

STATE OF SOUTH CAROLINA )  
COUNTY OF CHARLESTON )  
City of Charleston, )  
Plaintiff, )  
vs. )  
Brabham Oil Company, Inc.; Colonial )  
Group, Inc.; Enmark Stations, Inc.; Colonial )  
Pipeline Company; Piedmont Petroleum )  
Corp.; Exxon Mobil Corporation; )  
Exxonmobil Oil Corporation; Royal Dutch )  
Shell plc; Shell Oil Company; Shell Oil )  
Products Company LLC; Chevron )  
Corporation; Chevron U.S.A. Inc.; BP p.l.c.; )  
BP America Inc.; Marathon Petroleum )  
Corporation; Marathon Petroleum Company )  
LP; Speedway LLC; Murphy Oil )  
Corporation; Murphy Oil USA, Inc.; Hess )  
Corporation; ConocoPhillips; )  
ConocoPhillips Company; Phillips 66; and )  
Phillips 66 Company, )  
Defendant. )

IN THE COURT OF COMMON PLEAS  
NINTH JUDICIAL CIRCUIT

CIVIL ACTION NO. 2020-CP-10-

SUMMONS

TO THE DEFENDANT ABOVE-NAMED:

YOU ARE HEREBY SUMMONED and required to answer the complaint herein, a copy of which is herewith served upon you, and to serve a copy of your answer to this complaint upon the subscriber, at the address shown below, within thirty (30) days after service hereof, exclusive of the day of such service, and if you fail to answer the complaint, judgment by default will be rendered against you for the relief demanded in the complaint.

Mt. Pleasant, South Carolina

/s/ Susan J. Herdina

Plaintiff/Attorney for Plaintiff

Dated: September 9, 2020

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STATE OF SOUTH CAROLINA	)	IN THE COURT OF COMMON PLEAS
	)	
COUNTY OF CHARLESTON	)	NINTH JUDICIAL CIRCUIT
	)	
	)	
	)	CIVIL ACTION NO. 2020-CP-10-
	)	
CITY OF CHARLESTON,	)	
	)	COMPLAINT
Plaintiff,	)	(Jury Trial Requested)
	)	
vs.	)	
	)	
BRABHAM OIL COMPANY, INC.;	)	
COLONIAL GROUP, INC.; ENMARK	)	Trial Date: None.
STATIONS, INC.; COLONIAL PIPELINE	)	
COMPANY; PIEDMONT PETROLEUM	)	
CORP.; EXXON MOBIL	)	
CORPORATION; EXXONMOBIL OIL	)	
CORPORATION; ROYAL DUTCH	)	
SHELL PLC; SHELL OIL COMPANY;	)	
SHELL OIL PRODUCTS COMPANY	)	
LLC; CHEVRON CORPORATION;	)	
CHEVRON U.S.A. INC.; BP P.L.C.; BP	)	
AMERICA INC.; MARATHON	)	
PETROLEUM CORPORATION;	)	
MARATHON PETROLEUM COMPANY	)	
LP; SPEEDWAY LLC; MURPHY OIL	)	
CORPORATION; MURPHY OIL USA,	)	
INC.; HESS CORPORATION;	)	
CONOCOPHILLIPS; CONOCOPHILLIPS	)	
COMPANY; PHILLIPS 66; and PHILLIPS	)	
66 COMPANY,	)	
	)	
Defendants.	)	

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## I. INTRODUCTION

1. Defendants, major corporate members of the fossil fuel industry, have known for nearly half a century that unrestricted production and use of fossil fuel products create greenhouse gas pollution that warms the planet and changes our climate. They have known for decades that those impacts could be catastrophic and that only a narrow window existed to take action before the consequences would be irreversible. They have nevertheless engaged in a coordinated, multi-front effort to conceal and deny their own knowledge of those threats, discredit the growing body of publicly available scientific evidence, and persistently create doubt in the minds of customers, consumers, regulators, the media, journalists, teachers, and the public about the reality and consequences of the impacts of their fossil fuel pollution.

2. At the same time, Defendants have promoted and profited from a massive increase in the extraction, production, and consumption of oil, coal, and natural gas, which has in turn caused an enormous, foreseeable, and avoidable increase in global greenhouse gas pollution and a concordant increase in the concentration of greenhouse gases,<sup>1</sup> particularly carbon dioxide (“CO<sub>2</sub>”) and methane, in the Earth’s atmosphere. Those disruptions of the Earth’s otherwise balanced carbon cycle have substantially contributed to a wide range of dire climate-related effects, including, but not limited to, global atmospheric and ocean warming, ocean acidification, melting polar ice caps and glaciers, more extreme and volatile weather, drought, and sea level rise.

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<sup>1</sup> As used in this Complaint, the term “greenhouse gases” refers collectively to carbon dioxide, methane, and nitrous oxide. Where a cited source refers to a specific gas or gases, or when a process relates only to a specific gas or gases, this Complaint refers to each gas by name.

3. Plaintiff, the City of Charleston,<sup>2</sup> its departments and agencies, along with the City's residents, infrastructure, and natural resources, suffer the consequences of Defendants' campaign of deception.

4. Defendants are extractors, producers, refiners, manufacturers, distributors, promoters, marketers, and/or sellers of fossil fuel products, each of which contributed to deceiving the public about the role of their products in causing the global climate crisis. Decades of scientific research has shown that pollution from Defendants' fossil fuel products plays a direct and substantial role in the unprecedented rise in emissions of greenhouse gas pollution and increased atmospheric CO<sub>2</sub> concentrations that has occurred since the mid-20<sup>th</sup> century. This dramatic increase in atmospheric CO<sub>2</sub> and other greenhouse gases is the main driver of the gravely dangerous changes occurring to the global climate.

5. Anthropogenic greenhouse gas pollution, primarily in the form of CO<sub>2</sub>, is far and away the dominant cause of global warming, resulting in severe impacts including, but not limited to, sea level rise, disruption to the hydrologic cycle, more frequent and intense extreme precipitation events and associated flooding, more frequent and intense heatwaves, more frequent and intense droughts, and associated consequences of those physical and environmental changes.<sup>3</sup> The consequences of Defendants' actions disproportionately impact people of color and those

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<sup>2</sup> In this Complaint, the term "City" refers to Plaintiff the City of Charleston, unless otherwise stated. The word "Charleston" refers to the area falling within the City's geographic boundaries, excluding federal land, unless otherwise stated.

<sup>3</sup> See IPCC, *Climate Change 2014: Synthesis Report*, Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland (2014) 6, Figure SMP.3, [https://www.ipcc.ch/site/assets/uploads/2018/02/SYR\\_AR5\\_FINAL\\_full.pdf](https://www.ipcc.ch/site/assets/uploads/2018/02/SYR_AR5_FINAL_full.pdf).

living in poverty. The primary cause of the climate crisis is the combustion of coal, oil, and natural gas, referred to collectively in this Complaint as “fossil fuel products.”<sup>4</sup>

6. The rate at which Defendants have extracted and sold fossil fuel products has exploded since the Second World War, as have emissions from those products. The substantial majority of all greenhouse gas emissions in history have occurred since the 1950s, a period known as the “Great Acceleration.”<sup>5</sup> About three-quarters of all industrial CO<sub>2</sub> emissions in history have occurred since the 1960s,<sup>6</sup> and more than half have occurred since the late 1980s.<sup>7</sup> The annual rate of CO<sub>2</sub> emissions from extraction, production, and consumption of fossil fuels has increased substantially since 1990.<sup>8</sup>

7. Defendants have known for more than 50 years that greenhouse gas pollution from their fossil fuel products would have a significant adverse impact on the Earth’s climate and sea levels. Defendants’ awareness of the negative implications of their actions corresponds almost exactly with the Great Acceleration, and with skyrocketing greenhouse gas emissions. With that knowledge, Defendants took steps to protect their own assets from those threats through immense internal investment in research, infrastructure improvements, and plans to exploit new opportunities in a warming world.

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<sup>4</sup> See Pierre Friedlingstein et al., *Global Carbon Budget 2019*, 11 EARTH SYST. SCI. DATA 1783 (2019), <https://www.earth-syst-sci-data.net/11/1783/2019>.

<sup>5</sup> Will Steffen et al., *The Trajectory of the Anthropocene: The Great Acceleration*, 2 THE ANTHROPOCENE REVIEW 81, 81 (2015).

<sup>6</sup> R. J. Andres et al., *A Synthesis of Carbon Dioxide Emissions from Fossil-Fuel Combustion*, 9 BIOGEOSCIENCES 1845, 1851 (2012).

<sup>7</sup> *Id.*

<sup>8</sup> Friedlingstein et al., *Global Carbon Budget 2019*, *supra* note 4, at 630.

8. Instead of warning of those known consequences following from the intended and foreseeable use of their products and working to minimize the damage associated with the use and combustion of such products, Defendants concealed the dangers, promoted false and misleading information, sought to undermine public support for greenhouse gas regulation, and engaged in massive campaigns to promote the ever-increasing use of their products at ever-greater volumes. All Defendants' actions in concealing the dangers of, promoting false and misleading information about, and engaging in massive campaigns to promote increasing use of their fossil fuel products have contributed substantially to the buildup of CO<sub>2</sub> in the atmosphere that drives global warming and its physical, environmental, and socioeconomic consequences, including those affecting the City.

9. Defendants are directly responsible for the substantial increase in all CO<sub>2</sub> emissions between 1965 and the present. Defendants individually and collectively played leadership roles in denialist campaigns to misinform and confuse the public and obscure the role of Defendants' products in causing global warming and its associated impacts. But for such campaigns, climate crisis impacts in Charleston would have been substantially mitigated or eliminated altogether. Accordingly, Defendants are directly responsible for a substantial portion of the climate crisis-related impacts in Charleston and to the City.

10. As a direct and proximate consequence of Defendants' wrongful conduct described in this Complaint, the environment in and around Charleston is changing, with devastating adverse impacts on the City and its residents. For instance, average sea level has already risen and will continue to rise substantially along Charleston's coast, causing flooding, inundation, erosion, and beach loss; extreme weather, including hurricanes, drought, heatwaves, and other extreme events will become more frequent, longer-lasting and more severe; and the cascading social, economic,

and other consequences of those and myriad other environmental changes—all due to anthropogenic global warming—will increase in Charleston.

11. As a direct result of those and other climate crisis-caused environmental changes, the City has suffered and will continue to suffer severe injuries, including, but not limited to: injury or destruction of City-owned or -operated facilities critical for operations, utility services, and risk management, as well as other assets essential to community health, safety, and well-being; increased planning and preparation costs for community adaptation and resiliency to the effects of the climate crisis; decreased tax revenue due to impacts on Charleston's tourism- and ocean-based economy; and others.

12. Defendants' individual and collective conduct, including, but not limited to, their introduction of fossil fuel products into the stream of commerce knowing but failing to warn of the threats posed to the world's climate; their wrongful promotion of their fossil fuel products and concealment of known hazards associated with the use of those products; their public deception campaigns designed to obscure the connection between their products and global warming and the environmental, physical, social, and economic consequences flowing from it; and their failure to pursue less hazardous alternatives, actually and proximately caused the City's injuries.

13. Accordingly, the City brings this action against Defendants for Public Nuisance, Private Nuisance, Strict Liability for Failure to Warn, Negligent Failure to Warn, Trespass, and violations of the South Carolina Unfair Trade Practices Act.

14. The City hereby disclaims injuries arising on federal property and those that arose from Defendants' provision of fossil fuel products to the federal government, and seeks no recovery or relief attributable to such injuries.

15. The City seeks to ensure that the parties who have profited from externalizing the consequences and costs of dealing with global warming and its physical, environmental, social, and economic consequences, bear the costs of those impacts on Charleston, rather than the City, taxpayers, residents, or broader segments of the public.

## **II. PARTIES**

### **A. Plaintiff**

16. Plaintiff, the City of Charleston, brings this action as an exercise of its police power, which includes, but is not limited to, its power to prevent injuries to and pollution of the City's property and waters, to prevent and abate nuisances, and to prevent and abate hazards to public health, safety, welfare, and the environment.

17. The City consists of several offices and departments, each with purview over the City's operations, facilities, property, and/or programs that have been injured by Defendants' conduct as alleged herein and consequent global warming-related impacts.

18. The City is located in Charleston County on the South Carolina coast, at the confluence of several rivers, including the Stono, the Ashley, the Cooper, and the Wando. Much of Charleston is located on low-lying coastal plains and barrier islands near or abutting the Atlantic Ocean.

### **B. Defendants**

19. When reference in this Complaint is made to an act or omission of the Defendants, unless specifically attributed or otherwise stated, such references should be interpreted to 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.



20. **Brabham Oil Company, Inc.**

a. Defendant Brabham Oil Company, Inc. (“Brabham”) is a vertically integrated fossil fuel company involved in commercial, wholesale, and consignment oil distribution; fuel transportation; and retail operations in South Carolina and Georgia.

b. Brabham is incorporated in South Carolina and has its corporate headquarters in Bamberg, South Carolina. In 2018, Brabham became a subsidiary of Defendant Enmark Stations, Inc.

c. Brabham controls and has controlled companywide decisions about the quantity, nature, and extent of fossil fuel marketing and sales, including those of its subsidiaries. Brabham Oil Company determines whether and to what extent its holdings market, produce, and/or distribute fossil fuel products.

d. Brabham controls and has controlled companywide decisions related to marketing, advertising, climate change and greenhouse gas emissions from its fossil fuel products, and communications strategies concerning climate change and the link between fossil fuel use and impacts on the environment and communities from climate change from its fossil fuel products, including those of its subsidiaries.

e. Brabham has and continues to tortiously distribute, market, advertise, and promote its products in South Carolina, with knowledge that those products have caused and will continue to cause climate crisis-related injuries in South Carolina, including the City’s. Brabham’s statements in and outside of South Carolina made in furtherance of its campaign of deception and denial, and its chronic failure to warn consumers of global warming-related hazards when it marketed, advertised, and sold its products both in and outside of South Carolina, were intended to conceal and mislead the public, including the City and its residents, about the serious adverse

consequences from continued use of Brabham's products. That conduct was intended to reach and influence the City, as well as its residents and residents of the state of South Carolina, among others, to continue unabated use of Defendants' fossil fuel products in and outside of South Carolina, resulting in the City's injuries.

f. A substantial portion of Brabham's fossil fuel products are or have been transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in South Carolina, from which Brabham derives and has derived substantial revenue. Brabham was founded in South Carolina in 1929 and has served as a commissioned agent in South Carolina for Standard Oil (a predecessor-in-interest to Exxon), and a wholesale jobber for Phillips Petroleum Company, Chevron, BP, and Shell into the 1990s. During the time relevant to this complaint, Brabham has operated, either directly or through franchise agreements, retail convenience stores within South Carolina at which it marketed, promoted, and advertised its fossil fuel products.

21. **Colonial Group Entities**

a. Defendant Colonial Group, Inc. is one of the largest independent, vertically integrated fossil fuel product companies in the Southeastern United States. Colonial Oil Group, Inc. is incorporated in Georgia and has its corporate headquarters in Savannah, Georgia. Colonial Group owns and operates a collection of shipping and oil and gas businesses throughout the Southeastern United States. The company provides liquid and dry bulk storage facilities for bulk chemicals, motor fuels, industrial fuel oil and retail gas; ship bunkering; commercial shipping; and tug and barge services. Colonial Group also operates Enmark gas stations and convenience stores.

b. Colonial Group, Inc. controls and has controlled companywide decisions about the quantity, nature, and extent of fossil fuel marketing and sales, including those of its

subsidiaries. Colonial Group, Inc. determines whether and to what extent its holdings market, produce, and/or distribute fossil fuel products.

c. Colonial Group, Inc. controls and has controlled companywide decisions related to marketing, advertising, climate change and greenhouse gas emissions from its fossil fuel products, and communications strategies concerning climate change and the link between fossil fuel use and impacts on the environment and communities from climate change, including those of its subsidiaries.

d. Each of Colonial Group Inc.'s subsidiaries functions as an alter ego of Colonial Group Inc., including by conducting fossil fuel-related business in South Carolina that Colonial Group Inc. would otherwise conduct if it were present in South Carolina, sharing directors and officers with supervisory roles over both Colonial Group Inc. and the subsidiary, and employing the same people.

e. Each of Colonial Group Inc.'s subsidiaries functions as an agent of Colonial Group Inc., including by conducting activities in South Carolina at the direction of their parent company or companies and for the parent company or companies' benefit. Specifically, the subsidiaries furthered the parents' campaign of deception and denial through misrepresentations, omissions, and failures to warn, which resulted in climate injuries in South Carolina and increased sales to the parents.

f. Defendant Enmark Stations, Inc. is a retail fossil fuel product company that owns and operates over 125 gas stations in the Southeastern United States, including in South Carolina. Enmark Stations, Inc. is incorporated in Georgia and has its corporate headquarters in Savannah, Georgia. Enmark Stations, Inc. is a direct subsidiary of Colonial Group, Inc. that acts on Colonial Group, Inc.'s behalf and subject to Colonial Group, Inc.'s control.

g. “Colonial Group” as used hereafter, means collectively Defendants Colonial Group, Inc., Enmark Stations, Inc., and their predecessors, successors, parents, subsidiaries, affiliates, and divisions.

h. Colonial Group has and continues to tortiously market, advertise, promote, and supply its products in South Carolina, with knowledge that those products have caused and will continue to cause climate crisis-related injuries in South Carolina, including the City’s injuries. Colonial Group’s statements in and outside of South Carolina made in furtherance of its campaign of deception and denial, and its chronic failure to warn consumers of global warming-related hazards when it marketed, advertised, and sold its products both in and outside of South Carolina, were intended to conceal and mislead the public, including the City and its residents, about the serious adverse consequences from continued use of Colonial Group’s products. That conduct was intended to reach and influence the City, as well as its residents and residents of the state of South Carolina, among others, to continue unabated use of Defendants’ fossil fuel products in and outside of South Carolina, resulting in the City’s injuries.

i. A substantial portion of Colonial Group’s fossil fuel products are or have been transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in South Carolina, from which Colonial Group derives and has derived substantial revenue. For instance, Colonial Group owns and operates one marine terminal, and several distribution centers in South Carolina, from which it markets and sells its fossil fuel products. Colonial Group operates fossil fuel pipelines that convey Colonial Group’s fossil fuel products within and through South Carolina, as well as pipeline terminals in South Carolina from which Colonial Group’s fossil fuel products are marketed, delivered, distributed, and sold in South Carolina. Colonial Group markets and advertises its fossil fuel products by maintaining interactive websites available to prospective

customers in South Carolina by which it directs South Carolina residents to its and its subsidiaries' wholesale and retail fossil fuel product operations.

22. **Piedmont Petroleum Corp.**

a. Defendant Piedmont Petroleum Corp. ("Piedmont") is a fossil fuel retailer, marketer, advertiser, promoter, and supplier. Piedmont is incorporated in South Carolina and maintains its corporate headquarters in Greenville, South Carolina.

b. Piedmont controls and has controlled companywide decisions about the quantity, nature, and extent of fossil fuel marketing and sales, including those of its subsidiaries. Piedmont determines whether and to what extent its holdings market, promote, and/or distribute fossil fuel products.

c. Piedmont controls and has controlled companywide decisions, including those of its subsidiaries, related to marketing, advertising, climate change and greenhouse gas emissions from its fossil fuel products, and communications strategies concerning climate change and the link between fossil fuel use and impacts on the environment and communities from climate change.

d. Piedmont owns and operates approximately 35 service stations branded with the "Citgo" mark in South Carolina, by which it markets, promotes and advertises its fossil fuel products to consumers in South Carolina.

e. Piedmont's Chief Executive Officer services as the Board Secretary for the South Carolina Convenience & Petroleum Marketers Association, a division of the Petroleum Marketers Association of America, which in turn was a founding member of the Global Climate Coalition. Citgo, the licensor of Piedmont's fossil fuel station branding, has been and is a member of the American Petroleum Institute.

23. **Colonial Pipeline Company**

a. Defendant Colonial Pipeline Company (“Colonial Pipeline”) owns and operates the largest fossil fuel products pipeline in the United States, transporting, marketing, selling, and delivering more than 100 million gallons of fuel daily between Texas and New Jersey and at multiple locations between. Colonial Pipeline consists of several subsidiaries, each of which supplies, transports, delivers, markets, promotes, and/or sells fossil fuel products. Colonial Pipeline Company is incorporated in Delaware and has its corporate headquarters in Alpharetta, Georgia.

b. Colonial Pipeline controls and has controlled companywide decisions about the quantity, nature, and extent of fossil fuel transportation, marketing, and sales, including those of its subsidiaries. Colonial Pipeline determines whether and to what extent its holdings market, produce, and/or distribute fossil fuel products.

c. Colonial Pipeline controls and has controlled companywide decisions, including those of its subsidiaries, related to marketing, advertising, climate change and greenhouse gas emissions from its fossil fuel products, and communications strategies concerning climate change and the link between fossil fuel use and impacts on the environment and communities from climate change.

d. Each of Colonial Pipeline’s subsidiaries function as an alter ego of Colonial Pipeline, including by conducting fossil fuel-related business in South Carolina that Colonial Pipeline would otherwise conduct if it were present in South Carolina, sharing directors and officers with supervisory roles over both Colonial Pipeline and the subsidiary, and employing the same people.

e. Each of Colonial Pipeline's subsidiaries functions as an agent of Colonial Pipeline, including by conducting activities in South Carolina at the direction of their parent company or companies and for the parent company or companies' benefit. Specifically, the subsidiaries furthered the parents' campaign of deception and denial through misrepresentations, omissions, and failures to warn, which resulted in climate injuries in South Carolina and increased sales to the parents.

f. "Colonial Pipeline" as used hereafter, means collectively Defendant Colonial Pipeline and its predecessors, successors, parents, subsidiaries, affiliates, and divisions

g. Colonial Pipeline has and continues to tortiously distribute, market, advertise, promote, and supplying its products in South Carolina, with knowledge that those products have caused and will continue to cause climate crisis-related injuries in South Carolina, including the City's injuries. Colonial Pipeline's statements in and outside of South Carolina made in furtherance of its campaign of deception and denial, and its chronic failure to warn consumers of global warming-related hazards when it marketed, advertised, and sold its products both in and outside of South Carolina, were intended to conceal and mislead the public, including the City and its residents, about the serious adverse consequences from continued use of Colonial Pipeline's products. That conduct was intended to reach and influence the City, as well as its residents and residents of the state of South Carolina, among others, to continue unabated use of Defendants' fossil fuel products in and outside of South Carolina, resulting in the City's injuries.

h. A substantial portion of Colonial Pipeline's fossil fuel products are or have been transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in South Carolina, from which Colonial Pipeline derives and has derived substantial revenue. For instance, Colonial Pipeline's main fossil fuel products pipeline runs through South Carolina, and

includes a spur that is located entirely within South Carolina, through which Colonial Pipeline transports, supplies, and delivers its fossil fuel products in South Carolina. Moreover, Colonial Pipeline operates at least six terminals along its pipeline in South Carolina at which it stores, delivers, supplies, markets, promotes, and sells its fossil fuel products.

24. **Exxon Entities**

a. Defendant Exxon Mobil Corporation is a multinational, vertically integrated energy and chemicals company incorporated in the state of New Jersey with its headquarters and principal place of business in Irving, Texas. Exxon Mobil Corporation is among the largest publicly traded international oil and gas companies in the world. Exxon Mobil Corporation was formerly known as, did or does business as, and/or is the successor in liability to ExxonMobil Refining and Supply Company, Exxon Chemical U.S.A., ExxonMobil Chemical Corporation, ExxonMobil Chemical U.S.A., ExxonMobil Refining & Supply Corporation, Exxon Company, U.S.A., Exxon Corporation, and Mobil Corporation. Exxon Mobil Corporation is registered to do business in South Carolina and has a registered agent for service of process in Columbia, South Carolina.

b. Exxon Mobil Corporation controls and has controlled companywide decisions about the quantity and extent of fossil fuel production and sales, including those of its subsidiaries. Exxon Mobil Corporation's 2017 Form 10-K filed with the United States Securities and Exchange Commission represents that its success, including its "ability to mitigate risk and provide attractive returns to shareholders, depends on [its] ability to successfully manage [its] overall portfolio, including diversification among types and locations of [its] projects." Exxon Mobil Corporation determines whether and to what extent its holdings market, produce, and/or distribute fossil fuel products.



c. Exxon Mobil Corporation controls and has controlled companywide decisions related to marketing, advertising, climate change and greenhouse gas emissions from its fossil fuel products, and communications strategies concerning climate change and the link between fossil fuel use and impacts on the environment and communities from climate change, including those of its subsidiaries. Exxon Mobil Corporation's Board holds the highest level of direct responsibility for climate change policy within the company. Exxon Mobil Corporation's Chairman of the Board and Chief Executive Officer, its President and the other members of its Management Committee are actively engaged in discussions relating to greenhouse gas emissions and the risks of climate change on an ongoing basis. Exxon Mobil Corporation requires its subsidiaries to provide an estimate of greenhouse gas-related emissions costs in their economic projections when seeking funding for capital investments.

d. Each of Exxon Mobil Corporation's subsidiaries functions as an alter ego of Exxon Mobil Corporation, including by conducting fossil fuel-related business in South Carolina that Exxon Mobil Corporation would otherwise conduct if it were present in South Carolina, sharing directors and officers with supervisory roles over both Exxon Mobil Corporation and the subsidiary, and employing the same people.

e. Each of Exxon Mobil Corporation's subsidiaries functions as an agent of Exxon Mobil Corporation, including by conducting activities in South Carolina at the direction of their parent company or companies and for the parent company or companies' benefit. Specifically, the subsidiaries furthered the parents' campaign of deception and denial through misrepresentations, omissions, and failures to warn, which resulted in climate injuries in South Carolina and increased sales to the parents.

f. Defendant Exxonmobil Oil Corporation is a wholly owned subsidiary of Exxon Mobil Corporation that acts on Exxon Mobil Corporation's behalf and subject to Exxon Mobil Corporation's control. Exxonmobil Oil Corporation is incorporated in the state of New York with its principal place of business in Irving, Texas. Exxonmobil Oil Corporation is registered to do business in South Carolina and has a registered agent for service of process in Columbia, South Carolina. Exxonmobil Oil Corporation was formerly known as, did or does business as, and/or is the successor in liability to Mobil Oil Corporation.

g. "Exxon" as used hereafter, means collectively Defendants Exxon Mobil Corporation and Exxonmobil Oil Corporation, and their predecessors, successors, parents, subsidiaries, affiliates, and divisions.

h. Exxon consists of numerous divisions and affiliates in all areas of the fossil fuel industry, including exploration for and production of crude oil and natural gas; manufacture of petroleum products; and transportation, promotion, marketing, and sale of crude oil, natural gas, and petroleum products. Exxon is also a major manufacturer and marketer of commodity petrochemical products.

i. Exxon has and continues to tortiously market, advertise, promote, and supply its fossil fuel products in South Carolina, with knowledge that those products have caused and will continue to cause climate crisis-related injuries in South Carolina, including the City's injuries. Exxon's statements in and outside of South Carolina made in furtherance of its campaign of deception and denial, and its chronic failure to warn consumers of global warming-related hazards when it marketed, advertised, and sold its products both in and outside of South Carolina, were intended to conceal and mislead the public, including the City and its residents, about the serious adverse consequences from continued use of Exxon's products. That conduct was intended

to reach and influence the City, as well as its residents and residents of the state of South Carolina, among others, to continue unabated use of Defendants' fossil fuel products in and outside of South Carolina, resulting in the City's injuries.

j. Over the last twenty-five years, Exxon has spent millions of dollars on radio, television, and outdoor advertisements in the South Carolina market related to its fossil fuel products. During that period, Exxon also advertised in print publications circulated widely to South Carolina consumers, including but not limited to *The New York Times*, *The Wall Street Journal*, *Time Magazine*, *Sports Illustrated*, *People*, *Fortune Magazine*, *The New Yorker Magazine*, *The Atlantic*, and *Ebony Magazine*. These advertisements contained no warning commensurate with the risks of Exxon's products. Moreover, these advertisements also contained false or misleading statements, misrepresentations, and/or material omissions obfuscating the connection between Exxon's fossil fuel products and climate change, and/or misrepresenting Exxon's products or Exxon itself as environmentally friendly.

k. A substantial portion of Exxon's fossil fuel products are or have been transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in South Carolina, from which Exxon derives and has derived substantial revenue. For example, Exxon directly and through its subsidiaries and/or predecessors-in-interest supplied substantial quantities of fossil fuel products, including, but not limited to, crude oil, to South Carolina during the period relevant to this litigation. Exxon conducts and controls, either directly or through franchise agreements, retail fossil fuel sales at well over 100 gas station locations throughout South Carolina, at which it promotes, markets, and advertises its fossil fuel products under its Exxon and/or Mobil brand names. During the period relevant to this Complaint, Exxon sold a substantial percentage of all retail gasoline in South Carolina. Additionally, Exxon distributes, markets,

promotes, and provides its Mobil 1 products for sale at well over 100 locations throughout the state of South Carolina, including, but not limited to, auto body and repair shops, Sam's Club, and Walmart locations. Exxon historically directed its fossil fuel product advertising, marketing, and promotional campaigns to South Carolinians, including maps of South Carolina identifying the locations of its service stations. Exxon continues to market and advertise its fossil fuel products in South Carolina to South Carolina residents by maintaining an interactive website available to prospective customers by which it directs South Carolina residents to Exxon's nearby retail service stations and lubricant distributors. Further, Exxon promotes its products in South Carolina by regularly updating and actively promoting its mobile device application, "Exxon Mobil Rewards+," throughout the state of South Carolina, encouraging South Carolina users to consume fuel at its stations in South Carolina in exchange for rewards on every fuel purchase.

25. **Shell Entities**

a. Defendant Royal Dutch Shell plc is a vertically integrated, multinational energy and petrochemical company. Royal Dutch Shell is incorporated in England and Wales, with its headquarters and principal place of business in The Hague, Netherlands. Royal Dutch Shell plc consists of numerous divisions, subsidiaries and affiliates engaged in all aspects of the fossil fuel industry, including exploration, development, extraction, manufacturing and energy production, transport, trading, marketing, and sales.

b. Royal Dutch Shell plc controls and has controlled companywide decisions about the quantity and extent of fossil fuel production and sales, including those of its subsidiaries. Royal Dutch Shell plc's Board of Directors determines whether and to what extent Shell subsidiary holdings around the globe produce Shell-branded fossil fuel products. For instance, in 2015, a Royal Dutch Shell plc subsidiary employee admitted in a deposition that Royal Dutch Shell plc's

Board of Directors made the decision about whether to drill a particular oil deposit off the coast of Alaska.

c. Royal Dutch Shell plc controls and has controlled companywide decisions related to marketing, advertising, climate change and greenhouse gas emissions from its fossil fuel products, and communications strategies concerning climate change and the link between fossil fuel use and impacts on the environment and communities from climate change, including those of its subsidiaries. Overall accountability for climate change within the Shell group of companies lies with Royal Dutch Shell plc's Chief Executive Officer and Executive Committee. For instance, at least as early as 1988, Royal Dutch Shell plc, through its subsidiaries, was researching companywide CO<sub>2</sub> emissions and concluded that the Shell group of companies accounted for "4% of the CO<sub>2</sub> emitted worldwide from combustion," and that climatic changes could compel the Shell group, as controlled by Royal Dutch Shell plc, to "examine the possibilities of expanding and contracting [its] business accordingly." Royal Dutch Shell plc's CEO has stated that Royal Dutch Shell plc would reduce the carbon footprint of its products, including those of its subsidiaries "by reducing the net carbon footprint of the full range of Shell emissions, from our operations and from the consumption of our products." Additionally, in November 2017, Royal Dutch Shell plc announced it would reduce the carbon footprint of "its energy products" by "around" half by 2050. Royal Dutch Shell plc's effort is inclusive of all fossil fuel products produced under the Shell brand, including those of its subsidiaries.

d. Each of Royal Dutch Shell plc's subsidiaries functions as an alter ego of Royal Dutch Shell plc, including by conducting fossil fuel-related business in South Carolina that Royal Dutch Shell plc would otherwise conduct if it were present in South Carolina, sharing

directors and officers with supervisory roles over both Royal Dutch Shell plc and the subsidiary, and employing the same people.

e. Each of Royal Dutch Shell plc's subsidiaries functions as an agent of Royal Dutch Shell plc, including by conducting activities in South Carolina at the direction of their parent company or companies and for the parent company or companies' benefit. Specifically, the subsidiaries furthered the parents' campaign of deception and denial through misrepresentations, omissions, and failures to warn, which resulted in climate injuries in South Carolina and increased sales to the parents.

f. Defendant Shell Oil Company is a wholly owned subsidiary of Royal Dutch Shell plc that acts on Royal Dutch Shell plc's behalf and subject to Royal Dutch Shell plc's control. Shell Oil Company is incorporated in Delaware and with its principal place of business in Houston, Texas. Shell Oil Company is registered to do business in South Carolina and has a registered agent for service of process in Columbia, South Carolina. Shell Oil Company was formerly known as, did or does business as, and/or is the successor in liability to Deer Park Refining LP, Shell Oil, Shell Oil Products, Shell Chemical, Shell Trading US, Shell Trading (US) Company, Shell Energy Services, The Pennzoil Company, Shell Oil Products Company LLC, Shell Oil Products Company, Star Enterprise, LLC, and Pennzoil-Quaker State Company.

g. Defendant Shell Oil Products Company LLC is a wholly owned subsidiary of Royal Dutch Shell plc that acts on Royal Dutch Shell plc's behalf and subject to Royal Dutch Shell plc's control. Shell Oil Products Company LLC is incorporated in the state of Delaware and maintains its principal place of business in Houston, Texas. Shell Oil Products Company LLC is registered to do business in South Carolina and has a registered agent for service of process in Columbia, South Carolina. Shell Oil Products Company LLC is an energy and petrochemical

company involved in refining, transportation, distribution, and marketing of Shell fossil fuel products.

h. Defendants Royal Dutch Shell plc, Shell Oil Company, Shell Oil Products Company LLC, and their predecessors, successors, parents, subsidiaries, affiliates, and divisions, are collectively referred to herein as “Shell.”

i. Shell has and continues to tortiously distribute, market, advertise, promote, and supply its products in South Carolina, with knowledge that those products have caused and will continue to cause climate crisis-related injuries in South Carolina, including the City’s injuries. Shell’s statements in and outside of South Carolina made in furtherance of its campaign of deception and denial, and its chronic failure to warn consumers of global warming-related hazards when it marketed, advertised, and sold its products both in and outside of South Carolina, were intended to conceal and mislead the public, including the City and its residents, about the serious adverse consequences from continued use of Shell’s products. That conduct was intended to reach and influence the City, as well as its residents and residents of the state of South Carolina, among others, to continue unabated use of Defendants’ fossil fuel products in and outside of South Carolina, resulting in the City’s injuries.

j. Over the last twenty-five years, Shell has spent millions of dollars on radio, television, and outdoor advertisements in the South Carolina market related to its fossil fuel products. During that period, Shell also advertised in print publications circulated widely to South Carolina consumers, including but not limited to *The Wall Street Journal*, *Time Magazine*, *Sports Illustrated*, *People*, *The New Yorker Magazine*, *The Atlantic*, *Newsweek Magazine*, *Life Magazine*, and *Ebony Magazine*. These advertisements contained no warning commensurate with the risks of Shell’s products. Moreover, these advertisements also contained false or misleading statements,

misrepresentations, and/or material omissions obfuscating the connection between Shell's fossil fuel products and climate change, and/or misrepresenting Shell's products or Shell itself as environmentally friendly.

k. A substantial portion of Shell's fossil fuel products are or have been transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in South Carolina, from which Shell derives and has derived substantial revenue. Among other endeavors, Shell conducts and controls, either directly or through franchise agreements, retail fossil fuel sales at well over 100 gas station locations throughout South Carolina, at which it promotes, markets, and advertises its fossil fuel products under its Shell brand name. During the period relevant to this Complaint, Shell sold a substantial percentage of all retail gasoline sold in South Carolina. Shell also supplies, markets, and promotes its Pennzoil line of lubricants at over 50 retail and service stations throughout South Carolina. Shell historically directed its fossil fuel product advertising, marketing, and promotional campaigns to South Carolinians, including maps of South Carolina identifying the locations of its service stations. Shell markets and advertises its fossil fuel products in South Carolina to South Carolina residents by maintaining an interactive website available to prospective customers by which it directs South Carolina residents to Shell's nearby retail service stations. Shell offers a proprietary credit card known as the "Shell Fuel Rewards Card," which allows consumers in South Carolina to pay for gasoline and other products at Shell-branded service stations, and which encourages consumers to use Shell-branded gas stations by offering various rewards, including discounts on gasoline purchases. Shell further maintains a smartphone application known as the "Shell US App" that offers South Carolina consumers a cashless payment method for gasoline and other products at Shell-branded service stations. South Carolina consumers utilize the payment method by providing their credit card



information through the application. South Carolina consumers can also receive rewards including discounts on gasoline purchases by registering their personal identifying information in the Shell US App and using the application to identify and activate gas pumps at Shell service stations during a purchase.

26. **Chevron Entities**

a. Defendant Chevron Corporation is a multinational, vertically integrated energy and chemicals company incorporated in the state of Delaware, with its global headquarters and principal place of business in San Ramon, California.

b. Chevron Corporation operates through a web of United States and international subsidiaries at all levels of the fossil fuel supply chain. Chevron Corporation's and its subsidiaries' operations consist of: (1) exploring for, developing, and producing crude oil and natural gas; (2) processing, liquefaction, transportation, and regasification associated with liquefied natural gas; (3) transporting crude oil by major international oil export pipelines; (4) transporting, storing, and marketing natural gas; (5) refining crude oil into petroleum products; marketing of crude oil and refined products; (6) transporting crude oil and refined products by pipeline, marine vessel, motor equipment, and rail car; (7) basic and applied research in multiple scientific fields including chemistry, geology, and engineering; and (8) manufacturing and marketing of commodity petrochemicals, plastics for industrial uses, and fuel and lubricant additives.

c. Chevron Corporation controls and has controlled companywide decisions about the quantity and extent of fossil fuel production and sales, including those of its subsidiaries. Chevron Corporation determines whether and to what extent its holdings market, produce, and/or distribute fossil fuel products.

d. Chevron Corporation controls and has controlled companywide decisions related to marketing, advertising, climate change and greenhouse gas emissions from its fossil fuel products, and communications strategies concerning climate change and the link between fossil fuel use and impacts on the environment and communities from climate change, including those of its subsidiaries.

e. Each of Chevron Corporation's subsidiaries functions as an alter ego of Chevron Corporation, including by conducting fossil fuel-related business in South Carolina that Chevron Corporation would otherwise conduct if it were present in South Carolina, sharing directors and officers with supervisory roles over both Chevron Corporation and the subsidiary, and employing the same people.

f. Each of Chevron Corporation's subsidiaries functions as an agent of Chevron Corporation, including by conducting activities in South Carolina at the direction of their parent company or companies and for the parent company or companies' benefit. Specifically, the subsidiaries furthered the parents' campaign of deception and denial through misrepresentations, omissions, and failures to warn, which resulted in climate injuries in South Carolina and increased sales to the parents.

g. Defendant Chevron U.S.A. Inc. is a Pennsylvania corporation with its principal place of business located in San Ramon, California. Chevron U.S.A. Inc. is registered to do business in South Carolina and has a registered agent for service of process in Columbia, South Carolina. Chevron U.S.A. Inc. is a wholly owned subsidiary of Chevron Corporation that acts on Chevron Corporation's behalf and subject to Chevron Corporation's control. Chevron U.S.A. Inc. was formerly known as, and did or does business as, and/or is the successor in liability to Gulf Oil

Corporation, Gulf Oil Corporation of Pennsylvania, Chevron Products Company, and Chevron Chemical Company.

h. “Chevron” as used hereafter, means collectively, Defendants Chevron Corporation and Chevron U.S.A. Inc., and their predecessors, successors, parents, subsidiaries, affiliates, and divisions.

i. Chevron has and continues to tortiously distribute, market, advertise, promote, and supply its products in South Carolina, with knowledge that those products have caused and will continue to cause climate crisis-related injuries in South Carolina, including the City’s injuries. Chevron’s statements in and outside of South Carolina made in furtherance of its campaign of deception and denial, and its chronic failure to warn consumers of global warming-related hazards when it marketed, advertised, and sold its products both in and outside of South Carolina, were intended to conceal and mislead the public, including the City and its residents, about the serious adverse consequences from continued use of Chevron’s products. That conduct was intended to reach and influence the City, as well as its residents and residents of the state of South Carolina, among others, to continue unabated use of Defendants’ fossil fuel products in and outside of South Carolina, resulting in the City’s injuries.

j. Over the last twenty-five years, Chevron has spent millions of dollars on radio, television, and outdoor advertisements in the South Carolina market related to its fossil fuel products. During that period, Chevron also advertised in print publications circulated widely to South Carolina consumers, including but not limited to *The New York Times*, *The Wall Street Journal*, *Time Magazine*, *Sports Illustrated*, *People*, *Fortune Magazine*, *The New Yorker Magazine*, *The Atlantic*, *Newsweek Magazine*, *Life Magazine*, and *Ebony Magazine*. These advertisements contained no warning commensurate with the risks of Chevron’s products.

Moreover, these advertisements also contained false or misleading statements, misrepresentations, and/or material omissions obfuscating the connection between Chevron's fossil fuel products and climate change, and/or misrepresenting Chevron's products or Chevron itself as environmentally friendly.

k. A substantial portion of Chevron's fossil fuel products are or have been transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in South Carolina, from which Chevron derives and has derived substantial revenue. For instance, Chevron operates a fossil fuel terminal and storage site in Charleston at which it supplies, transports, sells, distributes, markets, and promotes its fossil fuel products. Chevron conducts and controls, and/or has conducted and controlled, either directly or through franchise agreements, retail fossil fuel sales at its branded gas station locations throughout South Carolina, at which it is engaging or at times relevant to this complaint has engaged in the promotion, marketing, and advertisement of its fossil fuel products under its various brand names, including its Chevron, Texaco, and other brand names. Chevron historically directed its fossil fuel product advertising, marketing, and promotional campaigns to South Carolinians, including maps of South Carolina identifying the locations of its service stations. Chevron offers proprietary credit cards known as the "Chevron Techron Advantage Card," and "Texaco Techron Advantage Card," which allow consumers in South Carolina to pay for gasoline and other products at Chevron- and/or Texaco-branded service stations, and which encourage South Carolina consumers to use Chevron- and/or Texaco-branded service stations by offering various rewards, including discounts on gasoline purchases at Chevron and/or Texaco service stations and cash rebates. Chevron maintains an interactive website available in South Carolina by which it directs prospective customers to Chevron- and Texaco-branded service stations. Chevron further maintains smartphone applications

known as the “Chevron App” and “Texaco App” that offer South Carolina consumers a cashless payment method for gasoline and other products at Chevron- and/or Texaco-branded service stations. Consumers in South Carolina can also receive rewards including discounts on gasoline purchases by registering their personal identifying information in the Chevron App and Texaco App and using the application to identify and activate gas pumps at Chevron and/or Texaco service stations during a purchase.

27. **BP Entities**

a. Defendant BP p.l.c. is a multinational, vertically integrated energy and petrochemical public limited company, registered in England and Wales with its principal place of business in London, England. BP p.l.c. consists of three main operating segments: (1) exploration and production, (2) refining and marketing, and (3) gas power and renewables. BP p.l.c. is the ultimate parent company of numerous subsidiaries, referred to collectively as the “BP Group,” which explore for and extract oil and gas worldwide; refine oil into fossil fuel products such as gasoline; and market and sell oil, fuel, other refined petroleum products, and natural gas worldwide. BP p.l.c.’s subsidiaries explore for oil and natural gas under a wide range of licensing, joint arrangement, and other contractual agreements.

b. BP p.l.c. controls and has controlled companywide decisions about the quantity and extent of fossil fuel production and sales, including those of its subsidiaries. BP p.l.c. is the ultimate decisionmaker on fundamental decisions about the BP Group’s core business, *i.e.*, the level of companywide fossil fuels to produce, including production among BP p.l.c.’s subsidiaries. For instance, BP p.l.c. reported that in 2016-17 it brought online thirteen major exploration and production projects. These contributed to a 12 percent increase in the BP Group’s overall fossil fuel product production. These projects were carried out by BP p.l.c.’s subsidiaries.

Based on these projects, BP p.l.c. expects the BP Group to deliver to customers 900,000 barrels of new product per day by 2021. BP p.l.c. further reported that in 2017 it sanctioned three new exploration projects in Trinidad, India, and the Gulf of Mexico.

c. BP p.l.c. controls and has controlled companywide decisions related to marketing, advertising, climate change and greenhouse gas emissions from its fossil fuel products, and communications strategies concerning climate change and the link between fossil fuel use and impacts on the environment and communities from climate change, including those of its subsidiaries. BP p.l.c. makes fossil fuel production decisions for the entire BP Group based on factors including climate change. BP p.l.c.'s Board is the highest decision-making body within the company, with direct responsibility for the BP Group's climate change policy. BP p.l.c.'s chief executive is responsible for maintaining the BP Group's system of internal control that governs the BP Group's business conduct. BP p.l.c.'s senior leadership directly oversees a carbon steering group, which manages climate-related matters and consists of two committees overseen directly by the board that focus on climate-related investments.

d. Each of BP p.l.c.'s subsidiaries functions as an alter ego of BP p.l.c., including by conducting fossil fuel-related business in South Carolina that BP p.l.c. would otherwise conduct if it were present in South Carolina, sharing directors and officers with supervisory roles over both BP p.l.c. and the subsidiary, and employing the same people.

e. Each of BP p.l.c.'s subsidiaries functions as an agent of BP p.l.c., including by conducting activities in South Carolina at the direction of their parent company or companies and for the parent company or companies' benefit. Specifically, the subsidiaries furthered the parents' campaign of deception and denial through misrepresentations, omissions, and failures to warn, which resulted in climate injuries in South Carolina and increased sales to the parents.

f. Defendant BP America Inc. is a wholly owned subsidiary of BP p.l.c. that acts on BP p.l.c.'s behalf and subject to BP p.l.c.'s control. BP America Inc. is a vertically integrated energy and petrochemical company incorporated in the state of Delaware with its headquarters and principal place of business in Houston, Texas. BP America Inc., consists of numerous divisions and affiliates in all aspects of the fossil fuel industry, including exploration for and production of crude oil and natural gas; manufacture of petroleum products; and transportation, marketing, and sale of crude oil, natural gas, and petroleum products. BP America Inc. is registered to do business in South Carolina and has a registered agent for service of process in Columbia, South Carolina. BP America Inc. was formerly known as, did or does business as, and/or is the successor in liability to Amoco Corporation, Amoco Oil Company, ARCO Products Company, Atlantic Richfield Delaware Corporation, Atlantic Richfield Company (a Delaware Corporation), BP Exploration & Oil, Inc., BP Products North America Inc., BP Amoco Corporation, BP Amoco Plc, BP Oil, Inc., BP Oil Company, Sohio Oil Company, Standard Oil of Ohio (SOHIO), Standard Oil (Indiana), and The Atlantic Richfield Company (a Pennsylvania corporation) and its division, the Arco Chemical Company.

g. Defendants BP p.l.c. and BP America, Inc., together with their predecessors, successors, parents, subsidiaries, affiliates, and divisions, are collectively referred to herein as "BP."

h. BP has and continues to tortiously distribute, market, advertise, promote, and supply its products in South Carolina, with knowledge that those products have caused and will continue to cause climate crisis-related injuries in South Carolina, including the City's injuries. BP's statements in and outside of South Carolina made in furtherance of its campaign of deception and denial, and its chronic failure to warn consumers of global warming-related hazards

when it marketed, advertised, and sold its products both in and outside of South Carolina, were intended to conceal and mislead the public, including the City and its residents, about the serious adverse consequences from continued use of BP's products. That conduct was intended to reach and influence the City, as well as its residents and residents of the state of South Carolina, among others, to continue unabated use of Defendants' fossil fuel products in and outside of South Carolina, resulting in the City's injuries.

i. Over the last twenty-five years, BP has spent millions of dollars on radio, television, and outdoor advertisements in the South Carolina market related to its fossil fuel products. During that period, BP also advertised in print publications circulated widely to South Carolina consumers, including but not limited to *The New York Times*, *The Wall Street Journal*, *Time Magazine*, *Fortune Magazine*, *The New Yorker Magazine*, *The Atlantic*, and *Newsweek Magazine*. These advertisements contained no warning commensurate with the risks of BP's products. Moreover, these advertisements also contained false or misleading statements, misrepresentations, and/or material omissions obfuscating the connection between BP's fossil fuel products and climate change, and/or misrepresenting BP's products or BP itself as environmentally friendly.

j. A substantial portion of BP's fossil fuel products are or have been transported, traded, distributed, marketed, manufactured, promoted, sold, and/or consumed in South Carolina, from which BP derives and has derived substantial revenue. For example, BP directly and through its subsidiaries and/or predecessors-in-interest supplied substantial quantities of fossil fuel products, including, but not limited to, crude oil, to South Carolina during the period relevant to this litigation. BP conducts and controls, either directly or through franchise agreements, retail fossil fuel sales at well over 100 gas station locations throughout South Carolina,



at which it promotes, markets, and advertises its fossil fuel products under its BP and/or Amoco brand names. During the period relevant to this Complaint, BP sold a substantial percentage of all retail gasoline in South Carolina. Additionally, BP distributes and provides its lubricant products for sale at well over 100 locations throughout South Carolina, including, but not limited to, auto body and repair shops, Walmart, and Home Depot locations. BP historically directed its fossil fuel product advertising, marketing, and promotional campaigns to South Carolinians, including maps of South Carolina identifying the locations of its service stations. BP continues to market and advertise its fossil fuel products in South Carolina to South Carolina residents by maintaining an interactive website available to prospective customers in South Carolina by which it directs South Carolina residents to BP's nearby retail service stations and/or lubricant distributors. Further, BP promotes its products in South Carolina by regularly updating and actively promoting its mobile device application, "BPme Rewards," throughout the state of South Carolina, encouraging South Carolina users to consume fuel at its stations in South Carolina in exchange for rewards and/or savings on every fuel purchase.

28. **Marathon Petroleum Corporation**

a. Defendant Marathon Petroleum Corporation is a multinational energy company incorporated in Delaware and with its principal place of business in Findlay, Ohio. Marathon Petroleum Corporation was spun off from the operations of Marathon Oil Corporation in 2011. It consists of multiple subsidiaries and affiliates involved in fossil fuel product refining, marketing, retail, and transport, including both petroleum and natural gas products. Marathon Petroleum Corporation merged in October 2018 with Andeavor Corporation, formerly known as Tesoro Corporation.

b. Marathon Petroleum Corporation controls and has controlled companywide decisions about the quantity and extent of its fossil fuel production and sales, including those of its subsidiaries. Marathon Petroleum Corporation determines whether and to what extent its holdings market, produce, and/or distribute fossil fuel products.

c. Marathon Petroleum Corporation controls and has controlled companywide decisions related to marketing, advertising, climate change and greenhouse gas emissions from its fossil fuel products, and communications strategies concerning climate change and the link between fossil fuel use and impacts on the environment and communities from climate change, including those of its subsidiaries.

d. Each of Marathon Petroleum Corporation's subsidiaries functions as an alter ego of Marathon Petroleum Corporation, including by conducting fossil fuel-related business in South Carolina that Marathon Petroleum Corporation would otherwise conduct if it were present in South Carolina, sharing directors and officers with supervisory roles over both Marathon Petroleum Corporation and the subsidiary, and employing the same people.

e. Each of Marathon Petroleum Corporation's subsidiaries functions as an agent of Marathon Petroleum Corporation, including by conducting activities in South Carolina at the direction of their parent company or companies and for the parent company or companies' benefit. Specifically, the subsidiaries furthered the parents' campaign of deception and denial through misrepresentations, omissions, and failures to warn, which resulted in climate injuries in South Carolina and increased sales to the parents.

f. Defendant Marathon Petroleum Company LP is a wholly owned subsidiary of Marathon Petroleum Corporation that acts on Marathon Petroleum Corporation's behalf and subject to Marathon Petroleum Corporation's control. Marathon Petroleum Company LP is a

vertically integrated fossil fuel refining, marketing, and transporting company incorporated in the state of Delaware with its headquarters and principal place of business in Findlay, Ohio.

g. Defendant Speedway LLC is a wholly owned subsidiary of Marathon Petroleum Corporation that acts on Marathon Petroleum Corporation's behalf and subject to Marathon Petroleum Corporation's control. Speedway LLC is incorporated in Delaware and maintains its corporate headquarters in Enon, Ohio. Speedway LLC is the one of the largest convenience store chains in the country, with approximately 2,750 stores in 22 states, including many in South Carolina.

h. Defendants Marathon Petroleum Corporation, Marathon Petroleum Company LP, Speedway LLC, and their predecessors, successors, parents, subsidiaries, affiliates, and divisions, are collectively referred to herein as "Marathon."

i. Marathon has and continues to tortiously distribute, market, advertise, and promote its products in South Carolina, with knowledge that those products have caused and will continue to cause climate crisis-related injuries in South Carolina, including the City's injuries. Marathon's statements in and outside of South Carolina made in furtherance of its campaign of deception and denial, and its chronic failure to warn consumers of global warming-related hazards when it marketed, advertised, and sold its products both in and outside of South Carolina, were intended to conceal and mislead the public, including the City and its residents, about the serious adverse consequences from continued use of Marathon's products. That conduct was intended to reach and influence the City, as well as its residents and residents of the state of South Carolina, among others, to continue unabated use of Defendants' fossil fuel products in and outside of South Carolina, resulting in the City's injuries.

j. Over the last twenty-five years, Marathon has spent millions of dollars on radio, television, and outdoor advertisements in the South Carolina market related to its fossil fuel products. During that period, Marathon also advertised in print publications circulated widely to South Carolina consumers, including but not limited to *Time Magazine*. These advertisements contained no warning commensurate with the risks of Marathon's products. Moreover, these advertisements also contained false or misleading statements, misrepresentations, and/or material omissions obfuscating the connection between Marathon's fossil fuel products and climate change, and/or misrepresenting Marathon's products or Marathon itself as environmentally friendly.

k. A substantial portion of Marathon's fossil fuel products are or have been transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in South Carolina, from which Marathon derives and has derived substantial revenue. For example, Marathon sells, promotes, advertises, and supplies its fossil fuel products to South Carolina consumers at numerous Marathon- and Speedway-branded gas stations throughout South Carolina. Marathon maintains interactive websites by which it directs prospective consumers in South Carolina to its fossil fuel product retail locations. Marathon maintains smartphone applications available in South Carolina known as the "Marathon MakeItCount App" and "Speedway Fuel & Speedy Rewards App" that offer South Carolina consumers cashless payment methods for gasoline and other products at Marathon's gas stations and that offer rewards to consumers as incentives for purchasing Marathon's fossil fuel products.

29. **Murphy Oil Entities**

a. Defendant Murphy Oil Corporation is a global oil and natural gas exploration and production company that consists of several divisions and subsidiaries engaged in exploration for and production of crude oil, natural gas, and natural gas liquids worldwide. Murphy

Oil Corporation is incorporated in Delaware and maintains its principal executive office in Houston, Texas. During times relevant to this complaint, Murphy Oil Corporation conducted downstream wholesale, retail, marketing, promotion, and supply activities with respect to its fossil fuel products. Murphy Oil Corporation spun off those downstream segments in 2013.

b. Defendant Murphy Oil USA, Inc. is a former subsidiary of Murphy Oil Corporation and is now an independent entity pursuant to Murphy Oil Corporation's 2013 spinoff of its downstream segment. Murphy Oil USA, Inc.'s business consists of several subsidiaries and holdings engaged primarily in the marketing of retail motor fuel products and convenience merchandise through a large chain of 1,474 (as of June 30, 2019) retail stores operated by Murphy Oil USA, Inc. Murphy Oil USA, Inc.'s retail fossil fuel product stores are located in 26 states, branded as either "Murphy USA" or "Murphy Express," primarily in the Southwest, Southeast and Midwest United States. Murphy Oil USA, Inc.'s business also includes fossil fuel product supply and wholesale assets, including product distribution terminals and pipeline positions. Murphy Oil USA, Inc. is incorporated in Delaware and maintains its principal executive offices in Houston, Texas.

c. Murphy Oil Corporation and Murphy Oil USA, Inc. each control and have controlled their companywide decisions about the quantity and extent of their fossil fuel production and sales, including those of their subsidiaries. Murphy Oil Corporation and Murphy Oil USA, Inc. each determine whether and to what extent their holdings market, produce, and/or distribute fossil fuel products.

d. Murphy Oil Corporation and Murphy Oil USA, Inc. each control and have controlled companywide decisions related to marketing, advertising, climate change and greenhouse gas emissions from their fossil fuel products, and communications strategies

concerning climate change and the link between fossil fuel use and impacts on the environment and communities from climate change, including those of their subsidiaries.

e. Murphy Oil Corporation and Murphy Oil USA, Inc. subsidiaries function as alter egos of their respective parents Murphy Oil Corporation and Murphy Oil USA, Inc. as the case may be, including by conducting fossil fuel-related business in South Carolina that Murphy Oil Corporation and Murphy Oil USA, Inc. would otherwise conduct if they were present in South Carolina, sharing directors and officers with supervisory roles over both Murphy Oil Corporation and Murphy Oil USA, Inc. and the respective subsidiary, and employing the same people.

f. Each of Murphy Oil Corporation and Murphy Oil USA, Inc. subsidiaries functions as an agent of its parent company or companies, including by conducting activities in South Carolina at the direction of their parent company or companies and for the parent company or companies' benefit. Specifically, the subsidiaries furthered the parents' campaign of deception and denial through misrepresentations, omissions, and failures to warn, which resulted in climate injuries in South Carolina and increased sales to the parents.

g. Defendants Murphy Oil Corporation, Murphy Oil USA, Inc., and their predecessors, successors, parents, subsidiaries, affiliates, and divisions, are collectively referred to herein as "Murphy."

h. Murphy has tortiously distributed, marketed, advertised, and promoted its products in South Carolina, with knowledge that those products would cause climate crisis-related injuries in South Carolina, including the City's injuries. Murphy's statements in and outside of South Carolina made in furtherance of its campaign of deception and denial, and its chronic failure to warn consumers of global warming-related hazards when it marketed, advertised, and sold its products both in and outside of South Carolina, were intended to conceal and mislead the public,

including the City and its residents, about the serious adverse consequences from continued use of Murphy's products. That conduct was intended to reach and influence the City, as well as its residents and residents of the state of South Carolina, among others, to continue unabated use of Defendants' fossil fuel products in and outside of South Carolina, resulting in the City's injuries.

i. Over the last twenty-five years, Murphy has spent substantially on radio, television, and outdoor advertisements in the South Carolina market related to its fossil fuel products. These advertisements contained no warning commensurate with the risks of Murphy's products. Moreover, these advertisements also contained false or misleading statements, misrepresentations, and/or material omissions obfuscating the connection between Murphy's fossil fuel products and climate change, and/or misrepresenting Murphy's products or Murphy itself as environmentally friendly.

j. A substantial portion of Murphy's fossil fuel products are or have been transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in South Carolina, from which Murphy has derived substantial revenue. For example, Murphy has and continues to market and supply its fossil fuel products at around 60 Murphy USA and Murphy Express retail location in South Carolina. Murphy markets and advertises its fossil fuel products in South Carolina to South Carolina residents by maintaining an interactive website by which it directs prospective consumers in South Carolina to its fossil fuel product retail locations. Further, Murphy promotes its products in South Carolina by regularly updating and actively promoting its mobile device application, "Murphy Drive Rewards," throughout the state of South Carolina, encouraging South Carolina users to consume fuel at its stations in South Carolina in exchange for rewards and/or savings, including on fuel purchases. Murphy offers a Murphy-branded proprietary credit card known as the "Murphy USA Platinum Edition Visa Card," which allows consumers in

South Carolina to pay for gasoline and other products at Murphy-branded service stations, and which encourages consumers to use Murphy-branded gas stations by offering various rewards, including discounts on gasoline purchases.

30. **Hess Corporation**

a. Defendant Hess Corporation, formerly known as Amerada Petroleum Corporation and Amerada Hess Corporation, is a multinational fossil fuel company engaged in exploration, development, production, transportation, purchase, sale, marketing, and promotion of crude oil, NGL, and natural gas. Hess Corporation is incorporated in Delaware and maintains its principal executive office in New York, New York.

b. Hess Corporation controls and has controlled companywide decisions about the quantity and extent of its fossil fuel production and sales, including those of its subsidiaries. Hess Corporation determines whether and to what extent its holdings market, produce, and/or distribute fossil fuel products.

c. Hess Corporation controls and has controlled companywide decisions related to marketing, advertising, climate change and greenhouse gas emissions from its fossil fuel products, and communications strategies concerning climate change and the link between fossil fuel use and impacts on the environment and communities from climate change, including those of its subsidiaries.

d. Each of Hess Corporation's subsidiaries functions as an alter ego of Hess Corporation, including by conducting fossil fuel-related business in South Carolina that Hess Corporation would otherwise conduct if it were present in South Carolina, sharing directors and



officers with supervisory roles over both Hess Corporation and the subsidiary, and employing the same people.

e. Each of Hess Corporation's subsidiaries functions as an agent of Hess Corporation, including by conducting activities in South Carolina at the direction of their parent company or companies and for the parent company or companies' benefit. Specifically, the subsidiaries furthered the parents' campaign of deception and denial through misrepresentations, omissions, and failures to warn, which resulted in climate injuries in South Carolina and increased sales to the parents.

f. Defendant Hess Corporation and its predecessors, successors, parents, subsidiaries, affiliates, and divisions, are collectively referred to herein as "Hess."

g. Hess has tortiously distributed, marketed, advertised, and promoted its products in South Carolina, with knowledge that those products would cause climate crisis-related injuries in South Carolina, including the City's injuries. Hess's statements in and outside of South Carolina made in furtherance of its campaign of deception and denial, and its chronic failure to warn consumers of global warming-related hazards when it marketed, advertised, and sold its products both in and outside of South Carolina, were intended to conceal and mislead the public, including the City and its residents, about the serious adverse consequences from continued use of Hess's products. That conduct was intended to reach and influence the City, as well as its residents and residents of the state of South Carolina, among others, to continue unabated use of Defendants' fossil fuel products in and outside of South Carolina, resulting in the City's injuries.

h. Over the last twenty-five years, Hess has spent substantially on radio, television, and outdoor advertisements in the South Carolina market related to its fossil fuel products. These advertisements contained no warning commensurate with the risks of Hess's

products. Moreover, these advertisements also contained false or misleading statements, misrepresentations, and/or material omissions obfuscating the connection between Hess's fossil fuel products and climate change, and/or misrepresenting Hess's products or Hess itself as environmentally friendly.

i. A substantial portion of Hess's fossil fuel products are or have been transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in South Carolina, from which Hess has derived substantial revenue. For example, during the time relevant to this complaint, Hess owned, operated, and/or franchised numerous Hess-branded service stations, convenience stores, and travel centers in South Carolina at which it marketed and sold its fossil fuel products.

31. **ConocoPhillips Entities**

a. Defendant ConocoPhillips is a multinational energy company incorporated in the state of Delaware and with its principal place of business in Houston, Texas. ConocoPhillips consists of numerous divisions, subsidiaries, and affiliates that carry out ConocoPhillips's fundamental decisions related to all aspects of the fossil fuel industry, including exploration, extraction, production, manufacture, transport, and marketing.

b. ConocoPhillips controls and has controlled companywide decisions about the quantity and extent of fossil fuel production and sales, including those of its subsidiaries. ConocoPhillips determines whether and to what extent its holdings market, produce, and/or distribute fossil fuel products. ConocoPhillips's most recent annual report subsumes the operations of the entire ConocoPhillips group of subsidiaries under its name. Therein, ConocoPhillips represents that its value—for which ConocoPhillips maintains ultimate responsibility—is a function of its decisions to direct subsidiaries to explore for and produce fossil fuels: “Unless we

successfully add to our existing proved reserves, our future crude oil, bitumen, natural gas and natural gas liquids production will decline, resulting in an adverse impact to our business.” ConocoPhillips optimizes the ConocoPhillips group’s oil and gas portfolio to fit ConocoPhillips’s strategic plan. For example, in November 2016, ConocoPhillips announced a plan to generate \$5 billion to \$8 billion of proceeds over two years by optimizing its business portfolio, including its fossil fuel product business, to focus on low cost-of-supply fossil fuel production projects that strategically fit its development plans.

c. ConocoPhillips controls and has controlled companywide decisions related to marketing, advertising, climate change and greenhouse gas emissions from its fossil fuel products, and communications strategies concerning climate change and the link between fossil fuel use and impacts on the environment and communities from climate change, including those of its subsidiaries. For instance, ConocoPhillips’s board has the highest level of direct responsibility for climate change policy within the company. ConocoPhillips has developed and implements a corporate Climate Change Action Plan to govern climate change decision-making across all entities in the ConocoPhillips group.

d. Each of ConocoPhillips’s subsidiaries functions as an alter ego of ConocoPhillips, including by conducting fossil fuel-related business in South Carolina that ConocoPhillips would otherwise conduct if it were present in South Carolina, sharing directors and officers with supervisory roles over both ConocoPhillips and the subsidiary, and employing the same people.

e. Each of ConocoPhillips’s subsidiaries functions as an agent of ConocoPhillips, including by conducting activities in South Carolina at the direction of their parent company or companies and for the parent company or companies’ benefit. Specifically, the

subsidiaries furthered the parents' campaign of deception and denial through misrepresentations, omissions, and failures to warn, which resulted in climate injuries in South Carolina and increased sales to the parents

f. Defendant ConocoPhillips Company is a wholly owned subsidiary of ConocoPhillips that acts on ConocoPhillips's behalf and subject to ConocoPhillips's control. ConocoPhillips Company is incorporated in Delaware and has its principal office in Bartlesville, Oklahoma. ConocoPhillips Company is qualified to do business in South Carolina and has a registered agent for service of process in Columbia, South Carolina.

g. Defendant Phillips 66 is a multinational energy and petrochemical company incorporated in Delaware and with its principal place of business in Houston, Texas. It encompasses downstream fossil fuel processing, refining, transport, and marketing segments that were formerly owned and/or controlled by ConocoPhillips.

h. Defendant Phillips 66 Company is a wholly owned subsidiary of Phillips 66 that acts on Phillips 66's behalf and subject to Phillips 66's control. Phillips 66 Company is incorporated in Delaware and has its principal office in Houston, Texas. Phillips 66 Company is qualified to do business in South Carolina and has a registered agent for service of process in Columbia, South Carolina. Phillips 66 Company was formerly known as, did or does business as, and/or is the successor in liability to Phillips Petroleum Company, Conoco, Inc., Tosco Corporation, and Tosco Refining Co.

i. Defendants ConocoPhillips, ConocoPhillips Company, Phillips 66, and Phillips 66 Company, and their predecessors, successors, parents, subsidiaries, affiliates, and divisions are collectively referred to herein as "ConocoPhillips."

j. ConocoPhillips has purposefully directed its tortious conduct toward South Carolina by intentionally distributing, marketing, advertising, promoting, and supplying its products in South Carolina, with knowledge that those products have caused and will continue to cause climate crisis-related injuries in South Carolina, including the City's. ConocoPhillips's statements in and outside of South Carolina made in furtherance of its campaign of deception and denial, and its chronic failure to warn consumers of global warming-related hazards when it marketed, advertised, and sold its products both in and outside of South Carolina, were intended to conceal and mislead the public, including the City and its residents, about the serious adverse consequences from continued use of ConocoPhillips's products. That conduct was intended to reach and influence the City, as well as its residents and residents of the state of South Carolina, among others, to continue unabated use of Defendants' fossil fuel products in and outside of South Carolina, resulting in the City's injuries.

k. Over the last twenty-five years, ConocoPhillips has spent substantially on radio, television, and outdoor advertisements in the South Carolina market related to its fossil fuel products. During that period, ConocoPhillips also advertised in print publications circulated widely to South Carolina consumers, including but not limited to *The New York Times*, *The Wall Street Journal*, *Time Magazine*, *Sports Illustrated*, *People*, *Fortune Magazine*, *The Atlantic*, and *Life Magazine*. These advertisements contained no warning commensurate with the risks of ConocoPhillips's products. Moreover, these advertisements also contained false or misleading statements, misrepresentations, and/or material omissions obfuscating the connection between ConocoPhillips's fossil fuel products and climate change, and/or misrepresenting ConocoPhillips's products or ConocoPhillips itself as environmentally friendly.

1. A substantial portion of ConocoPhillips's fossil fuel products are or have been transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in South Carolina, from which ConocoPhillips derives and has derived substantial revenue. For instance, ConocoPhillips conducts and controls, and/or has conducted and controlled, either directly or through franchise agreements, retail fossil fuel sales at its branded gas station locations throughout South Carolina, at which it is engaging or at times relevant to this complaint has engaged in the promotion, marketing, and advertisement of its fossil fuel products under its various brand names, including Phillips 66. ConocoPhillips maintains an interactive website available in South Carolina by which it directs prospective customers to retail locations offering its fossil fuel products for sale. ConocoPhillips also offers South Carolina consumers multiple proprietary credit cards, including the "Drive Savvy Rewards Credit Card," which allows South Carolina consumers and business customers to pay for gasoline and other products at Phillips 66- and Conoco-branded service stations, and which incentivize use of ConocoPhillips's products by offering various rewards, including discounts on gasoline purchases. ConocoPhillips further maintains smartphone applications, including the "My Phillips 66 App," which offer South Carolina consumers a cashless payment method for gasoline and other products at its branded service stations. South Carolina consumers utilize the payment method by providing their credit card information through the application. South Carolina consumers can also receive rewards including discounts on gasoline purchases by registering their personal identifying information in the My Phillips 66 App and using the application to identify and activate gas pumps at service stations during a purchase.

**C. Relevant Non-Parties: Fossil Fuel Industry Associations**

32. 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.

33. Acting on behalf of and under the supervision and/or control of Defendants, numerous industry associations and industry-created front groups, including those listed below, conducted early climate research, distributed their findings to Defendants, and engaged in a long-term course of conduct to misrepresent, omit, and conceal the dangers of Defendants' fossil fuel products with the aim of protecting or enhancing Defendants' sales to consumers, including consumers in the City. Defendants actively supervised, facilitated, consented to, and/or directly participated in the misleading messaging of these front groups, from which they profited significantly—as was the intent, including in the form of increased sales in the City.

a. **The American Petroleum Institute (API)** is a national trade association formed in 1919 and based in the District of Columbia and registered to conduct activity in South Carolina. API's purpose is to advance the individual members' collective business interests, which includes increasing consumers' consumption of oil and gas to Defendants' financial benefit. Among other functions, API coordinates among members of the petroleum industry and gathers information of interest to the industry and disseminates that information to its members.

i. Through membership, Executive Committee roles, and/or budgetary funding of API, Defendants have collectively steered the policies and trade practices of API. Defendants have also coordinated with API to craft and disseminate misleading messaging regarding climate change to advance their shared goal of increasing consumer demand for Defendants' fossil fuels. The following Defendants and/or their predecessors-in-interest are and/or have been core API members at times relevant to this litigation: Exxon, BP, Shell, Colonial Pipeline, Chevron, Murphy, Hess, and ConocoPhillips. Executives from some Defendants served on the API Executive Committee and/or as API Chairman, which is akin to serving as a corporate officer. For

example, Exxon's CEO served on API's Executive Committee almost continuously for over 20 years (1991, 1996–97, 2001, and 2005–2016). BP's CEO served as API's Chairman in 1988, 1989, and 1998. Chevron's CEO served as API Chairman in 1994, 1995, 2003, and 2012. Shell's President served on API's Executive Committee from 2005–06. In 2020, API elected Phillips 66 Chairman and CEO Greg Garland to serve a two-year term as the President of its Board of Directors. Exxon President and CEO Darren Woods was Board President from 2018 to 2020, and ConocoPhillips Chairman and CEO Ryan Lance was Board President from 2016 to 2018. Executive members of ConocoPhillips, Hess, and Marathon also served as members of API's Board of Directors at various times.

ii. Relevant information was shared among API and Defendants and their predecessors-in-interest through (1) API distributing information it held to its members and (2) participation of officers and other personnel from Defendants and their predecessors-in-interest on API boards, committees, and task forces. Acting on behalf of and under the supervision and control of Defendants, API has participated in and led several coalitions, front groups, and organizations that have promoted disinformation about fossil fuel products to consumers, including the Global Climate Coalition, Partnership for a Better Energy Future, Coalition for American Jobs, Alliance for Energy and Economic Growth, and Alliance for Climate Strategies. These front groups were formed to provide climate disinformation and advocacy from a misleadingly objective source, when, in fact, they were financed and controlled by Defendants. Defendants have benefited from the spread of this disinformation, because, among other things, it has ensured a thriving consumer market for oil and gas, resulting in



substantial profits for Defendants.

iii. According to its website, API's stated mission includes "influenc[ing] public policy in support of a strong, viable U.S. oil and natural gas industry," which includes increasing consumers' consumption of oil and gas to Defendants' financial benefit. Over the last twenty-five years, API spent millions of dollars on television, newspaper, radio, and internet advertisements in the Delaware market. Through their Executive Committee roles, API board membership, and/or budgetary funding of API, Defendants collectively wielded control over the policies and trade practices of API. In addition, Defendants directly supervised and participated in API's misleading messaging regarding climate change. Defendants used their control over and involvement in API to further their goal of influencing consumer demand for their fossil fuel products through a long-term advertising and communications campaign centered on climate change denialism.

b. **The Western States Petroleum Association (WSPA)**: WSPA is a trade association representing oil producers in Arizona, California, Nevada, Oregon, and Washington.<sup>9</sup> The following Defendants and/or their predecessors-in-interest are and/or have been WSPA members at times relevant to this litigation: Exxon, BP, Chevron, Shell, and ConocoPhillips.<sup>10</sup>

c. **The American Fuel and Petrochemical Manufacturers (AFPM)** AFPM is a national association of petroleum and petrochemical companies. AFPM has promoted disinformation about fossil fuel products to consumers, through its membership in Partnership for

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<sup>9</sup> Western States Petroleum Association, *About* (webpage) (accessed September 4, 2020), <https://www.wspa.org/about>.

<sup>10</sup> Western States Petroleum Association, *Member Companies* (webpage) (accessed September 4, 2020), <https://www.wspa.org/about>.

a Better Energy Future. The following Defendants and/or their predecessors-in-interest are and/or have been AFPM members at times relevant to this litigation, and staff from these Defendants serve or have served on AFPM's board of directors: Exxon, BP, Shell, Chevron, and ConocoPhillips.<sup>11</sup> AFPM has promoted disinformation about fossil fuel products to consumers, including those in the City, through its membership in Partnership for a Better Energy Future. Defendants have benefited from the spread of this disinformation, because, among other things, it has ensured a thriving consumer market for oil and gas, resulting in substantial profits for Defendants.

d. **U.S. Oil & Gas Association (USOGA)** is a national trade association representing oil and gas producers, formerly known as the Mid-Continent Oil & Gas Association. The following Defendants and/or their predecessors-in-interest are and/or have been USOGA members at times relevant to this litigation: Exxon, BP, Colonial Pipeline, Chevron, Murphy, Shell, and ConocoPhillips.<sup>12</sup>

e. **Society of Independent Gasoline Marketers of America (SIGMA)** is a national trade association representing fuel marketers, suppliers, and chain retailers. Its members control more than 50 percent of the petroleum retail market. The following Defendants and/or their predecessors-in-interest are and/or have been SIGMA members at times relevant to this litigation: Brabham, BP, Chevron, Colonial Group, ConocoPhillips, Exxon, Shell.

f. **International Liquid Terminals Association (ILTA)** (previously Independent Liquid Terminals Association) is a national trade association representing the liquid

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<sup>11</sup> American Fuel and Petrochemical Manufacturers, *Membership Directory* (webpage) (accessed October 24, 2019), <https://www.afpm.org/membership-directory>.

<sup>12</sup> See, e.g., Louisiana Mid-Continent Oil & Gas Association, *Member Companies* (webpage) (accessed October 24, 2019), <http://www.lmoga.com/members/member-companies>.

terminal industry. ILTA maintains close relationships with other organizations that interact with the tank storage industry. For instance, it is a member of the Oil and Natural Gas Subsector Coordinating Council (ONG SCC) along with the American Petroleum Institute, the International Petroleum Association of America, the American Gas Association, and The Petroleum Marketers Association of America. The following Defendants and/or their predecessors-in-interest are and/or have been ILTA members at times relevant to this litigation: Colonial Group and ConocoPhillips.

g. **Petroleum Marketers Association of America (PMAA)** is a federation of 47 state and regional trade associations representing 8,000 independent petroleum marketers across the country. One of these member associations is the South Carolina Convenience and Petroleum Marketers Association, which has active board members and officers from Defendants Colonial Group, and Piedmont.

h. **Western Oil & Gas Association** was a California nonprofit trade association representing the oil and gas industries consisting of over 75 member companies. Its members included companies and individuals responsible for more than 65 percent of petroleum production and 90 percent of petroleum refining and marketing in the Western United States. The following Defendants and/or their predecessors-in-interest are and/or have been WOGA members at times relevant to this litigation: Exxon, Chevron, ConocoPhillips, and Shell.

i. **The Information Council for the Environment (ICE)** was formed by coal companies and their allies, including Western Fuels Association and the National Coal Association. Associated companies included Pittsburg and Midway Coal Mining (Chevron).

j. **The Global Climate Coalition (GCC)** was an industry group formed to oppose greenhouse gas emission reduction initiatives. GCC was founded in 1989 shortly after the first meeting of the Intergovernmental Panel on Climate Change (“IPCC”), the United Nations

body for assessing the science related to climate change. GCC disbanded in or around 2001. Founding members included API and PMAA. Over the course of its existence, GCC corporate members included Amoco (BP), API, Chevron, Exxon, Ford, Shell Oil, Texaco (Chevron) and Phillips Petroleum (ConocoPhillips). Over its existence other members and funders included ARCO (BP), and the Western Fuels Association.

### III. AGENCY

34. 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, 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.

35. All Defendants, by and through non-party fossil fuel trade associations and industry groups, conspired to conceal and misrepresent the known dangers of fossil fuels, to knowingly withhold information regarding the effects of using fossil fuel products, to discredit climate change science and create the appearance such science is uncertain, and to engage in massive campaigns to promote heavy use of their fossil fuel products, which they knew would result in injuries to the City. Through their own actions and the actions of their agents, and through their membership and participation in fossil fuel industry trade associations, each Defendant was and is a member of that conspiracy. Defendants committed substantial acts to further the conspiracy in South Carolina by making misrepresentations and omissions to South Carolina consumers and failing to warn them about the disastrous effects of fossil fuel use. A substantial effect of the conspiracy has also and will also occur in South Carolina, as the City has suffered and will suffer injuries from Defendants'

wrongful conduct including, but not limited to, sea level rise, flooding, erosion, loss of wetlands and beaches, drought, extreme precipitation events, and other social and economic consequences of these environmental changes. Defendants knew or should have known, based on information passed to them from their internal research divisions and affiliates, trade associations and industry groups, that their actions in South Carolina and elsewhere would result in these injuries in and to South Carolina and Charleston. Finally, the climate effects described herein are direct and foreseeable results of Defendants' conduct in furtherance of the conspiracy.

#### **IV. JURISDICTION AND VENUE**

36. This Court has subject matter jurisdiction over this civil action under the South Carolina Constitution Article V. Section 11 and South Carolina Code § 14-5-350.

37. This Court has personal jurisdiction over each Defendant either because they are domiciled in South Carolina; are organized under the laws of South Carolina; and/or maintain their principal place of business in South Carolina; or because they transact business in South Carolina; perform work in South Carolina; contract to supply goods, manufactured products, or services in South Carolina; derive substantial revenue from manufactured goods, products, or services used or consumed in South Carolina; have interests in, use, or possess real property in South Carolina; and because they have caused injury in South Carolina related to their tortious conduct and have intentionally engaged in conduct aimed at South Carolina, which has caused harm they knew was likely to be incurred in South Carolina.

38. Venue is proper in this circuit under South Carolina Code § 15-7-10 because at least one Defendant lives, resides, or does business in Charleston, South Carolina, and the acts and omissions that are the subject of this action occurred in Charleston, South Carolina.

#### **V. FACTUAL BACKGROUND**

**A. Defendants Are Responsible for Causing and Accelerating Climate Change.**

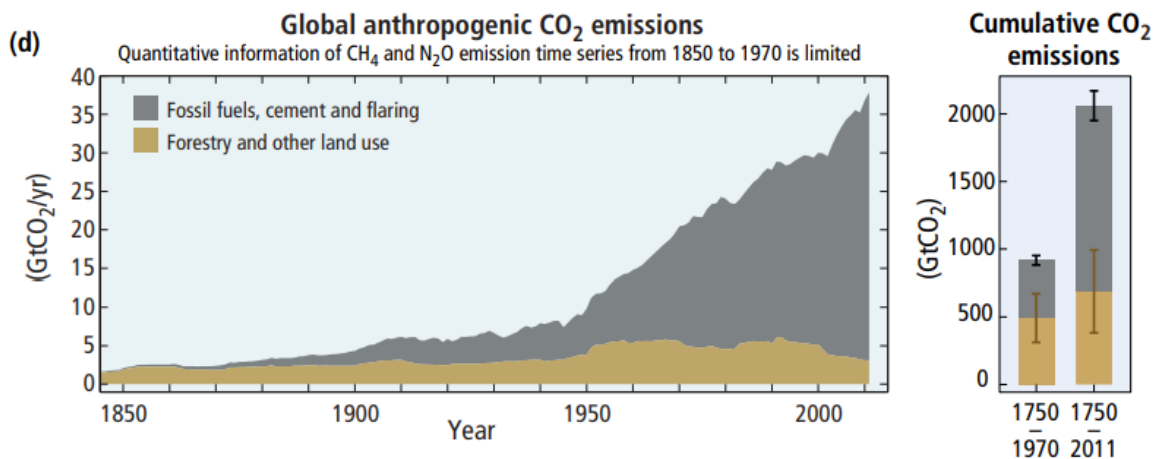
39. Human-caused warming of the Earth is unequivocal. As a result, the atmosphere and oceans are warming, sea level is rising, snow and ice cover is diminishing, oceans are acidifying, and hydrologic systems have been altered, among other environmental changes.

40. The mechanism by which human activity causes global warming and climate disruption is well established: ocean and atmospheric warming is overwhelmingly caused by anthropogenic greenhouse gas emissions.

41. Greenhouse gases are largely byproducts of humans combusting fossil fuels to produce energy and using fossil fuels to create petrochemical products.

42. Prior to World War II, most anthropogenic CO<sub>2</sub> emissions were caused by land-use practices, such as forestry and agriculture, which altered the ability of the land and global biosphere to absorb CO<sub>2</sub> from the atmosphere; the impacts of such activities on the Earth's climate were relatively minor. Since that time, however, both the annual rate and total volume of anthropogenic CO<sub>2</sub> emissions have increased enormously following the advent of major uses of oil, gas, and coal.

43. The graph below illustrates that fossil fuel emissions are the dominant source of increases in atmospheric CO<sub>2</sub> since the mid-twentieth century:



**Figure 1: Global Anthropogenic CO<sub>2</sub> Emissions<sup>13</sup>**

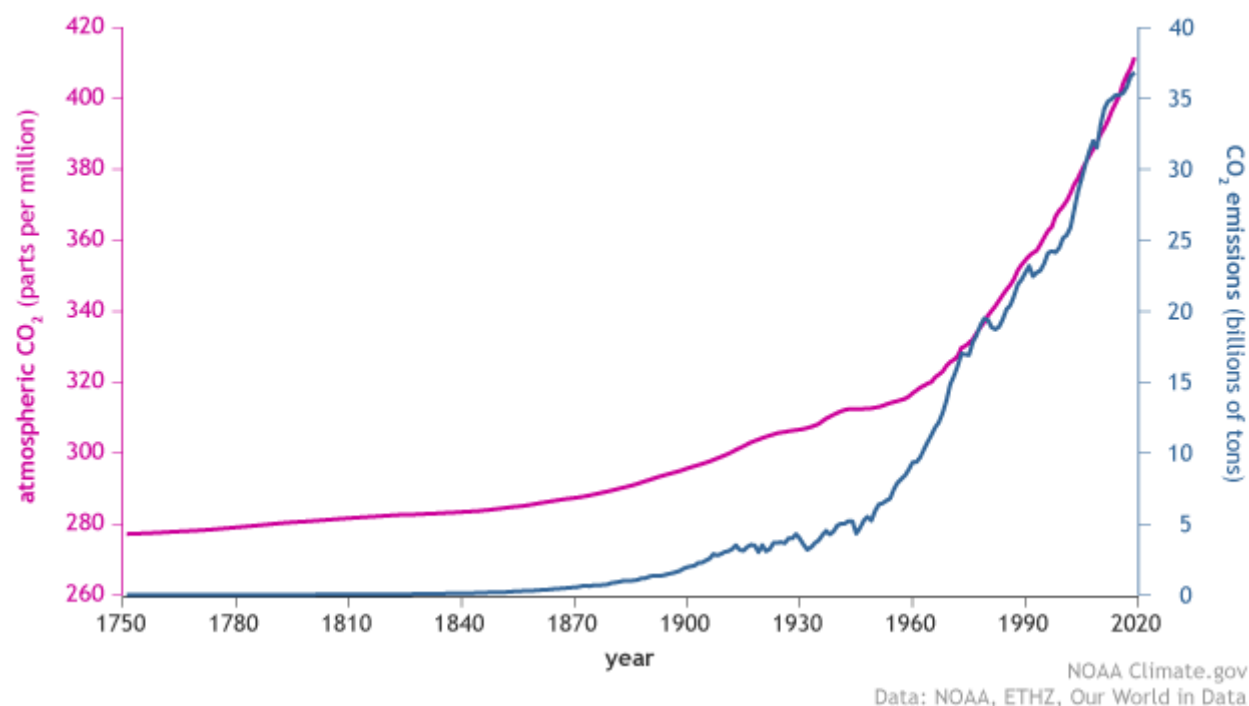
44. The recent acceleration of fossil fuel emissions has led to a correspondingly sharp spike in atmospheric concentration of CO<sub>2</sub>. Since 1960, the concentration of CO<sub>2</sub> in the atmosphere has gone from under 320 parts per million (“ppm”) to approximately 415 ppm.<sup>14</sup> The rate of growth of atmospheric CO<sub>2</sub> is also accelerating. From 1960 to 1970, atmospheric CO<sub>2</sub> increased by an average of approximately 1 ppm per year; in the last five years, it has increased by more than 2.5 ppm per year.<sup>15</sup>

45. The graph below indicates the tight nexus between the sharp increase in emissions from the combustion of fossil fuels and the steep rise of atmospheric concentrations of CO<sub>2</sub>.

<sup>13</sup> IPCC 2014 SYNTHESIS REPORT, *supra* note, at 3.

<sup>14</sup> Global Monitoring Laboratory, “Trends in Atmospheric Carbon Dioxide,” NOAA (last visited Sept. 4, 2020), <https://www.esrl.noaa.gov/gmd/ccgg/trends>.

<sup>15</sup> *Id.*

CO<sub>2</sub> in the atmosphere and annual emissions (1750-2019)**Figure 2: Atmospheric CO<sub>2</sub> Concentration and Annual Emissions<sup>16</sup>**

46. Because of the increased burning of fossil fuel products, concentrations of greenhouse gases in the atmosphere are now at a level unprecedented in at least 3 million years.<sup>17</sup>

47. As greenhouse gases accumulate in the atmosphere, the Earth radiates less energy back to space. This accumulation and associated disruption of the Earth's energy balance have myriad environmental and physical consequences, including, but not limited to, the following:

a. Warming of the Earth's average surface temperature both locally and globally, and increased frequency and intensity of heatwaves; to date, global average air

<sup>16</sup> Rebecca Lindsey, *Climate Change: Atmospheric Carbon Dioxide*, NOAA (Aug. 14, 2020), <https://www.climate.gov/news-features/understanding-climate/climate-change-atmospheric-carbon-dioxide>.

<sup>17</sup> *More CO<sub>2</sub> than ever before in 3 million years, shows unprecedented computer simulation*, SCIENCE DAILY (April 3, 2019), <https://www.sciencedaily.com/releases/2019/04/190403155436.htm>.



temperatures have risen approximately 1 degree C (1.8 degrees F) above preindustrial temperatures; temperatures in particular locations have risen more;

b. Sea level rise, due to the thermal expansion of warming ocean waters and runoff from melting glaciers and ice sheets;

c. Flooding and inundation of land and infrastructure, increased erosion, higher wave run-up and tides, increased frequency and severity of storm surges, saltwater intrusion, and other impacts of higher sea levels;

d. Changes to the global climate, and generally toward longer periods of drought interspersed with fewer and more severe periods of precipitation, and associated impacts on the quantity and quality of water resources available to both human and ecological systems;

e. Ocean acidification, due to the increased uptake of atmospheric carbon dioxide by the oceans;

f. Increased frequency and intensity of extreme weather events due to the increase in the atmosphere's ability to hold moisture and increased evaporation;

g. Changes to terrestrial and marine ecosystems, and consequent impacts on the range of flora and fauna; and

h. Adverse impacts on human health associated with extreme weather, extreme heat, decreased air quality, and vector-borne illnesses.

48. As discussed in Part V.H., *infra*, these consequences of Defendants' conduct and its exacerbation of the climate crisis are already impacting the City and will continue to increase in severity in Charleston.

49. Without Defendants' exacerbation of global warming caused by their conduct as alleged herein, the current physical and environmental changes caused by global warming would

have been far less than those observed to date. Similarly, effects that will occur in the future would also be far less.<sup>18</sup>

50. The market for fossil fuel products was unduly inflated by Defendants' efforts between 1965 and the present to deceive about the consequences of the normal use of their fossil fuel products; to conceal the hazards of those products from consumers; to promote their fossil fuel products despite knowing the dangers associated with those products; to doggedly campaign against regulation of those products based on falsehoods, omissions, and deceptions; and their failure to pursue less hazardous alternative products available to them.. Consequently, substantially more anthropogenic greenhouse gases have been emitted into the environment than would have been absent that conduct.

51. By quantifying greenhouse gas pollution attributable to Defendants' products and conduct, climatic and environmental responses to those emissions are also calculable, and can be attributed to Defendants on an individual and aggregate basis.

52. Defendants' conduct caused a substantial portion of global atmospheric greenhouse gas concentrations, and the attendant historical, projected, and committed disruptions to the environment—and consequent injuries to the City—associated therewith.

53. Defendants, individually and together, have substantially and measurably contributed to the City's climate crisis-related injuries.

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<sup>18</sup> See, e.g., Peter U. Clark, et al., *Consequences of Twenty-First-Century Policy for Multi-Millennial Climate and Sea-Level Change*, 6 NATURE CLIMATE CHANGE 360, 365 (2016) ("Our modelling suggests that the human carbon footprint of about [470 billion tons] by 2000 . . . has already committed Earth to a [global mean sea level] rise of ~1.7m (range of 1.2 to 2.2 m).").

**B. Defendants Went to Great Lengths to Understand, and Either Knew or Should Have Known, About the Dangers Associated with Their Fossil Fuel Products.**

54. The fossil fuel industry has known about the potential warming effects of greenhouse gas emissions since as early as the 1950s. In 1954, geochemist Harrison Brown and his colleagues at the California Institute of Technology wrote to the American Petroleum Institute, informing the trade association that preliminary measurements of natural archives of carbon in tree rings indicated that fossil fuels had caused atmospheric carbon dioxide levels to increase by about 5% since 1840.<sup>19</sup> The American Petroleum Institute funded the scientists for various research projects, and measurements of carbon dioxide continued for at least one year and possibly longer, although the results were never published or otherwise made available to the public.<sup>20</sup>

55. In 1957, H. R. Brannon of Humble Oil (predecessor-in-interest to ExxonMobil) measured an increase in atmospheric carbon dioxide similar to that measured by Harrison Brown. Brannon communicated this information to the American Petroleum Institute. Brannon knew of Brown's measurements, compared them with his, and found they agreed. Brannon published his results in the scientific literature, which was available to Defendants and/or their predecessors-in-interest.<sup>21</sup>

56. In 1959, the American Petroleum Institute organized a centennial celebration of the American oil industry at Columbia University in New York City.<sup>22</sup> High-level representatives of

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<sup>19</sup> See Benjamin Franta, *Early Oil Industry Knowledge of CO<sub>2</sub> and Global Warming*, 8 NATURE CLIMATE CHANGE 1024, 1024–25 (2018).

<sup>20</sup> *Id.*

<sup>21</sup> H. R. Brannon, Jr., A. C. Daughtry, D. Perry, W. W. Whitaker, and M. Williams, *Radiocarbon Evidence on the Dilution of Atmospheric and Oceanic Carbon by Carbon from Fossil Fuels*, 38 AMERICAN GEOPHYSICAL UNION TRANSACTIONS 643, 643–50 (1957).

<sup>22</sup> See ALLAN NEVINS & ROBERT G. DUNLOP, *ENERGY AND MAN: A SYMPOSIUM* (Appleton-Century-Crofts, New York 1960). See also Franta, *supra* note 19, at 1024–25.

Defendants were in attendance. One of the keynote speakers was the nuclear physicist Edward Teller. Teller warned the industry that “a temperature rise corresponding to a 10 per cent increase in carbon dioxide will be sufficient to melt the icecap and submerge . . . [a]ll the coastal cities.” Teller added that since “a 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.”<sup>23</sup>

57. Following his speech, Teller was asked to “summarize briefly the danger from increased carbon dioxide content in the atmosphere in this century.” He responded that “there is a possibility the icecaps will start melting and the level of the oceans will begin to rise.”<sup>24</sup>

58. By 1965, concern over the potential for fossil fuel products to cause disastrous global warming reached the highest levels of the United States’ scientific community. In that year, President Lyndon B. Johnson’s Science Advisory Committee’s Environmental Pollution Panel reported that a 25% increase in carbon dioxide concentrations could occur by the year 2000, that such an increase could cause significant global warming, that melting of the Antarctic ice cap and rapid sea level rise could result, and that fossil fuels were the clearest source of the pollution.<sup>25</sup> President Johnson announced in a special message to Congress that “[t]his generation has altered the composition of the atmosphere on a global scale through . . . a steady increase in carbon dioxide from the burning of fossil fuels.”<sup>26</sup>

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<sup>23</sup> Edward Teller, *Energy patterns of the future*, in ENERGY AND MAN: A SYMPOSIUM 53–72 (1960).

<sup>24</sup> *Id.*

<sup>25</sup> PRESIDENT’S SCIENCE ADVISORY COMMITTEE, *Restoring the Quality of Our Environment: Report of the Environmental Pollution Panel* (Nov. 1965), <https://hdl.handle.net/2027/uc1.b4315678>.

<sup>26</sup> President Lyndon B. Johnson, *Special Message to Congress on Conservation and Restoration of Natural Beauty* (Feb. 8, 1965), <http://acsc.lib.udel.edu/items/show/292>.

59. Three days after President Johnson's Science Advisory Committee report was published, the president of the American Petroleum Institute, Frank Ikard, addressed leaders of the petroleum industry in Chicago at the trade association's annual meeting. Ikard relayed the findings of the report to industry leaders, saying,

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.<sup>27</sup>

Ikard also relayed that "by the year 2000 the heat balance will be so modified as possibly to cause marked changes in climate beyond local or even national efforts" and quoted the report's finding that "the pollution from internal combustion engines is so serious, and is growing so fast, that an alternative nonpolluting means of powering automobiles, buses, and trucks is likely to become a national necessity."

60. Thus, by 1965, Defendants and their predecessors-in-interest were aware that the scientific community had found that fossil fuel products, if used profligately, would cause global warming by the end of the century, and that such global warming would have wide-ranging and costly consequences.

61. In 1968, API received a report from the Stanford Research Institute, which it had hired to assess the state of research on environmental pollutants, including carbon dioxide.<sup>28</sup> The assessment endorsed the findings of President Johnson's Scientific Advisory Council from three years prior, stating, "Significant temperature changes are almost certain to occur by the year 2000, and . . . there seems to be no doubt that the potential damage to our environment could be severe."

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<sup>27</sup> See Franta, *supra* note 19, at 1024–25.

<sup>28</sup> Elmer Robinson & R.C. Robbins, *Sources, Abundance, and Fate of Gaseous Atmospheric Pollutants*, STANFORD RESEARCH INSTITUTE (Feb. 1968), <https://www.smokeandfumes.org/documents/document16>.

The scientists warned of “melting of the Antarctic ice cap” and informed API that “[p]ast and present studies of CO<sub>2</sub> are detailed and seem to explain adequately the present state of CO<sub>2</sub> in the atmosphere.” What was missing, the scientists said, was work on “air pollution technology and . . . systems in which CO<sub>2</sub> emissions would be brought under control.”<sup>29</sup>

62. In 1969, the Stanford Research Institute delivered a supplemental report on air pollution to API, projecting with alarming particularity that atmospheric CO<sub>2</sub> concentrations would reach 370 ppm by 2000<sup>30</sup>—almost exactly what it turned out to be (369 ppm).<sup>31</sup> The report explicitly connected the rise in CO<sub>2</sub> levels to the combustion of fossil fuels, finding it “unlikely that the observed rise in atmospheric CO<sub>2</sub> has been due to changes in the biosphere.”

63. By virtue of their membership and participation in API at that time, Defendants received or should have received the Stanford Research Institute reports and were on notice of their conclusions.

64. In 1972, API members, including Defendants, received a status report on all environmental research projects funded by API. The report summarized the 1968 SRI report describing the impact of fossil fuel products, including Defendants’, on the environment, including global warming and attendant consequences. Defendants and/or their predecessors-in-interest that received this report include, but were not limited to: American Standard of Indiana (BP), Asiatic (Shell), Ashland (Marathon), Atlantic Richfield (BP), British Petroleum (BP), Chevron Standard of California (Chevron), Esso Research (ExxonMobil), Ethyl (formerly affiliated with Esso, which

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<sup>29</sup> *Id.*

<sup>30</sup> Elmer Robinson & R.C. Robbins, *Sources, Abundance, and Fate of Gaseous Atmospheric Pollutants Supplement*, STANFORD RESEARCH INSTITUTE (June 1969).

<sup>31</sup> NASA GODDARD INSTITUTE FOR SPACE STUDIES, *Global Mean CO<sub>2</sub> Mixing Ratios (ppm): Observations*, <https://data.giss.nasa.gov/modelforce/ghgases/Fig1A.ext.txt>.

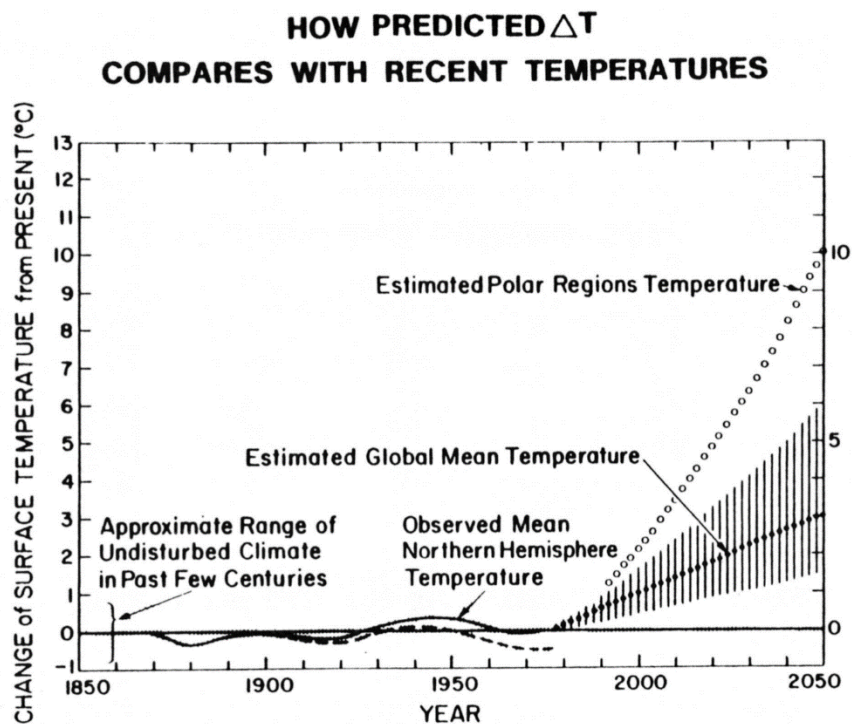
was subsumed by ExxonMobil), Getty (ExxonMobil), Gulf (Chevron, among others), Humble Standard of New Jersey (ExxonMobil/Chevron/BP), Marathon, Mobil (ExxonMobil), Pan American (BP), Shell, Standard of Ohio (BP), Texaco (Chevron), Union (Chevron), Skelly (ExxonMobil), Colonial Pipeline (ownership has included BP, ExxonMobil, and Chevron entities, among others), Continental (ConocoPhillips), Dupont (former owner of Conoco), Phillips (ConocoPhillips), and Caltex (Chevron).<sup>32</sup>

65. In 1977, James Black of Exxon's Products Research Division presented to the Exxon Corporation Management Committee on the greenhouse effect. The next year, in 1978, Black presented to another internal Exxon group, PERCC. In a memo to the Vice President of Exxon Research and Engineering, Black summarized his presentations.<sup>33</sup> He reported that "current scientific opinion overwhelmingly favors attributing atmospheric carbon dioxide increase to fossil fuel consumption," and that doubling atmospheric carbon dioxide, according to the best climate model available, would "produce a mean temperature increase of about 2°C to 3°C over most of the earth," with two- to three-times as much warming at the poles. The figure below, reproduced from Black's memo, illustrates Exxon's understanding of the timescale and magnitude of global warming its products would cause.

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<sup>32</sup> American Petroleum Institute, *Environmental Research, A Status Report*, Committee for Air and Water Conservation (Jan. 1972), <http://files.eric.ed.gov/fulltext/ED066339.pdf>.

<sup>33</sup> Memorandum from J.F. Black to F.G. Turpin, *The Greenhouse Effect*, Exxon Research and Engineering Company, CLIMATE FILES (June 6, 1978), <http://www.climatefiles.com/exxonmobil/1978-exxon-memo-on-greenhouse-effect-for-exxon-corporation-management-committee>.



**Figure 3: Future Global Warming Predicted Internally by Exxon in 1977<sup>34</sup>**

The impacts of such global warming, Black reported, would include “more rainfall,” which would “benefit some areas and would harm others.” “Some countries would benefit, but others could have their agricultural output reduced or destroyed.” “Even those nations which are favored, however, would be damaged for a while since their agricultural and industrial patterns have been established on the basis of the present climate.” Black reported that “[i]t is currently estimated that mankind has a 5–10 yr. time window to obtain the necessary information” and “establish what must be done,” at which time, “hard decisions regarding changes in energy strategies might become critical.”<sup>35</sup>

<sup>34</sup> *Id.* The company predicted global warming of 3°C by 2050, with 10°C warming in polar regions. The difference between the dashed and solid curves prior to 1977 represents global warming that Exxon believed may already have been occurring.

<sup>35</sup> *Id.*



66. Also in 1977, Henry Shaw of the Exxon Research and Engineering Technology Feasibility Center attended a meeting of scientists and governmental officials in Atlanta, Georgia, on developing research programs to study carbon dioxide and global warming. Shaw's internal memo to Exxon's John W. Harrison reported that "[t]he climatic effects of carbon dioxide release may be the primary limiting factor on energy production from fossil fuels[.]"<sup>36</sup>

67. In 1979, Exxon's W. L. Ferrall distributed an internal memorandum.<sup>37</sup> The memo reported that "The most widely held theory [about global warming] is that: The increase [in carbon dioxide] is due to fossil fuel combustion; [i]ncreasing CO<sub>2</sub> concentration will cause a warming of the earth's surface; [and t]he present trend of fossil fuel consumption will cause dramatic environmental effects before the year 2050. [...] The potential problem is great and urgent." The memo stated that if limits were not placed on fossil fuel production:

Noticeable temperature changes would occur around 2010 as the [carbon dioxide] concentration reaches 400 ppm [parts per million]. Significant climatic changes occur around 2035 when the concentration approaches 500 ppm. A doubling of the pre-industrial concentration [*i.e.*, 580 ppm] occurs around 2050. The doubling would bring about dramatic changes in the world's environment[.]<sup>38</sup>

Those projections proved remarkably accurate: annual average atmospheric CO<sub>2</sub> concentrations surpassed 400 parts per million in 2015 for the first time in millions of years.<sup>39</sup> Limiting the carbon dioxide concentration in the atmosphere to 440 ppm, or a 50% increase over preindustrial levels,

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<sup>36</sup> Henry Shaw, *Environmental Effects of Carbon Dioxide*, CLIMATE INVESTIGATIONS CENTER (Oct. 31, 1977), <https://www.industrydocuments.ucsf.edu/docs/tpwl0228>.

<sup>37</sup> Letter from W.L. Ferrall, Exxon Research and Engineering Company, to Dr. R.L. Hirsch, *Controlling Atmospheric CO<sub>2</sub>*, CLIMATE INVESTIGATIONS CENTER (Oct. 16, 1979), <https://www.industrydocuments.ucsf.edu/docs/mqwl0228>.

<sup>38</sup> *Id.*

<sup>39</sup> Nicola Jones, *How the World Passed a Carbon Threshold and Why It Matters*, YALE ENVIRONMENT 360 (Jan. 26, 2017), <http://e360.yale.edu/features/how-the-world-passed-a-carbon-threshold-400ppm-and-why-it-matters>.

which the memo said was “assumed to be a relatively safe level for the environment,” would require fossil fuel emissions to peak in the 1990s and non-fossil energy systems to be rapidly deployed. Eighty percent of fossil fuel resources, the memo calculated, would have to be left in the ground to avoid doubling atmospheric carbon dioxide concentrations. Certain fossil fuels, such as shale oil, could not be substantially exploited at all.

68. In November 1979, Exxon’s Henry Shaw wrote to Exxon’s Harold Weinberg urging “a very aggressive defensive program in . . . atmospheric science and climate because there is a good probability that legislation affecting our business will be passed.”<sup>40</sup> Shaw stated that an expanded research effort was necessary to “influence possible legislation on environmental controls” and “respond” to environmental groups, which had already opposed synthetic fuels programs based on carbon dioxide emissions. Shaw suggested the formation of a “small task force” to evaluate a potential program in carbon dioxide and climate, acid rain, carcinogenic particulates, and other pollution issues caused by fossil fuels.

69. In 1979, API and its members, including Defendants, convened a Task Force to monitor and share cutting edge climate research among the oil industry. The group was initially called the CO<sub>2</sub> and Climate Task Force, but in 1980 changed its name to the Climate and Energy Task Force (hereinafter referred to as “API CO<sub>2</sub> Task Force”). Membership included senior scientists and engineers from nearly every major U.S. and multinational oil and gas company, including Exxon, Mobil (ExxonMobil), Amoco (BP), Phillips (ConocoPhillips), Texaco (Chevron), Shell, Sunoco, Sohio (BP), as well as Standard Oil of California (BP) and Gulf Oil

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<sup>40</sup> Memorandum from H. Shaw to H.N. Weinberg, *Research in Atmospheric Science*, CLIMATE INVESTIGATIONS CENTER (Nov. 19, 1979), <https://www.industrydocuments.ucsf.edu/docs/yqwl0228>.

(Chevron), among others. The Task Force was charged with monitoring government and academic research, evaluating the implications of emerging science for the petroleum and gas industries, and identifying where reductions in greenhouse gas emissions from Defendants' fossil fuel products could be made.<sup>41</sup>

70. In 1979, API prepared a background paper on carbon dioxide and climate for the CO<sub>2</sub> and Climate Task Force, stating that CO<sub>2</sub> concentrations were rising steadily in the atmosphere, and predicting when the first clear effects of global warming might be detected.<sup>42</sup> The API reported to its members that although global warming would occur, it would likely go undetected until approximately the year 2000, because, the API believed, its effects were being temporarily masked by a natural cooling trend. However, this cooling trend, the API warned its members, would reverse around 1990, adding to the warming caused by carbon dioxide.

71. In 1980, API's CO<sub>2</sub> Task Force invited Dr. John Laurmann, "a recognized expert in the field of CO<sub>2</sub> and climate," to present to its members.<sup>43</sup> The meeting lasted for seven hours and included a "complete technical discussion" of global warming caused by fossil fuels, including "the scientific basis and technical evidence of CO<sub>2</sub> buildup, impact on society, methods of modeling and their consequences, uncertainties, policy implications, and conclusions that can be

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<sup>41</sup> Neela Banerjee, *Exxon's Oil Industry Peers Knew About Climate Dangers in the 1970s, Too*, INSIDE CLIMATE NEWS (Dec. 22, 2015), <https://insideclimatenews.org/news/22122015/exxon-mobil-oil-industry-peers-knew-about-climate-change-dangers-1970s-american-petroleum-institute-api-shell-chevron-texaco>.

<sup>42</sup> Memo from R.J. Campion to J.T. Burgess, *The API's Background Paper on CO<sub>2</sub> Effects*, CLIMATE INVESTIGATIONS CENTER (Sep. 6, 1979), <https://www.industrydocuments.ucsf.edu/docs/lqw10228>.

<sup>43</sup> American Petroleum Institute & Jimmie J. Nelson, *The CO<sub>2</sub> Problem; Addressing Research Agenda Development*, CLIMATE INVESTIGATIONS CENTER (Mar. 18, 1980), <https://www.industrydocuments.ucsf.edu/docs/gffl0228>.

drawn from present knowledge.” Representatives from Standard Oil of Ohio (predecessor to BP), Texaco (Chevron), Exxon, and the API were present, and the minutes of the meeting were distributed to the entire API CO<sub>2</sub> Task Force. Laurmann informed the Task Force of the “scientific consensus on the potential for large future climatic response to increased CO<sub>2</sub> levels” and that there was “strong empirical evidence that [the carbon dioxide] rise [was] caused by anthropogenic release of CO<sub>2</sub>, mainly from fossil fuel burning.” Unless fossil fuel production and use were controlled, atmospheric carbon dioxide would be twice preindustrial levels by 2038, with “likely impacts” along the following trajectory:

1°C RISE (2005): BARELY NOTICEABLE

2.5°C RISE (2038): MAJOR ECONOMIC CONSEQUENCES, STRONG REGIONAL DEPENDENCE

5°C RISE (2067): GLOBALLY CATASTROPHIC EFFECTS

Laurmann warned the CO<sub>2</sub> Task Force that global warming of 2.5°C could “bring[] world economic growth to a halt[.]” Laurmann also suggested that action should be taken immediately, asking, “Time for action?” and noting that if achieving high market penetration for new energy sources would require a long time period (e.g., decades), then there would be “no leeway” for delay. The minutes of the CO<sub>2</sub> Task Force’s meeting show that one of the Task Force’s goals was “to help develop ground rules for [...] the cleanup of fuels as they relate to CO<sub>2</sub> creation,” and the Task Force discussed the requirements for a worldwide “energy source changeover” away from fossil fuels.

72. In 1980, Imperial Oil Limited (a Canadian ExxonMobil subsidiary) reported to managers and environmental staff at multiple affiliated Esso and Exxon companies that there was

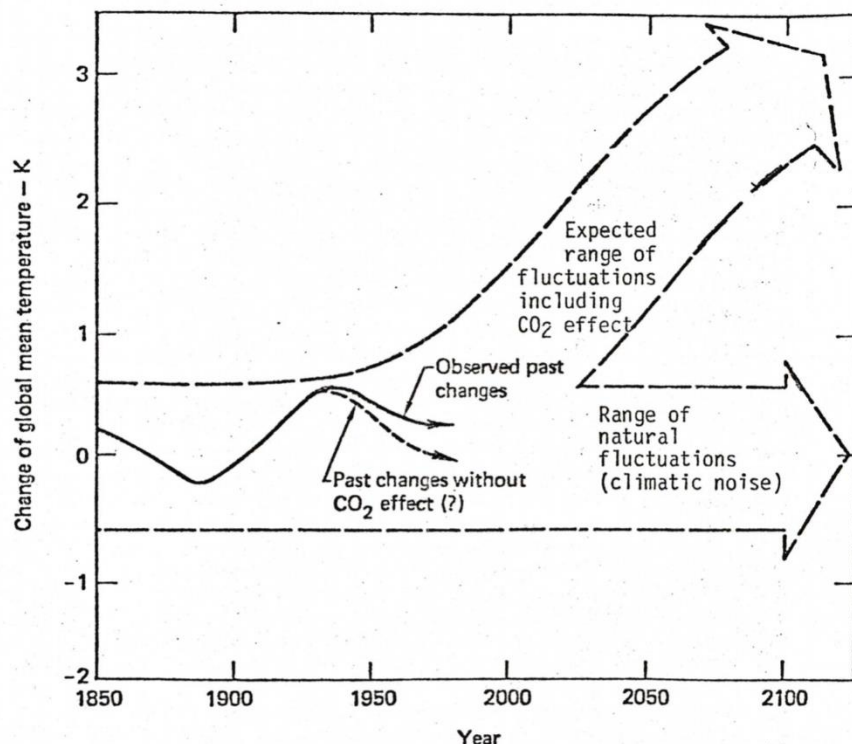
“no doubt” that fossil fuels were aggravating the build-up of CO<sub>2</sub> in the atmosphere.<sup>44</sup> Imperial noted that “[t]echnology exists to remove CO<sub>2</sub> from stack gases but removal of only 50% of the CO<sub>2</sub> would double the cost of power generation.”

73. In December 1980, Exxon’s Henry Shaw distributed a memorandum on the “CO<sub>2</sub> Greenhouse Effect.”<sup>45</sup> Shaw stated that the future buildup of carbon dioxide was a function of fossil fuel use, and that internal calculations performed at Exxon indicated that atmospheric carbon dioxide would double around the year 2060. According to the “most widely accepted” climate models, Shaw reported, such a doubling of carbon dioxide would “most likely” result in global warming of approximately 3°C, with a greater effect in polar regions. Calculations predicting a lower temperature increase, such as 0.25°C, were “not held in high regard by the scientific community,” Shaw said. Shaw also noted that the ability of the oceans to absorb heat could delay (but not prevent) the temperature increase “by a few decades,” and that natural, random temperature fluctuations would hide global warming from CO<sub>2</sub> until around the year 2000. The memo included the Figure below illustrates global warming anticipated by Exxon, as well as the company’s understanding that significant global warming would occur before exceeding the range of natural variability and being detected.

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<sup>44</sup> Imperial Oil Ltd., *Review of Environmental Protection Activities for 1978 – 1979* (Aug. 6, 1980), <http://www.documentcloud.org/documents/2827784-1980-Imperial-Oil-Review-of-Environmental.html#document/p2>.

<sup>45</sup> Memorandum from H. Shaw to T. K. Kett, *Exxon Research and Engineering Company’s Technological Forecast: CO<sub>2</sub> Greenhouse Effect* (Dec. 18, 1980), <https://www.documentcloud.org/documents/2805573-1980-Exxon-Memo-Summarizing-Current-Models-And.html>.



**Figure 4: Future Global Warming Predicted Internally by Exxon in 1980<sup>46</sup>**

The memo reported that such global warming would cause “increased rainfall[] and increased evaporation,” which would have a “dramatic impact on soil moisture, and in turn, on agriculture.” Some areas would turn to desert, and the American Midwest would become “much drier.” “[W]eeds and pests,” the memo reported, “would tend to thrive with increasing global average temperature.” Other “serious global problems” could also arise, such as the melting of the West Antarctic ice sheet, which “could cause a rise in the sea level on the order of 5 meters.” The memo called for “society” to pay the bill, estimating that some adaptive measures would cost no more

<sup>46</sup> *Id.* The company anticipated a doubling of carbon dioxide by around 2060 and that the oceans would delay the warming effect by a few decades, leading to approximately 3°C warming by the end of the century.

than “a few percent” of Gross National Product (i.e., 400 billion USD in 2018).<sup>47</sup> Exxon predicted that national policy action would not occur until around 1989, when the Department of Energy would finish a ten-year study of carbon dioxide and global warming.<sup>48</sup> Shaw also reported that Exxon had studied various responses for avoiding or reducing a carbon dioxide build-up, including “stopping all fossil fuel combustion at the 1980 rate” and “investigat[ing] the market penetration of non-fossil fuel technologies.” The memo estimated that such non-fossil energy technologies “would need about 50 years to penetrate and achieve roughly half of the total [energy] market.”

74. In February 1981, Exxon’s Contract Research Office prepared and distributed a “Scoping Study on CO<sub>2</sub>” to the leadership of Exxon Research and Engineering Company.<sup>49</sup> The study reviewed Exxon’s current research on carbon dioxide and considered whether to expand Exxon’s research on carbon dioxide or global warming further at that time. The study recommended against expanding Exxon’s research activities in those areas, because its current research programs were sufficient for achieving the company’s goals of closely monitoring federal research, building credibility and public relations value, and developing in-house expertise with regard to carbon dioxide and global warming. However, the study recommended that Exxon centralize its activities in monitoring, analyzing, and disseminating outside research being done on carbon dioxide and global warming. The study stated that Exxon’s James Black was actively

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<sup>47</sup> See *Gross National Product*, FEDERAL RESERVE BANK OF ST. LOUIS (updated Mar. 26, 2020), <https://fred.stlouisfed.org/series/GNPA>.

<sup>48</sup> Memorandum from H. Shaw to T. K. Kett, *Exxon Research and Engineering Company’s Technological Forecast: CO<sub>2</sub> Greenhouse Effect* (Dec. 18, 1980), <https://www.documentcloud.org/documents/2805573-1980-Exxon-Memo-Summarizing-Current-Models-And.html>.

<sup>49</sup> Letter from G.H. Long to P.J. Lucchesi et al., *Atmospheric CO<sub>2</sub> Scoping Study*, CLIMATE INVESTIGATIONS CENTER (Feb. 5, 1981), <https://www.industrydocuments.ucsf.edu/docs/yxfl0228>.

monitoring and keeping the company apprised of outside research developments, including those on climate modeling and “CO<sub>2</sub>-induced effects.” The study also noted that other companies in the fossil fuel industry were “auditing Government meetings on the subject.” In discussing “options for reducing CO<sub>2</sub> build-up in the atmosphere,” the study noted that although capturing CO<sub>2</sub> from flue gases was technologically possible, the cost was high, and “energy conservation or shifting to renewable energy sources[] represent the only options that might make sense.”

75. Thus, by 1981, Exxon and other fossil fuel companies were actively monitoring all aspects of carbon dioxide and global warming research both nationally and internationally, and Exxon had recognized that a shift to renewable energy sources would be necessary to avoid a large carbon dioxide build-up in the atmosphere and resultant global warming.

76. Exxon scientist Roger Cohen warned his colleagues in a 1981 internal memorandum that “future developments in global data gathering and analysis, along with advances in climate modeling, may provide strong evidence for a delayed CO<sub>2</sub> effect of a truly substantial magnitude,” and that under certain circumstances it would be “very likely that we will unambiguously recognize the threat by the year 2000.”<sup>50</sup> Cohen had expressed concern that the memorandum understated the potential effects of unabated CO<sub>2</sub> emissions from Defendants’ fossil fuel products, saying, “it is distinctly possible that [Exxon Planning Division’s] . . . scenario will produce effects which will indeed be catastrophic (at least for a substantial fraction of the world’s population).”<sup>51</sup>

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<sup>50</sup> Memorandum from R.W. Cohen to W. Glass, Exxon, CLIMATE FILES (Aug. 18, 1981), <http://www.climatefiles.com/exxonmobil/1981-exxon-memo-on-possible-emission-consequences-of-fossil-fuel-consumption>.

<sup>51</sup> *Id.*



77. In 1981, Exxon's Henry Shaw, the company's lead climate researcher at the time, prepared a summary of Exxon's current position on the greenhouse effect for Edward David Jr., president of Exxon Research and Engineering, stating in relevant part:

- "Atmospheric CO<sub>2</sub> will double in 100 years if fossil fuels grow at 1.4%/a<sup>2</sup>
- 3°C global average temperature rise and 10°C at poles if CO<sub>2</sub> doubles
  - o Major shifts in rainfall/agriculture
  - o Polar ice may melt"<sup>52</sup>

78. In 1982, another report prepared for API by scientists at the Lamont-Doherty Geological Observatory at Columbia University recognized that atmospheric CO<sub>2</sub> concentration had risen significantly compared to the beginning of the industrial revolution from about 290 parts per million to about 340 parts per million in 1981 and acknowledged that despite differences in climate modelers' predictions, there was scientific consensus that "a doubling of atmospheric CO<sub>2</sub> from [ ] pre-industrial revolution value would result in an average global temperature rise of (3.0 ± 1.5)°C [5.4 ± 2.7°F]." It went further, warning that "[s]uch a warming can have serious consequences for man's comfort and survival since patterns of aridity and rainfall can change, the height of the sea level can increase considerably and the world food supply can be affected."<sup>53</sup> Exxon's own modeling research confirmed this, and the company's results were later published in at least three peer-reviewed scientific papers.<sup>54</sup>

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<sup>52</sup> Memorandum from Henry Shaw to Dr. E.E. David, *CO<sub>2</sub> Position Statement*, INSIDE CLIMATE NEWS (May 15, 1981), <https://insideclimatenews.org/documents/exxon-position-co2-1981>.

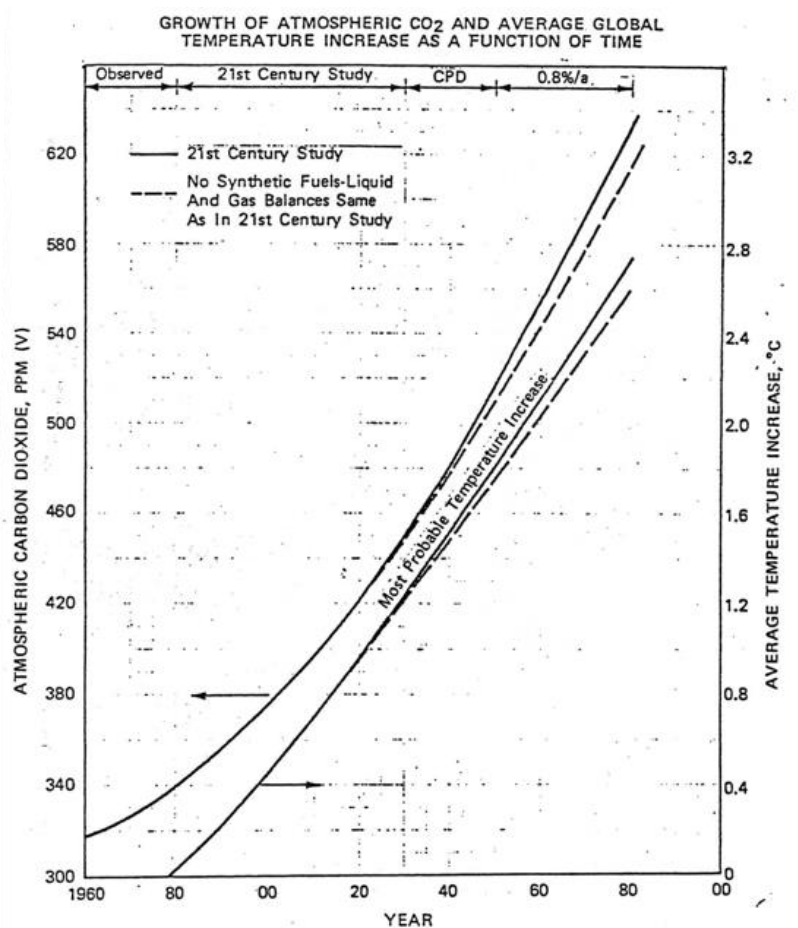
<sup>53</sup> American Petroleum Institute, *Climate Models and CO<sub>2</sub> Warming: A Selective Review and Summary*, LAMONT-DOHERTY GEOLOGICAL OBSERVATORY (Columbia University) (Mar. 1982), <https://assets.documentcloud.org/documents/2805626/1982-API-Climate-Models-and-CO2-Warming-a.pdf>.

<sup>54</sup> See Letter from Roger W. Cohen, Exxon Research and Engineering Company, to A.M. Nakin, Exxon Office of Science and Technology, CLIMATE FILES (Sept. 2, 1982), <http://www.climatefiles.com/exxonmobil/1982-exxon-memo-summarizing-climate-modeling-and-co2-greenhouse-effect-research> (discussing research articles).

79. Also in 1982, Exxon's Environmental Affairs Manager distributed a primer on climate change to a "wide circulation [of] Exxon management [...] intended to familiarize Exxon personnel with the subject."<sup>55</sup> The primer was "restricted to Exxon personnel and not to be distributed externally." The primer compiled science on climate change, confirmed fossil fuel combustion as a primary anthropogenic contributor to global warming, and estimated a CO<sub>2</sub> doubling [i.e., 580 ppm] by 2070 with a "Most Probable Temperature Increase" of more than 2°C over the 1979 level, as shown in the Figure below.

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<sup>55</sup> Memorandum from M. B. Glaser, Exxon Research and Engineering Company, CO<sub>2</sub> "Greenhouse" Effect, INSIDE CLIMATE NEWS (Nov. 12, 1982), <https://insideclimatenews.org/sites/default/files/documents/1982%20Exxon%20Primer%20on%20CO2%20Greenhouse%20Effect.pdf>.



**Figure 5: Exxon's Internal Prediction of Future Carbon Dioxide Increase and Global Warming from 1982<sup>56</sup>**

The report also warned of “uneven global distribution of increased rainfall and increased evaporation,” that “disturbances in the existing global water distribution balance would have dramatic impact on soil moisture, and in turn, on agriculture,” and that the American Midwest would dry out. In addition to effects on global agriculture, the report stated, “there are some potentially catastrophic effects that must be considered.” Melting of the Antarctic ice sheet could

<sup>56</sup> *Id.* The company predicted a doubling of atmospheric carbon dioxide concentrations above pre-industrial levels by around 2070 (left curve), with a temperature increase of more than 2°C over the 1979 level (right curve). The same document indicated that Exxon estimated that by 1979 a global warming effect of approximately 0.25°C may already have occurred.

result in global sea level rise of five meters, which would “cause flooding on much of the U.S. East Coast, including the state of Florida and Washington, D.C.” Weeds and pests would “tend to thrive with increasing global temperature.” The primer warned of “positive feedback mechanisms” in polar regions, which could accelerate global warming, such as deposits of peat “containing large reservoirs of organic carbon” becoming “exposed to oxidation” and releasing their carbon into the atmosphere. “Similarly,” the primer warned, “thawing might also release large quantities of carbon currently sequestered as methane hydrates” on the sea floor. “All biological systems would be affected,” and “the most severe economic effects could be on agriculture.” The report recommended studying “soil erosion, salinization, or the collapse of irrigation systems” in order to understand how society might be affected and might respond to global warming, as well as “[h]ealth effects” and “stress associated with climate related famine or migration[.]” The report estimated that undertaking “[s]ome adaptive measures” (not all of them) would cost “a few percent of the gross national product estimated in the middle of the next century” (i.e., 400 billion USD in 2018).<sup>57</sup> To avoid such impacts, the report discussed an analysis from the Massachusetts Institute of Technology and Oak Ridge National Laboratory, which studied energy alternatives and requirements for introducing them into widespread use, and which recommended that “vigorous development of non-fossil energy sources be initiated as soon as possible.”<sup>58</sup> The primer also noted that other greenhouse gases related to fossil fuel production, such as methane, could contribute significantly to global warming, and that concerns over carbon dioxide could be reduced if fossil

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<sup>57</sup> See *Gross National Product*, FEDERAL RESERVE BANK OF ST. LOUIS (updated Mar. 26, 2020), <https://fred.stlouisfed.org/series/GNPA>.

<sup>58</sup> Memorandum from M. B. Glaser, Exxon Research and Engineering Company, *CO<sub>2</sub> “Greenhouse” Effect*, INSIDE CLIMATE NEWS (Nov. 12, 1982), <https://insideclimatenews.org/sites/default/files/documents/1982%20Exxon%20Primer%20on%20CO2%20Greenhouse%20Effect.pdf>.

fuel use were decreased due to “high price, scarcity, [or] unavailability.” “Mitigation of the ‘greenhouse effect’ would require major reductions in fossil fuel combustion,” the primer stated. The primer was widely distributed to Exxon leadership.

80. In September 1982, the Director of Exxon’s Theoretical and Mathematical Sciences Laboratory, Roger Cohen, wrote Alvin Natkin of Exxon’s Office of Science and Technology to summarize Exxon’s internal research on climate modeling.<sup>59</sup> Cohen reported:

[O]ver the past several years a clear scientific consensus has emerged regarding the expected climatic effects of increased atmospheric CO<sub>2</sub>. The consensus is that a doubling of atmospheric CO<sub>2</sub> from its pre-industrial revolution value would result in an average global temperature rise of  $(3.0 \pm 1.5)^{\circ}\text{C}$ . [...] The temperature rise is predicted to be distributed nonuniformly over the earth, with above-average temperature elevations in the polar regions and relatively small increases near the equator. There is unanimous agreement in the scientific community that a temperature increase of this magnitude would bring about significant changes in the earth’s climate, including rainfall distribution and alterations of the biosphere. The time required for doubling of atmospheric CO<sub>2</sub> depends on future world consumption of fossil fuels.

Cohen described Exxon’s own climate modeling experiments, reporting that they produced “a global average temperature increase that falls well within the range of the scientific consensus,” were “consistent with the published predictions of more complex climate models,” and were “also in agreement with estimates of the global temperature distribution during a certain prehistoric period when the earth was much warmer than today.” “In summary,” Cohen wrote, “the results of our research are in accord with the scientific consensus on the effect of increased atmospheric CO<sub>2</sub> on climate.” Cohen noted that the results would be presented to the scientific community by Exxon’s collaborator Martin Hoffert at a Department of Energy meeting, as well as by Exxon’s

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<sup>59</sup> See Letter from Roger W. Cohen, Exxon Research and Engineering Company, to A.M. Nakin, Exxon Office of Science and Technology, CLIMATE FILES (Sept. 2, 1982), <http://www.climatefiles.com/exxonmobil/1982-exxon-memo-summarizing-climate-modeling-and-co2-greenhouse-effect-research/>.

Brian Flannery at the Exxon-supported Ewing Symposium, later that year.

81. In October 1982, at the fourth biennial Maurice Ewing Symposium at the Lamont-Doherty Geophysical Observatory which was attended by members of API and Exxon Research and Engineering Company, the Observatory's president E. E. David delivered a speech titled: "Inventing the Future: Energy and the CO<sub>2</sub> 'Greenhouse Effect.'"<sup>60</sup> His remarks included the following statement: "[F]ew people doubt that the world has entered an energy transition away from dependence upon fossil fuels and toward some mix of renewable resources that will not pose problems of CO<sub>2</sub> accumulation." He went on, discussing the human opportunity to address anthropogenic climate change before the point of no return:

It is ironic that the biggest uncertainties about the CO<sub>2</sub> buildup are not in predicting what the climate will do, but in predicting what people will do. . . . [It] appears we still have time to generate the wealth and knowledge we will need to invent the transition to a stable energy system.

82. Throughout the early 1980s, at Exxon's direction, Exxon climate scientist Henry Shaw forecasted emissions of CO<sub>2</sub> from fossil fuel use. Those estimates were incorporated into Exxon's 21<sup>st</sup> century energy projections and were distributed among Exxon's various divisions. Shaw's conclusions included an expectation that atmospheric CO<sub>2</sub> concentrations would double in 2090 per the Exxon model, with an attendant 2.3–5.6° F average global temperature increase. Shaw compared his model results to those of the EPA, the National Academy of Sciences, and the Massachusetts Institute of Technology, indicating that the Exxon model predicted a longer delay

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<sup>60</sup> Dr. E.E. David, Jr., President, Exxon Research and Engineering Co., Remarks at the Fourth Annual Ewing Symposium, Tenafly, NJ, CLIMATEFILES (Oct. 26, 1982), <http://www.climatefiles.com/exxonmobil/inventing-future-energy-co2-greenhouse-effect>.

than any of the other models, although its temperature increase prediction was in the mid-range of the four projections.<sup>61</sup>

83. During the 1980s, many Defendants formed their own research units focused on climate modeling. The API, including the API CO<sub>2</sub> Task Force, provided a forum for Defendants to share their research efforts and corroborate their findings related to anthropogenic greenhouse gas emissions.<sup>62</sup>

84. During this time, Defendants' statements expressed an understanding of their obligation to consider and mitigate the externalities of unabated promotion, marketing, and sale of their fossil fuel products. For example, in 1988, Richard Tucker, the president of Mobil Oil, presented at the American Institute of Chemical Engineers National Meeting, the premier educational forum for chemical engineers, where he stated:

[H]umanity, which has created the industrial system that has transformed civilization, is also responsible for the environment, which sometimes is at risk because of unintended consequences of industrialization. . . . Maintaining the health of this life-support system is emerging as one of the highest priorities. . . . [W]e must all be environmentalists.

The environmental covenant requires action on many fronts . . . the low-atmosphere ozone problem, the upper-atmosphere ozone problem and the greenhouse effect, to name a few. . . . Our strategy must be to reduce pollution before it is ever generated—to prevent problems at the source.

Prevention means engineering a new generation of fuels, lubricants and chemical products. . . . Prevention means designing catalysts and processes that minimize or eliminate the production of unwanted byproducts. . . . Prevention on a global

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<sup>61</sup> Neela Banerjee, *More Exxon Documents Show How Much It Knew About Climate 35 Years Ago*, INSIDE CLIMATE NEWS (Dec. 1, 2015), <https://insideclimatenews.org/news/01122015/documents-exxons-early-co2-position-senior-executives-engage-and-warming-forecast>.

<sup>62</sup> Neela Banerjee, *Exxon's Oil Industry Peers Knew About Climate Dangers in the 1970s, Too*, INSIDE CLIMATE NEWS (Dec. 22, 2015), <https://insideclimatenews.org/news/22122015/exxon-mobil-oil-industry-peers-knew-about-climate-change-dangers-1970s-american-petroleum-institute-api-shell-chevron-texaco>.

scale may even require a dramatic reduction in our dependence on fossil fuels—and a shift towards solar, hydrogen, and safe nuclear power. It may be possible that—just possible—that the energy industry will transform itself so completely that observers will declare it a new industry. . . . Brute force, low-tech responses and money alone won't meet the challenges we face in the energy industry.<sup>63</sup>

85. Also in 1988, the Shell Greenhouse Effect Working Group issued a confidential internal report, “The Greenhouse Effect,” which acknowledged global warming’s anthropogenic nature: “Man-made carbon dioxide released into and accumulated in the atmosphere is believed to warm the earth through the so-called greenhouse effect.” The authors also noted the burning of fossil fuels as a primary driver of CO<sub>2</sub> buildup and warned that warming could “create significant changes in sea level, ocean currents, precipitation patterns, regional temperature and weather.” They further pointed to the potential for “direct operational consequences” of sea level rise on “offshore installations, coastal facilities and operations (e.g. platforms, harbors, refineries, depots).”<sup>64</sup>

86. Similar to early warnings by Exxon scientists, the Shell report notes that “by the time the global warming becomes detectable it could be too late to take effective countermeasures to reduce the effects or even to stabilise the situation.” The authors mention the need to consider policy changes on multiple occasions, noting that “the potential implications for the world are . . . so large that policy options need to be considered much earlier” and that research should be “directed more to the analysis of policy and energy options than to studies of what we will be facing exactly.”

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<sup>63</sup> Richard E. Tucker, *High Tech Frontiers in the Energy Industry: The Challenge Ahead*, AIChE National Meeting (Nov. 30, 1988), <https://hdl.handle.net/2027/pur1.32754074119482?urlappend=%3Bseq=522>.

<sup>64</sup> SHELL INTERNATIONALE PETROLEUM, GREENHOUSE EFFECT WORKING GROUP, THE GREENHOUSE EFFECT (May 1988), <https://www.documentcloud.org/documents/4411090-Dokument3.html#document/p9/a411239>.



87. In 1989, Esso Resources Canada (ExxonMobil) commissioned a report on the impacts of climate change on existing and proposed natural gas facilities in the Mackenzie River Valley and Delta, including extraction facilities on the Beaufort Sea and a pipeline crossing Canada's Northwest Territory.<sup>65</sup> It reported that "large zones of the Mackenzie Valley could be affected dramatically by climatic change" and that "the greatest concern in Norman Wells [oil town in North West Territories, Canada] should be the changes in permafrost that are likely to occur under conditions of climate warming."<sup>66</sup> The report concluded that, in light of climate models showing a "general tendency towards warmer and wetter climate," operation of those facilities would be compromised by increased precipitation, increase in air temperature, changes in permafrost conditions, and significantly, sea level rise and erosion damage.<sup>67</sup> The authors recommended factoring those eventualities into future development planning and also warned that "a rise in sea level could cause increased flooding and erosion damage on Richards Island."

88. Ken Croasdale, a senior ice researcher for Exxon's subsidiary Imperial Oil, stated to an audience of engineers in 1991 that greenhouse gases are rising "due to the burning of fossil fuels. Nobody disputes this fact."<sup>68</sup>

89. Also in 1991, Shell produced a film called "Climate of Concern." The film advises that while "no two [climate change projection] scenarios fully agree, . . . [they] have each prompted the same serious warning. A warning endorsed by a uniquely broad consensus of scientists in their

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<sup>65</sup> See 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 & EXPLOITATION 359–81 (1989).

<sup>66</sup> *Id.* at 369, 376.

<sup>67</sup> *Id.* at 360, 377–78.

<sup>68</sup> RONALD C. KRAMER, CARBON CRIMINALS, CLIMATE CRIMES 66 (1st ed. 2020).

report to the UN at the end of 1990.” The warning was an increasing frequency of abnormal weather, and of sea level rise of about one meter over the coming century. Shell specifically described the impacts of anthropogenic sea level rise on tropical islands, “barely afloat even now, . . . [f]irst made uninhabitable and then obliterated beneath the waves. Wetland habitats destroyed by intruding salt. Coastal lowlands suffering pollution of precious groundwater.” It warned of “greenhouse refugees,” people who abandoned homelands inundated by the sea, or displaced because of catastrophic changes to the environment. The video concludes with a stark admonition: “Global warming is not yet certain, but many think that the wait for final proof would be irresponsible. Action now is seen as the only safe insurance.”<sup>69</sup>

90. Also in 1991, BP released a short film called “The Earth – What Makes Weather?” In it, a narrator states: “Our . . . dependence on carbon-based fuels is now a cause for concern. When coal, oil or gas are burned, they release carbon dioxide and other reactive gases.” The narrator then goes on to explain:

As the earth gives off heat, carbon dioxide, together with water vapor, absorbs and radiates it back, acting like a blanket. . . . If world population growth is matched by energy consumption, even more carbon dioxide will be released, making this greenhouse effect even stronger. An overall increase in temperature of even a few degrees could disrupt our climate with devastating consequences. If the oceans got warmer and the ice sheets began to melt, sea levels would rise, encroaching on coastal lowlands. From warmer seas, more water would evaporate, making storms and the havoc they cause more frequent. . . . Catastrophic floods could become commonplace, and low-lying countries like Bangladesh would be defenseless against them. Too much water or too little. Away from the coasts we could see a return to the conditions which devastated America’s Midwest in the 1930s. Global warming could repeat on a more disastrous scale the dustbowl phenomenon which

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<sup>69</sup> Jelmer Mommers, *Shell Made a Film About Climate Change in 1991 (Then Neglected To Heed Its Own Warning)*, DE CORRESPONDENT (Feb. 27, 2017), <https://thecorrespondent.com/6285/shell-made-a-film-about-climate-change-in-1991-then-neglected-to-heed-its-own-warning>.

virtually destroyed farming on the Great Plains. . . . The threat of such climatic change is now one of our most urgent concerns.<sup>70</sup>

The film was not widely distributed.

91. The fossil fuel industry was at the forefront of carbon dioxide research for much of the latter half of the 20<sup>th</sup> century. It developed cutting edge and innovative technology and worked with many of the field's top researchers to produce exceptionally sophisticated studies and models. For instance, in the mid-nineties Shell began using scenarios to plan how the company could respond to various global forces in the future. In one scenario published in a 1998 internal report, Shell paints an eerily prescient scene:

In 2010, a series of violent storms causes extensive damage to the eastern coast of the U.S. Although it is not clear whether the storms are caused by climate change, people are not willing to take further chances. The insurance industry refuses to accept liability, setting off a fierce debate over who is liable: the insurance industry or the government. After all, two successive IPCC reports since 1993 have reinforced the human connection to climate change . . . 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.<sup>71</sup>

92. Fossil fuel companies did not just consider climate change impacts in scenarios. In the mid-1990s, ExxonMobil, Shell, and Imperial Oil (ExxonMobil) jointly undertook the Sable Offshore Energy Project in Nova Scotia. The project's own Environmental Impact Statement

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<sup>70</sup> Vatan Hüzair, *BP Knew the Truth About Climate Change 30 Years Ago*, FOLLOW THE MONEY (May 26, 2020), <https://www.ftm.nl/artikelen/bp-video-climate-change-1990-engels>; see also BP Video Library, *This Earth – What Makes Weather?* (1991), <https://www.bpvideolibrary.com/record/463>.

<sup>71</sup> ROYAL DUTCH/SHELL GROUP, GROUP SCENARIOS 1998–2020 115, 122 (1998), <http://www.documentcloud.org/documents/4430277-27-1-Compiled.html>.

declared: “The impact of a global warming sea-level rise may be particularly significant in Nova Scotia. The long-term tide gauge records at a number of locations along the N.S. coast have shown sea level has been rising over the past century. . . . For the design of coastal and offshore structures, an estimated rise in water level, due to global warming, of 0.5 m [1.64 feet] may be assumed for the proposed project life (25 years).”<sup>72</sup>

93. Climate change research conducted by Defendants and their industry associations frequently acknowledged uncertainties in their climate modeling—those uncertainties, however, were merely with respect to the magnitude and timing of climate impacts resulting from fossil fuel consumption, not that significant changes would eventually occur. The Defendants’ researchers and the researchers at their industry associations harbored little doubt that climate change was occurring and that fossil fuel products were, and are, the primary cause.

94. Despite the overwhelming information about the threats to people and the planet posed by continued unabated use of their fossil fuel products, Defendants failed to act as they reasonably should have to mitigate or avoid those dire adverse impacts. Defendants instead adopted the position, as described below, that they had a license to continue the unfettered pursuit of profits from those products. This position was an abdication of Defendants’ responsibility to consumers and the public, including the City, to act on their unique knowledge of the reasonably foreseeable hazards of unabated production and consumption of their fossil fuel products.

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<sup>72</sup> EXXONMOBIL, SABLE PROJECT DEVELOPMENT PLAN, vol. 3, 4-77, <http://soep.com/about-the-project/development-plan-application>.

**C. Defendants Did Not Disclose Known Harms Associated with the Extraction, Promotion, and Consumption of Their Fossil Fuel Products, and Instead Affirmatively Acted to Obscure Those Harms and Engaged in a Campaign to Deceptively Protect and Expand the Use of their Fossil Fuel Products.**

95. By 1988, Defendants had amassed a compelling body of knowledge about the role of anthropogenic greenhouse gases, and specifically those emitted from the normal use of Defendants' fossil fuel products, in causing global warming and its cascading impacts, including disruptions to the hydrologic cycle, extreme precipitation and drought, heatwaves, and associated consequences for human communities and the environment. On notice that their products were causing global climate change and dire effects on the planet, Defendants faced the decision of whether or not to take steps to limit the damages their fossil fuel products were causing and would continue to cause Earth's inhabitants, including the people of Charleston.

96. Defendants at any time before or thereafter could and reasonably should have taken any number of steps to mitigate the damages caused by their fossil fuel products, and their own comments reveal an awareness of what some of those steps should have been. Defendants should have warned consumers, the public, and regulators of the dangers known to Defendants of the unabated consumption of their fossil fuel products, and they could and should have taken reasonable steps to limit the potential greenhouse gas emissions arising out of their fossil fuel products.

97. But several key events during the period 1988–1992 appear to have prompted Defendants to change their tactics from general research and internal discussion on climate change to a public campaign aimed at deceiving the public about and evading regulation of their fossil fuel products and/or emissions therefrom. These include:

a. In 1988, National Aeronautics and Space Administration (NASA) scientists confirmed that human activities were actually contributing to global warming.<sup>73</sup> On June 23<sup>rd</sup> of that year, NASA scientist James Hansen's presentation of this information to Congress engendered significant news coverage and publicity for the announcement, including coverage on the front page of the New York Times.

b. On July 28, 1988, Senator Robert Stafford and four bipartisan co-sponsors introduced S. 2666, "The Global Environmental Protection Act," to regulate CO<sub>2</sub> and other greenhouse gases. Four more bipartisan bills to significantly reduce CO<sub>2</sub> pollution were introduced over the following ten weeks, and in August, U.S. Presidential candidate George H.W. Bush pledged that his presidency would combat the greenhouse effect with "the White House effect."<sup>74</sup> Political will in the United States to reduce anthropogenic greenhouse gas emissions and mitigate the harms associated with Defendants' fossil fuel products was gaining momentum.

c. In December 1988, the United Nations formed the Intergovernmental Panel on Climate Change (IPCC), a scientific panel dedicated to providing the world's governments with an objective, scientific analysis of climate change and its environmental, political, and economic impacts.

d. In 1990, the IPCC published its First Assessment Report on anthropogenic climate change,<sup>75</sup> in which it concluded that (1) "there is a natural greenhouse effect which already keeps the Earth warmer than it would otherwise be," and (2) that

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<sup>73</sup> See Peter C. Frumhoff et al., *The Climate Responsibilities of Industrial Carbon Producers*, 132 CLIMATIC CHANGE 161 (2015).

<sup>74</sup> *The White House and the Greenhouse*, N.Y. TIMES (May 9, 1989), <http://www.nytimes.com/1989/05/09/opinion/the-white-house-and-the-greenhouse.html>.

<sup>75</sup> See IPCC, *Reports*, [ipcc.ch/reports](http://ipcc.ch/reports).

emissions resulting from human activities are substantially increasing the atmospheric concentrations of the greenhouse gases carbon dioxide, methane, chlorofluorocarbons (CFCs) and nitrous oxide. These increases will enhance the greenhouse effect, resulting on average in an additional warming of the Earth's surface. The main greenhouse gas, water vapour, will increase in response to global warming and further enhance it.<sup>76</sup>

The IPCC reconfirmed those conclusions in a 1992 supplement to the First Assessment report.<sup>77</sup>

e. The United Nations began preparing for the 1992 Earth Summit in Rio de Janeiro, Brazil, a major, newsworthy gathering of 172 world governments, of which 116 sent their heads of state. The Summit resulted in the United Nations Framework Convention on Climate Change (UNFCCC), an international environmental treaty providing protocols for future negotiations aimed at “stabiliz[ing] greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.”<sup>78</sup>

98. Those world events marked a shift in public discussion of climate change, and the initiation of international efforts to curb anthropogenic greenhouse emissions—developments that had stark implications for, and would have diminished the profitability of, Defendants’ fossil fuel products.

99. Rather than collaborating with the international community by acting to forestall, or at least decrease, their fossil fuel products’ contributions to global warming, and its impacts, including sea level rise, disruptions to the hydrologic cycle, and associated consequences to Charleston and other communities, Defendants embarked on a decades-long campaign designed

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<sup>76</sup> IPCC, *Climate Change: The IPCC Scientific Assessment*, “Policymakers Summary” (1990).

<sup>77</sup> IPCC, *1992 IPCC Supplement to the First Assessment Report* (1992).

<sup>78</sup> United Nations, *United Nations Framework Convention on Climate Change*, Article 2 (1992), <https://unfccc.int/resource/docs/convkp/conveng.pdf>.

to maximize continued dependence on their products and undermine national and international efforts to rein in greenhouse gas emissions.

100. Defendants' campaign, which focused on concealing, discrediting, and/or misrepresenting information that tended to support restricting consumption of (and thereby decreasing demand for) Defendants' fossil fuel products, took several forms. The campaign 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. Those activities stood in direct contradiction to Defendants' own prior recognition that the science of anthropogenic climate change was clear and that action was needed to avoid or mitigate dire consequences to the planet and communities like the City.

101. Defendants took affirmative steps to conceal, from the City and the general public, the foreseeable impacts of the use of their fossil fuel products on the Earth's climate and associated harms to people and communities. Defendants embarked on a concerted public relations campaign to cast doubt on 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 and sea level rise, disruptions to weather cycles, extreme precipitation and drought, and other associated consequences. The effort included promoting their hazardous products through advertising campaigns that failed to warn of the existential risks associated with the use of those products, and the initiation and funding of climate change denialist organizations, designed to influence consumers to continue using Defendants' fossil fuel products irrespective of those products' damage to communities and the environment.

102. For example, in 1988, Joseph Carlson, an Exxon public affairs manager, described the "Exxon Position," which included among others, two important messaging tenets:



(1) “[e]mphasize the uncertainty in scientific conclusions regarding the potential enhanced Greenhouse Effect”; and (2) “[r]esist the overstatement and sensationalization [sic] of potential greenhouse effect which could lead to noneconomic development of non-fossil fuel resources.”<sup>79</sup>

103. Reflecting on his time as an Exxon consultant in the 1980s, Professor Martin Hoffert, a former New York University physicist who researched climate change, expressed regret over Exxon’s “climate science denial program campaign” in his sworn testimony before Congress:

[O]ur research [at Exxon] was consistent with findings of the United Nations Intergovernmental Panel on Climate Change on human impacts of fossil fuel burning, which is that they are increasingly having a perceptible influence on Earth’s climate. . . . If anything, adverse climate change from elevated CO<sub>2</sub> is proceeding faster than the average of the prior IPCC mild projections and fully consistent with what we knew back in the early 1980’s at Exxon. . . . I was greatly distressed by the climate science denial program campaign that Exxon’s front office launched around the time I stopped working as a consultant—but not collaborator—for Exxon. The advertisements that Exxon ran in major newspapers raising doubt about climate change were contradicted by the scientific work we had done and continue to do. Exxon was publicly promoting views that its own scientists knew were wrong, and we knew that because we were the major group working on this.<sup>80</sup>

104. A 1994 Shell report entitled “The Enhanced Greenhouse Effect: A Review of the Scientific Aspects” by Royal Dutch Shell environmental advisor Peter Langcake stands in stark contrast to the company’s 1988 report on the same topic. Whereas before, the authors recommended consideration of policy solutions early on, Langcake warned of the potentially dramatic “economic effects of ill-advised policy measures.” While the report recognized the IPCC

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<sup>79</sup> Joseph M. Carlson, *Exxon Memo on “The Greenhouse Effect”* (Aug. 3, 1988), <https://assets.documentcloud.org/documents/3024180/1998-Exxon-Memo-on-the-Greenhouse-Effect.pdf>.

<sup>80</sup> Transcript, Statement of Martin Hoffert, *Examining the Oil Industry’s Efforts to Suppress the Truth About Climate Change*, Hearing Before the Committee on Oversight and Reform, U.S. House of Representatives (Oct. 23, 2019), available at <https://oversight.house.gov/legislation/hearings/examining-the-oil-industry-s-efforts-to-suppress-the-truth-about-climate-change>.

conclusions as the mainstream view, Langcake still emphasized scientific uncertainty, noting, for example, that “the postulated link between any observed temperature rise and human activities has to be seen in relation to natural variability, which is still largely unpredictable.” The Shell Group position is stated clearly in the report: “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.”<sup>81</sup>

105. In 1991, for example, the Information Council for the Environment (“ICE”), whose members included affiliates, predecessors and/or subsidiaries of Defendants, launched a national climate change science denial campaign with full-page newspaper ads, radio commercials, a public relations tour schedule, “mailers,” and research tools to measure campaign success. Included among the campaign strategies was to “reposition global warming as theory (not fact).” Its target audience included older less-educated males who are “predisposed to favor the ICE agenda, and likely to be even more supportive of that agenda following exposure to new info.”<sup>82</sup>

106. A goal of ICE’s advertising campaign was to change public opinion and avoid regulation. 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]. Public opinion polls reveal that 60% of the American people already

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<sup>81</sup> P. Langcake, *The Enhanced Greenhouse Effect: A review of the Scientific Aspects* (Dec. 1994), <https://www.documentcloud.org/documents/4411099-Document11.html#document/p15/a411511>.

<sup>82</sup> Union of Concerned Scientists, *Deception Dossier #5: Coal’s “Information Council on the Environment” Sham* (1991), [http://www.ucsusa.org/sites/default/files/attach/2015/07/Climate-Deception-Dossier-5\\_ICE.pdf](http://www.ucsusa.org/sites/default/files/attach/2015/07/Climate-Deception-Dossier-5_ICE.pdf) (accessed June 10, 2020).

believe global warming is a serious environmental problem. Our industry cannot sit on the sidelines in this debate.”<sup>83</sup>

107. 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 induce political inertia to address it.<sup>84</sup>



**Figure 6: Information Council for the Environment Advertisements**

108. In 1996, Exxon released a publication called “Global Warming: Who’s Right? Facts about a debate that’s turned up more questions than answers.” In the publication’s preface, Exxon CEO Lee Raymond inaccurately stated that “taking drastic action immediately is

<sup>83</sup> Naomi Oreskes, *My Facts Are Better Than Your Facts: Spreading Good News About Global Warming* (2010), in Peter Howlett et al., *How Well Do Facts Travel?: The Dissemination of Reliable Knowledge*, 136–66, Cambridge University Press (2011).

<sup>84</sup> Union of Concerned Scientists, *Deception Dossier #5: Coal’s “Information Council on the Environment” Sham* at 47–49 (1991), [http://www.ucsusa.org/sites/default/files/attach/2015/07/Climate-Deception-Dossier-5\\_ICE.pdf](http://www.ucsusa.org/sites/default/files/attach/2015/07/Climate-Deception-Dossier-5_ICE.pdf) (accessed June 10, 2020).

unnecessary since many scientists agree there's ample time to better understand the climate system." The publication described the greenhouse effect as "unquestionably real and definitely a good thing," while ignoring the severe consequences that would result from the influence of the increased CO<sub>2</sub> concentration on the Earth's climate. Instead, it characterized the greenhouse effect as simply "what makes the earth's atmosphere livable." Directly contradicting Exxon's own knowledge and peer-reviewed science, the publication ascribed the rise in temperature since the late 19<sup>th</sup> century to "natural fluctuations that occur over long periods of time" rather than to the anthropogenic emissions that Exxon itself and other scientists had confirmed were responsible. The publication also falsely challenged the computer models that projected the future impacts of unabated fossil fuel product consumption, including those developed by Exxon's own employees, as having been "proved to be inaccurate." The publication contradicted the numerous reports prepared by and circulated among Exxon's staff, and by the API, stating that "the indications are that a warmer world would be far more benign than many imagine . . . moderate warming would reduce mortality rates in the US, so a slightly warmer climate would be more healthful." Raymond concluded his preface by attacking advocates for limiting the use of 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.<sup>85</sup>

109. API published an extensive report in the same year warning against concern over CO<sub>2</sub> buildup and any need to curb consumption or regulate the fossil fuel industry. The introduction stated that "there is no persuasive basis for forcing Americans to dramatically change

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<sup>85</sup> Exxon Corp., *Global Warming: Who's Right?* (1996), <https://www.documentcloud.org/documents/2805542-Exxon-Global-Warming-Whos-Right.html>.

their lifestyles to use less oil.” The authors discouraged the further development of certain alternative energy sources, writing that “government agencies have advocated the increased use of ethanol and the electric car, without the facts to support the assertion that either is superior to existing fuels and technologies” and that “policies that mandate replacing oil with specific alternative fuel technologies freeze progress at the current level of technology, and reduce the chance that innovation will develop better solutions.” The paper also denied the human connection to climate change, by falsely stating that no “scientific evidence exists that human activities are significantly affecting sea levels, rainfall, surface temperatures or the intensity and frequency of storms.” The report’s message was false but clear: “Facts don’t support the arguments for restraining oil use.”<sup>86</sup>

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

Some people who argue that we should drastically curtail our use of fossil fuels for environmental reasons . . . my belief [is] that such proposals are neither prudent nor practical. With no readily available economic alternatives on the horizon, fossil fuels will continue to supply most of the world’s and this region’s energy for the foreseeable future.

Governments also need to provide a stable investment climate . . . They should avoid the temptation to intervene in energy markets in ways that give advantage to one competitor over another or one fuel over another.

We also have to keep in mind that most of the greenhouse effect comes from natural sources . . . Leaping to radically cut this tiny sliver of the greenhouse pie on the premise that it will affect climate defies common sense and lacks foundation in our current understanding of the climate system.

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<sup>86</sup> Sally Brain Gentile et al., *Reinventing Energy: Making the Right Choices*, American Petroleum Institute, Climate Files (1996), <http://www.climatefiles.com/trade-group/american-petroleum-institute/1996-reinventing-energy>.

Let's agree there's a lot we really don't know about how climate will change in the 21st century and beyond . . . It is highly unlikely that the temperature in the middle of the next century will be significantly affected whether policies are enacted now or 20 years from now. It's bad public policy to impose very costly regulations and restrictions when their need has yet to be proven.<sup>87</sup>

111. Imperial Oil (ExxonMobil) CEO Robert Peterson falsely denied the established connection between Defendants' fossil fuel products and anthropogenic climate change in the Summer 1998 Imperial Oil Review, "A Cleaner Canada:"

[T]his issue [referring to climate change] has absolutely nothing to do with pollution and air quality. Carbon dioxide is not a pollutant but an essential ingredient of life on this planet. . . . [T]he question of whether or not the trapping of 'greenhouse' gases will result in the planet's getting warmer . . . has no connection whatsoever with our day-to-day weather.

There is absolutely no agreement among climatologists on whether or not the planet is getting warmer, or, if it is, on whether the warming is the result of man-made factors or natural variations in the climate. . . . I feel very safe in saying that the view that burning fossil fuels will result in global climate change remains an unproved hypothesis.<sup>88</sup>

112. Mobil (ExxonMobil) paid for a series of "advertorials," advertisements located in the editorial section of the New York Times and meant to look like editorials rather than paid ads. Those ads discussed various aspects of the public discussion of climate change and sought to undermine the justifications for tackling greenhouse gas emissions as unsettled science. The 1997

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<sup>87</sup> Lee R. Raymond, *Energy—Key to growth and a better environment for Asia-Pacific nations*, World Petroleum Congress (Oct. 13, 1997), <https://assets.documentcloud.org/documents/2840902/1997-Lee-Raymond-Speech-at-China-World-Petroleum.pdf>.

<sup>88</sup> Robert Peterson, *A Cleaner Canada in Imperial Oil Review* (1998), <https://www.desmogblog.com/sites/beta.desmogblog.com/files/A%20Cleaner%20Canada%20Imperial%20Oil.pdf>.

advertorial below<sup>89</sup> argued that economic analysis of emissions restrictions was faulty and inconclusive and therefore a justification for delaying action on climate change.

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<sup>89</sup> Mobil, *When Facts Don't Square with the Theory, Throw Out the Facts*, N.Y. TIMES, A31 (Aug.14, 1997), <https://www.documentcloud.org/documents/705550-mob-nyt-1997-aug-14-whenfactsdonsquare.html>.



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to. □

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



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

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

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

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

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

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

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

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

Downplaying Argonne's findings, the  
Energy Department noted that the study used  
outdated energy prices (mid-1996), didn't reflect  
the gains that would come from international  
emissions trading and failed to factor in the  
benefits of accelerated developments in energy  
efficiency and low-carbon technologies.

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

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

**Mobil** The energy  
to make a difference.

<http://www.mobil.com>

©1997 Mobil Corporation

Figure 7: 1997 Mobil Advertorial



113. In 1998, API, on behalf of its members, developed a Global Climate Science Communications Plan that stated that unless “climate change becomes a non-issue . . . there may be no moment when we can declare victory for our efforts.” Rather, API proclaimed that “[v]ictory will be achieved when . . . average citizens ‘understand’ (recognize) uncertainties in climate science; [and when] recognition of uncertainties becomes part of the ‘conventional wisdom.’”<sup>90</sup> 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”<sup>91</sup>—a blatant attempt to disrupt international efforts, pursuant to the UNFCCC, to negotiate a treaty that curbed greenhouse gas emissions.

114. Soon after, API distributed a memo to its members illuminating API’s and Defendants’ concern over the potential regulation of Defendants’ fossil fuel products: “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.’”<sup>92</sup> Further, the API memo stresses many of the strategies that Defendants individually and collectively utilized to combat the perception of their fossil fuel products as hazardous. They included:

a. Influencing the tenor of the climate change “debate” as a means to establish that greenhouse gas reduction policies like the Kyoto Protocol were not necessary to responsibly address climate change;

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<sup>90</sup> Joe Walker, *E-mail to Global Climate Science Team, attaching the Draft Global Science Communications Plan* (Apr. 3, 1998), <https://assets.documentcloud.org/documents/784572/api-global-climate-science-communications-plan.pdf>.

<sup>91</sup> *Id.*

<sup>92</sup> *Id.*

b. Maintaining strong working relationships between government regulators and communications-oriented organizations like the Global Climate Coalition, the Heartland Institute, and other groups carrying Defendants' message minimizing the hazards of the unabated use of their fossil fuel products and opposing regulation thereof;

c. Building the case for (and falsely dichotomizing) Defendants' positive contributions to a "long-term approach" (ostensibly for regulation of their products) as a reason for society to reject short term fossil fuel emissions regulations, and engaging in climate change science uncertainty research; and

d. Presenting Defendants' positions on climate change in domestic and international forums, including by preparing rebuttals to IPCC reports.

115. Additionally, Defendants mounted a deceptive public campaign against regulation of their business practices in order to continue wrongfully promoting and marketing their fossil fuel products, despite their own knowledge and the growing national and international scientific consensus about the hazards of doing so.

116. The Global Climate Coalition (GCC), on behalf of Defendants and other fossil fuel companies, funded deceptive advertising campaigns and distributed misleading material to generate public uncertainty around the climate debate, with the specific purpose of preventing U.S. adoption of the Kyoto Protocol, despite the leading role that the U.S. had played in the Protocol negotiations.<sup>93</sup> Despite an internal primer stating that various "contrarian theories" (i.e., climate change skepticism) do not "offer convincing arguments against the conventional model of greenhouse gas emission-induced climate change," GCC excluded this section from the public

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<sup>93</sup> *Id.*

version of the backgrounder<sup>94</sup> and instead funded and promoted some of those same contrarian theories.

117. For example, in a 1994 report, the GCC stated that “observations have not yet confirmed evidence of global warming that can be attributed to human activities,” that “[t]he claim that serious impacts from climate change have occurred or will occur in the future simply has not been proven,” and “[c]onsequently, there is no basis for the design of effective policy action that would eliminate the potential for climate change.”<sup>95</sup> In 1995, the GCC published a booklet called “Climate Change: Your Passport to the Facts,” which stated, “While many warnings have reached the popular press about the consequences of a potential man-made warming of the Earth’s atmosphere during the next 100 years, there remains no scientific evidence that such a dangerous warming will actually occur.”<sup>96</sup>

118. A key strategy in Defendants’ efforts to discredit scientific consensus on climate change and the IPCC was to bankroll scientists who, although accredited, held fringe opinions that were even more questionable given the sources of their research funding. Those scientists obtained part or all of their research budget from Defendants directly or through Defendant-funded

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<sup>94</sup> Gregory J. Dana, *Memo to AIAM Technical Committee Re: Global Climate Coalition (GCC)—Primer on Climate Change Science—Final Draft*, Association of International Automobile Manufacturers (Jan. 18, 1996), <http://www.webcitation.org/6FyqHawb9>.

<sup>95</sup> GCC, *Issues and Options: Potential Global Climate Change*, Climate Files (1994), <http://www.climatefiles.com/denial-groups/global-climate-coalition-collection/1994-potential-global-climate-change-issues/>.

<sup>96</sup> GCC, *Climate Change: Your Passport to the Facts*, Climate Files (1995), <http://www.climatefiles.com/denial-groups/global-climate-coalition-collection/1995-climate-change-facts-passport/>.

organizations like API,<sup>97</sup> but they frequently failed to disclose their fossil fuel industry underwriters.<sup>98</sup>

119. Creating a false sense of disagreement in the scientific community (despite the consensus that its own scientists, experts, and managers had previously acknowledged) has had an evident impact on public opinion. A 2007 Yale University-Gallup poll found that while 71 percent of Americans personally believed global warming was happening, only 48 percent believed that there was a consensus among the scientific community, and 40 percent believed there was a lot of disagreement among scientists over whether global warming was occurring.<sup>99</sup>

120. 2007 was the same year the IPCC published its Fourth Assessment Report, in which it concluded that “there is *very high confidence* that the net effect of human activities since 1750 has been one of warming.”<sup>100</sup> The IPCC defined “very high confidence” as at least a 9 out of 10 chance.<sup>101</sup>

121. Defendants borrowed pages out of the playbook of prior denialist campaigns. A “Global Climate Science Team” (“GCST”) was created that mirrored a front group created by the tobacco industry, known as The Advancement of Sound Science Coalition, whose purpose was to

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<sup>97</sup> E.g., Willie Soon & Sallie Baliunas, *Proxy Climatic and Environmental Changes of the Past 1000 Years*, 23 CLIMATE RESEARCH 88, 105 (Jan. 31, 2003), <http://www.int-res.com/articles/cr2003/23/c023p089.pdf>.

<sup>98</sup> E.g., Newsdesk, *Smithsonian Statement: Dr. Wei-Hock (Willie) Soon*, SMITHSONIAN (Feb. 26, 2015), <http://newsdesk.si.edu/releases/smithsonian-statement-dr-wei-hock-willie-soon>.

<sup>99</sup> *American Opinions on Global Warming: A Yale/Gallup/Clearvision Poll*, Yale Program on Climate Change Communication (July 31, 2007), <http://climatecommunication.yale.edu/publications/american-opinions-on-global-warming>.

<sup>100</sup> IPCC, *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (2007), <https://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-spm.pdf>.

<sup>101</sup> *Id.*

sow uncertainty about the fact that cigarette smoke is carcinogenic. The GCST's membership included Steve Milloy (a key player on the tobacco industry's front group), Exxon's senior environmental lobbyist; an API public relations representative; and representatives from Chevron and Southern Company that drafted API's 1998 Communications Plan. There were no scientists on the "Global Climate Science Team." GCST developed a strategy to spend millions of dollars manufacturing climate change uncertainty. Between 2000 and 2004, Exxon donated \$50,000 to Milloy's Advancement of Sound Science Center; and an additional \$60,000 to the Free Enterprise Education Institute and \$50,000 to the Free Enterprise Action Institute, both of which were registered to Milloy's home address.<sup>102</sup>

122. Defendants, through their trade association memberships, worked directly, and often in a deliberately obscured manner, to evade regulation of the emissions resulting from use of their fossil fuel products.

123. Defendants have funded dozens of think tanks, front groups, and dark money foundations pushing climate change denial. These include the Competitive Enterprise Institute, the Heartland Institute, Frontiers for Freedom, Committee for a Constructive Tomorrow, and Heritage Foundation. From 1998 to 2014 ExxonMobil spent almost \$31 million funding numerous organizations misrepresenting the scientific consensus that Defendants' fossil fuel products were causing climate change, sea level rise, and injuries to Charleston, among other communities.<sup>103</sup> Several Defendants have been linked to other groups that undermine the scientific basis linking

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<sup>102</sup> 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. 19, 2007), [http://www.ucsusa.org/sites/default/files/legacy/assets/documents/global\\_warming/exxon\\_report.pdf](http://www.ucsusa.org/sites/default/files/legacy/assets/documents/global_warming/exxon_report.pdf).

<sup>103</sup> ExxonSecrets.org, *ExxonMobil Climate Denial Funding 1998–2014* (accessed June 27, 2018), <http://exxonsecrets.org/html/index.php>.

Defendants' fossil fuel products to climate change and sea level rise, including the Frontiers of Freedom Institute and the George C. Marshall Institute.

124. Exxon acknowledged its own previous success in sowing uncertainty and slowing mitigation through funding of climate denial groups. In its 2007 Corporate Citizenship Report, Exxon declared: "In 2008, we will discontinue contributions to several public policy research groups whose position on climate change could divert attention from the important discussion on how the world will secure the energy required for economic growth in an environmentally responsible manner."<sup>104</sup> Despite this pronouncement, Exxon remained financially associated with several such groups after the report's publication.

125. Defendants could have contributed to the global effort to mitigate the impacts of greenhouse gas emissions by, for example, delineating practical technical strategies, 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, Defendants undertook a momentous effort to evade international and national regulation of greenhouse gas emissions to enable them to continue unabated fossil fuel production.

126. As a result of Defendants' tortious, false, and misleading conduct, consumers of Defendants' fossil fuel products and policy-makers, in South Carolina as elsewhere, have been deliberately and unnecessarily deceived about: the role of fossil fuel products in causing global warming, sea level rise, disruptions to the hydrologic cycle, and increased extreme precipitation, heatwaves, drought and other consequences of the climate crisis; the acceleration of global warming since the mid-20<sup>th</sup> century and the continuation thereof; and the fact that the continued

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<sup>104</sup> ExxonMobil, *2007 Corporate Citizenship Report* (Dec. 31, 2007), <http://www.documentcloud.org/documents/2799777-ExxonMobil-2007-Corporate-Citizenship-Report.html>.

increase in fossil fuel product consumption creates severe environmental threats and significant economic costs for coastal communities, including Charleston. Reasonable consumers and 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, about the strength of the scientific consensus demonstrating the role of fossil fuels in causing both climate change and a wide range of potentially destructive impacts, including sea level rise, disruptions to the hydrologic cycle, extreme precipitation, heatwaves, drought, and associated consequences.

**D. In Contrast to Their Public Statements, Defendants' Internal Actions Demonstrate Their Awareness of and Intent to Profit from the Unabated Use of Fossil Fuel Products.**

127. In contrast to their public-facing efforts challenging the validity of the scientific consensus about anthropogenic climate change, Defendants' acts and omissions evidence their internal acknowledgement of the reality of climate change and its likely consequences. Those actions include, but are not limited to, making multi-billion-dollar infrastructure investments for their own operations that acknowledge the reality of coming anthropogenic climate-related change. Those investments included (among others), raising offshore oil platforms to protect against sea level rise; reinforcing offshore oil platforms to withstand increased wave strength and storm severity; and developing and patenting designs for equipment intended to extract crude oil and/or natural gas in areas previously unreachable because of the presence of polar ice sheets.<sup>105</sup>

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<sup>105</sup> Amy Lieberman & Suzanne Rust, *Big Oil Braced for Global Warming While It Fought Regulations*, L.A. TIMES (Dec. 31, 2015), <http://graphics.latimes.com/oil-operations>.

128. For example, in 1973 Exxon obtained a patent for a cargo ship capable of breaking through sea ice<sup>106</sup> and for an oil tanker<sup>107</sup> designed specifically for use in previously unreachable areas of the Arctic.

129. In 1974, Chevron obtained a patent for a mobile arctic drilling platform designed to withstand significant interference from lateral ice masses,<sup>108</sup> allowing for drilling in areas with increased ice floe movement due to elevated temperature.

130. That same year, Texaco (Chevron) worked toward obtaining a patent for a method and apparatus for reducing ice forces on a marine structure prone to being frozen in ice through natural weather conditions,<sup>109</sup> allowing for drilling in previously unreachable Arctic areas that would become seasonally accessible.

131. Shell obtained a patent similar to Texaco's (Chevron) in 1984.<sup>110</sup>

132. In 1989, Norske Shell, Royal Dutch Shell's Norwegian subsidiary, altered designs for a natural gas platform planned for construction in the North Sea to account for anticipated sea

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<sup>106</sup> Patents, *Icebreaking cargo vessel*, Exxon Research Engineering Co. (Apr. 17, 1973), <https://www.google.com/patents/US3727571>.

<sup>107</sup> Patents, *Tanker vessel*, Exxon Research Engineering Co. (July 17, 1973), <https://www.google.com/patents/US3745960>.

<sup>108</sup> Patents, *Arctic offshore platform*, Chevron Research & Technology Co. (Aug. 27, 1974), <https://www.google.com/patents/US3831385>.

<sup>109</sup> Patents, *Mobile, arctic drilling and production platform*, Texaco Inc. (Feb. 26, 1974), <https://www.google.com/patents/US3793840>.

<sup>110</sup> Patents, *Arctic offshore platform*, Shell Oil Co. (Jan. 24, 1984), <https://www.google.com/patents/US4427320>.



level rise. Those design changes were ultimately carried out by Shell's contractors, adding substantial costs to the project.<sup>111</sup>

a. The Troll field, off the Norwegian coast in the North Sea, was proven to contain large natural oil and gas deposits in 1979, shortly after Norske Shell was approved by Norwegian oil and gas regulators to operate a portion of the field.

b. In 1986, the Norwegian parliament granted Norske Shell authority to complete the first development phase of the Troll field gas deposits, and Norske Shell began designing the "Troll A" gas platform, with the intent to begin operation of the platform in approximately 1995. Based on the very large size of the gas deposits in the Troll field, the Troll A platform was projected to operate for approximately 70 years.

c. The platform was originally designed to stand approximately 100 feet above sea level—the amount necessary to stay above waves in a once-in-a-century strength storm.

d. In 1989, Shell engineers revised their plans to increase the above-water height of the platform by 3–6 feet, specifically to account for higher anticipated average sea levels and increased storm intensity due to global warming over the platform's 70-year operational life.<sup>112</sup>

e. Shell projected that the additional 3–6 feet of above-water construction would increase the cost of the Troll A platform by as much as \$40 million.

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<sup>111</sup> *Greenhouse Effect: Shell Anticipates a Sea Change*, N.Y. TIMES (Dec. 20, 1989), <http://www.nytimes.com/1989/12/20/business/greenhouse-effect-shell-anticipates-a-sea-change.html>.

<sup>112</sup> *Id.*; Amy Lieberman & Suzanne Rust, *Big Oil Braced for Global Warming While It Fought Regulations*, L.A. TIMES (Dec. 31, 2015), <http://graphics.latimes.com/oil-operations>.

**E. Defendants' Actions Have Exacerbated the Costs of Adapting to and Mitigating the Adverse Impacts of the Climate Crisis.**

133. As greenhouse gas pollution accumulates in the atmosphere, some of which does not dissipate for potentially thousands of years (namely CO<sub>2</sub>), climate changes and consequent adverse environmental changes compound, and their frequencies and magnitudes increase. As those adverse environmental changes compound and their frequencies and magnitudes increase, so too do the physical, environmental, economic, and social injuries resulting therefrom.

134. Delayed efforts to curb anthropogenic greenhouse gas emissions have therefore increased environmental harms and increased the magnitude and cost to address harms, including to the City, that have already occurred or are locked in by previous emissions.

135. Therefore, Defendants' campaign to obscure the science of climate change so as to protect and expand the use of fossil fuels greatly increased and continues to increase the harms and rate of harms suffered by the City and its residents.

136. The costs of inaction on anthropogenic climate change and its adverse environmental effects were not lost on Defendants. 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 CO<sub>2</sub> 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 degrees centigrade [1.8°—6.3° F], and that sea levels might rise by between 15 and 95 centimetres [5.9 and 37.4 inches]. Some of that impact is probably 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.<sup>113</sup>

137. Despite Defendants' knowledge of the foreseeable, measurable, and significant harms associated with the unabated consumption and use of their fossil fuel products, in South Carolina as elsewhere, and despite Defendants' knowledge of technologies and practices that could have helped to reduce the foreseeable dangers associated with their fossil fuel products, Defendants continued to wrongfully market and promote heavy fossil fuel use and mounted a campaign to obscure the connection between their fossil fuel products and the climate crisis, dramatically increasing the cost of abatement. At all relevant times, Defendants were deeply

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<sup>113</sup> John Browne, *BP Climate Change Speech to Stanford*, Climate Files (May 19, 1997), <http://www.climatefiles.com/bp/bp-climate-change-speech-to-stanford>.

familiar with opportunities to reduce the use of their fossil fuel products, reduce global greenhouse gas 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, Esso (Exxon Mobil) obtained multiple patents on technologies for fuel cells, including on the design of a fuel cell and necessary electrodes,<sup>114</sup> and on a process for increasing the oxidation of a fuel, specifically methanol, to produce electricity in a fuel cell.<sup>115</sup>

b. In 1970, Esso (Exxon Mobil) obtained a patent for a “low-polluting engine and drive system” that used an interburner and air compressor to reduce pollutant emissions, including CO<sub>2</sub> 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).<sup>116</sup>

138. Defendants could have made major inroads to mitigate the City’s injuries 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:

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<sup>114</sup> Patents, *Fuel cell and fuel cell electrodes*, Exxon Research Engineering Co. (Dec. 31, 1963), <https://www.google.com/patents/US3116169>.

<sup>115</sup> Patents, *Direct production of electrical energy from liquid fuels*, Exxon Research Engineering Co. (Dec. 3, 1963), <https://www.google.com/patents/US3113049>.

<sup>116</sup> Patents, *Low-polluting engine and drive system*, Exxon Research Engineering Co. (May 16, 1970), <https://www.google.com/patents/US3513929>.

a. 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;<sup>117</sup> and

b. In 1973, Shell was granted a patent for a process to remove acidic gases, including CO<sub>2</sub>, from gaseous mixtures.

139. Despite this knowledge, Defendants’ later forays into the alternative energy sector were largely pretenses. For instance, in 2001, Chevron developed and shared a sophisticated information management system to gather greenhouse gas emissions data from its explorations and production to help regulate and set reduction goals.<sup>118</sup> 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.<sup>119</sup>

140. Similarly, ConocoPhillips’s 2012 Sustainable Development report declared developing renewable energy a priority in keeping with their position on sustainable development and climate change.<sup>120</sup> Their 10-K filing from the same year told a different story: “As an

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<sup>117</sup> Patents, *Method for recovering a purified component from a gas*, Phillips Petroleum Co (Jan. 11, 1966), <https://www.google.com/patents/US3228874>.

<sup>118</sup> Chevron, *Chevron Introduces New System to Manage Energy Use* (press release) (Sept. 25, 2001), <https://www.chevron.com/stories/chevron-introduces-new-system-to-manage-energy-use>.

<sup>119</sup> 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>.

<sup>120</sup> ConocoPhillips, *Sustainable Development* (2013), <http://www.conocophillips.com/sustainable-development/Documents/2013.11.7%201200%20Our%20Approach%20Section%20Final.pdf>.

independent E&P company, we are solely focused on our core business of exploring for, developing and producing crude oil and natural gas globally.”<sup>121</sup>

141. Likewise, while Shell orchestrated an entire public relations campaign around energy transitions towards net zero emissions, a fine-print disclaimer in its 2016 net-zero pathways report reads: “We have no immediate plans to move to a net-zero emissions portfolio over our investment horizon of 10–20 years.”<sup>122</sup>

142. BP, appearing to abide by the representations Lord Browne made in his speech described in paragraph 136, above, engaged in a rebranding campaign to convey an air of environmental stewardship and renewable energy to its consumers. This included renouncing its membership in the GCC in 2007, changing its name from “British Petroleum” to “BP” while adopting the slogan “Beyond Petroleum,” and adopting a conspicuously green corporate logo. However, BP’s self-touted “alternative energy” investments during this turnaround included investments in natural gas, a fossil fuel, and in 2007 the company reinvested in Canadian tar sands, a particularly high-carbon source of oil.<sup>123</sup> The company ultimately abandoned its wind and solar assets in 2011 and 2013, respectively, and even the “Beyond Petroleum” moniker in 2013.<sup>124</sup>

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<sup>121</sup> ConocoPhillips, Form 10-K, U.S. Securities and Exchange Commission (Dec. 31, 2012), <https://www.sec.gov/Archives/edgar/data/1163165/000119312513065426/d452384d10k.htm>.

<sup>122</sup> Shell International BV, *Energy Transitions Towards Net Zero Emissions* (NZE) (2016).

<sup>123</sup> Fred Pearce, *Greenwash: BP and the Myth of a World ‘Beyond Petroleum’*, THE GUARDIAN, (Nov. 20, 2008), <https://www.theguardian.com/environment/2008/nov/20/fossilfuels-energy>.

<sup>124</sup> Javier E. David, *‘Beyond Petroleum’ No More? BP Goes Back to Basics*, CNBC (Apr. 20, 2013), <http://www.cnbc.com/id/100647034>.

143. After posting a \$10 billion quarterly profit, Exxon in 2005 stated that “We’re an oil and gas company. In times past, when we tried to get into other businesses, we didn’t do it well. We’d rather re-invest in what we know.”<sup>125</sup>

144. Even if Defendants did not adopt technological or energy source alternatives that would have reduced use of fossil fuel products, reduced global greenhouse gas pollution, and/or mitigated the harms associated with the use and consumption of such products, Defendants could 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. Those alternatives could have included, among other measures:

a. Acknowledging and sharing the validity of scientific evidence on anthropogenic climate change and the damages it will cause people; communities, including the City; and the environment. Acceptance of that evidence along with associated warnings and actions would have altered the debate from *whether* to combat climate change and sea level rise to *how* to combat it; and avoided much of the public confusion that has ensued over more than 30 years, since at least 1988;

b. Forthrightly communicating with Defendants’ shareholders, banks, insurers, the public, regulators, and the City about the global warming hazards of Defendants’ fossil fuel products that were known to Defendants, which would have enabled those groups to make material, informed decisions about whether and how to address climate change and sea level rise vis-à-vis Defendants’ products;

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<sup>125</sup> 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](https://usatoday30.usatoday.com/money/industries/energy/2005-10-27-oil-invest-usat_x.htm).

c. Refraining from affirmative efforts, whether directly, through coalitions, or through front groups, to distort public debate, and to cause many consumers and business and political leaders to think the relevant science was far less certain than it actually was;

d. Sharing their internal scientific research with the public, and with other scientists and business leaders, so as to increase public understanding of 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; and

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. Those included increasing renewable energy investment, cutting emissions, and performing carbon risk assessments, among others.

145. 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.



**F. Defendants Continue to Mislead About the Impact of Their Fossil Fuel Products on Climate Change Through Greenwashing Campaigns and Other Misleading Advertisements in South Carolina and Elsewhere.**

141. Defendants' coordinated campaign of disinformation and deception continues today, even as the scientific consensus about the cause and consequences of climate change has strengthened. Defendants have falsely claimed through advertising campaigns in South Carolina and/or intended to reach South Carolina, that their businesses are substantially invested in lower carbon technologies and renewable energy sources. In truth, each Defendant has invested minimally in renewable energy while continuing to expand its fossil fuel production. They have also claimed that certain of their fossil fuel products are "green" or "clean," and that using these products will sufficiently reduce or reverse the dangers of climate change. None of Defendants' fossil fuel products are "green" or "clean" because they all continue to pollute and ultimately warm the planet.

142. Instead of widely disseminating this information, reducing their pollution, and transitioning to non-polluting products, Defendants placed profits over people. In connection with selling gasoline and other fossil fuel products to consumers in Charleston and throughout South Carolina, Defendants have failed to inform those consumers about the effects of their fossil fuel products in causing and accelerating the climate crisis.

143. Defendants' advertising and promotional materials fail to disclose the extreme safety risk associated with the use of Defendants' dangerous fossil fuel products, which are causing "catastrophic" climate change, as understood by Defendants' and the industry's own scientists decades ago and with the effects of global warming now being felt in Charleston. They continue to omit that important information to this day.

144. Defendants have not just failed to disclose the catastrophic danger their products cause. After having engaged in a long campaign to deceive the public about the science behind

climate change, Defendants are now engaging in “greenwashing” by employing false and misleading advertising campaigns promoting themselves as sustainable energy companies committed to finding solutions to climate change, including by investing in alternative energy.

145. These misleading “greenwashing” campaigns are intended to capitalize on consumers’ concerns for climate change and lead a reasonable consumer to believe that Defendants are actually substantially diversified energy companies making meaningful investments in low carbon energy compatible with avoiding catastrophic climate change.

146. Contrary to this messaging, however, Defendants’ spending on low carbon energy is substantially and materially less than Defendants indicate to consumers. According to a recent analysis, between 2010 and 2018, BP spent 2.3% of total capital spending on low carbon energy sources, Shell spent 1.2%, and Chevron and Exxon just 0.2% each.<sup>126</sup> Meanwhile, Defendants continue to expand fossil fuel production and typically do not even include non-fossil energy systems in their key performance indicators or reported annual production statistics.<sup>127</sup>

147. Ultimately, Defendants currently claim to support reducing greenhouse gas emissions, but their conduct belies these statements. Defendants have continued to ramp up fossil fuel production globally, to invest in new fossil fuel development—including in tar sands crude and shale gas fracking, some of the most carbon-intensive extraction projects—and to plan for unabated oil and gas exploitation indefinitely into the future.

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<sup>126</sup> 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>.

<sup>127</sup> See, e.g., Reserves and production table (p. 24). A year of strong delivery and growth: BP Annual Report and Form 20-F 2017. <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/investors/bp-annual-report-and-form-20f-2017.pdf>.

148. Exxon is projected to increase oil production by more than 35% between 2018 and 2030—a sharper rise than over the previous 12 years.<sup>128</sup>

149. Shell is forecast to increase output by 38% by 2030, by increasing its crude oil production by more than half and its gas production by over a quarter.

150. BP is projected to increase production of oil and gas by 20% by 2030.<sup>129</sup>

151. Chevron set an oil production record in 2018 of 2.93 million barrels per day, and the company predicts further significant growth in oil production this year.<sup>130</sup> Like the other Defendants, it sees the next 20 years—the crucial window in which the world must reduce greenhouse gas emissions to avert the most catastrophic effects of the climate crisis—as a time of increased investment and production in its fossil fuel operations. For example, a 2019 investor report touts the company’s “significant reserve additions in 2018” in the multiple regions in North America and around the world, as well as significant capital projects involving construction of refineries worldwide.<sup>131</sup>

#### **G. Defendants Caused the City’s Injuries.**

146. Defendants’ individual and collective conduct, including, but not limited to, their chronic failure to warn of the threats their fossil fuel products posed to the world’s climate; their wrongful promotion of their fossil fuel products and concealment of known hazards associated

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<sup>128</sup> Jonathan Watts, Jillian Ambrose & Adam Vaughan, *Oil Firms to Pour Extra 7m Barrels Per Day Into Markets, Data Shows*, THE GUARDIAN (Oct. 10, 2019), <https://www.theguardian.com/environment/2019/oct/10/oil-firms-barrels-markets>.

<sup>129</sup> *Id.*

<sup>130</sup> Kevin Crowley & Eric Roston, *Chevron Aligns Strategy with Paris Deal But Won’t Cap Output*, BLOOMBERG (Feb. 7, 2019), <https://www.bloomberg.com/news/articles/2019-02-07/chevron-pledges-alignment-with-paris-accord-but-won-t-cap-output>.

<sup>131</sup> Chevron, Chevron 2019 Investor Presentation (Feb. 2019), <https://chevroncorp.gcs-web.com/static-files/c3815b42-4deb-4604-8c51-bde9026f6e45>.

with use of those products; their public deception campaigns designed to obscure the connection between their products and global warming and its environmental, physical, social, and economic consequences; and their failure to pursue less hazardous alternatives available to them; is a substantial factor in causing global warming and consequent sea level rise and attendant flooding, erosion, and beach loss in Charleston; increased frequency and intensity of extreme weather events in Charleston, including hurricanes, drought, heatwaves, “rain bomb” extreme precipitation events, and others; ocean warming and acidification; and the cascading social, economic, and other consequences of these environmental changes. These adverse impacts will continue to increase in frequency and severity in Charleston.

147. As actual and proximate results of Defendants’ conduct, which caused the aforementioned environmental changes, the City has suffered and will continue to suffer severe harms and losses, including, but not limited to: injury or destruction of City-owned or operated facilities and property deemed critical for operations, utility services, and risk management, as well as other assets that are essential to community health, safety, and well-being; increased planning and preparation costs for community adaptation and resiliency to global warming’s effects; and increased costs associated with public health impacts.

148. The City already has incurred, and will foreseeably continue to incur, injuries and damages due to Defendants’ conduct, its contribution to the climate crisis, and the environmental, physical, social, and economic consequences of the climate crisis’s impact on the environment. As a result of Defendants’ wrongful conduct described in this Complaint, the City, has, is, and will experience significant adverse impacts including, but not limited to:

a. Charleston has already experienced over one foot of sea level rise and associated impacts, and will experience significant additional and accelerating sea level rise over

the coming decades through at least the end of the century. Indeed, the frequency of flooding events has increased substantially in Charleston, from around 4 days per year around 50 years ago to nearly 89 days per year as of 2019. Charleston is particularly vulnerable to the impacts of sea level rise because of its substantial developed coastline, substantial low-lying areas, and preexisting coastal subsidence. Billions of dollars of assets, including, roads, the Port of Charleston, and other infrastructure are at risk of damage or destruction due to sea level rise estimated to occur by the year 2100. Higher sea levels are already submerging lowlands, exacerbating coastal flooding, and inundating natural resources and the City's property and infrastructure, causing damage and preventing its normal use. The destructive force and flooding potential from storm surges during hurricanes and other weather events have increased as the mean sea level of Charleston has increased. Even if all carbon emissions were to cease immediately, Charleston would continue to experience sea level rise due to the "locked in" greenhouse gases already emitted and the lag time between emissions and sea level rise.

b. The City has incurred significant costs on capital projects to address sea level rise, including, but not limited to, by rebuilding its aging Low Battery Seawall to account for sea level rise projections, installing check valves to prevent tidal intrusion on the City's storm drain system, and redesigning and retrofitting its floodwater drainage system to keep up with increased flooding caused by sea level rise, including by constructing over 8,000 feet of new drainage tunnels.

c. Global warming is causing more extreme weather events in Charleston, with attendant physical and environmental consequences. Increased rainfall and windspeeds during already-destructive hurricanes, coupled with slower movement, have caused even more severe damage to public and private property and infrastructure in Charleston. Charleston is experiencing unprecedented "rain bomb" events that cause the City to require emergency and infrastructure response costs and that reduce economic activity throughout the affected area, resulting in diminished tax revenue. Flooding associated with these events has rendered roads impassible and further strained the City's drainage system.

d. The average air temperature has increased and will continue to increase in Charleston. The City is expected to endure 30 additional days per year of temperatures higher than 95°F by 2070. Warming air temperatures have led to heat waves, expanded pathogen and invasive species ranges, thermal stress for native flora and fauna, increased electricity demand, and threats to human health such as from heat stroke and dehydration due to increased evaporation and demand. Extreme temperatures have stressed Charleston's electrical resources and caused the City to increase air conditioning use, at significant expense. Due to systemic inequities, people of color and those living in poverty tend to be particularly vulnerable to extreme heat events.

e. Climate change is stressing important natural and cultural resources in Charleston. For instance, oysters, clams, mussels, and other shellfish that rear in the waters and marshes off Charleston are at risk from ocean acidification and loss of salt march habitat. These invertebrates are important food sources for both animals and Charlestonians that use them for subsistence and economic purposes. Decline of shellfish populations, which remove contaminants from the environment as they filter feed, has a negative impact on local water quality.

f. Public health impacts of Defendants' conduct have injured and will continue to cause injury to the City. Extreme heat-induced public health impacts in Charleston will result in increased risk of heat-related illnesses (mild heat stress to fatal heat stroke) and the exacerbation of pre-existing conditions in the medically fragile, chronically ill, and vulnerable. Changes in air temperature, rain and carbon dioxide concentrations in air can lead to more ozone, pollen, mold spores, fine particles, and chemicals that can irritate and damage the lungs and airways. Increased extreme temperatures and heat waves has and will contribute to and exacerbate, allergies, respiratory disease, and other health issues in children and adults. Vulnerable populations such as the disabled, the elderly, children, people who live alone, people of color, and less-resourced communities are more likely to suffer health effects from higher air temperatures, flooding, and air pollution. As pest species ranges expand, vector-borne illnesses will increase in Charleston's population. The City has borne and will continue to bear costs associated with mitigating and responding to these public health threats.

149. Compounding these physical and environmental impacts are cascading social and economic impacts that cause injuries to the City that have and will continue to arise out of localized climate change-related conditions. In particular, under-resourced communities and communities of color are and will continue to be the hardest hit by the physical and environmental consequences of Defendants' actions, and will require the most resources, including from the City, to respond and adapt to the climate crisis. In Charleston, the median household income for Black residents is 40 percent of what their White counterparts bring home.<sup>132</sup> Communities and people of color in Charleston therefore experience exacerbated climate crisis impacts of Defendants' conduct, including, but not limited to, in the following ways:

a. Increased sea levels and storms caused by climate change have disparate impacts among Charleston's communities. In general, under-resourced residents are hit harder by increasingly frequent and extreme weather events because many are unable to prepare for extreme weather in advance and will need to use a bigger proportion of their resources to rebuild in the aftermath.

b. Those who face housing insecurity or lack access to reliable transportation lack resources to protect themselves from extreme temperatures, storms, and flooding, and are therefore likely to disproportionately rely on City resources to obtain protection during climate emergencies.

c. The climate crisis exacerbates poor air quality since increased temperatures worsen smog, and extreme weather and flooding can trigger higher levels of allergenic air pollutants like mold and pollen. This will have an outsized impact on low-income Charlestonians and the Charleston's residents of color, since they experience higher exposure to poor air quality

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<sup>132</sup> Statistical Atlas, *Charleston, South Carolina. Household Income in Charleston, South Carolina (City)* <https://statisticalatlas.com/place/South-Carolina/Charleston/Household-Income#figure/median-household-income-by-race>.

and suffer higher instances of many negative health outcomes associated with it, like respiratory and cardiovascular-related illnesses.

d. Climate change is expected to exacerbate food and energy insecurity, which will affect those who are already struggling first and most intensely.

e. Saltwater intrusion in Charleston due to sea level rise<sup>133</sup> will compromise municipal drinking water availability, which will disproportionately impact communities of color and under-resourced communities that have fewer resources to obtain more costly alternative sources of freshwater.

150. The City has already incurred damages as a direct and proximate result of Defendants' conduct. The City has planned and is planning, at significant expense, adaptation and mitigation strategies to address climate change related impacts in order to preemptively mitigate and/or prevent injuries to itself and its citizens. These efforts include, but are not limited to, capital projects such as improving its floodwater drainage system and rebuilding seawalls, and planning efforts such as development of a Flooding and Sea Level Rise Strategy<sup>134</sup> and an All Hazards Vulnerability and Risk Assessment.<sup>135</sup> Additionally, the City has incurred and will incur significant expense in educating and engaging the public on climate change issues, and to promote and implement policies to mitigate and adapt to climate change impacts, including by developing guidelines for retrofitting and elevating privately owned historic buildings to mitigate the impacts

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<sup>133</sup> Bo Peterson, *Salt Creeping into SC Coastal Groundwater. Keeping Track of It is the Job of One Person* THE POST AND COURIER (June 19, 2019, updated Aug. 20, 2020), [https://www.postandcourier.com/news/salt-creeping-into-sc-coastal-groundwater-keeping-track-of-it-is-the-job-of-one/article\\_678e79d8-8c63-11e9-875e-5f954a1f7316.html](https://www.postandcourier.com/news/salt-creeping-into-sc-coastal-groundwater-keeping-track-of-it-is-the-job-of-one/article_678e79d8-8c63-11e9-875e-5f954a1f7316.html).

<sup>134</sup> MAYOR'S OFFICE OF RESILIENCE AND EMERGENCY MANAGEMENT, CITY OF CHARLESTON, FLOODING AND SEA LEVEL RISE STRATEGY (2019).

<sup>135</sup> ALL HAZARDS VULNERABILITY AND RISK ASSESSMENT, <https://www.charleston-sc.gov/1975/All-Hazards-Vulnerability-Risk-Assessmen> (last visited Sept. 4, 2020).



of sea level rise, gathering and analyzing data on extreme weather and coastal flooding, developing a web portal dedicated to informing its citizens of flooding issues, and conducting outreach to the Charleston community, and particularly vulnerable populations, regarding climate crisis impacts. Implementation of these planning and outreach processes have and will come at a substantial cost to the City. The City has incurred costs in responding to incidents such as flooding, groundwater inundation of infrastructure, erosion, and rain bomb events that injure persons and property within the City's jurisdiction or that the City owns or is responsible for. The City's property and resources,<sup>136</sup> such as Brittlebank Park and the roads and promenade behind the Low Battery Seawall, have been and will continue be inundated and/or flooded by sea water and extreme precipitation, among other climate-change related intrusions, and causing injury and damages thereto and to improvements thereon, and preventing free passage on, use of, and normal enjoyment of that real property, or permanently destroying it.

151. But for Defendants' conduct, the City would have suffered no or far less serious injuries and harms than it has endured, and foreseeably will endure, due to the climate crisis and its physical, environmental, social, and economic consequences.

152. Defendants' conduct as described herein is therefore an actual, substantial, and proximate cause of the City's climate crisis-related injuries.

## **VI. CAUSES OF ACTION**

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<sup>136</sup> The City disclaims injuries arising on federal property in Charleston.

**FIRST CAUSE OF ACTION**  
**(Public Nuisance)**  
**(Against All Defendants)**

153. Plaintiff the City of Charleston realleges each and every allegation contained above, as though set forth herein in full.

154. Defendants, individually and in concert with each other, by their affirmative acts and omissions, have unlawfully done damage to the City; worked hurt, inconvenience, and damage upon the City; annoyed and disturbed the City's free use and enjoyment of its real and personal property and rendered its ordinary use uncomfortable; and injured the City in enjoyment of its legal rights. The harm, damage, and injury to the City's rights and property has occurred and will continue to occur on and in public places within the City of Charleston such that members of the public are likely to come within the range of its influence, and has injured public infrastructure and appurtenances within the City of Charleston, which therefore affect rights common to the public.

155. The nuisance created and/or substantially contributed to by Defendants is substantial and unreasonable. It has caused, continues to cause, and will continue to cause far into the future, significant harm to the City and to the community as alleged herein, and that harm outweighs any offsetting benefit. City of Charleston residents' health and safety are matters of great public interest and of legitimate concern to the City, and to the entire state.

156. Defendants specifically created, assisted in creating, and/or were a substantial contributing factor in the creation of the public nuisance by, *inter alia*:

a. Affirmatively and knowingly promoting the sale and use of fossil fuel products in South Carolina and elsewhere which Defendants knew to be hazardous and knew would cause or exacerbate global warming and related consequences, including, but not limited

to, sea level rise, drought, extreme precipitation events, extreme heat events, and ocean acidification, among other adverse environmental changes;

b. Affirmatively and knowingly concealing the hazards that Defendants knew would result from the normal use of their fossil fuel products by misrepresenting and casting doubt on the integrity of scientific information related to climate change;

c. Disseminating and funding the dissemination in and outside of South Carolina of information intended to mislead customers, consumers, and regulators regarding the known and foreseeable risk of climate change and its consequences, which follow from the normal, intended use of Defendants' fossil fuel products;

d. Affirmatively and knowingly campaigning in and outside of South Carolina against the regulation of their fossil fuel products, despite knowing the hazards associated with the normal use of those products, in order to continue profiting from use of those products by externalizing those known costs onto people, the environment, and communities, including the City; and failing to warn the public, including, but not limited to, the City and its residents, about the hazards associated with the use of fossil fuel products.

157. Because of their superior knowledge of fossil fuel products, Defendants were in the best position to prevent the nuisance, but failed to do so, including by failing to warn customers, retailers, and the City of the risks posed by their fossil fuel products, and failing to take any other precautionary measures to prevent or mitigate those known harms.

158. The public nuisance created and/or substantially contributed to by Defendants has caused and/or imminently threatens to cause special injury to the City's real and personal property. The public nuisance has also caused and imminently threatens to cause substantial injury to real and personal property directly owned and/or operated by the City for the cultural, historic,

economic, and public health benefit of Charleston's residents, and for their health, safety, and general welfare.

159. The seriousness of rising sea levels, more frequent and extreme precipitation events, increased frequency and severity of heat waves and extreme temperatures, and the associated consequences of those and other climate crisis-related physical and environmental changes affecting the City, is extremely grave and outweighs the social utility of Defendants' conduct because, *inter alia*,

a. interference with the public's rights due to sea level rise, more frequent and extreme drought, more frequent and extreme precipitation events, increased frequency and severity of heat waves and extreme temperatures, and the associated consequences of those and other physical and environmental changes as described above, is expected to become so regular and severe that it will cause material deprivation of and/or interference with the use and enjoyment of the City's public and private property;

b. the ultimate nature of the harm is the destruction of real and personal property, loss of public cultural, historic, natural, and economic resources, and damage to the public health, safety, and general welfare, rather than mere annoyance;

c. the interference borne is the loss of property, infrastructure, and public resources owned and/or operated by the City, which will actually be borne by the City's residents, businesses, and visitors as loss of use of public and private property and infrastructure; loss of cultural, historic, and economic resources; damage to the public health, safety, and general welfare; diversion of tax dollars away from other public services to the mitigation of and/or adaptation to climate change impacts; and other adverse impacts;

d. The City's property, which serves myriad uses including residential, infrastructural, commercial, historic, cultural, and ecological, is not suitable for regular inundation, flooding, and/or other physical or environmental consequences of the climate crisis;

e. Defendants, and each of them, knew of the external costs of placing their fossil fuel products into the stream of commerce, and rather than striving to mitigate those externalities, Defendants instead acted affirmatively to obscure them from public consciousness; and

f. it was practical for Defendants, and each of them, considering their extensive knowledge of the hazards of placing fossil fuel products into the stream of commerce and extensive scientific engineering expertise, to develop better technologies and to pursue and adopt known, practical, and available technologies, energy sources, and business practices that would have mitigated greenhouse gas pollution and eased the transition to a lower carbon economy.

160. Defendants' conduct in and outside of South Carolina was a substantial contributing factor in the unreasonable violation of public rights enjoyed by the City and its residents as set forth above, because Defendants knew or should have known that their conduct would create a continuing problem with long-lasting significant negative effects on the rights of the public, and absent Defendants' conduct the violations of public rights described herein would not have occurred, or would have been less severe.

161. Defendants' wrongful conduct as set forth herein was committed with actual malice. Defendants had actual knowledge that their products were and are causing and contributing to the nuisance complained of, and acted with conscious disregard for the probable dangerous consequences of their conduct's and products' foreseeable impact upon the rights of others,

including the City and its residents, motivated primarily by unreasonable financial gain. Therefore, the City requests an award of punitive damages in an amount reasonable, appropriate, and sufficient to punish those Defendants for the good of society and deter Defendants from ever committing the same or similar acts.

162. Wherefore, the City prays for relief as set forth below.

**SECOND CAUSE OF ACTION**  
**(Private Nuisance)**  
**(Against All Defendants)**

163. Plaintiff the City of Charleston realleges each and every allegation contained above, as though set forth herein in full.

164. The City owns, occupies, and manages extensive real property within the City of Charleston's borders that has been and will continue to be injured by rising sea levels, higher sea level, more frequent and extreme drought, more frequent and extreme precipitation events, increased frequency and severity of heat waves and extreme temperatures, and the associated consequences of those and other physical and environmental changes associated with the climate crisis.

165. Defendants, individually and in concert with each other, by their affirmative acts and omissions both in and outside of South Carolina, have unlawfully done damage to the City's interests in its real and personal property; worked hurt, inconvenience, and damage upon the City; disturbed the City's free use and enjoyment of its real and personal property and rendered its ordinary use uncomfortable; and injured the City in its enjoyment of its legal rights.

166. The City has not consented to Defendants' conduct in creating the unreasonably injurious conditions on its real property or to the associated harms of that conduct.

167. The seriousness of rising sea levels, higher sea level, more frequent and extreme drought, more frequent and extreme precipitation events, increased frequency and severity of heat

waves and extreme temperatures, and the associated consequences of those and other physical and environmental changes associated with the climate crisis, is extremely grave and outweighs the social utility of Defendants' conduct because, *inter alia*,

a. interference with the public's rights due to sea level rise, more frequent and extreme drought, more frequent and extreme precipitation events, increased frequency and severity of heat waves and extreme temperatures, and the associated consequences of those and other physical and environmental changes as described above, is expected to become so regular and severe that it will cause material deprivation of and/or interference with the use and enjoyment of public and private real and personal property in the Charleston;

b. the ultimate nature of the harm is the destruction of real and personal property, loss of public cultural, historic, natural, and economic resources, and damage to the public health, safety, and general welfare, rather than mere annoyance;

c. the interference borne is the loss of property, infrastructure, and public resources within the City of Charleston, which will actually be borne by the City's residents as loss of use of public and private property and infrastructure; loss of cultural, historic, and economic resources; damage to the public health, safety, and general welfare; diversion of tax dollars away from other public services to the mitigation of and/or adaptation to climate change impacts; and other adverse impacts;

d. The City's property, which serves myriad uses including residential, infrastructural, commercial, historic, cultural, and ecological, is not suitable for regular inundation, flooding, and/or other physical or environmental consequences of anthropogenic global warming;

e. Defendants, and each of them, knew of the external costs of placing their fossil fuel products into the stream of commerce, and rather than striving to mitigate those

externalities, Defendants instead acted affirmatively to obscure them from public consciousness; and

f. it was practical for Defendants, and each of them, considering their extensive knowledge of the hazards of placing fossil fuel products into the stream of commerce and extensive scientific engineering expertise, to develop better technologies and to pursue and adopt known, practical, and available technologies, energy sources, and business practices that would have mitigated greenhouse gas pollution and eased the transition to a lower carbon economy.

168. Defendants' conduct in and outside of South Carolina was a direct and proximate cause of the City's injuries, and a substantial factor in bringing about the harms suffered by the City as described in this Complaint.

169. Defendants' acts and omissions as alleged herein are indivisible causes of the City's injuries and damages as alleged herein, because, *inter alia*, it is not possible to determine the source of any particular individual molecule of CO<sub>2</sub> in the atmosphere attributable to anthropogenic sources because such greenhouse gas molecules do not bear markers that permit tracing them to their source, and because greenhouse gasses quickly diffuse and comeingle in the atmosphere.

170. Defendants' wrongful conduct as set forth herein was committed with actual malice. Defendants had actual knowledge that their products were and are causing and contributing to the nuisance complained of, and acted with conscious disregard for the probable dangerous consequences of their conduct's and products' foreseeable impact upon the rights of others, including the City and its residents, motivated primarily by unreasonable financial gain. Therefore, the City requests an award of punitive damages in an amount reasonable, appropriate, and



sufficient to punish Defendants for the good of society and deter Defendants from ever committing the same or similar acts.

171. Wherefore, the City prays for relief as set forth below.

**THIRD CAUSE OF ACTION**  
**(Strict Liability Failure to Warn)**  
**(Against All Defendants)**

172. Plaintiff the City of Charleston realleges each and every allegation contained above, as though set forth herein in full.

173. Defendants, and each of them, at all times had a duty to issue adequate warnings to the City, the public, consumers, and public officials of the reasonably foreseeable or knowable severe risks posed by their fossil fuel products.

174. Defendants, and each of them, are and were at all relevant times sellers engaged in the business of marketing, promoting, and selling fossil fuel products in and outside of South Carolina, and their products were expected to and in fact did reach the end user without any substantial or relevant change in their condition.

175. Defendants knew or should have known, based on information passed to them from their internal research divisions and affiliates, from the non-party trade associations and entities and/or from the international scientific community, 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 warming, global and local sea level rise, more frequent and extreme drought, more frequent and extreme precipitation events, increased frequency and severity of heat waves and extreme temperatures, and the associated consequences of those and other physical and environmental changes, including the City's harms and injuries described herein.

176. Defendants knew or should have known, based on information passed to them from their internal research divisions and affiliates, from the non-party trade associations and entities,

and/or from the international scientific community, that the climatic effects described herein rendered their fossil fuel products dangerous, or likely to be dangerous, when used as intended or in a reasonably foreseeable manner.

177. Throughout the times at issue, Defendants failed to adequately warn any consumers or any other party of the climate effects that inevitably flow from the intended use and foreseeable misuse of their fossil fuel products.

178. Throughout the times at issue, Defendants individually and in concert widely disseminated marketing materials, refuted the scientific knowledge generally accepted at the time, advanced and promoted pseudo-scientific theories of their own, and developed public relations materials that prevented reasonable consumers from recognizing or discovering the latent risk that Defendants' fossil fuel products would cause grave climate changes, undermining and rendering ineffective any warnings that Defendants may have also disseminated.

179. Given the grave dangers presented by the climate effects that inevitably flow from the normal and foreseeable use of fossil fuel products, a reasonable extractor, manufacturer, formulator, seller, or other participant responsible for introducing fossil fuel products into the stream of commerce, would have warned of those known, inevitable climate effects.

180. Defendants' conduct in and outside of South Carolina was a direct and proximate cause of the City's injuries and a substantial factor in bringing about the harms suffered by the City as alleged herein.

181. As a direct and proximate result of Defendants' and each of their acts and omissions, the City has sustained and will sustain substantial expenses and damages set forth in this Complaint, including damage to publicly owned infrastructure and real property, and injuries to public resources that interfere with the rights of the City and of its residents.

182. Defendants' acts and omissions as alleged herein are indivisible causes of the City's injuries and damage as alleged herein, because, *inter alia*, it is not possible to determine the source of any particular individual molecule of CO<sub>2</sub> in the atmosphere attributable to anthropogenic sources because such greenhouse gas molecules do not bear markers that permit tracing them to their source, and because greenhouse gasses quickly diffuse and comeingle in the atmosphere.

183. Defendants' wrongful conduct as set forth herein was committed with actual malice. Defendants had actual knowledge that their products were and are causing and contributing to the injuries complained of, and acted with conscious disregard for the probable dangerous consequences of their conduct's and products' foreseeable impact upon the rights of others, including the City and its residents, motivated primarily by unreasonable financial gain. Therefore, the City requests an award of punitive damages in an amount reasonable, appropriate, and sufficient to punish Defendants for the good of society and deter Defendants from ever committing the same or similar acts.

184. Wherefore, the City prays for relief as set forth below.

**FOURTH CAUSE OF ACTION**  
**(Negligent Failure to Warn)**  
**(Against All Defendants)**

185. Plaintiff the City of Charleston realleges each and every allegation contained above, as though set forth herein in full.

186. Defendants, and each of them, at all times had a duty to issue adequate warnings to the City, the public, consumers, and public officials of the reasonably foreseeable or knowable severe risks posed by their fossil fuel products.

187. Defendants knew or should have known, based on information passed to them from their internal research divisions and affiliates, trade associations and industry groups, and/or from the international scientific community, 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 warming, global and local sea level rise, more frequent and extreme drought, more frequent and extreme precipitation events, increased frequency and severity of heat waves and extreme temperatures, other adverse environmental changes, and the associated consequences of those physical and environmental changes, including the City's harms and injuries described herein.

188. Defendants knew or should have known, based on information passed to them from their internal research divisions and affiliates, trade associations and industry groups, and/or from the international scientific community, that the climate effects described herein rendered their fossil fuel products dangerous, or likely to be dangerous, when used as intended or in a reasonably foreseeable manner.

189. Throughout the times at issue, Defendants breached their duty of care by failing to adequately warn any consumers, including, but not limited to, the City, its residents, and any other party, of the climate effects that inevitably flow from the intended or foreseeable use of their fossil fuel products.

190. Throughout the times at issue, Defendants individually and in concert widely disseminated marketing materials in and outside of South Carolina, refuted the scientific knowledge generally accepted at the time, advanced pseudo-scientific theories of their own, and developed public relations materials that prevented reasonable consumers, including, but not limited to, the City and its residents, from recognizing the risk that fossil fuel products would cause grave climate changes, undermining and rendering ineffective any warnings that Defendants may have also disseminated.

191. Given the grave dangers presented by the climate effects that inevitably flow from the normal or foreseeable use of fossil fuel products, a reasonable manufacturer, seller, or other

participant responsible for introducing fossil fuel products into the stream of commerce, would have warned of those known, inevitable climate effects.

192. Defendants' conduct in and outside of South Carolina was a direct and proximate cause of the City's injuries and a substantial factor in bringing about the harms suffered by the City as alleged herein.

193. As a direct and proximate result of Defendants' and each of their acts and omissions, the City has sustained and will sustain substantial expenses and damages as set forth in this Complaint, including damage to publicly owned infrastructure and real property, and injuries to public resources that interfere with the rights of the City and its residents.

194. Defendants' acts and omissions as alleged herein are indivisible causes of the City's injuries and damages as alleged herein, because, *inter alia*, it is not possible to determine the source of any particular individual molecule of CO<sub>2</sub> in the atmosphere attributable to anthropogenic sources because such greenhouse gas molecules do not bear markers that permit tracing them to their source, and because greenhouse gasses quickly diffuse and commingle in the atmosphere.

195. Defendants' wrongful conduct as set forth herein was committed with actual malice. Defendants had actual knowledge that their products were and are causing and contributing to the injuries complained of, and acted with conscious disregard for the probable dangerous consequences of their conduct's and products' foreseeable impact upon the rights of others, including the City and its residents, motivated primarily by unreasonable financial gain. Therefore, the City requests an award of punitive damages in an amount reasonable, appropriate, and sufficient to punish Defendants for the good of society and deter Defendants from ever committing the same or similar acts.

196. Wherefore, the City prays for relief as set forth below.

**FIFTH CAUSE OF ACTION**  
**(Trespass)**  
**(Against All Defendants)**

197. Plaintiff the City of Charleston realleges each and every allegation contained above, as though set forth herein in full.

198. The City owns, leases, occupies, and/or controls real property throughout the City of Charleston.

199. Defendants, and each of them, have intentionally, recklessly, or negligently caused flood waters, extreme precipitation, saltwater, and other materials, to enter the City's real property, by distributing, analyzing, recommending, merchandising, advertising, promoting, marketing, and/or selling fossil fuel products, knowing those products in their normal or foreseeable operation and use would cause global and local sea levels to rise and more frequent and extreme precipitation events to occur, among other adverse environmental changes, as well as the associated consequences of those physical and environmental changes.

200. The City did not give permission for Defendants, or any of them, to cause floodwaters, extreme precipitation, saltwater, and other materials to enter its property as a result of the use of Defendants' fossil fuel products.

201. The City has been and will continue to be actually injured and continues to suffer damages as a result of Defendants and each of their having caused flood waters, extreme precipitation, saltwater, and other materials, to enter its real property, by *inter alia* submerging real property owned by the City, causing flooding that has invaded real property owned by the City and rendered it unusable, causing storm surges and heightened waves which have invaded and threatened to invade real property owned by the City, and in so doing rendering the City's property unusable.

202. Defendants' and each Defendant's introduction of their fossil fuel products into the stream of commerce in and outside of South Carolina, coupled with their tortious conduct described herein, was a substantial factor in bringing about the harms and injuries to the City's public and private real property as alleged herein.

203. Defendants' acts and omissions as alleged herein are indivisible causes of the City's injuries and damage as alleged herein, because, *inter alia*, it is not possible to determine the source of any particular individual molecule of CO<sub>2</sub> in the atmosphere attributable to anthropogenic sources because such greenhouse gas molecules do not bear markers that permit tracing them to their source, and because greenhouse gasses quickly diffuse and comeingle in the atmosphere.

204. Defendants' wrongful conduct as set forth herein was committed with actual malice. Defendants had actual knowledge that their products were and are causing and contributing to the injuries complained of, and acted with conscious disregard for the probable dangerous consequences of their conduct's and products' foreseeable impact upon the rights of others, including the City and its residents, motivated primarily by unreasonable financial gain. Therefore, the City requests an award of punitive damages in an amount reasonable, appropriate, and sufficient to punish Defendants for the good of society and deter Defendants from ever committing the same or similar acts.

205. Wherefore, the City prays for relief as set forth below.

**SIXTH CAUSE OF ACTION**  
**(South Carolina Unfair Trade Practices Act)**  
**(Against All Defendants)**

206. Plaintiff the City of Charleston realleges each and every allegation contained above, as though set forth herein in full.

207. Defendants, and each of them, at all times had a duty to issue adequate warnings to the City, the public, consumers, and public officials of the reasonably foreseeable or knowable severe risks posed by their fossil fuel products.

208. Defendants, and each of them, are and were at all relevant times sellers engaged in the business of marketing, advertising, and selling fossil fuel products, and their products were expected to and in fact did reach the end user without any substantial or relevant change in their condition.

209. Defendants knew of or recklessly disregarded, based on information passed to them from their internal research divisions and affiliates, trade associations and industry groups, and/or from the international scientific community, the climate effects inherently caused by the normal use and operation of their fossil fuel products, including the likelihood and likely severity of global warming, global and local sea level rise, more frequent and extreme drought, 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, including the City's harms and injuries described herein.

210. Defendants knew or recklessly disregarded, based on information passed to them from their internal research divisions and affiliates, trade associations and industry groups, and/or from the international scientific community, that the climatic effects described herein rendered their fossil fuel products dangerous, or likely to be dangerous, when used as intended or in a reasonably foreseeable manner.

211. Throughout the times at issue, Defendants individually and in concert, in and outside of South Carolina, widely disseminated marketing materials, refuted the scientific knowledge generally accepted at the time, advanced and promoted pseudo-scientific theories of



their own, and developed public relations materials that prevented reasonable consumers from recognizing or discovering the latent risk that Defendants' fossil fuel products would cause grave climate changes. In addition, Defendants deceitfully represented themselves as leaders in renewable energy and made misleading claims that their businesses were substantially invested in lower carbon technologies and renewable energy sources. These trade practices had a tendency to deceive consumers and the public, including the City and its residents.

212. As a direct and proximate result of Defendants' and each of their acts and omissions, the City has sustained and will sustain substantial expenses and damages set forth in this Complaint, including damage to publicly owned infrastructure and real property, and injuries to public resources that interfere with the rights of the City and its residents.

213. As a direct and proximate result of Defendants' and each of their acts and omissions, the public interest has been substantially injured.

214. As a direct result of the forgoing unfair and deceptive acts and practices, Defendants obtained profits and revenues they otherwise would not have, had they not engaged in unfair and deceptive conduct.

215. Defendants' unfair and deceptive acts and omissions as alleged herein constitute unfair competition within the meaning of S.C. Code § 39-5-20.

216. Defendants' acts and omissions as alleged herein are indivisible causes of the City's injuries and damage as alleged herein, because, *inter alia*, it is not possible to determine the source of any particular individual molecule of CO<sub>2</sub> in the atmosphere attributable to anthropogenic sources because such greenhouse gas molecules do not bear markers that permit tracing them to their source, and because greenhouse gasses quickly diffuse and comeingle in the atmosphere.

217. Defendants' wrongful conduct as set forth herein was willful. Defendants had actual knowledge that their products were and are causing and contributing to the injuries complained of, and acted with conscious disregard for the probable dangerous consequences of their conduct's and products' foreseeable impact upon the rights of others, including the City and its residents.

218. Wherefore, the City prays for relief as set forth below.

## **VII. PRAYER FOR RELIEF**

Plaintiff, the **CITY OF CHARLESTON**, seeks judgment against these Defendants for:

1. Compensatory damages in an amount according to proof;
2. Treble damages as may be available pursuant to S.C. Code § 39-5-140;
3. Equitable relief, including abatement of the nuisances complained of herein;
4. Reasonable attorneys' fees as permitted by law;
5. Punitive damages;
6. Disgorgement of profits;
7. Costs of suit; and
8. For such and other relief as the court may deem proper.

## **REQUEST FOR JURY TRIAL**

Plaintiff **THE CITY OF CHARLESTON** hereby demands a jury trial on all causes of action for which a jury is available under the law.

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**CITY OF CHARLESTON**

By its Attorneys,

DATED: September 9, 2020 By: /s/ Susan J. Herdina

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