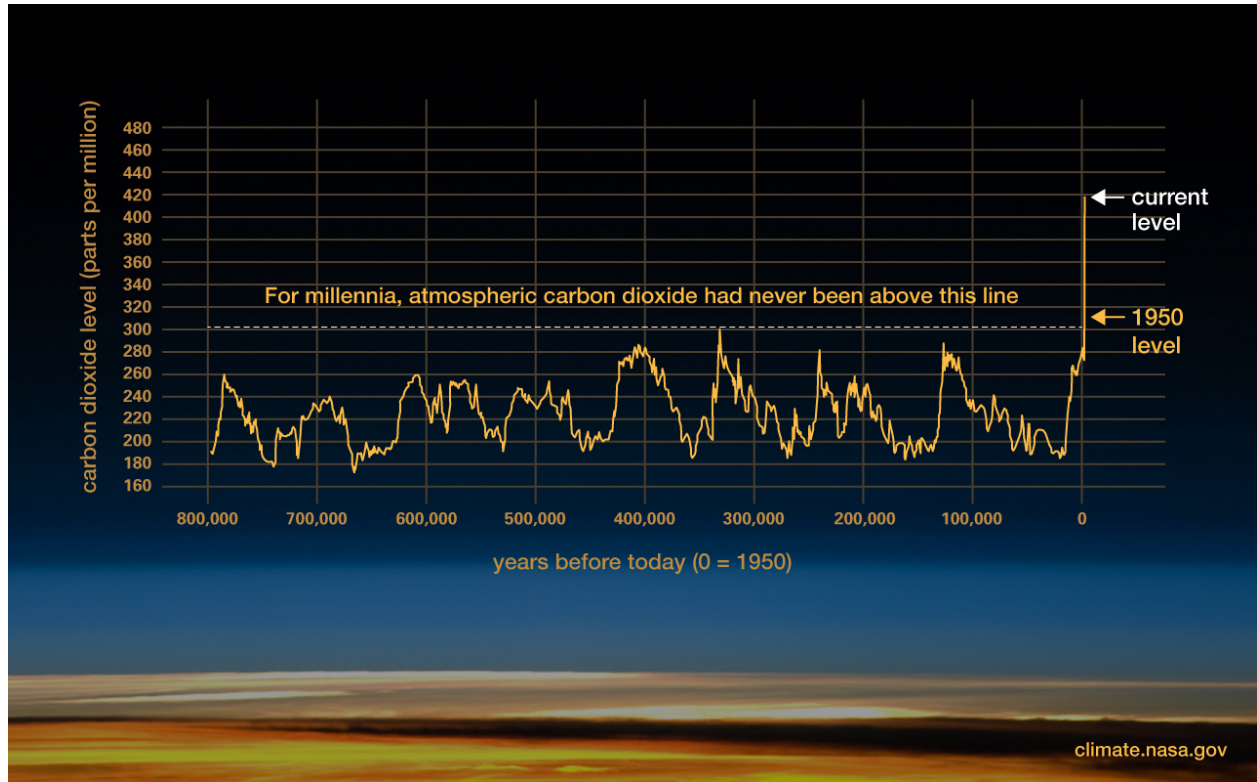
213. Climate change has and will continue to have immense ecological, economic, and social impacts on the communities of Puerto Rico. Defendants have not only contributed to the severe destruction imposed on Puerto Rico due to more extreme hurricanes, but also to the heightened impact that climate change has on Puerto Rico generally. Impacts that would not be so severe and would not have harmed Puerto Rico so drastically without Defendants' production, marketing, and sales of oil, gas, and coal products to the Plaintiffs.

214. Prior to the beginning of the industrial revolution, atmospheric CO₂ levels were stable for 800,000 years, never exceeding 300 ppm.¹⁸¹ However, due to the burning of fossil fuels commencing with the start of the industrial revolution in about 1780, atmospheric CO₂ concentrations began increasing, and then began accelerating at an unprecedented rate around 1950,¹⁸² as depicted in the following chart:¹⁸³

¹⁸¹ J. R. Petit, et al., *Climate and Atmospheric History of the Past 420,000 Years from the Vostok Ice Core, Antarctica*, 399 *Nature* 429-436 (June 3, 1999), <https://www.nature.com/articles/20859>; Dieter Lüthi, et al., High-Resolution Carbon Dioxide Concentration Record 650,000–800,000 Years before Present, 453 *Nature* 379-382 (May 15, 2008), <https://www.nature.com/articles/nature06949>; NASA, *Graphic*, NASA, https://climate.nasa.gov/climate_resources/24/graphic-the-relentless-rise-of-carbon-dioxide.

¹⁸² Calvin et al., *IPCC, 2023*, <https://www.ipcc.ch/report/ar6/syr/>.

¹⁸³ NASA, *Graphic*, NASA, https://climate.nasa.gov/climate_resources/24/graphic-the-relentless-rise-of-carbon-dioxide.

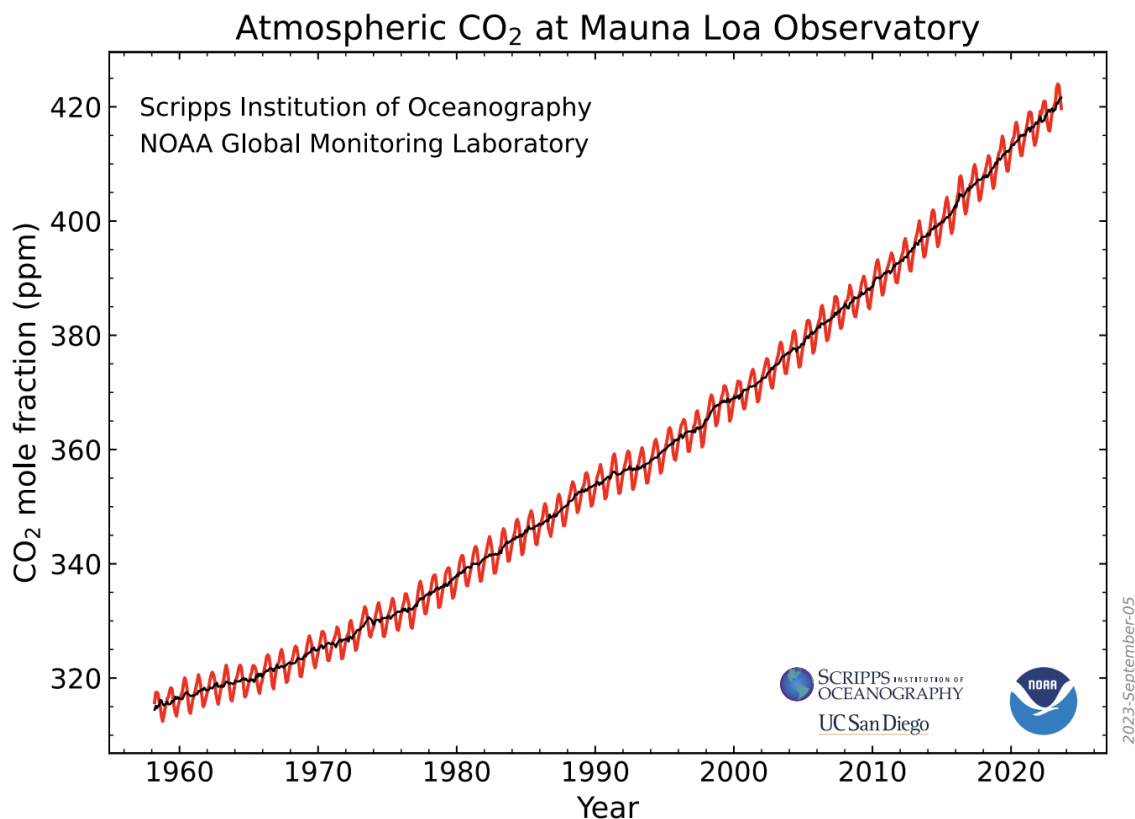


215. In May 2023, CO₂ levels in the atmosphere peaked at over 424 parts per million – the last time CO₂ levels were this high was 3 million years ago.¹⁸⁴ Below is the record from Mauna Loa Observatory showing the rapidly increasing atmospheric CO₂ levels from 1958 to date¹⁸⁵:

¹⁸⁴ James W.B. Rae, et al., *Atmospheric CO₂ over the Past 66 Million Years from Marine Archives*, 49 ANNUAL REVIEW OF EARTH AND SCIENCES 609-641, (Mar. 23, 2021),

https://www.annualreviews.org/doi/full/10.1146/annurev-earth-082420-063026#_i46

¹⁸⁵ NOAA, *Trends in Atmospheric Carbon Dioxide*, NOAA, <https://gml.noaa.gov/ccgg/trends/>.



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216. This increase in atmospheric CO₂ has led to a warming of the Earth through an increase in a process referred to as the greenhouse effect.¹⁸⁷ Greenhouse gasses (GHGs) like CO₂ and water vapor keep a portion of solar radiation that hits the Earth surface from radiating back into space, keeping the Earth's surface temperature at levels suitable for life as we know it. As GHGs in the atmosphere increase, the atmosphere traps more solar energy, causing global temperatures to increase. This buildup of greenhouse gasses and the consequent warming of the planet creates climate change, with increasingly disastrous impacts across the globe:

- a) An increase in the Earth's average surface temperature. Surface temperatures throughout the world have currently increased by 1.09°C (1.96°F) on average

¹⁸⁶ Scripps Institution of Oceanography, *The Keeling Curve*, UC SAN DIEGO, <https://keelingcurve.ucsd.edu> (last visited Oct. 30, 2023).

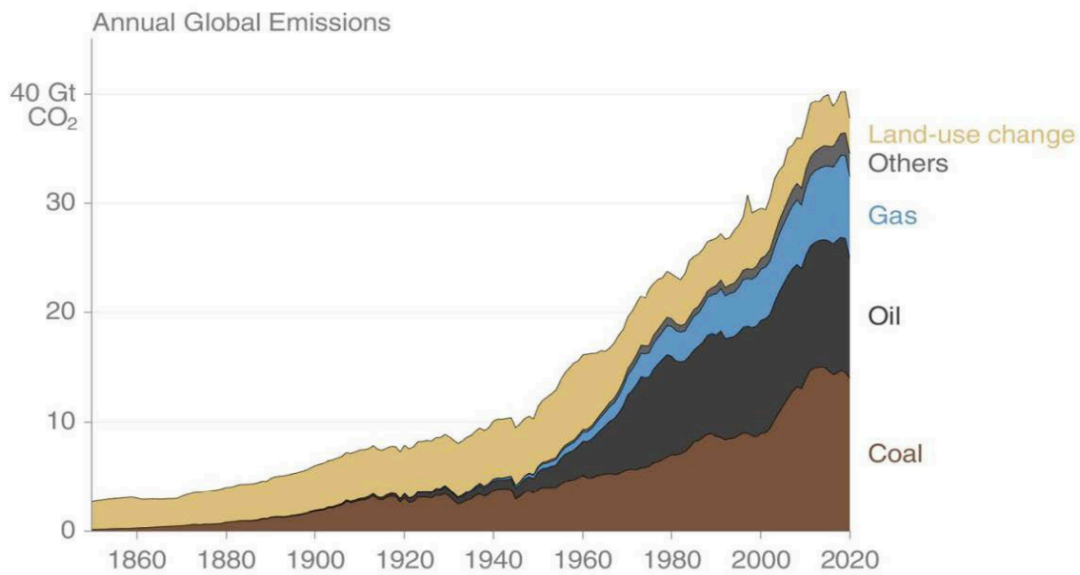
¹⁸⁷ John F.B. Mitchell, *The 'Greenhouse' Effect and Climate Change*, (Feb. 1989), <https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1029/RG027i001p00115>.

compared to preindustrial levels; temperatures have increased higher in some places, including Puerto Rico;

- b) Sea level rise brought on by runoff from glaciers and ice sheets melting and the thermal expansion of warmer ocean waters;
- c) Extreme weather events, including hurricanes, occurring more frequently and more intensely as a result of increased evaporation and precipitation from the warmer atmosphere;
- d) Changes to terrestrial and marine ecosystems, such as ocean acidification, and the resulting effects on plant and animal populations;
- e) An increase in flooding and inundation of coasts, land, and infrastructure, causing subsequent impacts on the local economies; and
- f) Negative effects on human health brought on by severe weather, intense heat, vector-borne diseases, and deteriorating air quality.

217. Water vapor is the primary natural greenhouse gas. CO₂ from the burning of fossil fuels is the dominant *man-made* greenhouse gas. The increase in atmospheric CO₂ from the burning of fossil fuels is the primary driver of global warming. The following graph shows that from mid-20th century, emissions from fossil fuels have been the main driver of increases in atmospheric CO₂:¹⁸⁸

¹⁸⁸ *Global Carbon Budget 2021*, Global Carbon Project (Nov. 4, 2021) at 83, https://www.globalcarbonproject.org/carbonbudget/archive/2021/GCP_CarbonBudget_2021.pdf (last visited Sept. 22, 2023).

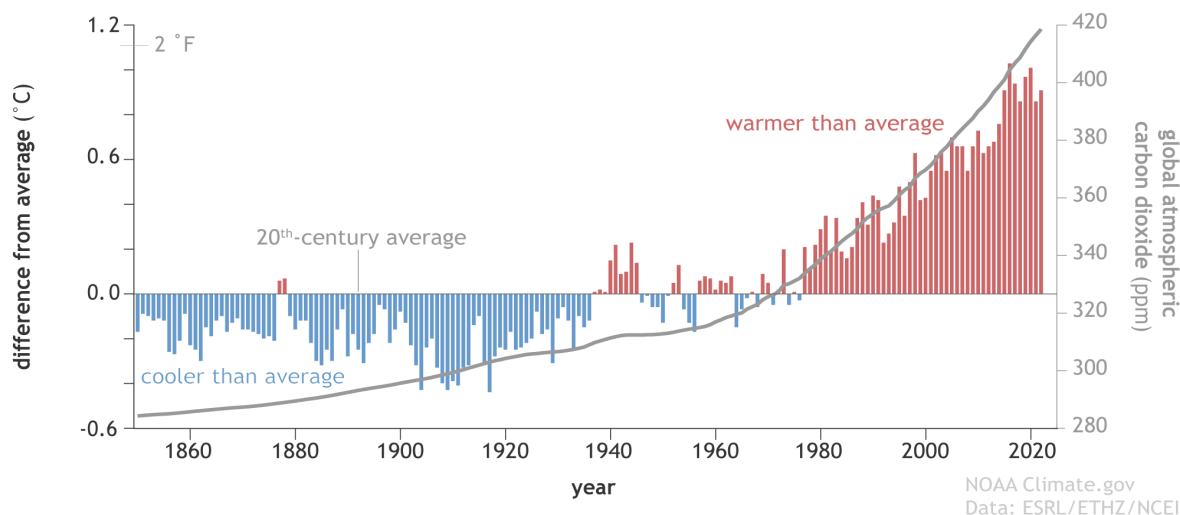


218. As levels of heat-trapping CO₂ have increased, the atmosphere has steadily warmed. This warming has also increased levels of water vapor in the atmosphere as a warmer atmosphere can hold more water vapor. Thanks primarily to CO₂ emissions from the burning of fossil fuels, it is now about 1.1°C warmer on average than the 20th century mean temperature, although regional warming rates differ widely.¹⁸⁹ In Puerto Rico, average temperature has increased by 2.24°C compared to preindustrial levels.¹⁹⁰

¹⁸⁹ Calvin et al., *IPCC, 2023*, <https://www.ipcc.ch/report/ar6/syr/>.

¹⁹⁰ Rafael Méndez-Tejeda, *Increase in the Number of Hot Days for Decades in Puerto Rico 1950-2014*, ENVIRONMENT AND NATURAL RESOURCES RESEARCH, Vol. 7, No. 3 (Jul. 7, 2017), <https://pdfs.semanticscholar.org/0d00/47fee2b1ddf94fc38bae9bde1591da0faf38.pdf>.

Yearly global surface temperature and atmospheric carbon dioxide (1850-2022)



219. Climate scientists have concluded that 2023 is on track to be the hottest year since reliable global records began in the 1800s, and likely the hottest year of the past 2,000 years or more.¹⁹¹ Without the increase of about 1.3°C (2.F) brought on by sources of carbon dioxide and other greenhouse gas emissions, this year's record global temperatures would not have been possible.¹⁹² These sources of CO₂ are directly attributable to Defendants' production and marketing of fossil fuels. The data even suggests that rather than continuing at a slow, consistent rate during the last 15 years, global warming has accelerated.¹⁹³ In the past few decades, “there has been acceleration... in the total heat content of Earth's oceans, where over 90 percent of the energy trapped by greenhouse gases in the atmosphere is accumulating.”¹⁹⁴

¹⁹¹ Hausfather, Zeke, *I Study Climate Change. The Data Is Telling Us Something New.*, THE NEW YORK TIMES (Oct. 13, 2023), <https://www.nytimes.com/2023/10/13/opinion/climate-change-excessive-heat-2023.html> (referencing Robert Rohde, September 2023 Temperature Update, BERKELY EARTH, (Oct. 11, 2023), <https://berkeleyearth.org/september-2023-temperature-update/>) (last visited Oct. 13, 2023).

¹⁹² *Id.*

¹⁹³ *Id.*

¹⁹⁴ *Id.*

220. Puerto Rico has been named the most affected by climate change in the world as a result of the storms of 2017 brought on by global warming.¹⁹⁵ Puerto Rico’s air temperature has increased by 2.24°C between 1950 and 2014.¹⁹⁶ The USEPA affirms that Puerto Rico has warmed more than 1.1°F¹⁹⁷ 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 newsletter “What Climate Change Means for Puerto Rico” published in August 2016, attached as **Exhibit 2**. June 2023 was the Caribbean’s warmest June ever on record.¹⁹⁸ June 2023 surface temperature in the Caribbean was 1.31°C (2.36°F), breaking the previous record from June 2010 by 0.15°C (0.27°F).¹⁹⁹ San Juan, Puerto Rico, also recorded their warmest June on record.²⁰⁰

¹⁹⁵ David Eckstein, Vera Künzel, Laura Schäfer, Maik Winges, *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.germanwatch.org/sites/default/files/20-2-01e%20Global%20Climate%20Risk%20Index%202020_14.pdf (last visited Oct. 13, 2023).

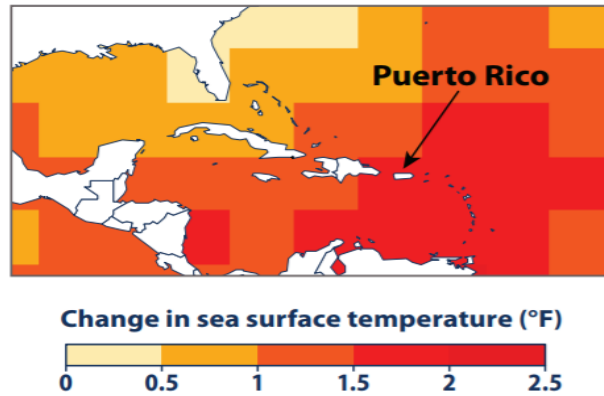
¹⁹⁶ Rafael Méndez-Tejeda, *Increase in the Number of Hot Days for Decades in Puerto Rico 1950-2014*, ENVIRONMENT AND NATURAL RESOURCES RESEARCH, Vol. 7, No. 3 (Jul. 7, 2017), <https://pdfs.semanticscholar.org/0d00/47fee2b1ddf94fc38bae9bde1591da0faf38.pdf>.

¹⁹⁷ 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://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/climate-change-pr.pdf> (last visited Sept. 21, 2023).

¹⁹⁸ National Centers for Environmental Information, *June 2023 Global Climate Report*, NOAA (June 2023), <https://www.ncei.noaa.gov/access/monitoring/monthly-report/global/202306>.

¹⁹⁹ *Id.*

²⁰⁰ *Id.*



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

221. Anthropogenic (human-caused) greenhouse gas pollution, primarily in the form of CO₂, is far and away the dominant cause of global warming.²⁰¹ 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 consumer products offspring, referred to collectively in this Complaint as “fossil fuel-based consumer products.”²⁰²

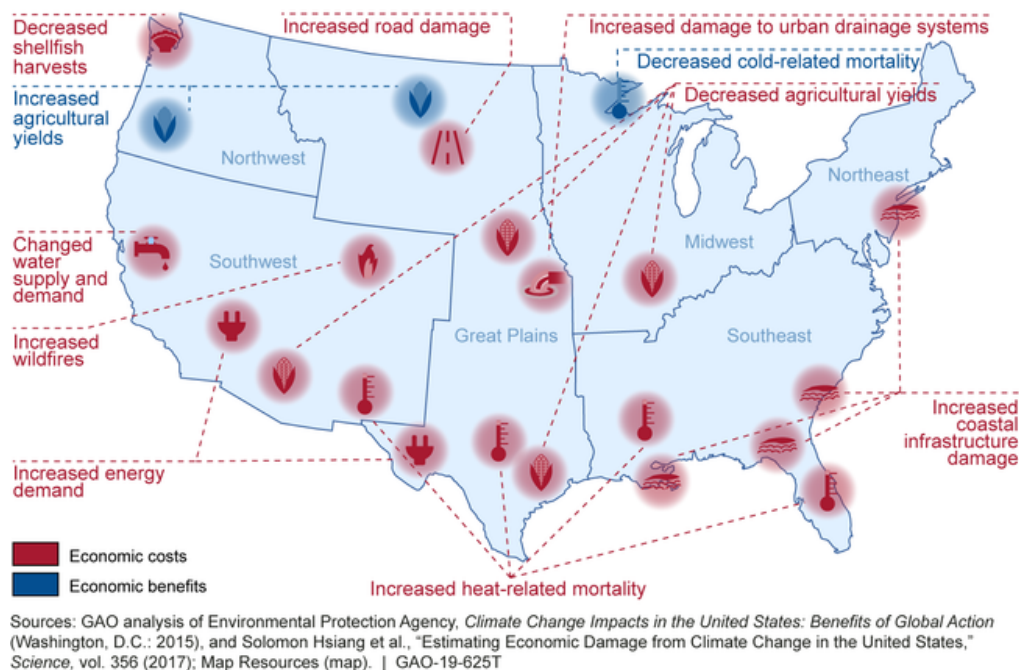
222. The United States Government Accountability Office (GAO)²⁰³ issued a report in June of 2019 entitled “**Climate Change: Opportunities to Reduce Federal Fiscal Exposure**” and outlined the potential environmental effects of climate change by 2100:²⁰⁴

²⁰¹ IPCC, *AR5 Synthesis Report: Climate Change 2014*, IPCC, at 6, Figure SMP.3, <https://www.ipcc.ch/report/ar5/syr/> (last visited Oct. 15, 2023).

²⁰² 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 increased to 10.9 GtC in 2021, distributed among coal (40.1 %), oil (31.9 %), gas (21.3 %), cement (4.5 %), and gas flaring (1.1%). Pierre Friedlingstein, et al., *Global Carbon Budget 2022*, EARTH SYSTEM SCIENCE DATA (2022), <https://doi.org/10.5194/essd-14-4811-2022> (last visited June 23, 2023).

²⁰³ 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.

²⁰⁴ 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 Sept. 22, 2023).



223. In this report, attached hereto as **Exhibit 3**,²⁰⁵ 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.*)

224. Likewise, the Department of Defense (DoD) released dire recommendations for the United States Army in its October 2019 report, attached hereto as **Exhibit 4**.²⁰⁶

²⁰⁵ United States Government Accountability Office, *Climate Change: Opportunities to Reduce Federal Fiscal Exposure*, GAO (June 11, 2019), <https://www.gao.gov/products/gao-19-625t>.

²⁰⁶ United States Department of Defense, *Report on Effects of a Changing Climate to the Department of Defense*, UNITED STATES DEPARTMENT OF DEFENSE (2019), (https://climateandsecurity.files.wordpress.com/2019/01/sec_335_ndaa-report_effects_of_a_changing_climate_to_dod.pdf).

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.

225. 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.

226. 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.²⁰⁷ 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.

²⁰⁷ Such findings have been corroborated in several other sources. See Intergovernmental Panel on Climate Change, *Climate Change 2022: Impacts, Adaptation, and Vulnerability*, Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, Hans-Otto Pörtner & Debra C. Roberts, co-chairs, 3078, at 65 https://report.ipcc.ch/ar6/wg2/IPCC_AR6_WGII_FullReport.pdf; see also The White House, *Report on the Impact of Climate Change on Migration*, THE WHITE HOUSE (2021), at 4 <https://www.whitehouse.gov/wp-content/uploads/2021/10/Report-on-the-Impact-of-Climate-Change-on-Migration.pdf>; Parag Khanna & Susan Joy Hassol, *America's Next Great Migrations Are Driven by Climate Change*, SCIENTIFIC AMERICAN, (Oct. 14, 2021), <https://www.scientificamerican.com/article/americas-next-great-migrations-are-driven-by-climate-change/>.

- 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.

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

B. Hurricanes and Climate Change

228. Tragically, Puerto Rico became the “canary in the coal mine”²⁰⁸ for climate change.²⁰⁹ By 2016, NASA’s Goddard Institute for Space Studies reported that the Earth’s Land-Global Temperature warmed almost 1°C.²¹⁰ 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 the Puerto Rican Government and its people.

229. Hurricanes occur in the summer and fall when ocean and air temperatures are at their warmest, providing optimal energy for storm formation. Warmer atmospheric and ocean temperatures provide more energy for these cyclones, and experts estimate that the warmer air and

²⁰⁸ This idiom commonly refers to “something whose sensitivity to adverse conditions makes it a useful early indicator of such conditions; 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 Oct. 15, 2023).

²⁰⁹ Janice Cantieri, *Puerto Rico: A ‘canary in the coal mine’ for climate change*, MEDILL REPORTS CHICAGO (Dec. 7, 2016), <https://news.medill.northwestern.edu/chicago/puerto-rico-a-canary-in-the-coal-mine-for-climate-change/> (last visited Oct. 9, 2023).

²¹⁰ NASA, *Global Climate Change, Vital Signs of the Planet*, NASA, <https://climate.nasa.gov> (last visited Oct. 9, 2023).

ocean waters caused by a doubling of atmospheric CO₂ will produce hurricanes that are 40-50% more destructive compared to a baseline 1987²¹¹ (the beginning of the satellite era when accurate measurements of hurricane strength became available).

230. Numerous studies have demonstrated that the increasingly intense rains from hurricanes are attributable to human-induced climate change.²¹² This is in part driven by the increased ability of a warming atmosphere to hold water vapor; there is a 5% increase in water vapor in the atmosphere for every 1°C in warming, and a concurrent 5% increase in precipitation intensification with every 1°C of warming.²¹³ Hurricanes clearly and dramatically demonstrate these basic physical principles. Warmer ocean waters are akin to rocket fuel for hurricanes. Not only do warmer waters provide more energy for hurricanes, but warmer water evaporates more easily, delivering more water vapor to the atmosphere, meaning not only that hurricanes have more convective energy, but that hurricanes carry an increasing amount of water vapor available to fall as rain when they make landfall.²¹⁴

231. 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.”²¹⁵ As water evaporates, the “moist air over the ocean surface fuels convection,” i.e. air circulation is accelerated, because hot air rises

²¹¹ Kerry A. Emanuel, *The Dependence of Hurricane Intensity on Climate*, 326 NATURE 483-485 (Apr. 1, 1987), <https://www.nature.com/articles/326483a0>.

²¹² Seung-Ki Min, et al., *Human Contribution to More-Intense Precipitation Extremes*, 470 NATURE 378-381 (Feb. 16, 2011), <https://www.nature.com/articles/nature09763>.

²¹³ Xuebin Zhang, et al., *Attributing Intensification of Precipitation Extremes to Human Influence*, 40 GEOPHYSICAL RESEARCH LETTERS 5252-5257 (Oct. 9, 2013), <https://onlinelibrary.wiley.com/doi/abs/10.1002/grl.51010>.

²¹⁴ Kevin E. Trenberth, *WARMER OCEANS, Stronger HURRICANES*, 297 SCIENTIFIC AMERICAN 44-51 (July 2007), <https://www.jstor.org/stable/26069374>.

²¹⁵ 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>.

and cold air sinks.²¹⁶ As convection accelerates, the storm whips itself into a fury, with wind speeds that can reach up to 200 miles per hour.

232. The National Oceanic and Atmospheric Administration (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 (with a 95% confidence interval (CI) of 2 to 15% per decade), which is consistent with expectations based on theoretical understanding and trends identified in numerical simulations in warming scenarios.²¹⁷ Major tropical cyclones pose, by far, the greatest threat to lives and property of all extreme weather events.²¹⁸

233. 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. Kossin also found that the greatest changes were in the North Atlantic, where Puerto Rico is located, where the probability of major hurricane exceedance of average wind speed has increased by 49% per decade during the same time frame.²¹⁹

²¹⁶ Becky Oskin, *Hurricanes Whip Up Faster in Warming World, Study Suggests*, NBC News (Sept. 7, 2012), <https://www.nbcnews.com/id/wbna48939906>.

²¹⁷ James P. Kossin, et al., *Global Increase in Major Tropical Cyclone Exceedance Probability over the Past Four Decades*, 117 PNAS 11975-11980 (May 18, 2020), <https://www.pnas.org/doi/full/10.1073/pnas.1920849117>

²¹⁸ *Id.*

²¹⁹ *Id.*

234. Another review of 40 years of hurricane data shows that while the overall number of hurricanes worldwide has held steady (although there is some regional variation), the proportion of tropical cyclones that reach category 4 and 5 status is increasing at a rate of 25-30% per degree C of warming, as the number of weaker category 1 and 2 hurricanes is decreasing.²²⁰ Put simply, climate change, caused by the Defendants products and conduct, has supercharged hurricanes, making a significantly higher percentage of them more powerful and thus more destructive.

235. Warmer surface water also causes hurricanes to slow down and stall longer over land, subjecting coastal areas to more rainfall during Hurricanes due to longer periods of storm exposure.²²¹ An example of this was Hurricane Harvey, which hit Houston in 2017 during the same hurricane season as Irma and Maria. Climate change caused as much as 40% more precipitation during Hurricane Harvey when it stalled over land,²²² but the economic damages increased by almost 200%.²²³ In other words, the economic damage from Harvey increased exponentially compared to the increases in precipitation from climate change, a trend observed in the 2017 Atlantic storm season that helped set the record for weather-related losses in the U.S. and that poses potentially huge costs to Puerto Rican communities.

236. The increase in heat in the oceans and atmosphere also creates a longer hurricane season. In 2008, Kossin showed that there had been a recent increase in the number of early- and late-season hurricanes in the North Atlantic due to increased sea surface temperature.²²⁴ In a paper

²²⁰ Greg Holland & Cindy L. Bruyère, *Recent Intense Hurricane Response to Global Climate Change*, 42 CLIMATE DYNAMICS 617-627 (Mar. 15, 2013), <https://doi.org/10.1007/s00382-013-1713-0>

²²¹ Walsh, et al., *National Climate Assessment: Ch. 2*, U.S. Global Climate Change Research Program, <https://nca2014.globalchange.gov/downloads>.

²²² Mark D. Risser & Michael F. Wehner, *Attributable Human-Induced Changes in the Likelihood and Magnitude of the Observed Extreme Precipitation during Hurricane Harvey*, GEOPHYSICAL RESEARCH LETTERS (Dec. 12, 2017), <https://onlinelibrary.wiley.com/doi/abs/10.1002/2017GL075888>.

²²³ David J. Frame, et al., *The Economic Costs of Hurricane Harvey Attributable to Climate Change*, 160 CLIMATIC CHANGE 271-281 (Apr. 8, 2021), <https://doi.org/10.1007/s10584-020-02692-8>.

²²⁴ James P. Kossin, *Is the North Atlantic Hurricane Season Getting Longer?*, GEOPHYSICAL RESEARCH LETTERS (Dec. 9, 2008), <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1029/2008GL036012>.

published in Nature in 2022, Dr. Ryan Truchelut showed that warmer ocean waters have shifted the beginning of the North Atlantic hurricane season at a rate of -5 days per decade since 1979, creating a much longer hurricane season and increasing the likelihood that destructive hurricanes will form in any given year.²²⁵

237. Warmer ocean waters and higher atmospheric temperatures produced conditions that caused the extreme hurricane-induced precipitation during the 2017 Atlantic hurricane season and set the stage for the devastation that Puerto Rico experienced during Hurricane Maria. The extremely warm water around Puerto Rico caused by climate change, as accelerated by the Defendants' products and conduct, intensified Maria by 65%.²²⁶ The 2017 Atlantic hurricane season – “a season that wouldn't quit” – produced multiple powerful and long-lived tropical cyclones, with a damage total of about \$295 billion,²²⁷ featuring 17 named storms, 10 hurricanes, and 6 major hurricanes. Two of these hurricanes, Irma and Maria, caused significant damage in Puerto Rico during the 2017 hurricane season, while pummeling the Caribbean.

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

238. In early September of 2017, two weeks before Hurricane Maria, Hurricane Irma made its way through the Caribbean, passing Puerto Rico. Hurricane Irma was a Category 5 hurricane, with registered winds up to 185 mph causing mass destruction throughout its path. The storm's eye moved 30 miles north of Puerto Rico on September 6, 2017 and its damaging winds and rain shook

²²⁵ Truchelut et al., “Earlier Onset of North Atlantic Hurricane Season with Warming Oceans.” <https://www.nature.com/articles/s41467-022-31821-3>

²²⁶ Carlos E. Ramos-Scharrón & 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 Oct. 15, 2023).

²²⁷ Brennan, “Tropical Cyclone Report: Tropical Storm Bret.” https://www.nhc.noaa.gov/data/tcr/AL022017_Bret.pdf

Puerto Rico.²²⁸ On its way past the island, Irma’s heavy rain and strong winds left flooded streets and snapped trees and electrical posts, which were leveled to the ground. Over a million people in the region 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 and 82 people indirectly. The damage from the storm cost an estimated \$77.16 billion across the Caribbean.²²⁹

239. Two weeks later, as Puerto Rico was still recovering from the damage left by Hurricane Irma, Hurricane Maria hit Puerto Rico directly, crossing over most of the island on a diagonal path. Recent research has quantified the impact climate change had on Hurricane Maria. The rainfall experienced during Hurricane Maria was the highest in Puerto Rico since records began in 1898²³⁰ and was the strongest hurricane to make landfall since 1928.²³¹ Hurricane Maria strengthened from a Category 1 hurricane to a Category 5 hurricane in just 18-hours due to very high sea surface temperatures.²³² At the time of landfall in Puerto Rico, Maria was a Category 4 storm with maximum wind speeds of 155 mph.²³³ Hurricane Maria created a 2m (6 ft) storm surge²³⁴ and produced 41 inches of rain, or almost a quarter of Puerto Rico’s annual rainfall in just one day—

²²⁸ FEMA, *Hurricanes Irma and Maria in Puerto Rico: Building Performance, Observations, Recommendations, and Technical Guidance*, FEMA (Oct. 2018), https://www.fema.gov/sites/default/files/2020-07/mat-report-hurricane-irma-maria-puerto-rico_2.pdf.

²²⁹ James Daniell, et al., *Hurricane Irma Report No. 1*, Center for Disaster Management and Risk Reduction Technology (Aug. 9, 2017), https://www.cedim.kit.edu/download/FDA_Irma_2017_Report1.pdf

²³⁰ Carlos E. Ramos-Scharrón & Eugenio Arima, *Hurricane Maria’s Precipitation Signature in Puerto Rico*, SCIENTIFIC REPORTS (Oct. 30, 2019), <https://www.nature.com/articles/s41598-019-52198-2>.

²³¹ National Weather Service, *Major Hurricane Maria - September 20, 2017*, NOAA (2017), <https://www.weather.gov/sju/Maria2017>.

²³² *Id.*

²³³ *Id.*

²³⁴ FEMA, *Hurricanes Irma and Maria in Puerto Rico: Building Performance, Observations, Recommendations, and Technical Guidance*, FEMA (Oct. 2018), https://www.fema.gov/sites/default/files/2020-07/mat-report-hurricane-irma-maria-puerto-rico_2.pdf.

the most rainfall since records began in 1898..²³⁵ The main impact of Hurricane Maria was this extreme rainfall that caused both catastrophic and flash flooding.

240. As will be described further below, Hurricane Maria caused damage to roads,²³⁶ interrupted water supply,²³⁷ electricity,²³⁸ and communications,²³⁹ and hindered access to medical care.²⁴⁰ In November 2017, estimated damages from Maria alone totaled \$94 billion.²⁴¹ The Economic and Disaster Recovery Plan (draft for public opinion) released for comment on July 7, 2018 estimated that **\$124 billion** will be necessary for Puerto Rico to recover and rebuild from Maria.²⁴²

²³⁵ David Keellings, *Climate Change to Blame for Hurricane Maria's Extreme Rainfall*, Advancing Earth and Space Sciences (Apr. 16, 2019), <https://news.agu.org/press-release/climate-change-to-blame-for-hurricane-marias-extreme-rainfall/>.

²³⁶ Francisco Silva-Tulla & Miguel Pando, *Geotechnical Extreme Event Site Reconnaissance in Puerto Rico after the Passage of Hurricane Maria*, INTL. J. OF GEOENGINEERING CASE HISTORIES (2020), <https://doi.org/10.4417/IJGCH-05-04-01>.

²³⁷ Yishan Lin, et al., *Impact of Hurricane Maria on Drinking Water Quality in Puerto Rico*, 54 ENVIRON. SCI. TECHNOL. 9495-9509 (2020), <https://doi.org/10.1021/acs.est.0c01655>.

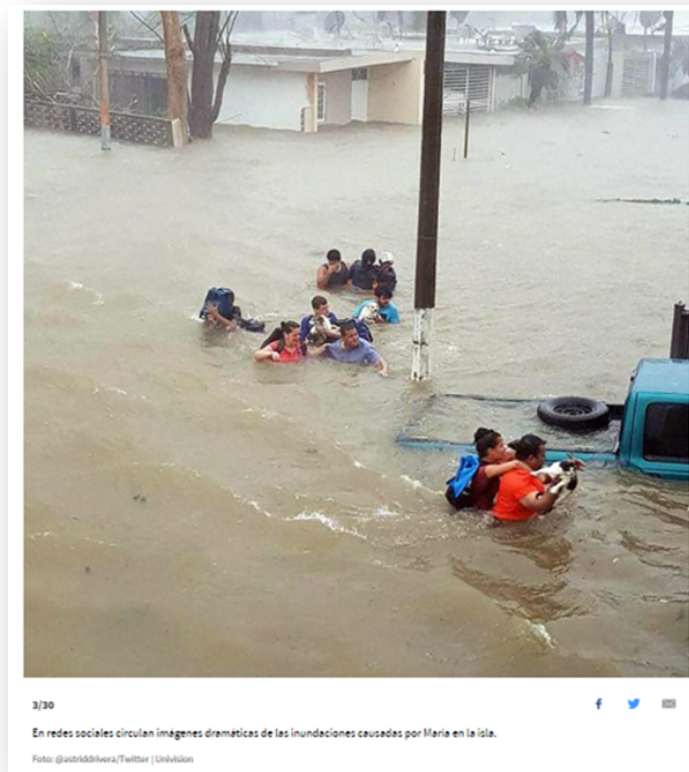
²³⁸ Alexis Kwasinski, et al., *Hurricane Maria Effects on Puerto Rico Electric Power Infrastructure*, IEEE (Feb. 19, 2019), <https://ieeexplore.ieee.org/document/8644031>.

²³⁹ Bruno Takahashi, et al., *Preparing for the Worst*, JOURNALISM PRACTICE (Oct. 25, 2019), <https://doi.org/10.1080/17512786.2019.1682941>.

²⁴⁰ Jeanne-Marie Lawrence, et al., *Leveraging a Bayesian Network Approach to Model and Analyze Supplier Vulnerability to Severe Weather Risk*, International Journal of Disaster Risk Reduction (Oct. 2020), <https://www.sciencedirect.com/science/article/pii/S2212420919311847>; Nicole Yordan-Lopez, et al., *Challenges and Opportunities After Hurricane Maria*, J GRAD MED EDUC (2018), <https://doi.org/10.4300/JGME-D-17-01024.1>

²⁴¹ Ricardo Roselló, *Build Back Better Puerto Rico: Request for Federal Assistance for Disaster Recovery* (Nov. 2017), <https://s3.documentcloud.org/documents/4197335/Build-Back-Better-Puerto-Rico.pdf>.

²⁴² Central Office for Recovery, Reconstruction, and Resiliency, *Transformation and Innovation in the Wake of Devastation: An Economic and Disaster Recovery Plan for Puerto Rico*, Central Office for Recovery, Reconstruction, and Resiliency (2018), <https://prsciencetrust.org/wp-content/uploads/2019/01/pr-transformation-innovation-plan.pdf>.



241. The intense rain triggered over 70,000 landslides in the island's interior – more than two orders of magnitude greater than previous hurricanes – in some cases isolating communities for days and weeks with residents unable to seek aid and healthcare.²⁴³

242. In the months following the 2017 Atlantic Hurricane Season, morgues at many Puerto Rico hospitals were at full capacity leaving citizens and emergency officials struggling to find alternative places for those who died.

243. In the **Municipality of Cidra**, a month after the passing of Hurricane Maria, the town's main road (PR-172) remained closed, emergency management services were removing 1,000 cubic

²⁴³ Erin K. Bessette-Kirton, et al., *Mobility Characteristics of Debris Slides and Flows Triggered by Hurricane Maria in Puerto Rico*, 17 *LANDSLIDES* 2795-2809 (June 30, 2020), <https://doi.org/10.1007/s10346-020-01445-z>.

yards of debris daily.²⁴⁴ In the **Municipality of Lares**, the hurricane dumped so much rain onto the municipal cemetery that it triggered a massive landslide destroying 60% (1,779) of the tombs, expelling caskets from their graves and sending some of them tumbling down a hillside.



244. The damages were so severe that health officials were forced to close the cemetery, which remains closed to this day, causing further pain to the families and friends of those buried therein, who are impeded from visiting their loved ones' graves.²⁴⁵

²⁴⁴ *Hurricane Maria: Our Special Coverage – El Nuevo Día*, ENDI, <https://huracanmaria.elnuevodia.com/>.

²⁴⁵ Rachel Martin, 'My Father Is In There', NPR (Dec. 6, 2018), <https://www.npr.org/transcripts/673268881>.



The sign reads:

The autonomous Municipality of Lares stands in solidarity with our citizens and understands the genuine desire to be able to visit the area where the remains of your loved ones are.

Unfortunately, and with great sorrow, we must remind you that by order of the Health Department, entry to the Municipal Cemetery is prohibited until further notice. We appreciate your cooperation with this security measure.

D. Further Impacts of Hurricane Maria on Plaintiffs

1. Harm to Marine Ecosystems

245. The degradation of coral reefs due to climate change, as accelerated by the Defendants' products and conduct, has had devastating impacts on the Municipalities' ecosystem, citizens, and economy and exacerbated the damage to the Municipalities and their 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.²⁴⁶

246. 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.²⁴⁷ Since pre-industrial times, the acidity of the ocean has increased by 30%.²⁴⁸

247. 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.²⁴⁹ The warming of ocean waters due to climate change has had serious negative impacts on the world's coral reefs. Scientists estimate that a warming of the world's oceans by 1°C will eventually lead to the loss of all coral reef ecosystems worldwide.²⁵⁰ The degradation of coral reefs due to climate change has already exposed Puerto Rico's Municipalities to increasing flood hazards due to the shrinking of the reefs protective barrier that was compounded by the damage from the September 2017 storms.

248. 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. Coral reefs function like low-crested breakwaters, with hydrodynamic behavior acknowledged 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

²⁴⁶ 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 Oct. 15, 2023).

²⁴⁷ 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 Oct. 15, 2023).

²⁴⁸ *Id.*

²⁴⁹ 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 Oct. 15, 2023).

²⁵⁰ Scott C. Doney, et al., *The Impacts of Ocean Acidification on Marine Ecosystems and Reliant Human Communities*, 45 ANNUAL REVIEW OF ENVIRONMENT AND RESOURCES 1-11 (2020), <https://www.annualreviews.org/doi/abs/10.1146/annurev-environ-012320-083019>.

Puerto Rico in its 2019 report. The value of buildings and economic industry flooding protection provided by Puerto Rico coral reefs annually, is estimated to be \$184,000,000.²⁵¹ The destruction of the reef ecosystems around Puerto Rico from Hurricane Maria created both lost revenue and decreased protection to coastal infrastructure. Due to decreased protection from coral reef ecosystems, municipalities will need to spend millions of dollars protecting their coastal infrastructure from flooding and storm surges.²⁵² The 2017 Hurricane Season snapped hundreds of thousands of corals from reefs around the island. Eleven percent (11%) of the coral reefs off the coast of Puerto Rico were damaged by Hurricanes Irma and Maria.²⁵³ The intense rainfall from the hurricanes triggered an influx of polluted sediment loads into the ocean, further harming the reefs.²⁵⁴

249. Assessment teams from the Federal Emergency Management Agency (FEMA) discovered structural damage to individual coral and the reefs as well as heavy sediment accumulation, which prevent corals from getting enough sunlight. With an average economic value of nearly **\$1.1 billion per year**, the reefs support the island's vibrant tourism industry while protecting lives and valuable coastal infrastructure by reducing heavy swells during storms.²⁵⁵

250. The degradation to coral reefs also creates significant impacts on fisheries and communities reliant on ocean health. Many of the important ecosystem services that the ocean

²⁵¹ Curt D. Storlazzi, et al., *Rigorously Valuing the Role of U.S. Coral Reefs in Coastal Hazard Risk Reduction*, USGS (Oct. 27, 2019), <https://pubs.usgs.gov/of/2019/1027/ofr20191027.pdf>

²⁵² Scott C. Doney, et al., *The Impacts of Ocean Acidification on Marine Ecosystems and Reliant Human Communities*, 45 ANNUAL REVIEW OF ENVIRONMENT AND RESOURCES 1-11 (2020), <https://www.annualreviews.org/doi/abs/10.1146/annurev-environ-012320-083019>.

²⁵³ *Post-Disaster Coral Reef Assessment and Restoration Set Important Precedent for Coastal Communities*, NOAA, <https://coast.noaa.gov/digitalcoast/training/corals.html>.

²⁵⁴ Renee K. Takesue, et al., *Land-Based Sediment Sources and Transport to Southwest Puerto Rico Coral Reefs after Hurricane Maria, May 2017 to June 2018*, ESTUARINE, COASTAL, AND SHELF SCIENCE (Sept. 30, 2021), <https://www.sciencedirect.com/science/article/pii/S0272771421003280>.

²⁵⁵ 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 Oct. 13, 2023).

offers to communities, like fisheries, aquaculture, and shoreline protection, are more at risk due to acidification when combined with climate change-related stresses.²⁵⁶ For example, the harvest of certain shellfish species are extremely likely to decline due to ocean acidification, which would result in lost revenue and cultural disturbance for communities like those in Puerto Rico that rely on such industries.²⁵⁷

2. Social, Educational, and Economic Losses

251. 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.²⁵⁸ Indeed, climate change is listed as one of the top three key forces transforming the economy.²⁵⁹ The Federal Reserve warned in a research report released on March 25, 2019, attached hereto as **Exhibit 5** that climate-based risk could threaten the stability of the financial system as a whole.²⁶⁰ 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.

252. 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.²⁶¹ That exposure has also come true for Puerto Rico.

²⁵⁶Scott C. Doney, et al., *The Impacts of Ocean Acidification on Marine Ecosystems and Reliant Human Communities*, 45 ANNUAL REVIEW OF ENVIRONMENT AND RESOURCES 1-11 (2020), <https://www.annualreviews.org/doi/abs/10.1146/annurev-environ-012320-083019>.

²⁵⁷ *Id.*

²⁵⁸ 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 Oct. 13, 2023).

²⁵⁹ *Id.*

²⁶⁰ 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 Oct. 13, 2023).

²⁶¹ 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 Oct. 12, 2023).

253. The Municipalities sustained serious damage to their agricultural industry. Roughly 80% of Puerto Rico's crop value vanished overnight, a loss of approximately **\$780 million**.²⁶² Severe food shortages resulted, and the lack of intact transportation infrastructure made it difficult to distribute food aid. Approximately 5000 cows were killed; many others were sick and did not recover. Reduction of foliage and destruction of roofs that provided shade make cows overheat. Production of milk diminished. Cows need to be milked twice a day to keep maximum production and the lack of electricity made this process difficult.²⁶³ Crops of banana trees and coffee will take years to recuperate. Puerto Rico was only producing 15% of its own food but has taken 5 years to reach that point once again.²⁶⁴ Immediately following Maria, Puerto Rico established a curfew from 7:00 p.m. to 5:00 a.m. for safety concerns. Puerto Rico police, with only 13,000 agents, could not cope with the situation. Crimes against the elderly rose. In October and November of 2017, there were 5,545 complaints for abuse, in comparison with 12,682 for the entire fiscal year of 2016-2017. During that time, illegal appropriations suffered an increase from 63 to 207 complaints in average.²⁶⁵

254. Another impact on plaintiff Municipalities is increasing emigration. Lack of power, loss of jobs and a poor economy has moved many to emigrate from the Municipalities. The exodus has been estimated at about 200,000, with the majority relocating to the United States, particularly to

²⁶² 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 Oct. 15, 2023).

²⁶³ Wilma Maldonado Ariigoitia, *Lejos de Recuperarse el Sector Ganadero de Leche*, EL NUEVO DÍA (Oct. 5, 2017, 6:54 PM), <https://www.elnuevodia.com/negocios/economia/notas/lejos-de-recuperarse-el-sector-ganadero-de-leche/> (last visited Oct. 13, 2023).

²⁶⁴ EFE, *María 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/maria-dejo-mas-2-mil-millones-perdidas-sector-agropecuario.html> (last visited Oct. 13, 2023).

²⁶⁵ Mildred Rivera Marrero, *Al Desnudo la Vulnerabilidad de los Ancianos tras el Paso de María*, EL NUEVO DÍA. (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 Oct. 13, 2023).

the state of Florida.²⁶⁶ The United States Census Bureau concluded that there was a decrease in population by 2% from 2020 to 2022,²⁶⁷ representing a huge loss of tax base for Puerto Rico and the economies of the Municipalities that continue to struggle.

255. In addition, tourism is the lifeblood of 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.²⁶⁸ Winter is the high season for Puerto Rico tourism, but not in 2017. One month after Hurricane Maria, one third of hotels on 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. The taxes previously collected by the Municipalities were significantly reduced.

256. 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.

269 270

257. As previously stated, 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.²⁷¹ Such costs are incurred by the Puerto Rican Government and the Municipalities instead

²⁶⁶ *El Otro Huracán Que Enfrenta Puerto Rico*, PRIMERA HORA (Dec. 6, 2017, 11:19 PM), <https://www.primerahora.com/noticias/puerto-rico/notas/el-otro-huracan-que-enfrenta-puerto-rico/>.

²⁶⁷ Jim Wyss, *Puerto Rico's Population Continues Shrinking, New Data Show*, BLOOMBERG (Mar. 30, 2023), <https://www.bloomberg.com/news/articles/2023-03-30/puerto-rico-s-population-shrank-another-2-from-2020-to-2022>.

²⁶⁸ 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 Oct. 13, 2023).

²⁶⁹ Valerie Strauss, *Puerto Rico to 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 Oct. 13, 2023).

²⁷⁰ *Id.*

²⁷¹ Gov. Ricardo Roselló, *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/2019/01/pr-transformation-innovation-plan.pdf> (last visited Oct. 15, 2023).

of the Defendants who knowingly and actively caused the intensified hurricanes that created such devastation.

3. Increased Threat to Infrastructure and Homes

258. Officials from The U.S. Department of Transportation Federal Highway Administration report that Hurricane Maria caused over 6,000 separate incidents of damage to transportation infrastructure. This includes 400 bridges and roads that were taken out specifically by landslides. They also report that 20% of all bridges in Puerto Rico were damaged, with 26 bridges collapsing completely.²⁷² The hurricane basically devastated the Municipalities' 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.

259. The Municipalities 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. The catastrophe damaged hospitals, shelters, and food stores.

260. Due to the cascading infrastructure failure from flooding, broken roads, downed trees and powerlines, restoration of power was quite slow. In many municipalities the entire power grid was destroyed, leaving 100% of the population without power. The damage to the Municipalities' power grids was so severe that three months after Hurricane Maria 45% of Puerto Ricans, or 1.5

²⁷² Ferdinand Ortiz, *Public Roads - Winter 2020: Coming Back from Disaster*, PUBLIC ROADS (2020), <https://highways.dot.gov/public-roads/winter-2020/coming-back-disaster>.

million people, still had no power. Four months after Maria, only 70.9% of the population had power. Some areas were still without power 10 months later.²⁷³

261. In fact, 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.²⁷⁴ In fact, the average Puerto Rican pays twice as much for electricity as a mainland United States citizen.²⁷⁵ This means Puerto Rico is particularly targeted by the Defendants for their higher-than-average payments for electricity. Defendants get almost double the profit from Plaintiffs solely because of their electric grid and this only stands to get worse, as frequency and intensity of hurricanes in the area increase due to climate change.

262. The Municipalities are now at increased risk of dangerous flooding. Indeed, 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.

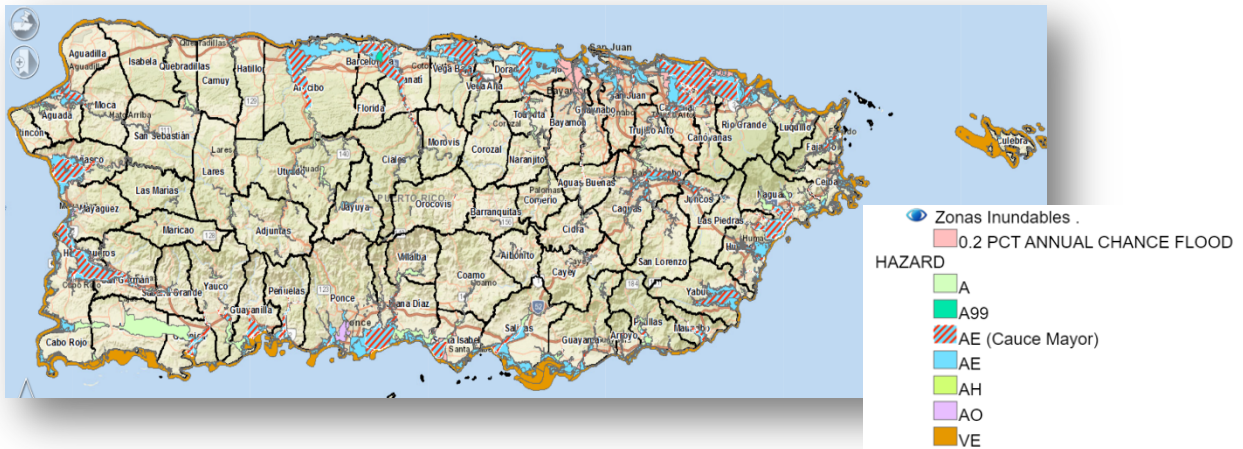
263. After their review and update of the flood maps for the island, it was determined that an additional **92,180** structures on the island now fall within flood zones, for a total of **252,748** structures total. The term “structures” includes homes, businesses, and industries. These maps include 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 Pérez. “We have a high number in what

²⁷³ Ann M. Simmons & Milton Galarza, *Four Months after Hurricane Maria, Puerto Rico Struggles with Lack of Electricity, Food and Water*, LA TIMES (Jan. 30, 2018), <https://www.latimes.com/nation/la-na-puerto-rico-aid-20180130-story.html>.

²⁷⁴ 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 Oct. 15, 2023).

²⁷⁵ Rúa Jovet, Javier & Tierney Sheehan, *Hurricane-Proof Energy for Puerto Rico*, RMI (Oct. 27, 2022), <https://rmi.org/hurricane-proof-energy-for-puerto-rico/>.

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.²⁷⁶



264. The Global Climate Risk Index 2020 December 4, 2019 report, attached hereto as **Exhibit 6**, found Puerto Rico and its infrastructure has been affected by climate change more than anywhere else in the world considering the number of weather-related events as well as the impact of the catastrophes in the 20-year period:²⁷⁷



265. All of this was not only foreseeable, but it was also, in fact, *foretold* by the Oil Defendants.

²⁷⁶ Yaritza Rivera Clemente, *Cambió el Mapa de Inundaciones*, EL VOCERO (Sept. 20, 2018), https://www.elvocero.com/actualidad/cambi-el-mapa-de-inundaciones/articulo_d85a0c04-bc2f-11e8-addb-f34aa2de69ed.html (last visited Oct. 15, 2023).

²⁷⁷ 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-change/> (last visited Oct. 15, 2023).

4. Exacerbated Medical Disasters

266. The impacts described above that resulted from Hurricane Maria caused many public health threats. In the past 50 years, natural disasters attributed to climate change's more extreme weather have caused 2 million deaths²⁷⁸ and will likely lead to further death tolls as climate change intensifies. Because of Puerto Rico's heightened exposure to hurricanes, its citizens have incurred severe threats to their health and livelihoods, especially related to Hurricane Maria. Several studies documented the destruction Hurricane Maria caused to the Municipalities' health care facilities, medical services, communications, water, and transportation, which caused many direct and indirect impacts to the health of Puerto Rican citizens, especially those who are disabled.

267. On May 19, 2018, Kishore *et al* 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. 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 the year before (2016). 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."²⁷⁹

268. 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, impacting patients in need of dialysis, chemotherapy, and transfusions. For those with chronic respiratory disorders, the lack of electricity to power mechanical ventilators, oxygen concentrators, and nebulizers further exacerbated their anxiety and

²⁷⁸ *Extreme Weather Caused Two Million Deaths, Cost \$4 Trillion over Last 50 Years*, UN NEWS (2023), <https://news.un.org/en/story/2023/05/1136897>.

²⁷⁹ Nishant Kishore, et al., *Mortality in Puerto Rico after Hurricane Maria*, 379 N. ENGL. J. OF MED. 162-170 (July 12, 2018), <https://doi.org/10.1056/NEJMsa1803972>.

exacerbated conditions.²⁸⁰ As power returned, clinical care sites began to reopen with limited services and amidst hazardous living conditions. The destruction of Hurricane Maria even prompted many health care professionals to leave Puerto Rico.

269. 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.²⁸¹ This was not surprising to medical professionals who remained to care for an 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.²⁸² 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.²⁸³ A climate change study performed in 2008 predicted sporadic or erratic toxigenic cholera outbreaks should a “perfect storm” ever occur,²⁸⁴ while studies noted increases in influenza-like illnesses, dengue, zika, leptospirosis, and chikungunya after the hurricane.²⁸⁵

270. 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

²⁸⁰ Jesse Roman, *Hurricane Maria*, *ATS JOURNALS* (Nov. 29, 2017), <https://www.atsjournals.org/doi/full/10.1513/AnnalsATS.201710-792OI>.

²⁸¹ Raul Cruz-Cano & Erin Mead, *Causes of Excess Deaths in Puerto Rico After Hurricane Maria*, *AJPH* (Jan. 21, 2019), [10.2105/AJPH.2019.305015](https://doi.org/10.2105/AJPH.2019.305015).

²⁸² Jesse Roman, *Hurricane Maria*, *ATS JOURNALS* (Nov. 29, 2017), <https://www.atsjournals.org/doi/full/10.1513/AnnalsATS.201710-792OI>.

²⁸³ Josiemer Mattei, et al., *Chronic Diseases and Associated Risk Factors Among Adults in Puerto Rico After Hurricane Maria*, *PUB MED* <https://pubmed.ncbi.nlm.nih.gov/35019984/>.

²⁸⁴ Bernard Christenson, *Hurricanes, Climate Change and the Cholera Epidemic in Puerto Rico of 1855-1856* (2008), <https://pubmed.ncbi.nlm.nih.gov/19400536>.

²⁸⁵ Jeniffer Concepción-Acevedo, *Initial Public Health Laboratory Response After Hurricane Maria — Puerto Rico, 2017*, *WEEKLY* (Mar. 23, 2018), <https://www.cdc.gov/mmwr/volumes/67/wr/mm6711a5.htm>.

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.²⁸⁶

E. The Deadly 2017 Atlantic Hurricanes Are Only the Beginning

271. The intensity and precipitation 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.²⁸⁷ Puerto Rico will see more severe tropical storms as the climate continues to warm.

272. Dr. Emanuel, in a June 2019 Report attached as **Exhibit 7**, 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 to estimate hurricane risk in Puerto Rico using global climate simulations. This method can also estimate how hurricane risk 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 increased by a factor of about 8 between the middle of the twentieth century and

²⁸⁶ Lilly Ramphal, *Medical and Psychosocial Needs of the Puerto Rican People after Hurricane Maria*, PMC (Apr. 26, 2018), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5997087/>.

²⁸⁷ 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 Oct. 15, 2023).

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. In other words, climate change increased the probability of both the strong winds and heavy rain from Hurricane Maria that wreaked havoc on Puerto Rico.

273. Similarly, in a study published in *Geophysical Research Letters* in 2019 and attached as **Exhibit 8**,²⁸⁸ another group of 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. "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 Dr. David Keellings, a geographer at the University of Alabama in Tuscaloosa who co-authored the study along with José Javier Hernández Ayala, a climate researcher at Sonoma State University in California. "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. Keellings and Hernández 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 1950s 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. At the beginning of the observational record in the 1950s, a storm like

²⁸⁸ David Keellings & Jose Hernández Ayala, *Extreme Rainfall Associated With Hurricane Maria Over Puerto Rico and Its Connections to Climate Variability and Change*, *GEOPHYSICAL RESEARCH LETTERS*, (Mar. 4, 2019), <https://onlinelibrary.wiley.com/doi/abs/10.1029/2019GL082077>.

Maria was likely to drop that much rain once every 300 years.²⁸⁹ 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. The findings show human influence on Hurricane Maria’s precipitation is already 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 were exacerbated by climate change,” Wehner said.²⁹⁰

274. A study published in *Science Advances* in 2021 found that the anomalously warm sea surface temperature during the passage of Hurricane Maria produced a 65% greater potential of hurricane intensity (i.e., rapid intensification). No models of Hurricane Maria predicted the rapid intensification that occurred, but the researchers were able to quantify how it occurred, as temperature and pressure sensors had recently been deployed off the Puerto Rican shelf. Using the temperature and wind data from the sensors, the researchers estimate that there was a 3°C sea surface temperature anomaly during Hurricane Maria.²⁹¹

275. Relatedly, as the climate warms, the frequency of higher intensity storms increases. The intensification of hurricanes (e.g., stronger storms) and frequency of hurricanes in the North Atlantic basin, in which Puerto Rico sits, has been linked to rising ocean temperatures. In the North Atlantic Basin, including the Caribbean, the long-term (1966-2009) average number of tropical storms was about eleven per year, with about six becoming hurricanes. More recently (2000-2013),

²⁸⁹ *Id.*

²⁹⁰ *Id.*

²⁹¹ Olivia M. Cheriton, et al., *Rapid Observations of Ocean Dynamics and Stratification along a Steep Island Coast during Hurricane María*, *SCIENCE ADVANCES* (May 12, 2021), <https://www.science.org/doi/10.1126/sciadv.abf1552>.

the average is about sixteen tropical storms per year, including about eight hurricanes.²⁹² In other words, storms like Hurricane Maria have become more likely due to climate change.

276. Fossil fuel driven climate change also causes seas to rise²⁹³ through two processes, the thermal expansion of ocean waters, and the melting of glacial and polar ice (this is limited to ice that currently sits on land masses, as opposed to the melting of polar sea ice).²⁹⁴ Sea level has risen in Puerto Rico at a rate of 0.175 cm/yr since 1955 — consistent with global averages. However, the average sea level rise rate around Puerto Rico has accelerated since 2005 to 0.725 cm/yr, which is over 4 times faster than the 1900's.²⁹⁵ The resulting routine coastal erosion has caused significant property damage and flooding.²⁹⁶

277. This accelerated sea level rise has caused, and will continue to cause, coastal erosion or a retreat of the coastline in Puerto Rico of up to 3.3 feet per year.²⁹⁷ Coastal erosion not only threatens the many hotels, homes, and other property and infrastructure that border many of the Municipalities' beaches, often just a few feet away from the shoreline, but also increases storm surge height and coastal flooding from hurricanes. The combined impacts of sea level rise and coastal erosion exacerbated the significant property and infrastructure damage and flooding that occurred from Hurricane Maria. For example, in Las Marias, a community on the outskirts of San

²⁹² David Keellings, *Climate Change to Blame for Hurricane Maria's Extreme Rainfall*, Advancing Earth and Space Sciences (Apr. 16, 2019), <https://news.agu.org/press-release/climate-change-to-blame-for-hurricane-marias-extreme-rainfall/>.

²⁹³ R.S. Nerem, et al., *Climate-Change-Driven Accelerated Sea-Level Rise Detected in the Altimeter Era*, PNAS (Feb. 12, 2018), <https://www.pnas.org/doi/abs/10.1073/pnas.1717312115>.

²⁹⁴ Thomas Frederikse, et al., *The Causes of Sea-Level Rise since 1900*, 584 NATURE 393-397 (Aug. 19, 2020), <https://www.nature.com/articles/s41586-020-2591-3>.

²⁹⁵ Mark R. Jury, *Puerto Rico Sea Level Trend in Regional Context*, 163 OCEAN & COASTAL MANAGEMENT 478-484 (Sept. 1, 2018), <https://www.sciencedirect.com/science/article/abs/pii/S0964569118302394>

²⁹⁶ Gillian Cambers, *Caribbean Beach Changes and Climate Change Adaptation*, AQUATIC ECOSYSTEM HEALTH & MANAGEMENT (2009), <https://dx.doi.org/10.1080/14634980902907987>; Mark R. Jury, *Puerto Rico Sea Level Trend in Regional Context*, 163 OCEAN & COASTAL MANAGEMENT 478-484 (Sept. 1, 2018), <https://www.sciencedirect.com/science/article/abs/pii/S0964569118302394>.

²⁹⁷ Janice Cantieri, *Puerto Rico: A 'canary in the coal mine' for climate change*, MEDILL REPORTS CHICAGO (Dec. 7, 2016), <https://news.medill.northwestern.edu/chicago/puerto-rico-a-canary-in-the-coal-mine-for-climate-change/> (last visited Oct. 9, 2023).

Juan, large sections of the town fell into the sea, including a road, a grove of trees, and much of the community's beachfront park. The below image shows an example of the damage:²⁹⁸



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

278. Almost exactly five years after the passing of hurricane María, 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.

²⁹⁸ 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/>.

279. The next morning, close to 2,500 Puerto Ricans had to abandon their homes and stay at storm shelters due to intense rain, severe flooding, mudslides and fallen trees.²⁹⁹ At that time, Puerto Rico Governor, Pedro Pierluisi, estimated damages at over 1 billion dollars, calling the emergency catastrophic.³⁰⁰

280. The south part of the island 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.³⁰¹ For context, Hurricane María, which was a category 4 storm, dumped 41 inches of rain.

281. 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 torn 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 María, five years before, which left them in an extremely vulnerable state against the 90 mph winds of Fiona.³⁰²

282. 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.³⁰³

²⁹⁹ 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 Oct. 26, 2023).

³⁰⁰ *Id.*

³⁰¹ 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); Redacción, 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-hurac-n-fiona-en-puerto-rico/article_69aadbb0-4891-11ed-8f6b-8f60f81c109d.html (last visited Oct. 10, 2022).

³⁰² 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, 2023).

³⁰³ 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, 2023).

283. But 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.

284. 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 could take multiple days.³⁰⁴ Two days later, over a million clients remained without power, 89 percent of Puerto Rico customers.³⁰⁵

285. Not only this, but also over 750,000 Puerto Ricans were left without potable water after the passing of the hurricane, a staggering 66%.³⁰⁶

286. 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.³⁰⁷

287. 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

³⁰⁴ Gerardo E. Alvarado León, *El huracán Fiona provoca un apagón general*, EL NUEVO DÍA (Sept. 18, 2022), <https://www.elnuevodia.com/noticias/locales/notas/el-huracan-fiona-provoca-un-apagon-general/> (last visited Sept. 26, 2023).

³⁰⁵ Noticel, *Más de un millón de clientes permanecen sin luz*, NOTICEL (Sept. 24, 2022), <https://www.noticel.com/lacalle/ahora/20220920/mas-de-un-millon-de-clientes-permanecen-sin-luz/> (last visited Sept. 26, 2023).

³⁰⁶ Kevin Rodríguez Resto, *Sobre 750,000 abonados no cuentan con el servicio de agua potable*, EL VOCERO (Sept. 19, 2022), https://www.elvocero.com/gobierno/agencias/sobre-750-000-abonados-no-cuentan-con-el-servicio-de-agua-potable/article_1efe3038-3830-11ed-b497-73457b9b6467.html (last visited Sept. 26, 2023).

³⁰⁷ 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, 2023).

were left stranded as a result of fallen trees throughout the municipalities' roads.³⁰⁸ 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 Boquerón and Sabana communities were completely or partially under water.³⁰⁹



288. Bridges collapsed and were dragged by the currents. In Utuado, a bridge that had been built after Hurricane María was destroyed and swept away by the flooding waters.³¹⁰

³⁰⁸ Rosalina Marrero-Rodríguez, *Ramas y árboles caídos 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, 2023).

³⁰⁹ Shakira Vargas Rodríguez, *Colapso de carretera en sector La Chorrera de Bayamón deja 40 familias incomunicadas*. EL NUEVO DÍA (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, 2023); Damaris Hernández Mercado, *El alcalde de Vega Baja estima entre \$10 a \$15 millones los daños preliminares en su municipio*. EL NUEVO DÍA (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, 2023).

³¹⁰ Nacho Girón, *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, 2023).



289. Rachel Cleetus, policy director for the Climate and Energy Program at the Union of Concerned Scientists, estimates the economic losses from hurricane Fiona will be compounded by the still-existing problems on the island that were worsened by Maria and result in a multibillion-dollar economic disaster.³¹¹

290. The devastation wrought 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 María 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.”³¹²

³¹¹ Jaelyn 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, 2023).

³¹² Tal 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, 2023).

291. These damages resulted in all 78 Puerto Rico municipalities being declared disaster zones by the Federal Emergency Management Agency (FEMA).³¹³

292. And this is just the beginning. Michael Wehner, 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.”³¹⁴

293. 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.”³¹⁵

G. The Defendants Failed to Prevent or Warn Puerto Rico and its Consumers of the Increasing Risk of Severe Storms

294. Defendants individually and collectively extracted a substantial percentage of all raw fossil fuels extracted globally since 1965. By current calculation, more than 36%. That percentage will increase as the Parties pursue discovery and the Defendants are required to reveal the many acts, transaction, mergers, purchases, joint ventures, and more, that each of them have pursued, acting in concert, to further their goals of hiding the truth from the Plaintiff Municipalities and their citizens.

295. 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.

³¹³ 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, 2023); *See also*: FEMA Disaster Declaration - Puerto Rico Hurricane Fiona (DR-4671-PR), <https://www.fema.gov/disaster/4671> (last visited: Oct. 11, 2023).

³¹⁴ 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, 2023).

³¹⁵ *Id.*

296. 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. Rather than collaborating with the international community by acting to forestall, or at least mitigate climate catastrophes, Defendants actively fought against any positive climate change mitigation and knowledge.

H. First Investigate, Then Deceive

1. Defendants were warned of the likely impacts of fossil fuel combustion on the continued concentration of atmospheric CO₂ and resultant climate change as early as the 1950s and 1960s.

297. During the 1950s and 1960s, the Defendants repeatedly received warnings about the possible impacts of increasing concentrations of atmospheric CO₂. One of the first such alerts came in 1954, when API and its members gained access to unpublished research conducted by scientists at the California Institute of Technology. The work by geochemist Harrison Brown and others indicated a 5% increase in atmospheric CO₂ since 1840 based on measurements of carbon in tree rings.³¹⁶

298. A few years later, in 1959, physicist Edward Teller directly confronted the industry in a speech at the Energy and Man symposium, organized by Columbia University and API. The world needed to find alternative energy sources, Teller cautioned, because “a temperature rise corresponding to a 10 percent increase in carbon dioxide will be sufficient to melt the icecap and submerge New York.” He went on: “All the coastal cities would be covered, and since a

³¹⁶ Benjamin Franta, *Early oil industry knowledge of CO₂ and global warming*, 8 NATURE CLIMATE CHANGE 1024 (Nov. 19, 2018), <https://www.nature.com/articles/s41558-018-0349-9>.

considerable percentage of the human race lives in coastal regions, I think that this chemical contamination is more serious than most people tend to believe.”³¹⁷

299. Perhaps the most credible alarm of all came from President Lyndon B. Johnson’s Science Advisory Committee. A 1965 report from the Committee’s Environmental Pollution Panel warned that increased concentrations of atmospheric CO₂ by the end of the twentieth century – *caused by the combustion of fossil fuels* – could lead to global warming, which itself could precipitate melting ice caps and sea level rise.³¹⁸

300. Frank Ikard, the president of API at the time, summarized the report’s findings for the trade organization’s members later that year. Members that included the Oil and Gas Defendants. “This report unquestionably will fan emotions, raise fears, and bring demands for action,” he predicted.³¹⁹ “The substance of the report is that there is still time to save the world’s peoples from the catastrophic consequence of pollution, but time is running out.”³²⁰

2. Defendants conducted independent research on the likely impacts of fossil fuel combustion on the continued concentration of atmospheric CO₂ and resultant climate change throughout the 1950s and 1960s.

301. Almost immediately, the Defendants responded to this new information by engaging in further research themselves. Industry scientists, whether working for oil companies directly or hired by trade groups, examined the connection between fossil fuels, increased atmospheric CO₂, and the potential for global warming – and consistently reached the same conclusions as those of academic and governmental researchers. H.R. Brannon, an employee at Humble Oil

³¹⁷ Edward Teller, et. al., *Energy Patterns of the Future, Energy and Man: A Symposium*, 53, 58 (New York, Appleton-Century-Crofts, Nov. 1959).

³¹⁸ President’s Science Advisory Committee, *Report of the Environmental Pollution Panel President’s Science Advisory Committee*, The White House (1965), <https://www.climatefiles.com/climate-change-evidence/presidents-report-atmospher-carbon-dioxide/>.

³¹⁹ Frank Ikard, *Meeting the Challenges of 1966*, American Petroleum Institute (1965), <https://www.climatefiles.com/trade-group/american-petroleum-institute/1965-api-president-meeting-the-challenges-of-1966/>.

³²⁰ *Id.*

(ExxonMobil), reproduced Brown’s research in 1957.³²¹ He reported that his findings were in “excellent agreement” with the study from three years prior and went on to publish the study in a science journal.

302. The chief geologist at Shell, Marion King Hubbert, authored a report for the National Academy of Sciences in 1962 that was even more definitive. He wrote: “There is evidence that the greatly increasing use of fossil fuels, whose material contents after combustion are principally H₂O and CO₂, is seriously contaminating the earth’s atmosphere with CO₂.”³²² Hubbert concluded, “It is possible that this is already producing a secular climatic change in the direction of higher average temperatures” which “could have profound effects both on the weather and the ecological balances.”³²³

303. Later that decade, API commissioned two reports on global warming from the Stanford Research Institute (SRI). The first, from 1968, attached as **Exhibit 9**, indicated that concentrations of atmospheric CO₂ were measurably increasing, with fossil fuels as the primary culprit: “[a]lthough there are other possible sources for the additional CO₂ now being observed in the atmosphere, none seem to fit the presently observed situation as well as the fossil fuel emanation theory.”³²⁴ These increases in CO₂ were “almost certain” to lead to “significant temperature changes” by the year 2000, which could in turn “bring about climatic changes.” The report further explained that these corresponding “rising global temperatures” could lead to “the melting of the Antarctic ice cap, a rise in sea levels, warming of the oceans, and an increase in photosynthesis” –

³²¹ H.R. Brannon, et al., *Radiocarbon evidence on the dilution of atmospheric and oceanic carbon by carbon from fossil fuels*, EOS, TRANSACTIONS AMERICAN GEOPHYSICAL UNION (Oct. 1957), <https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1029/TR038i005p00643>.

³²² Marion King Hubbert, *Energy Resources: A Report to the Committee on Natural Resources of the National Academy of Sciences*, National Academy of Sciences (Dec. 1962), at 96, <https://nap.nationalacademies.org/catalog/21066/energy-resources>.

³²³ *Id.*

³²⁴ 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.

in short, “serious environmental damage on a global scale.” “There seems to be no doubt that the potential damage to our environment could be severe,” the authors wrote. “The prospect for the future must be of serious concern.”³²⁵

304. A supplemental report commissioned by API the following year provided additional specificity, concluding that 90% of the increase in atmospheric CO₂ was attributable to fossil fuels.³²⁶ Further, the researchers at SRI predicted – correctly – that by 2000, atmospheric CO₂ would reach 370 ppm.³²⁷ API’s member companies, including the Defendants, received the SRI reports, along with additional summaries of research on the impact of fossil fuels, in January of 1972.³²⁸

3. Defendants both recognized and contributed to the emerging scientific consensus on anthropogenic climate change as it was established between the late 1970s and early 1980s.

305. By the late 1970s, a scientific consensus had begun to solidify around the notion of anthropogenic climate change, driven primarily by CO₂ emissions from the burning of fossil fuels. Atmospheric CO₂ from fossil fuel emissions has a unique chemical signature that distinguishes it from non-fossil derived CO₂. As Ed Garvey, a scientist at Exxon during this period, explained, “[b]y the late 1970s, global warming was no longer speculative. There was direct evidence it was not the same type of carbon that was in the atmosphere a hundred years ago.”³²⁹

306. Scientists from the fossil fuel industry repeatedly identified fossil fuels as the source of this warming. In 1977 and 1978, James F. Black, another of the company’s scientists, summarized

³²⁵ *Id.*

³²⁶ E. Robinson & R.C. Robbins, Sources, Abundance, and Fate of Gaseous Atmospheric Pollutants Supplement, Stanford Research Institute (June 1969).

³²⁷ *Id.*

³²⁸ 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).

³²⁹ James Osborne, *Interview: Former Exxon scientist on oil giant’s 1970s climate change research*, DALLAS NEWS (Oct. 2, 2015), <https://www.dallasnews.com/business/2015/10/02/interview-former-exxon-scientist-on-oil-giant-s-1970s-climate-change-research/>.

the “Greenhouse Effect” for Exxon’s Corporate Management Committee, attached as **Exhibit 10**.³³⁰ He made clear that CO₂ was becoming increasingly concentrated in the atmosphere – already, by that time, total atmospheric CO₂ had increased between 10 and 15%, according to Black – and that “current scientific opinion overwhelmingly favors attributing atmospheric carbon dioxide increase to fossil fuel combustion.” He went on to further establish a connection between the atmospheric carbon dioxide and changes to the Earth’s climate, explaining that it was “generally accepted by climatologists that a doubling of the carbon dioxide concentration in the atmosphere would produce from 1.5°C - 3°C warming at the earth’s surface in the lower and mid-latitudes with about 2 to 3 times greater effect at the poles.” He explained the stakes to the Committee in stark terms: “Present thinking holds that man has a time window of five to ten years before the need for hard decisions regarding changes in energy strategies might become critical.”

307. W.L. Ferrall of Exxon’s Research and Engineering Division drew similar conclusions in a 1979 internal memo, attached as **Exhibit 11**, describing the results of an internal study.³³¹ The “most widely held theory,” according to the report, was that increased atmospheric CO₂ would “cause a warming of the earth’s surface.” The study suggested that “[t]he present trend of fossil fuel consumption” would lead to noticeable warming by 2010 and “will cause dramatic environmental effects before the year 2050” – effects that could include sea level rise and the melting of ice caps, “causing major shifts in weather patterns in the northern hemisphere.”³³²

³³⁰ A.J. Callegari, *Corporate Research Program in Climate/CO₂-Greenhouse*, EXXONMOBIL CORPORATE RESEARCH PROGRAM (Feb. 2, 1984), <https://www.climatefiles.com/Exxonmobil/1984-ExxonMobil-report-on-climate-modeling-and-co2-effects/> (last visited Oct. 15, 2023).

³³¹ 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 Oct. 9, 2023).

³³² *Id.*

308. An Imperial Oil (ExxonMobil) internal memo from 1980 likewise concluded that there was “no doubt that increases in fossil fuel usage” were “aggravating the potential problem of increased CO₂ in the atmosphere.”³³³

309. API established its own Climate and Energy Task Force in 1979. Bringing together representatives from various oil majors, the group was confronted with the realities of global warming. In 1980, Dr. John Laurmann presented to members of the Task Force from Exxon, Texaco (Chevron), and Standard Oil of Ohio (BP) on “the CO₂/fossil fuel problem” and described the “scientific consensus on the potential for large future climatic response to increased CO₂ levels.”³³⁴

310. 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° C RISE EXPECTED BY 2038 AT A 3% p.a. GROWTH RATE OF ATMOSPHERIC CO₂ CONCENTRATION
- LARGE ERROR IN THIS ESTIMATE - 1 IN 10 CHANCE OF THIS CHANGE BY 2005
- NO REGIONAL CLIMATE CHANGE ESTIMATES YET POSSIBLE
- LIKELY IMPACTS:

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

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:

³³³ H.H. Claire, *Review of Environmental Protection Activities For 1978-1979*, IMPERIAL OIL LTD. (Aug. 6, 1980), <https://www.climatefiles.com/exxonmobil/1980-imperial-oil-review-of-environmental-protection-activities-for-1978-1979/>.

³³⁴ American Petroleum Institute, AQ-9 Task Force Meeting Minutes, attached as **Exhibit 15**. AQ-9 refers to the “CO₂ and Climate” Task Force.

CONCLUSIONS

AT A 3% PER ANNUM GROWTH RATE OF CO₂, A 2.5°C RISE BRINGS WORLD ECONOMIC GROWTH TO A HALT IN ABOUT 2025.³³⁵ (*emphasis added*).

311. Further, Laurmann emphasized that, among other “reasons for increased concern,” was the “realization that remedial actions would take a long time to become effective.”³³⁶ The minutes from Laurman’s presentation are attached as **Exhibit 12**.

312. In 1981, Exxon’s Henry Shaw prepared a summary of Exxon’s current position on the greenhouse effect, attached as **Exhibit 13**, 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 at poles if CO₂ doubles” and there will be “major shifts in rainfall/agriculture” and “polar ice may melt” (*emphasis added*).³³⁷

313. The director of Exxon’s Theoretical and Mathematical Sciences Laboratory, Roger Cohen, was unequivocal on the implications of Exxon’s knowledge. In 1981, he responded to a draft written by another Exxon employee, attached as **Exhibit 14**, challenging their statement that the consequences of global warming would be “of a magnitude well short of catastrophic.”³³⁸ Cohen wrote that this “may be too reassuring.” In fact, he explained, the company’s models

³³⁵ *Id.*

³³⁶ *Id.*

³³⁷ Henry Shaw, *ExxonMemo to E. E. David, Jr. about “CO₂Position Statement, Inter-Office Correspondence*, EXXONMOBIL CORP. (May 15, 1981), <https://docs.house.gov/meetings/GO/GO28/20190409/109294/HMTG-116-GO28-20190409-SD007.pdf> (last visited Oct. 15, 2023).

³³⁸ 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 Oct. 9, 2023).

showed that it was “distinctly possible” that the impacts “will indeed be catastrophic (at least for a substantial fraction of the earth’s population).”³³⁹

314. API received similar information the following year. A report on “Climate Models and CO₂ Warming,” prepared by researchers at Columbia University’s Lamont Doherty Geological Observatory for the trade organization and its members, found widespread agreement on the causes and likely impacts of global warming in their survey of climate research. A doubling of pre-industrial atmospheric CO₂, which scientists “expected sometime in the next century,” was likely to produce global temperature increases which could, in the words of the report, “have serious consequences for man’s comfort and survival since patterns of aridity and rainfall can change [and] the height of sea level can increase considerably” (emphasis added).³⁴⁰

315. A 1982 memo written by Exxon’s Roger Cohen encapsulates the industry’s knowledge in this period. Summarizing the status of Exxon’s research as well as that of the climate science community as a whole, he wrote that “over the past several years a clear scientific consensus has emerged regarding the expected climatic effects of increased atmospheric CO₂.” There was “unanimous agreement in the scientific community” that the increased temperatures caused by the greenhouse effect would “bring about significant changes in the earth’s climate.” And Exxon’s own researchers, he explained, had come to similar conclusions: the company’s findings were “consistent with the published predictions of more complex climate models.” In fact, their team had examined the work of one of the more prominent challengers to the consensus, Reginald Newell, and identified issues with his methodology. The Exxon researchers were able to “reconcile Newell’s observations and proposed mechanism with the consensus opinion,” Cohen wrote. The

³³⁹ *Id.*

³⁴⁰ 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 Oct. 9, 2023).

memo concluded with an acknowledgement that this was not what Exxon had hoped to find, given “the connection between Exxon’s major business and the role of fossil fuel combustion in contributing to the increase in atmospheric CO₂.”³⁴¹

316. As the President of the Exxon Research and Engineering Company, E.E. David Jr., would put it in a 1982 speech entitled “Inventing the Future: Energy and the CO₂ ‘Greenhouse’ Effect,” “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.”³⁴² His remarks are attached as **Exhibit 15**.

4. Defendants internally acknowledged their culpability in anthropogenic climate change and the threat it posed to continued use of their products in the late 1970s and 1980s.

317. The science connecting fossil fuels with climate change was clear and Defendants increasingly recognized their culpability in global warming. They also realized the need for alternative energy sources – along with the likely impacts of this information on their core business, were it to become widely known.

318. Henry Shaw at Exxon was among the first to directly identify the likely impacts of the new scientific consensus. In 1977, he wrote a memo two weeks after attending a meeting of scientists – along with other representatives of “the public,” including a Phillips Petroleum employee – organized through the Department of Energy. Shaw discussed the meeting and the National Academy of Sciences (NAS) report that inspired it and pointed out that the NAS report

³⁴¹ Roger W. Cohen, *Exxon Memo summarizing findings of research in climate modeling and CO₂ Greenhouse Effect Research*, CLIMATE FILES (Sept. 2, 1982), <https://www.climatefiles.com/Exxonmobil/1982-ExxonMobil-memo-summarizing-climate-modeling-and-co2-greenhouse-effect-research/> (last visited Oct. 9, 2023).

³⁴² 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 Oct. 9, 2023).

concluded that “[t]he climatic effects of carbon dioxide release may be the primary limiting factor on energy production from fossil fuels over the next few centuries.”³⁴³

319. James Black, too, had suggested in the late 1970s that climate change could negatively impact fossil fuel production. He explained to Exxon executives that “hard decisions regarding changes in energy strategies might become critical” within a span of just 5 to 10 years in 1978.³⁴⁴

320. Another Exxon memo from 1979 suggested that “should it be deemed necessary to maintain atmospheric CO₂ levels to prevent significant climatic changes, dramatic changes in patterns of energy use would be required.”³⁴⁵ The “adverse environmental effects” caused by atmospheric CO₂ could be severe enough, the author explained, “to consider limiting the future use of fossil fuels as major energy sources.” This would mean that “coal and possibly other fossil fuel resources could not be utilized to an appreciable extent,” since the company’s research indicated that using even roughly 20% of the world’s remaining fossil fuels could result in the doubling of atmospheric CO₂.

321. Throughout the early 1980s, at Exxon’s direction, Henry Shaw forecasted emissions of CO₂ from fossil fuel use. Those estimates were incorporated into Exxon’s 21st century energy projections, attached as **Exhibit 16**, and were distributed among Exxon’s various divisions, warning Exxon executives about “potentially catastrophic” anthropogenic global warming since at least 1977.³⁴⁶

³⁴³ Henry Shaw, *Memo on Environmental Effects of Carbon Dioxide*, CLIMATE FILES (Oct. 31, 1997), <https://www.climatefiles.com/exxonmobil/1977-exxon-memo-about-doe-environmental-advisory-committee-subgroup-studying-co2-effects/>.

³⁴⁴ J.F. Black, *The Greenhouse Effect*, ExxonMobil Research and Engineering Company (June 6, 1978), <https://insideclimatenews.org/documents/james-black-1977-presentation>.

³⁴⁵ 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 Oct. 9, 2023).

³⁴⁶ Geoffrey Supran, S. Rahmstorf, & Naomi Oreskes, *Assessing Exxon’s global warming projections*, SCIENCE (Jan. 13, 2023), <https://www.science.org/doi/10.1126/science.abk0063>.

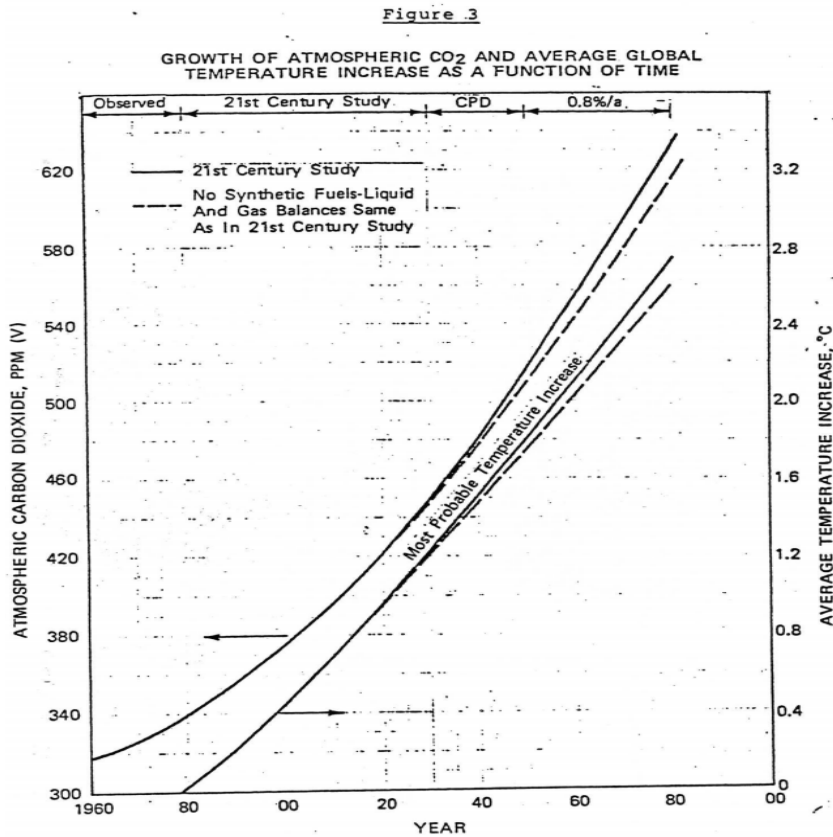
322. By 1981, employees at Exxon were suggesting the possibility of the company moving away from fossil fuels entirely. “Indirect control sources, such as energy conservation or shifting to renewable sources,” a scoping document from the company’s Contract Research Office explained, “represent the only options that might make sense.”³⁴⁷

323. M.B. Glaser, Exxon’s Environmental Affairs Program Manager, went even further. In a 1982 internal report, attached as **Exhibit 17**, on the “CO₂ ‘Greenhouse Effect’” – which Glaser noted “should be restricted to Exxon personnel and not distributed externally” – he wrote that “major reductions in fossil fuel combustion” were necessary to limit the impacts of global warming. As such, he argued that “vigorous development of non- fossil fuel energy sources be initiated as soon as possible.” A failure to act could lead to “potentially catastrophic events,” causing “great irreversible harm to our planet.”³⁴⁸ Defendant Exxon did knowingly conceal this information from the public about climate change in order to prevent the public from reviewing climate change research.

³⁴⁷ G.H. Long, *Atmospheric CO₂ Scoping Study*, EXXON RESEARCH AND ENGINEERING COMPANY (Feb. 5, 1981), <https://www.climatefiles.com/Exxonmobil/1981-ExxonMobil-report-potential-climate-change-research-programs/> (last visited Oct. 15, 2023).

³⁴⁸ M.B. Glaser, *Exxon Memo to Management about “CO₂ ‘Greenhouse’ Effect”*, EXXON RESEARCH AND ENGINEERING CO. (NOV. 12, 1982), <https://www.climatefiles.com/Exxonmobil/1982-memo-to-ExxonMobil-management-about-co2-greenhouse-effect/> (last visited Oct. 9, 2023).

324. Glaser submitted the below chart to Exxon which reflected CO₂ in the atmosphere, and how the temperature would increase by year:³⁴⁹



325. Mobil (ExxonMobil) also acknowledged the role of fossil fuels and the potential impact of climate change. A Status Report memo on “Environmental & Toxicology Issues” from 1983 – a document that discussed the company’s involvement in API’s climate research program – concluded that global warming represented “an urgent national concern” that could lead to “restrictions on fossil fuel and land use.”³⁵⁰

326. Exxon heeded these warnings, prompting the creation of a company research program. Steve Knisely was a summer intern at Exxon Research and Engineering in 1979 when Exxon asked

³⁴⁹ *Id.* at 7.

³⁵⁰ Mobil Oil Corp., *Atmospheric Greenhouse Effect*, MOBIL (June 1, 1983), <https://www.climatefiles.com/exxonmobil/1983-mobil-memo-on-the-atmospheric-greenhouse-effect/>.

him to analyze how global warming might affect fuel use.³⁵¹ Knisley's report, attached as **Exhibit 18**, 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.³⁵² Knisley even concluded that the fossil fuel industry might need to leave 80% of its recoverable reserves in the ground to avoid doubling CO₂ concentrations.³⁵³

327. The API and scientists from Exxon, Mobil, Amoco, Phillips (now ConocoPhillips), Shell, Texaco (now Chevron) 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 1983.³⁵⁴

328. Shell likewise pointed out in 1988 that the "reasonable scientific agreement that increased levels of greenhouse gases would cause global warming" could pose a threat to the company's products.³⁵⁵ "[P]erception of a serious environmental threat," the report explained, "could swing

³⁵¹ Lisa Song, Neela 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 June 21, 2023); Banerjee, Neela, Lisa Song, and David Hasemyer, *ExxonMobil's Own Research Confirmed Fossil Fuels' Role in Global Warming Decades Ago*, INSIDECLIMATE NEWS, (September 16, 2015) (<https://insideclimatenews.org/news/16092015/ExxonMobils-own-research-confirmed-fossil-fuels-role-in-global-warming/>) (last visited June 21, 2023).

³⁵² NASA, *Vital Signs*, NASA GLOBAL CLIMATE CHANGE, <https://climate.nasa.gov/vital-signs/carbon-dioxide/> (last visited June 21, 2023).

³⁵³ Lisa Song, Neela Banerjee and David Hasemyer, *ExxonMobil Confirmed Global Warming Consensus in 1982 with In-House Climate Models*, INSIDE CLIMATE NEWS (Sept. 22, 2015), <https://insideclimatenews.org/news/22092015/ExxonMobil-confirmed-global-warming-consensus-in-1982-with-in-house-climate-models/> (last visited June 21, 2023); compare Carbon Tracker, *Unburnable Carbon: are the World's financial markets carrying a carbon bubble?* CARBON TRACKER INITIATIVE (2011) (finding that "80% of declared reserves owned by listed [fossil fuel] companies were at risk of stranding if the world should stay below 2C temperature rise.")

³⁵⁴ *Id.*

³⁵⁵ Shell Internationale 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 Oct. 15, 2023).

opinion away from fossil fuel combustion and lead to a revival of interest in conservation, renewable sources and particularly in nuclear energy.”

5. Defendants increased investments in climate research beginning in the late 1970s in the face of growing evidence of anthropogenic climate change.

329. As the Defendants began to anticipate this possible fallout, Exxon in particular determined that it needed to more actively participate in the development of scientific knowledge to control the narrative of climate science. In a letter written in December of 1978, attached as **Exhibit 19**, Shaw justified the company’s investments in research, writing that they were “based on our need to assess the possible impact of the greenhouse effect on Exxon business.”³⁵⁶ The company “must develop a credible scientific team that can critically evaluate the information generated on the subject,” he explained, “and be able to carry bad news, if any, to the corporation.” A Corporate Research presentation produced by Exxon in 1984 likewise listed as the program’s first objective: “provide Exxon with a source of expertise in an area which could have major impact on future business environment.”³⁵⁷

330. But inter-office correspondence reveals that Exxon wanted to play a more active role in limiting the impact of the emerging scientific consensus on their business. On November 19, 1979, Henry Shaw wrote another memorandum concerning “Research in Atmospheric Science” and effects on the energy industry, attached as **Exhibit 20**, 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

³⁵⁶ 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/Exxonmobil/1978-ExxonMobil-memo-on-programs-developed-to-measure-co2-uptake-and-request-credible-scientific-team/> (last visited Oct. 15, 2023).

³⁵⁷ A.J. Callegari, *Corporate Research Program in Climate/CO₂-Greenhouse*, EXXONMOBIL CORPORATE RESEARCH PROGRAM (Feb. 2, 1984), <https://www.climatefiles.com/Exxonmobil/1984-ExxonMobil-report-on-climate-modeling-and-co2-effects/> (last visited Oct. 15, 2023).

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 (emphasis added).³⁵⁸

331. Exxon’s defensive effort was already underway. In 1980, Shaw made comments on a draft statement of the National Commission on Air Quality CO2 Workshop. His edits aimed to reduce the conclusiveness of the group’s findings. These included adding a phrase calling “the current state-of-the-art” climate models “quite rudimentary,” adding the word “large” before the phrase “scientific uncertainties,” and adding a sentence stating that experts on the topic “recommended that our energy options not be narrowed at this time,” among others.³⁵⁹

332. Beyond just influencing possible government action and resisting regulation, the Defendants were already beginning to consider how they could potentially shape public perception on global warming. In a 1979 presentation to Dr. Lester Machta of the National Oceanic and Atmospheric Association (NOAA), Shaw, along with Exxon scientists Edward A. Garvey, Wallace S. Broecker, and Taro Takahashi, explained that the company’s participation would provide it with an opportunity to “assess the possible impact of the greenhouse effect on Exxon business,” as well as to “generate important scientific information that will enhance the Exxon image and provide public relations value.”³⁶⁰

³⁵⁸ Henry Shaw, *Memo to H.N. Weinberg about Research in Atmospheric Science, Inter-Office Correspondence*, EXXON CORP. (Nov. 19, 1979), <https://www.climatefiles.com/mobil/1979--memo-on-atmospheric-science-research-to-influence-legislation/> (last visited Oct. 15, 2023).

³⁵⁹ Henry Shaw, *Draft Statement and Comments on National Committee of Air Quality on Climate Change Risks and Policy Recommendations*, EXXON (Dec. 5, 1980), <https://www.climatefiles.com/exxonmobil/1980-exxon-draft-statement-and-comments-on-national-committee-of-air-quality-on-climate-change-risks-and-policy-recommendations/>

³⁶⁰ Edward A. Garvey, *Proposed Exxon Research Program to Help Assess the Greenhouse Effect*, EXXON (Mar. 26, 1979), <https://www.climatefiles.com/exxonmobil/1979-exxon-presentation-greenhouse-gases-noaa/>.

333. The value of Exxon’s research in developing credibility with the public was a priority. A draft of an Exxon communications planning document from July 1980 describes their aim to “develop a plan for achieving national recognition on our CO₂ Greenhouse research project.” The document pointed out that “future public decisions aimed at controlling the build-up of atmospheric CO₂ could impose limits on fossil fuel combustion.” As a result, Exxon viewed the communications strategies as necessary to combat “doom-saying theories about dramatic climate changes and melting polar icecaps.”³⁶¹

6. Defendants began adapting their fossil fuel extraction operations to account for climate change and considered the need for alternative energy sources between the 1970s and the 1990s.

334. The Defendants recognized the role of fossil fuels as the primary factor causing anthropogenic climate change and began to act accordingly as early as the 1970s, anticipating how global warming could impact their operations.

335. Esso (ExxonMobil), for example, applied for a patent on an “icebreaking cargo vessel” capable of reaching previously inaccessible areas of the Arctic in 1971.³⁶² Texaco (Chevron) filed to patent a mobile offshore drilling platform design that could withstand increased ice flows the same year.³⁶³ Chevron followed suit with a different kind of Arctic platform design in 1972,³⁶⁴ and Shell patented its own offshore platform designed to handle large ice flows a decade later.³⁶⁵

³⁶¹ N.R. Werthamer, *CO₂ Greenhouse Communications Plan*, EXXON (Jul 8, 1980), <https://www.climatefiles.com/exxonmobil/1980-internal-exxon-memorandum-co2-greenhouse-communications-plan/>.

³⁶² ExxonMobil Research Engineering Co., *Icebreaking cargo vessel*, GOOGLE PATENTS (Apr. 17, 1973), <https://patents.google.com/patent/US3727571A/en> (last visited Oct. 15, 2023); ExxonMobil Research Engineering Co., *Tanker vessel*, GOOGLE PATENTS (Jul. 17, 1973), <https://patents.google.com/patent/US3498249> (last visited Oct. 15, 2023).

³⁶³ Texaco Inc., *Mobile, arctic drilling and production platform*, GOOGLE PATENTS (Feb. 26, 1974), <https://patents.google.com/patent/US3793840> (last visited Oct. 15, 2023)

³⁶⁴ Chevron Research & Technology Co., *Arctic offshore platform*, GOOGLE PATENTS (Aug. 27, 1974) <https://patents.google.com/patent/US3831385A/fi> (last visited Oct. 15, 2023)

³⁶⁵ Shell Oil Co., *Arctic offshore platform*, GOOGLE PATENTS (Jan. 24, 1984), <https://patents.google.com/patent/US4427320A/en> (last visited Oct. 15, 2023).

Norske Shell, Royal Dutch Shell’s Norwegian subsidiary³⁶⁶ 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 life³⁶⁷ at a cost of nearly \$40 million.

336. By the late 1980s, with climate science becoming ever more conclusive, the companies were able to anticipate even more specific and necessary adaptations to their operations. In a 1988 internal Shell report, for example, the company wrote that “[d]irect operational consequences can be expected from a rising sea level, impacting offshore installations, coastal facilities and operations (e.g. platforms, harbors, refineries, depots) with an uncertain magnitude.”³⁶⁸ These anticipated impacts influenced the company’s decisions quickly, as seen in a *New York Times* report on Shell’s adjustments to the design of an offshore drilling platform from 1989. Anticipating future sea level rise during the operational lifetime of the platform, the company raised its height substantially (at significant financial cost).³⁶⁹

337. That same year, Esso (ExxonMobil) received a commissioned study on the expected impacts of climate change on facilities in Canada’s Northwest Territories. The report indicated the need to account for greater temperatures, increased precipitation, sea level rise, more frequent

³⁶⁶ N.Y. Times, *Greenhouse Effect: Shell Anticipates A Sea Change*, N.Y. TIMES (Dec. 20, 1989), <https://www.nytimes.com/1989/12/20/business/greenhouse-effect-shell-anticipates-a-sea-change.html> (last visited Oct. 9, 2023).

³⁶⁷ *Id.*; Amy Lieberman and Susanne Rust, *Big Oil braced for global warming while it fought regulations*, LA TIMES (Dec. 31, 2015), <https://graphics.latimes.com/oil-operations/> (last visited Oct. 9, 2023).

³⁶⁸ Shell Internationale 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 Oct. 15, 2023).

³⁶⁹ N.Y. Times, *Greenhouse Effect: Shell Anticipates A Sea Change*, N.Y. TIMES (Dec. 20, 1989), <https://www.nytimes.com/1989/12/20/business/greenhouse-effect-shell-anticipates-a-sea-change.html> (last visited Oct. 9, 2023).

erosion, and the melting of permafrost, given that “large zones of the Mackenzie Valley could be affected dramatically by climatic change.”³⁷⁰

338. A related draft memo from Esso entitled “Climate Change Impacts on Northern Offshore Petroleum Operations,” this one from 1992, highlighted related concerns – as well as possible advantages the company imagined could arise from changing conditions. Utilizing two studies based on various climate scenarios, the memo concluded that “in general, if ice conditions become less severe as predicted, then offshore petroleum operations will become easier and less costly.” Exploration, in particular, was expected to be streamlined. At the same time, the company anticipated that other elements of the operation could be negatively impacted by warmer conditions. Transportation, in particular, was expected to be more expensive as a result of “increased permafrost instabilities.”³⁷¹ In addition to anticipating these kinds of operational changes based on their internal knowledge of climate change, the Defendants internally suggested the need to develop alternative, renewable energy sources as early as the late 1980s.

339. Shell, for example, produced a briefing in 1987 that touted the company’s investments in renewable energy: “[T]here will be a growing need to develop lean, convenient alternatives” to fossil fuels, the company explained, noting that these energy sources would “eventually replace valuable oil products.” The briefing represented a call to action: “Sustained commitment is therefore needed during the remainder of this century to ensure that new technologies and those

³⁷⁰ Stephen Lonergan & Kathy Young, *An Assessment of the Effects of Climate Warming on Energy Developments in the Mackenzie River Valley and Delta, Canadian Arctic*, 7 ENERGY EXPLORATION AND EXPLOITATION (Oct. 1989), <https://journals.sagepub.com/doi/10.1177/014459878900700508>.

³⁷¹ Ken Croasdale, *Climate Change Impact on Northern Offshore Petroleum Operations*, ESSO RESOURCES (1992), <https://embed.documentcloud.org/documents/21039783-ken-croasdale-esso-resources-presentation-at-1992-canada-us-symposium-climate-change-impacts-on-northern-offshore-petroleum-operations#document/p11/a2050456>.

currently at a relatively early stage of development are available to meet energy needs in the next century."³⁷²

340. Mobil (ExxonMobil), too, suggested the need for the development of alternatives. The company's president, Richard Tucker, told attendees at the 1988 meeting of the American Institute of Chemical Engineers that "we must all be environmentalists." Recommending the development of an "environmental covenant," Tucker explained that "Prevention on a global scale may even require a dramatic reduction in our dependence on fossil fuels—and a shift toward solar, hydrogen, and safe nuclear power."³⁷³

341. Shell drew similar conclusions. "[B]y the time the global warming becomes detectable it could be too late to take effective countermeasures to reduce or even stabilise the situation," a 1988 report warned. "These changes could be larger than any that have occurred over the last 12,000 years," the authors explained, which "could have major social, economic and political consequences." These "potential implications for the world are ... so large that policy options need to be considered much earlier," the document argued. There was little doubt about the source of the problem or the way to address it: "An overall reduction in fossil fuel use would of course reduce CO₂ production and could be achieved by constraint on energy consumption, by improved thermal efficiency and by replacing fossil fuels with e.g. nuclear power."³⁷⁴

7. Conclusion

342. Over a period of more than 30 years, between the 1950s and 1980s, Defendants were confronted with the science indicating the threat of global warming, developed world class

³⁷² Shell, *Synthetic fuels and renewable energy*, SHELL BRIEFING SERVICE (1987), <https://s3.documentcloud.org/documents/4411089/Document2.pdf>.

³⁷³ Richard E. Tucker, *High Tech Frontiers in the Energy Industry: The Challenge Ahead*, AICHE NATIONAL MEETING (Nov. 30, 1988), <https://babel.hathitrust.org/cgi/pt?id=purl.32754074119482&view=1up&seq=526&q1=the+challenge+ahead>.

³⁷⁴ Shell Internationale 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 Oct. 15, 2023).

expertise on the sources and impact of atmospheric carbon dioxide, and repeatedly confirmed the consensus view that the combustion of fossil fuels would lead to climate change and that climate change, if left unchecked, could have severe and unprecedented environmental and social impacts. In sum, they knew the grave threat that a changing climate, driven primarily by CO₂ emissions from the intended use of their products, posed to humanity. They knew that reducing carbon dioxide emissions from fossil fuels was the best, if not the only, way to avoid these catastrophic outcomes. Given this knowledge, they anticipated what would happen if they did not act.

343. The Defendants were on more than sufficient notice that their products were causing global climate change and predicted dire effects on the planet. They had been actively participating in committees, boards, and groups for the API and for each other. They all received numerous studies and updates from various committees regarding industry-wide knowledge. The Oil Defendants, then, were faced with the decision of whether or not to take steps to limit the damage their fossil fuel products were causing and would continue to cause for virtually every area of the globe, including Puerto Rico.

344. Best Business Practices required Defendants to have taken any of several steps to mitigate the damage caused by their fossil fuel products, and their own comments reveal an **awareness** of the steps they were required to take. At this time, Best Business Practices **required** 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 and were required to have taken reasonable steps to limit the potential greenhouse gas emissions arising out of those products.

345. 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.

I. Denial

346. Despite developing extensive knowledge over several decades of the harmful effects of fossil fuel combustion and rising atmospheric CO₂ on the global climate, the Defendants failed to warn the public about the known dangers of their fossil fuel products. The Defendants acted individually and in concert in service of a common goal: to undermine climate science they knew to be true and block climate action. Collaborating in various spaces and in a variety of manners—from organized coalitions, to board rooms, to committee meetings—the fossil fuel Defendants launched an extensive, multi-decade long campaign of denial to deceive consumers, the media, policymakers, and the public about the potentially “catastrophic” impacts of their business practices and ensure the longevity of the fossil fuel industry.

1. Defendants transition from scientific leaders to scientific skeptics in response to growing public concern in or around 1988.

347. In the late 1980s, the Defendants transitioned from active participants in the field of climate science to outspoken climate skeptics. During this period, climate change became a topic of national relevance, directing widespread attention toward the need to regulate greenhouse gas emissions and reduce fossil fuel combustion. Meanwhile, Defendants vehemently argued against the reliability of the very climate models they themselves used internally to undermine support for so-called “hasty” regulations that might restrict fossil fuel production.

ii. Climate Change Enters Public Consciousness

348. Beginning in 1988, several key events introduced climate change into public consciousness. On June 21, 1988, NASA scientist James Hansen testified to Congress that global

temperature rise was caused by a buildup of human-emitted carbon dioxide and other greenhouse gases in the atmosphere, known as the “greenhouse effect.”³⁷⁵ Several days later, his testimony made the front page of *The New York Times*.

349. On July 28, 1988, Senator Robert T. Stafford, a Republican from Vermont, introduced the Global Environmental Protection Act of 1988 to regulate carbon dioxide emissions.³⁷⁶ The bill received bipartisan support.

350. Just over a month later, on August 31, 1988, President George H.W. Bush gave a speech at an international conference on the environment where he pledged that his presidency would combat the greenhouse effect with “the White House effect.”³⁷⁷

351. In December 1988, the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO) founded the International Panel on Climate Change (IPCC), an international body of scientists established to provide a comprehensive overview of the status of climate science as well as the social and economic impacts of climate change.³⁷⁸

352. These events raised alarm bells and spurred national conversation about the dangers of climate change and the need to regulate CO₂. For months, national news outlets ran stories emphasizing the urgency of the crisis. One headline from August 1988 reads, “Vast Amazon Fires,

³⁷⁵ Phillip Shabecoff, *Global Warming Has Begun, Expert Tells Senate*, THE NEW YORK TIMES (June 24, 1988), <https://www.nytimes.com/1988/06/24/us/global-warming-has-begun-expert-tells-senate.html>.

³⁷⁶ S.2666, 100th Cong. (1988), <https://www.congress.gov/bill/100th-congress/senate-bill/2666>.

³⁷⁷ *The White House and the Greenhouse*, THE NEW YORK TIMES (May 9, 1989), <https://www.nytimes.com/1989/05/09/opinion/the-white-house-and-the-greenhouse.html>.

³⁷⁸ IPCC, *History of the IPCC*, IPCC, <https://www.ipcc.ch/about/history/>.

Man-Made, Linked to Global Warming,”³⁷⁹ another from October 1988 warns, “Draft Report on Global Warming Foresees Environmental Havoc in U.S.”³⁸⁰

iii. Developing the Industry Position: “Emphasize Uncertainty”

353. Defendants acted quickly to form a unified response to the growing public awareness of climate change and its potentially “catastrophic” impacts. As a first step, the fossil fuel industry withdrew from research and development of alternatives to fossil fuels. Former Exxon scientist Ed Garvey testified before Congress in 2019 that by the mid-1980s to early-1990s, Exxon “began to sell off major divisions of their research company, things like lithium battery research and other divisions of the Exxon Research and Engineering Company, as they retrenched and focused solely on oil.”³⁸¹

354. They also reversed the direction of what had been until that time, an independent and objective climate science research program. In late 1988, several months after James Hansen’s testimony, Exxon’s head of corporate research, Frank Sprow, wrote in a memo to colleagues: “If a worldwide consensus emerges that action is needed to mitigate against Greenhouse gas effects, substantial negative impacts on Exxon could occur.... Any additional R&D efforts within Corporate Research on Greenhouse should have two primary purposes: 1. Protect the value of our resources (oil, gas, coal). 2. Preserve Exxon’s business options.”³⁸²

³⁷⁹Marlise Simons, *Vast Amazon Fires, Man-Made, Linked To Global Warming*, THE NEW YORK TIMES (Aug. 12, 1988), [nytimes.com/1988/08/12/world/vast-amazon-fires-man-made-linked-to-global-warming.html?searchResultPosition=5](https://www.nytimes.com/1988/08/12/world/vast-amazon-fires-man-made-linked-to-global-warming.html?searchResultPosition=5).

³⁸⁰ Phillip Shabecoff, *Draft Report on Global Warming Foresees Environmental Havoc in U.S.*, THE NEW YORK TIMES (Oct. 20, 1988), <https://www.nytimes.com/1988/10/20/us/draft-report-on-global-warming-foresees-environmental-havoc-in-us.html?searchResultPosition=4>.

³⁸¹ *Examining the Oil Industry’s Efforts to Suppress the Truth About Climate Change: Hearing Before the S. Comm. On Civil Rights and Civil Liberties of the Comm. on Oversight and Reform*, 116th Sess. 67 (Oct. 23, 2019), <https://www.govinfo.gov/content/pkg/CHRG-116hhrg38304/html/CHRG-116hhrg38304.htm>.

³⁸² Christopher M. Matthews & Collin Eaton, *Inside Exxon’s Strategy to Downplay Climate Change*, THE WALL STREET JOURNAL (Sept. 14, 2023), <https://archive.ph/ifiw#selection-383.0-383.50>.

355. With this defensive reorientation in place, the fossil fuel industry began to devise a strategy to thwart public pressure. In a February 1989 primer, attached as **Exhibit 21**, prepared by Exxon's manager of science and strategy development Duane LeVine for Exxon's Board of Directors, LeVine acknowledged there was general consensus among scientists that the burning of fossil fuels could raise global temperatures significantly, but also warned: "arguments that we can't tolerate delay and must act now can lead to irreversible and costly Draconian steps."³⁸³

356. In 1989, Exxon published an article titled "Greenhouse Science," in an internal newsletter that both affirmed the scientific basis of anthropogenic climate change and foreshadowed the industry's pivot to climate denial.³⁸⁴ Brian Flannery, Exxon's in-house climate science expert, wrote: "The idea that man might change the atmosphere enough to alter climate is neither obvious nor preposterous: it is a fit subject for scientific inquiry. We now know that concentrations of trace atmospheric gases are growing at a rate that could impact human and natural systems through warming and associated climate change." But despite what Exxon had previously recognized as an emerging consensus, Flannery emphasized the uncertainty of the science: "We also know that the modeled projections are far from certain: potential impacts could be small and manageable or they could be profound and irreversible." The article is attached as **Exhibit 22**.

357. Flannery's article also emphasized the impacts that public pressure could have on Exxon, unlike previous research that focused on the impacts of climate change on the world: "Impacts on Exxon will come sooner from society's efforts to reduce potential risks from climate

³⁸³ Katie Jennings, Dino Grandoni and Susanne Rust, *How ExxonMobil went from leader to skeptic on climate change research*, L. A. TIMES (Oct. 23, 2015), <https://graphics.latimes.com/ExxonMobil-research/> (last visited Oct. 13, 2023).

³⁸⁴ Brian Flannery, *Greenhouse Science*, EXXON RESEARCH AND ENGINEERING COMPANY (1989), <https://www.climatefiles.com/exxonmobil/1989-exxon-mobil-article-technologys-place-marketing-mix/>.

change than from climate change itself.... Efforts to minimize that risk will influence the future direction of the energy industry.”

358. Reiterating the position taken a decade earlier, Joseph M. Carlson wrote “The Greenhouse Effect” dated Aug. 3, 1988, attached as **Exhibit 23**. It 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.³⁸⁵

359. Exxon’s plan to promote climate skepticism and uncertainty soon became the industry’s position. As Carlson explained at the time: “Exxon is providing leadership through API in developing the petroleum industry position.”

360. Other fossil fuel Defendants agreed to the plan and followed suit, peddling uncertainty publicly while internally acknowledging the threat climate change posed to the industry.

361. In December 1994, Shell published “The Enhanced Greenhouse Effect,” an internal report reviewing the scientific and policy implications of climate change.³⁸⁶ It is attached as **Exhibit 24**. In it, Shell acknowledges that change will have “major business implications” for the fossil fuel industry but then rejects the position of the IPCC as “scientific consensus,” suggesting instead that “[t]here is a range of views among IPCC scientists about the magnitude of the threat from global warming and its causes.” The report also emphasizes that “there is a significant minority outside IPCC (which includes distinguished scientists) who take a contrary view,

³⁸⁵ Joseph M. Carlson, *ExxonMobil 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 Oct. 14, 2023).

³⁸⁶ P. Langcake, *The Enhanced Greenhouse Effect: A review of the Scientific Aspects*, ROYAL DUTCH SHELL (Dec. 1994), <https://www.climatefiles.com/shell/1994-shell-enhanced-greenhouse-effect-review-scientific-aspects/> (last visited Oct. 15, 2023).

generally believing the concerns over global warming to be exaggerated and misguided.” The report concludes by arguing against action to regulate greenhouse gas emissions, citing “scientific uncertainty” as the primary reason: “Scientific uncertainty and the evolution of energy systems indicate that policies to curb greenhouse gas emissions beyond ‘no regrets’ measures could be premature, divert resources from more pressing needs and further distort markets.”

2. Defendant companies and coalitions directly promote doubt, denial and uncertainty regarding the problem of climate change from 1989 to 1998.

362. As early as 1989, the fossil fuel Defendants began to collaborate through a variety of formal trade groups and informal associations to promote “contrarian theories” emphasizing the uncertainty of climate science and oppose regulatory action. Working individually and in concert, the fossil fuel Defendants formed front groups; produced and disseminated articles, pamphlets, and reports; paid scientists for hire; and launched wide-reaching and deceptive advertising campaigns to promote doubt, denial, and uncertainty in what they knew to be the scientific reality of climate change.

iv. Coordinated Industry Promotion of “Contrarian” Theories

363. From the late-1980s through the late-1990s, the fossil fuel Defendants’ activities focused on the promotion of so-called “contrarian” theories emphasizing the uncertainties of climate science through organized coalitions and industry-led front groups. In 1989, a group of fossil fuel companies and their trade associations, coal-vested electric utilities, and heavy manufacturers, led by the National Association of Manufacturers, founded the Global Climate Coalition (GCC).³⁸⁷

364. The following is a list of the founding members of the GCC on November 16, 1989:

³⁸⁷ Climate Investigations Center, *The Global Climate Coalition: Big Business Funds Climate Change Denial and Regulatory Delay*, CIC (Mar. 25, 2019), <https://climateinvestigations.org/wp-content/uploads/2019/04/The-Global-Climate-Coalition-Denial-and-Delay.pdf>.

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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365. Founding Defendant members of the GCC included the **American Petroleum Institute (API)**, Amoco (**BP**), ARCO (**BP**), Occidental Chemical (**Occidental Petroleum**), Phillips Petroleum (**ConocoPhillips**), Shell Oil, and Texaco (**Chevron**), BHP – Utah International, Inc. (**BHP**), among others.³⁸⁹ By 1996, the GCC’s membership also included BP America (**BP**), **Chevron**, **Exxon**, Mobil Corporation (**Exxon**), and the Western Fuels Association.³⁹⁰

366. The Coalition was founded as “an organization of business trade associations and private companies established... to coordinate business participation in the scientific and policy debate on

³⁸⁸ 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/> (last visited Oct. 15, 2023).

³⁸⁹ *Id.*

³⁹⁰ *Progress Report on U.S. Industry Voluntary Actions to Curb Greenhouse Gases*, THE EOP GROUP, INC. (Mar. 1996), <https://www.climatefiles.com/denial-groups/global-climate-coalition-collection/1996-u-s-industry-voluntary-actions-progress-report/>.

the global climate change issue,” according to a 1996 GCC report.³⁹¹ In-line with the directive of Exxon’s 1988 memo written by Joseph Carlson, the Coalition sought to contribute to “balanced debate on global climate change” by “sponsoring independent research and studies” and informing the “press and public” through “educational materials and programs.”³⁹² The same primer also laid out GCC’s position on climate change, which again, contradicted what many of the GCC member companies’ own scientists had been telling them for decades:

The GCC believes that the preponderance of the evidence indicates that most, if not all, of the observed warming is part of a natural warming trend which began approximately 400 years ago. If there is an anthropogenic component to this observed warming, the GCC believes that it must be very small and must be superimposed on a much larger natural warming trend... The GCC believes there is no convincing evidence that future increases in greenhouse gas concentrations will produce significant climate effects.³⁹³

367. 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 38% of board membership.³⁹⁴ The Defendants were integral to the foundation and purpose of the GCC.

368. In 1991, shortly after the founding of the GCC, a group of coal utilities—with support from Chevron’s Pittsburg & Midway Coal Mining—formed the Information Council for the

³⁹¹ 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/> (last visited Oct. 15, 2023).

³⁹² *Id.*

³⁹³ *Id.*

³⁹⁴ The Global Climate Coalition, *Big Business Funds Climate Change Denial and Regulatory Delay*, CLIMATE INVESTIGATIONS CENTER (Mar. 25, 2019), <https://climateinvestigations.org/wp-content/uploads/2019/04/The-Global-Climate-Coalition-Denial-and-Delay.pdf> (last visited Oct. 15, 2023).

Environment (ICE) to direct a deceptive campaign undermining public acceptance of climate change in furtherance of the GCC's plans.³⁹⁵ The campaign was intended to “[l]ay the solid groundwork for a unified national electric industry voice on global warming.”³⁹⁶ Recognizing that the scientific consensus linking CO₂ emissions from fossil fuels to a warming planet presented a threat to the industry, a leaked 1991 packet of the campaign's materials reveals that ICE's goal was to “reposition global warming as theory (not fact).”³⁹⁷ Defendant Rio Tinto was a member and actively participated and supported ICE's goal to uphold the GCC's deception campaign and further climate change as solely theoretical.

369. Despite prior knowledge that a buildup of atmospheric CO₂, “mainly from fossil fuel burning,” would have “[g]lobally catastrophic effects” if unabated, executives from Chevron and other fossil fuel company members of ICE affirmatively coordinated and launched a campaign of denial, featuring newspaper advertisements, radio commercials, a public relations tour, and mailers discrediting the reality of climate change.³⁹⁸ 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

³⁹⁵ 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).

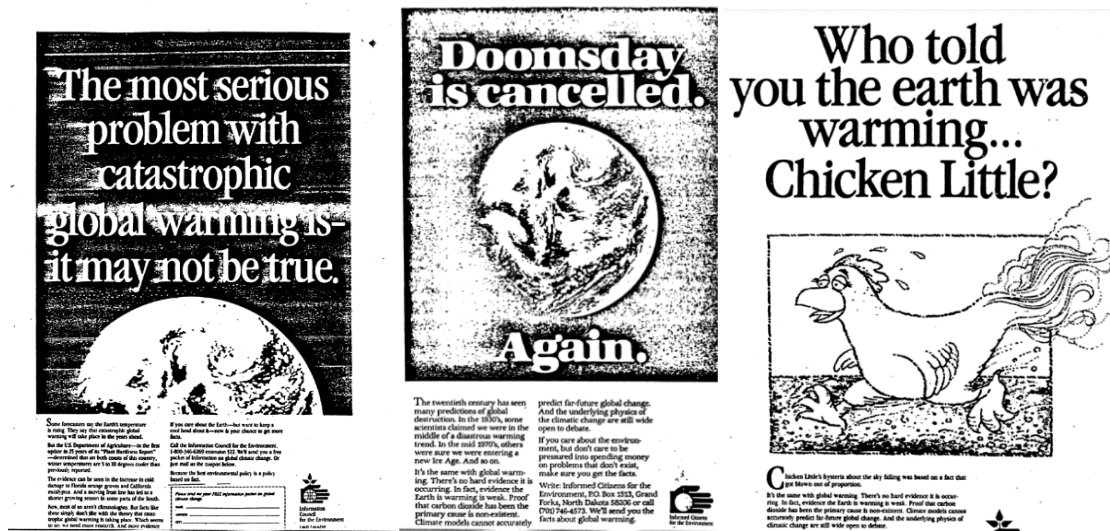
³⁹⁶ Union of Concerned Scientists, *Deception Dossier #5: Coal's "Information Council on the Environment" Sham*, UCS (May 1991), https://www.ucsusa.org/sites/default/files/attach/2015/07/Climate-Deception-Dossier-5_ICE.pdf.

³⁹⁷ *Id.*

³⁹⁸ 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.lagout.org/Others/Cambridge.University.Press-How.Well.Do.Facts.Travel.2010.RETAiL.EBook.pdf> (last visited Oct. 15, 2023).

. . . Chicken Little?” Another ad was targeted at Minneapolis readers and asked, “If the earth is getting warmer, why is Minneapolis getting colder?”

370. The following images are examples of ICE-funded print advertisements challenging the validity of climate science and intended to obscure the scientific consensus on anthropogenic climate change and reduce political inertia to address it.³⁹⁹



371. The illicit goals of ICE’s advertising campaign, and the members who supported it, were to undermine science, manufacture deception and dupe public opinion on global warming. A memo from Richard 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

³⁹⁹ 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 Oct. 22, 2023).

was a serious environmental problem and that “our industry cannot sit on the sidelines in this debate.”⁴⁰⁰ The ICE propaganda strategy is attached as **Exhibit 25**.

372. The GCC was “reorganized” in 1992 by Phillips Petroleum (now ConocoPhillips), BHP (previously BHP-Billiton), Ford, National Mining Association, Shell, Texaco (now Chevron), ExxonMobil, Chrysler (now FCA), General Motors, the National Association of Manufacturers, Motor Vehicle Manufacturers Association (now Auto Alliance) the American Petroleum Institute (Oil Defendants), the National Coal Association (Coal Defendants), among many fossil fuel dependent companies.⁴⁰¹ Though the GCC portrayed itself as a non-profit organization in the early 1990s, its board members accrued more and more representatives from oil, coal, and car industry and trade associations, concerned that measures might be taken in relation to climate change that “would harm fossil fuel use.”

373. The Oil Defendants and API used the GCC to embark 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 and API were able to collude with other members to accomplish what it could not do on its own: discredit scientific consensus and foster deception.

⁴⁰⁰ 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.lagout.org/Others/Cambridge.University.Press-How.Well.Do.Facts.Travel.2010.RETAIL.EBook.pdf> (last visited Oct. 15, 2023).

⁴⁰¹ 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/10453/11492/1/2008000811OK.pdf> (last visited Oct. 15, 2023).

374. In December 1992, *The New York Times* published an opinion letter written by John Schlaes, GCC's executive director, entitled "What Global Warming."⁴⁰² In the letter, Schlaes stated: "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.... 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 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?"

375. Also in 1992, the GCC distributed "The Greening of Planet Earth," a video produced by the Institute of Biospheric Research and paid for by the Western Fuels Association.⁴⁰³ The video suggested that rather than causing "catastrophic" impacts to global systems, a buildup of atmospheric CO₂ would lead to a "greening of planet earth" that would be "very beneficial" for humans and the environment.

376. In 1993, Mobil ended its solar program.⁴⁰⁴ That same year, the company published an advertorial in *The New York Times* entitled, "Apocalypse No," emphasizing the uncertainties of climate science and encouraging delay in regulating emissions.⁴⁰⁵ The advertorial states: "[f]or the first half of 1992, America was inundated by the media with dire predictions of global warming catastrophes . . . the media hype proclaiming the sky was falling did not properly portray the consensus of the scientific community." The advertorial concludes by stating: "the jury's still out

⁴⁰² 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 Oct. 15, 2023).

⁴⁰³ *The Greening of Planet Earth*, Western Fuels Association (1992), <https://www.climatefiles.com/trade-group/1992-western-fuels-greening-planet-earth/>.)

⁴⁰⁴ *COMPANY NEWS; MOBIL PLANS TO CLOSE ITS SOLAR ENERGY PROGRAM*, THE NEW YORK TIMES (Nov. 5, 1993), <https://www.nytimes.com/1993/11/05/business/company-news-mobil-plans-to-close-its-solar-energy-program.html>.

⁴⁰⁵ Mobil, *Apocalypse No*, MOBIL (Feb. 25, 1993), <https://www.documentcloud.org/documents/357243-1993-2-25-mob-nyt-apocalypse-no>.

on whether drastic steps to curb CO₂ emissions are needed,” as “the phenomenon—and its impact on the economy—are important enough to warrant considerably more research before proposing actions we may later regret.”

377. In April 1994, the GCC produced a report entitled, “Issues & Options: Potential Global Climate Change,” which falsely asserted that “observations have not yet confirmed evidence of global warming that can be attributed to human activities,” and that, “[t]he claim that serious impacts from climate change have occurred or will occur in the future simply has not been proven.” The report also argued against climate action, stating: “[c]onsequently, there is no basis for the design of effective policy action that would eliminate the potential for climate change.”⁴⁰⁶ These claims contradicted the Defendants’ own knowledge from as early as the 1960s that increased atmospheric CO₂ concentrations, caused primarily by the combustion of fossil fuels, would cause the planet to warm and lead to global climate change.⁴⁰⁷

378. In 1995, the GCC commissioned a report from Accu-Weather, titled “Changing Weather? Facts and Fallacies about Climate Change,” which undermined the existence of anthropogenic climate change and argued that extreme weather events, including hurricanes, were not happening more frequently as a result of global warming. It is attached as **Exhibit 26**. In a pre-publication draft of the report, the authors assert: “No convincing, observational evidence exists that hurricanes, tornadoes and other extreme temperature and precipitation events are on the rise because of the recent slight increase in the Earth’s surface temperature. Rather, the greater attention severe weather events now receive may simply reflect two non-weather-related facts: a) More

⁴⁰⁶ Global Climate Coalition, *Issues and Options: Potential Global Climate Change*, GCC (1994), <https://www.climatefiles.com/denial-groups/global-climate-coalition-collection/1994-potential-global-climate-change-issues/>.

⁴⁰⁷ 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 Oct. 15, 2023).

people live in areas that were once sparsely populated or even uninhabited, and b) local media are now able to quickly report extreme weather ... in distant parts of the globe.”⁴⁰⁸

379. This assessment contradicted the previous findings of fossil fuel industry scientists who projected that rising atmospheric CO₂ concentrations could significantly alter precipitation patterns and weather. As early as 1962, a Shell scientist identified that CO₂ buildup in the atmosphere “could have profound effects on both the weather and on the ecological balances.”⁴⁰⁹ In 1979, an internal Exxon memo noted that atmospheric CO₂ concentrations of 580 ppm would cause “major shifts in weather patterns in the northern hemisphere.”⁴¹⁰ A 1988 confidential Shell report likewise argued that global warming could cause changes in “sea level, ocean currents, precipitation patterns, regional temperature and weather... larger than any that have occurred over the last 12,000 years.”⁴¹¹

380. In 1995, the GCC published “Climate Change: Your Passport to the Facts,” a pamphlet which falsely stated: “[t]he notion that scientists have reached consensus that man-made emissions of greenhouse gases are leading to a dangerous level of global warming is not true,” and, “there remains no scientific evidence that such a dangerous warming will actually occur.”⁴¹²

381. In December 1995, Lenny Bernstein of Mobil Corporation produced a draft primer entitled “Predicting Future Climate Change: A Primer” for the GCC’s Science and Technology

⁴⁰⁸ Accu-Weather Inc., *Changing Weather? Facts and Fallacies about Climate Change*, Accu-Weather, Inc. (1995), <https://www.climatefiles.com/denial-groups/global-climate-coalition-collection/1995-accu-weather-draft-report-changing-weather-climate-change/>.

⁴⁰⁹ Marion King Hubbert, *Chapter 5: CONTINUOUS SOURCES OF POWER in Energy Resources*, Shell (1962), at 96.

⁴¹⁰ 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 Oct. 9, 2023).

⁴¹¹ Shell Internationale 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 Oct. 15, 2023).

⁴¹² Global Climate Coalition, *Climate Change: Your Passport to the Facts*, GCC (1995), <https://www.climatefiles.com/denial-groups/global-climate-coalition-collection/1995-climate-change-facts-passport/>.

Assessment Committee (STAC), attached as **Exhibit 27**.⁴¹³ At the time, members of this subcommittee on science and technology were represented by Ford, Exxon, API, the National Mining Association (which included Rio Tinto), BHP, and many others. Several statements in a draft of the primer, which was distributed internally, directly contradicted the GCC’s public claims that climate science was “unproven” or “uncertain.” In stark contrast with the GCC’s public communications, the draft primer stated: “[t]he 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 [emphasis added].” A section of the primer also debunked the very “contrarian theories” that the GCC promoted publicly, concluding that “they do not offer convincing arguments against the conventional model of greenhouse gas emission-induced climate change.”

382. Tellingly, in the final draft of the primer approved by the GCC STAC for publication, the phrase “cannot be denied” was removed.⁴¹⁴ The “contrarian theories” section was also dropped from the final version of the report.⁴¹⁵

383. Despite deeming the so-called contrarian theories “unconvincing” and removing them from the report, the GCC and its member organizations continued to actively promote the same theories to consumers and the public. In 1996, API published *Reinventing Energy: Making the Right Choices*, a book which supported climate denial and argued for inaction attached as **Exhibit 28**.⁴¹⁶ The book downplayed the environmental impacts of climate change, suggesting that even if

⁴¹³ *Global Climate Coalition (GCC)- Primer on Climate Change Science – Final Draft*, GCC (Jan. 18, 1996), <https://www.climatefiles.com/denial-groups/global-climate-coalition-collection/global-climate-coalition-draft-primer/>.

⁴¹⁴ Howard J. Feldman, *1996 GCC STAC June Meeting Minutes*, GLOBAL CLIMATE CHANGE COALITION (Jun. 20, 1996), <https://www.documentcloud.org/documents/5689156-AIAM-051229.html> (last visited Oct. 14, 2023).

⁴¹⁵ *Id.*

⁴¹⁶ American Petroleum Institute, *Reinventing Energy*, AMERICAN PETROLEUM INSTITUTE (1996) <https://www.climatefiles.com/trade-group/american-petroleum-institute/1996-reinventing-energy/> (last visited Oct. 15, 2023).

global warming occurred, it would present “few if any problems.” 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 book also advanced the false claim that “currently, no conclusive—or even strongly suggestive—scientific evidence exists that human activities are significantly affecting sea levels, rainfall, surface temperatures, or the intensity and frequency of storms.”

384. In fall 1996, Exxon published a document titled, “Global Warming: Who’s Right? Facts About a Debate That’s Turned Up More Questions than Answers.”⁴¹⁷ It is attached as **Exhibit 29**. In the preface, titled “Climate Change: Don’t Ignore the Facts,” Exxon CEO Lee Raymond emphasized the uncertainty of climate science, stating: “Scientific evidence remains inconclusive as to whether human activities affect the global climate.” He also warned about the economic and social consequences of limiting fossil fuel production and argued for regulatory delay: “Taking drastic action immediately is unnecessary since many scientists agree there’s ample time to better understand climate systems and develop the best long-term strategies.”

385. Raymond’s statements advocating for delay directly contradicted the findings of Exxon and API scientists from two decades prior, which warned: “man has a time window of five to ten years before the need for hard decisions regarding changes in energy strategies might become critical.”⁴¹⁸ By 1996, the window of time before “hard decisions regarding energy strategies might

⁴¹⁷ ExxonMobil Corp., *Global warming: who’s right?* (1996), EXXONMOBIL CORP, <https://www.climatefiles.com/Exxonmobil/global-warming-who-is-right-1996/> (last visited Oct. 15, 2023).

⁴¹⁸ J.F. Black, “The Greenhouse Effect”, ExxonMobil Research and Engineering Company (June 6, 1978), <https://insideclimatenews.org/documents/james-black-1977-presentation>.

become critical” was more than ten years overdue. Raymond concluded his preface by attacking advocates for limiting the use of his 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.

v. Organized Opposition to International Regulatory Action

386. In the late 1990s, the fossil fuel industry sought to undermine climate science on the international level. In 1996, the GCC—whose fossil fuel members at the time included Amoco (BP), API, BP America, Inc., Chevron, Exxon, Mobil (Exxon), Texaco (Chevron), Shell Oil Company, the WFA, and Union Carbide⁴¹⁹—became a reviewer of IPCC’s Second Assessment Report.⁴²⁰ From its position as a reviewer, the GCC attacked the credibility of the IPCC. Notably, the GCC accused one of the lead authors of Chapter 8 of the report of engaging in “scientific cleansing” and purposefully “understat[ing] uncertainties about climate change causes and effects . . . to increase the apparent scientific support for attribution of changes to climate to human activities.”

387. The fossil fuel companies worked together, through the GCC, to spread the notion that action on climate change posed a greater threat to the economy than climate change itself. In 1997, the GCC ran a series of advertisements in *The New York Times* and *The Washington Post* opposing the Kyoto Protocol, an international treaty committing industrialized countries to limit greenhouse

⁴¹⁹ *Progress Report on U.S. Industry Voluntary Actions to Curb Greenhouse Gases*, THE EOP GROUP, INC. (Mar. 1996), <https://www.climatefiles.com/denial-groups/global-climate-coalition-collection/1996-u-s-industry-voluntary-actions-progress-report/>.

⁴²⁰ 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/legacy/files/Science%20Skeptics%20and%20Non-State%20Actors%20in%20the%20Greenhouse%20-%20E-98-18.pdf> (last visited Oct. 15, 2023).

gas emissions.⁴²¹ The advertisements argued that action to reduce greenhouse gas emissions would detrimentally impact the US economy, stating: “Americans work hard for what we have, Mr. President. Don’t risk our economic future” and “[t]he only thing this treaty cools down is America’s economy.” Seventeen years prior, API’s own scientists came to the opposite conclusion, warning that a 2.5 °C rise in global average temperatures caused by increasing greenhouse gas emission would bring “world economic growth to a halt.”⁴²²

388. Also in 1997, in the months leading up to the UN climate negotiations in Kyoto, Japan, Mobil ran its own series of advertisements casting doubt on climate science and opposing international action to reduce greenhouse gas emissions. These “advertorials” were published in the opinion section of *The New York Times* and designed to appear to readers like genuine editorial articles. Examples of Mobil’s advertorials published in 1997 are included below:

- a) Stop, look and listen before we leap (Mobil; March 6, 1997): “International efforts to deal with climate change are lurching from speculation toward actions that could wreak havoc on nations even as the underlying science and economics continue to signal caution.”⁴²³
- b) Climate change: let's get it right (Mobil; June 23, 1997): “We encourage governments to take the time to do it right—to examine the science, decide if emission levels are dangerous and then evaluate steps to effectively mitigate or reduce future emissions. If the wrong decision is made, it could be divisive—pitting industrialized countries against developing nations—and rail the serious effort that may be needed to stabilize emission levels.”⁴²⁴
- c) When Facts Don’t Square with the Theory, Throw Out the Facts (Mobil; August 14, 1997): “Let’s face it: The science of climate change is too uncertain to mandate a plan of action that could plunge economies into turmoil Scientists cannot predict with certainty if temperatures will increase, by how much, and where

⁴²¹ *1997 Newspaper Advertisements by ClimateFacts.org, Global Climate Coalition, trade associations and unions*, CLIMATE FILES, <https://www.climatefiles.com/denial-groups/global-climate-coalition-collection/1997-anti-kyoto-ads/>.

⁴²² James Nelson, *The CO2 Problem*, AMERICAN PETROLEUM INSTITUTE (Mar. 18, 1980), <https://www.climatefiles.com/climate-change-evidence/1980-api-climate-task-force-co2-problem/>.

⁴²³ Mobil, *Stop, look and listen before we leap*, THE NEW YORK TIMES (Mar. 6, 1997), <https://www.documentcloud.org/documents/705555-mob-nyt-1997-mar-6-stoplooklisten.html>.

⁴²⁴ Mobil, *Climate change let's get it right*, THE NEW YORK TIMES (June 23, 1997), <https://www.documentcloud.org/documents/705554-mob-nyt-1997-jun-23-letsgetitright>.

changes will occur. We still don't know what role man-made greenhouse gases might play in warming the planet."⁴²⁵

- d) Reset the Alarm (Mobil; October 30, 1997): "Scientists cannot predict with certainty if temperatures will increase, by how much and where changes will occur. We still don't know what role man-made greenhouse gases might play in warming the planet."⁴²⁶
- e) Science: What We Know and Don't Know (Mobil; November 6, 1997): "...Most of the CO2 emitted by far is the result of natural phenomena.... most attention has centered on the three to four percent related to human 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... 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."⁴²⁷
- f) Climate Change: A Prudent Approach (Mobil; November 13, 1997): "We don't know enough about the factors that affect global warming and the degree to which—if any—that man-made emissions (namely, carbon dioxide) contribute to increases in Earth's temperature."⁴²⁸
- g) Climate Change: Where We Come Out (Mobil; November 20, 1997): "[C]limatologists are still uncertain how—or even if—the buildup of man-made greenhouse gases is linked to global warming."⁴²⁹
- h) Climate Change: A Degree of Uncertainty (Mobil; December 4, 1997): "[T]here is a high degree of uncertainty over the timing and magnitude of potential impacts that man-made emissions of greenhouse gas emissions have on climate."⁴³⁰

⁴²⁵ Mobil, *When Facts Don't Square with the Theory, Throw Out the Facts*, THE NEW YORK TIMES (Aug. 14, 1997), <https://www.documentcloud.org/documents/705550-mob-nyt-1997-aug-14-whenfactsdentsquare.html>.

⁴²⁶ Mobil, *Reset the Alarm*, THE NEW YORK TIMES (Oct. 30, 1997), <https://www.documentcloud.org/documents/705561-mob-nyt-1997-oct-30-resetalarm>.

⁴²⁷ Mobil, *Science: What We Know and Don't Know*, THE NEW YORK TIMES (Nov. 6, 1997), <https://www.documentcloud.org/documents/705547-mob-nyt-1997-11-6-whatwknow>.

⁴²⁸ Mobil, *Climate Change: A Prudent Approach*, THE NEW YORK TIMES (Nov. 13, 1997), <https://www.documentcloud.org/documents/705548-mob-nyt-1997-11-13-climateprudentapproach.html>.

⁴²⁹ Mobil, *Climate Change: Where We Come Out*, THE NEW YORK TIMES (Nov. 20, 1997), <https://www.documentcloud.org/documents/705549-mob-nyt-1997-11-20-ccwherecomeout>.

⁴³⁰ Mobil, *Climate Change: A Degree of Uncertainty*, THE NEW YORK TIMES (Dec. 4, 1997), <https://www.documentcloud.org/documents/705551-mob-nyt-1997-dec-4-uncertainty>.

389. In 1997, the GCC launched an advertising campaign in the US against any agreement aimed at reducing greenhouse gas emissions internationally.⁴³¹ 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 others. The GCIP was represented by Shandwick Public Affairs, the second-largest Public Relations (PR) firm in the United States.⁴³²

390. 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 proposals, then or now, have suggested a "50 cent gallon gas tax." These ads are attached hereto as **Exhibit 30**.

391. In 1997 alone, the GCC spent \$13 million opposing the Kyoto Protocol.⁴³³ The efforts of the GCC and its member companies were highly successful. In July 1997, the US Senate unanimously passed the Byrd-Hagel Resolution, prohibiting the United States from ratifying the Kyoto Protocol that would "would result in serious harm to the economy of the United States"

⁴³¹ *1997 Newspaper Advertisements by ClimateFacts.org, Global Climate Coalition, trade associations and unions*, CLIMATEFILES, <https://www.climatefiles.com/denial-groups/global-climate-coalition-collection/1997-anti-kyoto-ads/>.

⁴³² Shandwick Public Affairs is a division of Weber Shandwick 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 Shandwick 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 Oct. 15, 2023)

⁴³³ 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 Oct. 14, 2023).

unless the agreement mandated the same “scheduled commitments to limit or reduce greenhouse gas emissions for Developing Country Parties.”⁴³⁴

392. In a PBS Frontline documentary, “The Power of Big Oil,” journalists interviewed Byrd-Hagel co-sponsor Senator Chuck Hagel (R-NE) about the role that big oil played in the bill’s passage.⁴³⁵ When asked if, in light of Exxon’s deception, Hagel felt ‘misled’ by the fossil fuel industry’s recommendations to Congress, Hagel stated:

Well, what we now know about some of these large oil companies’ positions, they lied. And yes, I was misled. Others were misled. When they had evidence in their own institutions that countered what they were saying publicly—I mean, they lied (emphasis added).⁴³⁶

393. Hagel also agreed that the fossil fuel industry’s deception substantially influenced the public’s perception of the issue of climate change, as well as his own. He admitted that if the fossil fuel industry had told the truth, it would have made a difference:

...It would have changed everything. I think it would have changed the average citizen’s appreciation of climate change.... And mine, of course. It would have put the United States and the world on a whole different track, and today we would have been so much further ahead than we are. It’s cost this country, and it cost the world.⁴³⁷

394. In spite of the Byrd-Hagel Resolution’s unanimous passage, the Clinton Administration signed the Kyoto Protocol on November 12, 1998, a year after the UN negotiations where it was drafted.⁴³⁸ However, without the approval of the Senate, the treaty could not be ratified.

⁴³⁴ S. RES. 98, 105TH CONG. (1997) (ENACTED).

⁴³⁵ Frontline, *The Power of Big Oil, Part Two: Doubt*, PBS (Apr. 26, 2022).

⁴³⁶ *Id.*

⁴³⁷ *Id.*

⁴³⁸ U.S. Department of State, *United States Signs the Kyoto Protocol*, US DOS (Nov. 12, 1998), https://1997-2001.state.gov/global/global_issues/climate/fs-us_sign_kyoto_981112.html.

395. In 1999, BP with other entities, formed the International Emissions Trading Association (IETA).⁴³⁹ Defendants BP, Chevron, Shell, BHP, and Rio Tinto were all significantly involved in, and promoted, IETA's actions to undermine climate mitigation policies and actions. These Defendants are not just paying members, but also members of the IETA's Board. The group's goal is to prevent climate regulations from having a detrimental effect on the Defendants' fossil fuel profits. IETA became a major player in international climate talks, ensuring fossil fuel representation in future discussions similar to the UN negotiations.

396. In 2001, President George W. Bush assumed the Presidency and withdrew the United States from the Kyoto Protocol, arguing that it would damage the US economy.⁴⁴⁰ A 2001 briefing sent to the US Under Secretary of State for Global Affairs, Paula Dobriansky, ahead of her meeting with the GCC indicated that the GCC played a key role in blocking the ratification of the Kyoto Protocol.⁴⁴¹ Under "Talking Points," the document explicitly states: "POTUS rejected Kyoto, in part, based on input from you." The GCC's efforts to drive uncertainty into the heart of the climate debate were clearly reaping benefits. Further, the briefing prompts Dobriansky to ask GCC members about future initiatives they would be in favor of. Another talking point under the heading 'Solicit views in developing an effective and market-based response,' reads: "Interested in hearing from you, what type of international alternatives to Kyoto would you support?"

⁴³⁹ Corporate Accountability, *Primer: IETA, Big Polluters, and the UNFCCC*, CORPORATE ACCOUNTABILITY (2018), https://corporateaccountability.org/wp-content/uploads/2018/04/CA_Bonn_Cop24_2018_webEN.pdf.

⁴⁴⁰ David E. Sanger, *Bush Will Continue to Oppose Kyoto Pact on Global Warming*, THE NEW YORK TIMES (June 12, 2001), <https://www.nytimes.com/2001/06/12/world/bush-will-continue-to-oppose-kyoto-pact-on-global-warming.html>.

⁴⁴¹ U.S. Department of State, *Briefing Memorandum*, US DOS (June 20, 2001), <https://www.climatefiles.com/denial-groups/global-climate-coalition-collection/2001-state-department-meeting/>.

3. Defendants continue to support climate skepticism, increasingly through proxies in the late 1990s to early 2000s.

397. In the late-1990s, the fossil fuel Defendants continued to support the production of climate skepticism, increasingly funding front groups, trade associations, and individuals to express doubt regarding the scientific consensus on climate change.

vi. Public Retreat From Denial

398. Beginning as early as mid-1997, some fossil fuel companies attempted to publicly distance themselves from climate denialism in response to increasing reputational and legal risks.

399. In May 1997, Group Chief Executive for BP America, John Browne, stated in a speech at Stanford University: “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.”⁴⁴²

400. With the threat of the Kyoto Protocol in the rear-view mirror, more companies followed suit, supporting the scientific consensus on anthropogenic climate change and publicly disavowing denialism. In November 1998, just over a year after asserting in a *Washington Post* op-ed that “[c]limate scientists don’t say that burning oil, gas and coal is steadily warming the earth,”⁴⁴³ API executive vice president and GCC chairman, William O’Keefe, announced that API was “committed to being part of the solution to the climate risk and to active participation in the debate to forge a clear, defensible policy.”⁴⁴⁴

⁴⁴²John 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 Oct. 14, 2023).

⁴⁴³William O’Keefe, *A Climate Policy*, THE WASHINGTON POST (July 5, 1997), <https://www.washingtonpost.com/archive/opinions/1997/07/05/a-climate-policy/6a11899a-c020-4d59-a185-b0e7eebf19cc/>.

⁴⁴⁴William O’Keefe, *API: U.S. oil industry recognizes climate change risk*, OIL AND GAS JOURNAL (Nov. 2, 1998), <https://www.ogj.com/home/article/17225896/api-us-oil-industry-recognizes-climate-change-risk>.

401. In February 1999, Michael Bowlin, the CEO of BP-owned ARCO, stated in a speech at an energy conference that the world had embarked “on the beginning of the Last Days of the Age of Oil.”⁴⁴⁵ In his address, Bowlin discussed the need to transition from a carbon-based energy system, stating: “Global demand for clean energy — natural gas, renewables, electricity and new energy technologies — will grow faster than overall demand for energy, including oil and coal.”

402. During this period, Shell, BP, and several other major fossil fuel and auto companies left the GCC.⁴⁴⁶ Their departure from the GCC, and indeed, their *public-facing* shift away from climate denial was catalyzed by backlash from the public and a fear of future legal repercussions, like the lawsuits the tobacco industry was facing at the time.

403. A 1998 Shell internal report, “Group Scenarios 1998-2020,” reveals that Shell actively considered a future where the fossil fuel industry would face legal action as a result of its deception and failure to act on its knowledge.⁴⁴⁷ The document predicts:

In 2010, a series of violent storms causes extensive damage to the eastern coast of the U.S. ... Following the storms, a coalition of environmental NGOs brings a class-action suit against the US government and fossil-fuel companies on the grounds of neglecting what scientists (including their own) have been saying for years: that something must be done. A social reaction to the use of fossil fuels grows, and individuals become 'vigilante environmentalists' in the same way, a generation earlier, they had become fiercely anti-tobacco. Direct-action campaigns against companies escalate. Young consumers, especially, demand action.

404. According to a Shell employee, the company “didn’t want to fall into the same trap as the tobacco companies who have become trapped in all their lies.”⁴⁴⁸

⁴⁴⁵ *Arco chair foresees end of 'Age of Oil'*, THE JOURNAL RECORD (Feb. 10, 1999), <https://journalrecord.com/1999/02/10/arco-chair-foresees-end-of-39age-of-oil39/>.

⁴⁴⁶ Christopher Bonneuil, et al., *Early warnings and emerging accountability: Total’s responses to global warming, 1971–2021*, GLOBAL ENVIRONMENTAL CHANGE (Nov. 2021), <https://doi.org/10.1016/j.gloenvcha.2021.102386>.

⁴⁴⁷ Shell, *TINA – Above and Below*, Royal Dutch Shell (1998), <https://www.climatefiles.com/shell/1998-shell-internal-tina-group-scenarios-1998-2020-report/>.

⁴⁴⁸ Nathaniel Rich, *Losing Earth* (2020), at 186.

vii. Building a Network of Denial Organizations and Contrarian Scientists

405. Despite this public shift to acknowledge climate science, the Defendants worked behind the scenes to ensure the message of uncertainty and climate denial was still being brought to the mainstream. Through API and other trade associations and front groups, Defendants coordinated funding and campaigns to continue the mission of the GCC, obstruct climate action, and ensure their own profits. API and its member companies privately established and funded a network of proxies, composed of conservative think tanks, faux “grassroots” organizations, and contrarian scientists, to disseminate climate denial and block policies that would regulate greenhouse gas emissions.

406. In March 1998, API convened a Global Climate Science Communications Team (GCST) whose members included representatives from **API**, **Exxon**, and **Chevron**.⁴⁴⁹ The GCST also included several notable climate skeptics, including Candace Crandall, co-founder of the Science and Environmental Policy Project (SEPP) and wife of climate contrarian Fred Singer; Myron Ebell, the previous policy director of Frontiers of Freedom; and Steve Milloy, executive director of the Advancement of Sound Science Coalition.⁴⁵⁰ Crandall, Singer⁴⁵¹, and Milloy⁴⁵² had all previously worked for the tobacco industry, manufacturing scientific uncertainty about the health risks of second-hand tobacco smoke.

⁴⁴⁹ Joe Walker, *Global Climate Science Communications Action Plan*, GLOBAL CLIMATE SCIENCE COMMUNICATIONS TEAM (GCST) (Apr. 3, 1998), <https://insideclimatenews.org/wp-content/uploads/2015/12/Global-Climate-Science-Communications-Plan-1998.pdf> (last visited Oct. 15, 2023).

⁴⁵⁰ *Id.*

⁴⁵¹ The Science and Environmental Policy Project (SEPP), *Key Issues*, SCIENCE AND ENVIRONMENTAL POLICY PROJECT (updated Jul. 2006), <https://web.archive.org/web/20060717173008/http://www.sepp.org/keyissue.html>, (last visited Oct. 16, 2023).

⁴⁵² 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/ExxonMobil_report.pdf (last visited Oct. 15, 2023).

407. On April 3, 1998, just months after the signing of the Kyoto Protocol, the GCSCT produced the “Global Climate Science Communications Action Plan,” which outlined a multi-million-dollar campaign to undermine public belief in the validity of climate science, attached hereto as **Exhibit 31**.⁴⁵³ API, Exxon, and Chevron were among the fossil fuel representatives directly involved in producing the report.

408. GCC members, through the GCSCT 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 materials to schools to begin to erect a barrier against further efforts to impose Kyoto-like measures in the future.⁴⁵⁴

409. Under the header “Current Reality,” the Action Plan recognized that: “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 [sic] when we can declare victory for our efforts.” The purpose of the Action Plan was clear. It stated: “Victory will be achieved when average citizens “understand” uncertainties in climate science...”⁴⁵⁵

⁴⁵³ 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 Oct. 15, 2023).

⁴⁵⁴ 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 Oct. 13, 2023).

⁴⁵⁵ Re-typed for clarity.

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. courts 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

410. The GCSCT Action Plan named the following members as having contributed to the development:

1. John Adams, John Adams Associates;
2. Candace Crandall, Science and Environmental Policy Project;⁴⁵⁶

⁴⁵⁶ 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.

3. David Rothbard, Committee for A Constructive Tomorrow;
4. Jeffrey Salmon, The Marshall Institute;⁴⁵⁷
5. Lee Garrigan, Environmental Issues Council;⁴⁵⁸
6. Lynn Bouchey and Myron Ebell, Frontiers of Freedom;⁴⁵⁹
7. Peter Cleary, Americans for Tax Reform;⁴⁶⁰
8. Randy Randol, Exxon Corp.;
9. Robert Gehri, The Southern Company;⁴⁶¹
10. Sharon Kneiss, **Chevron Corp.**;
11. Steve Milloy, The Advancement of Sound Science Coalition;⁴⁶²

⁴⁵⁷ 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 Oct. 15, 2023).

⁴⁵⁸ 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 Oct. 15, 2023). 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 Oct. 15, 2023).

⁴⁵⁹ According to a 2003 *New York Times* report, Frontiers of Freedom, which has about a \$700,000 annual budget, received \$230,000 from ExxonMobil in 2002, up from \$40,000 in 2001, according to ExxonMobil 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 ExxonMobil 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/ExxonMobil-backs-groups-that-question-global-warming.html> (last visited Oct. 22, 2023).

⁴⁶⁰ 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/2011/07/21/138575665/national-chairman-of-alec-responds-to-report> (last visited Oct. 15, 2023).

⁴⁶¹ 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).

⁴⁶² 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

12. Joseph Walker, **American Petroleum Institute.**

411. The GCSCT's membership included Steve Milloy (a key player on the tobacco industry's front group) for ExxonMobil. Between 2000 and 2004, ExxonMobil donated \$110,000 to Milloy's efforts and another organization, the Free Enterprise Education Institute and \$50,000 to the Free Enterprise Action Institute, both registered to Milloy's home address.⁴⁶³

412. Another tobacco advocate was S. Fred Singer, founder of the "Science and Environmental Policy Project."⁴⁶⁴ Defendants funded Singer 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.⁴⁶⁵ Singer maintains that human-caused global warming was not occurring and if it was, a warmer Earth was a good thing. Singer was paid as a consultant by ExxonMobil, Shell, Chevron, BP, the American Petroleum Institute, and ALEC.

(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 International Conspiracy to Overheat the Earth*, PR WATCH (1997)

<https://www.prwatch.org/files/pdfs/prwatch/prwv4n4.pdf> (last visited Oct. 15, 2023).

⁴⁶³ 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/ExxonMobil_report.pdf (last visited Oct. 15, 2023).

⁴⁶⁴The 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 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 POLICY PROJECT (updated Jul. 2006), <https://web.archive.org/web/20060717173008/http://www.sepp.org/keyissue.html>, (last visited Oct. 16, 2023).

⁴⁶⁵ David Biello and John Pavlus, *Even Skeptics Admit Global Warming is Real*, SCIENTIFIC AMERICAN (Mar. 18, 2008), https://www.scientificamerican.com/article/even-skeptics-admin-global-warming-is-real-video/?gclid=CjwKCAiA68ebBhB-EiwALVC-Ns0vkbnUH9Hm9V4_kDAubRo5u7LbalhYuhNAQifa8djNKTu3Rr284xoCO2AQAvD_BwE (last visited Oct. 14, 2023).

Fred Singer is also prominently displayed on the current website of the Heartland Institute⁴⁶⁶ and is considered a senior fellow, as a climate change denier.

413. Guided by big tobacco’s denial experts,⁴⁶⁷ the GCSCT sought to reproduce the tobacco industry’s public relations strategy through the “Action Plan”—funding conservative think tanks, “grassroots” organizations, and contrarian scientists to question the validity of climate science. The plan named several “fund allocators,” including the American Legislative Exchange Council (ALEC), Committee For A Constructive Tomorrow (CFACT), Competitive Enterprise Institute, Frontiers of Freedom and The Marshall Institute (GMI), to implement the GCSCT’s national direct outreach program aimed at educating the public “about the uncertainties in climate science” and “erect[ing] a barrier against further efforts to impose Kyoto-like measures in the future.”

414. API and its member companies channeled significant funding to the GCSCT “allocators,” primarily conservative think tanks, including ALEC, CEI, and the GMI, to produce climate denial. The goal of these strategic investments was simple: to deceive consumers and the public about the realities of climate change, disguise the harms of their products, and derail policies that might limit greenhouse gas emissions. A 1999 API budget document identified combating greenhouse gas regulations as its “highest priority issue,” stating: “Climate is at the center of the industry’s business interests. Policies limiting carbon emissions reduce petroleum product use. That is why it is API’s highest priority issue and defined as strategic.”⁴⁶⁸ The document also

⁴⁶⁶ 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 Oct. 14, 2023).

⁴⁶⁷ Geoffrey Supran & Naomi Oreskes, *Rhetoric and frame analysis of ExxonMobil's climate change communications*, 4 ONE EARTH 696–719 (2021), at 696-97.

⁴⁶⁸ *Allegations of Political Interference with Government Climate Change Science: Hearing Before the Comm. on Oversight and Government Reform*, 110th Cong. 21 (2007).

planned to allocate \$100,000 to outside organizations for “climate science and science uncertainty research.”⁴⁶⁹

415. The American Legislative Exchange Council (ALEC) was a key organization. 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 undermined consensus regarding climate change, despite their own knowledge and the growing global scientific consensus on the hazards of doing so. Upon information and belief, all Defendants have supported and funded ALEC. In fact, ExxonMobil has served on its “Private Enterprise Board.”⁴⁷⁰ ALEC keeps its membership, activities, and communications confidential.⁴⁷¹

416. Since 1998, ExxonMobil has contributed at least \$1,798,200 in funding to the American Legislative Exchange Council (ALEC), a named “allocator” in the GCSCT Action Plan.⁴⁷² In 2002, ALEC published “Global Warming and the Kyoto Protocol: Paper Tiger, Economic Dragon,” a report authored by climate skeptic and CEI senior fellow, Patrick Michaels.⁴⁷³ The report, attached as **Exhibit 32**, downplays the environmental impacts of climate change: “[t]he apocalyptic argument on global warming—that increased temperatures will increase drought by evaporating more moisture—is wrong.”⁴⁷⁴ The report also implies that climate change concerns

⁴⁶⁹ *Allegations of Political Interference with Government Climate Change Science: Hearing Before the Comm. on Oversight and Government Reform*, 110th Cong. 21 (2007) (compilation of exhibits), at 36, https://premium.globalsecurity.org/security/library/congress/2007_h/070319-exhibits.pdf.

⁴⁷⁰ 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 Oct. 11, 2023).

⁴⁷¹ Beth Hawkins, *ALEC declares itself exempt from public-disclosure laws, 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 Oct. 11, 2023).

⁴⁷² American Legislative Exchange Council, *About Alec*, ALEC AMERICAN LEGISLATIVE EXCHANGE COUNCIL, <https://www.alec.org/about/> (last visited Oct. 11, 2023).

⁴⁷³ ALEC Exposed, *State Responses to Kyoto Climate Change Protocol Exposed*, THE CENTER FOR MEDIA AND DEMOCRACY, https://www.alecexposed.org/wiki/State_Responses_to_Kyoto_Climate_Change_Protocol_Exposed (last visited Oct. 11, 2023).

⁴⁷⁴ *Id.*

are sensationalized, and argues that greenhouse gas regulations will do more harm than good: “[i]t 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.”

417. In 2004, ALEC launched a campaign opposing the so-called ‘Sons-of-Kyoto’ legislation, attached as **Exhibit 33**, intended to limit greenhouse gas emissions across the country. In a January 2004 press release, an ALEC representative stated: “Carbon dioxide, the inescapable by-product of burning fossil fuels, is beneficial to plant and human life alike.... Losing fuel diversity can only be harmful to our economy and ultimately the environment itself.”⁴⁷⁵

418. 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. 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.⁴⁷⁶ This strategy continues today.

419. The Committee for a Constructive Tomorrow (CFACT) is noted in the GCSCT Action Plan as a fund allocator. CFACT is a Washington, D.C. based 501(c)(3) nonprofit organization founded in 1985. 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.⁴⁷⁷

⁴⁷⁵ *'Sons-of-Kyoto' Legislation: States React to the Myth of Global Warming*, U.S. NEWSWIRE (Jan. 21, 2004), <http://web.archive.org/web/20040312052715/http://releases.usnewswire.com/GetRelease.asp?id=153-01212004>.

⁴⁷⁶ 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 Oct. 11, 2023).

⁴⁷⁷ Jerry Bielensohn, *Playing Climate-Change Telephone*, THE NEW YORKER, (Apr. 4, 2014), <https://www.newyorker.com/tech/annals-of-technology/playing-climate-change-telephone> (last visited Oct. 14, 2023).

420. CFACT organizer Craig Rucker stated that mankind faces a threat “not from man-made global warming, but from man-made hysteria.”⁴⁷⁸

421. 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 temperatures are “the hottest lie” being told, and “CO₂ is not the ‘control knob’ of the climate.”⁴⁷⁹

422. CFACT produced “Climate Hustle,” a 2016 film rejecting the existence and cause of climate change, narrated by Marc Morano.⁴⁸⁰ According to *Ars Technica*, the film offers “a fast-paced, uninterrupted delivery of superficial and false claims about climate science.”⁴⁸¹

423. CFACT has received direct funding from Defendants Exxon, Chevron and Peabody.⁴⁸² CFACT was endorsed and promoted by American Legislative Exchange Council (ALEC.) All the Defendants have supported ALEC.

424. CFACT also published a national media relations program in the form of a pamphlet entitled “Climate Truth File, 2016”, attached as **Exhibit 38**, stimulating the public to raise questions with policy makers.

425. The Climate Truth File 2016 made the following claims:

⁴⁷⁸ Craig Rucker, *Introductory Remarks by Craig Rucker of CFACT, 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 Oct. 16, 2023).

⁴⁷⁹ DeSmog, *Committee for a Constructive Tomorrow (CFACT), Actions, April 29, 2017*, DESMOG, <https://www.desmog.com/committee-constructive-tomorrow/#s53> (last visited Oct. 16, 2023).

⁴⁸⁰ Graham Readfearn, *Why even climate science denialist 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-denialist-marc-morano-knows-not-to-bet-against-global-warming-data> (last visited Oct. 14, 2023).

⁴⁸¹ 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-just-cant-trust-climate-science/> (last visited Oct. 14, 2023).

⁴⁸² DeSmog, *Committee for a Constructive Tomorrow (CFACT)*, DESMOG, <https://www.desmogblog.com/committee-constructive-tomorrow> (last visited Oct. 14, 2023).

- 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.”⁴⁸³

426. Since 1997, ExxonMobil has also contributed at least \$2.1 million to CEI, another named GCSCCT “allocator.”⁴⁸⁴ In 1997, Exxon contributed \$10,000 to Consumer Alert, Inc. and \$95,000 to CEI in a grant titled “Global Climate Change Program and other support.”⁴⁸⁵ That same year, Consumer Alert and CEI founded the Cooler Heads Coalition (CHC), an “informal and ad-hoc group focused on dispelling the myths of global warming...”⁴⁸⁶ Founding members of the CHC in 1998 included all of the GCSCCT’s named “allocators,” including ALEC, CFACT, GMI, CEI, and Frontiers of Freedom. Other members included Steve Milloy’s TASSC and JunkScience.com, the Koch-founded Citizens for a Sound Economy (CSE) and Americans for Prosperity (AFP), the Heritage Foundation, and the Heartland Institute, among others. In total, Exxon provided roughly \$11 million to members of the Coalition, of which \$3 million has been identified through tax filings and other documents as designated for climate-specific purposes, such as “Climate Change Issues

⁴⁸³ *Id.*

⁴⁸⁴ DeSmog, *Competitive Enterprise Institute (CEI)*, DESMOG, <http://bit.ly/2stOjce> (last visited Oct. 14, 2023).

⁴⁸⁵ Global Warming.org, *Contributors*, COOLER HEADS COALITION, <http://www.globalwarming.org/contributors/> (last visited Oct. 16, 2023).

⁴⁸⁶ *Id.*

(Opinion Leaders and Public Education Efforts),” “Global Climate Change Outreach,” and “Climate Change Science.”⁴⁸⁷

427. 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 2006 which is attached as **Exhibit 39**, in which he stated on page 16 that “there is no “scientific consensus” that global warming will cause damaging climate change.”

428. API has also contributed at least \$1.3 million to members of the Coalition, including \$25,000 to CEI in 2009;⁴⁸⁸ \$25,000 to the Heartland Institute in 2008;⁴⁸⁹ \$98,000 to ALEC between 2008 and 2013;⁴⁹⁰ \$130,000 to FreedomWorks between 2008 and 2009;⁴⁹¹ \$139,000 for Americans for Prosperity between 2008 and 2012;⁴⁹² and \$957,500 to Americans for Tax Reform between 2008 and 2019.⁴⁹³

⁴⁸⁷ *Id.*

⁴⁸⁸ IRS Form 990-O for American Petroleum Institute (\$25,000 in 2009), https://projects.propublica.org/nonprofits/display_990/130433430/2010_12_EO%2F13-0433430_990O_200912.

⁴⁸⁹ IRS Form 990-O for American Petroleum Institute (\$25,000 in 2008), https://projects.propublica.org/nonprofits/display_990/130433430/2009_12_EO%2F13-0433430_990O_200812.

⁴⁹⁰ IRS Form 990-O for American Petroleum Institute (\$38,000 in 2008), https://projects.propublica.org/nonprofits/display_990/130433430/2009_12_EO%2F13-0433430_990O_200812;

IRS Form 990-O for American Petroleum Institute (\$40,000 in 2009), https://projects.propublica.org/nonprofits/display_990/130433430/2010_12_EO%2F13-0433430_990O_200912;

IRS Form 990-O for American Petroleum Institute (\$10,000 in 2010), https://projects.propublica.org/nonprofits/display_990/130433430/2011_12_EO%2F13-0433430_990O_201012;

IRS Form 990-O for American Petroleum Institute (\$10,000 in 2013), https://projects.propublica.org/nonprofits/display_990/130433430/2014_12_EO%2F13-0433430_990O_201312.

⁴⁹¹ IRS Form 990-O for American Petroleum Institute (\$75,000 in 2008), https://projects.propublica.org/nonprofits/display_990/130433430/2009_12_EO%2F13-0433430_990O_200812;

IRS Form 990-O for American Petroleum Institute (\$55,000 in 2009), https://projects.propublica.org/nonprofits/display_990/130433430/2010_12_EO%2F13-0433430_990O_200912.

⁴⁹² IRS Form 990-O for American Petroleum Institute (\$30,000 in 2008), https://projects.propublica.org/nonprofits/display_990/130433430/2009_12_EO%2F13-0433430_990O_200812;

IRS Form 990-O for American Petroleum Institute (\$43,500 in 2009), https://projects.propublica.org/nonprofits/display_990/130433430/2010_12_EO%2F13-0433430_990O_200912;

IRS Form 990-O for American Petroleum Institute (\$25,500 in 2010), ; IRS Form 990-O for American Petroleum Institute (\$25,000 in 2011), https://projects.propublica.org/nonprofits/display_990/130433430/2012_12_EO%2F13-0433430_990O_201112;

IRS Form 990-O for American Petroleum Institute (\$15,000 in 2012), https://projects.propublica.org/nonprofits/display_990/130433430/2013_12_EO%2F13-0433430_990O_201212.

⁴⁹³ IRS Form 990-O for American Petroleum Institute (\$375,000 in 2008), https://projects.propublica.org/nonprofits/display_990/130433430/2009_12_EO%2F13-0433430_990O_200812;

429. In 1998, API distributed a roadmap memo, attached as **Exhibit 34**, outlining the fossil fuel industry’s plan to use scientists as spokespersons for the industry’s views. The innocuously titled “Global Climate Science Communications Plan,” written with the direct involvement of fossil fuel companies including ExxonMobil 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 (“GCST”) 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 GCST’s memo (“GCST Action Memo”) mapped out a multifaceted deception strategy for the fossil fuel industry that continues to this day—outlining plans to reach

IRS Form 990-O for American Petroleum Institute (\$50,000 in 2009), https://projects.propublica.org/nonprofits/display_990/130433430/2010_12_EO%2F13-0433430_990O_200912;
 IRS Form 990-O for American Petroleum Institute (\$50,000 in 2010), https://projects.propublica.org/nonprofits/display_990/130433430/2011_12_EO%2F13-0433430_990O_201012;
 IRS Form 990-O for American Petroleum Institute (\$50,000 in 2011), https://projects.propublica.org/nonprofits/display_990/130433430/2012_12_EO%2F13-0433430_990O_201112;
 IRS Form 990-O for American Petroleum Institute (\$75,000 in 2013), https://projects.propublica.org/nonprofits/display_990/130433430/2014_12_EO%2F13-0433430_990O_201312;
 IRS Form 990-O for American Petroleum Institute (\$75,000 in 2014), https://projects.propublica.org/nonprofits/display_990/130433430/2016_01_EO%2F13-117437_20005_130433430;
 IRS Form 990-O for American Petroleum Institute (\$82,500 in 2015), https://projects.propublica.org/nonprofits/display_990/130433430/2017_04_EO%2F13-0433430_990O_201512;
 (\$50,000 in 2016), https://projects.propublica.org/nonprofits/display_990/130433430/01_2018_prefixes_06-13%2F130433430_201612_990O_2018011115111922; IRS Form 990-O for American Petroleum Institute (\$50,000 in 2017), https://projects.propublica.org/nonprofits/display_990/130433430/02_2019_prefixes_11-13%2F130433430_201712_990O_2019022516126496; IRS Form 990-O for American Petroleum Institute (\$50,000 in 2018), <https://projects.propublica.org/nonprofits/organizations/130433430/201903199349305980/full>; IRS Form 990-O for American Petroleum Institute (\$50,000 in 2019), <https://projects.propublica.org/nonprofits/organizations/130433430/202023219349305147/full>.

the media, the public, and policy makers with a message emphasizing “uncertainties” in climate science.⁴⁹⁴

430. 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 (Occidental’s predecessor in interest)), ExxonMobil, with CEI, CFACT, Lynn Bouchey, Myron Ebell, SEPP, Fred Singer,⁴⁹⁵ and others.
- c) **Funders:** National Mining Association (Rio Tinto) API (Shell, Chevron, BP, ConocoPhillips, Motiva, and Anadarko (Occidental’s predecessor in interest)), Business Round Table (all Defendants), Independent Petroleum Association of America and Edison Electric Institute (EEI).
- d) **Allocators:**⁴⁹⁶ ALEC, CEI, CFACT, Frontiers of Freedom, and The Marshall Institute.
- 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.

431. 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. 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

⁴⁹⁴ *Id.*

⁴⁹⁵ Fred Singer was not personally present, but his wife, Candace Crandall was. Singer is the founder and chairman of SEPP.

⁴⁹⁶ 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 Oct. 15, 2023).

unabated use of their fossil fuel products and oppose regulation thereof. 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. Fourth, the GCSCT Action Memo presents Defendants’ positions on climate change in domestic and international forums, including by preparing rebuttals to IPCC reports.

432. 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.⁴⁹⁷ These include the Competitive Enterprise Institute, the Heartland Institute, Frontiers for Freedom, Committee for a Constructive Tomorrow, and the Heritage Foundation.

433. Since at least 1998, ExxonMobil has contributed at least \$715,000 to the George C. Marshall Institute (GMI), another “allocator” organization headed by Frederick Seitz, a prominent climate denier and former president of the National Academy of Sciences (NAS) from 1962 to 1969.⁴⁹⁸

434. In April 1998, GMI and the Oregon Institute of Science and Medicine, with the support of ExxonMobil, co-published the “Oregon Petition,” signed by 17,000 “scientists” who rejected the Kyoto Protocol, attached as **Exhibit 35**.⁴⁹⁹ The petition read as follows:⁵⁰⁰

⁴⁹⁷ Robert Brulle & Christian Downie, Following the money: trade associations, political activity and climate change, *CLIMATIC CHANGE* 174: 11 (2022), at 8.

⁴⁹⁸ 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.sarahpalin1#:~:text=The%20Republican%20Sarah%20Palin%20and,species%2C%20the%20Guardian%20can%20disclose> (last visited Oct. 13, 2023).

⁴⁹⁹ 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 Oct. 13, 2023).

⁵⁰⁰ Global Warming Petition Project website, <http://www.petitionproject.org/> (last visited Oct. 13, 2023). Note: on Oct. 13, 2023, the website claims that 31,487 American scientists have signed this petition, including 9,029 with PhDs.

Petition	
<p>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.</p> <p>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.</p>	
<p>_____</p> <p style="text-align: center; font-size: small;">Please sign here</p>	<p><input type="checkbox"/> Please send more petition cards for me to distribute.</p>
<p>My academic degree is B.S. <input type="checkbox"/> M.S. <input type="checkbox"/> Ph.D. <input type="checkbox"/> in the field of _____</p>	

435. The petition was also mailed with an accompanying report, “Environmental Effects of Increased Atmospheric Carbon Dioxide,” co-authored by Wei-Hock “Willie” Soon, part-time researcher at the Smithsonian Astrophysical Observatory, and Sallie Baliunas, an astrophysicist at the Harvard-Smithsonian Center for Astrophysics, which asserted that carbon dioxide emissions “have produced no deleterious effects upon global climate or temperature.”⁵⁰¹ The report was made to look like an article from the National Academy’s prestigious Proceedings of the National Academy of Sciences (PNAS) academic journal.

436. Very few of the petition’s signatures were from credentialed scientists. Upon investigation, *Scientific American* estimated that only one percent of the petition signatories actually held a Ph.D. in a field related to climate science.⁵⁰² In addition to unqualified scientists, the signatory list was rife with fake names, celebrities, and fictional characters, including actor Michael J. Fox, Spice Girls singer “Dr.” Geri Halliwell, and several characters from the television series *M*A*S*H*.⁵⁰³ Following the publication of the Oregon Petition, the NAS issued a news

⁵⁰¹ W. Soon, S. L. Baliunas, A. B. Robinson & Z. W. Robinson, *Environmental Effects of Increased Atmospheric Carbon Dioxide*, CLIMATE RESEARCH, (Oct. 26, 1999), https://www.researchgate.net/publication/260851815_Environmental_Effects_of_Increased_Atmospheric_Carbon_Dioxide (last visited Oct. 13, 2023).

⁵⁰² 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/ExxonMobil_report.pdf (last visited Oct. 15, 2023).

⁵⁰³ Michael E. Mann, *The Hockey Stick and the Climate Wars*, COLUMBIA UNIVERSITY PRESS (2012), at 66.

release, stating: “[T]his petition has nothing to do with the National Academy of Sciences and that the manuscript was not published in the Proceedings of the National Academy of Sciences or in any other peer-reviewed journal.... The petition does not reflect the conclusions of expert reports of the Academy.”⁵⁰⁴

437. In total, between 1998 and 2014, ExxonMobil contributed over \$30 million to think tanks and “grassroots” organizations that promoted climate science uncertainty.⁵⁰⁵

438. A 2008 peer-reviewed study published by researchers at the University of Central Florida identified conservative think tanks as the primary purveyors of climate skepticism literature.⁵⁰⁶ In a review of 141 climate skeptic documents published between 1972 and 2005, researchers found that 92 percent were linked to conservative think tanks, including several of the GCSCT’s members and “allocators,” such as CEI, CFACT, Frontiers of Freedom, the George C. Marshall Institute, and SEPP.

439. A 2013 peer-reviewed study published in PNAS found that corporate funding influences an organization’s position on climate change.⁵⁰⁷ The analysis found that organizations that received corporate funding were more likely to have written and disseminated “contrarian” texts undermining the scientific consensus of climate change than organizations that did not receive corporate funding.

⁵⁰⁴ STATEMENT OF THE COUNCIL OF THE NAS REGARDING GLOBAL CHANGE PETITION, NATIONAL ACADEMY OF SCIENCE (APR. 20, 1998), <https://www.nationalacademies.org/news/1998/04/statement-of-the-council-of-the-nas-regarding-global-change-petition#:~:text=The%20NAS%20Council%20would%20like,any%20other%20peer%2Dreviewed%20journal>.

⁵⁰⁵ Frontline, *The Power of Big Oil, Part Two: Doubt*, PBS (Apr. 26, 2022) (quoting Kert Davies, Director of the Climate Investigations Center).

⁵⁰⁶ Peter J. Jacques, Riley E. Dunlap & Mark Freeman, *The organisation of denial: Conservative think tanks and environmental scepticism*, 17 *Environmental Politics* 349-385 (2008), <https://doi.org/10.1080/09644010802055576>.

⁵⁰⁷ Justin Farrell, *Corporate Funding and Ideological Polarization About Climate Change*, 113 *PNAS* 92-97 (Nov. 23, 2015), <https://www.pnas.org/doi/10.1073/pnas.1509433112>.

440. Together, these studies suggest that the fossil fuel industry’s funding of “allocator” organizations contributed significantly to the production of climate denial literature and profoundly altered cultural discourse surrounding the issue of climate change and its impacts.

441. API and its member organizations also directly funded contrarian scientists. In 2003, Wei-Hock “Willie” Soon and Sallie Baliunas published a journal article titled “Proxy Climatic and Environmental Changes of the Past 1000 Years” denying the existence of anthropogenic climate change.⁵⁰⁸ In the article, the authors stated: “Across the world, many records reveal that the 20th century is probably not the warmest or a uniquely extreme climatic period of the last millennium.” The authors declared no conflict of interest in the article, but noted in the Acknowledgement section that the article was “supported by funds from the American Petroleum Institute.”

442. In a September 2007 “viewpoint” article published in *Ecological Complexity*, co-published by Soon, Baliunas, and others, the authors argued that anthropogenic climate change could not be responsible for declining polar bear populations, stating: “Any role of external forcing by anthropogenic greenhouse gases remains difficult to identify.... Climate models are simply not skillful for the projection of regional sea-ice changes in Hudson Bay or the whole Arctic. Alternative factors, such as increased human–bear interaction, must be taken into account in a more realistic study and explanation of the population ecology of WH polar bears.”⁵⁰⁹ In the Acknowledgement section of the paper, the authors noted the research was “partially supported by grants” from ExxonMobil, the American Petroleum Institute and the Charles G. Koch Charitable Foundation.

⁵⁰⁸ 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.jstor.org/stable/24868339> (last visited Oct. 15, 2023).

⁵⁰⁹ M.G. Dyck, et al., *Polar bears of western Hudson Bay and climate change: Are warming spring air temperature the “ultimate” survival control factor?*, 4 *ECOLOGICAL COMPLEXITY* 73-84 (Sept. 2007), <https://doi.org/10.1016/j.ecocom.2007.03.002>.

443. A Greenpeace investigation revealed that between 2001 and 2012, Willie Soon received \$1.3 million in corporate funding from oil and coal interests, including at least \$274,000 from **API** between 1994 and 2007; \$230,000 from Southern Company between 2005 and 2009; \$335,000 from **ExxonMobil** between 2005 and 2010; \$230,000 from The Charles G. Koch Charitable Foundation between 2005 and 2012; and \$115,000 from Donors Trust between 2011 and 2012.⁵¹⁰ The Texaco Foundation (**Chevron**) also funded a paper by Dr. Soon in the 1990s.

444. In February 2015, the Smithsonian announced in a press release that it was “conducting inquiries to address the allegations that Dr. Wei-Hock (Willie) Soon failed to disclose to journals the funding sources for his climate change research.”⁵¹¹ The institution denounced Soon’s conclusions on climate change, stating: “The Smithsonian does not support Dr. Soon’s conclusions on climate change. The Smithsonian’s official statement on climate change, based upon many decades of scientific research, points to human activities as a cause of global warming.”

445. Additionally, many other “scientists” that the Defendants funded were not scientists at all.

446. 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.

⁵¹⁰ Greenpeace, *Dr. Willie Soon: A Career Fueled by Big Oil and Coal*, GREENPEACE, <https://www.greenpeace.org/usa/fighting-climate-chaos/climate-deniers/koch-industries/dr-willie-soon-a-career-fueled-by-big-oil-and-coal/>.

⁵¹¹ 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.html (last visited Oct. 15, 2023).

447. 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.⁵¹²

448. Lord Monckton stated that those who warn of the dangers of climate change should be jailed, calling them “bogus.”⁵¹³ Heartland Institute currently promotes **135** of Lord Monckton’s scientific articles on climate modeling and climate change denial on its “policybot” search engine.⁵¹⁴

449. Heartland Institute also prominently displays CFACT’s Marc Morano on its current website to undermine scientific consensus.⁵¹⁵ Also, like Lord Monckton, Morano has no science credentials. Morano has a Bachelor of Arts in Political Science at George Mason University.⁵¹⁶

450. 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.

⁵¹² The Heartland Institute, *Christopher Monckton Of Brenchley*, THE HEARTLAND INSTITUTE <https://www.heartland.org/about-us/who-we-are/lord-christopher-monckton> (last visited Oct. 14, 2023).

⁵¹³ Monckton's push for an Australia Fox News, by Graham Readfearn, 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 Readfearn, *Monckton's push for an Australia Fox News*, ABC NEWS (Feb. 2, 2012) <https://www.abc.net.au/news/2012-02-02/readfearn-monckton-and-fox-news/3807130> (last visited Oct. 15, 2023).

⁵¹⁴ The Heartland Institute, *Policybot*, THE HEARTLAND INSTITUTE, www.heartland.org/policybot/index.html?q=monckton&fromDate=&toDate=#results (last visited Oct. 14, 2023).

⁵¹⁵ The Heartland Institute, *Marc Morano*, THE HEARTLAND INSTITUTE, <https://www.heartland.org/about-us/who-we-are/marc-morano> (last visited Oct. 14, 2023).

⁵¹⁶ *Id.*

451. Heartland has over **150** articles⁵¹⁷ 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 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.”

452. According to the Heartland Institute’s current webpage,⁵¹⁸ 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.

453. 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.

454. Bast is one of the co-editors of the “Climate Change Reconsidered”⁵¹⁹ 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.^{520 521}

⁵¹⁷ The website also features another 54 articles on the Committee for a Constructive Tomorrow (CFACT).

⁵¹⁸ The Heartland Institute, *Joseph Bast*, THE HEARTLAND INSTITUTE, <https://www.heartland.org/about-us/who-we-are/joseph-bast> (last visited Oct. 15, 2023).

⁵¹⁹ *Id.*

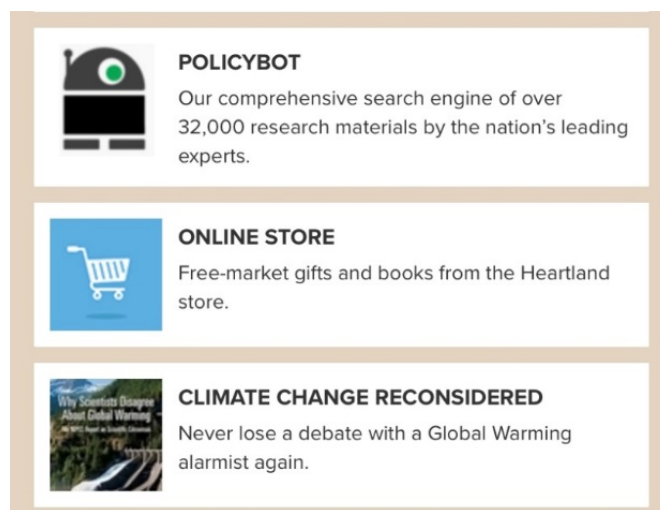
⁵²⁰ Daniel Libit, *Climate skeptics look to prove THEIR skeptics, like Obama, wrong*, CNBC (Jul. 7, 2014), <https://www.cnbc.com/2014/07/06/climate-skeptics-look-to-prove-their-skeptics-like-obama-wrong.html> (last visited Oct. 14, 2023).

⁵²¹ Joseph Bast and Sterling Burnett, *Heartland’s History and Future (Guest: Joe Blast)*, 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 Oct. 14, 2023).

455. 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 figure is derived from surveys with small sample sizes, and the questionnaire conflates belief in negligible global warming with belief in dangerous global warming.⁵²²

456. 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.⁵²³

457. To disseminate its literature, Heartland maintains a “policybot” which has a database of over **32,000** research materials by the nation’s leading experts:



458. Articles by Soon, Singer, Lord Monckton, Morano, and Bast appear on this “Policybot” promoting climate change denial.

⁵²² Joseph Bast and Roy Spencer, *The Myth of the Climate Change '97%*, WALL STREET JOURNAL (May 26, 2014), <https://www.wsj.com/articles/joseph-bast-and-roy-spencer-the-myth-of-the-climate-change-97-1401145980> (last visited Oct. 14, 2023).

⁵²³ Constance Lever-Tracy, *Routledge Handbook of Climate Change and Society*, ROUTLEDGE (Jul. 12, 2010).

459. Heartland holds climate conferences and publishes literature that has the “vener of scientific credibility.”⁵²⁴ 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.⁵²⁵

460. Heartland also sponsored a “petition-style attack” on the consensus viewpoint that fossil fuels cause global warming.⁵²⁶ Heartland published a ‘report’ on its website titled, “500 Scientists Whose Research Contradicts Man-Made Global Warming Scares.”⁵²⁷ 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.”⁵²⁸

461. 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.⁵²⁹ “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.⁵³⁰ 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”⁵³¹

⁵²⁴ 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 Oct. 14, 2023).

⁵²⁵ James Hoggan & Richard Littlemore, *Climate Cover-Up: The Crusade to Deny Global Warming* (2009), at 86.

⁵²⁶ *Id.* on 94.

⁵²⁷ *Id.*

⁵²⁸ *Id.*

⁵²⁹ *Id.*

⁵³⁰ *Id.*

⁵³¹ *Id.*

462. 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.

viii. Continued Direct Production of Climate Denial

463. In addition to funding climate denial through proxies, Exxon continued to publish its own reports calling into question the certainty of climate science until the mid-to-late-2000s.

464. In 1998, Robert Peterson, the CEO of Exxon's Canadian subsidiary Imperial Oil, published an article entitled, "A Cleaner Canada," in which he asserted: "One thing is clear in this debate. 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."⁵³²

465. In March 2000, Exxon published "Unsettled Science," a *New York Times* advertorial which continued to emphasize the uncertainties in climate science, stating that "[f]undamental gaps in knowledge leave scientists unable to make reliable predictions about future changes..."⁵³³ The advertorial misappropriated data from a study about fluctuating temperatures in the Sargasso Sea to support the assertion that the global climate was not warming, but cooling.

466. Responding to Exxon's misappropriation of his findings, the author of the study, Lloyd D. Keigwin, wrote a letter to Exxon's National Campaign Coordinator chastising the company for "exploiting" his data. He stated: "ExxonMobil has been misleading in its use of the Sargasso Sea data. There's really no way those results bear on the question of human-induced warming...."

⁵³² Robert Peterson, *A Cleaner Canada*, Imperial Oil (1998), <https://www.climatefiles.com/exxonmobil/imperial-oil/1998-imperial-oil-article-a-cleaner-canada-by-robert-peterson/>.

⁵³³ ExxonMobil, *Unsettled Science*, THE NEW YORK TIMES (Mar. 23, 2000), <https://www.documentcloud.org/documents/705605-xom-nyt-2000-3-23-unsettledscience>.

ExxonMobil is exploiting the data for political purposes when they could actually get much better press by supporting research into the role of the ocean in climate change.”⁵³⁴

467. But Exxon did not relent. As late as January 2004, ExxonMobil continued to publish deceptive advertorials, including “Weather and Climate,” which stated that: “scientific uncertainties continue to limit our ability to make objective, quantitative determinations regarding the human role in recent climate change or the degree and consequences of future change.”⁵³⁵

468. A peer-reviewed study found that 81 percent of Exxon’s and Mobil’s advertorials from 1989 through 2004 expressed doubt that climate change is real and caused by human activities.⁵³⁶ In comparison, 80 percent of the companies’ internal documents recognized the link between climate change and human activities. Based on this discrepancy, the researchers concluded that “ExxonMobil misled the public.”

469. In February 2006, ExxonMobil published “Tomorrow’s Energy: A Perspective on Energy Trends, Greenhouse Gas Emissions and Future Energy Options,” a report which stated: “While assessments such as those of the IPCC have expressed growing confidence that recent warming can be attributed to increases in greenhouse gases, these conclusions rely on expert judgment rather than objective, reproducible statistical methods. Taken together, gaps in the scientific basis for theoretical climate models and the interplay of significant natural variability make it very difficult to determine objectively the extent to which recent climate change might be the result of human actions. These gaps also make it difficult to predict the timing, extent and consequences of future climate change [A] causal linkage between the buildup of greenhouse

⁵³⁴ Lloyd D. Keigwin, *Letter from Woods Hole Oceanographic Institute to ExxonMobil*, WOODS HOLE OCEANOGRAPHIC INSTITUTION (Dec. 11, 2000), <https://www.climatefiles.com/bp/2000-letter-woods-hole-oceanographic-institute-exxonmobil/>.

⁵³⁵ *Weather and Climate*, ExxonMobil (Jan. 21, 2004), <https://www.documentcloud.org/documents/2080756-xom-2004-jan-21-weather-and-climate#document/p1/a371471>.

⁵³⁶ 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 Oct. 13, 2023).

gases in the atmosphere and the observed climate changes during the 20th century cannot be unequivocally established.”⁵³⁷

470. In September 2006, the United Kingdom’s prestigious national academy of sciences, the Royal Society, criticized ExxonMobil’s promotion of climate science uncertainty and denial. In a letter directed to an Exxon campaign director, the Society stated that Exxon’s publications present “an inaccurate and misleading impression of the evidence on the causes of climate change that is documented in the scientific literature.”⁵³⁸ The Society also chastised Exxon for portraying itself as “an industry leader” on climate change while continuing to publish climate skepticism and providing “more than \$2.9 million to organizations in the United States which misinformed the public about climate change through their websites,” asserting: “It is very difficult to reconcile the misrepresentations of climate change science in these documents with ExxonMobil’s claim to be an industry leader.”

471. In 2007, a congressional hearing convened by the House of Representatives Committee on Oversight and Government Reform exposed industry efforts to alter and inject uncertainty into climate change reports from *within* the US government, including an EPA Draft Report on the Environment.⁵³⁹

472. While serving as the chief of staff for George W. Bush's Council on Environmental Quality in 2005, former API lawyer Philip Cooney and his staff “made hundreds of separate edits to the government’s strategic plan for climate change research,” which “injected doubt in place of certainty, minimized the dangers of climate change, and diminished the human role in causing the

⁵³⁷ ExxonMobil, *Tomorrow’s Energy: A Perspective on Energy Trends, Greenhouse Gas Emissions and Future Energy Options*, EXXONMOBIL CORP (2006).

⁵³⁸ ExxonMobil Corp, *2006 Letter from ExxonMobil Vice President of Public Affairs Ken Cohen to the Royal Society*, EXXONMOBIL CORP, <http://www.climatefiles.com/ExxonMobil/2006-letter-from-ExxonMobil-vice-president-of-public-affairs-ken-cohen-to-the-royal-society/> (last visited Oct. 14, 2023)

⁵³⁹ *Allegations of Political Interference with Government Climate Change Science: Hearing Before the Comm. on Oversight and Government Reform*, 110th Cong. 21 (2007).

planet to warm.”⁵⁴⁰ After resigning from his White House position, Cooney quickly joined ExxonMobil.⁵⁴¹

ix. Impact on Public Perception of Climate Science

473. The fossil fuel industry’s climate uncertainty campaigns had a marked and measurable impact on the public’s perception of climate change and climate science. The creation of a 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 previously acknowledged.

474. 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.”⁵⁴² The GCSCT 1998 Action Memo mentions how public opinion can be swayed with fake science:

Charlton Research’s survey of 1,100 “informed Americans” suggests 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.”⁵⁴³

475. The propaganda has been successful. In 1997, Gallup polls found that more than ½ of Americans either did not believe or were unsure that there was scientific consensus regarding

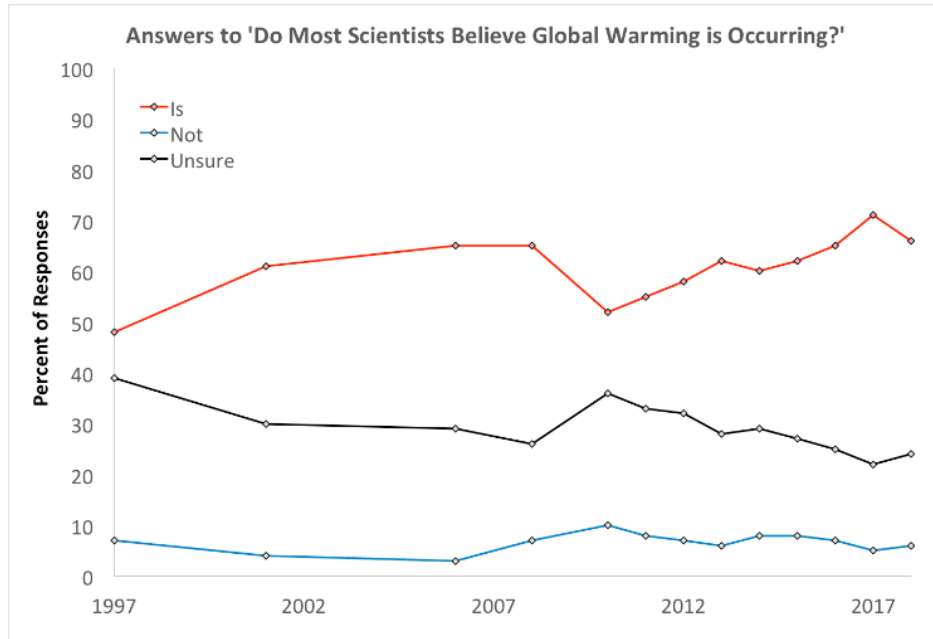
⁵⁴⁰ *Id.*

⁵⁴¹ Andrew C. Revkin, *Former Bush Aide Who Edited Reports is Hired By Exxon*, THE NEW YORK TIMES (June 15, 2005), <https://www.nytimes.com/2005/06/15/politics/former-bush-aide-who-edited-reports-is-hired-by-exxon.html>.

⁵⁴² 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.lagout.org/Others/Cambridge.University.Press-How.Well.Do.Facts.Travel.2010.RETAIL.EBook.pdf> (last visited Oct. 13, 2023).

⁵⁴³ Joe Walker, *Global Climate Science Communications Action Plan*, GLOBAL CLIMATE SCIENCE COMMUNICATIONS TEAM (GCSCT) (Apr. 3, 1998), at 2, <https://insideclimatenews.org/wp-content/uploads/2015/12/Global-Climate-Science-Communications-Plan-1998.pdf> (last visited Oct. 15, 2023).

climate change.⁵⁴⁴ 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.



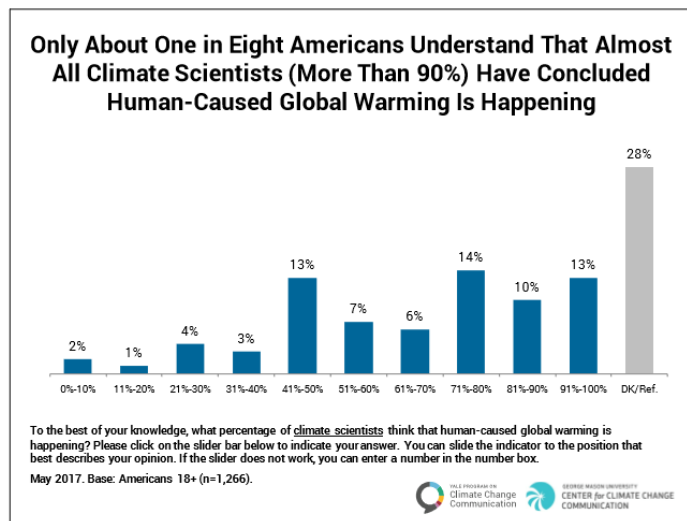
476. The Gallup polling data reflects that, consistently over the past 20 years, less than 10% of Americans have believed that most scientists do not believe global warming is happening. Most Americans were unaware of the expert consensus.

477. 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.⁵⁴⁵ 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.⁵⁴⁶

⁵⁴⁴ 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 Oct. 14, 2023).

⁵⁴⁵ 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).

⁵⁴⁶ John Cook, Geoffrey Supran, Stephan Lewandowsky, Naomi Oreskes, & Ed Maibach *America Mislead: How Americans Were Deliberately Misled About Climate Change*, SCIENCE DEFENSE, (2019), at 21.



² Cook, J., Oreskes, N., Doran, P. T., Anderegg, W. R. I., Verheggen, B., Maibach, E. W., Carlton, J. S., Lewandowsky, 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: 10.1088/1748-9326/11/4/048002

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.



478. 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.⁵⁴⁷ Those findings are attached as **Exhibit 36**. 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.

479. The researchers also 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."⁵⁴⁸

⁵⁴⁷ *Id.*

⁵⁴⁸ *Id.*

480. The purpose of undermining public opinion was to sell products and the GCC and its members were—and are—wildly successful.

481. 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.”⁵⁴⁹ The IPCC defined “very high confidence” as at least a 9 out of 10 chance.⁵⁵⁰ 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.

482. 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)⁵⁵¹, 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.”⁵⁵²

⁵⁴⁹ 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-1.pdf> (last visited Oct. 15, 2023).

⁵⁵⁰ *Id.*

⁵⁵¹ 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 headquarters are located 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 Oct. 15, 2023).

⁵⁵² Bloomberg, *Leaked: The Oil Lobby's Conspiracy to Kill Off California's Climate Law*. BLOOMBERG (Nov. 25, 2014), <https://www.bloomberg.com/news/articles/2014-11-25/leaked-the-oil-lobbys-conspiracy-to-kill-off-californias-climate-law?leadSource=verify%20wall> (last visited Oct. 14, 2023).

483. The GCSCT Action Plan identified an array of fossil fuel industry trade associations and front groups, fossil fuel companies, and free market think tanks to underwrite and execute the plan, including the National Mining Association, whose members are Defendants BHP and Rio Tinto.

484. 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.⁵⁵³

485. 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.⁵⁵⁴ So, the Defendants funded a small group of maverick scientists who maintain that global warming is not a threat.⁵⁵⁵

486. The Nongovernmental International Panel on Climate Change (NIPCC) is a climate change denial advocacy group established by S. Fred Singer's Science & Environmental Policy Project, and supported by the Heartland Institute,⁵⁵⁶ in opposition to the assessment reports of the Intergovernmental Panel on Climate Change (IPCC) on the issue of global warming⁵⁵⁷ located at the following web address: www.climatechangereconsidered.org.

⁵⁵³ James Hoggan & Richard Littlemore, *Climate Cover-Up: The Crusade to Deny Global Warming* (2009), at 81.

⁵⁵⁴ 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 14, https://www.ucsusa.org/sites/default/files/2019-09/ExxonMobil_report.pdf (last visited Oct. 15, 2023).

⁵⁵⁵ *CBC Fifth Estate: The Climate Denial Machine*, LIVE JOURNAL, (Nov. 15, 2006), <http://bit.ly/2BsXMIL> (last visited Oct. 14, 2023).

⁵⁵⁶ Nongovernmental International Panel on Climate Change, *Climate Change Reconsidered II*, THE HEARTLAND INSTITUTE, <http://climatechangereconsidered.org/> (last visited Oct. 14, 2023).

⁵⁵⁷ 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 Oct. 14, 2023).

x. Targeting School Children

487. The GCSCT 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.

488. So, under the guise of “present[ing] 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.

489. 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).

490. 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, attached as **Exhibit 37**.

491. 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 2017.⁵⁵⁸ Heartland claims on its website, that it reached over 300,000 K-12 science teachers.

492. 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 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.⁵⁵⁹

493. 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.”⁵⁶⁰

494. 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.⁵⁶¹ “It’s not science, but it’s dressed up to look like science,” said NCSE executive director Ann Reid. “It’s clearly intended to confuse teachers.”⁵⁶²

4. Even Today, Fossil Fuel Companies and Their Executives Continue to Make Statements Emphasizing the Uncertainty of Climate Change

⁵⁵⁸ 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 Oct. 14, 2023).

⁵⁵⁹ *Id.*

⁵⁶⁰ *Id.*

⁵⁶¹ 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 Oct. 14, 2023).

⁵⁶² *Id.*

495. As recently as 2020, major fossil fuel companies and their executives continued to make public and misleading statements about the realities of climate change, instilling doubt in the public and consumers downplaying the urgent need to transition away from a carbon-based energy system. At Exxon’s May 2015 annual shareholder meeting, then-CEO Rex Tillerson argued that climate science is not certain enough to justify urgent regulatory action, stating: “What if everything we do, it turns out our models are lousy, and we don't get the effects we predict? Mankind has this enormous capacity to deal with adversity, and those solutions will present themselves as those challenges become clear.”⁵⁶³ Rex Tillerson has consistently spread uncertainty about climate change on behalf of ExxonMobil.⁵⁶⁴

496. A November 2015 API primer, “Climate Change and Energy,” recognized the existence of anthropogenic climate change, but continued to emphasize the “uncertainties” of climate science, stating:⁵⁶⁵

While we rely on them for most of our energy and will likely do so for years to come, as the Environmental Protection Agency (EPA) notes: ‘Scientists are certain that human activities are changing the composition of the atmosphere, and that increasing the concentration of greenhouse gases will change the planet’s climate. However, they are not sure by how much it will change, at what rate it will change, or what the exact effects will be.’

497. In April 2017, John Watson, then-CEO and chairman of the board at Chevron appeared on an episode of the Columbia Energy Exchange podcast. In response to a question regarding

⁵⁶³ *Exxon CEO: Let’s wait for science to improve before solving problem of climate change*, DALLAS NEWS (May 27, 2015), <https://www.dallasnews.com/business/energy/2015/05/28/exxon-ceo-let-s-wait-for-science-to-improve-before-solving-problem-of-climate-change/>.

⁵⁶⁴ *Hearing before the .S. Comm. on Energy and Environment*, 111th Cong. 91 (statement by Rex Tillerson), <https://perma.cc/cz2f-936s>; *CEO Speaker Series: a conversation with Rex W Tillerson*, COUNCIL ON FOREIGN RELATIONS (June 27, 2012), <https://perma.cc/724U-ZQRR>; *Rex Tillerson on 'Charlie Rose' 2013*, PBS (March 7, 2013), <https://perma.cc/ers4-rcey>; *Hearing before the Comm. on Foreign Relations on the nomination of Rex Tillerson to be Secretary of State* (Jan 11, 2017), <https://perma.cc/99EW-ZNKS>.

⁵⁶⁵ *Climate Change and Energy*, AMERICA’S OIL AND NATURAL GAS INDUSTRY (Nov. 2015), <http://web.archive.org/web/20160309181855/http://www.api.org/~media/Files/Policy/Environment/Climate-Change-and-Energy/CLIMATE-PRIMER.pdf?la=en>.

“debate” over whether climate change is occurring, Watson emphasized the uncertainty surrounding human-caused climate change, stating: “There's no question there's been some warming; you can look at the temperature data and see that. The question and debate are around how much, and how much is caused by humans” (emphasis added). This statement directly contradicted the fossil fuel industry’s long-standing knowledge that the *vast majority* of global average temperature rise is caused by CO2 emissions from the use of their products.

498. In a March 2018 Chevron report titled “Climate Change Resilience: A Framework for Decision Making,” the company deceptively mischaracterizes the conclusions of the IPCC regarding the degree to which human-made emissions contribute to global climate change, stating: “[t]he IPCC Fifth Assessment Report concludes that there is warming of the climate system and that warming is due in part to human activity [emphasis added].”⁵⁶⁶ In contrast, the IPCC Fifth Assessment report stated: “[i]t is extremely likely that human influence has been the dominant cause of the observed warming since the mid-20th century [emphasis added].”⁵⁶⁷ The report defined “extremely likely” as 95 to 100 percent certainty.

499. In November 2019, ExxonMobil attempted to persuade the European Union Commission to lose strict carbon dioxide emission standards from the Green Deal in order to hinder constraints on its own productivity. This demonstrates ExxonMobil’s continuous attempts at delaying or backsliding on meaningful climate policy in apparent contrast to its environmentally friendly marketing.⁵⁶⁸

⁵⁶⁶ Chevron, *Climate Change Resilience: A Framework for Decision Making*, CHEVRON (March 2018), <https://www.chevron.com/-/media/shared-media/documents/climate-change-resilience.pdf>.

⁵⁶⁷ IPCC, *AR5 Synthesis Report: Climate Change 2014*, IPCC, Page 6, Figure SMP.3, <https://www.ipcc.ch/report/ar5/syr/> (last visited Oct. 15, 2023).

⁵⁶⁸ Influence Map, *ExxonMobil Attempts to Influence the European Green Deal*, INFLUENCE MAP (March 6, 2020), <https://influencemap.org/report/An-InfluenceMap-Note-ExxonMobil-Lobbies-the-EU-Commission-add01200dc694b00e9ac4bebf660227b#:~:text=Notes%20from%20the%20November%2021st,EU's%20strict%20CO2%20vehicle%20tailpipe.>

500. As recently as 2020, ConocoPhillips’ stated “Climate Change Position” on its website continued to emphasize the “uncertainties” of climate change. While the company acknowledged that human-caused greenhouse gas emissions “can lead to adverse changes in global climate,” it also stated: “[w]hile uncertainties remain, we continue to manage greenhouse gas emissions in our operations and to integrate climate change related activities and goals into our business planning” (emphasis added).⁵⁶⁹

J. Modernization of Disinformation: Turning to New Methods

501. While Defendants now outsource outright climate denial, their public-facing deception continues to this day through a variety of “greenwashing” campaigns. Around the turn of millennium, Defendants shifted their public statements from denying that climate change was real or caused by burning fossil fuels to insisting that climate change was not their fault and that they, and their fossil fuel products, were both essential to solving the problem. In 1999, Shell acknowledged this shift in the industry’s public promotion. In a report on its new advertising campaign wherein Shell pledged, but did not substantiate, “real goals and investment” in renewable energy, Shell’s Chairman stated, “The advertising campaign is not designed to sell Shell products and services in the traditional sense” and that “[w]e need to reassure people – publicly – of our commitment to . . . balancing our own legitimate commercial interests with the wider need to protect and enhance the environment.”⁵⁷⁰ The greenwashing that ensued was aimed to convince the public that the other aspects of Defendants’ business made it so that the climate-changing nature of their products did not matter.

⁵⁶⁹ ConocoPhillips, Climate Change Position, CONOCOPHILLIPS (2020), <https://web.archive.org/web/20201028115814/https://www.conocophillips.com/sustainability/integrating-sustainability/sustainable-development-governance/policies-positions/climate-change-position/>.

⁵⁷⁰ SHELL, LISTENING AND RESPONDING: THE PROFITS & PRINCIPLES ADVERTISING CAMPAIGN 2-3, 7 (1999), available at <https://www.documentcloud.org/documents/4425677-Shell-Documents-Trove-2-10>.

502. In the following decades and still today, Defendants’ greenwashing campaigns have included overstated investments in renewable energy, deceptive advertisements promoting their companies and products as “climate-friendly”, unsubstantiated net-zero pledges, and more. These campaigns portray Defendants as leaders devoted to combatting climate change. But despite advertisements and publicized company initiatives, Defendants’ efforts do not demonstrate true investment in renewable energy or shifts in business practices that would tangibly offset the impact of their fossil fuel operations, thereby deceiving consumers and the people of the Municipalities of Puerto Rico.

1. Defendant companies continue to support the publication of climate denial through proxies, increasingly funding conservative think tanks and lobbyists through dark money channels like Donors Trust through today.

503. In response to increasing backlash, the fossil fuel Defendants began to channel their donations to climate obstructionist organizations through third party, dark money organizations like Donors Trust and Donors Capital Fund that obscure the identity of the donor. While Defendants state that they prioritize supporting greener policies, their lobbying efforts and backdoor funding says otherwise. In fact, several Defendants have been listed as the “World’s Most Obstructive Companies on Climate Policy.”⁵⁷¹ Companies on this list were assessed for their climate policy advocacy and the intensity of which they were engaged in the process. Within this list, **ExxonMobil** ranked first in the world for most obstructive, with **Chevron** placing second. Defendants **BP** ranked ninth, **ConocoPhillips** ranked seventh, and **Occidental** ranked 22nd.

504. Defendants have been using the political sphere to enhance their industry goals for years. In 2021, ExxonMobil’s Senior Lobbyist Keith McCoy stated, on camera, that ExxonMobil uses

⁵⁷¹ *The World’s Most Obstructive Companies on Climate Policy*, INFLUENCEMAP (Nov. 4, 2021), <https://influencemap.org/pressrelease/The-World-s-Most-Obstructive-Companies-on-Climate-Policy-51b2f34e71d4cf9b1eef19bb3d8ef484> (last visited Oct. 11, 2023).

“shadow groups” to combat climate change mitigation.⁵⁷² He further discussed that the company employs strategies to cut climate provisions from the Build Back Better bill and that ExxonMobil and other oil companies’ rely on trade associations like the API to serve as scapegoats at congressional hearings to avoid public scrutiny.

505. Pertaining to ALEC and its most recent lobbying efforts, ALEC has continued its battle against clean energy by creating a template for state legislatures to use in order to ban states “from contracting with or investing in businesses that divest from coal, oil or natural gas companies.”⁵⁷³ ALEC provided the model legislation for the Energy Discrimination Elimination Act, which was written on behalf of ALEC's private sector members, including tobacco, fossil fuel, and electric utility companies.⁵⁷⁴ A 2019 study which looked into these ALEC templates found that from 2010 to 2018, state legislators proposed approximately 2,900 measures based on ALEC templates and over 600 of them were passed into law.⁵⁷⁵

506. Between 2003 to 2007, the ExxonMobil Foundation and the Koch Affiliated Foundations were major corporate funders of highly visible climate denial organizations.⁵⁷⁶ But in 2007, Exxon declared it would no longer fund a several organizations that published climate denial, stating: “In 2008, we will discontinue contributions to several public policy research groups whose position

⁵⁷² Alex Thompson, *Revealed: ExxonMobil’s lobbying war on climate change legislation*, CHANNEL 4 (June 30, 2021), <https://www.channel4.com/news/revealed-ExxonMobils-lobbying-war-on-climate-change-legislation> (last visited Oct. 11, 2023).

⁵⁷³ Elliot Negin, *How the American Legislative Exchange Council Turns Disinformation into Law*, Union of Concerned Scientists (June 29, 2022), <https://blog.ucsusa.org/elliott-negin/how-the-american-legislative-exchange-council-turns-disinformation-into-law/> (last visited Oct. 11, 2023).

⁵⁷⁴ *Id.*

⁵⁷⁵ Rob O’Dell, et al., *Copy, Paste, Legislate*, USA TODAY (April 3, 2019), <https://www.usatoday.com/pages/interactives/asbestos-sharia-law-model-bills-lobbyists-special-interests-influence-state-laws/> (last visited Oct. 11, 2023).

⁵⁷⁶ Robert Brulle, *Institutionalizing delay: foundation funding and the creation of US climate change counter-movement organization*, CLIMATIC CHANGE (Dec. 21, 2013), <https://link.springer.com/article/10.1007/s10584-013-1018-7>.

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.”⁵⁷⁷

507. After this announcement, contributions to climate denial groups from Donors Trust and Donors Capital Fund increased dramatically. Donors Trust, is an American non-profit donor-advised fund, founded in 1999 with the goal of "safeguarding the intent of libertarian and conservative donors" and its donors remain anonymous.⁵⁷⁸ 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.⁵⁷⁹

508. In 2003, only 3.3 percent of funding for climate denial organizations came from Donors Trust/Donors Capital Fund. By 2010, that percentage rose to 23.7 percent.⁵⁸⁰ Though traceable funding from oil companies to climate denial front groups has slowly declined in recent years, “anonymous” contributions from donor-advised organizations like Donors Trust and Donors Capital Funds have sharply increased.⁵⁸¹ A 2013 Greenpeace report documented the same pattern.

See below:

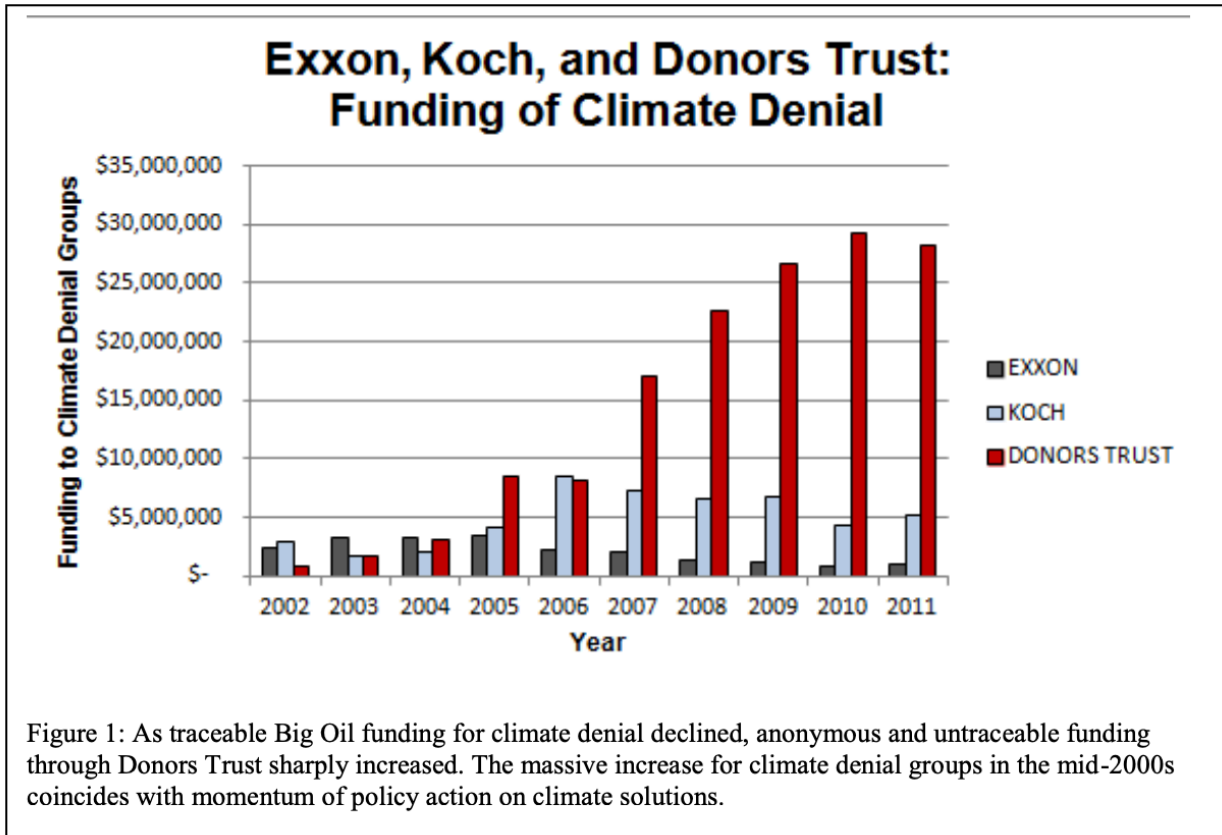
⁵⁷⁷ ExxonMobil, *2007 Corporate Citizenship Report*, EXXONMOBIL (Dec. 31, 2007).

⁵⁷⁸ 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-phila.html> (last visited Oct. 11, 2023).

⁵⁷⁹ Donors Trust, *Donors Trust's New CEO*, DONORS TRUST (Sept. 22, 2015), <https://www.donorstrust.org/philanthropy/donorstrusts-new-ceo/> (last visited Oct. 11, 2023).

⁵⁸⁰ Robert Brulle, *Institutionalizing delay: foundation funding and the creation of US climate change counter-movement organization*, CLIMATIC CHANGE (Dec. 21, 2013), <https://link.springer.com/article/10.1007/s10584-013-1018-7>.

⁵⁸¹ GreenPeace, *Donors Trust: The shadow operation that has laundered \$146 million in climate-denial funding*, GREENPEACE (2013), <https://www.greenpeace.org/usa/wp-content/uploads/legacy/Global/usa/planet3/PDFs/Donor's%20Trust%20-%20Laundering%20Climate%20Denial%20Funding.pdf> (last visited Oct. 11, 2023).



509. From 2002 and 2011, DonorsTrust and Donors Capital Fund contributed \$146 million to climate denial groups.⁵⁸²

510. In 2010, a dozen climate denial groups, such as the Koch-founded Americans for Prosperity, as well as Committee for a Constructive Tomorrow (CFACT), received between 30 percent to 70 percent of their funding from Donors Trust.⁵⁸³

⁵⁸² Aliya Haq, *REVEALED: Donors Trust is the Secret ATM Machine for Climate Denier*, GREENPEACE (Feb. 15, 2013), <https://www.greenpeace.org/usa/revealed-donors-trust-is-the-secret-atm-machine-for-climate-deniers/> (last visited Oct. 11, 2023).

⁵⁸³ GreenPeace, *Donors Trust: The shadow operation that has laundered \$146 million in climate-denial funding*, GREENPEACE (2013), <https://www.greenpeace.org/usa/wp-content/uploads/legacy/Global/usa/planet3/PDFs/Donor's%20Trust%20-%20Laundering%20Climate%20Denial%20Funding.pdf> (last visited Oct. 11, 2023).

511. In December 2019, Heartland’s dark money funding from Donors Trust to undermine scientific consensus on climate change was exposed.⁵⁸⁴ Heartland’s chief strategist, James Taylor, told undercover reporters that Donors Trust is now directing between two thirds and three quarters of its budget to Heartland to support its climate-skeptical positions and claims that this is his personal doing. To support its denialism methods, Heartland received nearly a million dollars from ExxonMobil and \$13.5 million in dark money contributions from Donors Trust. 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 GCSCCT Action Memo.

512. Upon information and belief, Defendants have continued to contribute money to trade associations like API, think tanks, and front groups that fight against climate action and misrepresent the policy debate through DonorsTrust and Donors Capital Funds. These organizations act as “middlemen” for companies to contribute to their interests without directly interacting with groups or making their donations known. Funding these groups allows companies like the Defendants to maintain their image of being good-faith partners on climate while still delaying any meaningful transition to clean energy.

513. This complex method of payments, where Defendants pay one entity who then pays the climate denial companies may also be found with the climate denial group Global Warming Policy Foundation (GWPF). GWPF has been very outspoken against the government’s net zero policy.⁵⁸⁵

⁵⁸⁴ Katarina Huth, *The Heartland Lobby*, CORRECTIVE (Feb. 11, 2020), <https://correctiv.org/en/top-stories-en/2020/02/11/the-heartland-lobby/> (last visited Oct. 15, 2023).

⁵⁸⁵ Horton, Helena & Adam Bychawski, Climate sceptic thinktank received funding from fossil fuel interests, *The Guardian* (May 4, 2022), <https://www.theguardian.com/environment/2022/may/04/climate-sceptic-thinktank-received-funding-from-fossil-fuel-interests>.

Despite claiming that it is independent of the fossil fuel industry, tax records indicate that one of GWPF's donors has \$30 million worth of shares for 22 companies working in the fossil fuel industry.⁵⁸⁶ Further, GWPF received donations in 2018 and 2020 worth \$210,525 from the Sarah Scaife Foundation.⁵⁸⁷ This US-based foundation has \$30 million worth of shares in 22 energy companies, just like the anonymous donor to GWPF. The foundation's shares include \$9 million in ExxonMobil and \$5.7 million in Chevron, according to the foundation's financial filings.⁵⁸⁸

514. In 2009, the Independent Petroleum Association of America (IPAA) and FTI Consulting founded Energy In Depth (EIA),⁵⁸⁹ an industry-wide campaign to "combat new environmental regulations, especially with regard to hydraulic fracturing."⁵⁹⁰ Although EIA identifies itself as a "project of America's small, independent oil and natural gas producers,"⁵⁹¹ in reality, the campaign's founding funders included some of the world's largest petroleum producers, including XTO Energy (**Exxon**), **Occidental** Petroleum, **BP**, Anadarko (**Occidental**), Marathon, **Chevron**, **Shell**, and **API**, among others.⁵⁹²

515. In 2012, API contributed \$25,000 to FTI for "Energy Outreach" and \$100,000 to IPAA.⁵⁹³ In an October 2014 "Technical Paper," FTI describes EID as "a research, education and rapid response platform specifically focused on telling the story of unconventional development [fracking]," designed to "say, do and write things that individual company employees cannot and

⁵⁸⁶ *Id.*

⁵⁸⁷ *Id.*

⁵⁸⁸ *Id.*

⁵⁸⁹ DeSmog, *Energy In-Depth Profile*, DESMOG, <https://www.desmog.com/energy-in-depth/>.

⁵⁹⁰ IPPA, "*Hydraulic Fracturing Under Attack*" *Memo*, DESMOG (June 5, 2009), <https://www.desmog.com/wp-content/uploads/files/HFUnderFire.pdf>.

⁵⁹¹ Brendan DeMelle, "*Energy In Depth*" *Was Created By Major Oil and Gas Companies According to Industry Memo*, DESMOG (Feb. 17, 2011), <https://www.desmog.com/2011/02/17/energy-depth-was-created-major-oil-and-gas-companies-according-industry-memo/>.

⁵⁹² IPPA, "*Hydraulic Fracturing Under Attack*" *Memo*, DESMOG (June 5, 2009), <https://www.desmog.com/wp-content/uploads/files/HFUnderFire.pdf>.

⁵⁹³ IRS Form 990-O for American Petroleum Institute (2012), https://projects.propublica.org/nonprofits/display_990/130433430/2013_12_EO%2F13-0433430_990O_201212.

should not.”⁵⁹⁴ In a post titled, ‘The Climate Benefits of Natural Gas,’ EID argued that there was no evidence that fracking exacerbates climate change, stating: “You’ve probably heard environmental activists attack hydraulic fracturing (fracking) because they say it worsens climate change. But like so much of the anti-fossil fuel “Keep It In the Ground” campaign, what they are saying has no basis in science or evidence.”⁵⁹⁵

516. 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 ExxonMobil, Shell, Chevron, and BP since December 2015.⁵⁹⁶

517. 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.⁵⁹⁷ The report also reveals that the companies spent \$63 million to API since 2015.⁵⁹⁸

518. Annually, Influence Map found that ExxonMobil, Shell, Chevron, and BP alone were spending a total of **\$135 million** a year just on climate lobbying.⁵⁹⁹

519. Indeed, though ExxonMobil has publicly pledged to stop funding climate denial organizations,⁶⁰⁰ reports have shown that ExxonMobil has not come through on this promise. In

⁵⁹⁴ FTI Consulting, *Managing Aboveground Risks: Experience from the United States*, TECHNICAL PAPER (Oct. 2014), <https://www.documentcloud.org/documents/6571135-FTI-Consulting-and-Energy-in-Depth>.

⁵⁹⁵ *The Climate Benefits of Natural Gas*, EID (2019), <http://web.archive.org/web/20190920213516/https://eidclimate.org/natural-gas-climate-change/>.

⁵⁹⁶ InfluenceMap, *Big Oil’s Real Agenda on Climate Change: How the oil majors have spent \$1b since Paris on narrative capture and lobbying on climate*, INFLUENCEMAP (Mar. 2019), <https://influencemap.org/report/How-Big-Oil-Continues-to-Oppose-the-Paris-Agreement-38212275958aa21196dae3b76220bddc> (last visited Oct. 15, 2023).

⁵⁹⁷ *Id.*

⁵⁹⁸ *Id.* at 14.

⁵⁹⁹ *Id.* at 10.

⁶⁰⁰ Adam, David, *ExxonMobil to cut funding to climate change denial groups*, THE GUARDIAN (May 28, 2008), <https://www.theguardian.com/environment/2008/may/28/climatechange.fossilfuels>.

fact, reports reveal that ExxonMobil continued to contribute almost \$40 million to climate denialist groups, organizations, and think tanks between 1998 and 2019.⁶⁰¹

520. At least eight trade associations that fight against environmental regulations in the US still have Shell and BP as active members.⁶⁰² Investigations have revealed that these organizations are a part of the vast network of state and regional trade associations that, in at least one instance, boasted about foiling the same carbon-reduction regulations that the Shell and BP claim to support. Shell and BP make an effort to defend their continued membership by saying that they want to reform the trade associations or that they intend to reassess their membership in the future. Despite these claims, their continued membership goes directly against their climate pledges because they continue to fund lobbying operations that undermine those very same pledges.

521. For example, Shell and BP support the Alliance of Western Energy Consumers, which fought against the state of Oregon's attempts to impose a price on carbon emissions in 2019. The Alliance of Western Energy Consumers, a powerful industry group feigning the appearance of a grassroots organization representing individuals rather than corporations, "defeated all carbon pricing bills" in Oregon during the state legislative session.⁶⁰³ Both Shell and BP assert that they are firmly in favor of carbon pricing, including in Oregon. However, the recipients of emails from Alliance of Western Energy Consumers at the time included a number of BP and Shell personnel.

522. Another example is the Petroleum Association of Wyoming (PAW). PAW joined a lawsuit in 2018 to allow the leasing of public lands for oil and gas drilling without assessing the

⁶⁰¹ *ExxonMobil Foundation & Corporate Giving to Climate Change Denier & Obstructionist Organizations*, UNION OF CONCERNED SCIENTISTS (2020), <https://ucs-documents.s3.amazonaws.com/global-warming/ExxonMobil-grants-2020.pdf>.

⁶⁰² Boren, Zach, et al., *Revealed: BP And Shell Back Anti-Climate Lobby Groups Despite Pledges*, HUFFINGTON POST (Sept. 28, 2020), https://www.huffingtonpost.co.uk/entry/bp-shell-climate_n_5f6e3120c5b64deddeed6762.

⁶⁰³ *Id.*

climate impacts.⁶⁰⁴ Executives and personnel from BP, Occidental, ConocoPhillips, and Exxon sit on PAW's board and management committee.⁶⁰⁵ Despite these Defendants' public statements for lowering emissions, they continue to support any and all opportunities to further their exploratory drilling.

523. BP and Shell are also members of the National Ocean Industries Association (NOIA); Chevron and Exxon executives are on NOIA's board. NOIA successfully lobbied the Trump administration to open the US's continental shelf to oil drilling.⁶⁰⁶ This was used to open areas containing up to 45 billion barrels of oil and essentially abandon chances of meeting Paris climate goals. NOIA also lobbied the Trump administration to forego evaluations of wider climate impacts from oil and gas projects in order to expediate the process of approving major infrastructure.⁶⁰⁷ BP lobbied in support of such changes.⁶⁰⁸

524. Most recently, the attorneys of the Southern District of New York released a sentencing memo on an Israeli private investigator, Aviram Azari, who pled guilty to running an international hacking scheme that targeted ExxonKnew climate advocates.⁶⁰⁹ Several years ago, New York's and Massachusetts' attorneys general were probing ExxonMobil for documents that showed

⁶⁰⁴ Eakin, Britain, *Judge Cites Climate Change in Block of Wyoming Drilling*, Courthouse News Service, (Mar. 20, 2019), <https://www.courthousenews.com/judge-cites-climate-change-in-block-to-wyoming-drilling/> (last visited Oct. 13, 2023).

⁶⁰⁵ Petroleum Association of Wyoming, *Board of Directors*, PAW, <https://pawyo.org/board-of-directors/> (last visited Oct. 13, 2023).

⁶⁰⁶ Sturgis, Sue, *The energy lobbyists linked to Trump's offshore drilling plans*, FACING SOUTH (Apr. 14, 2017), <https://www.facingsouth.org/2017/04/energy-lobbyists-linked-trumps-offshore-drilling-plans> (last visited Oct. 13, 2023).

⁶⁰⁷ *Comments on the Council on Environmental Quality's (CEQ) Proposed Rule "Update to the Regulations Implementing the Procedural Provisions of the National Environmental Policy Act,"* (Mar. 10, 2020), https://www.noia.org/wp-content/uploads/2020/03/Chamber-Led-Business-Labor-Coalition-Comments-on-CEQ-NEPA-Proposed-Rule-3_10_2020.pdf (last visited Oct. 13, 2023).

⁶⁰⁸ Carter, Lawrence, *BP lobbied Trump to weaken climate safeguards on new oil and gas projects*, Unearthed (Jan. 23, 2020), <https://unearthed.greenpeace.org/2020/01/23/bp-lobbied-trump-climate-change-oil/> (last visited Oct. 13, 2023).

⁶⁰⁹ Satter, Raphael & Christopher Bing, *Mercenary hackers stole data that Exxon later cited in climate lawsuits, US prosecutors say*, Reuters (Oct. 12, 2023), <https://www.reuters.com/world/us/mercenary-hackers-stole-data-that-exxon-later-cited-climate-lawsuits-us-2023-10-12/>.

Exxon’s knowledge concerning the impact of their fossil fuel products on climate change. ExxonKnew is a widely known organization that is dedicated to supporting the dissemination of these documents. On October 12, 2023, federal prosecutors said in the sentencing memo that hackers hired by Aviram Azari stole communications between the climate activists and were later used in court by Defendant ExxonMobil.⁶¹⁰ ExxonMobil has not been charged with involvement in this, but the sentencing memo heavily implicates ExxonMobil’s participation in the hacking scheme, likely in furtherance and defense of the Defendants’ racketeering enterprise.

2. Promoting Fossil Fuels as “Green” Products to Mislead Consumers

525. Decades ago, Big Tobacco used advertising to mislead the public about the lethal consequences of smoking cigarettes. Specifically, Big Tobacco marketed certain cigarette products as “mild,” “lowtar,” and “light,” leading consumers to believe that smoking them was a less harmful to their health. Today, Defendants have once again utilized Big Tobacco’s techniques by promoting alternative, “clean” fossil fuel products, leading consumers to believe that they are environmentally friendly substitutes for conventional fossil fuels. As a result, consumers still use these products, unknowingly continuing to consume products that are just as destructive to the environment due to Defendant’s misleading and fraudulent marketing.

526. For years now, Defendants have made an effort to mislead consumers by portraying some fossil fuel products as “clean,” “green,” or “low carbon.” However, just like other fossil fuel products, these purportedly “clean” fossil fuel products still directly contribute to climate change.

527. The following are examples of Defendants marketing and selling certain gasoline or diesel products as “clean” or “green” products that a reasonable consumer would interpret to suggest that these products are not as harmful as normal fossil fuel products:

⁶¹⁰ Budryk, Zack, *Prosecutors: Stolen Activist Emails Were Later Cited In Court By Exxon, Society of Environmental Journalists* (Oct. 13, 2023), <https://www.sej.org/headlines/prosecutors-stolen-activist-emails-were-later-cited-court-exxon> (last visited Oct. 17, 2023).

- a. Exxon has sold its Synergy product since at least 2016. Exxon frequently claims that Synergy fuels are "clean" or "cleaner" than other gasolines.⁶¹¹ Exxon even references Synergy fuel in its climate plan, stating it may help lower GHG emissions, give cars better gas mileage, and lengthen the life of a car's engine.⁶¹²
- b. Shell has been selling and marketing its Shell V-Power Nitro Fuel since at least 2008. Shell claims that this gasoline is "cleaner" and removes carbon deposit buildup in car engines.⁶¹³ Shell also claims that it generally uses lower-carbon products and that their own products produce fewer emissions.⁶¹⁴
- c. Chevron has been selling and marketing its newest green version of Chevron with Techron product since at least 2006. Chevron frequently states that its Techron fuel is "cleaner" than alternatives⁶¹⁵ Chevron states that the product can help lower emissions, give cars better gas mileage, and lengthen the life of a car's engine.⁶¹⁶
- d. BP has been selling and marketing its Invigorate gasoline since at least 2016. BP claims that this gasoline cleans dirt deposits and gives the benefits of better gas mileage.⁶¹⁷ BP also claims that their BP Diesel with Invigorate can reduce emissions.⁶¹⁸
- e. ConocoPhillips sells and advertises its 76-brand gasoline. ConocoPhillips claims in its marketing materials for its 76-brand gasoline that its fuel products will "clean" a car's engine thus producing "lower emissions." The brand claims that its gasoline is generally "better for the environment."⁶¹⁹

528. API has also taken part in greenwashing. API has been fundamental in creating the misunderstanding that natural gas is a greener alternative to oil. In 2016, API began a campaign that fraudulently claimed that natural gas, a fossil fuel that contributes to climate change, is a "clean" fuel, and using green imagery to drive home the false and misleading message.

⁶¹¹ Exxon, *Synergy Unleaded Gasoline*, EXXON, <https://www.exxon.com/en/fuel-technology-synergy>.

⁶¹² *Id.*

⁶¹³ Shell, *Shell V-Power® NiTRO+ Premium Gasoline*, SHELL, https://www.shell.us/motorist/shell-fuels/shell-v-power-nitro-plus-premium-gasoline.html?gclid=Cj0KCCQjwj5mpBhDJARIsAOVjBdo73tEhL_M1VqJF7zg6W_lzejcIJLF1osU5mZLcHNoezaUaYV4ldQsaAp4YEALw_wcB&gclsrc=aw.ds.

⁶¹⁴ *Greenwashing Files: Shell*, CLIENTEARTH, <https://www.clientearth.org/projects/the-greenwashing-files/shell/>.

⁶¹⁵ Exxon, *Synergy Unleaded Gasoline*, EXXON, <https://www.exxon.com/en/fuel-technology-synergy>.

⁶¹⁶ *Id.*

⁶¹⁷ *Fuels*, BP, https://www.bp.com/en_us/united-states/home/products-and-services/fuels.html#accordion_what-is-the-cleaner-engine-claim-compared-against

⁶¹⁸ *Id.*

⁶¹⁹ *Top Tier Gas, 76*, <https://www.76.com/top-tier-gas/>.

529. API runs a website entitled “America’s Natural Gas and Oil: Energy for Progress.” The website promotes fossil fuel companies’ claimed contributions to clean energy.⁶²⁰ For example, the articles entitled, “5 Ways We’re Helping to Cut Emissions,” “Harnessing Tech to Reduce Emissions,” “4 Ways We’re Protecting Wildlife,” and “Collaborating Across Companies to Reduce Emissions.”⁶²¹ Defendants, through API, promote the use of fossil fuel sources like natural gas to maintain climate-concerned consumers’ use of fossil fuels by misrepresenting oil and gas companies’ contributions to clean energy.

530. Most notably, as API’s greenwashing has accelerated, the Chair of API’s board was held by the Defendants—demonstrating not only the Defendants’ involvement, but their control over the continued campaign on misinformation. API’s Chair was held by chief Executives of Chevron from 2022 to present, Phillips 66 (ConocoPhillips) from 2020 to 2022, Exxon from 2018 to 2020, and ConocoPhillips from 2016 to 2018.

531. In 2023, Rio Tinto partnered with Talon Metals on a new mining project.⁶²² Rio Tinto calls it a “green mine” because it plans to sell their products for use in electric vehicle batteries. Despite claiming it to be a “green” mine, there remain strong concerns for the community surrounding the mine and the major environmental risks that the mine poses. Rio Tinto advertises several of its mining operations as “green,” tricking customers into believing that it is providing environmentally friendly solutions to a worldwide problem, when in fact, it is simply adding another type of destructive mining alongside its fossil fuel mining.

⁶²⁰ *Energy for Progress*, <https://energyforprogress.org/>.

⁶²¹ *Id.*

⁶²² *Talon Mine Project Greenwashing and the Illusion of Corporate Care*, EARTHWORKS (Oct. 16, 2023), <https://earthworks.org/blog/talon-mine-project-greenwashing-and-the-illusion-of-corporate-care/>.

532. Defendants have used consumers' ever-increasing concern for the environment against them by tricking them into believing certain products are environmentally friendly. Defendants knowingly advertised these misleading products to the Plaintiffs to maintain their profits.

3. Exaggerating Investments into Clean Energy

533. Defendants have spent significant money and effort to convince the public that they are both critical for the success of and leading the transition to renewable energy. Around 2000, Defendants began to promote their investments in renewable energy and "solutions" to reduce greenhouse gas emissions. But according to CDP Worldwide, a global environmental impact disclosure organization, the oil industry's investments in low carbon were just 0.68% of Capital Expenditure (CAPEX) in 2010-2017.⁶²³ Further, between 2015-2018, the International Energy Agency concluded that less than 1% of the world's investment in low carbon technology came from the oil and gas industry.⁶²⁴

534. Defendants Chevron, ExxonMobil, BP, and Shell aren't following through on their promises to invest and transition to sustainable energy.⁶²⁵ A 2022 peer-reviewed study illustrated that these four Defendants developed plans around decarbonization and used phrases like "climate change," "transition," and "low carbon" more frequently in recent annual reports.⁶²⁶ However, these commitments to renewable energy were hollow, taking the form of pledges and disclosures rather than substance.⁶²⁷ The businesses still rely primarily on fossil fuels for their financial

⁶²³ BOUSSO, RON, *BIG OIL SPENT 1 PERCENT ON GREEN ENERGY IN 2018*, REUTERS (NOV. 11, 2018) <https://www.reuters.com/article/us-oil-renewables/big-oil-spent-1-percent-on-green-energy-in-2018-idUSKCN1NH004>.

⁶²⁴ IEA, *SHARE OF GLOBAL CAPITAL INVESTMENT IN SELECTED LOW-CARBON TECHNOLOGIES (2015-2018)*, INTERNATIONAL ENERGY AGENCY (JAN. 25, 2020) <https://www.iea.org/data-and-statistics/charts/share-of-global-capital-investment-in-selected-low-carbon-technologies-2015-2018>.

⁶²⁵ Li M., Trencher G., Asuka J., *The clean energy claims of BP, Chevron, ExxonMobil and Shell: A mismatch between discourse, actions and investments*, PLoS ONE 17(2): e0263596. <https://doi.org/10.1371/journal.pone.0263596>.

⁶²⁶ *Id.* at 8-9.

⁶²⁷ *Id.*

stability, despite widespread promotion otherwise.⁶²⁸ The study concluded that “the transition to clean energy business models is not occurring, since the magnitude of investments and actions does not match discourse. Until actions and investment behavior are brought into alignment with discourse, accusations of greenwashing appear well-founded.”⁶²⁹

535. The data gathered from 2009 to 2020 demonstrated that the companies frequently discussed switching to renewable energy without making large-enough adjustments to undertake a company-wide move. For instance, according to the study, Shell and BP have promised to cut back on their investments in fossil fuel extraction projects; instead, they have recently acquired more land for fresh oil and gas exploration.⁶³⁰ The study shows that there is no proof these businesses were putting money into renewable energy on a scale that would enable them to move away from fossil fuels.⁶³¹

536. The House Oversight & Reform Committee has corroborated such findings.⁶³² The House released internal oil industry documents that highlight Big Oil's refusal to reduce production of and investments in fossil fuel extraction—despite publicly purporting to support emissions reductions and clean energy.⁶³³ The documents reveal that the businesses have been opposing climate laws while simultaneously admitting that their grand ideas to address the climate catastrophe won't result in a reduction in greenhouse gas emissions.⁶³⁴ Notably, the House Oversight & Reform Committee also reported that Defendants Exxon, Chevron, Shell, BP, and

⁶²⁸ *Id.* at 19.

⁶²⁹ *Id.* at 1.

⁶³⁰ *Id.* at 14.

⁶³¹ *Id.* at 19.

⁶³² *Investigation of Fossil Fuel Industry Disinformation*, House Oversight & Reform Committee, (Dec. 9, 2022), https://oversightdemocrats.house.gov/sites/democrats.oversight.house.gov/files/2022-12-09.COR_Supplemental_Memo-Fossil_Fuel_Industry_Disinformation.pdf (last visited Oct. 13, 2023).

⁶³³ *Id.*

⁶³⁴ *Id.*

API did knowingly conceal and obstruct the House Committee’s investigation in order to protect fossil fuel interests and conceal necessary information from the public.⁶³⁵

537. The following are some examples of Defendants’ greenwashing claims specific to investments in renewable energy.

538. Shell has consistently failed to live up to claims of being a “sophisticated and integrated energy player.”⁶³⁶ As early as 1999, Shell began promoting itself as “playing a major part in the move from oil and gas” and “planting the seeds of renewable energy.”⁶³⁷ In a 2006 Pew Center profile, Shell’s Climate Change Advisor discussed the company’s strategy to maintain “a seat at the table” and influence climate policy discussions by managing its internal carbon footprint and acting early to find the next “iPod® for energy.”⁶³⁸ Between 2010 and 2018, Shell invested just 1.3% of its capital expenditures in low-carbon projects⁶³⁹ and fell short of its goal to invest \$6 billion in renewables between 2017 and 2020.⁶⁴⁰ Going forward, Shell has pledged to invest \$2-3 billion per year in “renewables and energy solutions”⁶⁴¹ equating to only 9-15% of planned capital expenditures.⁶⁴² A 2023 analysis by Global Witness found that only \$288 million of this pledge

⁶³⁵ *Id.*

⁶³⁶ Akshat Rathi & Laura Hurst, *Look Who’s Talking About Zero Emissions*, Bloomberg (June 9, 2020), <https://www.bloomberg.com/news/features/2020-06-09/shell-s-ceo-doesn-t-want-to-you-to-call-it-an-oil-company>.

⁶³⁷ Shell, *Listening and Responding: The Profits & Principles Advertising Campaign* (1999), available at <https://www.documentcloud.org/documents/4425677-Shell-Documents-Trove-2-10>.

⁶³⁸ Andrew Hoffman, *Getting Ahead of the Curve: Corporate Strategies that Address Climate Change* (2006), https://www.pewtrusts.org/~media/legacy/uploadedfiles/wwwpewtrustsorg/reports/global_warming/pewclimatecorporatestrategies1006pdf.pdf.

⁶³⁹ Geoffrey Supran & Naomi Oreskes, *The Forgotten Oil Ads That Told Us Climate Change Was Nothing*, GUARDIAN (Nov. 18, 2021), <https://www.theguardian.com/environment/2021/nov/18/the-forgotten-oil-ads-that-told-us-climate-change-was-nothing> (linking to a graph found in Luke Fletcher et al, CDP, *Beyond The Cycle* (2018), graph available at <https://fingfx.thomsonreuters.com/gfx/cc/7/1800/1799/Pasted%20Image.jpg>).

⁶⁴⁰ Clark Butler, *Despite the Talk, Shell and Total Are Still Investing Much More in Fossil Fuels Than Renewables*, INST. ENERGY ECONS. & FIN. ANALYSIS (July 23, 2020), <https://ieefa.org/ieefa-despite-the-talk-shell-and-total-are-still-investing-much-more-in-fossil-fuels-than-renewables/>.

⁶⁴¹ Shell Global, *Shell Accelerates Drive for Net-Zero Emissions With Customer-First Strategy* (Feb. 11, 2021), <https://www.shell.com/media/news-and-media-releases/2021/shell-accelerates-drive-for-net-zero-emissions-with-customer-first-strategy.html>.

⁶⁴² SHELL ANNUAL REPORT 2020 21, <https://reports.shell.com/annual-report/2020/strategic-report/strategy-business-and-market-overview/strategy-and-outlook/outlook-for-2021-and-beyond.php>.

was directed towards wind and solar, lowering the commitment to only 1.5% of the company's overall spending.⁶⁴³

539. Shell has also engaged in a strategy called divestment. Companies divest fossil fuel assets to allegedly decrease overall emissions of the company. Divestment, however, does not actually reduce greenhouse gas emissions—it merely transfers the company's emissions to another company, thereby, giving credit to the divesting company as lowering emissions, when in reality, the emissions are maintained or even increased in many cases.⁶⁴⁴ Shell has incorporated divestment as part of their “green” strategies despite openly admitting that it is not a true method to lowering emissions.

540. Shell has also advertised alternative energy as part of its company's green agenda. For example, Shell paid to publish a video advertisement in *The New York Times* entitled, “Reimagining the Future of Transportation.”⁶⁴⁵ The advertisement suggests that Shell is working on climate issues by building ships that are powered by liquefied natural gas rather than oil, using hydrogen fuel cells, and flying airplanes using only biofuels. However, this advertisement misleads customers as to Shell's investments, as a minority of its expenditure actually goes to such alternative energy supplies rather than fossil fuels.

541. In 2000, BP began a \$200 million campaign to rebrand the company as “Beyond Petroleum,” complete with a new sunburst logo. One year after the launch of the Beyond Petroleum rebranding effort, BP's CEO asserted that “hydrocarbons will be the bulk of the energy supply for

⁶⁴³ *Shell Faces Groundbreaking Complaint for Misleading US Authorities and Investors on Its Energy Transition Efforts*, GLOBAL WITNESS (Feb. 1, 2023), <https://www.globalwitness.org/en/campaigns/fossil-gas/shell-faces-groundbreaking-complaint-misleading-us-authorities-and-investors-its-energy-transition-efforts/>.

⁶⁴⁴ *Investigation of Fossil Fuel Industry Disinformation*, House Oversight & Reform Committee, (Dec. 9, 2022), https://oversightdemocrats.house.gov/sites/democrats.oversight.house.gov/files/2022-12-09.COR_Supplemental_Memo-Fossil_Fuel_Industry_Disinformation.pdf (last visited Oct. 13, 2023).

⁶⁴⁵ Shell, *Reimagining the Future of Transportation*, THE NEW YORK TIMES, <https://www.nytimes.com/paidpost/shell/reimagining-the-future-of-transportation.html#100000006395029>.

the next 30 to 50 years” but that the company’s renewables work allows BP to “gain a seat at the table, a chance to influence future rules.”⁶⁴⁶ BP’s “Beyond Petroleum” campaign also popularized the personal carbon footprint calculator,⁶⁴⁷ an incredibly successful blame shifting strategy designed to deflect the responsibility for climate change from polluting oil companies, to everyday people.

542. While the rebranding campaign highlighted BP’s \$45 million investment in solar, it spent 25 times more on oil and gas in 2002. A PR professional who worked on the campaign later admitted that Beyond Petroleum was “just advertising” to portray BP as a company “trying to find newer, smarter, cleaner ways of powering the world. Only they didn’t go beyond petroleum. They are petroleum.”⁶⁴⁸ BP exited the solar business in 2012 and the wind business in 2013.⁶⁴⁹ Between 2010 and 2018, BP invested just 2.3% of its capital expenditures in low-carbon projects.⁶⁵⁰ In 2020, BP’s low carbon spending was just \$500 million, while total capital expenditures were \$14 billion.

543. BP announced that it would end corporate reputation advertising, pulling *Keep Advancing and Possibilities Everywhere* campaigns that was being challenged in the United Kingdom, which were the subject of an Organisation for Economic Co-operation and Development (OECD) complaint alleging they misled the public due to their focus on low carbon projects when

⁶⁴⁶ Darcy Frey, *How Green is BP?*, NY TIMES (Dec. 8, 2002), <https://www.nytimes.com/2002/12/08/magazine/how-green-is-bp.html>.

⁶⁴⁷ K.J. Bown, *BP*, <https://perma.cc/Q3LS-M4ZM> (archived Nov. 7, 2021).

⁶⁴⁸ John Kenney, *Beyond Propaganda*, NY TIMES (Aug. 14, 2006), <https://www.nytimes.com/2006/08/14/opinion/14kenney.html>.

⁶⁴⁹ James Montgomery, *BP Selling US Wind Unit, Pares Renewable Energy Interests to Fuels*, RENEWABLE ENERGY WORLD (Apr. 2, 2013), <https://www.renewableenergyworld.com/wind-power/bp-exiting-us-wind-unit-pares-renewable-energy-interests-to-fuels/#gref>.

⁶⁵⁰ Ron Bousso, *Big Oil Spent 1% on Green Energy in 2018*, REUTERS (Nov. 11, 2018), <https://www.reuters.com/article/us-oil-renewables/big-oil-spent-1-percent-on-green-energy-in-2018-idUSKCN1NH004>.

96% of the company’s annual expenditure is on fossil fuels.⁶⁵¹ Leaked documents reveal that BP was wrestling with how to present itself as leading the way on climate while still growing its upstream oil and gas business.⁶⁵² That year, low carbon spending was just \$500 million, while total capital expenditures were \$14 billion.⁶⁵³ BP has pledged to increase its investment in low carbon 10-fold by 2030,⁶⁵⁴ but projects that have been supported by its low carbon transition fund have included “shares in companies developing new ways to find and use fossil fuels,” or in other words, more efficient extraction and production of oil and gas.⁶⁵⁵ According to an analysis by Global Climate Insights, at least 91% of the energy BP will sell by the end of 2030 will be from fossil fuels.⁶⁵⁶

544. BP’s climate targets rely heavily on divestment, as well. When emissions from divested assets are factored in, BP’s absolute emissions are actually projected to increase 6% by 2030 over 2019 levels. Like Shell, BP is fully aware that their divestment strategy means nothing for lowering global emissions.⁶⁵⁷ BP is actively deceiving the public by falsely claiming to curb their

⁶⁵¹ ClientEarth, *BP Greenwashing Complaint Sets Precedent for Action on Misleading Ad Campaigns*, ClientEarth (June 17, 2020), <https://www.clientearth.org/latest/latest-updates/news/bp-greenwashing-complaint-sets-precedent-for-action-on-misleading-ad-campaigns/>.

⁶⁵² Amy Westervelt, *Is BP Really Changing? Or Is The Firm’s New Climate Message Just “Beyond Petroleum” All Over Again?*, DRILLED NEWS (June 9, 2020), <https://web.archive.org/web/20220315091909/https://drillednews.com/is-bp-really-changing-or-is-its-new-climate-message-just-beyond-petroleum-all-over-again/> (archived Mar. 15, 2022).

⁶⁵³ *Capital Expenditure of BP from 2015 to 2022*, STATISTA (Aug. 25, 2023) <https://www.statista.com/statistics/561591/bp-capital-expenditure/>.

⁶⁵⁴ BP, *From International Oil Company to Integrated Energy Company: bp sets out strategy for decade of delivery towards net zero ambition*, BP (Aug. 4, 2020), <https://www.bp.com/en/global/corporate/news-and-insights/press-releases/from-international-oil-company-to-integrated-energy-company-bp-sets-out-strategy-for-decade-of-delivery-towards-net-zero-ambition.html>

⁶⁵⁵ Luke Barrett, *BP Spends ‘Low Carbon’ Money on Finding and Using Fossil Fuels*, UNEARTHED (Feb. 8, 2020), <https://unearthed.greenpeace.org/2020/08/02/bp-low-carbon-venture-capital-spent-on-fossil-fuels/>.

⁶⁵⁶ *Global Climate Insights, Part 1: BP GHG Emissions*, ACCR (March 2021), https://www.accr.org.au/downloads/gci_bppt1_3103.pdf.

⁶⁵⁷ *Investigation of Fossil Fuel Industry Disinformation*, House Oversight & Reform Committee, (Dec. 9, 2022), https://oversightdemocrats.house.gov/sites/democrats.oversight.house.gov/files/2022-12-09.COR_Supplemental_Memo-Fossil_Fuel_Industry_Disinformation.pdf (last visited Oct. 13, 2023).

contribution to climate change and instead continuing to look to profits and new oil and gas exploration prospects, while taking credit for emission reductions that, in fact, reduced nothing.

545. Despite BP’s public insistence that it has a responsibility to fight climate change, its own management behind closed doors disagrees. In July 2017, Richard Mortimer, BP’s Vice President of Engineering, Dave O’Connor, BP’s Head of Global Projects, and other senior BP employees exchanged emails about curbing emissions.⁶⁵⁸ Dave O’Connor questioned why one of the company’s projects had been changed in a way that would increase emissions and that employees believed was inconsistent with BP’s commitment to reducing carbon emissions. In response, Richard Mortimer replied by stating, that BP had “no obligation to minimize GHG emissions” and that it should only “minimize [emissions] where it makes commercial sense.”

546. Chevron’s extensive advertisements promoting their involvement in renewable energy are misaligned with its minimal investments. In 2000, Chevron established its Chevron Energy Solutions business to “help institutions, businesses (including Chevron itself), and the federal government manage their energy use more efficiently, reduce energy consumption and greenhouse gas (GHG) emissions, and lower energy-related costs.”⁶⁵⁹ Chevron advertised its investments in biofuels research⁶⁶⁰ and advertised that it was time for oil companies to “get behind the development of renewable energy.”⁶⁶¹

547. Even while promoting the importance of renewable energy, Chevron was doubling down on its promotion of fossil fuels. In 2007, Chevron and The Economist Group created an online

⁶⁵⁸ *Id.*

⁶⁵⁹ Jay A. Johnson, *Chevron Energy Solutions Company ESCO Qualification Sheet*, CHEVRON https://www1.eere.energy.gov/femp/pdfs/chevron_escoqual.pdf.

⁶⁶⁰ Geoffrey Supran & Naomi Oreskes, *The Forgotten Oil Ads That Told Us Climate Change Was Nothing*, GUARDIAN (Nov. 18, 2021), <https://www.theguardian.com/environment/2021/nov/18/the-forgotten-oil-ads-that-told-us-climate-change-was-nothing> (showing a Chevron advertisement that ran in The New Yorker in 2007).

⁶⁶¹ JAVIER VELA, *Chevron: The Chevron We Agree Campaign for Global Branding*, <https://javiervela.com/chevron-we-agree>.

game in which players had to choose an energy mix for their city—attempting to use only renewables would result in a warning that the city “needs petroleum.”⁶⁶² That same year, Chevron launched a \$15 million campaign, *The Power of Human Energy*, about the debate over oil and the environment with a goal “for people to see us as part of the solution.”⁶⁶³

548. In 2014, Chevron ended its small renewable power group after its first full year of operations. A former employee commenting on that decision said, “When you have a very successful and profitable core oil and gas business, it can be quite difficult to justify investing in renewables. . . . It requires significant commitment at the most senior levels of management. I didn’t perceive that kind of commitment from Chevron during my time with the firm.”⁶⁶⁴ Between 2010 and 2018, Chevron invested just 0.23% of its capital expenditure in renewables and low carbon technologies.⁶⁶⁵ Again in September 2021, Chevron announced and promoted a new investment target of \$3 billion through 2028⁶⁶⁶ with a goal to produce 100,000 barrels of oil per day in renewable energy by 2030.⁶⁶⁷ These figures constitute just 3% of the company’s capital expenditures and only 2.9% of current fossil fuel production.

549. ExxonMobil has also claimed to be a leader in climate action. In November 2021, ExxonMobil announced plans to increase its investment in lower-carbon initiatives to \$15 billion over the next six years, with the majority directed towards Carbon Capture and Storage (CCS)

⁶⁶² David R. Baker, *Chevron Puts on its Game Face with Energyville*, SAN FRANCISCO CHRONICLE (Sep 5, 2007), <https://www.chron.com/business/energy/article/Chevron-puts-on-its-game-face-with-Energyville-1826730.php>

⁶⁶³ Jean Halliday, *Chevron: We’re Not Big Bad Oil*, AD AGE (Sep. 28, 2007), <https://adage.com/article/news/chevron-big-bad-oil/120785>

⁶⁶⁴ John Upton, *Chevron & BP Are Pulling Out of Solar*, GRIST (May 30, 2014), <https://grist.org/business-technology/chevron-and-bp-are-pulling-out-of-wind-and-solar/>.

⁶⁶⁵ Ron Bousso, *Big Oil Spent 1% on Green Energy in 2018*, REUTERS (Nov. 11, 2018), <https://www.reuters.com/article/us-oil-renewables/big-oil-spent-1-percent-on-green-energy-in-2018-idUSKCN1NH004>.

⁶⁶⁶ Sabrina Valle & Arunima Kumar, *Chevron Triples Low-Carbon Investment, But Avoids 2050 Net-Zero Goals*, REUTERS (Sep. 15, 2021), <https://www.reuters.com/business/autos-transportation/chevron-triples-investment-lower-carbon-energy-businesses-2021-09-14/>.

⁶⁶⁷ Chevron 2021 Investor Presentation, CHEVRON (Sep. 27, 2021), <https://chevroncorp.gcs-web.com/static-files/72abe701-7dae-4ba0-87fd-7f40fb493300>.

projects.⁶⁶⁸ Investment in CCS allows the industry to continue its production of fossil fuels unabated, while the technology actually adds carbon emissions unless powered by renewables and is often used to help reach otherwise unobtainable oil from depleted wells. In short, the publicized “lower carbon” investment is in fact an investment in traditional fossil fuels.

550. For example, Exxon proposed a \$100 billion Carbon, Capture, and Storage (“CCS”) hub in Houston with the potential to store 100 million metric tons of CO₂ per year by 2040.⁶⁶⁹ Without subsidies or other direct financial support for the project, CEO Darren Woods suggested a credit of \$100 per ton of captured carbon would be necessary to ensure the project is profitable.⁶⁷⁰ While it is unknown if Exxon completed a life-cycle emissions analysis for the project, an academic review of carbon removal literature found that the Carbon, Capture, and Storage emits 1.46 to 3.44 tons of CO₂ for each ton captured.⁶⁷¹ While the proposed hub would aim to capture industrial emissions, “no evidence was found showing that it has established collaborations with potential industrial customers.”⁶⁷²

551. Notably, all Defendants have advertised their use of the Carbon Capture Storage to the public to feign the appearance of climate friendly actions despite their failure to create any real emissions reduction. Occidental announced its new carbon capture storage in the Permian Basin.⁶⁷³

⁶⁶⁸ Darren W. Woods, *Why We're Investing \$15 Billion in a Lower-Carbon Future*, EXXONMOBIL (Nov. 9, 2021), https://corporate.exxonmobil.com/news/news-releases/2021/1109_why-we-are-investing-15-billion-in-a-lower-carbon-future.

⁶⁶⁹ ExxonMobil, *Carbon capture and storage*, EXXONMOBIL, <https://corporate.exxonmobil.com/what-we-do/delivering-industrial-solutions/carbon-capture-and-storage#CCSconceptchematic>.

⁶⁷⁰ Lindsey Jacobson, *Exxon Mobil CEO Darren Woods calls for a higher price on carbon*, CNBC (June 24, 2022), <https://www.cnbc.com/2022/06/24/exxon-mobil-ceo-darren-woods-wants-higher-price-on-carbon-emissions.html#:~:text=Exxon%20Mobil%20would%20prefer%20a.of%20controversy%20for%20Exxon%20Mobil>.

⁶⁷¹ June Sekera & Andreas Lichtenberger, *Assessing Carbon Capture: Public Policy, Science, and Societal Need*, BIOPHYSICAL ECONOMICS AND SUSTAINABILITY (2020), <https://link.springer.com/article/10.1007/s41247-020-00080-5>.

⁶⁷² World Benchmarking Alliance, *ExxonMobil*, World Benchmarking Alliance, <https://www.worldbenchmarkingalliance.org/publication/oil-and-gas/companies/exxon-mobil-2/>.

⁶⁷³ Justine Calma, *King Ranch will be the site of the largest carbon capture project yet*, THE VERGE (Nov. 1, 2022), <https://www.theverge.com/2022/11/1/23434500/oil-giant-occidental-carbon-removal-dac-king-ranch-texas>.

552. In its *2021 Updated Energy and Carbon Summary*, ExxonMobil highlights its research into algae biofuel as an area in which the company “can make the most meaningful and expedient contribution to society’s efforts to manage the risks of climate change.”⁶⁷⁴ ExxonMobil’s publicized goal to have “the technical ability to produce 10,000 barrels of algae biofuel per day” (only 0.2% of their total refinery production) by 2025 strategically and purposefully positioned the company as an innovator working on climate solutions.⁶⁷⁵

553. Before cutting its ties with several algae research firms in February 2023,⁶⁷⁶ ExxonMobil ran an extensive and costly advertisement campaign, featuring scientist “energy farmers”⁶⁷⁷ mining the ocean to harvest “renewable biofuels,”⁶⁷⁸ and touting algae’s “potential to change our energy future.”⁶⁷⁹ ExxonMobil even used children as part of this campaign,⁶⁸⁰ promoting a product that did not yet exist, and wouldn’t for a long time per the company’s own estimates.⁶⁸¹ ExxonMobil spent \$68 million to air three algae-focused advertisements on television between 2017 and 2020, just under a quarter of the amount it spent on algae research since 2009.⁶⁸²

⁶⁷⁴ *Updated 2021 Energy & Carbon Summary*, EXXONMOBIL (Apr. 2021), <https://web.archive.org/web/20221108015220/https://corporate.exxonmobil.com/-/media/Global/Files/energy-and-carbon-summary/Energy-and-carbon-summary.pdf> (archived Nov. 8, 2022).

⁶⁷⁵ InfluenceMap, *Big Oil’s Real Agenda on Climate Change* (Mar. 2019), <https://influencemap.org/report/How-Big-Oil-Continues-to-Oppose-the-Paris-Agreement-38212275958aa21196dae3b76220bddc>.

⁶⁷⁶ Ben Elgin & Kevin Crowley, *Exxon Retreats from Major Climate Effort to Make Biofuels From Algae*, BLOOMBERG (Feb. 10, 2023), <https://www.bloomberg.com/news/articles/2023-02-10/exxon-retreats-from-major-climate-effort-to-make-biofuels-from-algae>.

⁶⁷⁷ ExxonMobil, *Renewable Biofuel: 24 Hours at an Algae Farm | ExxonMobil*, YOUTUBE (Dec. 4, 2018), <https://www.youtube.com/watch?v=yG67aJvO0R0>.

⁶⁷⁸ ExxonMobil, *Working on Tomorrow’s Biofuel*, YOUTUBE (May 28, 2019), <https://www.youtube.com/watch?v=T7ijbGqIPlk>.

⁶⁷⁹ T Brand Studio, *Algae May Be Small – But Its Impact Could be Big | Presented by ExxonMobil*, YOUTUBE (Sep. 25, 2018), <https://www.youtube.com/watch?v=pWcIx1LFSWk>.

⁶⁸⁰ ExxonMobil, *School of ExxonMobil: Algae Biofuel*, YOUTUBE (Dec. 4, 2018), <https://www.youtube.com/watch?v=9IuAkMJqb7Y>.

⁶⁸¹ Nick Cunningham, *Internal Documents Show Big Oil PR Messages Still ‘Mislead’ Public on Climate*, DESMOG (Sep. 16, 2022), <https://www.desmog.com/2022/09/16/shell-exxon-oil-pr-mismatch-carbon-capture-algae/>.

⁶⁸² Memorandum to Members of the Committee on Oversight and Reform from Chairwoman Carolyn B. Maloney and Chairman Ro Khanna on Investigation of Fossil Fuel Industry Disinformation 2 (Sep. 14, 2022), <https://oversightdemocrats.house.gov/sites/democrats.oversight.house.gov/files/2022.09.14%20FINAL%20COR%20Supplemental%20Memo.pdf>

554. ExxonMobil knew that the technology was unproven and not feasible. Despite this, ExxonMobil prominently publicized its comparatively small investment in algae biofuel to boost its own reputation as a company working towards climate solutions. This greenwashing was intended to assuage consumers' concerns about the contribution of ExxonMobil's products to the climate crisis.

555. Another “green” ploy used by Defendants is through Carbon Markets. Defendants BP, Chevron, Shell, BHP, and Rio Tinto have continued to use the International Emissions Trading Associations (IETA) to represent their interests in the policies on climate change on the international stage—injecting their interests at large climate talks such as the UNFCCC. The IETA vehemently supports Carbon Markets which allow Defendants to purchase cheap “pollution allowances” from other countries and/or entities that have contributed to climate change the least, so they can continue polluting at the same, or even an increased, rate.⁶⁸³ However, studies show that these carbon markets do not work.⁶⁸⁴ Defendants are fully aware that Carbon Markets do not work, but they continue to coordinate and have used the IETA since 1999 to vie for them in order to continue their predatory practices and further their profits and their conspiracy.

556. Defendant BHP has also used advertised “green” solutions in its company despite its continuing profits. Despite generating profits of \$11.3 billion in 2021, BHP only allocated \$65 million to research on decarbonization of steel.⁶⁸⁵

557. All of these greenwashing tactics have been and continue to be used to conceal the Defendants' continuous sponsorship of climate denial and their record-breaking profits from fossil

⁶⁸³ Corporate Accountability, *Primer: IETA, Big Polluters, and the UNFCCC*, CORPORATE ACCOUNTABILITY (2018), https://corporateaccountability.org/wp-content/uploads/2018/04/CA_Bonn_Cop24_2018_webEN.pdf.

⁶⁸⁴ *Id.*; *Carbon Welfare: How big polluters plan to profit from EU emissions trading reform*, Corporate Europe Observatory (Dec. 2, 2016), <https://corporateeurope.org/climate-andenergy/2016/12/carbon-welfare> (last visited Oct. 25, 2023).

⁶⁸⁵ *BHP releases Climate Transition Action Plan 2021*, BHP (Sept. 14, 2021), <https://www.bhp.com/news/media-centre/releases/2021/09/bhp-releases-climate-transition-action-plan-2021> (last visited Oct. 25, 2023).

fuels. Though new, sustainable solutions are available, Defendants only seek out solutions to which they have no dedication to or actual funding for. Rather than investing in real alternatives to fossil fuels, Defendants promote solutions that are not feasible, that feign sustainability, and cover up their continued oil and gas pursuits.

4. Deceptive Pledges

558. Nearly all oil majors and their trade associations have released climate plans and pledges to reduce emissions, with many claiming to be aligned with the Paris Agreement and net-zero missions. However, these pledges are filled with loopholes that will allow the continued use of fossil fuels and allow emissions to grow over the next decade in ways that are undoubtedly incompatible with the Paris Agreement. Defendants continuously claim to the Plaintiffs and to the public that they are aiming to reduce contributions to climate change. However, Defendants' words contradict their actions as they continue to pursue record profits and expanded fossil fuel explorations.

559. After Shell introduced its new net-zero target in 2020, the company noted, "It is important to note that as of February 11, 2021, Shell's operating plans and budgets do not reflect Shell's Net-Zero Emissions target..."⁶⁸⁶ As of March 15, 2023, the company's Powering Progress strategy outline still includes the legal disclaimer, "Shell's operating plans, outlooks, budgets and pricing assumptions do not reflect our net-zero emissions target."⁶⁸⁷ Shell advertises that it is attempting

⁶⁸⁶ Shell Global, *Shell accelerates drive for net-zero emissions with customer-first strategy*, Shell (Feb. 11, 2021), <https://www.shell.com/media/news-and-media-releases/2021/shell-accelerates-drive-for-net-zero-emissions-with-customer-first-strategy.html#:~:text=It%20is%20important%20to%20note,new%20Net%2DZero%20Emissions%20target> (last visited Oct. 20, 2023).

⁶⁸⁷ Shell Global, *Shell reports good progress on journey to net-zero emissions*, Shell (Mar. 15, 2023), <https://www.shell.com/media/news-and-media-releases/2023/shell-reports-good-progress-on-journey-to-net-zero-emissions.html#:~:text=Shell's%20net%2DZero%20Emissions%20Target&text=However%2C%20Shell's%20operating%20plans%20cannot,plans%20to%20reflect%20this%20movement> (last visited Oct. 20, 2023).

to be net-zero, but deviously hides disclaimers that reveal, in fact, they are not doing so and have no plans or desire to do so unless society moves to net-zero first.

560. In 2016, Shell released the report, “A Better Life with a Healthy Planet: Pathways to Net-Zero Emissions.”⁶⁸⁸ The report’s ambitious title is betrayed by a fine-print disclaimer stating: “[W]e have no immediate plans to move to a net-zero emissions portfolio over our investment horizon of 10-20 years.” The fine print reveals Shell’s true intent. The company’s production of oil and gas has increased substantially over the last decade. In 2019, Shell produced 3.67 million barrels of oil and gas for sale, compared with 3.31 million barrels in 2010. From 2010 to 2018, Shell dedicated a mere 1% of its capital spending to low-carbon energy.⁶⁸⁹ Like Exxon, it plans to have a sharp increase in production in the coming decade. Between 2018 and 2030, Shell plans to increase oil production by over 37%. Thus, Shell is contributing to a pathway to accelerating global CO2 concentrations, not the net-zero emissions goals that it advertises to the public. This constitutes fraudulent misrepresentation of their so-called net-zero goals.

561. According to Shell's most recent net-zero strategy, the business must adopt nature-based solutions to offset 120 million tons of CO2 annually by 2030.⁶⁹⁰ According to the company's own calculations, doing so will need "planting forests the size of Spain," or nearly one tenth of the territory accessible for forest planting worldwide.⁶⁹¹ “Sky,” the company's most ambitious low-

⁶⁸⁸ Shell, *A Better Life with a Healthy Planet: Pathways to Net-Zero Emissions*, Shell (May 2016), https://www.shell.com/energy-and-innovation/the-energy-future/scenarios/a-better-life-with-a-healthy-planet/_jcr_content/root/main/section/call_to_action/links/item0.stream/1655563112084/f53f377c72c622102c589336d7eb60bfc1cf0c6b/scenarios-nze-brochure-interactive-afwv9-interactive.pdf (last visited Oct. 20, 2023).

⁶⁸⁹ Anjali Raval & Leslie Hook, *Oil and gas advertising spree signals industry's dilemma*, FINANCIAL TIMES (Mar. 6, 2019), <https://www.ft.com/content/5ab7edb2-3366-11e9-bd3a-8b2a211d90d5>.

⁶⁹⁰ *How Big Oil Continues to Oppose the Paris Agreement*, INFLUENCE MAP (Mar. 2019), <https://influencemap.org/report/How-Big-Oil-Continues-to-Oppose-the-Paris-Agreement-38212275958aa21196dae3b76220bddc>.

⁶⁹¹ Rachel Kyte, *Don't be fooled by 'net-zero' pledges*, THE WASHINGTON POST (Mar. 3, 2021), <https://www.washingtonpost.com/opinions/2021/03/22/net-zero-pledges-carbon-emissions/>.

carbon strategy, calls for planting a forest roughly the size of Brazil.⁶⁹² The corporation has not yet specified when or how it would carry out such significant offsets.

562. Shell has publicly claimed the title as the first oil major to develop a plan to reduce scope 3 (end-use) emissions to net-zero. However, Shell’s plan requires that customers “themselves take action on the emissions created by their use of our energy products.”⁶⁹³ Shell frames the Scope 3 portions of their net-zero pledges as “helping customers” to reduce emissions. Shell is misleading customers and the public by claiming that they are reducing scope 3 emissions, but in reality, they are putting the responsibility onto consumers while receiving kudos for their plan and taking credit for emissions reductions that they have not earned. BP has done the same.⁶⁹⁴

563. In February 2020, the company announced “a new ambition to become a net zero company by 2050 or sooner.”⁶⁹⁵ BP pledged to significantly decline fossil fuel production: 40% by 2030 as compared to 2019 levels.⁶⁹⁶ But the company will focus on ensuring the remaining 60% of its hydrocarbon portfolio is resilient, and will rely on offsets and carbon capture to meet emission reduction goals.⁶⁹⁷ As previously discussed, carbon capture is a ploy Defendants continue to use to justify continuing their fossil fuel operations and will likely not result in any true emissions reductions.

⁶⁹² Andrew Grant, *Shell and Eni revise emissions plans – into the weeds, or into the forest?*, CARBON TRACKER (Mar. 2, 2021), <https://carbontracker.org/shell-and-eni-revise-emissions-plans-into-the-weeds-or-into-the-forest/>.

⁶⁹³ Shell, *Our climate target*, SHELL, <https://www.shell.us/energy-and-innovation/our-climate-target.html#iframe=L3dlYmFwcHMvY2xpbWF0ZV9hbWJpdGlvb19VU19OZXRFemVybl8yMDIyLw>.

⁶⁹⁴ BP, *BP Sustainability Report*, BP (2022), <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/sustainability/group-reports/bp-sustainability-report-2022.pdf>.

⁶⁹⁵ BP, *BP sets ambition for net zero by 2050, fundamentally changing organization to deliver*, BP (Feb. 12, 2020), <https://www.bp.com/en/global/corporate/news-and-insights/press-releases/bernard-looney-announces-new-ambition-for-bp.html> (last visited Oct. 20, 2023).

⁶⁹⁶ BP, *From International Oil Company to Integrated Energy Company: bp sets out strategy for decade of delivery towards net zero ambition*, BP (Aug. 4, 2020), <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/news-and-insights/press-releases/from-international-oil-company-to-integrated-energy-company.pdf> (last visited Oct. 20, 2023).

⁶⁹⁷ *Id.*

564. According to an analysis by Global Climate Insights, BP’s “net zero” goals are some of the most complex in the industry, and exclude 83% of emissions from products it sells, including “emissions from refined products (BP and third-party), crude oil, and ‘physically traded’ products (sales to intermediaries).”⁶⁹⁸

565. Chevron publicly claims to support the Paris Agreement. However, Chevron hides the fact that it has failed to meet any of the framework criteria or benchmarks of the Paris Agreement.⁶⁹⁹ To the contrary, \$5.3 billion of Chevron’s 2019 capital expenditure on ‘upstream’ fossil fuel extraction and production, and 66% of the company’s future capital expenditure are inconsistent with the IEA’s ‘Beyond Two Degrees’ scenario.⁷⁰⁰

566. Further, like Shell, Chevron’s only plan to reduce end-use (scope 3) emissions relies on “work[ing] with customers around the world to achieve their own lower-carbon goals by providing verified, high-quality offsets.”⁷⁰¹ Despite taking credit for pledging to lower end-use emissions, Chevron has not actually done anything to achieve it outside of putting the responsibility, once again, upon consumers.

567. In October 2023, Chevron purchased Hess Oil Company, expanding its production and manufacturing of fossil fuels.⁷⁰² Contrary to Chevron’s publicized intentions of lowering emissions, it focuses solely on profit and expanding the oil and gas industry to the detriment of Plaintiffs.

⁶⁹⁸ *Initiation of Coverage*, ACCR (Mar. 28, 2022), <https://www.accr.org.au/research/initiation-of-coverage-bp/> (last visited Oct. 20, 2023).

⁶⁹⁹ Climate Action 100+, *Company Assessment – Chevron Corp.*, Climate Action 100+, <https://www.climateaction100.org/company/chevron-corporation/> (last visited Oct. 20, 2023).

⁷⁰⁰ *Id.*

⁷⁰¹ Shell, *Our climate target*, SHELL, <https://www.shell.us/energy-and-innovation/our-climate-target.html#iframe=L3dlYmFwcHMvY2xpbWF0ZV9hbWJpdGlvbl9VU19OZXRFemVyb18yMDIyLw>

⁷⁰² Chevron, *Chevron Announces Agreement to Acquire Hess*, CHEVRON, <https://www.chevron.com/newsroom/2023/q4/chevron-announces-agreement-to-acquire-hess>.

568. Exxon also claims to support the Paris Agreement but puts forth no plans to reduce end-use (scope 3) emissions which account for 83% of Exxon’s CO₂ emissions.⁷⁰³ ExxonMobil’s plans to hold oil and gas production steady at its current level through at least 2025. Exxon anticipates fully replenishing proved reserves by 2040, even though emissions from existing oil and gas reserves alone would be enough to push warming past 1.5°C.⁷⁰⁴

569. In 2012, ConocoPhillips released a Sustainable Development Report in which they “recognize[d] that human activity, including the burning of fossil fuels, is contributing to increased concentrations of greenhouse gases (GHG) in the atmosphere that can lead to adverse changes in global climate.”⁷⁰⁵ The report’s goals included “[u]nderstanding our GHG footprint,” “[r]educing our GHG emissions,” and “evaluating and developing technologies for renewable energy.”⁷⁰⁶ ConocoPhillips’ 10-K filing with the SEC from 2012, however, reveals the company’s sole focus on marketing and selling fossil fuels around the globe: “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.” It further highlighted the company’s “growing North American shale and oil sands businesses . . . and a global exploration program,” making clear it had no intent to honor the commitments in its Sustainable Development Report.⁷⁰⁷

⁷⁰³ World Benchmarking Alliance, *ExxonMobil*, World Benchmarking Alliance, <https://www.worldbenchmarkingalliance.org/publication/oil-and-gas/companies/exxon-mobil-2/>.

⁷⁰⁴ Hiroko Tabuchi, *Oil Giants Sell Dirty Wells to Buyers With Looser Climate Goals, Study Finds*, THE WASHINGTON POST (Mar. 2, 2021), <https://www.nytimes.com/2022/05/10/climate/oilfield-sales-pollution.html>.

⁷⁰⁵ ConocoPhillips, *Sustainable Development; Climate Change Position*, CONOCOPHILLIPS (2012), at 17, <http://static.conocophillips.com/files/resources/2012-sd-report.pdf>.

⁷⁰⁶ *Id.* at 17, 20.

⁷⁰⁷ ConocoPhillips, *Annual Report (Form 10-K)*, SEC (Dec. 31, 2012), at 32, <https://www.sec.gov/Archives/edgar/data/1163165/000119312513065426/d452384d10k.htm>.

570. Defendants are making significant investments in projects that are incompatible with the Paris goal of limiting warming to well below 2°C.⁷⁰⁸ The 12 biggest oil companies are projected to invest \$103 million per day over the next decade in new oil and gas fields that are incompatible with Paris. These short-term expansion plans will result in emissions equivalent to ten years of emissions from China.

571. Even though companies have more oil and gas reserves than can be burned under the goals of the Paris, they continue to explore new fields. In 2021, BP led the industry with the discovery of over a billion barrels of oil.⁷⁰⁹ Shell is investing \$1.5 billion in exploration through 2025 and January 2022 made a “significant” discovery in Namibia.⁷¹⁰ In 2022, Exxon has made five discoveries in Guyana, bringing the region’s reserves to an estimated 11 billion barrels.⁷¹¹ Chevron’s oil production is projected to increase 11% between 2019 and 2030.⁷¹² BP is expected to increase 8%, Exxon is expected to increase 52%, and Shell is expected to increase 22%.⁷¹³

572. BHP has also engaged in a ploy to mislead consumers about their net-zero goals. BHP has committed to achieve net-zero emission by 2050.⁷¹⁴ Contrarily, BHP’s exploration and production plans state that the company will continue to mine coal well beyond 2050. Despite

⁷⁰⁸ Damian Carrington & Matthew Taylor, *Revealed: the ‘carbon bombs’ set to trigger catastrophic climate breakdown*, THE GUARDIAN (May. 11, 2022), <https://www.nytimes.com/2022/05/10/climate/oilfield-sales-pollution.html>.

⁷⁰⁹ BP, *bp starts oil production at Argos platform in the Gulf of Mexico*, BP (Apr. 13, 2023), <https://www.bp.com/en/global/corporate/news-and-insights/press-releases/bp-starts-oil-production-at-argos-platform-in-the-gulf-of-mexico.html>.

⁷¹⁰ Ron Bousso, *Exclusive: Shell pivots back to oil to win over investors*, REUTERS (June 9, 2023), <https://www.reuters.com/business/energy/shell-pivots-back-oil-win-over-investors-sources-2023-06-09/>.

⁷¹¹ ExxonMobil, *ExxonMobil makes three new discoveries offshore Guyana, increases Stabroek resource estimate to nearly 11 billion barrels*, EXXONMOBIL (Apr. 26, 2022), https://corporate.exxonmobil.com/news/news-releases/2022/0426_exxonmobil-makes-three-new-discoveries-offshore-guyana-increases-stabroek-resource-estimate.

⁷¹² Oil Change International, *Big Oil Reality Check*, OIL CHANGE INTERNATIONAL (Sept. 2020), <http://priceofoil.org/content/uploads/2020/09/OCI-Big-Oil-Reality-Check-vF.pdf>.

⁷¹³ *Id.*

⁷¹⁴ *BHP Climate Transition Action Plan Analysis*, ACCR (May. 11, 2022), <https://www.accr.org.au/research/bhp-climate-transition-action-plan-analysis/>.

claiming to have plans to reach net zero and be a climate-friendly company, BHP's actual business strategies say quite the opposite. BHP plans to extend its operations at Mt. Arthur coal mine to 2045 and its Caval Ridge coal mine to 2056.⁷¹⁵ This is a blatant misrepresentation to consumers about BHP's business practices.

573. BHP continues to claim that it is aiming to reduce its greenhouse gas emissions. However, in 2022, BHP allocated \$2.3 billion in capital expenditure to oil and gas development, including \$540 million for exploration.⁷¹⁶ Rather than spending such funds on their solar and wind projects which BHP heavily advertises to consumers, BHP quietly funnels their money into their real interests: more fossil fuels. BHP actively chooses to mislead consumers about their energy priorities. BHP advertises on its website that it is pursuing strategies to lower GHGs by 2030.⁷¹⁷ However, BHP's operational emissions have been higher than its baseline for every year since 2017.⁷¹⁸ BHP is reaping the benefits of appearing to have strong climate commitments but fails when actually executing.

574. Like Exxon, despite claiming they want to address its end-use (scope 3) emissions, BHP also fails to set any goals for its decline. BHP markets to consumers that it is attempting decarbonization but quietly claims that its "Achievement of this goal is uncertain, particularly given the challenges of a net zero pathway for our customers in steelmaking, and we cannot ensure the outcome alone."⁷¹⁹ BHP makes false claims about achieving lower carbon goals, but then

⁷¹⁵ *Id.*

⁷¹⁶ *Id.*

⁷¹⁷ BHP, *Climate Change*, BHP, <https://www.bhp.com/sustainability/climate-change>.

⁷¹⁸ *BHP Climate Transition Action Plan Analysis*, ACCR (May. 11, 2022), <https://www.accr.org.au/research/bhp-climate-transition-action-plan-analysis/>.

⁷¹⁹ *Pathways to decarbonization episode seven: the electric smelting furnace*, BHP, <https://www.bhp.com/news/prospects/2023/06/pathways-to-decarbonisation-episode-seven-the-electric-smelting-furnace>.

makes no genuine plan to reach the goals and gives itself a loophole in the fine print of their statements that allows them to get rid of responsibility if no “greener” outcomes are reached.

575. Rio Tinto has committed to lowering Scope 1 and 2 emissions by 2050.⁷²⁰ While Rio Tinto claims that the NMA has stated policy positions and advocacy that are “not aligned with Rio Tinto climate and energy policy,” Rio Tinto maintains a position on the NMA board and is a member of the environmental, social and corporate governance task force.⁷²¹ Despite claiming to be misaligned with the NMA’s policies, Rio Tinto maintains positions of control not only of the NMA in general, but specifically on the task force tasked with addressing environmental issues. Rio Tinto is no mere participant in the NMA, nor in the GCC—it operates and controls the NMA organization and furthers the conspiracy to hinder climate science and promote greater use of fossil fuels.

576. Motiva and its parent company, Saudi Aramco, claim to be cognizant of their emissions and have joined certain groups like the Oil and Gas Climate Initiative, to feign the appearance of developing emissions-lowering technology.⁷²² However, these pledges are undercut by Aramco’s goal to grow its reserves, including Motiva’s. In 2020, fossil fuel exploration and evaluation assets were \$5.6 billion.⁷²³ In 2019, Aramco discovered three new oil and gas fields, and in 2020, it found seven new fields and one reservoir. Aramco and Motiva have no plans to reduce oil and gas

⁷²⁰ Rio Tinto, *Climate Change*, RIO TINTO, <https://www.riotinto.com/en/sustainability/climate-change#:~:text=To%20strengthen%20our%20alignment%20with,and%20by%2050%25%20by%202030>.

⁷²¹ Rio Tinto, *Industry Disclosure 2022*, Rio Tinto, at 8, (available for download at: <https://www.riotinto.com/en/sustainability/ethics-compliance/industry-association-disclosure>) (last visited Oct. 20, 2023).

⁷²² Client Earth, *Greenwashing Files: Aramco*, CLIENT EARTH, <https://www.clientearth.org/projects/the-greenwashing-files/aramco/>.

⁷²³ Aramco, *Consolidated financial statements for the year ended December 31, 2020*, Saudi Arabian Oil Company (2020), <https://www.aramco.com/-/media/publications/corporate-reports/saudi-aramco-fy-2020-full-financials-english.pdf>.

production by 2030.⁷²⁴ Despite claiming that they engage in emissions-lowering practices, they have not implemented any such practices in their business.

577. Occidental has attempted to package its fossil fuel production as “carbon management.” Occidental CEO Vicki Hollub claimed that Occidental would not be an oil company in the next 15 to 25 years.⁷²⁵ Instead, it would be a “carbon management” company. Though this may sound appealing to a climate-conscious consumer, Occidental is deceiving the public by claiming their oil as “carbon neutral oil” despite it actually being normal oil with carbon offsets in production and use.⁷²⁶ Regardless of the carbon offset they claim makes their oil “carbon neutral,” there is no escaping the fact that the oil will be used, burned, and create downstream emissions that contribute just as much to climate change.

578. Despite claiming it will reach its 2050 goals and keep in line with the Paris Agreement, Occidental is relying on carbon sequestration and direct air capture technologies to offset emissions from its oil and gas.⁷²⁷ As studies suggest, these methods do not work. Occidental is lying to its consumers and shareholders about its ability to reach its commitments while raking in more and more profit each year.

579. Defendants’ misleading pledges are especially egregious in light of the fact that several Defendants have experienced unprecedented profits for their fossil fuel production in recent years. Defendants are lying to consumers by stating that they are committed to meeting net-zero requirements, abiding by the Paris Agreement, and rolling back their fossil fuel explorations. As

⁷²⁴ Client Earth, *Greenwashing Files: Aramco*, CLIENT EARTH, <https://www.clientearth.org/projects/the-greenwashing-files/aramco/>.

⁷²⁵ Molly Taft, *Big Oil’s New Slate of Desperate Buzzwords Are Greenwashing at Its Worst*, GIZMODO (Mar. 3, 2021), <https://gizmodo.com/big-oil-s-new-slate-of-desperate-buzzwords-are-greenwas-1846395653>.

⁷²⁶ *Id.*

⁷²⁷ Sabrina Valle, *Occidental shareholders reject climate proposal from activist investors*, REUTERS (May 6, 2022), <https://www.reuters.com/business/sustainable-business/occidental-shareholders-reject-climate-proposal-activist-investors-2022-05-06/>.

the numbers show, none of the Defendants have told the truth about their businesses and have fraudulently led consumers to believe they were purchasing products from companies that were part of the solution to climate change. Defendants continue to misrepresent their goals and business practices to the Plaintiffs and consumers everywhere.

5. Calculated Harm

580. Defendants have engaged in a business that has accelerated and continues to accelerate anthropogenic climate change. While Defendants continue to increase profits and expand their industry, communities all over the world take the brunt of the consequences of their actions. The harms of climate change disproportionately affect communities and citizens of the Global South, who are the least at fault for climate change acceleration—African, Asia, and Latin America.⁷²⁸ These continents only contribute 8% of excess emissions.⁷²⁹ Their emissions pale in comparison to the 36% contribution of Defendants.

581. Despite this gap in emissions, Defendants continue to make profits while lower-income countries bear the brunt of the climate crisis through heat waves, droughts, and super-storms. With progress being made in attribution science, the amounts of emissions contributed to the global climate is getting more and more clear. While the Defendants have successfully distorted the global narrative surrounding climate change through their disinformation campaigns, political donations, greenwashing, and lobbying, science can now illustrate the level of fault each Defendant bears in their contribution to climate change.⁷³⁰ As a result of attribution science, research has been done

⁷²⁸ Jason Hickel, *Quantifying national responsibility for climate breakdown: an equality-based attribution approach for carbon dioxide emissions in excess of the planetary boundary*, LANCET PLANET (Sept. 2020), [https://doi.org/10.1016/S2542-5196\(20\)30196-0](https://doi.org/10.1016/S2542-5196(20)30196-0).

⁷²⁹ *Id.*

⁷³⁰ Marco Grasso & Richard Heede, *Time to pay the piper: Fossil fuel companies' reparations for climate damages*, ONE EARTH, (May 19, 2023), <https://doi.org/10.1016/j.oneear.2023.04.012>.

to demonstrate the level of responsibility some major companies have to pay reparations to affected parties for climate harm.

582. A recent study investigated this issue and produced the following figure which demonstrates the largest 21 companies' emissions contributions and their corresponding reparations over the years 2025-2050:⁷³¹

Table 1. Reparations of top twenty-one fossil fuel companies, 2025–2050

Groups	Companies	A Cumulative emissions 1988–2022 (MtCO ₂ e)	B Percent of global emissions	C Cumulative reparations 2025–2050 (Billion US\$, current)	D Average annual reparations 2025–2050 (Billion US\$, current)
HR	Saudi Aramco, Saudi Arabia	53,714	4.78%	\$1,110	\$42.7
	ExxonMobil, USA	23,119	2.06%	\$478	\$18.4
	Shell, UK	20,487	1.82%	\$424	\$16.3
	BP, UK	18,214	1.65%	\$377	\$14.5
	Chevron, USA	16,090	1.43%	\$333	\$12.8
	Abu Dhabi, UAE	15,386	1.37%	\$318	\$12.2
	Peabody Energy, USA	13,777	1.23%	\$285	\$11.0
	TotalEnergies, France	11,760	1.05%	\$243	\$9.4
	Kuwait Petroleum Corp., Kuwait	11,733	1.04%	\$243	\$9.3
	ConocoPhillips, USA	10,082	0.90%	\$208	\$8.0
	BHP, Australia	9,602	0.85%	\$199	\$7.6
LR	Gazprom, Russian Fed.	50,492	4.49%	\$522	\$20.1
	Pemex, Mexico	18,533	1.65%	\$192	\$7.4
	PetroChina, China	18,162	1.62%	\$188	\$7.2
	Rosneft, Russian Fed.	11,224	1.00%	\$116	\$4.5
	Iraq National Oil Co., Iraq	10,521	0.94%	\$109	\$4.2
Petrobras, Brazil	9,806	0.87%	\$101	\$3.9	
Ex	National Iranian Oil Co., Iran	29,212	2.60%	–	–
	Coal India, India	26,208	2.33%	–	–
	Petroleos de Venezuela, Venezuela	12,898	1.15%	–	–
	Sonatrach, Algeria	12,070	1.07%	–	–
	<i>Top 21 companies</i>	<i>403,092</i>	<i>35.9%</i>	<i>\$5,444</i>	<i>\$209</i>
<i>99 “Carbon Major” companies</i>	<i>609,853</i>	<i>54.3%</i>	<i>\$12,608</i>	<i>NA</i>	
<i>Global fossil fuel emissions</i>	<i>1,123,439</i>	<i>100%</i>	<i>\$23,225</i>	<i>NA</i>	

Column A reports the atmospheric contributions of the top twenty-one carbon fuel producers, 1988 to 2022, including scope 1 operational and scope 3 product-related emissions of both carbon dioxide and methane (million tonnes CO₂e), and Column B reports each company's percent of global fossil fuel emissions. Cumulative reparations, once reductions and exemptions required by the principle of need are accounted for, total \$5.4 trillion and are included in Column C, while Column D reports their average annual amounts over the 26-year period 2025–2050. HR: high requirement companies; LR: low requirement companies; Ex: exempted companies. Source: authors' elaborations based on the Carbon Majors 2018 Dataset, updated 2023.¹⁷

583. The study lists Defendants ExxonMobil, Shell, ConocoPhillips, Chevron, Saudi Aramco (Motiva), BP, BHP as “high requirement” companies which means that they must “shoulder the

⁷³¹ *Id.*

full financial burden of reparations determined by the no-harm principle, since they are established in wealthier countries.”⁷³² This means they would pay their full share of reparations listed in the chart. Defendants ExxonMobil and Shell—would have the first and fourth highest reparations.

584. This data demonstrates just how significant the financial impacts the Defendants have had in their furtherance of climate change. Their industry practices have caused significant harm to parties prone to climate change. Seeing just how much the costs would be to make reparations for those harms further illustrates the point that the Defendants should be held accountable for their actions of obstructing climate mitigation practices and contributing tremendously to climate harm.

585. 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 hurricanes, to increase. Consequently, the Defendants engaged in those carefully devised actions in order to defraud the Municipalities of Puerto Rico, to continue to produce and sell their products unabated at low prices, earn billions in profit, and delay the development of energy production alternatives.

K. The Defendants Failed to Prevent or Warn Puerto Rico and its Consumers of the Increasing Risk of Severe Storms

586. Defendants individually and collectively extracted a substantial percentage of all raw fossil fuels extracted globally since 1965.

587. 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.

⁷³² *Id.*

588. 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.

589. 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 Municipalities and Government of Puerto Rico, Defendants embarked on a decades-long marketing campaign designed to maximize continued dependence on their products and undermine national and international efforts to rein in greenhouse gas emissions.

590. 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 damage their fossil fuel products were causing and would continue to cause for virtually every area of the globe, including Puerto Rico.

591. From 1965 to 2020, the Defendants and their co-venturers have been responsible for **39.6%** of all global industrial GHG emissions in both direct emissions from their industry and end use of their product. The Defendants' collective emissions were a substantial factor in the increase in intensity of the 2017 Atlantic Hurricane Season.

592. As of this filing, the Oil Defendants, including ExxonMobil, 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 Municipalities has already occurred and continues.

593. 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 still continue to promote and expand their exploration, production, promotion, marketing, and sale of fossil fuels that are the dominant cause of anthropogenic global warming. The Plaintiff Municipalities relief on Defendants’ marketing to their detriment, completely unprepared for the devastating storms of 2017 and their aftermath.

594. All of the Defendants were required by Best Business Practices 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 emissions 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 emissions to enable them to continue unabated fossil fuel production. Especially recently as the major oil companies received over \$200 billion in profits in fiscal year 2022.⁷³³ These oil majors (ExxonMobil, Chevron, BP, Shell, Equinor, and TotalEnergies) more than doubled their 2021 fiscal year profits, seeking to continue production rather than mitigate their GHG contributions.⁷³⁴

⁷³³ Ron Bousso, *Big Oil doubles profits in blockbuster 2022*, REUTERS (Feb. 8, 2023), <https://www.reuters.com/business/energy/big-oil-doubles-profits-blockbuster-2022-2023-02-08/>.

⁷³⁴ *Id.*

595. 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 Municipalities and their policy makers have also been deceived about the depth and breadth of the state of the scientific evidence on anthropogenic climate change, and in particular, on the strength of the scientific consensus demonstrating the role of fossil fuels in causing climate change and its potentially destructive impacts. The Defendants have been successful with their deceptive representations to generate reliance by the Plaintiff to their detriment.

596. 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.”

597. 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.

598. 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 fuels greatly increased and continues to increase the losses and rate of losses suffered by Plaintiff Government and Plaintiff Municipalities in 2017 and continuing to this filing.

599. The consequences of delayed action on climate change, exacerbated by Defendants' tortious actions as described herein, have already drastically increased the cost to the Municipalities of 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.⁷³⁵

600. 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.

601. 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 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 °s 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

⁷³⁵ 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 Oct. 16, 2023).

unavoidable because it results from current 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*).⁷³⁶

602. 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 the Municipalities, dramatically increasing the cost of abatement.

603. 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, ExxonMobil (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.^{737 738}

⁷³⁶ 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 Oct. 14, 2023).

⁷³⁷ ExxonMobil Research Engineering Co., *Fuel cell and fuel cell electrodes*, GOOGLE PATENTS (Dec. 31, 1963), <https://www.google.com/patents/US3116169> (last visited Oct. 14, 2023).

⁷³⁸ 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 Oct. 14, 2023).

- b) In 1970, ExxonMobil (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).⁷³⁹

604. Defendants were required by Best Business Practices to make inroads to mitigate the damages to the Plaintiff Government and Municipalities represented by the Plaintiffs 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 1952.⁷⁴⁰ 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 a process to remove carbon from natural gas and gasoline streams;⁷⁴¹ and
- c) In 1973, Shell patented a process to remove acidic gases, including CO₂, from gaseous mixtures.

605. Despite this knowledge, Defendants’ later attempts into the alternative energy sector were merely duplicitous pretense aimed at the Plaintiffs and their citizens. For instance, in 2001, Chevron developed and shared a sophisticated information management system to gather

⁷³⁹ ExxonMobil Research Engineering Co., *Low-polluting engine and drive system*, GOOGLE PATENTS (May 16, 1970), <https://www.google.com/patents/US3513929> (last visited Oct. 14, 2023).

⁷⁴⁰ James P. Meyer, *Summary of Carbon Dioxide Enhanced Oil Recovery (CO₂ EOR) 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 Oct. 15, 2023).

⁷⁴¹ 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 Oct. 14, 2023).

greenhouse gas emissions data from its explorations and production to help regulate and set reduction goals.⁷⁴² Beyond this technological breakthrough, Chevron touted “profitable renewable energy” as 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 2014.⁷⁴³

606. Similarly, ConocoPhillips’ 2012 Sustainable Development report declared developing renewable energy a priority in keeping with their position on sustainable development and climate change.⁷⁴⁴ 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.”⁷⁴⁵

607. After posting a \$10 billion quarterly profit, ExxonMobil 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 know.”⁷⁴⁶

608. 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

⁷⁴² 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 Oct. 16, 2023).

⁷⁴³ 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 Oct. 14, 2023).

⁷⁴⁴ ConocoPhillips, *Sustainable Development*, CONOCOPHILLIPS (2013), <http://static.conocophillips.com/files/resources/2012-sd-report.pdf> (last visited Oct. 16, 2023).

⁷⁴⁵ 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-10k.htm> (last visited Oct. 12, 2023).

⁷⁴⁶ 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 Oct. 14, 2023).

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 damage it will cause people and communities, including the consumers represented by the Plaintiff, 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, the Municipalities represented by the Plaintiffs, and Plaintiff Government 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-à-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 that 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 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.
- f) 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' concerns about Defendants' 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.

609. 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.

610. 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—is 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, health effects from increased heat and mold and related damages, among other consequences.

611. The Defendants have deceived and continue to deceive the Municipalities and their citizens. The Plaintiffs relied on those deceptions and therefore were unprepared for the impact of the ferocious storms of 2017 and the ongoing losses from them.

612. On February 8, 2010, the Securities and Exchange Commission (SEC) required publicly traded companies to disclose climate change related impacts.⁷⁴⁷ The Defendants are publicly traded companies and as such, have been required to disclose “significant physical effects of climate change, such as effects on the severity of weather (for example, floods or hurricanes), sea levels,

⁷⁴⁷ 17 CFR Parts 211, 231 and 241 Commission Guidance Regarding Disclosure Related to Climate Change; Final Rule.

the arability of farmland, and water availability quality,⁷⁴⁸ have the potential to affect a registrant's operations and results. For example, severe weather can cause catastrophic harm to physical plants and facilities and can disrupt manufacturing and distribution processes.”

613. 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;⁷⁴⁹
- d) Decreased agricultural production capacity in areas affected by drought or other weather-related changes; and
- 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.”⁷⁵⁰

614. The Defendants made no such disclosure. Therefore, the Municipalities of Puerto Rico and their citizens, who invest in these publicly traded companies, detrimentally relied upon the non-disclosure of climate related impacts.

L. Conclusion: An Accurate Prediction; A Sinister Response

⁷⁴⁸ 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 Oct. 15, 2023).

⁷⁴⁹ 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.”

⁷⁵⁰ Securities and Exchange Commission 17 CFR Parts 211, 231 and 241 Commission Guidance Regarding Disclosure Related to Climate Change.

615. The above review of the history of the oil industry's research, evolution, commentary and actions compels the following conclusions: one, by 1989, the "window of 5 to 10 years" an ExxonMobil executive had forewarned the deadline for "hard decisions" regarding energy strategies becoming critical had passed; two, the Defendant companies controlled a vast majority of worldwide energy production; three, that their energy products were the "primary cause" of climate change; four, if their production and sales continued unabated, a global catastrophe would occur involving: sea level rise, warming of the oceans, dramatic weather change in the Northern Hemisphere, severe storms and subsequent storm damage, increased rainfall, droughts, reduction of food and water supply, heat domes and heat mortality, serious consequences for man's survival, mega forest fires, migrating diseases, displaced climate-related refugees, marine life would be negatively affected, shorelines would decrease, and coral reefs would disappear.

616. Given this specialized knowledge, the Defendants collectively made the following decisions: one, they must work together to fight this threat to their energy monopoly; two, they must prevent this coming disaster from promoting legislation detrimental to their interests; three, they must increase drilling and production to keep their products so cheap that the alternative energy companies could not survive; four, they must make sure that their offshore drilling platforms in the Gulf, vulnerable to hurricanes, be constructed to withstand the coming severe storms; five, they would not warn anyone, even those people living in the Plaintiffs' Municipalities, who were most at risk for the coming devastation; six, they would lobby for carbon-friendly legislation, for continued preferential tax treatment and regulations of carbon fuels and subsidies, while simultaneously lobbying against climate bills, energy regulation, and any impediment to their industry; and lastly, 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 Plaintiffs of the dangerous condition their products were creating before 2017.

617. 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, two disastrous storms hit Puerto Rico in September 2017.

618. Defendants' affirmative and deliberate fraudulent concealment, suppression, and denial of climate change as described above has gone on uninterrupted for decades. Defendants have created and maintained a coordinated effort to obstruct the public's knowledge regarding any scientific facts about the environmental dangers associated with the use of fossil fuels by stifling and undermining scientific investigation into climate change. They have downplayed and even outright denied the harmful effects of fossil fuels and further concealed the Defendants' deceitful efforts to influence how the public views climate change. Through an ongoing pattern of dishonesty and deception designed to keep a market for their products and increase industry profits, Defendants have misrepresented the fossil fuel industry's targeting of consumers like the Plaintiffs and their attempts to exploit the mass influence over politics to maintain a market for fossil fuels. All of this was done at the expense of the Plaintiffs.

619. The Defendants knew that their acts, omissions, and deceit of the consumers represented by the Plaintiffs as detailed above, would, and did, prevent the Municipalities of Puerto Rico and their citizens 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 consumers represented by the Plaintiffs, would inevitably result in the

type of severe storm disasters that occurred in 2017 and cause the Municipalities and their 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 Municipalities and their citizens were injured and damaged by the unlawful acts of Defendants.

VII. CLASS ACTION ALLEGATIONS

620. Pursuant to provisions of the Federal Rules of Civil Procedure (“Rule”) 23(a), (b)(2), and (b)(3), Class Plaintiffs bring this action on their own behalf and on behalf of a proposed class initially defined as: “All Municipalities within Puerto Rico.”

621. The Plaintiffs seek to represent the Municipalities of Puerto Rico Class as well as any subclasses or issue classes Plaintiffs may propose and/or the Court may designate at the time of class certification.

622. Excluded from the Class are Defendants and their subsidiaries and affiliates; the Government of Puerto Rico; all entities or persons which/who make a timely election to be excluded from the Class; and the Judge to whom this case is assigned and his or her immediate family. The Plaintiffs reserve the right to revise the definitions of the Class based upon information learned through discovery.

623. Certification of Plaintiffs’ claims for class wide treatment is appropriate because Plaintiffs can prove the elements of their claims regarding liability and entitlement to injunctive relief, abatement, and damages on a class wide basis using the same evidence as would be used to prove those elements in individual actions alleging the same claim.

624. This action has been brought and may be properly maintained on behalf of the Class proposed herein under Federal Rule 23.

625. Plaintiffs reserve the right to modify the definition of the Class or add Sub-Classes prior to class certification.

626. Federal Rule 23 provides that an action may be maintained, and the party may sue or be sued as a representative party of the class only if the court finds:

- a) The class is so numerous that joinder of all members is impracticable.
- b) There are questions of fact or law common to the class, which common questions predominate over any questions affecting only individual members.
- c) The representative parties will fairly and adequately protect the interest of the class.
- d) The class action is an appropriate method for the fair and efficient adjudication of the controversy.

627. **Numerosity:** The members of the Class are so numerous and geographically dispersed that individual joinder of all members of the Class is impracticable. The proposed class has been ascertained and consists of 78 incorporated towns and cities—too many to practically join in a single action.

628. **Commonality and Predominance:** This action involves significant common questions of law and fact, which predominate over any questions affecting individual members of the Class, including, but not limited to:

- a) Whether Defendants engaged in the conduct alleged herein;
- b) Whether Defendants created a public nuisance;
- c) Whether Defendants unlawfully contributed to a public nuisance;
- d) Whether the Defendants engaged in a conspiracy to undermine scientific evidence that their carbon-based products contributed to the alteration of the climate;
- e) Whether the Defendants participated in an enterprise to undermine scientific evidence that their carbon-based products contributed to the

alteration of the climate;

- f) Whether the Defendants participated in an enterprise to commit consumer fraud by paying influencers or advertisers without disclosing the payment source in advertisements;
- g) Whether the Defendants participated in an enterprise to commit consumer fraud by paying influencers or advertisers to promote their carbon-based products contrary to internal scientific evidence;
- h) Whether Defendants unlawfully marketed and/or sold carbon-based products in Puerto Rico; and
- i) Whether Defendants' contribution to carbon was a contributing factor to the intensification of the 2017 Atlantic Hurricane Season.

629. **Typicality:** Plaintiffs' claims are typical of the claims of the members of the Class whom they seek to represent under the Federal Rules of Civil Procedure, because the Municipalities and citizens therein represented by the Plaintiffs had to expend resources to rebuild businesses, homes, and basic services. Plaintiffs and the other members of the Class suffered damages as a direct proximate result of the same wrongful practices by Defendants. Plaintiffs' claims arise from the same practices and courses of conduct that give rise to the claims of the other members of the Class. Plaintiffs' claims are based upon the same legal theories as the claims of the other members of the Class.

630. **Adequacy:** Plaintiffs will fairly and adequately represent and protect the interests of the members of the Class as required by the Federal Rules of Civil Procedure. Plaintiffs have retained counsel competent and experienced in complex class action litigation, including MDL litigation and other public nuisance litigation. Plaintiffs intend to prosecute this action vigorously. Neither Plaintiffs nor their counsel have interests that conflict with the interests of the other members of the Class. Therefore, the interests of the members of the Class will be fairly and adequately protected.

631. **Declaratory and Injunctive Relief:** Defendants have acted or refused to act on grounds generally applicable to Plaintiffs and the other members of the Class, thereby making appropriate final injunctive relief and declaratory relief, as described below, with respect to the Class as a whole.

632. **Superiority:** A class action is superior to any other available means for the fair and efficient adjudication of this controversy, and no unusual difficulties are likely to be encountered in the management of this class action. The damages or other financial detriment suffered by Plaintiffs and the other members of the Class are relatively small compared to the burden and expense that would be required to individually litigate their claims against Defendants, so it would be impracticable for members of the Class to individually seek redress for Defendants' wrongful conduct.

633. Even if members of the Class could afford individual litigation, the court system could not. Individualized litigation creates a potential for inconsistent or contradictory judgments and increases the delay and expense to all parties and the court system. By contrast, the class action device presents far fewer management difficulties and provides the benefits of single adjudication, economies of scale, and comprehensive supervision by a single court.

IIX. CAUSES OF ACTION

A. First Cause of Action: Common Law Consumer Fraud

634. Plaintiffs reallege and reaffirm each and every allegation set forth in all the preceding paragraphs as if fully stated herein.

635. Defendants engaged in and caused others to engage in consumer fraud and deceptive trade practices in violation of common law rules against fraud.

636. From 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.

637. 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 Plaintiffs. Some of these Oil Defendants also have coal interests, such as ExxonMobil, 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.

638. 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.

639. 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 Puerto Rico, Defendants embarked on a decades-long marketing campaign designed to

maximize continued dependence on their products and undermine national and international efforts to rein in greenhouse gas emissions.

640. 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 damage their fossil fuel products were causing and would continue to cause for virtually every area of the globe, including Puerto Rico or exacerbate the problem by increasing production and sales. They chose the latter.

641. As the Defendants were well 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 becoming a hurricane. This provides the energy for the hurricane to intensify.⁷⁵¹ Thus, greenhouse gases are known to strengthen and increase the storm damage of hurricanes.⁷⁵²

642. 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 losses and losses occurred, however, because the Defendants jointly refused to take those steps.

643. Further, Best Business Practices required the Oil Defendants to reasonably warn Puerto Rican consumers, the public, and regulators of the dangers known to them of the unabated

⁷⁵¹ 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 Oct. 14, 2023).

⁷⁵² 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://19january2017snapshot.epa.gov/climatechange/endangerment-and-cause-or-contribute-findings-greenhouse-gases-under-section-202a_.html (last visited Oct. 15, 2023). 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.

consumption of their fossil fuel products, and their Best Business Practices required them to have taken reasonable steps to limit the potential greenhouse gas emissions arising out of those products. Instead, the Defendants chose to increase their fossil fuel production and use.

644. 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.

645. At the height of their deceit, they sought to profit from the consumer’s desire to use environmentally sound products. Thus, the GCC’s marketing campaign focused on concealing, discrediting, and/or misrepresenting information that tended to support restricting consumption of (and thereby decreasing demand for) Defendants’ fossil fuel products and took many forms.

646. 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.

647. The FTC 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, marketers 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 standards generally accepted in the relevant scientific fields, when considered in light of the entire body of relevant and reliable scientific evidence, to substantiate that each of the marketing claims is true.

648. The GCC 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.

649. Even more insidious, between the late 1980’s to 2015, more than half of all fossil fuel emissions and cement process 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 its Municipalities.

650. Also, during this time, the waters of the Atlantic in hurricane 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.

651. 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.

652. The Municipalities of Puerto Rico reasonably and justifiably relied on the Defendants' misrepresentations. The Municipalities' 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.

653. The Defendants' scheme allowed them to earn trillions in sales of fossil fuels based upon fraudulent marketing, misrepresentations, and material omissions of known facts regarding their fossil fuel products and their effects.⁷⁵³

654. 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 Municipalities of Puerto Rico and their citizens.

655. As a direct and proximate result of the Municipalities' reliance upon Defendants' misrepresentations, the Municipalities and their citizens suffered damages in the form of hundreds

⁷⁵³ Taylor, Matthew & Jillian Ambrose, *Revealed: big oil's profits since 1990 total nearly \$2tn*, THE GUARDIAN (Feb. 12, 2020) (<https://www.theguardian.com/business/2020/feb/12/revealed-big-oil-profits-since-1990-total-nearly-2tn-bp-shell-chevron-ExxonMobil>).

of billions of dollars in losses and losses caused by the unfettered use of fossil fuels and Plaintiffs' reliance on those misrepresentations.

656. In recent years, 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.

657. As a result, demand has increased for "green" products that are naturally derived, environmentally sound, and non-toxic.

658. 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.

659. 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.

660. 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).

661. 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.

662. 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.

663. The Defendants' promotions and advertisements are deceptive, and the marketers did not identify all express and implied claims that their advertisement reasonably conveys.

664. 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.

665. In violation of the FTC Green Guides, particularly 16 C.F.R. Part 260.2, the GCSCT 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."⁷⁵⁴

666. The GCSCT 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.⁷⁵⁵ From 1998 to 2008, ExxonMobil alone invested more than \$20 million to "think tanks" that dedicated a large amount of effort to questioning whether climate change was sound science.⁷⁵⁶

⁷⁵⁴ 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).

⁷⁵⁵ *Id.*

⁷⁵⁶ James Hoggan & Richard Littlemore, *Climate Cover-Up: The Crusade to Deny Global Warming* (2009).

667. As of May 8, 2019, the Competitive Enterprise Institute, an allocator of the GCSCT Action Plan, boasted 3590 blog posts, 97 events, 3840 media events and 1752 articles concerning climate change.⁷⁵⁷

668. 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).”⁷⁵⁸ 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.

669. Singer was paid as a consultant by ExxonMobil, Shell, Chevron, BP, the American Petroleum Institute, and ALEC. Fred Singer is also prominently displayed on the current website of the Heartland Institute⁷⁵⁹ and is considered a senior fellow at climate change denial.

670. 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.

671. As of May 8, 2019, the Community for a Constructive Tomorrow (CFACT) which was present at the GCC GCSCT meeting in April 1998 boasted hundreds of articles concerning climate change under the web address of www.climatedepot.com.

672. CFACT has received funding from ExxonMobil since 1998.

⁷⁵⁷ See, Competitive Enterprise Institute Website: <https://cei.org/search/site/climate%20change> (last visited Oct. 14, 2023).

⁷⁵⁸ The Heartland Institute, *About the NIPCC*, NONGOVERNMENTAL INTERNATIONAL PANEL ON CLIMATE CHANGE, <http://climatechangereconsidered.org/about-the-nipcc/> (last visited Oct. 14, 2023).

⁷⁵⁹ 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 Oct. 14, 2023).

673. Among many other examples, in CFACT's "Climate Truth File 2016", attached as

Exhibit 38, *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 1960s."
- 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 crops 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 warming pause' has essentially continued."
- h) "Arctic ice changes are not 'proof' of manmade 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 politicians who say government 'can do something about droughts, floods, sea levels, hurricanes, and tornadoes are practicing the equivalent of medieval witchcraft.’”⁷⁶⁰

674. In order to change public opinion and keep the Municipalities 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 Municipalities and their citizens into continuing to purchase their products and avoid the energy source alternative. The Municipalities and their 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.

675. Defendants fraudulently concealed their knowledge that climate change would be accelerated through use of their products and not utilizing competing alternative non-carbon fuel sources.

676. The allocators, promoters, and endorsers of the GCSCCT Action Plan did intentionally hide the source of the funders from the public, including Puerto Rico and its Municipalities.

677. The omissions from the representations of the allocators, promoters, and endorsers of the GCSCCT Action Plan mislead the Municipalities and their citizens and the Plaintiffs relied on these misrepresentations.

678. The Defendants also mislead the Plaintiffs to take away market share from competing alternative energy products, thereby increasing their own sales and profits.

⁷⁶⁰ Marc Morano, *Climate Truth File 2016*, COMMITTEE FOR 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 Oct. 14, 2023).

679. Defendants' failure to disclose such information induced the Plaintiffs 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.

680. Defendants' misrepresentations, false representations, concealment, and omissions concerning their goods and services were materially false statements that induced the Plaintiffs to act or to refrain from acting and deceived the recipient Plaintiffs in purchasing their products because the products did cause climate change that endangered the Plaintiffs.

681. 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.

682. 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.

683. Defendants' deceptive trade practices significantly impacted the Municipalities of Puerto Rico and their citizens, who were in 2017 and continue to be directly affected by Defendants' deceptive trade practices. The Municipalities represented by the Plaintiffs directly affected by the deceptive trade practices had no effective bargaining power. The deceptive practices have previously impacted the Municipalities in Puerto Rico and the Defendants' deceptive trade still are impacting the energy purchase choices of the Plaintiffs.

684. 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 Government and the Municipalities represented by the Plaintiffs and the Plaintiffs themselves.

685. The Municipalities in Puerto Rico who were the targets of these deceptive trade practices were in 2017, and are, actual, and potential consumers of Defendants' goods or services. They purchased the Defendants products because of the deceptive trade practices.

686. The Municipalities in Puerto Rico and their 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 Municipalities represented by the Plaintiffs.

687. The Defendants knew that their acts, omissions and deceit of the consumers represented by the Plaintiffs as detailed in this Count, would, and did, prevent the Plaintiff Government and the Municipalities represented by the Plaintiffs 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 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 Government and the Municipalities represented by the Plaintiffs, would inevitably result in the severe storm disasters of 2017 and cause the Plaintiff Government, and the Municipalities represented by the Plaintiffs 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 Plaintiffs.

688. Wherefore, the Municipalities of Puerto Rico seek punitive and compensatory damages in excess of \$75,000 from all Defendants, jointly and severally.

B. Second Cause of Action: Conspiracy to Commit Common Law Consumer Fraud and Deceptive Businesses Practices

689. Plaintiffs reallege and reaffirm each and every allegation set forth in all the preceding paragraphs as if fully stated herein.

690. 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 Municipalities of Puerto Rico and their citizens in September 2017 and since.

691. The Defendants and their co-conspirators jointly targeted their fossil fuel activities at the Municipalities of Puerto Rico and their citizens, including through the co-conspirators based in, doing business in, and/or incorporated in Puerto Rico.

692. 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 goods and services would cause—so 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.

693. 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 Plaintiffs 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 Municipalities of Puerto Rico and their citizens.

694. 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 Plaintiffs to purchase their goods and services. 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.

695. 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 Municipalities' 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 Plaintiffs.

696. The Defendants' and co-conspirators' concerted unlawful actions performed to accomplish their goal were and are a direct and proximate cause of injuries, damages and losses to the Municipalities and their citizens.

697. The Municipalities of Puerto Rico and their citizens reasonably and justifiably relied on the Defendants' and co-conspirators' misrepresentations. The Municipalities' reliance was reasonable because Best Business Practices required the Defendants and their co-conspirators to warn the Plaintiffs' 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 of those products, and to take any of a number of steps to mitigate the damages caused by their fossil fuel products before September 2017.

698. As a direct and proximate result of the Plaintiffs' reliance upon Defendants' and their co-conspirators' misrepresentations, the Municipalities suffered damages in the form of hundreds of billions of dollars in injury caused by the unfettered promotion, sale, and use of the Defendants' fossil fuels.

699. The Defendants knew that their acts, omissions, and deceit of the Plaintiffs as detailed in this Complaint, would, and did, prevent the Plaintiffs 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 Plaintiffs, would inevitably result in the type of severe storm disasters that occurred in 2017 and cause the Municipalities of Puerto Rico and their citizens to incur billions of dollars in damages.

700. Wherefore, the Municipalities of Puerto Rico seek 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

701. Plaintiffs reallege and reaffirm each and every allegation set forth in all the preceding paragraphs as if fully stated herein.

702. Defendants engaged in and caused others to engage in deceptive trade practices in Puerto Rico.

703. 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.

704. Defendants' deceptive trade practices included, but were not limited to:

- a) knowingly making false representations as to the characteristics, ingredients, uses, 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.

705. Defendants' failure to disclose such information was intended to induce the Plaintiffs to enter into transactions for the continued and expanding use of fossil fuels and fossil fuel products.

706. Defendants' misrepresentations, false representations, fraudulent concealment, and omissions concerning their goods and services were materially false statements that induced the Plaintiffs to whom they were made to act or to refrain from acting had the capacity to deceive the Plaintiffs and did so.

707. 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.

708. 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.

709. Defendants' deceptive trade practices significantly impacted the Municipalities of Puerto Rico and their citizens, and they continue to be directly affected by Defendants' deceptive trade practices. The Plaintiffs directly affected by the deceptive trade practices had no bargaining power.

710. 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 Plaintiffs.

711. Plaintiffs reasonably and justifiably relied on the Defendants' and co-conspirators' misrepresentations. The Municipalities' 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.

712. As a direct and proximate result of the Municipalities' reliance upon Defendants' and their co-conspirators' misrepresentations, Plaintiffs suffered damages in the form of hundreds of billions of dollars in losses caused by the unfettered sale of fossil fuels by the Defendants and its impact on the climate of the Municipalities.

713. Plaintiffs who were the targets of these deceptive trade practices were in 2017, and are actual and potential consumers of Defendants' goods or services.

714. The Municipalities of Puerto Rico and their citizens 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 Government and the Municipalities represented by the Plaintiffs and their citizens which were the direct and proximate result of Defendants' deceptive trade practices.

715. The Defendants knew that their acts, omissions and deceit of the Plaintiffs as detailed in this Complaint, would, and did, prevent the Municipalities represented by the Plaintiffs 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 Government and the Municipalities represented by the Plaintiffs, would inevitably result in the type of severe storm disasters of September 2017 and cause the Plaintiff Government and the Municipalities represented by the Plaintiffs to incur billions of dollars in damages and losses.

716. Wherefore, the Municipalities of Puerto Rico seek punitive and compensatory damages in excess of \$75,000 from all Defendants, jointly and severally.

D. The Pattern of Racketeering Activity

717. Each Oil and Coal Defendant is an entity capable of holding a legal or beneficial interest in property and is therefore a “Person” within the meaning of the Racketeer Influenced and Corrupt Organizations Act, 18 U.S.C. §1961(3).

718. API 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.

719. API is a corporation and therefore is an “enterprise” within the meaning of the Racketeer Influenced and Corrupt Organizations Act, 18 U.S.C. §1961(4).

720. Each and every one of the Oil Defendants was, at all times relevant to the Complaint, associated with the API enterprise.

721. The GCC was an organization made up of the Defendants and their associates from 1989-2001 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.

722. GCC was a "group of individuals associated in fact" and therefore is an "enterprise" within the meaning of the Racketeer Influenced and Corrupt Organizations Act, 18 U.S.C. §1961(4).

723. Each and every one of the Oil and Coal Defendants was, at various times relevant to the Complaint, associated with the GCC enterprise.

724. The following sub paragraphs a) through l) are alleged as a part of each of Racketeering Acts Nos. 1 through 81 relating to mail fraud and wire fraud set forth in the Appendix to the Complaint.

- a. From at least as early as 1956, and continuing until the time of filing of this complaint, in Puerto Rico and in the United States, Defendants and others known and unknown did knowingly and intentionally devise and intend to devise a scheme to defraud, and obtain money and property from, members of the public by means of material false and fraudulent pretenses, representations, and promises, and omissions of material facts, knowing that the pretenses, representations, and promises, were false when made.
- b. It was part of said scheme and artifice that the Defendants would and did sell products for purchase by consumers that were represented to pose no proven substantial risk of climate change and that such products were not proven to be dangerous, when in fact, fossil fuels posed substantial risks to the environments, that emissions produced by fossil

fuels were directly causing intensified climate change, and that the Defendants had concealed and actively obstructed climate science and delay or wholly prevent climate legislation that would mitigate the harmful effects of climate change.

- c. It was further part of this scheme that Defendants and their co-conspirators would and did maintain sales and profits from fossil fuels, by concealing, and suppressing material information regarding the environmental consequences associated with producing, manufacturing, selling, and using fossil fuels, including that fossil fuels would exacerbate and intensify climate change to the point of extreme weather, that Defendants maintained or increased production and exploration despite advertising their commitments to lowering emissions, that Defendants actively obstructed climate policies.
- d. It was further part of said scheme and artifice that, in order to conceal the causal connection between fossil fuels and climate change, Defendants would and did make false representations and misleading statements in national publications, would and did falsely represent that defendants would fund and conduct objective, scientific research, and disclose the results of such research, to resolve concerns about climate change, would and did suppress and destroy documents to hide adverse research results, would and did conceal the availability of less harmful energy sources, and would and did misrepresent their actions to government personnel and others and in judicial proceedings.
- e. It was further part of said scheme that Defendants sought to impair, impede, and defeat government authorities' ability to understand the actual risks of burning fossil fuels, and to impair, impede, and defeat governmental efforts to regulate fossil fuel use and mitigate climate change, and to impair, impede, and defeat parties in litigation from learning the adverse effects of fossil fuels, in that Defendants and their co-conspirators would and did attempt to cover up their knowledge of the adverse effects of fossil fuels and their connection with climate change, and would and did misrepresent that adverse effects of fossil fuel production and use were unknown or unproven; and would and did attempt to prevent to the public, Congress, courts and government officials from uncovering those activities.
- f. It was further a part of said scheme that Defendants misled consumers about the environmentally friendly nature of some of their fossil fuel products, about the companies' plans to introduce better methods for lowering emissions, about researching, funding, and providing alternative energy products to induce further sales from customers.

- g. It was further a part of said scheme that Defendants communicated to the public nationwide in newspapers, magazines, and other periodicals that were distributed through the mails, as well as through the broadcast media, to deceive the public.
- h. It was further part of said scheme that Defendants would take and receive and cause to be taken and received from the mails communications concerning research relating to the effects of fossil fuels on the environment.
- i. It was a further part of said scheme that Defendants and their co-conspirators would and did misrepresent, conceal, and hide and cause to be misrepresented, concealed, and hidden, the purpose of, and acts done in furtherance of, the scheme to defraud.
- j. It was a further part of said scheme, and in furtherance thereof, that Defendants would and did communicate with each other and with their co-conspirators and others, in person, by mail, and by telephone and other interstate and foreign wire facilities, regarding the impacts of climate change, research into the effects of fossil fuels on climate change, and ways to suppress such information, and regarding ways to identify and target legislation for the obstruction of climate policy.
- k. For the purpose of executing and attempting to execute the scheme described herein, Defendants and their co-conspirators would and did: knowingly place and cause to be placed in any post office or authorized depository for mail matter, matters and things to be sent and delivered by the United States Postal Service (and its predecessor, the United States Post Office Department); took and received therefrom such matters and things; and knowingly caused to be delivered by mail according to the direction thereon, and at the place at which it is directed to be delivered by the person to whom it is addressed, any such matter and thing, in violation of 18 U.S.C. § 1341, including, but not limited to, the instances set forth in Racketeering Acts 1 through 43 of the Appendix to the Complaint.
- l. For purposes of executing and attempting to execute that scheme, Defendants and their co-conspirators would and did knowingly transmit and cause to be transmitted in interstate and foreign commerce by means of wire, radio, television, and internet communication writings, signs, signals, pictures and sounds (collectively "transmissions") in violation of 18 U.S.C. § 1343, including, but not limited to, the transmissions set forth in Racketeering Acts 44 through 81 of the Appendix to the Complaint. Racketeering Acts Nos. 1 through 81 appearing in the Appendix to this Complaint are alleged and incorporated by reference into the Complaint as if fully set forth herein.

725. A summary of the Racketeering Acts charged against each Defendant is below. The table indicates each Defendants' Racketeering Acts, in which each Defendant that is named in this Complaint in its individual capacity, personally participated. Each of these Acts was committed pursuant to and in furtherance of the above-described Enterprise, and such Acts include false and misleading statements, as well as other uses of the mails and wire transmissions, to further and execute defendants' scheme and artifice to defraud.

Defendant	Racketeering Acts	Violations
ExxonMobil	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 16, 17, 18, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 59, 60, 63, 64, 65, 67, 68, 69, 70, 71, 75, 76, 77, 80, 81	18 USC 1341 18 USC 1343
Shell	1, 2, 7, 8, 9, 10, 11, 12, 13, 16, 17, 19, 20, 21, 22, 23, 24, 25, 27, 28, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 57, 60, 64, 65, 68, 70, 71, 72, 73, 75, 76, 80, 81	18 USC 1341 18 USC 1343
Chevron	1, 2, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20, 21, 23, 24, 25, 27, 28, 43, 45, 46, 47, 48, 49, 50, 51, 52, 56, 60, 61, 64, 65, 68, 70, 71, 75, 76, 80, 81	18 USC 1341 18 USC 1343
BP	1, 2, 7, 8, 9, 10, 11, 12, 13, 16, 17, 20, 21, 23, 24, 25, 27, 28, 43, 51, 52, 60, 61, 62, 64, 65, 66, 68, 70, 71, 73, 74, 75, 76, 80, 81	18 USC 1341 18 USC 1343
Occidental	1, 7, 8, 9, 10, 11, 12, 13, 16, 17, 20, 21, 23, 24, 25, 27, 28, 43, 45, 46, 47, 48, 49, 50, 52, 60, 64, 65, 68, 70, 71, 75, 76, 80, 81	18 USC 1341 18 USC 1343
ConocoPhillips	1, 2, 7, 8, 9, 10, 11, 12, 13, 16, 17, 20, 21, 23, 24, 25, 27, 28, 43, 45, 46, 47, 48, 49, 50, 52, 58, 60, 64, 65, 68, 70, 71, 75, 76, 80, 81	18 USC 1341 18 USC 1343
Motiva	1, 7, 8, 9, 10, 11, 12, 13, 16, 17, 20, 21, 23, 24, 25, 27, 28, 43, 45, 46, 47, 48, 49, 50, 52, 60, 64, 65, 68, 70, 71, 75, 76, 80, 81	18 USC 1341 18 USC 1343
BHP	7, 8, 9, 10, 11, 12, 13, 16, 20, 21, 23, 24, 25, 27, 28, 42, 43, 45, 46, 47, 48, 49, 50, 52, 60, 64, 65, 76, 78, 79,	18 USC 1341 18 USC 1343
Rio Tinto	7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 20, 21, 23, 24, 25, 27, 28, 42, 43, 45, 46, 47, 48, 49, 50, 52, 60, 64, 65, 76,	18 USC 1341 18 USC 1343
API	1, 2, 7, 8, 9, 10, 11, 12, 13, 16, 17, 20, 21, 23, 24, 25, 27, 28, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 60, 68, 75, 76, 81	18 USC 1341 18 USC 1343

1. Fourth Cause of Action: Racketeer Influenced and Corrupt Organizations Act 18 U.S.C. § 1962(C)

726. Plaintiffs reallege and reaffirm each and every allegation set forth in all the preceding paragraphs as if fully stated herein.

727. Racketeer Influenced and Corrupt Organizations Act (RICO) forbids “any person ... associated with any enterprise engaged in, or the activities of which affect, interstate or foreign commerce, to conduct or participate, directly or indirectly, in the conduct of such enterprise's affairs through a pattern of racketeering activity,” 18 U.S.C. § 1962(c).

728. Defendants, conducted and participated for decades in the conduct of API's and GCC's enterprise's affairs, and continue to conduct and participate, through a pattern of racketeering activity for the unlawful purpose of intentionally defrauding Plaintiffs, 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) As early as 1959, API was put on notice of fossil fuel's effects on the climate. Throughout the 1960s and through the 1980s, API established Task Forces and Research Committees to study how fossil fuels affect the climate. Their studies confirmed the potential damage of fossil fuels to the environment and accurately predicted future impacts on the climate including atmospheric CO₂ concentrations of the year 2000. This information was consistently provided to Oil and Gas Defendants ExxonMobil, Shell, BP, ConocoPhillips, Motiva and Occidental (or their predecessors in interest) throughout the decades. However, such results were purposely kept hidden from the public to ensure the continuation of their interests and profits.
- b) In 1992, the Defendants, present or by their predecessors in interest, reorganized an entity called the Global Climate Coalition (GCC) 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.

- c) From 1992-1998, the Defendants, through the GCC, caused the publication of a series of newspaper articles undermining the science of global warming which they knew to be false.
- d) 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, ExxonMobil Corp.; Robert Gehri, The Southern Company; Sharon Kneiss, Chevron Corp; Steve Milloy, The Advancement of Sound Science Coalition; and Joseph Walker, American Petroleum Institute.
- e) 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.”
- f) 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.
- g) 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.
- h) 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.

- i) Defendants consulted with the same individuals who advised Big Tobacco's disinformation campaign, using them for information on how to mislead the public on fossil fuels and climate change.
- j) From the 1990s to the present, millions of dollars were given to lobbyists, advocacy groups, and think tanks that fraudulently downplayed fossil fuel's contribution to climate change. Defendants also concealed funding that was given to outside groups that actively opposed climate action.
- k) From the 2010s to the present, Defendants created greenwashing campaigns that exaggerated the fossil fuel industry's dedication to combating climate change and promoted phony solutions to the crisis without disclosing the plans of the Oil and Gas Defendants to market and profit from fossil fuels at unprecedented levels in later decades.
- l) From 1998 to present date, Defendants have funded and supported various groups to perpetuate their pattern of deception in order to increase profits, expand business, defeat competitors and continue to deceive the Plaintiff.

729. 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 the conduct of the API Enterprise's affairs (Oil and Gas Defendants only) and GCC Enterprise's affairs (all Defendants) 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 Plaintiffs' **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.

730. The acts listed individually on Plaintiffs' **RICO Case Statement** constitute a continuous pattern of racketeering activity pursuant to 18 U.S.C. §1961(5).

731. 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).

732. As a direct and proximate result of Defendants' racketeering activities and violations of 18 U.S.C. §1962(c), and by reason thereof, Plaintiffs have been injured in their business, property, and basic services.

733. Plaintiffs 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, Penuelas, Guánica and Fajardo, 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;
- h) Damage for all buildings and homes for the Municipalities of Puerto Rico and its citizens;
- 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 Municipalities of Puerto Rico;
- o) Infrastructure improvements to the Municipalities of Puerto Rico to withstand climate change effects; and
- p) Other related economic costs to the Municipalities of Puerto Rico

734. Plaintiffs seek relief not only for their own damages to business and property, but also for the Municipalities of Puerto Rico 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.

735. The Defendants knew that their predicate acts, material misrepresentations, fraudulent concealments, omissions, and deceit of the Plaintiffs as detailed in this Count, would, and did, cause the Plaintiffs and their citizens to face an unknown substantial risk that they otherwise would not have taken, by purchasing the Defendants' carbon-based products, and prevented the Plaintiffs and their citizens from having the knowledge they needed to adequately prepare for the "hotter and wetter" storms that pummeled Puerto Rico in 2017, causing damages 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 Plaintiffs, would inevitably result in the type of severe storm disasters that occurred in 2017. These storms would cause the consumers represented by the Plaintiffs and their citizens to incur billions of dollars in damages, including to business and property. Had the Municipalities known that the sale and use of the Defendants' products would cause the more frequent, hotter, and wetter storms, they 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 suffered by the Plaintiffs.

736. Wherefore, Plaintiffs, individually, on behalf of all Municipalities, 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 Plaintiffs and their citizens, 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 Plaintiffs and their citizens suffered direct and foreseeable injury from the predicate acts and material misrepresentations. Accordingly, the Plaintiffs request that this Court enter judgment against the Defendants for damages to the Municipalities for damages, treble damages, and attorneys’ fees and costs as allowed for by statute.

2. Fifth Cause of Action: Racketeer Influenced and Corrupt Organizations Act, 18 U.S.C. § 1962(a)

737. Plaintiffs reallege and reaffirm each and every allegation set forth in all the preceding paragraphs as if fully stated herein.

738. The Defendants used and invested income that was derived from a pattern of racketeering activity to operate through enterprises 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 API and GCC enterprises to deceive the public, investors, regulators, and the Plaintiffs and their citizens, 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 Plaintiffs. 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.

739. The Defendants' conduct through the API Enterprise's affairs (Oil and Gas Defendants only) and GCC Enterprise's affairs (all Defendants) constitutes a pattern of continuous racketeering activity pursuant to 18 U.S.C. §1961(5).

740. As a direct and proximate result of the Defendants' racketeering activities and violations of 18 U.S.C. §1962(a), and by reason thereof, Plaintiffs have been damaged in their business and property as stated herein.

741. Plaintiffs 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, Penuelas, Guánica and Fajardo, 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;
- h) Damage for all buildings and homes for the Municipalities of Puerto Rico and their citizens;

- 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 Municipalities of Puerto Rico;
- o) Infrastructure improvements to the Municipalities of Puerto Rico to withstand climate change effects; and
- p) Other related economic costs to the Municipalities of Puerto Rico.

742. Plaintiffs seek relief not only for their own damages to business and property, but also for all Municipalities under civil RICO violations of 18 U.S.C. §1962(a) in this Complaint, excepting therefrom the judge and his or her immediate family.

743. The Defendants knew that their predicate acts, material misrepresentations, fraudulent concealments, omissions, and deceit of the Plaintiffs and their citizens as detailed in this Count, would, and did, cause the Plaintiff Government and the Municipalities represented by the Plaintiffs to accept a substantial risk that they otherwise would not have taken, by purchasing the Defendants' carbon-based products, and prevent the Plaintiffs and their citizens 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 Plaintiffs and their citizens, would inevitably result in the type of severe storm disasters that occurred in 2017 and cause the Plaintiffs and their citizens to incur and continue to incur

billions of dollars in damages, including to business, property, and basic services provided by the Municipalities. 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 Plaintiffs' citizens reside. Had the Municipalities known that the Defendants' products were causing more frequent, hotter, and wetter storms, they 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.

744. Wherefore, Plaintiffs, individually, on behalf of all Government and Municipalities of Puerto Rico, 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 Plaintiffs and their citizens, 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 Plaintiffs and their citizens 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 Municipalities of Puerto Rico for damages, treble damages, and attorneys' fees and costs as allowed for by statute.

3. Sixth Cause of Action: Racketeer Influenced and Corrupt Organizations Act, 18 U.S.C. § 1962(b)

745. Plaintiffs reallege and reaffirm each and every allegation set forth in all the preceding paragraphs as if fully stated herein.

746. Each Oil and Gas Defendant participated at some point and/or maintained in the operation and control of the API enterprise. Oil and Gas Defendants also participated in or directed the activities the API enterprise's activities which furthered its scheme to deceive the public about

fossil fuels accelerating climate change in order to maintain their profits from the fossil fuel industry and prevent or, at least, delay the transition from fossil fuels to more sustainable energy sources:

- a) Senior Executives from several of the Oil and Gas Defendants have been members of API and have served as an API Board of Director throughout the last several decades.
- b) The API Board of Directors has been Chaired by Executives of Defendants every year for the past five years: Chevron (2022-present), ConocoPhillips (2020-2022), ExxonMobil (2018-2020), and Phillips 66, a subsidiary of Defendant ConocoPhillips (2016-2018).
- c) The Oil and Gas Defendants have exercised further control through their financial contributions to API, making up a large portion of API's yearly income. Oil and Coal Defendants have together contributed tens of millions of dollars annually as members.
- d) The Oil and Gas Defendants have organized, controlled, and participated in API initiatives, Committees, Task Forces, Communications Teams, marketing efforts, and lobbying for the past 50 years deceive the public about the recognized risks of climate change.

747. Each Oil and Coal Defendant participated at some point in the operation and control of the GCC enterprise. These Defendants also participated in or directed the activities the GCC enterprise's activities which furthered its scheme to deceive the public about fossil fuels accelerating climate change in order to maintain their profits from the fossil fuel industry and prevent or, at least, delay the transition from fossil fuels to more sustainable energy sources:

- a) Defendants ExxonMobil, Shell, ConocoPhillips, and API were all founding members of the GCC. All Defendants were members of the GCC throughout its existence.
- b) GCC's first Chairman was a previous ConocoPhillips Director of Government Relations, Thomas Lambrix.
- c) Executives from Defendants ExxonMobil, Chevron, and ConocoPhillips served on the GCC's Board of Directors.

- d) The GCC's Science and Technology Committee, which created false studies disputing the possibility of manmade climate change, was co-chaired by an ExxonMobil Executive. Further, Chevron executives also served as members of the Science and Technology Committee.

748. The Defendants acquired and maintained interests in and control of the enterprises 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.

749. The Defendants' conduct constitutes a pattern of racketeering activity pursuant to 18 U.S.C. §1961(5).

750. The Defendants 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.C. §1962(b).

751. As direct and proximate result of the Count III Defendant(s)' racketeering activities and violations of 18 U.S.C. §1962(b), and by reason thereof, Plaintiffs have been injured in their business and property as stated herein.

752. Plaintiffs 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, Penuelas, Guánica and Fajardo, 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;
- h) Damage for all buildings and homes for the Municipalities of Puerto Rico and their citizens;
- 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 Municipalities of Puerto Rico;
- o) Infrastructure improvements to the Municipalities of Puerto Rico to withstand climate change effects; and
- p) Other related economic costs to the Municipalities of Puerto Rico.

753. Plaintiffs seek relief for all of the Municipalities of Puerto Rico 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.

754. The Defendants knew that their predicate acts, material misrepresentations, fraudulent concealments, omissions, and deceit of the Plaintiffs and their citizens as detailed in this Count, would, and did, cause the Plaintiffs 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 Plaintiffs 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 storms, the exceptionally warm surrounding sea, plus the rise in the sea level, substantially caused by their acts and hidden from the Plaintiffs and their citizens, would inevitably result in the type of severe storm disasters that occurred in 2017 and cause the Plaintiffs to incur billions of dollars in damages, including to business, property, and basic services. Had the Municipalities 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.

755. Wherefore, Plaintiffs, individually, on behalf of all Municipalities in Puerto Rico, 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 Plaintiffs and their citizens, 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 Plaintiffs suffered direct and foreseeable injury from the predicate acts and requests that this Court enter judgment against the Defendants for damages to the Municipalities for damages, treble damages, and attorneys’ fees and costs as allowed for by statute.

4. Seventh Cause of Action: Racketeer Influenced and Corrupt Organizations Act, 18 U.S.C. § 1962(d)

756. Plaintiffs reallege and reaffirm each and every allegation set forth in all the preceding paragraphs as if fully stated herein.

757. 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, Plaintiffs and their citizens, 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 Municipalities and their citizens. 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 dependence on fossil fuels. Externally, the Defendants conspired and concocted a different story. Despite their internal knowledge, Defendants marketed false and misleading public statements, through mail and wire, concealed and suppressed internal research data from the public and their investors which proximately caused the damage to the Municipalities in Puerto Rico as alleged herein. The Defendants fraudulently concealed their knowledge that climate change would accelerate, subsequently increasing the 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 in an effort 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)).

758. 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.C. §1962(a), (b) and (c), in violation of 18 U.S.C. §1962(d).

759. 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 have been injured in their business, property, and basic services as stated herein.

760. Plaintiffs 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, Penuelas, Guánica and Fajardo, 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;

- h) Damage for all buildings and homes for the Municipalities of Puerto Rico and their citizens;
- 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 Municipalities of Puerto Rico;
- o) Infrastructure improvements to the Municipalities of Puerto Rico to withstand climate change effects; and
- p) Other related economic costs to the Municipalities of Puerto Rico.

761. Plaintiffs seek relief not only for their own damages to business and property, but also for all Municipalities in Puerto Rico to pursue damages in their stead under civil RICO violations of 18 U.S.C. §1962(d) in this Complaint, excepting therefrom the judge and his or her immediate family.

762. The Defendants knew that their predicate acts, material misrepresentations, fraudulent concealments, omissions and deceit of the Plaintiffs and their citizens as detailed in this Count, would, and did, cause the Plaintiff Government and Municipalities represented by the Plaintiffs to accept an unnecessary, substantial risk that they otherwise would not have taken, by purchasing the Defendants' carbon-based products, and prevent the Plaintiffs and their citizens 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 Plaintiffs would inevitably result in the type of severe storm disasters that occurred in 2017 and cause the Plaintiffs and their citizens 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 Municipalities of Puerto Rico and their citizens known that the Defendants' products would cause more frequent, hotter, and wetter storms, the Municipalities of Puerto Rico and their citizens 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.

763. Wherefore, Plaintiffs, on behalf of all Municipalities in Puerto Rico, 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 Plaintiffs and their citizens, 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 Plaintiffs 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 Municipalities of Puerto Rico and its consumers for damages, treble damages, and attorneys' fees and costs as allowed for by statute.

E. Eighth Cause of Action: Antitrust pursuant to 15 U.S.C. §1 et seq.

764. Plaintiffs reallege and reaffirm each and every allegation set forth in all the preceding paragraphs as if fully stated herein.

765. 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.

766. At a time when the Defendants knew climate change was a threat to the Municipalities in Puerto Rico and their citizens, 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.

767. 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 Plaintiffs and their citizens 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, Plaintiffs would have substantially reduced their 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.

768. The anticompetitive conduct described herein, the Defendants' unlawful entry into a conspiracy to restrain trade or commerce, has damaged the Plaintiffs and their citizens and is in violation of 15 U.S.C. §1 et seq.

769. The Plaintiffs bring this count pursuant to 15 U.S.C. §15 and for all applicable subsections thereof on behalf of all Municipalities in Puerto Rico 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.

770. The Defendants knew that their acts, omissions, and deceit of the Plaintiffs and their citizens as detailed in this Count, would, and did, prevent the Municipalities represented by the Plaintiffs 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 Plaintiffs and their citizens, would inevitably result in the type of severe storm disasters that occurred in 2017 and cause the Plaintiffs 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. The Plaintiffs relied on these fraudulent statements and acts by the Defendants to their detriment.

771. Wherefore, Plaintiffs, individually, and on behalf of all Municipalities in Puerto Rico, 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 Plaintiffs and their citizens suffered direct and foreseeable injury and requests that this Court enter judgment against the Defendants for damages to the Municipalities for damages, treble damages, and attorneys’ fees and costs as allowed for by statute.

F. Ninth Cause of Action: Public Nuisance pursuant to 32 L.P.R.A. §2761

772. Plaintiffs reallege and reaffirm each and every allegation set forth in all the preceding paragraphs as if fully stated herein.

773. 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.

774. 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 storms that destroyed the Municipalities of Puerto Rico'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. The destruction of the storms also took away the citizens of the Municipalities' basic services provided to them by the Municipalities, including, but not limited to, access to medical care and educational costs. The Municipalities of Puerto Rico have been forced to bear, and continue to bear, substantial costs to replace and rebuild their infrastructure.

775. Unmitigated global warming also causes rising sea levels, 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 and ocean acidification, necessitating investments to shore up infrastructure and safeguard the fisheries and coral reefs upon which the Puerto Rican economy depends. The Municipalities represented by the Plaintiffs and their property are injured by having to pay these costs.

776. Defendants' conduct was a substantial factor in causing Plaintiffs and their citizens to have to pay these costs. Defendants engaged in a decades-long misinformation campaign to

convince the Municipalities' 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 ensured that the worst scenarios for global warming—which they were warned more than sixty years ago—would occur.

777. By causing the worst global warming scenarios to unfold, Defendants have injuriously affected rights common to the general 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.

778. 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 Plaintiffs' territory and injuriously affecting the welfare of the neighborhoods in Plaintiffs' territory.

779. The effects of inaction and worst-case climate change are permanent and long-lasting.

780. 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.

781. The Defendants knew that their acts, omissions and deceit of the Plaintiffs and their citizens as detailed in this Count, would, and did, prevent the Plaintiff Government and the Municipalities represented by the Plaintiffs 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 Plaintiffs and their citizens, would inevitably result in the type of severe storm disasters that occurred in 2017 and cause the Plaintiffs 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. The Plaintiffs relied on these fraudulent statements and acts by the Defendants to their detriment.

782. Wherefore, Plaintiffs seek punitive and compensatory damages in excess of \$75,000 from all Defendants, jointly and severally.

G. Tenth Cause of Action: Strict Liability – Failure to Warn

783. Plaintiffs reallege and reaffirm each and every allegation set forth in all the preceding paragraphs as if fully stated herein.

784. Defendants, and each of them, marketed and sold fossil fuel products to the consumer market, including the Municipalities of Puerto Rico.

785. 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 Municipalities of Puerto Rico, 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 storms of increasing intensity in September 2017.

786. Throughout the times at issue, the ordinary consumer, including the Municipalities of Puerto Rico and their citizens, would not recognize that the use or foreseeable misuse of fossil fuel products causes global and localized changes in climate and the world's oceans, including those effects described herein.

787. Throughout the times 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 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. The Plaintiffs relied on these fraudulent statements and acts by the Defendants to their detriment.

788. Defendants, and each of them, failed to adequately warn customers, consumers, elected officials and regulators, including the Municipalities of Puerto Rico and their citizens, 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.

789. The absence of warning by the Defendants to their customers, consumers, elected officials, and regulators, including the Municipalities of Puerto Rico and their citizens, made their products inherently dangerous.

790. The absence of adequate warnings or instructions by the Defendants to their customers, consumers, elected officials, and regulators, including the Municipalities of Puerto Rico and their citizens, was the proximate cause of Plaintiffs' losses.

791. 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 Municipalities of Puerto Rico and their citizens.

792. 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.

793. Plaintiffs are entitled to recover damages and other appropriate relief for the foregoing failure to warn of product defects.

794. Plaintiffs claim 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, Penuelas, Guánica and Fajardo, 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;
- h) Damage for all buildings and homes for the Municipalities of Puerto Rico and their citizens;
- 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 Municipalities of Puerto Rico;
- o) Infrastructure improvements to the Municipalities of Puerto Rico to withstand climate change effects; and
- p) Other related economic costs to the Municipalities of Puerto Rico.

795. Plaintiffs seek relief not only for their own damages to business and property, but also for all Municipalities of Puerto Rico to pursue damages in their stead, for the foregoing failure to warn of product defects.

796. The Defendants knew that their acts, omissions, and deceit of the Plaintiffs and their citizens as detailed in this Count, would, and did, prevent the Plaintiff Municipalities and those represented by the Plaintiffs 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 Plaintiffs and their citizens, would inevitably result in the type of severe storm disasters that occurred in 2017 and cause the Plaintiffs 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. The Plaintiffs relied on these fraudulent statements and acts by the Defendants to their detriment.

797. Wherefore, Plaintiffs seek punitive and compensatory damages in excess of \$75,000 from all Defendants, jointly and severally.

H. Eleventh Cause of Action: Strict Liability – Design Defect

798. Plaintiffs reallege and reaffirm each and every allegation set forth in all the preceding paragraphs as if fully stated herein.

799. Defendants, and each of them, marketed and sold fossil fuel products to the consumer market, including the Municipalities of Puerto Rico and their citizens.

800. 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 Municipalities of Puerto Rico and their citizens, would expect them, because their use causes numerous global and local changes to Earth's climate. In particular, ordinary consumers, including the Municipalities and their citizens, 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 as 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.

801. 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 Municipalities of Puerto Rico and their citizens, 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. The Plaintiffs relied on these fraudulent statements and acts by the Defendants to their detriment.

802. Additionally, Defendants' fossil fuel products are defective because the risks they pose to consumers and to the public, including and especially to Plaintiffs and their citizens, outweigh their benefits.

803. 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.

804. As a direct and proximate result of the design defects in the Defendants' fossil fuel products described herein, Plaintiffs sustained and will continue to sustain the losses and damages fully set forth in this Complaint.

805. Plaintiffs claim 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, Penuelas, Guánica and Fajardo, 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;
 - h) Damage for all buildings and homes for the Municipalities of Puerto Rico and their citizens;
 - 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 Municipalities of Puerto Rico;
 - o) Infrastructure improvements to the Municipalities of Puerto Rico to withstand climate change effects; and
 - p) Other related economic costs to the Municipalities of Puerto Rico.

806. Plaintiff is entitled to recover damages and other appropriate relief for the foregoing design defects. Plaintiffs seek relief not only for their own damages to business and property, but

also for all Municipalities in Puerto Rico to pursue damages in their stead, for the foregoing design defects.

807. The Defendants knew that their acts, omissions, and deceit of the Plaintiffs and their citizens as detailed in this Count, would, and did, prevent the Municipalities represented by the Plaintiffs 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 Plaintiffs and their citizens, would inevitably result in the type of severe storm disasters that occurred in 2017 and cause the Plaintiffs 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. The Plaintiffs relied on these fraudulent statements and acts by the Defendants to their detriment.

808. Wherefore, Plaintiffs seek punitive and compensatory damages in excess of \$75,000 from all Defendants, jointly and severally.

I. Twelfth Cause of Action: Negligent Design Defect

809. Plaintiffs reallege and reaffirm each and every allegation set forth in all the preceding paragraphs as if fully stated herein.

810. 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 Municipalities and their citizens.

811. 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.

812. Defendants, collectively and individually, owed a duty to consumers of their products, including the Municipalities and their citizens, to exercise reasonable care in developing, designing, testing, inspecting, and distributing their fossil fuel products. 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.

813. 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 that resulted from the ordinary and reasonably foreseeable use of their products.

814. The breach of the duty of care owed to the consumers, including the Plaintiff Government, Plaintiff Municipalities of Puerto Rico, and their citizens, directly and proximately caused the Plaintiffs' losses as alleged herein.

815. Plaintiffs claim 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, Penuelas, Guánica and Fajardo, 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;
- h) Damage for all buildings and homes for the Municipalities of Puerto Rico and their citizens;
- 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 Municipalities of Puerto Rico;
- o) Infrastructure improvements to the Municipalities of Puerto Rico to withstand climate change effects; and
- p) Other related economic costs to the Municipalities of Puerto Rico.

816. Plaintiffs are entitled to recover damages and other appropriate relief for the foregoing design defects. Plaintiffs seek relief not only for their own damages to business and property, but also for the Plaintiff Government and all Municipalities of Puerto Rico to pursue damages in their stead, for the foregoing design defects.

817. The Defendants knew that their acts, omissions, and deceit of the Plaintiffs and their citizens as detailed in this Count, would, and did, prevent the Plaintiff Government and the Municipalities represented by the Plaintiffs 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 Plaintiffs and their citizens, would inevitably result in the type of severe storm disasters that occurred in 2017 and cause the Plaintiffs 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. The Plaintiffs relied on these fraudulent statements and acts by the Defendants to their detriment.

818. Wherefore, Plaintiffs seek punitive and compensatory damages in excess of \$75,000 from all Defendants, jointly and severally.

J. Thirteenth Cause of Action: Private Nuisance pursuant to 32 L.P.R.A. §2761

819. Plaintiffs reallege and reaffirm each and every allegation set forth in all the preceding paragraphs as if fully stated herein.

820. Puerto Rican law provides:

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.

821. Defendants' conduct has caused unreasonable and substantial interference with the Municipalities and their citizens' 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 of the Municipalities of Puerto Rico's basic services provided to them by the Municipalities, including, but not limited to, access to medical care and educational services. The Plaintiff Government and the Municipalities represented by the Plaintiffs suffered, and continue to suffer, losses by having to pay the cost to abate these risks to their property and maintain that property.

822. Defendants' conduct was a substantial factor in causing Plaintiffs to have to pay these costs and damage. 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.

823. By causing the worst global warming scenarios to occur, including more severe tropical storms, Defendants have imposed a burden on Plaintiffs greater than they should be required to bear, thereby upsetting the equilibrium necessary to harmonize the parties' correlative rights. Defendants have no right to disseminate false or misleading information, nor do they have an entitlement to maintain a specific share of the energy market.

824. 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 impacts of climate change, thereby injuriously affecting Plaintiffs' property.

825. 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. Defendants' liability is thus causally connected to their failure to warn and their deceptive promotion of their harmful products and false climate science.

826. Plaintiffs do not, however, seek to impose liability on Defendants for their direct emissions of greenhouse gases under common law, do not 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. Nothing in this Complaint seeks to enjoin Defendants from their fossil fuel production or compel them to curb greenhouse gas emissions.

827. The Defendants knew that their acts, omissions, and deceit of the Plaintiffs and their citizens as detailed in this Count, would, and did, prevent the Plaintiff Government and the Municipalities represented by the Plaintiffs 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 Plaintiffs and their citizens, would inevitably result in the type of severe storm disasters that occurred in 2017 and cause the Plaintiffs 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. The Plaintiffs relied on these fraudulent statements and acts by the Defendants to their detriment.

828. Wherefore, Plaintiffs seek punitive and compensatory damages in excess of \$75,000 from all Defendants, jointly and severally.

K. Fourteenth Cause of Action: Restitution – Unjust Enrichment

829. Plaintiffs reallege and reaffirm each and every allegation set forth in all the preceding paragraphs as if fully stated herein.

830. Defendants have avoided liability for these costs and have been and are able promoting the sale of their products to the Municipalities of Puerto Rico and their citizens by continuing to misinform the federal and State authorities about the true nature and effects of their carbon-based products.

831. In equity and fairness, it is the Defendants, not the Municipalities 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 Municipalities to perform such duties and to pay the health care costs of its who have been impacted by the storms. The destruction of the storms also took away the citizens of the Municipalities of Puerto Rico's basic services provided to them by the Municipalities, 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 Municipalities have had to pay these costs.

832. As a result of the Defendants' acts and omissions specified herein, the Plaintiffs were forced to expend far more in administrative and actual healthcare costs to provide health care, custodial care, and public health care to their citizens 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.

833. The Defendants knew that their acts, omissions, and deceit of the Plaintiffs and their citizens as detailed in this Count, would, and did, prevent the Municipalities represented by the Plaintiffs 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 Plaintiffs and their citizens, would inevitably result in the type of severe storm disasters that occurred in 2017 and continue to cause the Plaintiffs 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. The Plaintiffs relied on these fraudulent statements and acts by the Defendants to their detriment.

834. Wherefore, Plaintiffs seek 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 Municipalities of Puerto Rico and their citizens for the sums they have expended on account of the Defendants' 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 Municipalities of Puerto Rico and their citizens in the future on account of the Defendants' wrongful conduct with said amount to be determined at trial;
- c) for pre-judgment interest, as well as the Municipalities’ reasonable attorneys' fees, expert witness fees and other costs of this action;

- d) for disgorgement of profits accumulated by the Defendants 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 Municipalities of Puerto Rico and their citizens have an effective remedy; and
- g) for such other and further relief, as the Court deems just and proper, to which the Municipalities of Puerto Rico and their citizens may be Rule 7 of Puerto Rico Rules Against Misleading Practices and Advertisements
- h) entitled.

Respectfully submitted along with the Racketeer Influenced and Corrupt Organization Act (“RICO”), 18 U.S.C. §1961-1968, Case Statement, and Appendix to the Amended Complaint, conforming to the requirements of the Order of this Circuit, this 3 day of November 2023.

Plaintiffs demand a trial by jury.

By

**THE MUNICIPALITIES OF BAYAMÓN,
CAGUAS, LOÍZA, LARES, BARRANQUITAS,
COMERÍO, CAYEY, LAS MARÍAS,
TRUJILLO ALTO, VEGA BAJA, AÑASCO,
CIDRA, AGUADILLA, AIBONITO,
MOROVIS, MOCA, BARCELONETA,
CAMUY, CATAÑO, SALINAS, ADJUNTAS,
ARROYO, CULEBRA, DORADO,
GUAYNABO, HORMIGUEROS, JUNCOS,
LAJAS, MANATÍ, NAGUABO, NARANJITO,
UTUADO, VILLALBA, COAMO, OROCOVIS,
VIEQUES, and YABUCOA on behalf of
themselves and others
similarly situated, known as the
MUNICIPALITIES OF PUERTO RICO,**

Respectfully submitted,

/s/Marc D. Grossman

Marc D. Grossman, *pro hac vice forthcoming*

Melissa K. Sims, *pro hac vice forthcoming*

Luis Valiente Almeida-Olivieri (308307)

Vicki J. Maniatis, *pro hac vice forthcoming*

Milberg Coleman Bryson Phillips Grossman LLC

1311 Ponce de León Ave. Suite 700

San Juan, PR 00907

(t): (866) 252-0878

mgrossman@milberg.com

msims@milberg.com

vmaniatis@milberg.com

lalmeida@milberg.com

/s/Roy L. Mason

Roy L. Mason (308164)

Zachary E. Howerton *pro hac vice forthcoming*

Smouse & Mason, LLC

250 Munoz Rivera Avenue, Suite 1120

San Juan, PR 00918

(t): (410) 269-6620

(f): (410) 269-1235

rlm@smouseandmason.com

zeh@smouseandmason.com