IN THE SUPREME COURT OF MARYLAND

No. 11
September Term, 2025

MAYOR & CITY COUNCIL OF BALTIMORE,

Appellant,

v.

B.P. P.L.C., *et al.*,

Appellees.

Appeal from the Circuit Court for Baltimore City
Honorable Videtta Brown, Judge

CITY OF ANNAPOLIS,

Appellant,

v.

B.P. P.L.C., *et al.*,

Appellees.

ANNE ARUNDEL COUNTY,

Appellant,

v.

B.P. P.L.C., *et al.*,

Appellees.

Appeals from the Circuit Court for Anne Arundel County
Honorable Steven Platt, Senior Judge

EXTRACT OF RECORD – VOLUME 3

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IN THE CIRCUIT COURT FOR
ANNE ARUNDEL COUNTY, MARYLAND

CITY OF ANNAPOLIS,
MARYLAND,
A Municipal Corporation and Public Entity
160 Duke of Gloucester Street
Annapolis, MD 21401

Plaintiff,

vs.

BP P.L.C.
1 St James's Square
London,
SW1Y 4PD

BP AMERICA, INC.
501 Westlake Park Blvd.
Houston, TX 77079

BP PRODUCTS NORTH AMERICA INC.
7 St. Paul Street, Suite 820
Baltimore, MD 21202

CROWN CENTRAL LLC
100 Light Street, Suite 2500
Baltimore, MD 21202

CROWN CENTRAL NEW HOLDINGS LLC
100 Light Street, Suite 2500
Baltimore, MD 21202

ROSEMORE, INC.
100 Light Street, Suite 2500
Baltimore, MD 21202

CHEVRON CORP.
6001 Bollinger Canyon Road
San Ramon, CA 94583

CHEVRON U.S.A. INC.
6001 Bollinger Canyon Road
San Ramon, CA 94583

Civil Action No.: C-02-CV-21-000250

Complaint

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New York, NY 10020

EXXONMOBIL OIL CORPORATION
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Irving, TX 75039

ROYAL DUTCH SHELL PLC
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The Netherlands

SHELL OIL COMPANY
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Houston, TX 77252

CITGO PETROLEUM CORP.
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Houston, TX 77077

CONOCOPHILLIPS
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Houston, TX 77079

CONOCOPHILLIPS COMPANY
600 North Dairy Ashford
Houston, TX 77079

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Houston, TX 77042

PHILLIPS 66 COMPANY
2331 CityWest Blvd
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MARATHON OIL COMPANY
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Houston, TX 77056-2723

MARATHON OIL CORPORATION
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MARATHON PETROLEUM CORPORATION
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Enon, OH 45323-1056

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CNX RESOURCES CORPORATION
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CONSOL ENERGY INC.
1000 Consol Energy Drive
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CONSOL MARINE TERMINALS LLC
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Canonsburg, PA 15317

AMERICAN PETROLEUM INSTITUTE
1220 L Street, Suite 900
Washington, D.C. 20005

Defendants.

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COMPLAINT

Jury Trial Requested

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. Climate change will have and has already had devastating economic, social, and cultural impacts throughout the City of Annapolis, and will disproportionately impact people of color, people living in poverty, and other vulnerable communities. Defendants have known for decades that climate change 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, to discredit the growing body of publicly available scientific evidence, and to 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 products. This campaign was intended to, and did, target and influence the public and consumers, including in Annapolis.

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 concomitant increase in the concentration of greenhouse gases,[1] particularly carbon dioxide ("CO_2") and methane, in the Earth's atmosphere. Those disruptions of the Earth's otherwise

[1] 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.

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.

3. Plaintiff, the City of Annapolis,[2] along with Annapolis's residents, infrastructure, and natural and historic 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 and consumers, in and outside of Annapolis, 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_2 concentrations that have occurred since the mid-20th century. This dramatic increase in atmospheric CO_2 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_2, is far and away the dominant cause of global warming,[3] 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. These impacts, the consequences of Defendants' longstanding deceptive and deceitful actions, disproportionately impact communities of color and other vulnerable communities in Annapolis.

[2] In this Complaint, the terms "City" and "Plaintiff" refer to the City of Annapolis, unless otherwise stated. The word "Annapolis" refers to the area falling within Plaintiff's geographic boundaries, excluding federal land, unless otherwise stated.

[3] *See* INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE ("IPCC"), CLIMATE CHANGE 2014 SYNTHESIS REPORT (2014), https://www.ipcc.ch/site/assets/uploads/2018/02/SYR_AR5_FINAL_full.pdf.

The primary cause of the climate crisis is the combustion of coal, oil, and natural gas,[4] referred to collectively in this Complaint as "fossil fuel products."

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 anthropogenic greenhouse gas emissions in history has occurred since the 1950s, a period known as the "Great Acceleration."[5] About three-quarters of all industrial CO_2 emissions in history have occurred since the 1960s,[6] and more than half have occurred since the late 1980s.[7] The annual rate of CO_2 emissions from extraction, production, and consumption of fossil fuels has increased substantially since 1990.[8]

7. Defendants have known for more than 50 years that greenhouse gas pollution from their fossil fuel products would have significant adverse impacts on the Earth's climate and sea levels. Defendants' awareness of the negative impacts 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.

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

[4] *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.

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

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

[7] *Id.*

[8] Friedlingstein et al., *supra* note 4, at 630.

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. These campaigns were intended to and did target the people of Maryland, including Annapolitans. 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_2 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_2 emissions between 1965 and the present. Defendants individually and collectively played leadership roles in denialist campaigns to misinform and confuse consumers and 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 Annapolis would have been substantially mitigated or eliminated altogether. Accordingly, Defendants are directly responsible for a substantial portion of the climate crisis-related impacts in Annapolis.

10. As a direct and proximate consequence of Defendants' wrongful conduct described in this Complaint, the environment in and around Annapolis is changing, with devastating adverse impacts on the City and its residents, particularly communities of color and other vulnerable communities. Because Annapolis is situated on the eastern seaboard in the Mid-Atlantic region, features 17 miles of waterfront land, and is experiencing local land subsidence, it is particularly vulnerable to sea level rise and tidal flooding. Over the past 50 years, Annapolis has experienced the greatest recorded increase in average annual nuisance flooding events of any city in the

nation—nearly tenfold.[9] In addition, the Annapolis Historic District and its significant tourism, restaurant, and retail industries already experience regular flooding and the associated economic impacts due to lost revenue and property damage. As a result, Annapolis, its infrastructure, and its population are highly vulnerable to the impacts of sea level rise and other climate change impacts. For instance, the average sea level has already risen and will continue to rise substantially along Annapolis's coast, causing flooding, inundation, infrastructure and property damage, saltwater intrusion, erosion, and tidal wetland losses; extreme weather, including extreme precipitation, heatwaves, storms, 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 and around Annapolis.

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: inundation and loss of City property; inundation of historic properties, private property, and businesses, with associated loss of tax revenue; injury or destruction of City-owned or -operated infrastructure critical for operations and utility services, as well as other historical and cultural assets; increased costs of maintaining public infrastructure; increased planning and preparation costs for community adaptation and resiliency to the effects of the climate crisis; population displacement and/or disruption and loss of or damage to homes, with associated harm to the City;

[9] *City Dock Flood Mitigation Project*, CITY OF ANNAPOLIS, https://www.annapolis.gov/1416/City-Dock-Flood-Mitigation-Project (last visited Feb. 3, 2021) (citing *NOAA: 'Nuisance flooding' an Increasing Problem as Coastal Sea Levels Rise*, NAT'L OCEANIC & ATMOSPHERIC ADMIN. (July 28, 2014), https://www.noaa.gov/media-release/noaa-nuisance-flooding-increasing-problem-as-coastal-sea-levels-rise.

decreased tax revenue due to impacts on Annapolis's tourism-based economy; and others.[10]

12. Defendants' individual and collective conduct, including, but not limited to, their introduction of fossil fuel products into the stream of commerce while 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. In other words, Defendants' concealment and misrepresentation of their products' known dangers—and simultaneous promotion of their unrestrained use—drove consumption, and thus greenhouse gas pollution, and thus the climate crisis.

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 Maryland Consumer Protection Act, Md. Code Ann., Comm. L. § 13-301.

14. The City hereby disclaims injuries arising on federal property. It also disclaims injuries arising from special-formula fossil-fuel products that Defendants designed specifically for, and provided exclusively to, the federal government for use by the military. The City seeks no recovery or relief attributable to such conduct.

[10] *See, e.g.*, Danielle Ohl, *Annapolis Installs Temporary Flood Solution on City Dock*, CAPITAL GAZETTE (May 3, 2019), https://www.capitalgazette.com/maryland/annapolis/ac-cn-city-dock-pumps-20190503-story.html; *City Dock Flood Mitigation*, CITY OF ANNAPOLIS (Nov. 2018), https://www.annapolis.gov/DocumentCenter/View/11348/City-Dock-Flood-Mitigation-general-presentation-November-2018-PDF; Miyuki Hino et al., *High-Tide Flooding Disrupts Local Economic Activity*, 5 SCI. ADVANCES 1–2, 5 (2019), https://advances.sciencemag.org/content/5/2/eaau2736; *Annapolis in 2040*, CTR. FOR CLIMATE INTEGRITY, https://www.climatecosts2040.org/costs/maryland-annapolis (last visited Feb. 3, 2021).

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 Annapolis, rather than the City, taxpayers, residents, or broader segments of the public.

II. PARTIES

A. Plaintiff

16. Plaintiff the City of Annapolis is a municipality of the State of Maryland with the power to sue and be sued pursuant to Md. Code Ann., Local Gov't § 4-103. The City brings this action in its sovereign capacity for the public benefit and to promote the welfare of the public. The City also brings this action as an exercise of its police power, which includes, but is not limited to, its power to prevent pollution of Annapolis'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 is the state capital of Maryland and provides many services for its residents, including public health, public assistance, and law enforcement, police, fire and rescue, and emergency services.

18. The City also holds a unique place in the annals of American history. It was one of the first planned cities in America, and it served as the national capital of the United States from November 1783 to August 1784. The Maryland State House in Annapolis, completed in 1779, is the oldest working capitol building in the nation. General George Washington resigned his commission as commander-in-chief of the Continental Army there on December 23, 1783, before becoming the first President of the United States. The United States Congress of the Confederation also ratified the Treaty of Paris there on January 14, 1784, officially marking the end of the American Revolutionary War. Today, the State House is part of the Annapolis Historic District,

which has been designated as a National Historic Landmark by the Secretary of the Interior for its exceptional value in illustrating or interpreting the heritage of the United States. Importantly, the District contains a number of sites and structures that convey the African-American experience from slavery to the Civil Rights movement, such as the Maynard-Burgess House, home to two successive African-American families from 1847 to 1990, and the home of William H. Butler, who served on the Annapolis City Council from 1873 to 1875, becoming the first known African-American in Maryland to be elected to public office. Unfortunately, due to Defendants' wrongful conduct and the ensuing climate crisis, the Historic District, like much of Annapolis, is now threatened by tidal flooding, natural disasters, and sea level rise as a result of climate change.

19. As a waterfront city, Annapolis is home to significant maritime and tourism industries. The City features four maritime zoning districts designated for water-dependent uses including boatyards, yacht centers, and marinas. Access to the City's scenic waterfront is essential for both maritime industrial activity and a broad range of recreational water uses enjoyed by residents and tourists alike. Annapolis's maritime industries include, but are not limited to, recreational boating, fishing, sailing, and racing, and several yacht clubs are situated in the City's harbor. The internationally acclaimed Annapolis Boat Shows, among the world's largest boat shows, attract numerous visitors to the City each year and generate more than $112 million in annual economic activity.[11] The area surrounding the Annapolis City Dock is also a commercial hub for tourism, restaurant, and retail businesses that generate significant economic revenue.

[11] *See* WEATHER IT TOGETHER: A CULTURAL RESOURCES HAZARD MITIGATION PLAN FOR THE CITY OF ANNAPOLIS 112, CITY OF ANNAPOLIS (Apr. 2018), https://www.annapolis.gov/DocumentCenter/View/10064/Consolidated-CRHMP-Report-April-2018.

20. Annapolis is already experiencing sea level rise and associated impacts. The mean sea level has already risen nearly one foot since 1950, and Annapolis will experience significant additional sea level rise over the coming decades through at least the end of the century.[12]

21. The sea level rise impacts to Annapolis associated with an increase in average mean sea level height adjacent and near to Annapolis include, but are not limited to, increased permanent inundation and temporary flooding with higher tides and intensified storm surge events, as well as damage and destruction of built structures and infrastructure.

22. In addition, Annapolis and the surrounding areas are and will continue to be impacted by increased temperatures and disruptions to the hydrologic cycle, including extreme precipitation, extreme heat events, and storms. These changes have led to increased property damage and economic injuries, while jeopardizing important historical and cultural assets in Annapolis. The City has already spent significant funds to mitigate and adapt to the effects of global warming, and will need to continue doing so, including by installing pumps to mitigate flooding impacts and building seawalls to protect against sea level rise and storm surge.[13]

B. Defendants

23. Defendants are responsible for a substantial portion of the total greenhouse gases emitted since 1965. Defendants, individually and collectively, are responsible for extracting, refining, processing, producing, promoting, and marketing fossil fuel products, the normal and intended use of which has led to the emission of a substantial percentage of the total volume of greenhouse gases released into the atmosphere since 1965. Accounting for their wrongful promotion and marketing activities, Defendants bear a dominant responsibility for global warming

[12] Hino et al., *supra* note 10, at 5; *Surging Seas Risk Finder: Annapolis, Maryland, USA*, CLIMATE CENTRAL, https://riskfinder.climatecentral.org/place/annapolis.md.us (last visited Feb. 3, 2021).

[13] *See* Ohl, *supra* note 10; *City Dock Flood Mitigation*, *supra* note 10; *Annapolis in 2040*, *supra* note 10.

generally, and for the City's injuries in particular. Defendants' responsibility is even greater considering their marketing, promotion, and sales activities in the wholesale and retail markets for their products.

24. When reference in this Complaint is made to an act or omission of Defendants, unless specifically attributed or otherwise stated, such references should be interpreted to mean that the officers, directors, agents, employees, or representatives of 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.

25. **BP Entities: BP P.L.C., BP America, Inc., and BP Products North America, Inc.**

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. determines whether and to what extent its holdings market, produce, and/or distribute fossil fuel products. For instance, BP P.L.C. reported that in 2016–17 it brought online thirteen major fossil

fuel exploration and production projects. These contributed to a 12% 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, 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 climate-related impacts on the environment and communities. 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 of Directors 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. 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. has been qualified to do business in Maryland. 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; 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); The Atlantic Richfield Company and its division, the Arco Chemical Company. BP America Inc. is qualified to do business in Maryland and has a registered agent for service of process in Lutherville-Timonium, Maryland.

e. Defendant **BP Products North America Inc.** is a 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 Products North America Inc. is engaged in fossil fuel exploration, production, refining, and marketing. It is formed under the laws of Maryland and domiciled in Maryland. BP Products North America Inc. maintains its principal office at 351 West Camden Street, Baltimore, Maryland, 21201, and has a registered agent for service of process in Lutherville-Timonium, Maryland.

f. Defendants BP P.L.C., BP America, Inc., BP Products North America, Inc., and their predecessors, successors, parents, subsidiaries, affiliates, and divisions are collectively referred to herein as "BP."

g. The City's claims against BP arise out of the acts and omissions of BP in Maryland and BP's actions elsewhere that caused the injuries in Maryland.

h. BP has and continues to purposefully direct its tortious conduct toward Maryland by intentionally and wrongfully distributing, marketing, advertising, promoting, and supplying its fossil fuel products in Maryland, with knowledge that those products have caused and will continue to cause climate crisis-related injuries in Maryland, including the City's injuries.

BP's statements in and outside of Maryland 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 Maryland, were intended to conceal and mislead consumers and 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, among others, to continue unabated use of Defendants' fossil fuel products in and outside of Maryland, resulting in the City's injuries.

i. From 1995 to 2019, BP, and specifically BP P.L.C., spent at least $7 million on advertising reaching consumers in the Annapolis and greater Maryland market related to its fossil fuel products. 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 Maryland, from which BP derives and has derived substantial revenue. For example, BP owns a substantial interest in a fossil fuel terminal in Curtis Bay, Maryland, with the capacity to store and distribute approximately 21,840,000 gallons of oil. BP has over 260 employees in Maryland as of 2018, and it spent nearly $12 million on vendors in Maryland in that same year. Additionally, BP markets and/or has promoted and marketed gasoline and other fossil fuel products to consumers, including through numerous BP- and Amoco-branded petroleum service stations in Maryland.

26. **Crown Central Entities: Crown Central LLC, Crown Central New Holdings, LLC, and Rosemore, Inc.**

a. Defendant **Crown Central LLC**, a successor in liability by merger to Crown Central Petroleum Corporation, has been among the largest independent refiners and marketers of petroleum products in the United States. Crown Central LLC was formerly known as, did or does business as, and/or is the predecessor in liability to Defendant **Crown Central New Holdings, LLC**. Defendant **Rosemore, Inc.** is the parent company of Crown Central LLC and has assumed certain liabilities from Crown Central Petroleum Corporation; it also has other subsidiaries that perform oil and gas exploration, production, and transportation. Rosemore, Inc. traces its roots back to 1931 when the original founders of the American Oil Company ("AMOCO") formed a corporation to consolidate, expand, and diversify their business activities.

b. Crown Central LLC was formed in Maryland and converted to a Delaware limited liability company in 2018. Crown Central LLC has its principal offices in Baltimore, Maryland, is qualified to do business in Maryland, and has a registered agent for service of process in Maryland. Crown Central New Holdings, LLC is incorporated in Maryland, has its principal offices in Baltimore, Maryland, and has a registered agent for service of process in Maryland. Rosemore, Inc. is incorporated in Maryland, has its principal offices in Baltimore, Maryland, and has a registered agent for service of process in Maryland.

c. Defendants Crown Central LLC, Crown Central New Holdings, LLC, Rosemore, Inc., and their predecessors, successors, parents, subsidiaries, affiliates, and divisions are collectively referred to herein as "Crown Central."

d. Crown Central has and continues to purposefully direct its tortious conduct toward Maryland by intentionally and wrongfully distributing, marketing, advertising, promoting,

and supplying its fossil fuel products in Maryland, with knowledge that those products have caused and will continue to cause climate crisis-related injuries in Maryland, including the City's injuries. Crown Central's statements in and outside of Maryland 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 Maryland, were intended to conceal and mislead consumers and the public, including the City and its residents, about the serious adverse consequences from continued use of Crown Central's products. That conduct was intended to reach and influence the City, as well as its residents, among others, to continue unabated use of Defendants' fossil fuel products in and outside of Maryland, resulting in the City's injuries.

e. Crown Central transacts and/or has transacted substantial fossil fuel-related business in Maryland. A substantial portion of Crown Central's fossil fuel products are or have been extracted, refined, transported, traded, distributed, marketed, manufactured, sold, and/or consumed in Maryland, from which Crown Central derives and has derived substantial revenue. For example, Crown Central marketed or markets gasoline and other fossil fuel products to consumers in Maryland through Crown-branded petroleum service stations in Maryland.

27. **Chevron Entities: Chevron Corporation and Chevron U.S.A. Inc.**

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, storage, and marketing of natural gas; 5) refining crude oil into petroleum products and 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, 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 climate-related impacts on the environment and communities.

e. 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 qualified to do business in Maryland and has a registered agent for service of process in Maryland. 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, 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.

f. Defendants Chevron Corporation, Chevron U.S.A. Inc., and their predecessors, successors, parents, subsidiaries, affiliates, and divisions are collectively referred to herein as "Chevron."

g. Chevron has and continues to purposefully direct its tortious conduct toward Maryland by intentionally and wrongfully distributing, marketing, advertising, promoting, and supplying its fossil fuel products in Maryland, with knowledge that those products have caused and will continue to cause climate crisis-related injuries in Maryland, including the City's injuries. Chevron's statements in and outside of Maryland 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 Maryland, were intended to conceal and mislead consumers and 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, among others, to continue unabated use of Defendants' fossil fuel products in and outside of Maryland, resulting in the City's injuries.

h. From 1995 to 2019, Chevron spent at least hundreds of thousands of dollars on advertising related to its fossil fuel products reaching consumers in the Annapolis and greater Maryland market. 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.

i. Chevron transacts and has transacted substantial fossil fuel-related business in Maryland. A substantial portion of Chevron's fossil fuel products are or have been extracted, refined, transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in Maryland, from which Chevron derives and has derived substantial revenue. For example, Chevron owned and operated a petroleum and asphalt refinery and fossil fuel-product terminal in Baltimore directly and/or through its subsidiaries and predecessors-in-interest for a period spanning at least 1948 to 2003. Additionally, Chevron markets and/or has marketed gasoline and other fossil fuel products to consumers, including through Chevron-branded petroleum service stations in Maryland. Chevron has also promoted its gasoline and other fossil fuel products, as well as its Chevron U.S.A. Inc. National Travel Card gasoline credit card, to Maryland consumers through print advertisements in Maryland publications, including the *Baltimore Sun*.

28. <u>Exxon Entities</u>: Exxon Mobil Corporation and ExxonMobil Oil Corporation

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

qualified to do business in Maryland and has a registered agent for service of process in Baltimore, Maryland.

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."[14] Exxon Mobil Corporation determines whether and to what extent its subsidiaries market, produce, and/or distribute fossil fuel products.

c. Exxon Mobil Corporation 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 climate-related impacts on the environment and communities. Exxon Mobil Corporation's Board of Directors 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.

[14] EXXON MOBIL CORPORATION, FORM 10-K: ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934 3–4 (Feb. 28, 2018).

d. 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 qualified to do business in Maryland and has a registered agent for service of process in Maryland. ExxonMobil Oil Corporation was formerly known as, did or does business as, and/or is the successor in liability to Mobil Oil Corporation.

e. Defendants Exxon Mobil Corporation, ExxonMobil Oil Corporation, and their predecessors, successors, parents, subsidiaries, affiliates, and divisions are collectively referred to herein as "Exxon."

f. 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.

g. Exxon has and continues to purposefully direct its tortious conduct toward Maryland by intentionally and wrongfully marketing, advertising, promoting, and supplying its fossil fuel products in Maryland, with knowledge that those products have caused and will continue to cause climate crisis-related injuries in Maryland, including the City's injuries. A substantial portion of Exxon's fossil fuel products are or have been extracted, refined, transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in Maryland, from which Exxon derives and has derived substantial revenue. For example, Exxon directly and through its subsidiaries and/or predecessors in interest owned and operated an oil refinery in Baltimore from

1893 to the mid-1950s. In the mid-1950s, the facility was converted to a petroleum storage and marketing facility which Exxon operated until 1998.

h. Exxon's statements in and outside of Maryland 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 Maryland, were intended to conceal and mislead consumers and 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, among others, to continue unabated use of Defendants' fossil fuel products in and outside of Maryland, resulting in the City's injuries. Exxon markets or has marketed gasoline and other fossil fuel products to consumers, including through at least 250 Exxon-branded and at least 40 Mobil-branded petroleum service stations in Maryland. Exxon maintains an interactive website that allows consumers to locate Exxon-branded gas stations in Maryland. Exxon has also advertised its gasoline and other fossil fuel products, as well as Exxon-branded credit cards such as "Exxon Card" and loyalty programs including Exxon's "Thrifty Thursday Coupon Book" and coupons for gasoline and airline ticket discounts, to consumers in Maryland through print advertisements in the *Baltimore Sun*.

i. Between approximately 1998 and 2009, Exxon contributed at least $1 million to the Annapolis Center for Science-Based Public Policy, a non-partisan public advocacy organization headquartered in Annapolis that published numerous reports, pamphlets, and other documents emphasizing the supposed "uncertainty" of climate change and climate science. From 1995 to 2019, Exxon also spent more than $5 million on advertising related to its fossil fuel products reaching consumers in the Annapolis and greater Maryland market.

29. <u>Shell Entities</u>: Royal Dutch Shell PLC and Shell Oil Company

a. Defendant **Royal Dutch Shell PLC** is a multinational, vertically integrated energy and petrochemical company. Royal Dutch Shell PLC is incorporated in England and Wales, with its headquarters and principal place of business in The Hague, Netherlands. Royal Dutch Shell PLC consists of over a thousand divisions, subsidiaries, and affiliates engaged in all aspects of the fossil fuel industry, including exploration, development, extraction, and manufacturing, as well as 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 market, produce, and/or distribute 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 whether to drill a particular oil deposit off the coast of Alaska.

c. Royal Dutch Shell PLC 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 climate-related impacts on the environment and communities. Overall accountability for climate change within the Shell group of companies lies with Royal Dutch Shell PLC's Chief Executive Officer ("CEO") and Executive Committee. 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. Royal Dutch Shell PLC's CEO 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, at least as early as 1988, Royal Dutch Shell PLC, by and through its subsidiaries, was researching companywide CO_2 emissions and concluded that the Shell group of companies accounted for "4% of the CO_2 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."[15]

d. 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 qualified to do business in Maryland and has a registered agent for service of process in Maryland. 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, Texaco Inc., The Pennzoil Company, Shell Oil Products Company LLC, Shell Oil Products Company, Star Enterprise, LLC, Star Enterprise LLC, and Pennzoil-Quaker State Company.

e. Defendants Royal Dutch Shell PLC, Shell Oil Company, and their predecessors, successors, parents, subsidiaries, affiliates, and divisions are collectively referred to herein as "Shell."

[15] Shell Internationale Petroleum Maatschappij B.V., *The Greenhouse Effect* 29 (1988) (prepared for Shell Environmental Conservation Committee).

f. Shell has purposefully directed, and purposefully directs fossil fuel products into Maryland, and it has conducted substantial fossil fuel business in Maryland. In particular, Shell has marketed and continues to market gasoline and other fossil fuel products to consumers through over 100 Shell-branded petroleum service stations in Maryland. Shell tightly controls the marketing, branding, and appearance of franchisees operating Shell-branded stations, which may not, for example, display any unapproved signage. Prior to March 2017, Royal Dutch Shell PLC also solely operated two petroleum storage and distribution terminals in Baltimore in which it owned a 50% stake, at which it transferred and stored distillate oils, various grades of gasoline, liquid gasoline additives, and distillate products.

g. Shell has and continues to purposefully direct its tortious conduct toward Maryland by intentionally and wrongfully distributing, marketing, advertising, promoting, and supplying its products in Maryland, with knowledge that those products have caused and will continue to cause climate crisis-related injuries in Maryland, including the City's injuries. Shell's statements in and outside of Maryland 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 Maryland, were intended to conceal and mislead consumers and 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, among others, to continue unabated use of Defendants' fossil fuel products in and outside of Maryland, resulting in the City's injuries. From 1995 to 2019, Shell spent more than $14 million on advertising related to its fossil fuel products reaching consumers in the Annapolis and greater Maryland market.

h. Shell transacts and has transacted substantial fossil fuel-related business in Maryland. A substantial portion of Shell's fossil fuel products are or have been extracted, refined, transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in Maryland, from which Shell derives and has derived substantial revenue.

30. Citgo Petroleum Corporation

a. Defendant **Citgo Petroleum Corporation** is a multinational energy company that is a direct, wholly owned subsidiary of PDV America, Incorporated, which is a wholly owned subsidiary of PDV Holding, Incorporated. Citgo Petroleum Corporation is incorporated in Delaware and maintains its headquarters in Houston, Texas. Citgo Petroleum Corporation is qualified to do business in Maryland and has a registered agent for service of process in Maryland.

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

c. Citgo Petroleum Corporation 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 climate-related impacts on the environment and communities.

d. Defendant Citgo Petroleum Corporation and its predecessors, successors, parents, subsidiaries, affiliates, and divisions are collectively referred to herein as "Citgo."

e. Citgo has and continues to purposefully direct its tortious conduct toward Maryland by intentionally and wrongfully distributing, marketing, advertising, promoting, and supplying its fossil fuel products in Maryland, with knowledge that those products have caused and will continue to cause climate crisis-related injuries in Maryland, including the City's injuries. Citgo's statements in and outside of Maryland 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 Maryland, were intended to conceal and mislead consumers and the public, including the City and its residents, about the serious adverse consequences from continued use of Citgo's products. That conduct was intended to reach and influence the City, as well as its residents, among others, to continue unabated use of Defendants' fossil fuel products in and outside of Maryland, resulting in the City's injuries. From 1995 to 2019, Citgo spent at least $2 million on advertising related to its fossil fuel products reaching consumers in the Annapolis and greater Maryland market.

f. Citgo transacts and/or has transacted substantial fossil fuel-related business in Maryland. A substantial portion of Citgo's fossil fuel products are or have been transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in Maryland, from which Citgo derives and has derived substantial revenue. For instance, the Citgo Terminal at the Port of Baltimore distributes more than 430 million gallons of gasoline and diesel and other fossil fuel products annually to retail service stations across the northeastern United States, including Maryland. The Citgo Terminal is also a major supplier of ethanol, a gasoline additive, to the mid-Atlantic region, including Maryland. Additionally, Citgo marketed or markets gasoline and other fossil fuel products to consumers in Maryland, including through approximately 150 Citgo-branded petroleum service stations in Maryland. Citgo has also posted job listings for its Baltimore

facility in the *Baltimore Sun*. Citgo owns and operates an interactive webpage that allows consumers to locate Citgo-branded gas stations in Maryland.

31. **ConocoPhillips Entities: ConocoPhillips, ConocoPhillips Company, Phillips 66, and Phillips 66 Company**

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'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. ConocoPhillips determines whether and to what extent its holdings market, produce, and/or distribute fossil fuel products.

c. ConocoPhillips 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 climate-related impacts on the environment and communities. For instance, ConocoPhillips's Board of Directors 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. 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 Maryland and has a registered agent for service of process in Maryland.

e. 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.

f. 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 Maryland and has a registered agent for service of process in Maryland. 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.

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

h. ConocoPhillips has and continues to purposefully direct its tortious conduct toward Maryland by intentionally and wrongfully distributing, marketing, advertising, promoting, and supplying its fossil fuel products in Maryland, with knowledge that those products have caused and will continue to cause climate crisis-related injuries in Maryland, including the City's injuries. ConocoPhillips's statements in and outside of Maryland 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, were intended to conceal and mislead consumers and the public 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, among others, to continue unabated use of Defendants' fossil fuel products, resulting in the City's injuries. From 1995 to 2019 ConocoPhillips, and specifically Phillips 66 Company, spent at least tens of thousands of dollars on advertising related to its fossil fuel products reaching consumers in the Annapolis and greater Maryland market.

i. ConocoPhillips transacts and has transacted substantial fossil fuel-related business in Maryland. A substantial portion of ConocoPhillips's fossil fuel products are or have been extracted, refined, transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in Maryland, from which ConocoPhillips derives and has derived substantial revenue. For instance, ConocoPhillips marketed or markets gasoline and other fossil fuel products

to consumers in Maryland, including through ConocoPhillips- and Phillips 66-branded petroleum service stations located in Maryland.

32. **Marathon Entities: Marathon Oil Corporation, Marathon Oil Company, Marathon Petroleum Corporation, and Speedway LLC**

a. Defendant **Marathon Oil Corporation** is engaged in the exploration and production of crude oil, natural gas, and oil sands. Marathon Oil Corporation is incorporated in Delaware with its corporate headquarters in Houston, Texas.

b. Marathon Oil 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 Oil Corporation determines whether and to what extent its holdings market, produce, and/or distribute fossil fuel products.

c. Marathon Oil Corporation 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 climate-related impacts on the environment and communities.

d. Defendant **Marathon Oil Company** is a wholly owned subsidiary of Marathon Oil Corporation that acts on Marathon Oil Corporation's behalf and subject to Marathon Oil Corporation's control. Marathon Oil Company is engaged in the exploration and production of crude oil, natural gas, and oil sands. Marathon Oil Company is incorporated in Ohio with its principal place of business in Houston, Texas.

e. Defendant **Marathon Petroleum Corporation** is a multinational energy company incorporated in Delaware 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.

a. 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 and has determined whether and to what extent its holdings market, produce, and/or distribute fossil fuel products.

b. 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 the State of Delaware with its principal place of business in Enon, Ohio. Speedway LLC is qualified to do business in Maryland and has a registered agent for service of process in Maryland.

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

d. Marathon has and continues to purposefully direct its tortious conduct toward Maryland by intentionally and wrongfully distributing, marketing, advertising, promoting, and supplying its fossil fuel products in Maryland, with knowledge that those products have caused and will continue to cause climate crisis-related injuries in Maryland, including the City's injuries. A substantial portion of Marathon's fossil fuel products are or have been extracted, refined, transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in

Maryland, from which Marathon derives and has derived substantial revenue. For example, Marathon marketed or markets gasoline and other fossil fuel products to consumers in Maryland, including through a number of Marathon-branded petroleum service stations in Maryland.

33. **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, natural gas liquids, 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, 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 climate-related impacts on the environment and communities.

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

e. Hess has and continues to purposefully direct its tortious conduct toward Maryland by intentionally and wrongfully distributing, marketing, advertising, promoting, and supplying its fossil fuel products in Maryland, with knowledge that those products have caused

and will continue to cause climate crisis-related injuries in Maryland, including the City's injuries. Hess's statements in and outside of Maryland 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 Maryland, were intended to conceal and mislead consumers and 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, among others, to continue unabated use of Defendants' fossil fuel products in and outside of Maryland, resulting in the City's injuries. From 1995 to 2019, Hess spent over $2.7 million on advertising related to its fossil fuel products reaching consumers in the Annapolis and greater Maryland market.

f. Hess transacts and/or has transacted substantial fossil fuel-related business in Maryland. A substantial portion of Hess's fossil fuel products are or have been extracted, refined, transported, traded, distributed, marketed, manufactured, sold, and/or consumed in Maryland, from which Hess derives and has derived substantial revenue.For example, during the time relevant to this complaint, Hess owned, operated, and/or franchised Hess-branded service stations in Maryland at which it marketed and sold its fossil fuel products.

34. **CONSOL Entities: CNX Resources Corporation, CONSOL Energy Inc., and CONSOL Marine Terminals LLC**

a. Defendant **CNX Resources Corporation** is a vertically integrated energy company that is or has been involved in coal mining, oil and natural gas exploration and production, fossil fuel product distribution, and fossil fuel product marketing. CNX Resources Corporation is incorporated in Delaware with its principal place of business in Canonsburg, Pennsylvania. CNX Resources Corporation was formerly known as CONSOL Energy Inc.

CONSOL Energy Inc. and its predecessors in interest mined and sold coal since the 1860s. In 2017, CNX Resources Corporation split its coal mining and related downstream operations into a new entity, also called CONSOL Energy Inc.

b. CNX Resources Corporation controls and has controlled companywide decisions about the quantity and extent of fossil fuel production and marketing, including those of its subsidiaries.

c. CNX Resources Corporation 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 climate-related impacts on the environment and communities.

d. Defendant **CONSOL Energy Inc.** is an energy company involved in coal mining and production. CONSOL Energy Inc. is incorporated in Delaware and has its principal place of business in Canonsburg, Pennsylvania. CONSOL Energy Inc. was formerly known as, did or does business as, and/or is the successor in liability to CONSOL Mining Corporation and/or CNX Resources Corporation.

e. CONSOL Energy Inc. controls and has controlled companywide decisions about the quantity and extent of fossil fuel production and marketing, including those of its subsidiaries.

f. CONSOL Energy Inc. 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 climate-related impacts on the environment and communities.

g. Defendant **CONSOL Marine Terminals LLC** is a subsidiary of CONSOL Energy Inc. that acts on CONSOL Energy Inc.'s behalf and subject to CONSOL Energy Inc.'s control. CONSOL Marine Terminals LLC is incorporated in the State of Delaware and has its principal place of business in Canonsburg, Pennsylvania. CONSOL Marine Terminals LLC is qualified to do business in Maryland and has a registered agent for service of process in Maryland. CONSOL Marine Terminals LLC owns and operates a coal export terminal at the Port of Baltimore.

h. Defendants CNX Resources Corporation, CONSOL Energy Inc., CONSOL Marine Terminals LLC, and their predecessors, successors, parents, subsidiaries, affiliates, and divisions are collectively referred to herein as "CONSOL."

i. CONSOL has and continues to purposefully direct its tortious conduct toward Maryland by intentionally and wrongfully distributing, marketing, advertising, promoting, and supplying its fossil fuel products in Maryland, with knowledge that those products have caused and will continue to cause climate crisis-related injuries in Maryland, including the City's injuries. CONSOL's statements in and outside of Maryland 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, were intended to conceal and mislead consumers and the public about the serious adverse consequences from continued use of CONSOL's products. That conduct was intended to reach and influence the City, as well as its residents, among others, to continue unabated use of Defendants' fossil fuel products, resulting in the City's injuries.

j. CONSOL transacts and has transacted substantial fossil fuel-related business in Maryland. A substantial portion of CONSOL's fossil fuel products are or have been extracted, refined, transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in Maryland, from which CONSOL derives and has derived substantial revenue. For instance, CONSOL owns and operates one of the largest coal export terminals on the Eastern Seaboard, located in the Port of Baltimore. In 2017, CONSOL shipped approximately 14.3 million tons of coal from its terminal in Baltimore, 53% of which came from CONSOL's coal mines in Appalachia.

35. Defendants BP, Crown Central, Chevron, Exxon, Shell, Citgo, ConocoPhillips, Marathon, Hess, and CONSOL are collectively referred to herein as "**Fossil Fuel Defendants**."

36. **American Petroleum Institute**

a. Defendant **American Petroleum Institute ("API")** is a nonprofit corporation incorporated in Washington, D.C., that is qualified to do business in Maryland and has a registered agent for service of process in Maryland. API has a division located in Maryland called the Maryland Petroleum Council.

b. API was created in 1919 to represent the American petroleum industry as a whole. With more than 600 members, API is the country's largest oil trade association. API's purpose is to advance its individual members' collective business interests, which includes increasing consumer consumption of oil and gas to Fossil Fuel Defendants' financial benefit. Among other functions, API also coordinates among members of the petroleum industry, gathers information of interest to the industry, and disseminates that information to its members.

c. Acting on behalf of and under the supervision and control of Fossil Fuel 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 Fossil Fuel Defendants. Fossil Fuel 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 Fossil Fuel Defendants.

d. API's stated mission includes "influenc[ing] public policy in support of a strong, viable U.S. oil and natural gas industry,"[16] which includes increasing consumers' consumption of oil and gas to Fossil Fuel Defendants' financial benefit. In effect, API acts and has acted as a marketing arm for its member companies. Over the last fifteen years, API spent substantial amounts on television, newspaper, radio, and internet advertisements in the Maryland market.

e. Member companies participate in API strategy, governance, and operation through membership dues and by contributing company officers and other personnel to API boards, committees, and task forces. Fossil Fuel Defendants have collectively steered the policies and trade practices of API through membership, Executive Committee roles, and/or budgetary funding of API. Fossil Fuel 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. Fossil Fuel

[16] American Petroleum Institute, *About API*, https://www.api.org/about.

Defendants directly supervised and participated in API's misleading messaging regarding climate change.

f. The following Fossil Fuel Defendants and/or their predecessors-in-interest are and/or have been core API members at times relevant to this litigation: BP, Crown Central, Chevron, Exxon, Shell, Citgo, ConocoPhillips, Marathon, and Hess. Executives from some Fossil Fuel 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 for 15 of 25 years between 1991 and 2016 (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 to 2006. ConocoPhillips Chairman and CEO Ryan Lance was Board President from 2016 to 2018, and Exxon President and CEO Darren Woods was Board President from 2018 to 2020. In 2020, API elected Phillips 66 Chairman and CEO Greg Garland to serve a two-year term as the chair of API's Board of Directors. Executives from Crown Central, ConocoPhillips, Hess, Marathon, and Citgo also served as members of API's Board of Directors at various times.

g. Relevant information was shared among API and Fossil Fuel Defendants and their predecessors-in-interest through (1) API distributing information it held to its members and/or (2) participation of officers and other personnel from Fossil Fuel Defendants and their predecessors-in-interest on API boards, committees, and task forces.

C. Relevant Non-Parties: Defendants' Agents and Front Groups

37. As set forth in greater detail below, each Fossil Fuel Defendant had actual knowledge that its fossil fuel products were hazardous. Fossil Fuel Defendants obtained

knowledge of the hazards of their products independently and through their membership and involvement in trade associations and other groups as described herein.

38. Fossil Fuel Defendants employed and financed several industry associations, such as API, and industry-created front groups to serve their climate change disinformation and denial mission. These organizations, acting on behalf of and under the supervision and control of Fossil Fuel Defendants, assisted the deception campaign by implementing public advertising and outreach campaigns to discredit climate science, funding scientists to cast doubt upon climate science, denying the connection between fossil fuels and climate change, and overall engaging in a significant marketing campaign that misrepresented, omitted, and concealed the dangers of Fossil Fuel Defendants' fossil fuel products with the aim of protecting or enhancing Fossil Fuel Defendants' sales to consumers, including consumers in Maryland. Defendants actively supervised, facilitated, consented to, and/or directly participated in the misleading messaging of these front groups, from which Fossil Fuel Defendants profited significantly, including in the form of increased sales in Maryland.

39. **The National Mining Association ("NMA")** is a national trade association incorporated in Delaware and headquartered in Washington, D.C., representing more than 250 corporations and organizations in the mining industry. NMA was formed in 1995 through the merger of the National Coal Association, which was founded in 1917, and the American Mining Congress, which was founded in 1897. Both predecessor organizations were members of the Global Climate Coalition, and the National Coal Association was linked to the 1991 Information Council for the Environment campaign. CONSOL and the Pittsburg and Midway Coal Mining Company (Chevron) and/or their predecessors-in-interest are and/or have been NMA members at times relevant to this litigation. CONSOL's president and CEO currently serves as Chairman of

the Board for NMA. NMA and API have been co-members of various organizations that participated in Defendants' campaign of deception, including the Global Climate Coalition (NMA's predecessor, the National Coal Association was a founding member),[17] Alliance for Climate Strategies,[18] and Partnership for a Better Energy Future.[19] Moreover, Jack Gerard, who served as API's President and CEO until 2018, previously served as the CEO for NMA.[20]

40. **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).

41. **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 the National Coal Association, a predecessor of NMA. Over the course of its existence, GCC corporate members included Amoco (BP), ARCO (BP), API, Chevron, Exxon, Shell Oil, Texaco (Chevron), CONSOL (as Consolidation Coal Company), and Phillips Petroleum (ConocoPhillips).

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[17] *See Global Climate Coalition Membership*, CLIMATEFILES (1989), http://www.climatefiles.com/denial-groups/global-climate-coalition-collection/1989-membership.

[18] Caroline Jones et al., *Countermovement Coalitions: Climate Denialist Organizational Profiles*, BROWN UNIV. CLIMATE & DEV. LAB (2018), http://www.climatedevlab.brown.edu/uploads/2/8/4/0/28401609/covercountermovementcoalitions.2.2019.pdf.

[19] Herman K. Trabish, *Industry asks EPA to reconsider new emissions rule*, UTILITYDIVE (July 24, 2014), https://www.utilitydive.com/news/industry-asks-epa-to-reconsider-new-emissions-rule/290259.

[20] Press Release, American Petroleum Institute, *API President and CEO Jack Gerard To Depart in August* (Jan. 17, 2018), https://www.api.org/news-policy-and-issues/news/2018/01/17/api-president-and-ceo-jack-gerard-to-depart-in-august.

42. **The Annapolis Center for Science-Based Public Policy ("Annapolis Center")** was a national, nonprofit education organization founded in 1993 with the mission of "support[ing] and promot[ing] responsible energy, environmental, health, and safety decision-making," which ceased operations in or about 2009. The Annapolis Center received substantial funding from Defendant Exxon, and Exxon staff participated directly in the Annapolis Center's activities, including as members of strategic planning committees. The Annapolis Center also received funding from Defendant API. Its activities included publishing reports, pamphlets, and other documents emphasizing the supposed "uncertainty" of climate change and climate science, as well as hosting conferences and other events that emphasized that supposed uncertainty and advocated for a continued reliance on fossil fuels.

III. AGENCY

43. 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.

IV. JURISDICTION AND VENUE

44. This Court has subject matter jurisdiction over this matter under § 1-501 of the Courts and Judicial Proceedings Article of the Maryland Code.

45. This Court has personal jurisdiction over Defendants because they either are domiciled in Maryland; were served with process in Maryland; are organized under the laws of Maryland; maintain their principal place of business in Maryland; transact business in Maryland;

perform work in Maryland; contract to supply goods, manufactured products, or services in Maryland; caused tortious injury in Maryland; engage in persistent courses of conduct in Maryland; derive substantial revenue from manufactured goods, products, or services used or consumed in Maryland; and/or have interests in, use, or possess real property in Maryland.

46. With respect to its subsidiaries, each Defendant parent controls and has controlled decisions about the quantity and extent of its fossil fuel production and sales; determines whether and to what extent to market, produce, and/or distribute its fossil fuel products; and controls and has controlled decisions related to its marketing and advertising, and specifically communications strategies concerning climate change and the link between fossil fuel use and impacts on the environment. Each Defendant parent has the power to direct and control the resident subsidiaries named here. Thus, the subsidiaries are agents of the parent. As agents, the subsidiaries of each non-resident Defendant conducted activities in Maryland at the direction of their parent companies and for the parent 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 Annapolis and increased sales to the parents. Therefore, the subsidiaries' jurisdictional activities are properly attributed to the parents and serve as a basis to assert jurisdiction over the Defendant parents. Each Defendant parent would have performed the acts and omissions alleged herein itself if its subsidiary did not exist.

47. Additionally, jurisdiction is proper over non-resident Defendants BP P.L.C., BP America, Inc., Chevron Corp., Chevron U.S.A. Inc., Exxon Mobil Corp., ExxonMobil Oil Corporation, Royal Dutch Shell PLC, Shell Oil Company, Citgo Petroleum Corp., ConocoPhillips, ConocoPhillips Company, Phillips 66, Phillips 66 Company, Marathon Oil Company, Marathon Oil Corporation, Marathon Petroleum Corporation, Speedway LLC, Hess Corp., CNX Resources

Corporation, CONSOL Energy Inc., and CONSOL Marine Terminals LLC because each of them, along with Crown Central, by and through API and other organizations like NMA, ICE, GCC, and the Annapolis Center, conspired in a coordinated campaign 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 that 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 Maryland and Annapolis. Through their own actions and through their membership and participation in organizations like API and NMA, each Defendant was and is a member of that conspiracy. Defendants committed substantial acts to further the conspiracy in Maryland by making misrepresentations and omissions to Maryland consumers, including in Annapolis, 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 Maryland and in Annapolis, which have suffered and will suffer injuries from Defendants' wrongful conduct including, but not limited to, sea level rise, flooding, erosion, loss of wetlands and beaches, ocean acidification, 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 Maryland and elsewhere would result in these injuries in and to Maryland. The climate effects described herein are direct and foreseeable results of Defendants' conduct in furtherance of the conspiracy. Accordingly, at the time each Defendant agreed to participate in the conspiracy, it had a reasonable expectation that acts to be done in furtherance of the conspiracy by another co-conspirator Defendant or organization—i.e., concealing and misrepresenting the known dangers

of fossil fuels and discrediting climate change science, among other things—would be sufficient to subject that other co-conspirator to personal jurisdiction in Maryland.

48. Venue in this Court is proper because the City's causes of action arose in Annapolis.

V. FACTUAL BACKGROUND

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

49. 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.

50. 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.

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

52. Prior to World War II, most anthropogenic CO_2 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_2 from the atmosphere; the impacts of such activities on Earth's climate were relatively minor. Since that time, however, both the annual rate and total volume of anthropogenic CO_2 emissions have increased enormously following the advent of major uses of oil, gas, and coal.

53. The graph below illustrates that fossil fuel emissions are the dominant source of increases in atmospheric CO_2 since the mid-twentieth century:

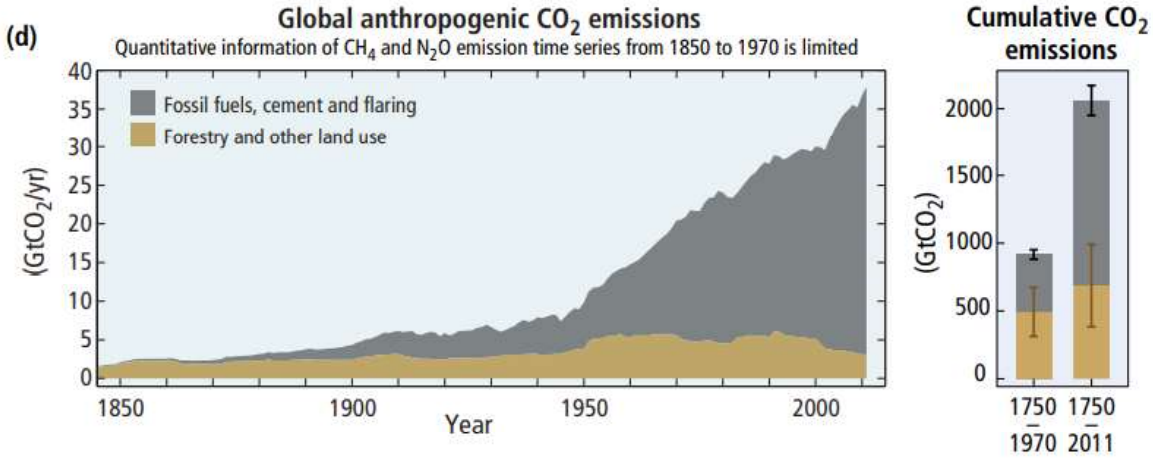

Figure 1: Global anthropogenic CO_2 emissions[21]

54. The recent acceleration of fossil fuel emissions has led to a correspondingly sharp spike in atmospheric concentration of CO_2. Since 1960, the concentration of CO_2 in the atmosphere has gone from under 320 parts per million ("ppm") to approximately 415 ppm.[22] The rate of growth of atmospheric CO_2 is also accelerating. From 1960 to 1970, atmospheric CO_2 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.[23]

55. 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_2.

[21] IPCC, *supra* note 3, at 3.

[22] NOAA Global Monitoring Laboratory, *Trends in Atmospheric Carbon Dioxide* (last visited Sept. 4, 2020), https://www.esrl.noaa.gov/gmd/ccgg/trends.

[23] *Id.*

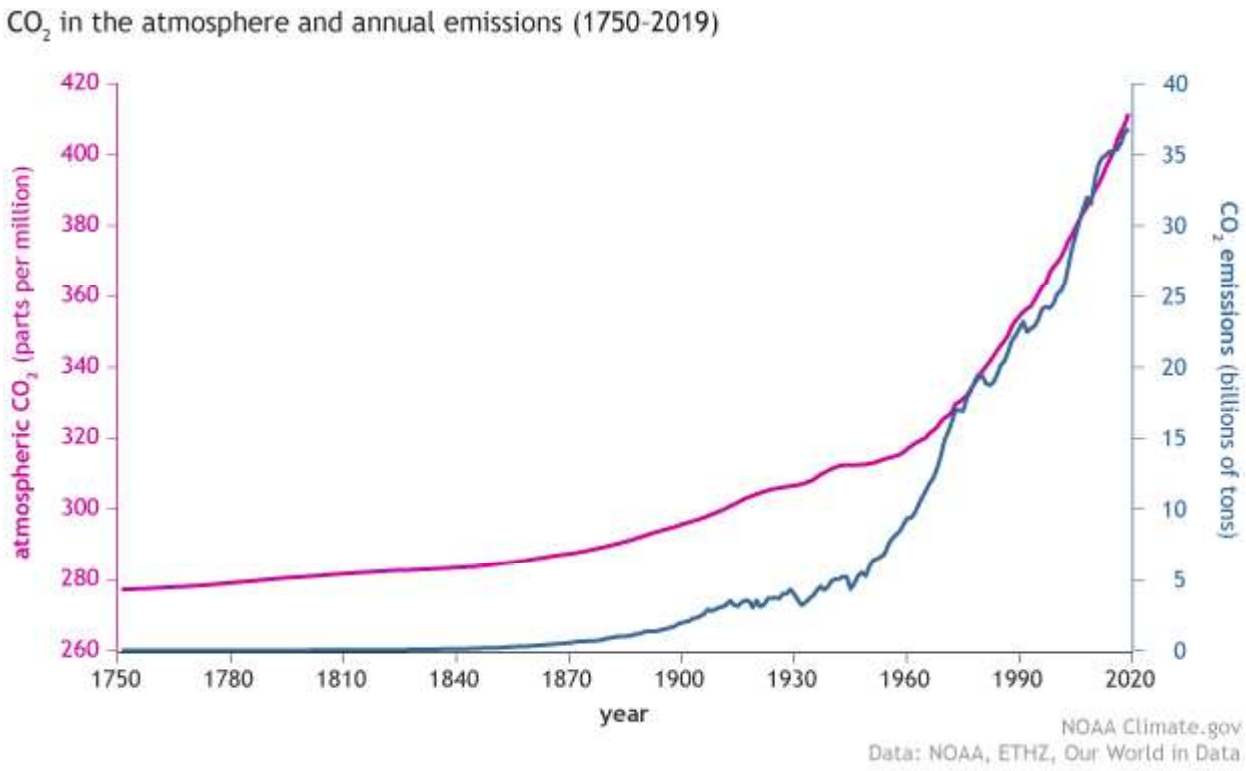

Figure 2: Atmospheric CO_2 concentration and annual emissions[24]

56. 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.[25]

57. 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

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

[25] *More CO_2 than ever before in 3 million years, shows unprecedented computer simulation*, SCIENCE DAILY (Apr. 3, 2019), https://www.sciencedaily.com/releases/2019/04/190403155436.htm.

temperatures have risen approximately 1°C (1.8°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.

58. As discussed below, these consequences of Defendants' conduct and its exacerbation of the climate crisis are already impacting Annapolis, its community, and its resources, and will continue to increase in severity in Annapolis.

59. 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 severe, or would be avoided entirely.[26]

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

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

62. 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 Annapolis, its community, and its resources—associated therewith.

63. Defendants, individually and together, have substantially and measurably contributed to Annapolis's climate crisis-related injuries.

[26] *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.

64. 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 API, 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.[27] API 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.[28]

65. 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 API. 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 Fossil Fuel Defendants and/or their predecessors-in-interest.[29]

66. In 1959, API organized a centennial celebration of the American oil industry at Columbia University in New York City.[30] High-level representatives of Fossil Fuel 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

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[27] *See* Benjamin Franta, *Early Oil Industry Knowledge of CO_2 and Global Warming*, 8 NATURE CLIMATE CHANGE 1024, 1024–25 (2018).

[28] *Id*.

[29] H.R. Brannon, Jr. et al., *Radiocarbon Evidence on the Dilution of Atmospheric and Oceanic Carbon by Carbon from Fossil Fuels*, 38 AMERICAN GEOPHYSICAL UNION TRANSACTIONS 643, 643–50 (1957).

[30] *See* ALLAN NEVINS & ROBERT G. DUNLOP, ENERGY AND MAN: A SYMPOSIUM (Appleton-Century-Crofts, New York 1960); *see also* Franta, *supra* note 27, at 1024–25.

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."[31]

67. 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."[32]

68. 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.[33]

69. Three days after President Johnson's Science Advisory Committee report was published, the president of API, 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.[34]

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

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[31] Edward Teller, *Energy patterns of the future*, in ENERGY AND MAN: A SYMPOSIUM 53–72 (1960).

[32] *Id.*

[33] PRESIDENT'S SCIENCE ADVISORY COMMITTEE, *Restoring the Quality of Our Environment: Report of the Environmental Pollution Panel* 9, 119–24 (Nov. 1965), https://hdl.handle.net/2027/uc1.b4315678.

[34] *See* Franta, *supra* note 27, at 1024–25.

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."[35]

70. 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.

71. 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.[36] 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." The scientists warned of "melting of the Antarctic ice cap" and informed API that "[p]ast and present studies of CO_2 are detailed and seem to explain adequately the present state of CO_2 in the atmosphere." What was missing, the scientists said, was work on "air pollution technology and . . . systems in which CO_2 emissions would be brought under control."[37]

72. In 1969, the Stanford Research Institute delivered a supplemental report on air pollution to API, projecting with alarming particularity that atmospheric CO_2 concentrations

[35] *Id.*

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

[37] *Id.*

would reach 370 ppm by 2000[38]—almost exactly what it turned out to be (369 ppm).[39] The report explicitly connected the rise in CO_2 levels to the combustion of fossil fuels, finding it "unlikely that the observed rise in atmospheric CO_2 has been due to changes in the biosphere."

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

74. In 1972, API members, including Fossil Fuel Defendants, received a status report on all environmental research projects funded by API. The report summarized the 1968 Stanford Research Institute report describing the impact of fossil fuel products, including Defendants', on the environment, including global warming and attendant consequences. Fossil Fuel 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 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).[40]

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[38] Elmer Robinson & R.C. Robbins, *Sources, Abundance, and Fate of Gaseous Atmospheric Pollutants Supplement*, STANFORD RESEARCH INSTITUTE (June 1969).

[39] NASA GODDARD INSTITUTE FOR SPACE STUDIES, *Global Mean CO_2 Mixing Ratios (ppm): Observations*, https://data.giss.nasa.gov/modelforce/ghgases/Fig1A.ext.txt.

[40] AMERICAN PETROLEUM INSTITUTE, COMMITTEE FOR AIR AND WATER CONSERVATION, ENVIRONMENTAL RESEARCH: A STATUS REPORT (Jan. 1972), http://files.eric.ed.gov/fulltext/ED066339.pdf.

75. 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 letter to the Vice President of Exxon Research and Engineering, Black summarized his presentations.[41] 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.

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

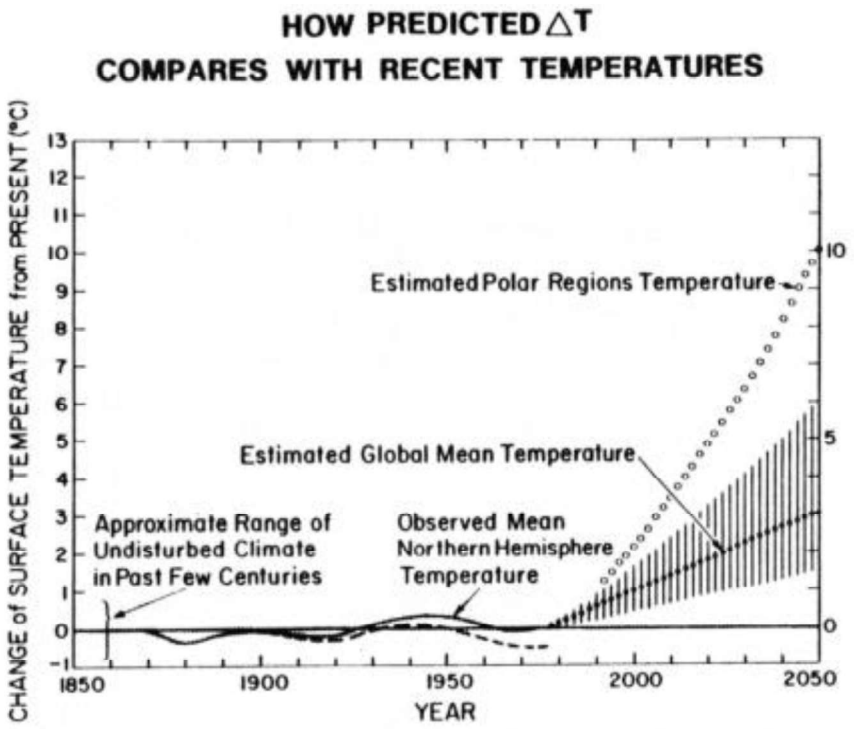

Figure 3: Future global warming predicted internally by Exxon in 1977.[42]

76. 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."[43]

[42] *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.

[43] *Id*.

77. 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[.]"[44]

78. In 1979, Exxon's W. L. Ferrall distributed an internal memorandum.[45] 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_2 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[.][46]

Those projections proved remarkably accurate: Annual average atmospheric CO_2 concentrations surpassed 400 ppm in 2015 for the first time in millions of years.[47] Limiting the carbon dioxide concentration in the atmosphere to 440 ppm, or a 50% increase over preindustrial levels, which

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[44] Henry Shaw, *Environmental Effects of Carbon Dioxide*, CLIMATE INVESTIGATIONS CENTER (Oct. 31, 1977), https://www.industrydocuments.ucsf.edu/docs/tpwl0228.

[45] Letter from W.L. Ferrall, Exxon Research and Engineering Co., to Dr. R.L. Hirsch, *Controlling Atmospheric CO_2*, CLIMATE INVESTIGATIONS CENTER (Oct. 16, 1979), https://www.industrydocuments.ucsf.edu/docs/mqwl0228.

[46] *Id*.

[47] 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.

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.

79. 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."[48] 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.[49]

80. In 1979, API and its members, including Fossil Fuel Defendants, convened a Task Force to monitor and share cutting edge climate research among the oil industry. The group was initially called the CO_2 and Climate Task Force, but in 1980 changed its name to the Climate and Energy Task Force ("CO_2 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 (Chevron), among others. The Task

[48] Memorandum from H. Shaw to H.N. Weinberg, *Research in Atmospheric Science*, CLIMATE INVESTIGATIONS CTR. (Nov. 19, 1979), https://www.industrydocuments.ucsf.edu/docs/yqwl0228.

[49] *Id.*

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.[50]

81. In 1979, API prepared a background paper on carbon dioxide and climate for the CO_2 Task Force, stating that CO_2 concentrations were rising steadily in the atmosphere, and predicting when the first clear effects of global warming might be detected.[51] API reported to its members that although global warming would occur, it would likely go undetected until approximately the year 2000, because, API believed, its effects were being temporarily masked by a natural cooling trend. However, this cooling trend, API warned its members, would reverse around 1990, adding to the warming caused by carbon dioxide.

82. In 1980, API's CO_2 Task Force invited Dr. John Laurmann, "a recognized expert in the field of CO_2 and climate," to present to its members.[52] 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_2 buildup, impact on society, methods of modeling and their consequences, uncertainties, policy implications, and conclusions that can be drawn from present knowledge." Representatives from Standard Oil of Ohio (predecessor to BP), Texaco (now Chevron), Exxon, and API were present, and the minutes of the meeting were distributed to the entire API CO_2 Task Force. Laurmann informed the Task Force of the "scientific

[50] 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.

[51] Memorandum from R.J. Campion to J.T. Burgess, *The API's Background Paper on CO_2 Effects*, CLIMATE INVESTIGATIONS CTR. (Sept. 6, 1979), https://www.industrydocuments.ucsf.edu/docs/lqwl0228.

[52] Letter from Jimmie J. Nelson, American Petroleum Institute, to AQ-9 Task Force, *The CO2 Problem; Addressing Research Agenda Development*, CLIMATE INVESTIGATIONS CTR. (Mar. 18, 1980), https://www.industrydocuments.ucsf.edu/docs/gffl0228.

consensus on the potential for large future climatic response to increased CO_2 levels" and that there was "strong empirical evidence that [the carbon dioxide] rise [was] caused by anthropogenic release of CO_2, 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_2 Task Force that global warming of 2.5°C would "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 (e.g., decades), then there would be "no leeway" for delay. The minutes of the CO_2 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_2 creation," and the Task Force discussed the requirements for a worldwide "energy source changeover" away from fossil fuels.[53]

83. 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_2 in the atmosphere.[54] Imperial

[53] *Id*.

[54] 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.

noted that "[t]echnology exists to remove CO_2 from stack gases but removal of only 50% of the CO_2 would double the cost of power generation."[55]

84. In December 1980, Exxon's Henry Shaw distributed a memorandum on the "CO_2 Greenhouse Effect."[56] 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_2 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.

[55] *Id*.

[56] Memorandum from Henry Shaw to T.K. Kett, *Exxon Research and Engineering Company's Technological Forecast: CO_2 Greenhouse Effect* (Dec. 18, 1980), https://www.documentcloud.org/documents/2805573-1980-Exxon-Memo-Summarizing-Current-Models-And.html.

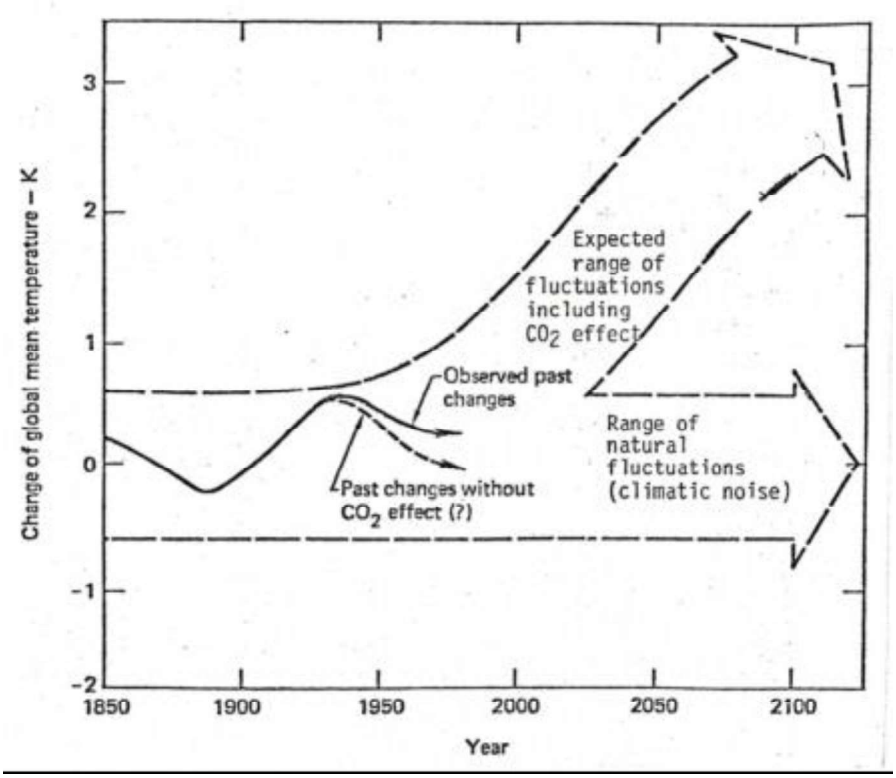

Figure 4: Future global warming predicted internally by Exxon in 1980.[57]

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 than "a few percent" of Gross National Product (i.e., $400 billion in 2018).[58] Exxon predicted that

[57] *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 of warming by the end of the century.

[58] *Id.; see Gross National Product*, FED. RESERVE BANK OF ST. LOUIS (updated Mar. 26, 2020), https://fred.stlouisfed.org/series/GNPA.

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.[59] 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."[60]

85. In February 1981, Exxon's Contract Research Office prepared and distributed a "Scoping Study on CO_2" to the leadership of Exxon Research and Engineering Company.[61] 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 monitoring and keeping the company apprised of outside research developments, including those on climate modeling and "CO_2-induced effects." The study also noted that other companies in the fossil fuel industry were "auditing Government meetings on the subject." In discussing "options

[59] Memorandum from Henry Shaw to T.K. Kett, *Exxon Research and Engineering Company's Technological Forecast: CO_2 Greenhouse Effect* (Dec. 18, 1980), https://www.documentcloud.org/documents/2805573-1980-Exxon-Memo-Summarizing-Current-Models-And.html.

[60] *Id.*

[61] Letter from G.H. Long, Exxon Research and Engineering Co., to P.J. Lucchesi et al., *Atmospheric CO_2 Scoping Study*, CLIMATE INVESTIGATIONS CTR. (Feb. 5, 1981), https://www.industrydocuments.ucsf.edu/docs/yxfl0228.

for reducing CO_2 build-up in the atmosphere," the study noted that although capturing CO_2 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."[62]

86. 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.

87. 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_2 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."[63] Cohen had expressed concern that the memorandum understated the potential effects of unabated CO_2 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)."[64]

88. 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_2 will double in 100 years if fossil fuels grow at 1.4%/a[2]

[62] *Id*.

[63] Memorandum from R.W. Cohen to W. Glass, CLIMATEFILES (Aug. 18, 1981), http://www.climatefiles.com/exxonmobil/1981-exxon-memo-on-possible-emission-consequences-of-fossil-fuel-consumption.

[64] *Id*.

- 3ºC global average temperature rise and 10ºC at poles if CO_2 doubles
  - Major shifts in rainfall/agriculture
  - Polar ice may melt"[65]

89. In 1982, another report prepared for API by scientists at the Lamont-Doherty Geological Observatory at Columbia University recognized that atmospheric CO_2 concentration had risen significantly compared to the beginning of the industrial revolution from about 290 ppm to about 340 ppm in 1981 and acknowledged that despite differences in climate modelers' predictions, there was scientific consensus that "a doubling of atmospheric CO_2 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."[66] Exxon's own modeling research confirmed this, and the company's results were later published in at least three peer-reviewed scientific papers.[67]

[65] Memorandum from Henry Shaw to Dr. E.E. David, *CO_2 Position Statement* (May 15, 1981), https://insideclimatenews.org/documents/exxon-position-co2-1981.

[66] AMERICAN PETROLEUM INSTITUTE, CLIMATE MODELS AND CO_2 WARMING: A SELECTIVE REVIEW AND SUMMARY (Columbia University, Mar. 1982), https://assets.documentcloud.org/documents/2805626/1982-API-Climate-Models-and-CO2-Warming-a.pdf.

[67] *See* Memorandum from Roger W. Cohen, Exxon Research and Engineering Co., to A.M. Natkin, Exxon Corp. Office of Science and Technology, CLIMATEFILES (Sept. 2, 1982), http://www.climatefiles.com/exxonmobil/1982-exxon-memo-summarizing-climate-modeling-and-co2-greenhouse-effect-research (discussing research articles and summarizing the findings of research in climate modeling).

90. 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."[68] 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_2 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.

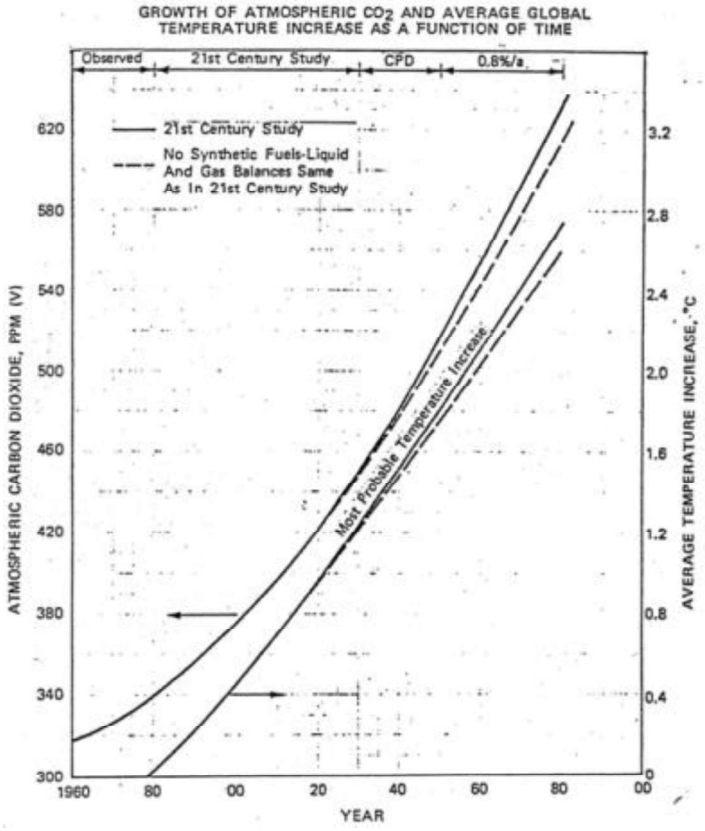

Figure 5: Exxon's 1982 internal prediction of future CO_2 increase and global warming.[69]

[68] Memorandum from M.B. Glaser, Exxon Research and Engineering Co., *CO_2 "Greenhouse" Effect* (Nov. 12, 1982), http://www.climatefiles.com/exxonmobil/1982-memo-to-exxon-management-about-co2-greenhouse-effect.

[69] *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

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 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 in 2018).[70] 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

curve). The same document indicated that Exxon estimated that by 1979 a global warming effect of approximately 0.25°C may already have occurred.

[70] *See Gross National Product*, FED. RESERVE BANK OF ST. LOUIS (updated Mar. 26, 2020), https://fred.stlouisfed.org/series/GNPA.

requirements for introducing them into widespread use, and which recommended that "vigorous development of non-fossil energy sources be initiated as soon as possible."[71] The primer also noted that other greenhouse gases related to fossil fuel production, such as methane, would contribute significantly to global warming, and that concerns over carbon dioxide would be reduced if fossil 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.

91. 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.[72] Cohen reported:

> [O]ver the past several years a clear scientific consensus has emerged regarding the expected climatic effects of increased atmospheric CO_2. The consensus is that a doubling of atmospheric CO_2 from its pre-industrial revolution value would result in an average global temperature rise of (3.0 ± 1.5) °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_2 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

[71] Memorandum from M.B. Glaser, Exxon Research and Engineering Co., *CO_2 "Greenhouse" Effect"* (Nov. 12, 1982), https://insideclimatenews.org/sites/default/files/documents/1982%20Exxon%20Primer%20on%20CO2%20Greenhouse%20Effect.pdf.

[72] Memorandum from Roger W. Cohen, Exxon Research and Engineering Co., to A.M. Natkin, Exxon Corp. Office of Science and Technology, CLIMATEFILES (Sept. 2, 1982), http://www.climatefiles.com/exxonmobil/1982-exxon-memo-summarizing-climate-modeling-and-co2-greenhouse-effect-research.

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_2 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 Brian Flannery at the Exxon-supported Ewing Symposium, later that year.

92. 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_2 'Greenhouse Effect.'"[73] His remarks included the following statement: "Few 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_2 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_2 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.

93. Throughout the early 1980s, at Exxon's direction, Exxon climate scientist Henry Shaw forecasted emissions of CO_2 from fossil fuel use. Those estimates were incorporated into Exxon's 21st century energy projections and were distributed among Exxon's various divisions. Shaw's conclusions included an expectation that atmospheric CO_2 concentrations would double in

[73] 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.

2090 per the Exxon model, with an attendant 2.3–5.6°F average global temperature increase. Shaw compared his model results to those of the U.S. Environmental Protection Agency ("EPA"), the National Academy of Sciences, and the Massachusetts Institute of Technology, indicating that the Exxon model predicted a longer delay than any of the other models, although its temperature increase prediction was in the mid-range of the four projections.[74]

94. During the 1980s, many Defendants formed their own research units focused on climate modeling. API, including the API CO_2 Task Force, provided a forum for Fossil Fuel Defendants to share their research efforts and corroborate their findings related to anthropogenic greenhouse gas emissions.[75]

95. 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.

[74] 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.

[75] 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.

> Prevention means engineering a new generation of fuels, lubricants and chemical products. . . . Prevention means designing catalysts and processes that minimize or eliminate the production of unwanted byproducts. . . . Prevention on a global scale may even require a dramatic reduction in our dependence on fossil fuels—and a shift towards solar, hydrogen, and safe nuclear power. It may be possible that—just possible—that the energy industry will transform itself so completely that 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.[76]

96. 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_2 buildup and warned that warming would "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)."[77]

97. 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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[76] 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.

[77] SHELL INTERNATIONALE PETROLEUM, GREENHOUSE EFFECT WORKING GROUP, THE GREENHOUSE EFFECT (May 1988), https://www.documentcloud.org/documents/4411090-Document3.html.

98. 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.[78] 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."[79] 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.[80] 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."

99. 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."[81]

100. 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 report to the UN at the end of 1990." The warning was an increasing frequency of abnormal

[78] *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).

[79] *Id.* at 369, 376.

[80] *Id.* at 360, 377–78.

[81] RONALD C. KRAMER, CARBON CRIMINALS, CLIMATE CRIMES 66 (1st ed. 2020).

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."[82]

101. 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 virtually destroyed farming on the Great Plains. . . . The threat of such climatic change is now one of our most urgent concerns.[83]

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[82] 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.

[83] Vatan Hüzeir, *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.

The film was not widely distributed.

102. The fossil fuel industry was at the forefront of carbon dioxide research for much of the latter half of the 20th 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-1990s 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.[84]

103. 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 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

[84] ROYAL DUTCH/SHELL GROUP, GROUP SCENARIOS 1998–2020 115, 122 (1998), http://www.documentcloud.org/documents/4430277-27-1-Compiled.html.

> global warming, of 0.5 m [1.64 feet] may be assumed for the proposed project life (25 years).[85]

104. 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. 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.

105. Despite the overwhelming information about the threats to people and the planet posed by continued unabated use of their fossil fuel products, Fossil Fuel Defendants failed to act as they reasonably should have to mitigate or avoid those dire adverse impacts. Fossil Fuel 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 Fossil Fuel 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.

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.

106. 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

[85] EXXONMOBIL, SABLE PROJECT DEVELOPMENT PLAN, Vol. 3, 4-77, http://soep.com/about-the-project/development-plan-application.

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 Maryland, and the City of Annapolis and its inhabitants.

107. Before or thereafter, Fossil Fuel Defendants 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. Fossil Fuel Defendants should have warned the public, regulators, and Annapolis consumers 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.

108. 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 consumers and the public, including those in Maryland and in Annapolis, 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.[86] On June 23 of that year, NASA scientist James Hansen's presentation of this information to Congress

[86] *See* Peter C. Frumhoff et al., *The Climate Responsibilities of Industrial Carbon Producers*, 132 CLIMATIC CHANGE 161 (2015).

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_2 and other greenhouse gases. Four more bipartisan bills to significantly reduce CO_2 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."[87] 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,[88] 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

> 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.[89]

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[87] *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.

[88] *See* IPCC, *Reports*, ipcc.ch/reports.

[89] IPCC, CLIMATE CHANGE: THE IPCC SCIENTIFIC ASSESSMENT xi (1990), https://www.ipcc.ch/report/climate-change-the-ipcc-1990-and-1992-assessments.

The IPCC reconfirmed those conclusions in a 1992 supplement to the First Assessment report.[90]

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."[91]

109. 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.

110. 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 Annapolis and other communities, Defendants embarked on a decades-long campaign designed to maximize continued dependence on their products and undermine national and international efforts to rein in greenhouse gas emissions.

111. 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

[90] IPCC, 1992 IPCC SUPPLEMENT TO THE FIRST ASSESSMENT REPORT (1992), https://www.ipcc.ch/report/climate-change-the-ipcc-1990-and-1992-assessments.

[91] UNITED NATIONS, UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE Art. 2 (1992), https://unfccc.int/resource/docs/convkp/conveng.pdf.

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's.

112. Fossil Fuel Defendants—on their own and jointly through industry and front groups such as API and the GCC—funded, conceived, planned, and carried out a sustained and widespread campaign of denial and disinformation about the existence of climate change and their products' contribution to it. The campaign included a long-term pattern of direct misrepresentations and material omissions to consumers, as well as a plan to influence consumers indirectly by affecting public opinion through the dissemination of misleading research to the press, government, and academia. Although Fossil Fuel Defendants were competitors in the marketplace, they combined and collaborated on this public campaign to misdirect and stifle public knowledge in order to increase sales and protect profits. 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 were designed to influence consumers to continue using Defendants' fossil fuel products irrespective of those products' damage to communities and the environment.

113. For example, in 1988, Joseph Carlson, an Exxon public affairs manager, stated in an internal memo that Exxon "is providing leadership through API in developing the petroleum industry position" on "the greenhouse effect."[92] He then went on to describe the "Exxon Position,"

[92] Memorandum from Joseph M. Carlson, *The Greenhouse Effect* (Aug. 3, 1988), https://assets.documentcloud.org/documents/3024180/1998-Exxon-Memo-on-the-Greenhouse-Effect.pdf.

which included two important messaging tenets among others: (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."[93]

114. 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 CO2 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.[94]

115. 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 conclusions as the mainstream view, Langcake still emphasized scientific uncertainty, noting, for

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[93] *Id*.

[94] *Examining the Oil Industry's Efforts to Suppress the Truth About Climate Change, Hearing Before the Subcomm. on Civil Rights and Civil Liberties of the Comm. on Oversight and Reform*, 116th Cong. 7–8 (Oct. 23, 2019) (statement of Martin Hoffert, Former Exxon Consultant, Professor Emeritus, Physics, New York University), https://oversight.house.gov/legislation/hearings/examining-the-oil-industry-s-efforts-to-suppress-the-truth-about-climate-change.

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."[95]

116. 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."[96]

117. 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, a predecessor to the National Mining Association ("NMA"), 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 believe global warming is a serious environmental problem. Our industry cannot sit on the sidelines in this debate."[97]

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[95] P. Langcake, SHELL INTERNATIONALE PETROLEUM, THE ENHANCED GREENHOUSE EFFECT: A REVIEW OF THE SCIENTIFIC ASPECTS (Dec. 1994), https://www.documentcloud.org/documents/4411099-Document11.html#document/p15/a411511.

[96] 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.

[97] 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).

118. 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.[98]

Figure 6: Information Council for the Environment advertisements

119. 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 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_2 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

[98] Union of Concerned Scientists, *Deception Dossier #5: Coal's "Information Council on the Environment" Sham* 47–49 (1991), http://www.ucsusa.org/sites/default/files/attach/2015/07/Climate-Deception-Dossier-5_ICE.pdf.

late 19th 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 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.[99]

120. API published an extensive report in the same year warning against concern over CO_2 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 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

[99] EXXON CORP., GLOBAL WARMING: WHO'S RIGHT? (1996), https://www.documentcloud.org/documents/2805542-Exxon-Global-Warming-Whos-Right.html.

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."[100]

121. 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.
>
> 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.[101]

[100] SALLY BRAIN GENTILLE ET AL., AMERICAN PETROLEUM INSTITUTE, REINVENTING ENERGY: MAKING THE RIGHT CHOICES (1996), http://www.climatefiles.com/trade-group/american-petroleum-institute/1996-reinventing-energy.

[101] Lee R. Raymond, Chairman and Chief Executive Officer, Exxon Corp., Address at the World Petroleum Congress (Oct. 13, 1997), https://assets.documentcloud.org/documents/2840902/1997-Lee-Raymond-Speech-at-China-World-Petroleum.pdf.

122. 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.[102]

123. 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 advertorial below[103] argued that economic analysis of emissions restrictions was faulty and inconclusive and therefore a justification for delaying action on climate change.

[102] 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.

[103] 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-whenfactsdontsquare.html.

like race.

But when we no longer allow those choices, both civility and common sense will have been diminished. □

who was dragged from his sister's car by police officers and shot in the face at point-blank range. The cops who have the power to do something about those officers, but choose not to. □

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

That seems to characterize the administration's attitude on two of its own studies which show that international efforts to curb global warming could 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 economic models were finally generated, the administration started distancing itself from the findings and models that produced them. The administration's top economic advisor said that economic models can't provide a "definitive answer" on the impact of controlling emissions. The effort, she said, was "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 emission reduction could be insignificant since developing countries will not be bound by the emission targets of a global warming treaty.

Downplaying Argonne's findings, the Energy Department noted that the study used outdated energy prices (mid-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 implementing 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

Figure 7: 1997 Mobil advertorial

124. Also in 1997, the Annapolis Center conducted a "Global Climate Change Workshop," which culminated in a report titled "Global Climate Change: Policy Making in the Context of Scientific and Economic Uncertainty."[104] The report, which was distributed to members of Congress and the media, deceptively and misleadingly emphasized the supposed "uncertainty" surrounding climate change, contradicting the science understood by the Annapolis Center's own sponsors and advisors, including certain Defendants. The report stated, for example, that "[t]here are numerous discrepancies among observed data, and between observations and predictions from simulation models, that also lends uncertainty to the assessment of climate change," and that "[a]t both global and regional scales, the impacts of climate change remain highly uncertain . . . aggravated by the uncertainty about the capacities of societies to adapt to the natural variance in temperature change." It further stated, falsely and misleadingly, that "estimates of pre-historical and historical global temperature indicate a pattern of significant climate variability; thus, shorter-term measurements suggest little to no systematic change if natural variability is taken into account." Based on those supposed uncertainties, the report stressed that participants could not reach consensus on "to what extent to delay taking action to reduce carbon dioxide emissions until more information develops," because several felt that "the uncertainty surrounding future warming (for example over the next 30 years) validates delaying action." The report continued:

> We know that certain immediate mandates to curb emissions will be costly, and their ultimate effects are uncertain. However, if the decision is made to take action, it must be done deliberately and with knowledge that the consequences could be grave. Thus, the importance of the issue and the cost of remedial actions warrant substantially more study. The wrong action could have unnecessary as well as costly consequences.

[104] The Annapolis Center, *Global Climate Change: Policy Making in the Context of Scientific and Economic Uncertainty* (Oct. 1997), https://web.archive.org/web/20040101232408/http://www.annapoliscenter.org/Reports/globalclimatechangepolicy.pdf.

The report was released at a press conference at the National Press Club and was widely disseminated. At a strategic planning meeting in 1998, the Annapolis Center boasted that "[s]tories related to the Center's 1997 climate change report ran in 912 newspapers, with a readership of 43,602,944."[105] The Annapolis Center proposed holding another workshop and drafting another report for 1999, which would conduct "a review of the sciences that affect climate change and the uncertainties of those sciences on climate change." Employees of Defendants Exxon and API were members of the 1998 strategic planning committee. Defendant Exxon contributed at least $1 million to the Annapolis Center during its period of operations, and Defendant API contributed at least $40,000. The statements by the Annapolis Center described above misrepresented the science of climate change as understood at that time by Exxon and API. Those misleading and deceptive statements likely reached tens of millions of members of the public, by the Annapolis Center's own estimates.

125. In 1998, API convened a Global Climate Science Communications Team ("GCSCT") whose members included Exxon's senior environmental lobbyist, an API public relations representative, and representatives from Chevron. There were no scientists on the "Global Climate Science Communications Team." Steve Milloy (a key player in the tobacco industry's front group) and his organization The Advancement of Sound Science Coalition ("TASSC") were founding members of the GCSCT. TASSC was a fake grassroots citizen group created by the tobacco industry to sow uncertainty by discrediting the scientific link between exposure to second-hand cigarette smoke and increased rates of cancer and heart disease. Philip Morris launched TASSC on the advice of its public relations firm, which advised Philip Morris that the tobacco

[105] The Annapolis Center, *Strategic Planning Committee Draft Discussion Piece* (Oct. 29, 1998), archived at DESMOGBLOG, https://www.desmogblog.com/annapolis-center-science-based-public-policy#s34.

company itself would not be a credible voice on the issue of smoking and public health. TASSC, through API and with the approval of Fossil Fuel Defendants, also became a front group for the fossil fuel industry, using the same tactics it had honed while operating on behalf of tobacco companies to spread doubt about climate science. Although TASSC posed as a grassroots group of concerned citizens, it was funded by Defendants. For example, 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.[106] The GCSCT represented a continuation of Defendants' concerted actions to sow doubt and confusion about climate change in order to further Fossil Fuel Defendants' business interests.

126. Starting in 1998, the GCSCT continued Defendants' efforts to deceive the public about the dangers of fossil fuel use by launching a campaign to convince the public that the scientific basis for climate change was in doubt. The multi-million-dollar, multi-year plan included, among other elements, plans to: (a) "[d]evelop and implement a national media relations program to inform the media about uncertainties in climate science to generate national, regional, and local media coverage on the scientific uncertainties"; (b) "[d]evelop a global climate science information kit for media including peer-reviewed papers that undercut the 'conventional wisdom' on climate science"; (c) "[p]roduce . . . a steady stream of op-ed columns"; and (d) "[d]evelop and implement a direct outreach program to inform and educate members of Congress . . . and school teachers/students about uncertainties in climate science" to "begin to erect a barrier against further

[106] UNION OF CONCERNED SCIENTISTS, SMOKE, MIRRORS & HOT AIR: HOW EXXONMOBIL USES BIG TOBACCO'S TACTICS TO MANUFACTURE UNCERTAINTY ON CLIMATE SCIENCE (July 16, 2007), https://www.ucsusa.org/resources/smoke-mirrors-hot-air.

efforts to impose Kyoto-like measures in the future"[107]—a blatant attempt to disrupt international efforts to negotiate any treaty curbing greenhouse gas emissions to ensure a continued and unimpeded market for their fossil fuel products.

127. Exxon, Chevron, and API contributed to the development of the plan, which plainly set forth the criteria by which the contributors would know when their efforts to manufacture doubt had been successful. "Victory," they wrote, "will be achieved when . . . average citizens 'understand' (recognize) uncertainties in climate science" and "recognition of uncertainties becomes part of the 'conventional wisdom.'"[108] In other words, the plan was part of Defendants' goal to use disinformation to plant doubt about the reality of climate change in an effort to maintain consumer demand for their fossil fuel products and their large profits.

128. Soon after, API distributed a memo to its members illuminating API's and Fossil Fuel Defendants' concern over the potential regulation of their 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.'"[109] Further, the API memo stressed many of the strategies that Defendants 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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[107] Email from Joe Walker to Global Climate Science Team, *Draft Global Climate Science Communications Plan* (Apr. 3, 1998), https://assets.documentcloud.org/documents/784572/api-global-climate-science-communications-plan.pdf.

[108] *Id*.

[109] *Allegations of Political Interference with Government Climate Change Science*, *Hearing Before the Comm. on Oversight and Government Reform*, 110th Cong. 324 (Mar. 19, 2007) https://ia601904.us.archive.org/25/items/gov.gpo.fdsys.CHRG-110hhrg37415/CHRG-110hhrg37415.pdf.

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.

129. In furtherance of the strategies described in these memoranda, Defendants made misleading statements about climate change, the relationship between climate change and their fossil fuel products, and the urgency of the problem. Defendants made these statements in public fora and in advertisements published in newspapers and other media with substantial circulation to Maryland, including national publications such as the *New York Times*, *Wall Street Journal*, and *Washington Post*.

130. Phillip Cooney, an attorney at API from 1996 to 2001, testified at a 2007 congressional hearing that it was "typical" for API to fund think tanks and advocacy groups that minimized fossil fuels' role in climate change. Among the groups to which API provided funding were the Heartland Institute, Competitive Enterprise Institute ("CEI"), and the American Council on Capital Formation, each of which issued publications challenging the scientific consensus that

fossil fuels were causing climate change and opposed restrictions on Fossil Fuel Defendants' extraction, production, and sale of fossil fuels.[110]

131. Defendants, individually and through trade associations and front groups like API and GCC, 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.

132. 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.[111] Despite an internal primer stating that various "contrarian theories" (i.e., climate change skepticism) do not "offer convincing arguments against the conventional model of greenhouse gas emission-induced climate change," GCC excluded this section from the public version of the backgrounder[112] and instead funded and promoted some of those same contrarian theories. Between 1989 and 1998, the GCC spent $13 million on advertisements as part of a campaign to cast doubt on climate science.[113]

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[110] *Id*.

[111] *Id.*

[112] Memorandum from Gregory J. Dana, Assoc. of Int'l Auto. Mfrs., to AIAM Technical Committee, *Global Climate Coalition (GCC) - Primer on Climate Change Science - Final Draft* (Jan. 18, 1996), http://www.webcitation.org/6FyqHawb9.

[113] Wendy E. Franz, Kennedy School of Government, Harvard University, *Science, Skeptics and Non-State Actors in the Greenhouse*, ENRP Discussion Paper E-98-18, at 13 (Sept. 1998), https://www.belfercenter.org/sites/default/files/legacy/files/Science%20Skeptics%20and%20Non-State%20Actors%20in%20the%20Greenhouse%20-%20E-98-18.pdf.

133. 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."[114] 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."[115]

134. 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 Fossil Fuel Defendants directly or through Fossil Fuel Defendant-funded organizations like API,[116] but they frequently failed to disclose their fossil fuel industry underwriters.[117] Defendants intended for the research of scientists they funded to be distributed to and relied on by consumers when buying Fossil Fuel Defendants' products, including by consumers in Annapolis.

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[114] 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.

[115] 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.

[116] *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.

[117] *E.g.*, *Smithsonian Statement: Dr. Wei-Hock (Willie) Soon*, SMITHSONIAN (Feb. 26, 2015), https://web.archive.org/web/20181105223030/https://www.si.edu/newsdesk/releases/smithsonian-statement-dr-wei-hock-willie-soon.

135. 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% of Americans personally believed global warming was happening, only 48% believed that there was a consensus among the scientific community, and 40% believed there was a lot of disagreement among scientists over whether global warming was occurring.[118]

136. 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."[119] The IPCC defined "very high confidence" as at least a 9 out of 10 chance.[120]

137. Fossil Fuel Defendants, individually and through their trade association memberships, including with Defendant API, worked directly, and often in a deliberately obscured manner, to evade regulation of the emissions resulting from use of their fossil fuel products and to conceal and misrepresent their products' known dangers.

138. Defendants have funded dozens of think tanks, front groups, and dark money foundations pushing climate change denial. These include CEI, 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 Fossil Fuel Defendants' fossil fuel products were causing climate change,

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[118] *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-warmingv.

[119] IPCC, SUMMARY FOR POLICYMAKERS: A REPORT OF WORKING GROUP I TO THE FOURTH ASSESSMENT REPORT 3 (2007), https://www.ipcc.ch/site/assets/uploads/2018/02/ar4-wg1-spm-1.pdf.

[120] *Id.*

sea level rise, and injuries to Annapolis, among other communities.[121] Several Defendants have been linked to other groups that undermine the scientific basis linking fossil fuel products to climate change and sea level rise, including the Frontiers of Freedom Institute and the George C. Marshall Institute.

139. 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."[122] Despite this pronouncement, Exxon remained financially associated with several such groups after the report's publication.

140. 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.

141. As a result of Defendants' tortious, false, and misleading conduct, consumers of Defendants' fossil fuel products and policy-makers, in Annapolis as elsewhere, have been deliberately and unnecessarily deceived about: the role of fossil fuel products in causing global

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[121] ExxonSecrets.org, *ExxonMobil Climate Denial Funding 1998–2014*, http://exxonsecrets.org/html/index.php.

[122] EXXONMOBIL, 2007 CORPORATE CITIZENSHIP REPORT 41 (Dec. 31, 2007), http://www.documentcloud.org/documents/2799777-ExxonMobil-2007-Corporate-Citizenship-Report.html.

warming, sea level rise, disruptions to the hydrologic cycle, increased extreme precipitation, heatwaves, drought, and other consequences of the climate crisis; the acceleration of global warming since the mid-20th century and the continuation thereof; and the fact that the continued increase in fossil fuel product consumption creates severe environmental threats and significant economic costs for coastal communities, including Annapolis. 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.

142. 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.[123]

[123] Amy Lieberman & Susanne Rust, *Big Oil braced for global warming while it fought regulations*, L.A. TIMES (Dec. 31, 2015), https://graphics.latimes.com/oil-operations.

143. For example, in 1973 Exxon obtained a patent for a cargo ship capable of breaking through sea ice[124] and for an oil tanker[125] designed specifically for use in previously unreachable areas of the Arctic.

144. In 1974, Chevron obtained a patent for a mobile arctic drilling platform designed to withstand significant interference from lateral ice masses,[126] allowing for drilling in areas with increased ice floe movement due to elevated temperature.

145. 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,[127] allowing for drilling in previously unreachable Arctic areas that would become seasonally accessible.

146. Shell obtained a patent similar to Texaco's (Chevron) in 1984.[128]

147. 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 level rise. Those design changes were ultimately carried out by Shell's contractors, adding substantial costs to the project.[129]

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[124] ExxonMobil Research Engineering Co., *Patent US3727571A: Icebreaking cargo vessel* (granted Apr. 17, 1973), https://www.google.com/patents/US3727571.

[125] ExxonMobil Research Engineering Co., *Patent US3745960A: Tanker vessel* (granted July 17, 1973), https://www.google.com/patents/US3745960.

[126] Chevron Research & Technology Co., *Patent US3831385A: Arctic offshore platform* (granted Aug. 27, 1974), https://www.google.com/patents/US3831385.

[127] Texaco Inc., *Patent US3793840A: Mobile, arctic drilling and production platform* (granted Feb. 26, 1974), https://www.google.com/patents/US3793840.

[128] Shell Oil Co., *Patent US4427320A: Arctic offshore platform* (granted Jan. 24, 1984), https://www.google.com/patents/US4427320'.

[129] *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.

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.[130]

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.

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

148. As greenhouse gas pollution accumulates in the atmosphere, some of which does not dissipate for potentially thousands of years (namely CO_2), 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.

[130] *Id.*; Lieberman & Rust, *supra* note 123.

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

150. 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 Annapolis and its residents.

151. 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_2 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 [1.8º—6.3º 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.[131]

152. Despite Defendants' knowledge of the foreseeable, measurable, and significant harms associated with the unabated consumption and use of their fossil fuel products, in Annapolis 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 misleadingly and 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. This campaign was intended to and did reach and influence Annapolis consumers, along with consumers elsewhere. At all relevant times, Defendants were deeply 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 1961, Phillips Petroleum Company filed a patent application for a method to purify gas, among other things, as "natural gas containing gasoline hydrocarbons can contain

[131] John Browne, *BP Climate Change Speech to Stanford*, CLIMATEFILES (May 19, 1997), http://www.climatefiles.com/bp/bp-climate-change-speech-to-stanford.

undesirable amounts of sulfur and other compounds such as carbon dioxide which are undesirable in the finished gasoline product."[132]

b. In 1963, Esso (Exxon) obtained multiple patents on technologies for fuel cells, including on the design of a fuel cell and necessary electrodes,[133] and on a process for increasing the oxidation of a fuel, specifically methanol, to produce electricity in a fuel cell.[134]

c. In 1970, Esso (Exxon) obtained a patent for a "low-polluting engine and drive system" that used an interburner and air compressor to reduce pollutant emissions, including CO_2 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).[135]

d. In 1980, Imperial Oil (Exxon) wrote in its Review of Environmental Protection Activities for 1978–79: "There is no doubt that increases in fossil fuel usage and decreases in forest cover are aggravating the potential problem of increased CO_2 in the atmosphere. Technology exists to remove CO_2 from stack gases but removal of only 50% of the CO_2 would double the cost of power generation."[136]

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[132] Phillips Petroleum Co., *Patent US3228874A: Method for recovering a purified component from a gas* (filed Aug. 22, 1961), https://patents.google.com/patent/US3228874.

[133] ExxonMobil Research Engineering Co., *Patent US3116169A: Fuel cell and fuel cell electrodes* (granted Dec. 31, 1963), https://www.google.com/patents/US3116169.

[134] ExxonMobil Research Engineering Co., *Patent US3113049A: Direct production of electrical energy from liquid fuels* (granted Dec. 3, 1963), https://www.google.com/patents/US3113049.

[135] ExxonMobil Research Engineering Co., *Patent US3513929A: Low-polluting engine and drive system* (granted May 26, 1970), https://www.google.com/patents/US3513929.

[136] IMPERIAL OIL LTD., REVIEW OF ENVIRONMENTAL PROTECTION ACTIVITIES FOR 1978–1979 2 (Aug. 6, 1980), http://www.documentcloud.org/documents/2827784-1980-Imperial-Oil-Review-of-Environmental.html.

e. A 1987 company briefing produced by Shell on "Synthetic Fuels and Renewable Energy" noted that while "immediate prospects" were "limited," "nevertheless it is by pursuing commercial opportunities now and in the near future that the valuable experience needed for further development will be gained." The brief also noted that

> the task of replacing oil resources is likely to become increasingly difficult and expensive and there will be a growing need to develop lean, convenient alternatives. Initially these will supplement and eventually replace valuable oil products. Many potential energy options are as yet unknown or at very early stages of research and development. New energy sources take decades to make a major global contribution. Sustained commitment is therefore needed during the remainder of this century to ensure that new technologies and those currently at a relatively early stage of development are available to meet energy needs in the next century.[137]

f. A 1989 article in a publication from Exxon Corporate Research for company use only stated:

> CO2 emissions contribute about half the forcing [sic] leading to a potential enhancement of the Greenhouse Effect. Since energy generation from fossil fuels dominates modern CO2 emissions, strategies to limit CO2 growth focus near term on energy efficiency and long term on developing alternative energy sources. Practiced at a level to significantly reduce the growth of greenhouse gases, these actions would have substantial impact on society and our industry—near-term from reduced demand for current products, long term from transition to entirely new energy systems.[138]

g. In 1996, more than thirty years after API's president warned that "time is running out" for the world to address the "catastrophic consequences of pollution," API published the book "Reinventing Energy: Making the Right Choices" to refute this very conclusion. Contradicting the scientific consensus known by its members for decades, the book claims:

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[137] *Synthetic Fuels and Renewable Energy*, SHELL SERVICE BRIEFING, no. 2, 1987, https://assets.documentcloud.org/documents/4411089/Document2.pdf.

[138] Brian Flannery, *Greenhouse Science*, CONNECTIONS: CORPORATE RESEARCH, EXXON RESEARCH AND ENGINEERING COMPANY, Fall 1989, http://www.climatefiles.com/exxonmobil/1989-exxon-mobil-article-technologys-place-marketing-mix.

"Currently, no conclusive—or even strongly suggestive—scientific evidence exists that human activities are significantly affecting sea levels, rainfall, surface temperatures, or the intensity and frequency of storms."[139]

h. The book downplayed nearly every aspect of established climate science. API baldly claimed that scientists do not understand how carbon flows in and out of the atmosphere and whether fossil fuels are even responsible for increasing concentrations of atmospheric CO_2. It then explained that even if some warming does occur, such warming "would present few if any problems" because, for example, farmers could be "smart enough to change their crop plans" and low-lying areas would "likely adapt" to sea level rise.[140]

i. As Annapolis's vulnerability demonstrates, however, such adaptations, made necessary by Defendants' conduct, are enormously expensive. Defendants' strategy merely transferred the significant costs and externalities of their actions onto the City, and in the process, they reaped billions of dollars in profit.

j. In the publication, API also contended that "the state of the environment does not justify the call for the radical lifestyle changes Americans would have to make to substantially reduce the use of oil and other fossil fuels" and that the "benefits of alternatives aren't worth the cost of forcing their use." "Some jobs definitely will be created in making, distributing and selling alternatives. But they will come at the expense of lost jobs in the traditional automobile and petroleum industries," the authors continued. "Alternatives will likely be more expensive than

[139] AMERICAN PETROLEUM INSTITUTE, REINVENTING ENERGY: MAKING THE RIGHT CHOICES 79 (1996), http://www.climatefiles.com/trade-group/american-petroleum-institute/1996-reinventing-energy.

[140] *Id*. at 86–87.

conventional fuel/vehicle technology. Consumers, obviously, will bear these increased expenses, which means they will have less to spend on other products and cost jobs."[141]

k. API published this book in service of one goal—ensuring its members could continue to produce and sell fossil fuels in massive quantities that it knew would devastate the planet. The book's final section reveals this purpose. API concluded: "[S]evere reduction in greenhouse gas emissions by the United States or even all developed countries would impose large costs on countries but yield little in the way of benefits—even under drastic climate change scenarios."[142]

153. Fossil Fuel 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. Fossil Fuel Defendants had knowledge dating at least back to the 1960s, and indeed, internally researched and perfected many such technologies. For instance:

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;[143] and

b. In 1973, Shell was granted a patent for a process to remove acidic gases, including CO_2, from gaseous mixtures.[144]

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[141] *Id*. at 59, 68, 69.

[142] *Id*. at 89.

[143] Phillips Petroleum Co., *Patent US3228874A: Method for recovering a purified component from a gas* (granted Jan. 11, 1966), https://patents.google.com/patent/US3228874.

[144] Shell Oil Co., *Patent US3760564A: Process for the removal of acidic gases from a gas mixture*, (granted Sept. 25, 1973), https://www.google.com/patents/US3760564A.

154. Despite this knowledge, Fossil Fuel 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.[145] 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.[146]

155. Similarly, ConocoPhillips's 2012 Sustainable Development report declared developing renewable energy a priority in keeping with their position on sustainable development and climate change.[147] The company's 10-K filing from the same year told a different story: "As an independent E&P company, we are solely focused on our core business of exploring for, developing and producing crude oil and natural gas globally."[148]

156. Likewise, while Shell orchestrated an entire public relations campaign around energy transitions towards net zero emissions, a fine-print disclaimer in its 2017 sustainability

[145] Press Release, Chevron, *Chevron Introduces New System to Manage Energy Use* (Sept. 25, 2001), https://web.archive.org/web/20170207205638/https://www.chevron.com/stories/chevron-introduces-new-system-to-manage-energy-use.

[146] Ben 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.

[147] CONOCOPHILLIPS, SUSTAINABLE DEVELOPMENT (2012), http://static.conocophillips.com/files/resources/2012-sd-report.pdf.

[148] CONOCOPHILLIPS, FORM 10-K: ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934 23 (Dec. 31, 2012), https://www.sec.gov/Archives/edgar/data/1163165/000119312513065426/d452384d10k.htm.

report reads: "we have no immediate plans to move to a net-zero emissions portfolio over our investment horizon of 10–20 years."[149]

157. BP, appearing to abide by the representations Lord Browne made in his speech described 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, which is a fossil fuel, and in 2007 the company reinvested in Canadian tar sands, a particularly high-carbon source of oil.[150] The company ultimately abandoned its wind and solar assets in 2011 and 2013, respectively, and even the "Beyond Petroleum" moniker in 2013.[151]

158. 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."[152]

159. Even if Fossil Fuel 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, Fossil Fuel Defendants could have taken other practical, cost-effective steps to reduce the use of

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[149] Shell, *Sustainability Report 2017: Definitions and Cautionary Note*, https://reports.shell.com/sustainability-report/2017/servicepages/about.html.

[150] 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.

[151] Javier E. David, *'Beyond Petroleum' No More? BP Goes Back to Basics*, CNBC (Apr. 20, 2013), http://www.cnbc.com/id/100647034.

[152] James R. Healy, *Alternate Energy Not in Cards at ExxonMobil*, USA TODAY (Oct. 27, 2005), https://usatoday30.usatoday.com/money/industries/energy/2005-10-27-oil-invest-usat_x.htm.

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' stockholders, banks, insurers, consumers, the public, regulators, and the City and warning them 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;

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

d. Sharing their internal scientific research with consumers and 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' hazardous fossil fuel products; and

g. Adopting their stockholders' concerns about Fossil Fuel Defendants' need to protect their businesses from the inevitable consequences of profiting from their fossil fuel products. Over the period of 1990 to 2015, Fossil Fuel Defendants' stockholders proposed hundreds of resolutions to change Fossil Fuel Defendants' policies and business practices regarding climate change. Those included increasing renewable energy investment, cutting emissions, and performing carbon risk assessments, among others.

160. 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 Annapolis and Elsewhere.

161. Defendants' coordinated campaign of disinformation and deception continues today, even as the scientific consensus about the causes and consequences of climate change has strengthened. Fossil Fuel Defendants have falsely claimed through advertising campaigns in Maryland and/or campaigns intended to reach Maryland, including Annapolis, that their businesses are substantially invested in lower carbon technologies and renewable energy sources. In truth, each Fossil Fuel 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 Fossil Fuel Defendants’ fossil fuel products are “green” or “clean” because they all ultimately continue to warm the planet.

162. Instead of widely disseminating information about their products and climate change, 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 Annapolis, Defendants have failed to inform or warn those consumers about the foreseeable effects of their fossil fuel products in causing and accelerating the climate crisis.

163. 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 Annapolis. They continue to omit that important information to this day.

164. Defendants have not just failed to disclose the catastrophic danger their products cause. After having engaged in a long campaign to deceive consumers and 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. These campaigns were intended to and did reach and influence the public and consumers, including in Annapolis.

165. These misleading “greenwashing” campaigns are intended to capitalize on consumers’ concerns about climate change and lead Annapolis consumers to believe that

Defendants are actually substantially diversified energy companies making meaningful investments in low-carbon energy compatible with avoiding catastrophic climate change.

166. Contrary to this messaging, however, Fossil Fuel Defendants' spending on low-carbon energy is substantially and materially less than Fossil Fuel 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.[153] Meanwhile, Fossil Fuel 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.[154]

167. Ultimately, although Defendants currently claim to support reducing greenhouse gas emissions, 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.

168. For example, Exxon is projected to increase oil production by more than 35% between 2018 and 2030—a sharper rise than over the previous 12 years.[155] 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.[156] BP is projected to increase production of oil and gas by 20%

[153] Anjli 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.

[154] *See, e.g.*, BP ANNUAL REPORT AND FORM 20-F 24 (2017), https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/investors/bp-annual-report-and-form-20f-2017.pdf.

[155] Jonathan Watts et al., *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.

[156] *Id*.

by 2030.[157] Chevron set an oil production record in 2018 of 2.93 million barrels per day.[158] Like the other Fossil Fuel 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 Chevron's "significant reserve additions in 2018" in multiple regions in North America and around the world, as well as significant capital projects involving construction of refineries worldwide.[159] Similarly, Marathon Petroleum has stated, "We have invested billions of dollars to make our operations more energy efficient[and] reduce our emissions[.]"[160] Yet only 1% of the company's capital spend from 2010 to 2018 was on low-carbon energy sources, all of which was in carbon capture and storage.[161]

169. Defendants' greenwashing campaigns deceptively minimize their role in causing climate change, including by suggesting that small changes in consumer choice and behavior can adequately address climate change. These campaigns misleadingly portray Defendants as part of the solution to climate change and distract from the fact that Defendants' fossil fuel products are the primary driver of global warming.

170. For instance: natural gas, as a fossil fuel, emits greenhouse gases at all phases of its lifecycle, including significant methane releases from extraction and transportation, CO_2 releases

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[157] *Id*.

[158] 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.

[159] CHEVRON, CHEVRON 2019 INVESTOR PRESENTATION (Feb. 2019), https://chevroncorp.gcs-web.com/static-files/c3815b42-4deb-4604-8c51-bde9026f6e45.

[160] MARATHON PETROLEUM CORP., PERSPECTIVES ON CLIMATE-RELATED SCENARIOS (Oct. 2018), https://www.marathonpetroleum.com/content/documents/Responsibility/MPC-ClimateReport-2018.pdf.

[161] Raval & Hook, *supra* note 153.

when gas is flared at the well, and CO_2 releases at the point of combustion. Methane is a greenhouse gas with a global warming potential many times higher than carbon dioxide. Methane traps more heat in the atmosphere and accelerates climate disruption at a faster rate than carbon dioxide. Methane has a powerful impact on global temperature and the climate system, particularly over short time horizons. For example, methane has a warming impact that is 86 times that of carbon dioxide over a 20-year time horizon. During that time, major changes will need to be made to address climate impacts that have already been caused by Defendants' campaign of deception. Yet, in Defendants' greenwashing advertisements, they misleadingly portray natural gas as "sustainable" in an effort to paint themselves as working to solve climate change by making energy "cleaner."[162] In reality, however, as the main drivers of greenhouse gas emissions and climate impacts, they are doing the exact opposite.

171. Below are representative excerpts from Defendants' greenwashing campaigns, which present a false image of Defendants as clean energy innovators taking meaningful action to address climate change. Defendants' actions to further entrench fossil fuel production and consumption squarely contradict their public affirmations of corporate responsibility and support for reducing global greenhouse gas emissions. Functionally, Defendants have cut fossil fuels from their brand but not their business. Their greenwashing advertisements to the contrary are deceptive to Annapolis consumers.

i. Exxon's Misleading and Deceptive Greenwashing Campaigns

172. Exxon has directed greenwashing advertisements toward Maryland consumers at least as far back as 1990, through print advertisements in the *Baltimore Sun*. In 1990, Exxon placed

[162] *See, e.g.*, *The Mobility Quandary* (Content from Shell), WASH. POST, https://www.washingtonpost.com/brand-studio/shell/the-mobility-quandary ("Another critical component of a sustainable energy mix in transportation is further investment in natural gas, a cleaner-burning fossil fuel . . . .").

an advertisement in the *Baltimore Sun* promoting its "New Exxon Plus" gasoline as having "high performance and lower emissions" and a "unique clean engine formula."[163] The advertisement misleadingly portrayed Exxon's gasoline product as environmentally friendly, purporting that "it's . . . been reformulated to reduce emissions, for cleaner air." Exxon ran a similar advertisement in the *Baltimore Sun* in 1990, promoting its "New Exxon 93 Supreme" gasoline as "giv[ing] you our clean engine formula" and that "now, it too has been reformulated to reduce emissions."[164]

Figure 8: Exxon advertisement in the *Baltimore Sun*

[163] Exxon Advertisement, THE BALTIMORE SUN 6G (Jul. 22, 1990).

[164] Exxon Advertisement, THE BALTIMORE SUN 9G (Jul. 29, 1990).

173. Exxon has run a series of full-page advertisements in print editions and posts in the electronic edition of the *New York Times*, as well as on Exxon's YouTube channel, in which Exxon misleadingly promotes its efforts to develop energy from alternative sources such as algae and plant waste—efforts that are vanishingly small in relation to the investments Exxon continues to make in fossil fuel production.

174. For example, an online advertisement in the *New York Times*, accessible to and marketed toward Maryland consumers, promotes the company's development of algae biofuels, but omits that it is extremely resource intensive to produce algae for biofuel on a large scale due to the massive amounts of land and fertilizer needed. The advertisement also misleadingly tells consumers that Exxon is "working to decrease [its] overall carbon footprint," and that the company's "sustainable and environmentally friendly" biodiesel fuel could reduce "carbon emissions from transportation" by greater than 50%.[165]

175. Exxon has also directed multiple greenwashing campaigns to Maryland consumers through social media platforms including Facebook. In fact, more than 6,500 Facebook advertisements from Exxon have reached Maryland between May 2018 and February 2021. For instance, Exxon ran multiple Facebook advertisements in 2020 framing its products as "essential ingredients that go into [personal protective equipment] materials"[166] and that help to create "critical health care supplies"[167] during the COVID-19 pandemic. Exxon ran multiple Facebook advertisements in 2019 attempting to portray the company as a leader in addressing climate

[165] *The Future of Energy? It May Come From Where You Least Expect* (ExxonMobil Paid Post), N.Y. TIMES, https://www.nytimes.com/paidpost/exxonmobil/the-future-of-energy-it-may-come-from-where-you-least-expect.html.

[166] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=412885009916254.

[167] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=261648828615278.

change, by asserting the misleading claim that "natural gas . . . supports renewable energy" and that natural gas and renewable energy are "a perfect pair for a cleaner energy future"[168]; framing itself as "a leader in carbon-capture technology"[169]; and stating that Exxon "will invest up to $100 million over the next 10 years towards research in emissions reduction technologies."[170] In 2018, Exxon ran Facebook advertisements in Maryland portraying itself as "pioneering" technologies to reduce emissions and increase fuel efficiency.[171]

176. Exxon's advertisements promoting its investments in "sustainable and environmentally friendly" energy sources further fail to mention that the company's investment in alternative energy is miniscule compared to its ongoing "business as usual" ramp-up in global fossil fuel exploration, development, and production activities. From 2010 to 2018, Exxon spent only 0.2% of its capital expenditures on low-carbon energy systems, with nearly the totality of its spending (99.8%) focused on maintaining and expanding fossil fuel production. The company has simultaneously invested billions of dollars into development of Canadian tar sands projects, some of the most carbon-intensive oil extraction projects in the world.[172]

177. Exxon's investment is not nearly enough to produce alternative energy on the scale falsely implied and touted by Exxon in its advertisements. A 2019 report by InfluenceMap documents that Exxon's advertised goal of producing 10,000 barrels of biofuel per day by 2025 would equate to only 0.2% of its current refinery capacity—an amount the report referred to as "a

[168] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=452326435699710; Facebook Ad Library, https://www.facebook.com/ads/library/?id=1376317762539386.

[169] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=458849641538422.

[170] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=504245700346068.

[171] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=537719383314400.

[172] Raval & Hook, *supra* note 153. Exxon has invested more than $20 billion in capital expenditures at its open-pit tar sands mining operation at Kearl Lake in Alberta, Canada.

rounding error."[173] This is in sharp contrast to Exxon's projected increases in oil production by more than 35%, meaning any alternative fuel efforts are offset by massive oil emissions.[174]

178. Exxon's claim that its biodiesel fuel could reduce carbon emissions from transportation by greater than 50% is also highly misleading. For example, biodiesel fuel is typically a blend of only 5% to 20% biofuel, with the remainder coming from fossil fuel.[175] Because biodiesel is produced predominantly from fossil fuel, it is not "sustainable" nor "environmentally friendly" as claimed in Exxon's advertisement.

179. Supplementing these misleading campaigns, Exxon has promoted dozens of multimedia advertisements on platforms such as Instagram, Twitter, Facebook, and LinkedIn, where Exxon has millions of social media followers and its content has received hundreds of thousands of "likes" and "views." These advertisements overwhelmingly emphasize its claimed leadership in research on lowering emissions, algae biofuel, climate change solutions, and clean energy research. These advertisements were intended to and did reach the public and consumers in Maryland.

ii. Shell's Misleading and Deceptive Greenwashing Campaigns

180. Like Exxon, Shell has misleadingly promoted itself to Maryland consumers as environmentally friendly through advertisements in publications such as the *New York Times*. The

[173] INFLUENCEMAP, BIG OIL'S REAL AGENDA ON CLIMATE CHANGE (Mar. 2019), https://influencemap.org/report/How-Big-Oil-Continues-to-Oppose-the-Paris-Agreement-38212275958aa21196dae3b76220bddc.

[174] Watts et al., *supra* note 155.

[175] *See* U.S. Department of Energy, Alternative Fuels Data Center, *Biodiesel Blends*, https://afdc.energy.gov/fuels/biodiesel_blends.html.

advertisements are targeted to and read by Maryland consumers and intended to influence consumer demand for Shell's products.

181. As part of Shell's "Make the Future" campaign, the company has published numerous advertisements viewable on the *New York Times*[176] website, in which the company touts its investment in "alternative energy sources," including liquified natural gas ("LNG"), natural gas, and biofuel, which Shell repeatedly refers to as "cleaner sources."

182. Shell also directed misleading Facebook advertisements at consumers in Maryland as part of its "Make the Future" campaign, portraying the company as a leader in reducing emissions and creating new technologies. For example, Shell directed Facebook advertisements at Maryland consumers in 2019 emphasizing "cleaner transport" options, including hydrogen cars and electric bicycles.[177]

183. One Shell advertisement in the *Washington Post*, "The Making of Sustainable Mobility," refers to LNG as "a critical component of a sustainable energy mix" and a "lower-carbon fuel" that could "help decrease" CO_2 emissions.[178] The advertisement emphasizes Shell's leadership in "setting the course" for a "lower-carbon mobility future." Similarly, another Shell advertisement in the *Washington Post*, "The Mobility Quandary," emphasizes Shell's role in working to counteract climate change through investments in alternative energy: "Shell is a bigger

[176] *See, e.g.*, *Moving Forward: A Path To Net-Zero Emissions By 2070* (Shell Paid Post), N.Y. TIMES, https://www.nytimes.com/paidpost/shell/ul/moving-forward-a-path-to-net-zero-emissions-by-2070.html.

[177] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=322631258417230; Facebook Ad Library, https://www.facebook.com/ads/library/?id=2267802866883045.

[178] *See, e.g.*, *The Making of Sustainable Mobility* (Content from Shell), WASH. POST, https://www.washingtonpost.com/brand-studio/shell/the-making-of-sustainable-mobility.

player than you might expect in this budding movement to realize a cleaner and more efficient transportation future."[179]

184. Shell's statements emphasizing its involvement in these many areas of energy-related research, development, and deployment are misleading; the company's investments and activities are substantially smaller than its advertisements lead consumers to believe. In reality, only 1.2% of Shell's capital spending from 2010 to 2018 was in low-carbon energy sources, and that number continues to be heavily outweighed by Shell's continued expansion of its fossil fuel business.[180] Additionally, Shell's promotion of natural gas as a "critical component" of sustainable energy for transportation because it is "cleaner-burning" omits critical information about additional emissions from the extraction and transportation of natural gas, which include significant amounts of the potent greenhouse gas methane. LNG also produces significant greenhouse gas emissions at all stages of its lifecycle: in addition to the underlying natural gas production, processing, and transportation, liquefaction of natural gas to produce LNG requires cooling it to approximately -260°F, regasification, and combustion at the ultimate end use.

iii. BP's Misleading and Deceptive Greenwashing Campaigns

185. BP also has misleadingly portrayed itself as diversifying its energy portfolio and reducing its reliance on fossil fuel sales when its alternative energy portfolio is negligible compared to the company's ever-expanding fossil fuel portfolio. To this end, BP has employed a series of misleading greenwashing advertisements, which are intended to influence consumer demand for its products, including consumers in Maryland.

[179] *The Mobility Quandary* (Content from Shell), WASH. POST, *supra* note 163.

[180] Raval & Hook, *supra* note 153.

186. In 2006, BP placed several ads in the *New York Times* and the *New Yorker*, which reached Maryland consumers, promoting the company's $25 million investment in a BP Solar plant in Frederick, Maryland. BP portrayed itself as a leader in renewable energy by framing its Maryland plant as "the largest fully integrated solar plant in North America" and stating "[i]t's part of our commitment to broaden our renewable energy portfolio." But BP closed the plant four years later.[181]

187. BP has also run several greenwashing Facebook advertisement campaigns targeted at Maryland consumers, misleadingly portraying BP as a leader in reducing emissions and climate action. For example, in 2020, BP ran Facebook advertisements targeted exclusively at Maryland consumers, advocating for a "carbon price on transportation" because "Maryland needs a better environment for business"[182] and stating that the initiative would be "[a] win-win for MD" by supporting economic growth and jobs while "cutting emissions."[183] In 2018, BP ran a series of Facebook advertisements, nearly one-third of which targeted and reached Maryland consumers, promoting the company as "advanc[ing] the energy transition" and "tackl[ing] th[e] dual challenge" of providing more energy while reducing emissions.[184] BP also directed Facebook advertisements at consumers in Maryland and elsewhere in 2019, with misleading claims including

[181] *See* BP, Press Release, *BP Solar completes manufacturing restructuring with closure of Frederick, MD factory* (March 26, 2010), https://www.bp.com/en/global/corporate/news-and-insights/press-releases/bp-solar-completes-man-facturing-restructuring-with-closure-of-frederick-md-factory.html.

[182] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=249313863108772; *see also id.*, https://www.facebook.com/ads/library/?id=1243820179330687.

[183] *See id.*, https://www.facebook.com/ads/library/?id=361394491907894; *see also id.*, https://www.facebook.com/ads/library/?id=681905342682313.

[184] *See id.*, https://www.facebook.com/ads/library/?id=195813711126681; *see also id.*, https://www.facebook.com/ads/library/?id=2192900737702139; *id.*, https://www.facebook.com/ads/library/?id=207189216587385.

that "natural gas can become the centerpiece of a net zero carbon economy"[185]; that "BP is helping lower emissions" in "many ways"[186]; that BP is making its oil and gas products "cleaner and better"[187]; and that "[w]e agree – the world needs fewer emissions."[188]

188. BP ran its extensive "Beyond Petroleum" advertising and rebranding campaign from 2000 to 2008 and even changed its logo to a sunburst, evoking the renewable resource of the sun. BP uses the sunburst logo to advertise at its Maryland gas stations, where consumers purchase BP's gas. The "Beyond Petroleum" advertising campaign falsely portrayed the company as heavily engaged in low-carbon energy sources and no longer investing in but rather moving "beyond" petroleum and other fossil fuels. In truth, BP invested a small percentage of its total capital expenditure during this period in alternative energy research. The vast majority of its capital expenditure was focused on fossil fuel exploration, production, refining, and marketing.[189]

189. In 2019, BP launched an advertising campaign called "Possibilities Everywhere." These advertisements were misleading both in their portrayal of BP as heavily involved in non-fossil energy systems, including wind, solar, and electric vehicles, as well as in their portrayal of natural gas as environmentally friendly.

190. One "Possibilities Everywhere" advertisement, called "Better fuels to power your busy life," stated:

> We [] want—and need—[ ] energy to be kinder to the planet. At BP, we're working to make our energy cleaner and better. [. . .] At BP, we're leaving no stone unturned to provide [the] extra energy the world needs while finding new ways to produce and deliver it with fewer emissions. [. . .] We're bringing solar and wind energy to

[185] *See id.*, https://www.facebook.com/ads/library/?id=680453289147451.

[186] *See id.*, https://www.facebook.com/ads/library/?id=425768214975086.

[187] *See id.*, https://www.facebook.com/ads/library/?id=497972544144556.

[188] *See id.*, https://www.facebook.com/ads/library/?id=435441174014180.

[189] *See* BP, ANNUAL REPORTS AND ACCOUNTS 2008, https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/investors/bp-annual-report-accounts-2008.pdf.

> homes from the US to India. We're boosting supplies of cleaner burning natural gas. [. . .] More energy with fewer emissions? We see possibilities everywhere to help the world keep advancing.[190]

The accompanying video showed a busy household while a voiceover said, "We all want more energy, but with less carbon footprint. That's why at BP we're working to make energy that's cleaner and better."[191]

191. But BP's claim that non-fossil energy systems constitute a substantial portion of BP's business was materially false and misleading. For example, BP owns only approximately 1 gigawatt ("GW") of wind capacity, which is dwarfed by other companies including GE, Siemens, and Vestas (with about 39 GW, 26 GW, and 23 GW capacities, respectively).[192] Overall, installed wind capacity in the United States is approximately 100 GW, meaning BP's installed capacity is a mere 1% of the market.[193] Yet, "Blade runners," another advertisement in BP's "Possibilities Everywhere" campaign, described the company as "one of the major wind energy businesses in the US."[194] In short, BP's relatively small wind power portfolio is materially smaller than that conveyed in the company's advertisements.

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[190] *See* BP, *Better fuels to power your busy life*, https://web.archive.org/web/20191130155554/https://www.bp.com/en/global/corporate/who-we-are/possibilities-everywhere/energy-for-busy-lives.html.

[191] *Id*.

[192] For BP's wind capacity, see Press Release, *BP restructures U.S. Wind Energy Business for growth* (Dec. 21, 2018), https://www.bp.com/en/global/corporate/news-and-insights/press-releases/bp-restructures-us-wind-energy-business-for-growth.html. For wind capacity of GE, Siemens, and Vestas, *see* Greg Zimmerman, *Who's Powering the Wind Industry in 2019? Top 10 Wind Power Companies*, ENERGY ACUITY (Jan. 7, 2019), https://energyacuity.com/blog/top-wind-power-companies.

[193] *See* Elizabeth Ingram, *U.S. wind capacity grew 8% in 2019, AWEA says*, RENEWABLE ENERGY WORLD (Apr. 10, 2019), https://www.renewableenergyworld.com/articles/2019/04/u-s-wind-capacity-grew-8-in-2018-awea-says.html.

[194] *See* BP, *Blade runners*, https://web.archive.org/web/20191130192545/https://www.bp.com/en/global/corporate/who-we-are/possibilities-everywhere/wind-and-natural-gas.html.

192. The same is true for BP's activities in solar energy, which consist predominantly of its purchase of a minority interest in the solar company Lightsource (rebranded Lightsource BP).[195] The purchase price for this interest represents only 0.4% of BP's annual capital expenditure of approximately $16 billion, nearly all of which focuses on fossil fuels.[196] This is a far cry from BP's claim that it was "leaving no stone unturned" to find "new" ways to produce lower-emissions energy and playing a "leading role" in "advancing a low carbon future."

iv. Chevron's Misleading and Deceptive Greenwashing Campaigns

193. Chevron also engaged in greenwashing campaigns designed to deceive consumers about Chevron's products and its commitment to address climate change.

194. Chevron's 2007 "Will You Join Us?" campaign and its 2008 "I Will" campaign both misleadingly portrayed the company as a leader in renewable energy. The campaigns' advertisements portrayed minor changes in consumer choices (e.g., changing light bulbs) as sufficient to address environmental problems such as climate change.[197]

195. The overall thrust of the campaigns was to shift the perception of fault and responsibility for global warming to consumers and make Chevron's role and that of the broader fossil fuel industry appear small. The misleading solution promoted to consumers was not to switch away from fossil fuels, but instead to implement small changes in consumer behavior with continued reliance on fossil fuel products. By portraying greenhouse gas emissions as deriving

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[195] BP ANNUAL REPORT AND FORM 20-F 42 (2017), https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/investors/bp-annual-report-and-form-20f-2017.pdf.

[196] *See BP to maintain reduced capital spending through 2021*, OIL & GAS JOURNAL (Feb. 28, 2017), https://www.ogj.com/general-interest/article/17290398/bp-to-maintain-reduced-capital-spending-through-2021.

[197] *See* Duncan MaCleod, *Chevron Will You Join Us?*, INSPIRATION ROOM (Oct. 9, 2007), http://theinspirationroom.com/daily/2007/chevron-will-you-join-us*; see also* Jean Halliday, *Chevron: We're Not Big Bad Oil*, ADAGE (Sept. 28, 2007), https://adage.com/article/news/chevron-big-bad-oil/120785.

from numerous sources in addition to fossil fuels, Chevron's ads obfuscated the fact that fossil fuels are the primary cause of increased greenhouse gas emissions and the primary driver of climate change.

196. Misleading messages were emblazoned over images of everyday Americans, as in the example highlighted below:

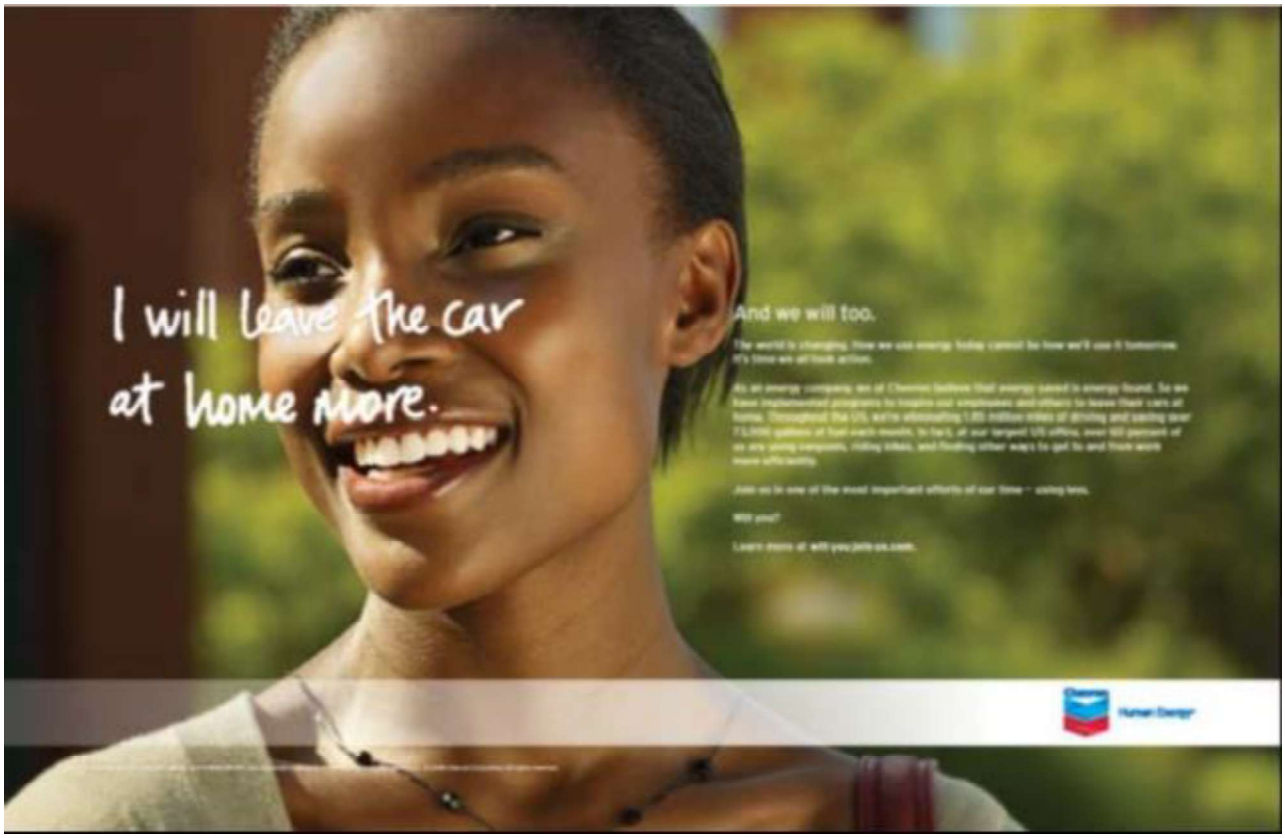

Figure 9: "Will You Join Us?" Chevron advertisement

197. In 2010, Chevron launched an advertising campaign titled "We Agree." The print, internet, and television ad campaign expanded across the United States and internationally. For example, the ad below highlighted Chevron's supposed commitment to the development of renewable energy, stating in large letters next to a photo of a young girl, "It's time oil companies get behind the development of renewable energy. We agree." The ad emphasized: "We're not just

behind renewables. We're tackling the challenge of making them affordable and reliable on a large scale."

Figure 10: "We Agree" Chevron advertisement

198. Chevron's portrayal of itself as a renewable energy leader was false and misleading. In reality, only 0.2% of Chevron's capital spending from 2010 to 2018 was in low-carbon energy sources and 99.8% was in continued fossil fuel exploration and development—a stark contrast to the message communicated to consumers through the company's advertisements.[198]

199. Chevron's "We Agree" campaign also featured misleading television advertisements. In one focused on renewable energy, a teacher says, "Ok, listen. Somebody has got to get serious. We need renewable energy." To which a Chevron environmental operations employee responds, "At Chevron we're investing millions in solar and biofuel technologies to make it work." In reality, Chevron has continued to overwhelmingly focus on fossil fuel extraction

[198] Raval & Hook, *supra* note 153.

and development, and its investment of "millions" in renewables is miniscule in comparison to its investment of billions in fossil fuels.

200. A 2019 Chevron advertisement currently on the *New York Times* website similarly touts the supposed benefits of expanded natural gas production for "unprecedented reductions in U.S. energy-related carbon emissions."[199] But this statement is misleading because the reference to "emissions" relies on studies that measure only CO_2 and ignore other important greenhouse gases, including methane, thereby painting an inaccurate and incomplete picture of natural gas's climate impacts.

201. Chevron has also directed greenwashing Facebook advertisement campaigns at consumers in Maryland, further misleading consumers by emphasizing renewable energy sources the company is "exploring"—when these renewable sources would actually be used to power Chevron's continued and expanded extraction of fossil fuels. For example, in 2019, Chevron ran Facebook advertisements targeted at consumers in Maryland highlighting that the company is "exploring renewable energy sources like wind farms to power [its] operations in the [P]ermian basin."[200] In 2019, Chevron also ran misleading Facebook advertisements in Maryland about how the company is "innovating [its] operations in the [P]ermian basin" through "advanced data analytics to help develop more productive wells" and make its energy sources "ever-cleaner."[201]

[199] Chevron, *How Abundant Energy Is Fueling U.S. Growth* (Chevron Paid Post), N.Y. TIMES (2019), https://www.nytimes.com/paidpost/chevron/how-abundant-energy-is-fueling-us-growth.html.

[200] Facebook Ad Library, https://www.facebook.com/ads/library/?id=2723046461090562; *see also* Facebook Ad Library, https://www.facebook.com/ads/library/?id=542943449584492.

[201] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=735530023588783.

v. Marathon's Misleading and Deceptive Greenwashing Campaigns

202. Like other Fossil Fuel Defendants, Marathon has sought to project an environmentally friendly public image in its advertising, stating, "We have invested billions of dollars to make our operations more energy efficient [and] reduce our emissions."[202] Yet only 1% of the company's capital spend from 2010 to 2018 was on low-carbon energy sources, all of which was in carbon capture and storage.[203]

vi. ConocoPhillips's Misleading and Deceptive Greenwashing Campaigns

203. ConocoPhillips has used misleading Facebook advertisements targeted at Maryland consumers to position itself as supporting the transition to renewable energy and achievement of state climate targets, despite the negligible fraction of its business invested in renewable energy compared to fossil fuels. In 2020, ConocoPhillips ran a Facebook advertisement targeted at Maryland and elsewhere highlighting its "plans to support demand for renewable fuels and help California meet its low-carbon objectives."[204]

204. ConocoPhillips has also directed greenwashing campaigns at consumers in Maryland through publications with significant circulation in Maryland. For example, in 2008, ConocoPhillips ran a series of advertisements in *The Atlantic* under the headline "Tomorrow begins today." The advertisements typically contained a picture of an older person and a child, and the text began with the phrase "[w]e're defined by what we pass on to the next generation," followed by statements such as: "That's why, as one of North America's leading producers of natural gas, ConocoPhillips is providing clean-burning fuel to homes"; "That's why

[202] MARATHON PETROLEUM CORP., PERSPECTIVES ON CLIMATE-RELATED SCENARIOS (Oct. 2018), https://www.marathonpetroleum.com/content/documents/Responsibility/MPC-ClimateReport-2018.pdf.

[203] Raval & Hook, *supra* note 153.

[204] Facebook Ad Library, https://www.facebook.com/ads/library/?id=684217372201533.

ConocoPhillips is working to provide clean, efficient technology to turn coal into clean-burning fuel"; or "That's why ConocoPhillips is funding college and university programs, like biofuels research at Iowa State University, to develop new energy sources." The ads continued with statements such as: "And we're stepping up our own research to create new, cleaner fuels and improve environmental performance."; or "And, because we believe we're responsible for finding long-term solutions for future generations, ConocoPhillips is exploring new sources of secure, stable energy."

205. ConocoPhillips made these misleading statements and omissions despite the fact that fossil fuels are the primary cause of increased greenhouse gas emissions and the primary driver of climate change, and that ConocoPhillips has continued to overwhelmingly focus on fossil fuel extraction and development. Further, describing natural gas as "clean-burning" is misleading because natural gas is a fossil fuel, the burning of which is the leading cause of climate change; and the focus on consumer use obscures the significant methane and other greenhouse gas emissions during the extraction and production of natural gas.

vii. API's Misleading and Deceptive Greenwashing Campaigns

206. API has also devoted considerable resources to deceiving consumers throughout the country about fossil fuels' role in climate change. During the 2017 Super Bowl, the most-watched television program in the United States, API debuted its "Power Past Impossible" campaign, with advertisements that told Americans that the petroleum industry could help them "live better lives." A 2018 study of the advertisements by Kim Sheehan, a Professor at the University of Oregon, concluded that the "campaign provides evidence of greenwashing through

both explicit communications (such as unsubstantiated claims that 'gas comes cleaner' and 'oil runs cleaner') and implicit communications (the use of green imagery)."[205]

207. In lockstep with its member companies, API has also shifted its messaging from climate denial to greenwashing in the last decade. API touts its members' purported commitments to reducing their carbon footprint while continuing its core mission of promoting its members' extraction, production, and sale of fossil fuels to consumers in Maryland, including Annapolis, and throughout the United States at unprecedented rates. API has directed a broad range of misleading advertisements at Maryland consumers, across print, radio, online, and television channels.

208. For example, in 2016, API introduced a "Renewable Fuel Standard advocacy campaign" in Maryland, featuring television and online advertisements aimed at turning public sentiment in Maryland against the Renewable Fuel Standard. According to API's own press release, the campaign was intended to "focus on how higher ethanol mandates can hurt consumers and threaten to reverse America's energy renaissance which has made the United States the number one producer of oil and natural gas in the world" and "help further inform Maryland voters about the potential dangers of the broken ethanol mandate."[206] This media campaign, directed at Maryland consumers, advocated for the increased production and purchase of oil and natural gas while failing to inform consumers of the effects of fossil fuels on the climate.

209. In addition to lobbying state legislators, API launched a comprehensive "Natural Gas Solution" advertising campaign aimed at swaying the Maryland public against a state fracking

[205] Kim Sheehan, *This Ain't Your Daddy's Greenwashing: An Assessment of the American Petroleum Institute's Power Past Impossible Campaign*, *in* INTELLECTUAL PROPERTY AND CLEAN ENERGY 301–21 (Matthew Rimmer ed., 2018).

[206] Reid Porter, *API Launches New RFS Advocacy Campaign in Maryland Focused on Consumers*, AM. PETROLEUM INST. (Aug. 9, 2016), https://www.api.org/news-policy-and-issues/misc/rfs-advocacy-campaign/rfs-advocacy-maryland.

ban. As part of this campaign, API ran a series of print advertisements in Maryland misleadingly promoting "clean, affordable natural gas"[207] and "clean-burning natural gas"[208] despite the fact that the production and transportation of natural gas results in significant emissions of methane, which can warm the planet more than 80 times as much as carbon dioxide over a 20-year period.[209] API also ran a series of radio advertisements in Maryland in 2016 and 2017 that included similarly misleadingly statements falsely portraying natural gas as "clean burning."[210] Both the print and radio advertisements pointed consumers toward a website entitled "The Natural Gas Solution." The website features an entire page focused on Maryland and directed at Maryland consumers, including in Annapolis, which misleadingly asserts that "[n]atural gas protects the environment," and natural gas "mean[s] clean, affordable energy."[211]

210. Many of API's advertisements, including those directed at Maryland consumers, lead to a website run by API entitled "America's Natural Gas and Oil: Energy for Progress." Among many articles and images promoting fossil fuel companies' claimed contributions to clean energy, the website advertises "5 Ways We're Helping to Cut Emissions" and "4 Ways We're Protecting Wildlife."[212] These messages are not meant to encourage consumers to transition to

[207] *See* American Petroleum Institute Advertisement (Jan. 9, 2017), *available at* https://www.api.org/-/media/Files/News/Ads/print/2017/Maryland-Fracking-Print-Heating-20170109.pdf.

[208] *See* American Petroleum Institute Advertisement (Jan. 9, 2017), *available at* https://www.api.org/-/media/Files/News/Ads/print/2017/Maryland-Fracking-Print-Jobs-20170109.pdf.

[209] Jonah Kessel & Hiroko Tabuchi, *It's a Vast, Invisible Climate Menace. We Made It Visible.*, N.Y. TIMES (Dec. 12, 2019), https://www.nytimes.com/interactive/2019/12/12/climate/texas-methane-super-emitters.html.

[210] *See* American Petroleum Institute Radio Advertisement (Jan. 3, 2016), *recording available at* https://www.api.org/-/media/Files/News/Ads/radio/2017/MD-Fracking-Radio-20170103.mp3.

[211] *See Regions: Maryland*, THE NATURAL GAS SOLUTION, http://naturalgassolution.org/regions/maryland (last visited Feb. 8, 2021).

[212] *See* American Petroleum Institute, *5 Ways We're Using Energy for Progress*, ENERGY FOR PROGRESS, https://energyforprogress.org/the-basics (last visited Feb. 17, 2021).

low-carbon energy sources—just the opposite. By obfuscating the reality that fossil fuels are the driving force behind anthropogenic climate change, they are designed to increase consumers' use of fossil fuels in order to advance API's core mission of growing its member companies' oil and natural gas businesses.

211. As part of its "Energy for Progress" campaign, API has run a series of Facebook advertisements, many of which have reached a substantial number of Maryland consumers, that falsely paint the fossil fuel industry as a leader on climate change action. For example, in 2020, API ran advertisements with statements such as:

a. "We can tackle climate change and meet the world's energy needs by embracing new innovations together."[213]

b. "Through innovative partnerships, we've reduced CO_2 emissions to the lowest in a generation—and now we're working to reduce methane, too."[214]

c. "We can all agree we need strong climate solutions—and with natural gas as a dominant energy source, U.S. carbon emissions are the lowest levels in a generation."[215]

212. In 2019, API targeted Maryland consumers through similarly misleading Facebook advertisements about the fossil fuel industry's purported climate leadership, with statements including:

a. "Millions of problem solvers working in natural gas are taking real steps to reduce greenhouse gas emissions."[216]

[213] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=607947003408893.
[214] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=1088999391451965.
[215] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=2643209332629844.
[216] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=474073120113596.

b. "We can supply clean, low-cost energy to the rest of the world while reducing harmful emissions. Learn more about how America's natural gas and oil industry is powering both climate solutions and our modern way of life."[217]

c. "America's natural gas & oil industry meets global energy demand, while also reducing methane emissions and its environmental footprint through smart regulations and industry action."[218]

G. Defendants Also Made Misleading Claims About Specific "Green" or "Greener" Fossil Fuel Products.

213. Defendants also have engaged in extensive and highly misleading marketing efforts aimed at promoting certain of their fossil fuel products as "green" and environmentally beneficial.

214. Defendants' advertising and promotional materials fail to disclose the extreme safety risk associated with the use of fossil fuel products, which are causing "catastrophic" climate change, as understood by Defendants for decades. Defendants continue to omit that important information to this day, consistent with their goal of maintaining consumer demand for their fossil fuel products despite the risks they pose for the planet and its people.

215. Defendants misleadingly represent that consumer use of certain fossil fuel products actually helps customers reduce emissions and gain increased fuel economy. But hyping relative climate and "green" benefits while concealing the dangerous effects of continued high rates of fossil fuel use creates an overall misleading picture that hides the dire climate impacts resulting from normal consumer use of Defendants' fossil fuel products. Contrary to Defendants' "green" claims, the development, production, refining, and consumer use of Defendants' fossil fuel

[217] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=2416220935156215.

[218] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=1131467797063870.

products (even products that may yield relatively more efficient engine performance) *increase* greenhouse gas emissions to the detriment of public health and consumer welfare.

216. In addition, at the same time Fossil Fuel Defendants have been actively promoting their "greener" gasoline products at Maryland gas stations, including in Annapolis, and on their company websites, Fossil Fuel Defendants have been massively expanding fossil fuel production and increasing emissions. If consumers understood the full degree to which Fossil Fuel Defendants' products contributed to climate change and that Fossil Fuel Defendants had not in fact materially invested in alternative energy sources or were otherwise environmentally cautious, they likely would have acted differently, e.g., by not purchasing Defendants' products or purchasing less of them.

217. In the promotion of these and other fossil fuel products, including at their branded gas and petroleum service stations in Maryland, Defendants fail to disclose the fact that fossil fuels are a leading cause of climate change and that current levels of fossil fuel use—even use of purportedly "cleaner" or more efficient products—represent a direct threat to Annapolis and the environment. Defendants' omissions in this regard are consistent with their goal of influencing consumer demand for their fossil fuel products through greenwashing. Defendants also fail to require their vendors and third-party retail outlets to disclose facts pertaining to the impact the consumption of fossil fuels and their "cleaner" alternatives have on climate change when selling Defendants' products.

218. Defendants' marketing of gasoline, natural gas, and other fossil fuel products to Maryland consumers as "safe," "clean," emissions-reducing," and impliedly beneficial to the climate—when production and use of such products is the leading cause of climate change—is reminiscent of the tobacco industry's effort to promote "low-tar" and "light" cigarettes as an

alternative to quitting smoking after the public became aware of the life-threatening health harms associated with smoking.

219. Defendants' product promotions are positioned to reassure consumers that purchase and use of their products is beneficial in addressing climate change, when, in truth, continued use of such fossil fuels is extremely harmful—just as the tobacco companies' misleadingly promoted "low tar" and "light" cigarettes as a healthier, less harmful choice, when the tobacco companies knew any use of cigarettes was harmful.

220. As with tobacco companies' misleading use of scientific and engineering terms in advertising to enhance the credibility of their representations, Defendants' promotional materials for their fossil fuel products also misleadingly invoke similar terminology to falsely convey to Maryland consumers that the use of these products benefits the environment. For example, Exxon's advertisements of its Synergy™ and "green" Mobil 1™ products similarly reference "meticulous[] engineering," "the latest technology," "test data," "engineers," "innovation," and the claim that "scientists deliver [] unexpected solution[s]."[219] Shell advertises that its Shell Nitrogen Enriched Cleaning System "produces fewer emissions."[220] BP markets its Invigorate gasoline as a "cleaning agent that helps . . . give you more miles per tank," and "help[s] cars become clean, mean, driving machines," and its bp Diesel as "a powerful, reliable, and efficient fuel made . . . to help reduce emissions."[221] Chevron advertises its Techron fuel with claims that

[219] *See, e.g.*, EnergyFactor by ExxonMobil, *Green motor oil? ExxonMobil scientists deliver an unexpected solution* (July 19, 2016), https://energyfactor.exxonmobil.com/science-technology/green-motor-oil-exxonmobil-scientists-deliver-unexpected-solution; Exxon Mobil, *Fuels*, https://www.exxon.com/en/fuels (last visited Feb. 1, 2021).

[220] *See, e.g.*, Shell, *Shell Nitrogen Enriched Gasolines*, https://www.shell.us/motorist/shell-fuels/shell-nitrogen-enriched-gasolines.html (last visited Feb. 1, 2021).

[221] *See, e.g.*, BP, *Our Fuels*, https://www.bp.com/en_us/united-states/home/products-and-services/fuels.html (last visited Feb. 1, 2021).

emphasize its supposed positive environmental qualities, such as: "less is more," "minimizing emissions," and "up to 50% cleaner."[222] In a Q&A on Chevron's website, one question says, "I care for the environment. Does Techron impact my car's emissions?" Chevron answers that "[g]asolines with Techron" clean up carburetors, fuel injectors, and intake valves, "giving you reduced emissions."[223]

221. These misrepresentations, which were intended to and did in fact reach and influence Maryland consumers, were misleading because they emphasize the fuels' supposedly environmentally beneficial qualities without disclosing a material fact: the key role fossil fuels play in causing climate change.

H. Defendants Intended for Consumers to Rely on their Concealments and Omissions Regarding the Dangers of Their Fossil Fuel Products.

222. Consumer use of fossil fuel products, particularly by driving gasoline-powered cars and other vehicles, is a significant contributor to climate change.

223. By misleading consumers in Annapolis and elsewhere about the climate impacts of using fossil fuel products, even to the point of claiming that certain of their products may benefit the environment, and by failing to disclose to consumers the climate risks associated with consumers' purchase and use of those products, Defendants have deprived and are continuing to deprive consumers of information about the consequences of consumers' purchasing decisions.

224. In addition to Defendants misleading Annapolis consumers by affirmatively misrepresenting the state of their and the scientific community's knowledge of climate change and by failing to disclose the dangerous effects of using their products, Defendants have sought to mislead consumers, and induce purchases and brand affinity, with greenwashing advertisements

[222] *See, e.g.*, Chevron, *Techron*, https://www.techron.com (last visited Feb. 1, 2021).
[223] *Id.*

designed to represent Defendants as environmentally responsible companies developing innovative green technologies and products. In reality, Defendants' investment in renewable energy sources is miniscule and their business models continue to center on developing, producing, and selling more of the very same fossil fuel products driving climate change.

225. Defendants intended for Annapolis consumers to rely on their omissions and concealments and to continue purchasing Defendants' fossil fuel products without regard for the damage such products cause.

226. Knowledge of the risks associated with the routine use of fossil fuel products is material to Annapolis consumers' decisions to purchase and use those products.

227. As in the case of cigarettes, history demonstrates that when consumers are made aware of the harmful effects or qualities of the products they purchase, they often choose not to purchase them, to reduce their purchases, or to make different purchasing decisions.

228. There are now various local government initiatives to require climate change warning labels on gasoline pumps based on the principle that consumers will change their purchasing decisions when they have direct access to accurate information about the connection between their consumption of fossil fuels and climate change. Just as health warnings on tobacco products educate consumers and thereby reduce public health risks, governments recognize that fossil fuel warning labels that accurately relay risk can educate consumers and thereby reduce the risks and costs associated with climate change.

229. For example, a consumer who received accurate information that fossil fuel use was a primary driver of climate change and the resultant dangers to the environment and people might purchase less fossil fuel products, or decide to buy none at all. Consumers might opt to avoid or combine car travel trips; carpool; switch to more fuel-efficient vehicles, hybrid vehicles, or electric

vehicles; use a car-sharing service; seek transportation alternatives all or some of the time, if available (e.g., public transportation, biking, or walking); or adopt any combination of these choices. In addition, informed consumers contribute toward solving environmental problems by supporting companies that they perceive to be developing "green" or more environmentally friendly products.

I. Defendants' Deceit Only Recently Became Discoverable, and Their Misconduct Is Ongoing.

230. The fact that Defendants and their proxies knowingly provided incomplete and misleading information to the public, including Annapolis consumers, only recently became discoverable due to, among other things: Defendants' above-described campaign of deception, which continues to this day; Defendants' efforts to discredit climate change science and create the appearance such science is uncertain; Defendants' concealment and misrepresentations regarding the fact that their products, including natural gas, cause catastrophic harms; and the fact that Defendants used front groups such as API, the Global Climate Coalition, and the National Mining Association to obscure their involvement in these actions, which put the City off the trail of inquiry.

231. Moreover, Defendants' tortious misconduct, in the form of misrepresentations, omissions, and deceit, began decades ago and continues to this day. As described above, Defendants continue to misrepresent their own activities, the fact that their products cause climate change, and/or the danger presented by climate change, directly and/or through membership in other organizations. Exemplars of Defendants' continuing misrepresentations, omissions, and deceit follow below.

232. In 2015, then-Exxon Mobil CEO Rex Tillerson argued that climate models were not strong enough to justify a shift away from fossil fuels, saying: "What if everything we do, it turns out our models are lousy, and we don't get the effects we predict? Mankind has this enormous

capacity to deal with adversity, and those solutions will present themselves as those challenges become clear."[224]

233. In April 2017, Chevron CEO and Chairman of the Board John Watson said on a podcast, "There's no question there's been some warming; you can look at the temperatures data and see that. The question and debate is around how much, and how much is caused by humans."[225] In March 2018, Chevron issued a report entitled "Climate Change Resilience: A Framework for Decision Making," which misleadingly stated that "[t]he IPCC Fifth Assessment Report concludes that there is warming of the climate system and that warming is due in part to human activity."[226] In reality, the Fifth Assessment report, released in 2013, concluded that "[i]t is *extremely likely* [defined as 95–100% probability] that human influence has been the *dominant cause* of the observed warming since the mid-20th century."[227]

234. As recently as June 2018, a post on the official Shell blog stated: "the potential extent of change in the climate itself could now be limited. In other words, the prospect of runaway climate change might have passed."[228] However, this statement is not supported by valid scientific research, and was and is contradicted by various studies.[229]

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[224] Dallas Morning News, *Exxon CEO: Let's wait for science to improve before solving problem of climate change* (May 27, 2015), https://www.dallasnews.com/business/energy/2015/05/28/exxon-ceo-let-s-wait-for-science-to-improve-before-solving-problem-of-climate-change.

[225] Columbia Energy Exchange Podcast, *John Watson, CEO, Chevron* (Apr. 10, 2017), https://www.energypolicy.columbia.edu/us-energy-markets-policy.

[226] CHEVRON, CLIMATE CHANGE RESILIENCE: A FRAMEWORK FOR DECISION MAKING 20 (Mar. 2018), https://www.chevron.com/-/media/shared-media/documents/climate-change-resilience.pdf.

[227] IPCC, SUMMARY FOR POLICYMAKERS: WORKING GROUP I CONTRIBUTION TO THE FIFTH ASSESSMENT REPORT 17 (2013), https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_SPM_FINAL.pdf.

[228] David Hone, *Has climate change run its course??*, Shell Climate Change Blog (June 14, 2018), https://blogs.shell.com/2018/06/14/has-climate-change-run-its-course.

[229] *See, e.g.*, Fiona Harvey, *Carbon emissions from warming soils could trigger disastrous feedback loop*, THE GUARDIAN (Oct. 5, 2017), https://www.theguardian.com/environment/2017/oct/05/carbon-emissions-warming-soils-higher-than-estimated-signalling-tipping-points; Jonathan Watts, *Domino-effect of climate*

235. Similarly, ConocoPhillips's "Climate Change Position" on the company's website stated as recently as October 2020 that human activity is "contributing to" climate change and emphasizes "uncertainties," even though the science is clear: "ConocoPhillips recognizes that human activity, including the burning of fossil fuels, is contributing to increased concentrations of greenhouse gases (GHG) in the atmosphere that can lead to adverse changes in global climate. While uncertainties remain, we continue to manage greenhouse gas emissions in our operations and to integrate climate change related activities and goals into our business planning."[230]

J. The City Has Suffered, Is Suffering, and Will Suffer Injuries from Defendants' Wrongful Conduct.

236. Defendants' individual and collective conduct, including, but not limited to, their failures 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 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; is a direct and proximate cause that brought about or helped bring about global warming and consequent sea level rise and attendant tidal flooding in Annapolis; increased frequency and intensity of extreme weather events in and around Annapolis, including flooding, extreme heat, extreme precipitation events, coastal storms, and others; and the cascading social, economic, and

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events could move Earth into a 'hothouse' state, THE GUARDIAN (Aug. 7, 2018), https://www.theguardian.com/environment/2018/aug/06/domino-effect-of-climate-events-could-push-earth-into-a-hothouse-state; Fiona Harvey, *'Tipping points' could exacerbate climate crisis, scientists fear*, THE GUARDIAN (Oct. 9, 2018), https://www.theguardian.com/environment/2018/oct/09/tipping-points-could-exacerbate-climate-crisis-scientists-fear.

[230] ConocoPhillips, *Climate Change Position* (Oct. 21, 2020), https://web.archive.org/web/20201028115814/https://www.conocophillips.com/sustainability/integrating-sustainability/sustainable-development-governance/policies-positions/climate-change-position.

other consequences of these environmental changes. These adverse impacts will continue to increase in frequency and severity in Annapolis.[231]

237. 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 infrastructure and property deemed critical for operations and utility services, as well as other historical assets that are essential to the City's heritage and tourism industry; and increased planning and preparation costs for adaptation and resiliency to global warming's effects, including flooding and sea level rise.

238. The City already has incurred, and will foreseeably continue to incur, injuries and damages due to Defendants' conduct, their 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, Annapolis, has, is, and will experience significant adverse impacts including, but not limited to, the following:

a. Annapolis has already experienced nearly one foot of mean sea level rise and associated impacts, and its sea levels are rising at two to four times the global mean rate, in part due to land subsidence.[232] Annapolis will experience significant additional and accelerating sea level rise over the coming decades, which would cause severe harm to the City and its residents.[233] The City is projected to experience five feet of sea level rise before the end of this

[231] *See City Dock Flood Mitigation Project*, *supra* note 9; Hino et al., *supra* note 10, at 1–2, 5; *Surging Seas Risk Finder: Annapolis, Maryland, USA*, *supra* note 12; *NOAA: 'Nuisance flooding' an Increasing Problem as Coastal Sea Levels Rise*, *supra* note 9.

[232] Hino et al., *supra* note 10, at 1, 5.

[233] *See Surging Seas Risk Finder: Annapolis, Maryland, USA*, *supra* note 12.

century, which risks displacing 640 residents, the overwhelming majority of whom experience medium to high social vulnerability; jeopardizing 411 homes, $400 million in property value, and two miles of local roads; and causing contamination risks associated with several EPA-listed contamination sites and wastewater and hazardous waste sites.[234] Tidal flooding is accelerating and worsening dramatically in Annapolis, with a 925% increase in average annual nuisance flooding events in the past fifty years, representing the greatest recorded increase among U.S. cities.[235] The likelihood of extreme floods in Annapolis has already increased by approximately 20% due to sea level rise.[236] In 2017 alone, the City surpassed the nuisance flood threshold on 63 days,[237] and in 2019, flooding occurred 65 times at Annapolis's City Dock.[238] Studies predict the City will experience almost 200 annual flood days by 2030 and 350 annual flood days by 2040.[239] Flooding at the City Dock often reaches downtown commercial and surrounding residential areas and can invade City streets, including through storm drains.[240] Accordingly, many City streets regularly experience flooding, including Dock Street and Compromise Street, requiring the City

[234] *See id.*

[235] *See City Dock Flood Mitigation Project*, *supra* note 9 (citing *NOAA: 'Nuisance flooding' an Increasing Problem as Coastal Sea Levels Rise*, *supra* note 9).

[236] *See* Ben Strauss et al., MARYLAND AND THE SURGING SEA: A VULNERABILITY ASSESSMENT WITH PROJECTIONS FOR SEA LEVEL RISE AND COASTAL FLOOD RISK 14, CLIMATE CENTRAL (Sept. 2014), https://sealevel.climatecentral.org/uploads/ssrf/MD-Report.pdf.

[237] Hino et al., *supra* note 10, at 1.

[238] David Collins, *Officials Explore How to Fund Climate Change Initiatives, Address Flooding*, WBAL-TV (Jan. 15, 2020), https://www.wbaltv.com/article/maryland-climate-change-strategies-flooding-rising-sea-levels/30538091#.

[239] *City Dock Flood Mitigation Project*, *supra* note 9 (citing Erika Spanger-Siegfried et al., ENCROACHING TIDES: HOW SEA LEVEL RISE AND TIDAL FLOODING THREATEN U.S. EAST AND GULF COAST COMMUNITIES OVER THE NEXT 30 YEARS 27–28, UNION OF CONCERNED SCIENTISTS (Oct. 2014)); *see also* MILITARY EXPERTS PANEL REPORT: SEA LEVEL RISE AND THE U.S. MILITARY'S MISSION, CTR. FOR CLIMATE & SECURITY (Feb. 2018), https://climateandsecurity.org/wp-content/uploads/2018/02/military-expert-panel-report_sea-level-rise-and-the-us-militarys-mission_2nd-edition_02_2018.pdf.

[240] *See* Spanger-Siegfried et al., *supra* note 239.

to install and use costly pumps to remove floodwater.[241] Extreme high tides in Annapolis have already caused street and bridge closures, business inundations and closures, and parking lot flooding.[242] Tidal flooding is already causing significant economic impacts in Annapolis, including by reducing visits to the Annapolis Historic District by 1.7%—a figure projected to grow to 24% with one additional foot of sea level rise, causing tens of thousands of dollars in lost revenue to local businesses.[243] Tidal flooding also jeopardizes many maritime industries and recreational water uses that depend on access to the City's waterfront. For instance, tidal flooding limited visitor access to the 2019 Annapolis Boat Shows, requiring event operators to raise floors and build new infrastructure to enable access to vendors, relocate admitted visitors, and cease selling tickets.[244] Given the economic importance of Annapolis's maritime industries, including the more than $112 million of economic activity that the Annapolis Boat Shows generate each year,[245] such consequences of tidal flooding threaten to compound the City's injuries through loss of tax revenue. Saltwater intrusion into groundwater is also expected to contaminate the local drinking water supply. The Chesapeake Bay region, comprising 64,000 square miles of watershed, is the nation's third most vulnerable region to sea level rise, while also threatened by changes in river discharge due to extreme precipitation, higher water temperatures, and acidification stemming

[241] *See* Collins, *supra* note 238; *see also* Spanger-Siegfried et al., *supra* note 239, at 27.

[242] Spanger-Siegfried et al., *supra* note 239, at 27.

[243] Hino et al., *supra* note 10, at 5–7.

[244] *See Video: Annapolis Flooding Impacts U.S. Sailboat Show*, CHESAPEAKE BAY MAG. (Oct. 15, 2019), https://chesapeakebaymagazine.com/video-annapolis-flooding-impacts-u-s-sailboat-show; *see also Annapolis Boat Show Dealt with Flood Waters*, ANNAPOLIS.COM (Oct. 16, 2019), https://www.annapolis.com/annapolis-boat-show-dealt-with-flood-waters.

[245] *See* WEATHER IT TOGETHER: A CULTURAL RESOURCES HAZARD MITIGATION PLAN FOR THE CITY OF ANNAPOLIS, *supra* note 11, at 112.

from climate change.[246] Changes to coastal and bay water quality caused by climate change may limit recreational and other water uses,[247] which could further endanger industrial and recreational waterfront activities in Annapolis and the significant economic benefits these activities generate. Several important fisheries species, including blue crabs, clams, and oysters, are projected to move northwards as waters warm and suitable habitats shift.[248] Ocean acidification will have substantial direct and indirect effects on the species and ecosystems of the Chesapeake Bay; more acidic conditions cause shifts in carbonate chemistry that make it harder for animals to form shells, thereby leading to thinner shells in bivalves such as oysters and clams.[249] Ocean acidification may also affect rates of reproduction and the outcome of predator-prey interactions, which can substantially alter the coastal ecosystem. Warming temperatures and acidification not only harm natural resources, but also harm the Annapolis communities and industries that rely on them for sustenance, tourism, and business, thus injuring the City's economy and reducing tax revenue. The destructive force and flooding potential from storm surges during coastal storms and other weather events have increased as the mean sea level of Annapolis has increased, and the combined effects of storm surges and sea level rise will continue to exacerbate flooding impacts on the City. Even if all carbon emissions were to cease immediately, Annapolis would continue to experience sea

[246] NOAA, *State Climate Summaries: Maryland and District of Columbia*, https://statesummaries.ncics.org/chapter/md (last visited Feb. 10, 2021).

[247] *See* 2018 HAZARD MITIGATION PLAN UPDATE 3-37, ANNE ARUNDEL CTY. (2018), https://www.aacounty.org/departments/office-of-emergency-management/forms-publications/Hazard-Mitigation-Plan-2018.pdf.

[248] *See* MARYLAND COMMISSION ON CLIMATE CHANGE, 2016 ANNUAL REPORT 18 (2016), https://mde.state.md.us/programs/Marylander/Documents/MCCC/Publications/2016Report/MCCC_2016_final.pdf.

[249] TASK FORCE TO STUDY THE IMPACT OF OCEAN ACIDIFICATION ON STATE WATERS, REPORT TO THE GOVERNOR AND THE MARYLAND GENERAL ASSEMBLY 21 (Jan. 9, 2015), https://dnr.maryland.gov/waters/bay/Documents/MDOATF/OA_Report_010915.pdf.

level rise due to the "locked in" greenhouse gases already emitted and the time lag between emissions and sea level rise.

b. The City will be required to incur significant costs on projects to address sea level rise and tidal flooding, including, but not limited to, installing pumps to mitigate flooding impacts.[250] The City has already begun a significant renovation and resiliency project to protect the City Dock and related structures from flooding caused by sea level rise. Specifically, in 2020 the City adopted a plan to renovate the City Dock, and to fully demolish and rebuild the Hillman Garage parking structure, which is already subject to regular flooding and which sits fewer than 500 feet from both the City Dock and the Maryland State House. The City determined the plan was expressly necessary to "address ongoing and future tidal flooding and storm surge issues" at the City Dock and the Hillman Garage.[251] The City has awarded a predevelopment agreement for the combined project, projected to cost at least $56 million, making it the largest construction project in Annapolis history. The City will likely incur substantial debt to finance the project, projected to be complete within the next five years. By 2040, the City estimates it will also have to spend more than $45 million, or $1,159 per capita, on four miles of seawalls to mitigate the impacts of sea level rise and storm surge.[252]

c. Climate change is stressing the City's unique cultural and historical resources through flooding-related impacts on the Annapolis Historic District and its nationally significant historic properties. The Historic District features 18th-, 19th-, and 20th-century

[250] *See* Collins, *supra* note 238; Ohl, *supra* note 10.

[251] Mayor Gavin Buckley, *Press Release: Annapolis Awards AMRP Team Pre-Development Agreement to Rebuild Hillman Garage and Revitalize City Dock*, CITY OF ANNAPOLIS (Dec. 17, 2020), https://www.annapolis.gov/CivicAlerts.aspx?AID=1146.

[252] *See Annapolis in 2040*, *supra* note 10.

architecture, including 48 colonial-era buildings. It draws significant tourism to Annapolis as the site of the country's first peacetime capital and several historical events, including the signing of the Treaty of Paris at the end of the Revolutionary War. Several of the district's historic buildings are in Annapolis's flood hazard zone or other low-lying areas, and many more are threatened by projected sea level rise. Businesses in the Historic District generate hundreds of millions of dollars in revenue annually, yet regular flooding already causes lost business revenue and associated harms to the City.[253]

d. Global warming is causing more extreme weather events in and around Annapolis, with attendant physical and environmental consequences, including flooding, extreme precipitation, extreme heat events, and storms.[254] Many of these impacts will particularly harm low-income Annapolitans, many of whom already experience health access barriers, food insecurity, and other negative social and health indicators.[255]

e. The annual air temperature has increased and will continue to increase in and around Annapolis due to climate change. Annual temperatures in Anne Arundel County have already risen 1.4°C and are continuing to rise at a faster rate than the U.S. average.[256] Within 60

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[253] *See generally* WEATHER IT TOGETHER: A CULTURAL RESOURCES HAZARD MITIGATION PLAN FOR THE CITY OF ANNAPOLIS, *supra* note 11.

[254] *See* Raymond Bradley et al., *Climate Change State Profiles Maryland*, CLIMATE SYS. RSCH. CTR., https://www.geo.umass.edu/climate/stateClimateReports/MD_ClimateReport_CSRC.pdf; *Climate Change Impacts*, U. MD. EXTENSION, https://extension.umd.edu/hgic/topics/climate-change-impacts (last visited Feb. 3, 2021); Steven Mufson et al., *2°C: Beyond the Limit: Extreme Climate Change Has Arrived in America*, WASH. POST (Aug. 13, 2019), https://www.washingtonpost.com/graphics/2019/national/climate-environment/climate-change-america; *Annapolis, Maryland: Planning to Prevent Storm Damage in a Historic Colonial Town*, UNION OF CONCERNED SCIENTISTS (July 19, 2016), https://www.ucsusa.org/resources/annapolis-maryland-planning-prevent-storm-damage-historic-colonial-town; Ohl, *supra* note 10.

[255] *See* COMMUNITY HEALTH NEEDS ASSESSMENT (CHNA), ANNE ARUNDEL CTY. 11, 15–16, 41 (2019), https://www.aacounty.org/boards-and-commissions/partnership-for-children-youth-families/forms-and-publications/partnership-chna-master.pdf.

[256] *See* Mufson et al., *supra* note 254.

years, the climate in parts of Anne Arundel County will be approximately 9°F warmer and more humid.[257] Warming air temperatures have and will lead to poorer air quality, more heat waves, expanded pathogen and pest ranges, impacts on agricultural production, increased costs of cooling, 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, and increased allergen exposure. Higher average and more frequent extreme temperatures are expected to drive up energy use due to increased air conditioning use. Extreme heat events are occurring more frequently in Maryland, increasing the risk of heart attacks by 11%, particularly among communities of color, as well as the risk of hospitalization for asthma.[258] Maryland's coastal communities are also experiencing higher risks of salmonella and other infections due to extreme heat and extreme precipitation events.[259] Extreme heat events are projected to rise in all of Maryland's counties into 2040 and beyond.[260] Due to systemic inequities, communities of color and low-income communities are particularly vulnerable to extreme heat events. "Pregnant women exposed to high temperatures or air pollution are more likely to have children who are premature, underweight or stillborn, and African-American mothers and babies are harmed at a much higher rate than the population at large."[261]

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[257] Rick Hutzell, *New climate study: Annapolis might feel like Mississippi in 60 years*, CAPITAL GAZETTE (Feb. 12 2019), https://web.archive.org/web/20201201082741/https://www.capitalgazette.com/environment/ac-cn-climate-model-20190212-story.html.

[258] University of Maryland, *Highlights from the Maryland Climate and Health Profile Report* (Apr. 2016), https://sph.umd.edu/sites/default/files/images/Dean%27s%20Office/MD_climate_and_health_highlights.pdf.

[259] *See id.*

[260] *Id.*

[261] Christopher Flavelle, *Climate Change Tied to Pregnancy Risks, Affecting Black Mothers Most*, N.Y. TIMES (June 18, 2020), https://www.nytimes.com/2020/06/18/climate/climate-change-pregnancy-study.html.

239. Compounding these physical and environmental impacts are cascading social and economic impacts that cause injuries to the City and that have and will continue to arise out of localized climate change-related conditions.

240. 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, installing pumps to alleviate flooding and raising the height of Annapolis City Dock by six feet.[262] The City has already allocated funds to climate adaptation, and future climate adaptation will come at a substantial cost to the City. The City has incurred costs in responding to incidents such as flooding and storm events that injure persons and property within Annapolis and/or that the City owns or bears responsibility for. The City's property and resources,[263] have been and will continue be inundated and/or flooded by sea water, among other climate change-related intrusions, 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.

241. 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.

242. Defendants' conduct as described herein is therefore an actual, direct, and proximate cause of the City's climate crisis-related injuries, and was necessary to those injuries and brought about or helped to bring about those injuries.

[262] *See* Collins, *supra* note 238; Ohl, *supra* note 10; *City Dock Flood Mitigation*, *supra* note 10.

[263] Plaintiff disclaims injuries arising on federal property in the City.

VI. CAUSES OF ACTION

FIRST CAUSE OF ACTION
(Public Nuisance)
(Against Fossil Fuel Defendants)

243. Plaintiff City of Annapolis realleges every allegation contained above as though set forth herein in full.

244. Fossil Fuel Defendants, individually and in concert with each other, by their affirmative acts and omissions, have created, contributed to, and/or assisted in creating, conditions that significantly interfere with rights general to the public, including public health, public safety, the public peace, the public comfort, and the public convenience.

245. The nuisance created and contributed to by Fossil Fuel Defendants is substantial and unreasonable. It has caused, continues to cause, and will continue to cause far into the future, significant harm to the community as alleged herein, and that harm outweighs any offsetting benefit. The health and safety of Annapolitans is a matter of great public interest and of legitimate concern for the City and the entire state.

246. Fossil Fuel Defendants specifically created, contributed to, and/or assisted, and/or were a substantial contributing factor in the creation of the public nuisance by, *inter alia*:

a. Controlling every step of the fossil fuel product supply chain, including the extraction of raw fossil fuel products, including crude oil, coal, and natural gas from the Earth; the refining and marketing of those fossil fuel products; and the placement of those fossil fuel products into the stream of commerce;

b. Affirmatively and knowingly promoting the sale and use of fossil fuel products which Fossil Fuel 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, and extreme heat events;

c. Affirmatively and knowingly concealing the hazards that Fossil Fuel 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;

d. Disseminating and funding the dissemination of information intended to mislead customers, consumers, and regulators regarding the known and foreseeable risks of climate change and its consequences, which follow from the normal, intended use of Fossil Fuel Defendants' fossil fuel products;

e. Affirmatively and knowingly campaigning against the regulation of their fossil fuel products, despite knowing the hazards associated with the normal use of those products, 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 about the hazards associated with the use of fossil fuel products.

247. Because of their superior knowledge of fossil fuel products, and their position controlling the extraction, refining, development, marketing, and sale of fossil fuel products, Fossil Fuel Defendants were in the best position to prevent the nuisance, but failed to do so, including by failing to warn customers, retailers, regulators, public officials, or 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.

248. The public nuisance caused, contributed to, maintained, and/or participated in by Fossil Fuel Defendants has caused and/or imminently threatens to cause special injury to the City. The public nuisance has also caused and/or imminently threatens to cause substantial injury to real and personal property directly owned by the City for the cultural, historic, and economic benefit of the Annapolis's residents, and for their health, safety, and general welfare.

249. The seriousness of rising sea levels, 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, is extremely grave and outweighs the social utility of Fossil Fuel 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 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 property in the City;

b. the ultimate nature of the harm is the destruction of real and personal property, loss of public cultural, historic, 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, which will actually be borne by the City's citizens 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; and

diversion of tax dollars away from other public services to the mitigation of and/or adaptation to climate change impacts;

d. Plaintiff'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. the social benefit of placing fossil fuels into the stream of commerce is outweighed by the availability of other sources of energy that could have been placed into the stream of commerce that would not have caused anthropogenic climate change and its physical and environmental consequences as described herein, and by the severe injuries caused by Fossil Fuel Defendants intentional and knowing misrepresentations concerning their products' foreseeable harms; Fossil Fuel 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, Fossil Fuel Defendants instead acted affirmatively to obscure them from public consciousness;

f. the cost to society of each ton of greenhouse gases emitted into the atmosphere increases as total global emissions increase, so that unchecked extraction and consumption of fossil fuel products is more harmful and costly than moderated extraction and consumption; and

g. it was practical for Fossil Fuel 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 including providing adequate warnings and not making deceptive representations regarding their products, that would have mitigated greenhouse gas pollution and eased the transition to a lower carbon economy.

250. Fossil Fuel Defendants' conduct also constitutes a nuisance *per se* because it independently violates other applicable statutes. As set forth below, Fossil Fuel Defendants' conduct violates the Maryland Consumer Protection Act.

251. Fossil Fuel Defendants' actions were, at the least, a substantial contributing factor in the unreasonable violation of public rights enjoyed by the City and its residents as set forth above, because Fossil Fuel 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 Fossil Fuel Defendants' conduct the violations of public rights described herein would not have occurred, or would have been less severe.

252. Fossil Fuel Defendants' wrongful conduct as set forth herein was committed with actual malice. Fossil Fuel Defendants had actual knowledge that their products were dangerous and 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 impacts upon the rights of others, including the City of Annapolis and its residents. Therefore, the City requests an award of punitive damages in an amount reasonable, appropriate, and sufficient to punish these Fossil Fuel Defendants for the good of society and deter Fossil Fuel Defendants from ever committing the same or similar acts.

253. Annapolis seeks an order that provides for abatement of the public nuisance Fossil Fuel Defendants have created, enjoins Fossil Fuel Defendants from creating future common-law nuisances, and awards Annapolis damages in an amount to be determined at trial. Annapolis pursues these remedies in its sovereign capacity for the benefit of the general public.

SECOND CAUSE OF ACTION
(Private Nuisance)
(Against Fossil Fuel Defendants)

254. Plaintiff City of Annapolis realleges every allegation contained above as though set forth herein in full.

255. Plaintiff owns, occupies, and manages extensive real property within Annapolis, which has been and will continue to be injured by rising sea levels, higher storm surges, 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.

256. Fossil Fuel Defendants, and each of them, by their acts and omission, have created and contributed to conditions on Plaintiff's property, and permitted those conditions to persist, which substantially and unreasonably interfere with Plaintiff's use and enjoyment of such property for the public benefit and welfare, and which materially diminishes the value of such property for its public purposes, by increasing sea levels, causing more frequent and extreme drought, causing more frequent and extreme precipitation events, causing increased frequency and severity of heat waves and extreme temperatures, and the associated consequences of those physical and environmental changes.

257. Plaintiff has not consented to Fossil Fuel Defendants' conduct in creating the unreasonably injurious conditions on its real property or to the associated harms of that conduct.

258. The seriousness of rising sea levels, higher storm surges, 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, is extremely grave and outweighs the social utility of Fossil Fuel 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 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 property in the City;

b. the ultimate nature of the harm is the destruction of real and personal property, loss of public cultural, historic, 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, which will actually be borne by the City's citizens 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; and diversion of tax dollars away from other public services to the mitigation of and/or adaptation to climate change impacts;

d. Plaintiff'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. the social benefit of placing fossil fuels into the stream of commerce is outweighed by the availability of other sources of energy that could have been placed into the stream of commerce that would not have caused anthropogenic climate change and its physical and environmental consequences as described herein, and by the severe injuries caused by Fossil Fuel Defendants intentional and knowing misrepresentations concerning their products' foreseeable harms; Fossil Fuel 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, Fossil Fuel Defendants instead acted affirmatively to obscure them from public consciousness;

f. the cost to society of each ton of greenhouse gases emitted into the atmosphere increases as total global emissions increase, so that unchecked extraction and consumption of fossil fuel products is more harmful and costly than moderated extraction and consumption; and

g. it was practical for Fossil Fuel 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.

259. Fossil Fuel Defendants' conduct was a direct and proximate cause of Plaintiff's injuries, and a substantial factor in the harms suffered by Plaintiff as described in this Complaint.

260. Fossil Fuel Defendants' acts and omissions as alleged herein are indivisible causes of City of Annapolis's injuries and damage as alleged herein, because, *inter alia*, it is not possible to determine the source of any individual molecule of CO_2 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 comingle in the atmosphere.

261. Wherefore, Plaintiff prays for relief as set forth below.

THIRD CAUSE OF ACTION
(Strict Liability Failure to Warn)
(Against Fossil Fuel Defendants)

262. Plaintiff City of Annapolis realleges every allegation contained above as though set forth herein in full.

263. Fossil Fuel 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.

264. Fossil Fuel Defendants knew or should have known, based on information passed to them from their internal research divisions and affiliates 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 physical and environmental changes, including the City's harms and injuries described herein.

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

266. Throughout the times at issue, Fossil Fuel Defendants breached their duty of care by failing to adequately warn any consumers or any other party of the climate effects that inevitably flow from the intended use of their fossil fuel products.

267. Throughout the times at issue, Fossil Fuel Defendants individually and in concert widely disseminated misleading marketing materials, tried to discredit the scientific knowledge generally accepted at the time, advanced pseudo-scientific theories of their own, and developed public relations materials that prevented reasonable consumers from recognizing the risk that fossil fuel products would cause grave climate changes, undermining and rendering ineffective any warnings that Fossil Fuel Defendants may have also disseminated.

268. Given the grave dangers presented by the climate effects that inevitably flow from the normal 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.

269. Fossil Fuel Defendants' conduct was a direct and proximate cause of Plaintiff's injuries and a substantial factor in the harms suffered by Plaintiff as alleged herein.

270. As a direct and proximate result of Fossil Fuel Defendants' and each of their acts and omissions, the City of Annapolis 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 residents.

271. Fossil Fuel Defendants' acts and omissions as alleged herein are indivisible causes of City of Annapolis'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_2 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 comingle in the atmosphere.

272. Fossil Fuel Defendants' wrongful conduct as set forth herein was committed with actual malice. Fossil Fuel Defendants had actual knowledge that their products were dangerous and that they had not provided reasonable and adequate warnings against those known dangers, 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 of Annapolis. Therefore, the City requests an award of punitive damages in an amount reasonable, appropriate, and sufficient to punish these Fossil Fuel Defendants for the good of society and deter Fossil Fuel Defendants from ever committing the same or similar acts.

273. Wherefore, Plaintiff prays for relief as set forth below.

FOURTH CAUSE OF ACTION
(Negligent Failure to Warn)
(Against Fossil Fuel Defendants)

274. Plaintiff City of Annapolis realleges every allegation contained above, as though set forth herein in full.

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

276. Fossil Fuel Defendants knew or should have known, based on information passed to them from their internal research divisions and affiliates 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 physical and environmental changes, including the City's harms and injuries described herein.

277. Fossil Fuel Defendants knew or should have known, based on information passed to them from their internal research divisions and affiliates 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.

278. Throughout the times at issue, Fossil Fuel Defendants breached their duty of care by failing to adequately warn any consumers or any other party of the climate effects that inevitably flow from the intended or foreseeable use of their fossil fuel products.

279. Throughout the times at issue, Fossil Fuel Defendants individually and in concert widely disseminated misleading marketing materials, tried to discredit the scientific knowledge generally accepted at the time, advanced pseudo-scientific theories of their own, and developed public relations materials that prevented reasonable consumers from recognizing the risk that

fossil fuel products would cause grave climate changes, undermining and rendering ineffective any warnings that Fossil Fuel Defendants may have also disseminated.

280. Given the grave dangers presented by the climate effects that inevitably flow from the normal or 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.

281. Fossil Fuel Defendants' conduct was a direct and proximate cause of the City's injuries and a substantial factor in the harms suffered by the City as alleged herein.

282. As a direct and proximate result of Fossil Fuel Defendants' and each of their acts and omissions, Plaintiff City of Annapolis 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.

283. Fossil Fuel Defendants' acts and omissions as alleged herein are indivisible causes of City of Annapolis'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_2 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 comingle in the atmosphere.

284. Fossil Fuel Defendants' wrongful conduct as set forth herein was committed with actual malice. Fossil Fuel Defendants had actual knowledge that their products were dangerous and that they had not provided reasonable and adequate warnings against those known dangers, 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 of Annapolis. Therefore, the City requests an award of punitive damages in an amount reasonable, appropriate, and sufficient to punish these Fossil Fuel Defendants for the good of society and deter Fossil Fuel Defendants from ever committing the same or similar acts.

285. Wherefore, Plaintiff prays for relief as set forth below.

FIFTH CAUSE OF ACTION
(Trespass)
(Against Fossil Fuel Defendants)

286. Plaintiff City of Annapolis realleges every allegation contained above as though set forth herein in full.

287. Plaintiff owns, leases, occupies, and/or controls real property throughout the City.

288. Fossil Fuel 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 extracting, refining, formulating, designing, packaging, distributing, testing, constructing, fabricating, 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, more frequent and extreme droughts to occur, more frequent and extreme precipitation events to occur, increased frequency and severity of heat waves and extreme temperatures, and the associated consequences of those physical and environmental changes.

289. The City of Annapolis did not give permission for Fossil Fuel 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 Fossil Fuel Defendants' fossil fuel products.

290. The City of Annapolis has been and continues to be actually injured and continues to suffer damages as a result of Fossil Fuel 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 and increased water table which has invaded and threatens to invade 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.

291. Fossil Fuel Defendants' and each Fossil Fuel Defendant's introduction of their fossil fuel products into the stream of commerce was a substantial factor in causing the harms and injuries to City's public and private real property as alleged herein.

292. Fossil Fuel Defendants' acts and omissions as alleged herein are indivisible causes of City of Annapolis's injuries and damage as alleged herein, because, *inter alia*, it is not possible to determine the source of any individual molecule of CO_2 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 comingle in the atmosphere.

293. Fossil Fuel Defendants' wrongful conduct as set forth herein was committed with actual malice. Fossil Fuel Defendants had actual knowledge that their products were dangerous, 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 of Annapolis. Therefore, the City requests an award of punitive damages in an amount reasonable, appropriate, and sufficient to punish these Fossil Fuel Defendants for the good of society and to deter Fossil Fuel Defendants from ever committing the same or similar acts.

294. Wherefore, Plaintiff prays for relief as set forth below.

SIXTH CAUSE OF ACTION
(Consumer Protection Act)
(Against All Defendants)

295. Plaintiff City of Annapolis realleges every allegation contained above as though set forth herein in full.

296. Maryland's Consumer Protection Act ("CPA") forbids any business from engaging in "any unfair or deceptive trade practice," including making any "[f]alse, falsely disparaging, or misleading oral or written statement, visual description, or other representation of any kind which has the capacity, tendency, or effect of deceiving or misleading consumers." Md. Comm. L. § 13-301(1). It also forbids the "[f]ailure to state a material fact if the failure deceives or tends to deceive." *Id*. § 13-301(3). And it also prohibits fraud-based deception, including "[d]eception, fraud, false pretense, false premise, misrepresentation, or knowing concealment, suppression, or omission of any material fact with the intent that a consumer rely on the same in connection with" the sale of any consumer goods or services. *Id*. § 13-301(9).

297. The CPA authorizes a private right of action for "any person . . . to recover for injury or loss sustained . . . as a result of" an unfair or deceptive trade practice. Md. Comm. L. § 13-408(a). "Person" is in turn defined to include a "corporation . . . or any other legal or commercial entity." Md. Comm. L. § 13-101(h).

298. All Defendants are "persons" as defined under the CPA, and are required to comply with the provisions of the CPA in their marketing, promotion, sale, and distribution of fossil fuel products.

299. The City of Annapolis, as a legal entity, is part of the broad class of persons that may avail themselves of a remedy under the CPA.

300. Fossil fuel products are "consumer goods" within the meaning of the CPA.

301. The City of Annapolis and its residents have purchased fossil fuel products marketed and produced by Defendants.

302. Defendants' marketing and promotion of fossil fuels are unfair, deceptive, and violate Maryland law because they deceived consumers in the City of Annapolis, led to the sale and consumption of fossil fuels that would otherwise not be consumed, and thereby caused the City of Annapolis and its residents to suffer losses from, *inter alia*, rising sea levels, increased flooding, and extreme heat.

303. Defendants have marketed fossil fuels through misstatements and omissions of material facts regarding: (i) the reasonably foreseeable or knowable severe risks posed by their fossil fuel products; (ii) the purported environmental benefits of their fossil fuel products; (iii) the actions they have taken to reduce their carbon footprint, invest in more renewables, or lower their fossil fuel production; and/or (iv) their purportedly diversified energy portfolio with meaningful renewable and low-carbon fuel components. For example, Defendants engaged in deceptive marketing and promotion of their products by, *inter alia*, disseminating misleading marketing materials and publications refuting the scientific knowledge generally accepted at the time, advancing pseudo-scientific theories of their own, and developing public relations materials that prevented reasonable consumers from recognizing the risk that fossil fuel products would cause grave climate changes, undermining and rendering ineffective any warnings that Defendants may have separately disseminated. Defendants also engaged in misleading "greenwashing" advertisements, which deceitfully represented Defendants as leaders in renewable energy, made misleading claims that Defendants' businesses were substantially

invested in lower carbon technologies and renewable energy sources, and misrepresented material facts about the environmental impacts of their products.

304. Defendants' various false and misleading material omissions rendered even their apparently truthful statements about their fossil fuel products' effects on the climate false and misleading, because those statements were materially incomplete. At the time Defendants disseminated their false and misleading statements or caused such statements to be made or disseminated, they knowingly failed to include material facts regarding the risks and benefits of their fossil fuel products, and intended that recipients of their marketing messages would rely upon such omissions.

305. Based on information passed to them from their internal research divisions and affiliates, from trade associations and industry groups, and/or from the international scientific community, Defendants knew of or recklessly disregarded 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 harms and injuries described herein by the City of Annapolis. Defendants had a duty to disclose this information to Maryland consumers to prevent their advertising and marketing statements from being misleading, and their failure to do so constituted a misrepresentation and/or omission in violation of the CPA.

306. Based on information passed to them from their internal research divisions and affiliates, from trade associations and industry groups, and/or from the international scientific community, Defendants knew or recklessly disregarded the fact 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. Defendants had a duty to disclose this information to Maryland consumers in order to prevent their advertising and marketing statements from being misleading, and their failure to do so constituted a misrepresentation and/or omission in violation of the CPA.

307. Defendants omitted, suppressed, or concealed from Maryland consumers their knowledge of the material fact that the use of their fossil fuel products contributes to climate change. Defendants intended for consumers, including those in the City of Annapolis, to rely on these omissions to continue purchasing and using Defendants' fossil fuel products without altering their behavior. Defendants' omissions occurred in the City of Annapolis and elsewhere.

308. By reason of Defendants' foregoing deception, misrepresentations, and omissions of material fact, Defendants sold more fossil fuels than they would otherwise would have sold, and Defendants obtained income, profits, and other benefits that they would not otherwise have obtained.

309. The City of Annapolis has been injured as a direct and proximate result of Defendants' violations of the Consumer Protection Act, as alleged in this Complaint. These injuries have occurred as a direct and natural consequence of consumers, including the City of Annapolis, relying on Defendants' misleading statements and omissions about their fossil fuel products.

310. Each instance in which Defendants have advertised or sold fossil fuel products and either misrepresented material facts or suppressed, concealed, or omitted material facts related to the harms caused by the intended use of these products constitutes a violation of the CPA.

VII. PRAYER FOR RELIEF

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

1. Compensatory damages in an amount according to proof;
2. Equitable relief, including abatement of the nuisances complained of herein;
3. Recovery for injury or loss sustained as the result of a practice prohibited by the Maryland Consumer Protection Act;
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.

JURY DEMAND

Plaintiff demands a trial by jury as to all issues triable by jury in this matter.

February 22, 2021

Respectfully submitted,

CITY OF ANNAPOLIS
OFFICE OF LAW

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Matthew K. Edling (*pro hac vice* forthcoming)
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Attorneys for Plaintiff City of Annapolis

REQUEST FOR WRIT OF SUMMONS

Plaintiff respectfully request that the Clerk issue a Writ of Summons for Service on Defendants, BP P.L.C., BP AMERICA, INC., BP PRODUCTS NORTH AMERICA INC., CROWN CENTRAL LLC, CROWN CENTRAL NEW HOLDINGS LLC, ROSEMORE, INC., CHEVRON CORP., CHEVRON U.S.A. INC., EXXON MOBIL CORP., EXXONMOBIL OIL CORPORATION, ROYAL DUTCH SHELL PLC, SHELL OIL COMPANY, CITGO PETROLEUM CORP., CONOCOPHILLIPS, CONOCOPHILLIPS COMPANY, PHILLIPS 66, PHILLIPS 66 COMPANY, MARATHON OIL COMPANY, MARATHON OIL CORPORATION, MARATHON PETROLEUM CORPORATION, SPEEDWAY LLC, HESS CORP., CNX RESOURCES CORPORATION, CONSOL ENERGY INC., CONSOL MARINE TERMINALS LLC, AMERICAN PETROLEUM INSTITUTE and that the Summons be directed to Plaintiff's counsel.

/s/ D. Michael Lyles
D. Michael Lyles, City Attorney

E-FILED; Anne Arundel Circuit Court
Docket: 4/26/2021 4:33 PM; Submission: 4/26/2021 4:33 PM

IN THE CIRCUIT COURT FOR
ANNE ARUNDEL COUNTY, MARYLAND

Anne Arundel County, Maryland
2660 Riva Road
4th Floor
Annapolis, MD 21401,

Plaintiff,

vs.

BP P.L.C.
1 St James's Square
London,
SW1Y 4PD

BP AMERICA, INC.
501 Westlake Park Blvd.
Houston, TX 77079

BP PRODUCTS NORTH AMERICA INC.
7 St. Paul Street, Suite 820
Baltimore, MD 21202

CROWN CENTRAL LLC
100 Light Street, Suite 2500
Baltimore, MD 21202

CROWN CENTRAL NEW HOLDINGS LLC
100 Light Street, Suite 2500
Baltimore, MD 21202

ROSEMORE, INC.
100 Light Street, Suite 2500
Baltimore, MD 21202

CHEVRON CORP.
6001 Bollinger Canyon Road
San Ramon, CA 94583

CHEVRON U.S.A. INC.
6001 Bollinger Canyon Road
San Ramon, CA 94583

Civil Action No.: C-02-CV-21-000565

Complaint

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1251 Avenue of the Americas
New York, NY 10020

EXXONMOBIL OIL CORPORATION
5959 Las Colinas Boulevard
Irving, TX 75039

ROYAL DUTCH SHELL PLC
Carel van Bylandtlaan 16,
2596 HR The Hague,
The Netherlands

SHELL OIL COMPANY
P.O. Box 2463
Houston, TX 77252

CITGO PETROLEUM CORP.
1293 Eldridge Parkway
Houston, TX 77077

CONOCOPHILLIPS
600 North Dairy Ashford
Houston, TX 77079

CONOCOPHILLIPS COMPANY
600 North Dairy Ashford
Houston, TX 77079

PHILLIPS 66
2331 CityWest Blvd
Houston, TX 77042

PHILLIPS 66 COMPANY
2331 CityWest Blvd
Houston, TX 77042

MARATHON OIL COMPANY
5555 San Felipe Street
Houston, TX 77056-2723

MARATHON OIL CORPORATION
5555 San Felipe Street
Houston, TX 77056-2723

MARATHON PETROLEUM CORPORATION
539 South Main Street
Findlay, OH 45840

SPEEDWAY LLC
500 Speedway Dr
Enon, OH 45323-1056

HESS CORP.
1185 Avenue of the Americas
40th Floor
New York, NY 10036

CNX RESOURCES CORPORATION
1000 Consol Energy Drive
Canonsburg, PA 15317

CONSOL ENERGY INC.
1000 Consol Energy Drive
Canonsburg, PA 15317

CONSOL MARINE TERMINALS LLC
1000 Consol Energy Drive
Canonsburg, PA 15317

AMERICAN PETROLEUM INSTITUTE
1220 L Street, Suite 900
Washington, D.C. 20005

Defendants.

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COMPLAINT

Jury Trial Requested

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. Climate change will have and has already had devastating economic and public health impacts throughout Anne Arundel County, Maryland,[1] and will disproportionately impact people of color, people living in poverty, and other vulnerable communities. Defendants have known for decades that climate change 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, to discredit the growing body of publicly available scientific evidence, and to 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 products. This campaign was intended to, and did, target and influence the public and consumers, including in Anne Arundel County.

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

[1] In this Complaint, the terms "the County," and "Plaintiff" refer to Anne Arundel County, Maryland, unless otherwise stated. The phrase "Anne Arundel County" refers to the area falling within Plaintiff's geographic boundaries, excluding federal land, unless otherwise stated.

concomitant increase in the concentration of greenhouse gases,[2] particularly carbon dioxide ("CO_2") 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.

3. Plaintiff, Anne Arundel County, Maryland, along with the County's residents, infrastructure, public and private lands, and natural and historic 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 and consumers, in and outside of Anne Arundel County, 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_2 concentrations that have occurred since the mid-20th century. This dramatic increase in atmospheric CO_2 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_2, is far and away the dominant cause of global warming,[3] resulting in severe impacts including, but not limited to: sea level rise, disruption to the hydrologic cycle, more frequent and intense extreme

[2] 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] *See* INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE ("IPCC"), CLIMATE CHANGE 2014 SYNTHESIS REPORT (2014), https://www.ipcc.ch/site/assets/uploads/2018/02/SYR_AR5_FINAL_full.pdf.

precipitation events and associated flooding, more frequent and intense heatwaves, more frequent and intense droughts, and associated consequences of those physical and environmental changes. These impacts, the consequences of Defendants' longstanding deceptive and deceitful actions, disproportionately impact communities of color and low-income communities in Anne Arundel County. The primary cause of the climate crisis is the combustion of coal, oil, and natural gas,[4] referred to collectively in this Complaint as "fossil fuel products."

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 anthropogenic greenhouse gas emissions in history has occurred since the 1950s, a period known as the "Great Acceleration."[5] About three-quarters of all industrial CO_2 emissions in history have occurred since the 1960s,[6] and more than half have occurred since the late 1980s.[7] The annual rate of CO_2 emissions from extraction, production, and consumption of fossil fuels has increased substantially since 1990.[8]

7. Defendants have known for more than 50 years that greenhouse gas pollution from their fossil fuel products would have significant adverse impacts on the Earth's climate and sea levels. Defendants' awareness of the negative impacts 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

[4] *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.

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

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

[7] *Id.*

[8] Friedlingstein et al., *supra* note 4, at 630.

internal investment in research, infrastructure improvements, and plans to exploit new opportunities in a warming world.

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. These campaigns were intended to and did target the people of Maryland, including County residents. 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_2 in the atmosphere that drives global warming and its physical, environmental, and socioeconomic consequences, including those affecting the County.

9. Defendants are directly responsible for the substantial increase in all CO_2 emissions between 1965 and the present. Defendants individually and collectively played leadership roles in denialist campaigns to misinform and confuse consumers and 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 Anne Arundel County would have been substantially mitigated or eliminated altogether. Accordingly, Defendants are directly responsible for a substantial portion of the climate crisis-related impacts in Anne Arundel County.

10. As a direct and proximate consequence of Defendants' wrongful conduct described in this Complaint, the environment in and around Anne Arundel County is changing, with devastating adverse impacts on the County and its residents, particularly communities of color and

low-income communities. Because Anne Arundel County is situated on the eastern seaboard in the Mid-Atlantic region, features more than 530 miles of shoreline, and is experiencing local land subsidence, it is particularly vulnerable to sea level rise, storm surge, and flooding.[9] Nearly two-thirds of Anne Arundel County's population resides within two miles of the tidal waters of the Chesapeake Bay.[10] Sea levels in Anne Arundel County are now rising by approximately one inch every five years.[11] The risks of inland and coastal flooding are also increasing significantly in parts of Anne Arundel County.[12] As a result, Anne Arundel County, its infrastructure, and its population are highly vulnerable to the impacts of sea level rise and other climate change impacts. For instance, the average sea level has already risen and will continue to rise substantially along Anne Arundel County's coast, causing flooding, inundation, infrastructure and property damage, saltwater intrusion, erosion, and tidal wetland losses; extreme weather, including extreme precipitation, heatwaves, storms, and other extreme events will become more frequent, longer lasting, and more severe; and the cascading social, economic, and other consequences of those and

[9] *See Our County*, ANNE ARUNDEL CTY., https://www.aacounty.org/our-county/ (last visited Feb. 22, 2021); Selene San Felice, *Sea-Level Rise Is 'the Hidden Threat' As Anne Arundel Residents Purchase Waterfront Homes*, Capital Gazette (Dec. 17, 2020), https://www.capitalgazette.com/environment/ac-cn-fema-flooding-anne-arundel-longform-20201216-20201217-re4jd2crbbe5xfguwniynjcmza-htmlstory.html; *Inland and Coastal Flooding*, ANNE ARUNDEL CTY., https://www.aacounty.org/departments/public-works/highways/road-maintenance/Drainage_Maintenance/inland-and-coastal-flooding (last visited Feb. 22, 2021); *Maryland's Sea Level Is Rising*, SEALEVELRISE.ORG, https://sealevelrise.org/states/maryland/ (last visited Feb. 26, 2021).

[10] Patrick Walsh et al., *Adaptation, Sea Level Rise, and Property Prices in the Chesapeake Bay Watershed*, 95 LAND. ECONS. 19 (2019), *available at* https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6382001/.

[11] *See Maryland's Sea Level Is Rising*, *supra* note 9.

[12] *See Surging Seas Risk Finder: Anne Arundel County, Maryland, USA*, CLIMATE CENTRAL, https://riskfinder.climatecentral.org/county/anne-arundel-county.md.us (last visited Feb. 22, 2021); *Inland and Coastal Flooding*, *supra* note 9; 2018 HAZARD MITIGATION PLAN UPDATE 6-72, 6-77–6-89, ANNE ARUNDEL CTY. (2018), https://www.aacounty.org/departments/office-of-emergency-management/forms-publications/Hazard-Mitigation-Plan-2018.pdf; Ben Strauss et al., MARYLAND AND THE SURGING SEA: A VULNERABILITY ASSESSMENT WITH PROJECTIONS FOR SEA LEVEL RISE AND COASTAL FLOOD RISK 14, CLIMATE CENTRAL (Sept. 2014), https://sealevel.climatecentral.org/uploads/ssrf/MD-Report.pdf.

myriad other environmental changes—all due to anthropogenic global warming—will increase in Anne Arundel County.

11. As a direct result of those and other climate crisis-caused environmental changes, the County has suffered and will continue to suffer severe injuries, including, but not limited to: inundation and loss of County property; inundation of County parks and loss of or damage to archaeological sites and historic properties; inundation of private property and businesses with associated loss of tax revenue; injury or destruction of County-owned or -operated infrastructure critical for operations, utility services, and risk management, as well as other assets essential to community health, safety, and well-being; increased costs of maintaining public infrastructure, including roads, storm drains, and runoff control measures; increased costs of providing government services; increased costs related to maintaining public health; increased planning and preparation costs for community adaptation and resiliency to the effects of the climate crisis; population displacement and/or disruption and loss of or damage to homes, with associated harm to the County; decreased tax revenue due to impacts on Anne Arundel County's tourism-based economy; and others.[13]

[13] *See, e.g.*, 2018 HAZARD MITIGATION PLAN UPDATE, *supra* note 12, at 3-39–3-43, 6-80–6-83, 6-87–6-89, 8-185–8-187; *Surging Seas Risk Finder*, *supra* note 12; *Inland and Coastal Flooding*, *supra* note 9; David Collins, *Officials Explore How to Fund Climate Change Initiatives, Address Flooding*, WBAL-TV (Jan. 15, 2020), https://www.wbaltv.com/article/maryland-climate-change-strategies-flooding-rising-sea-levels/30538091#; Hazard; *Anne Arundel County in 2040*, CTR. FOR CLIMATE INTEGRITY, https://www.climatecosts2040.org/costs/maryland-anne-arundel-county (last visited Feb. 22, 2021); Theresa L. Martin, *Tropical Cyclone Isabel: Anne Arundel County, MD*, OFFICE OF EMERGENCY MGMT., ANNE ARUNDEL CTY. GOV'T 8, 15–17, 30 (Aug. 2008), http://archive.aacounty.org/OEM/resources/TropicalCycloneIsabel_PublicVersionFinal.pdf; GENERAL DEVELOPMENT PLAN 2008: BACKGROUND REPORT ON SEA LEVEL RISE 1, 6–8 (Apr. 2008), https://www.aacounty.org/departments/planning-and-zoning/long-range-planning/general-development-plan/forms-and-publications/GDP_Background_SeaLevelRise.pdf; ANNE ARUNDEL COUNTY GENERAL DEVELOPMENT PLAN, 102, 107 (Apr. 2009) https://www.aacounty.org/departments/planning-and-zoning/forms-and-publications/GDP2009.pdf

12. Defendants' individual and collective conduct, including, but not limited to, their introduction of fossil fuel products into the stream of commerce while 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 County's injuries. In other words, Defendants' concealment and misrepresentation of their products' known dangers—and simultaneous promotion of their unrestrained use—drove consumption, and thus greenhouse gas pollution, and thus the climate crisis.

13. Accordingly, the County 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 Maryland Consumer Protection Act, Md. Code Ann., Comm. L. § 13-301.

14. The County hereby disclaims injuries arising on federal property. It also disclaims injuries arising from special-formula fossil-fuel products that Defendants designed specifically for, and provided exclusively to, the federal government for use by the military. The County seeks no recovery or relief attributable to such conduct.

15. The County 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 Anne Arundel County, rather than the County, taxpayers, residents, or broader segments of the public.

II. PARTIES

A. Plaintiff

16. Anne Arundel County, Maryland is a chartered county of the State of Maryland established under Article XI-A of the State Constitution with powers conferred upon it by, *inter alia*, Titles 9 and 10 of the Local Government Article of the Annotated Code of Maryland. Pursuant to Section 103 of the Anne Arundel County Charter, all legal proceedings on behalf of its constituent offices and departments are brought by the County in its corporate name, "Anne Arundel County, Maryland."

17. Pursuant to Md. Code Ann., Loc. Gov't. § 9-201(2), the County, as a charter county, has the authority to sue.

18. The County is the fifth largest county in Maryland by population. The County provides many services for its residents, including public health, public assistance, and law enforcement services, emergency care, and services for families and children. For its employees, the County also funds its own health insurance and workers' compensation claims.

19. The County brings this action in its sovereign capacity for the public benefit and to promote the welfare of the public. The County also brings this action as an exercise of its police power, which includes, but is not limited to, its power to prevent pollution of Anne Arundel County's property and waters, to prevent and abate nuisances, and to prevent and abate hazards to public health, safety, welfare, and the environment.

20. Located along the Chesapeake Bay, Anne Arundel County is home to significant maritime and tourism industries. In 2018, 6.3 million tourists visited Anne Arundel County; spending more than $1.5 billion, nearly 80% of which was retained in the local economy;

supporting 17,375 jobs; and generating millions in tax revenue.[14] Several maritime industries are important to the County's economy, and Anne Arundel County is home to hundreds of yacht clubs and community and commercial marinas.[15] Maritime activities enjoyed by tourists and residents include swimming, powerboating, fishing and other seafood harvesting, sailing, and various water sports.

21. The County also features a diverse range of natural, historical, and archaeological resources. Anne Arundel County is home to four County regional parks, more than 100 community and neighborhood parks, and several nature preserves.[16] There are hundreds of archaeological sites situated throughout Anne Arundel County, dating back to prehistoric and historic periods, as well as numerous historic buildings, bridges, lighthouses, districts, and roads.[17] Unfortunately, due to Defendants' wrongful conduct and the ensuing climate crisis, many of these resources, like much of Anne Arundel County, are now threatened by sea level rise, flooding, and natural disasters as a result of climate change.

22. Anne Arundel County is already experiencing sea level rise and associated impacts. Sea levels have already risen by 10 inches since 1950 and are rising about one inch every five years in parts of Anne Arundel County.[18] In the Chesapeake Bay, approximately one foot of sea level rise has occurred over the past century, and sea levels in Maryland are rising at almost twice

[14] THE ECONOMIC IMPACT OF VISITATION TO ANNE ARUNDEL COUNTY AND ANNAPOLIS, MD, ROCKPORT ANALYTICS LLC 3–4, (2019) [hereinafter ECONOMIC IMPACT OF VISITATION REPORT], *available at* https://www.visitannapolis.org/about-us/reports/.
[15] *See* 2018 HAZARD MITIGATION PLAN UPDATE, *supra* note 12, at 3-40.
[16] *Our County*, *supra* note 9.
[17] *See* 2018 HAZARD MITIGATION PLAN UPDATE, *supra* note 12, at 3-41–3-42.
[18] *Maryland's Sea Level Is Rising*, *supra* note 9.

the global average rate.[19] Anne Arundel County will experience significant additional sea level rise over the coming decades through at least the end of the century.[20]

23. The sea level rise impacts to Anne Arundel County associated with an increase in average mean sea level height include, but are not limited to, increased permanent inundation and temporary flooding in natural and built environments, with higher tides and intensified storm surge events, as well as damage and destruction of built structures, infrastructure, and historical and cultural assets.

24. In addition, Anne Arundel County is and will continue to be impacted by increased temperatures and disruptions to the hydrologic cycle, including extreme precipitation, extreme heat events, and storms. Temperatures in Anne Arundel County have already risen 1.4°C and are rising annually more rapidly than the national average.[21] These changes have led to increased property damage, economic injuries, and impacts to public health. The County has already spent significant funds to mitigate and adapt to the effects of global warming, and it will need to continue doing so, including by elevating roads; replacing road culverts; connecting residential septic systems in vulnerable areas to wastewater treatment plants; and implementing urban tree planting

[19] GENERAL DEVELOPMENT PLAN 2008, *supra* note 13, at 1.
[20] *See Surging Seas Risk Finder*, *supra* note 12.
[21] *See* Steven Mufson et al., *2°C: Beyond the Limit: Extreme Climate Change Has Arrived in America*, WASH. POST (Aug. 13, 2019), https://www.washingtonpost.com/graphics/2019/national/climate-environment/climate-change-america.

programs, water quality restoration projects, erosion control measures, stormwater management projects, and measures to identify and prioritize endangered historic and archaeological sites.[22]

B. Defendants

23. Defendants are responsible for a substantial portion of the total greenhouse gases emitted since 1965. Defendants, individually and collectively, are responsible for extracting, refining, processing, producing, promoting, and marketing fossil fuel products, the normal and intended use of which has led to the emission of a substantial percentage of the total volume of greenhouse gases released into the atmosphere since 1965. Accounting for their wrongful promotion and marketing activities, Defendants bear a dominant responsibility for global warming generally, and for the County's injuries in particular. Defendants' responsibility is even greater considering their marketing, promotion, and sales activities in the wholesale and retail markets for their products.

24. When reference in this Complaint is made to an act or omission of Defendants, unless specifically attributed or otherwise stated, such references should be interpreted to mean that the officers, directors, agents, employees, or representatives of 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.

[22] *See* 2018 HAZARD MITIGATION PLAN UPDATE, *supra* note 12, at 3-43, 8-185–8-187; *Surging Seas Risk Finder*, *supra* note 12; ANNE ARUNDEL CTY. SEPTIC TASK FORCE – 2019 FINAL REPORT, ANNE ARUNDEL CTY. DEP'T OF PUBLIC WORKS 14–17 (Apr. 2020), https://www.aacounty.org/departments/public-works/septic-task-force/stf-202004-report.pdf.

25. **<u>BP Entities</u>: BP P.L.C., BP America, Inc., and BP Products North America, Inc.**

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. determines whether and to what extent its holdings market, produce, and/or distribute fossil fuel products. For instance, BP P.L.C. reported that in 2016–17 it brought online thirteen major fossil fuel exploration and production projects. These contributed to a 12% 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, 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 climate-related impacts on the environment and

communities. 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 of Directors 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. 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. has been qualified to do business in Maryland. 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; 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); The Atlantic Richfield Company and its division, the Arco Chemical Company. BP America Inc. is qualified to do business in Maryland and has a registered agent for service of process in Lutherville-Timonium, Maryland.

e. Defendant **BP Products North America Inc.** is a 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 Products North America Inc. is engaged in fossil fuel exploration, production, refining, and marketing. It is formed under the laws of Maryland and domiciled in Maryland. BP Products North America Inc. maintains its principal office at 351 West Camden Street, Baltimore, Maryland, 21201, and has a registered agent for service of process in Lutherville-Timonium, Maryland.

f. Defendants BP P.L.C., BP America, Inc., BP Products North America, Inc., and their predecessors, successors, parents, subsidiaries, affiliates, and divisions are collectively referred to herein as "BP."

g. The County's claims against BP arise out of the acts and omissions of BP in Maryland and BP's actions elsewhere that caused the injuries in Maryland.

h. BP has and continues to purposefully direct its tortious conduct toward Maryland by intentionally and wrongfully distributing, marketing, advertising, promoting, and supplying its fossil fuel products in Maryland, with knowledge that those products have caused and will continue to cause climate crisis-related injuries in Maryland, including the County's injuries. BP's statements in and outside of Maryland 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 Maryland, were intended to conceal and mislead consumers and the public, including the County and its residents, about the serious adverse consequences from continued use of BP's products. That conduct was intended to reach and influence the County, as well as its residents, among others, to continue unabated use of Defendants' fossil fuel products in and outside of Maryland, resulting in the County's injuries.

i. From 1995 to 2019, BP, and specifically BP P.L.C., spent at least $7 million on advertising reaching consumers in the Anne Arundel County and greater Maryland market related to its fossil fuel products. 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 Maryland, from which BP derives and has derived substantial revenue. For example, BP owns a substantial interest in a fossil fuel terminal in Curtis Bay, Maryland, with the capacity to store and distribute approximately 21,840,000 gallons of oil. BP has over 260 employees in Maryland as of 2018, and it spent nearly $12 million on vendors in Maryland in that same year. Additionally, BP markets and/or has promoted and marketed gasoline and other fossil fuel products to consumers, including through numerous BP- and Amoco-branded petroleum service stations in Maryland.

26. **Crown Central Entities: Crown Central LLC, Crown Central New Holdings, LLC, and Rosemore, Inc.**

a. Defendant **Crown Central LLC**, a successor in liability by merger to Crown Central Petroleum Corporation, has been among the largest independent refiners and marketers of petroleum products in the United States. Crown Central LLC was formerly known as, did or does business as, and/or is the predecessor in liability to Defendant **Crown Central New Holdings, LLC**. Defendant **Rosemore, Inc.** is the parent company of Crown Central LLC and has assumed certain liabilities from Crown Central Petroleum Corporation; it also has other

subsidiaries that perform oil and gas exploration, production, and transportation. Rosemore, Inc. traces its roots back to 1931 when the original founders of the American Oil Company ("AMOCO") formed a corporation to consolidate, expand, and diversify their business activities.

b. Crown Central LLC was formed in Maryland and converted to a Delaware limited liability company in 2018. Crown Central LLC has its principal offices in Baltimore, Maryland, is qualified to do business in Maryland, and has a registered agent for service of process in Maryland. Crown Central New Holdings, LLC is incorporated in Maryland, has its principal offices in Baltimore, Maryland, and has a registered agent for service of process in Maryland. Rosemore, Inc. is incorporated in Maryland, has its principal offices in Baltimore, Maryland, and has a registered agent for service of process in Maryland.

c. Defendants Crown Central LLC, Crown Central New Holdings, LLC, Rosemore, Inc., and their predecessors, successors, parents, subsidiaries, affiliates, and divisions are collectively referred to herein as "Crown Central."

d. Crown Central has and continues to purposefully direct its tortious conduct toward Maryland by intentionally and wrongfully distributing, marketing, advertising, promoting, and supplying its fossil fuel products in Maryland, with knowledge that those products have caused and will continue to cause climate crisis-related injuries in Maryland, including the County's injuries. Crown Central's statements in and outside of Maryland 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 Maryland, were intended to conceal and mislead consumers and the public, including the County and its residents, about the serious adverse consequences from continued use of Crown Central's products. That conduct was intended to reach and influence the County, as well as its residents,

among others, to continue unabated use of Defendants' fossil fuel products in and outside of Maryland, resulting in the County's injuries.

e. Crown Central transacts and/or has transacted substantial fossil fuel-related business in Maryland. A substantial portion of Crown Central's fossil fuel products are or have been extracted, refined, transported, traded, distributed, marketed, manufactured, sold, and/or consumed in Maryland, from which Crown Central derives and has derived substantial revenue. For example, Crown Central marketed or markets gasoline and other fossil fuel products to consumers in Maryland through Crown-branded petroleum service stations in Maryland.

27. **Chevron Entities: Chevron Corporation and Chevron U.S.A. Inc.**

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, storage, and marketing of natural gas; 5) refining crude oil into petroleum products and 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, 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 climate-related impacts on the environment and communities.

e. 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 qualified to do business in Maryland and has a registered agent for service of process in Maryland. 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, 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.

f. Defendants Chevron Corporation, Chevron U.S.A. Inc., and their predecessors, successors, parents, subsidiaries, affiliates, and divisions are collectively referred to herein as "Chevron."

g. Chevron has and continues to purposefully direct its tortious conduct toward Maryland by intentionally and wrongfully distributing, marketing, advertising, promoting, and supplying its fossil fuel products in Maryland, with knowledge that those products have caused

and will continue to cause climate crisis-related injuries in Maryland, including the County's injuries. Chevron's statements in and outside of Maryland 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 Maryland, were intended to conceal and mislead consumers and the public, including the County and its residents, about the serious adverse consequences from continued use of Chevron's products. That conduct was intended to reach and influence the County, as well as its residents, among others, to continue unabated use of Defendants' fossil fuel products in and outside of Maryland, resulting in the County's injuries.

h. From 1995 to 2019, Chevron spent at least hundreds of thousands of dollars on advertising related to its fossil fuel products reaching consumers in the Anne Arundel County and greater Maryland market. 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.

i. Chevron transacts and has transacted substantial fossil fuel-related business in Maryland. A substantial portion of Chevron's fossil fuel products are or have been extracted, refined, transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in Maryland, from which Chevron derives and has derived substantial revenue. For example, Chevron owned and operated a petroleum and asphalt refinery and fossil fuel-product terminal in Baltimore directly and/or through its subsidiaries and predecessors-in-interest for a period spanning at least 1948 to 2003. Additionally, Chevron markets and/or has marketed

gasoline and other fossil fuel products to consumers, including through Chevron-branded petroleum service stations in Maryland. Chevron has also promoted its gasoline and other fossil fuel products, as well as its Chevron U.S.A. Inc. National Travel Card gasoline credit card, to Maryland consumers through print advertisements in Maryland publications, including the *Baltimore Sun*.

28. Exxon Entities: Exxon Mobil Corporation and ExxonMobil Oil Corporation

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 qualified to do business in Maryland and has a registered agent for service of process in Baltimore, Maryland.

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."[23] Exxon Mobil Corporation determines whether and to what extent its subsidiaries market, produce, and/or distribute fossil fuel products.

c. Exxon Mobil Corporation 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 climate-related impacts on the environment and communities. Exxon Mobil Corporation's Board of Directors 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. 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 qualified to do business in Maryland and has a registered agent for service of process in Maryland. ExxonMobil Oil Corporation was formerly known as, did or does business as, and/or is the successor in liability to Mobil Oil Corporation.

[23] EXXON MOBIL CORPORATION, FORM 10-K: ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934 3–4 (Feb. 28, 2018).

e. Defendants Exxon Mobil Corporation, ExxonMobil Oil Corporation, and their predecessors, successors, parents, subsidiaries, affiliates, and divisions are collectively referred to herein as "Exxon."

f. 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.

g. Exxon has and continues to purposefully direct its tortious conduct toward Maryland by intentionally and wrongfully marketing, advertising, promoting, and supplying its fossil fuel products in Maryland, with knowledge that those products have caused and will continue to cause climate crisis-related injuries in Maryland, including the County's injuries. A substantial portion of Exxon's fossil fuel products are or have been extracted, refined, transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in Maryland, from which Exxon derives and has derived substantial revenue. For example, Exxon directly and through its subsidiaries and/or predecessors in interest owned and operated an oil refinery in Baltimore from 1893 to the mid-1950s. In the mid-1950s, the facility was converted to a petroleum storage and marketing facility which Exxon operated until 1998.

h. Exxon's statements in and outside of Maryland 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 Maryland, were intended to conceal and mislead consumers and the public, including the County and its residents, about the serious adverse consequences from continued use of Exxon's products. That

conduct was intended to reach and influence the County, as well as its residents, among others, to continue unabated use of Defendants' fossil fuel products in and outside of Maryland, resulting in the County's injuries. Exxon markets or has marketed gasoline and other fossil fuel products to consumers, including through at least 250 Exxon-branded and at least 40 Mobil-branded petroleum service stations in Maryland. Exxon maintains an interactive website that allows consumers to locate Exxon-branded gas stations in Maryland. Exxon has also advertised its gasoline and other fossil fuel products, as well as Exxon-branded credit cards such as "Exxon Card" and loyalty programs including Exxon's "Thrifty Thursday Coupon Book" and coupons for gasoline and airline ticket discounts, to consumers in Maryland through print advertisements in the *Baltimore Sun*.

i. Between approximately 1998 and 2009, Exxon contributed at least $1 million to the Annapolis Center for Science-Based Public Policy, a non-partisan public advocacy organization headquartered in Annapolis that published numerous reports, pamphlets, and other documents emphasizing the supposed "uncertainty" of climate change and climate science. From 1995 to 2019, Exxon also spent more than $5 million on advertising related to its fossil fuel products reaching consumers in the Anne Arundel County and greater Maryland market.

29. <u>Shell Entities</u>: Royal Dutch Shell PLC and Shell Oil Company

a. Defendant **Royal Dutch Shell PLC** is a multinational, vertically integrated energy and petrochemical company. Royal Dutch Shell PLC is incorporated in England and Wales, with its headquarters and principal place of business in The Hague, Netherlands. Royal Dutch Shell PLC consists of over a thousand divisions, subsidiaries, and affiliates engaged in all aspects

of the fossil fuel industry, including exploration, development, extraction, and manufacturing, as well as 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 market, produce, and/or distribute 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 whether to drill a particular oil deposit off the coast of Alaska.

c. Royal Dutch Shell PLC 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 climate-related impacts on the environment and communities. Overall accountability for climate change within the Shell group of companies lies with Royal Dutch Shell PLC's Chief Executive Officer ("CEO") and Executive Committee. 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. Royal Dutch Shell PLC's CEO 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, at least as early as 1988, Royal Dutch Shell PLC, by and through its subsidiaries, was researching companywide CO_2 emissions and concluded that the Shell group of

companies accounted for "4% of the CO_2 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."[24]

d. 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 qualified to do business in Maryland and has a registered agent for service of process in Maryland. 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, Texaco Inc., The Pennzoil Company, Shell Oil Products Company LLC, Shell Oil Products Company, Star Enterprise, LLC, Star Enterprise LLC, and Pennzoil-Quaker State Company.

e. Defendants Royal Dutch Shell PLC, Shell Oil Company, and their predecessors, successors, parents, subsidiaries, affiliates, and divisions are collectively referred to herein as "Shell."

f. Shell has purposefully directed, and purposefully directs fossil fuel products into Maryland, and it has conducted substantial fossil fuel business in Maryland. In particular, Shell has marketed and continues to market gasoline and other fossil fuel products to consumers through over 100 Shell-branded petroleum service stations in Maryland. Shell tightly controls the marketing, branding, and appearance of franchisees operating Shell-branded stations, which may

[24] Shell Internationale Petroleum Maatschappij B.V., *The Greenhouse Effect* 29 (1988) (prepared for Shell Environmental Conservation Committee).

not, for example, display any unapproved signage. Prior to March 2017, Royal Dutch Shell PLC also solely operated two petroleum storage and distribution terminals in Baltimore in which it owned a 50% stake, at which it transferred and stored distillate oils, various grades of gasoline, liquid gasoline additives, and distillate products.

g. Shell has and continues to purposefully direct its tortious conduct toward Maryland by intentionally and wrongfully distributing, marketing, advertising, promoting, and supplying its products in Maryland, with knowledge that those products have caused and will continue to cause climate crisis-related injuries in Maryland, including the County's injuries. Shell's statements in and outside of Maryland 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 Maryland, were intended to conceal and mislead consumers and the public, including the County and its residents, about the serious adverse consequences from continued use of Shell's products. That conduct was intended to reach and influence the County, as well as its residents, among others, to continue unabated use of Defendants' fossil fuel products in and outside of Maryland, resulting in the County's injuries. From 1995 to 2019, Shell spent more than $14 million on advertising related to its fossil fuel products reaching consumers in the Anne Arundel County and greater Maryland market.

h. Shell transacts and has transacted substantial fossil fuel-related business in Maryland. A substantial portion of Shell's fossil fuel products are or have been extracted, refined, transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in Maryland, from which Shell derives and has derived substantial revenue.

30. Citgo Petroleum Corporation

a. Defendant **Citgo Petroleum Corporation** is a multinational energy company that is a direct, wholly owned subsidiary of PDV America, Incorporated, which is a wholly owned subsidiary of PDV Holding, Incorporated. Citgo Petroleum Corporation is incorporated in Delaware and maintains its headquarters in Houston, Texas. Citgo Petroleum Corporation is qualified to do business in Maryland and has a registered agent for service of process in Maryland.

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

c. Citgo Petroleum Corporation 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 climate-related impacts on the environment and communities.

d. Defendant Citgo Petroleum Corporation and its predecessors, successors, parents, subsidiaries, affiliates, and divisions are collectively referred to herein as "Citgo."

e. Citgo has and continues to purposefully direct its tortious conduct toward Maryland by intentionally and wrongfully distributing, marketing, advertising, promoting, and supplying its fossil fuel products in Maryland, with knowledge that those products have caused and will continue to cause climate crisis-related injuries in Maryland, including the County's injuries. Citgo's statements in and outside of Maryland 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 Maryland, were intended to conceal and mislead consumers and the public, including the County and its residents, about the serious adverse consequences from continued use of Citgo's products. That conduct was intended to reach and influence the County, as well as its residents, among others, to continue unabated use of Defendants' fossil fuel products in and outside of Maryland, resulting in the County's injuries. From 1995 to 2019, Citgo spent at least $2 million on advertising related to its fossil fuel products reaching consumers in the Anne Arundel County and greater Maryland market.

f. Citgo transacts and/or has transacted substantial fossil fuel-related business in Maryland. A substantial portion of Citgo's fossil fuel products are or have been transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in Maryland, from which Citgo derives and has derived substantial revenue. For instance, the Citgo Terminal at the Port of Baltimore distributes more than 430 million gallons of gasoline and diesel and other fossil fuel products annually to retail service stations across the northeastern United States, including Maryland. The Citgo Terminal is also a major supplier of ethanol, a gasoline additive, to the mid-Atlantic region, including Maryland. Additionally, Citgo marketed or markets gasoline and other fossil fuel products to consumers in Maryland, including through approximately 150 Citgo-branded petroleum service stations in Maryland. Citgo has also posted job listings for its Baltimore facility in the *Baltimore Sun*. Citgo owns and operates an interactive webpage that allows consumers to locate Citgo-branded gas stations in Maryland.

31. **<u>ConocoPhillips Entities</u>: ConocoPhillips, ConocoPhillips Company, Phillips 66, and Phillips 66 Company**

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'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. ConocoPhillips determines whether and to what extent its holdings market, produce, and/or distribute fossil fuel products.

c. ConocoPhillips 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 climate-related impacts on the environment and communities. For instance, ConocoPhillips's Board of Directors 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. 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 Maryland and has a registered agent for service of process in Maryland.

e. 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.

f. 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 Maryland and has a registered agent for service of process in Maryland. 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.

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

h. ConocoPhillips has and continues to purposefully direct its tortious conduct toward Maryland by intentionally and wrongfully distributing, marketing, advertising, promoting, and supplying its fossil fuel products in Maryland, with knowledge that those products have caused and will continue to cause climate crisis-related injuries in Maryland, including the County's injuries. ConocoPhillips's statements in and outside of Maryland 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, were intended to conceal and mislead consumers and the public about the serious adverse consequences from continued use of ConocoPhillips's products. That conduct was intended to reach and influence the County, as well as its residents, among others, to continue unabated use of Defendants' fossil fuel products, resulting in the County's injuries. From 1995 to 2019 ConocoPhillips, and specifically Phillips 66 Company, spent at least tens of thousands of dollars on advertising related to its fossil fuel products reaching consumers in the Anne Arundel County and greater Maryland market.

i. ConocoPhillips transacts and has transacted substantial fossil fuel-related business in Maryland. A substantial portion of ConocoPhillips's fossil fuel products are or have been extracted, refined, transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in Maryland, from which ConocoPhillips derives and has derived substantial revenue. For instance, ConocoPhillips marketed or markets gasoline and other fossil fuel products to consumers in Maryland, including through ConocoPhillips- and Phillips 66-branded petroleum service stations located in Maryland.

32. **Marathon Entities: Marathon Oil Corporation, Marathon Oil Company, Marathon Petroleum Corporation, and Speedway LLC**

a. Defendant **Marathon Oil Corporation** is engaged in the exploration and production of crude oil, natural gas, and oil sands. Marathon Oil Corporation is incorporated in Delaware with its corporate headquarters in Houston, Texas.

b. Marathon Oil 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 Oil Corporation determines whether and to what extent its holdings market, produce, and/or distribute fossil fuel products.

c. Marathon Oil Corporation 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 climate-related impacts on the environment and communities.

d. Defendant **Marathon Oil Company** is a wholly owned subsidiary of Marathon Oil Corporation that acts on Marathon Oil Corporation's behalf and subject to Marathon Oil Corporation's control. Marathon Oil Company is engaged in the exploration and production of crude oil, natural gas, and oil sands. Marathon Oil Company is incorporated in Ohio with its principal place of business in Houston, Texas.

e. Defendant **Marathon Petroleum Corporation** is a multinational energy company incorporated in Delaware 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.

a. 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 and has determined whether and to what extent its holdings market, produce, and/or distribute fossil fuel products.

b. 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 the State of Delaware with its principal place of business in Enon, Ohio. Speedway LLC is qualified to do business in Maryland and has a registered agent for service of process in Maryland.

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

d. Marathon has and continues to purposefully direct its tortious conduct toward Maryland by intentionally and wrongfully distributing, marketing, advertising, promoting, and supplying its fossil fuel products in Maryland, with knowledge that those products have caused and will continue to cause climate crisis-related injuries in Maryland, including the County's injuries. A substantial portion of Marathon's fossil fuel products are or have been extracted, refined, transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in Maryland, from which Marathon derives and has derived substantial revenue. For example, Marathon marketed or markets gasoline and other fossil fuel products to consumers in

Maryland, including through a number of Marathon-branded petroleum service stations in Maryland.

33. **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, natural gas liquids, 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, 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 climate-related impacts on the environment and communities.

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

e. Hess has and continues to purposefully direct its tortious conduct toward Maryland by intentionally and wrongfully distributing, marketing, advertising, promoting, and supplying its fossil fuel products in Maryland, with knowledge that those products have caused and will continue to cause climate crisis-related injuries in Maryland, including the County's

injuries. Hess's statements in and outside of Maryland 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 Maryland, were intended to conceal and mislead consumers and the public, including the County and its residents, about the serious adverse consequences from continued use of Hess's products. That conduct was intended to reach and influence the County, as well as its residents, among others, to continue unabated use of Defendants' fossil fuel products in and outside of Maryland, resulting in the County's injuries. From 1995 to 2019, Hess spent over $2.7 million on advertising related to its fossil fuel products reaching consumers in the Anne Arundel County and greater Maryland market.

f. Hess transacts and/or has transacted substantial fossil fuel-related business in Maryland. A substantial portion of Hess's fossil fuel products are or have been extracted, refined, transported, traded, distributed, marketed, manufactured, sold, and/or consumed in Maryland, from which Hess derives and has derived substantial revenue.For example, during the time relevant to this complaint, Hess owned, operated, and/or franchised Hess-branded service stations in Maryland at which it marketed and sold its fossil fuel products.

34. **CONSOL Entities: CNX Resources Corporation, CONSOL Energy Inc., and CONSOL Marine Terminals LLC**

a. Defendant **CNX Resources Corporation** is a vertically integrated energy company that is or has been involved in coal mining, oil and natural gas exploration and production, fossil fuel product distribution, and fossil fuel product marketing. CNX Resources Corporation is incorporated in Delaware with its principal place of business in Canonsburg, Pennsylvania. CNX Resources Corporation was formerly known as CONSOL Energy Inc. CONSOL Energy Inc. and its predecessors in interest mined and sold coal since the 1860s. In

2017, CNX Resources Corporation split its coal mining and related downstream operations into a new entity, also called CONSOL Energy Inc.

b. CNX Resources Corporation controls and has controlled companywide decisions about the quantity and extent of fossil fuel production and marketing, including those of its subsidiaries.

c. CNX Resources Corporation 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 climate-related impacts on the environment and communities.

d. Defendant **CONSOL Energy Inc.** is an energy company involved in coal mining and production. CONSOL Energy Inc. is incorporated in Delaware and has its principal place of business in Canonsburg, Pennsylvania. CONSOL Energy Inc. was formerly known as, did or does business as, and/or is the successor in liability to CONSOL Mining Corporation and/or CNX Resources Corporation.

e. CONSOL Energy Inc. controls and has controlled companywide decisions about the quantity and extent of fossil fuel production and marketing, including those of its subsidiaries.

f. CONSOL Energy Inc. 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 climate-related impacts on the environment and communities.

g. Defendant **CONSOL Marine Terminals LLC** is a subsidiary of CONSOL Energy Inc. that acts on CONSOL Energy Inc.'s behalf and subject to CONSOL Energy Inc.'s control. CONSOL Marine Terminals LLC is incorporated in the State of Delaware and has its principal place of business in Canonsburg, Pennsylvania. CONSOL Marine Terminals LLC is qualified to do business in Maryland and has a registered agent for service of process in Maryland. CONSOL Marine Terminals LLC owns and operates a coal export terminal at the Port of Baltimore.

h. Defendants CNX Resources Corporation, CONSOL Energy Inc., CONSOL Marine Terminals LLC, and their predecessors, successors, parents, subsidiaries, affiliates, and divisions are collectively referred to herein as "CONSOL."

i. CONSOL has and continues to purposefully direct its tortious conduct toward Maryland by intentionally and wrongfully distributing, marketing, advertising, promoting, and supplying its fossil fuel products in Maryland, with knowledge that those products have caused and will continue to cause climate crisis-related injuries in Maryland, including the County's injuries. CONSOL's statements in and outside of Maryland 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, were intended to conceal and mislead consumers and the public about the serious adverse consequences from continued use of CONSOL's products. That conduct was intended to reach and influence the County, as well as its residents, among others, to continue unabated use of Defendants' fossil fuel products, resulting in the County's injuries.

j. CONSOL transacts and has transacted substantial fossil fuel-related business in Maryland. A substantial portion of CONSOL's fossil fuel products are or have been

extracted, refined, transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in Maryland, from which CONSOL derives and has derived substantial revenue. For instance, CONSOL owns and operates one of the largest coal export terminals on the Eastern Seaboard, located in the Port of Baltimore. In 2017, CONSOL shipped approximately 14.3 million tons of coal from its terminal in Baltimore, 53% of which came from CONSOL's coal mines in Appalachia.

35. Defendants BP, Crown Central, Chevron, Exxon, Shell, Citgo, ConocoPhillips, Marathon, Hess, and CONSOL are collectively referred to herein as "**Fossil Fuel Defendants**."

36. **American Petroleum Institute**

a. Defendant **American Petroleum Institute ("API")** is a nonprofit corporation incorporated in Washington, D.C., that is qualified to do business in Maryland and has a registered agent for service of process in Maryland. API has a division located in Maryland called the Maryland Petroleum Council.

b. API was created in 1919 to represent the American petroleum industry as a whole. With more than 600 members, API is the country's largest oil trade association. API's purpose is to advance its individual members' collective business interests, which includes increasing consumer consumption of oil and gas to Fossil Fuel Defendants' financial benefit. Among other functions, API also coordinates among members of the petroleum industry, gathers information of interest to the industry, and disseminates that information to its members.

c. Acting on behalf of and under the supervision and control of Fossil Fuel 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 Fossil Fuel Defendants. Fossil Fuel 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 Fossil Fuel Defendants.

d. API's stated mission includes "influenc[ing] public policy in support of a strong, viable U.S. oil and natural gas industry,"[25] which includes increasing consumers' consumption of oil and gas to Fossil Fuel Defendants' financial benefit. In effect, API acts and has acted as a marketing arm for its member companies. Over the last fifteen years, API spent substantial amounts on television, newspaper, radio, and internet advertisements in the Maryland market.

e. Member companies participate in API strategy, governance, and operation through membership dues and by contributing company officers and other personnel to API boards, committees, and task forces. Fossil Fuel Defendants have collectively steered the policies and trade practices of API through membership, Executive Committee roles, and/or budgetary funding of API. Fossil Fuel 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. Fossil Fuel Defendants directly supervised and participated in API's misleading messaging regarding climate change.

[25] American Petroleum Institute, *About API*, https://www.api.org/about.

f. The following Fossil Fuel Defendants and/or their predecessors-in-interest are and/or have been core API members at times relevant to this litigation: BP, Crown Central, Chevron, Exxon, Shell, Citgo, ConocoPhillips, Marathon, and Hess. Executives from some Fossil Fuel 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 for 15 of 25 years between 1991 and 2016 (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 to 2006. ConocoPhillips Chairman and CEO Ryan Lance was Board President from 2016 to 2018, and Exxon President and CEO Darren Woods was Board President from 2018 to 2020. In 2020, API elected Phillips 66 Chairman and CEO Greg Garland to serve a two-year term as the chair of API's Board of Directors. Executives from Crown Central, ConocoPhillips, Hess, Marathon, and Citgo also served as members of API's Board of Directors at various times.

g. Relevant information was shared among API and Fossil Fuel Defendants and their predecessors-in-interest through (1) API distributing information it held to its members and/or (2) participation of officers and other personnel from Fossil Fuel Defendants and their predecessors-in-interest on API boards, committees, and task forces.

C. Relevant Non-Parties: Defendants' Agents and Front Groups

37. As set forth in greater detail below, each Fossil Fuel Defendant had actual knowledge that its fossil fuel products were hazardous. Fossil Fuel Defendants obtained

knowledge of the hazards of their products independently and through their membership and involvement in trade associations and other groups as described herein.

38. Fossil Fuel Defendants employed and financed several industry associations, such as API, and industry-created front groups to serve their climate change disinformation and denial mission. These organizations, acting on behalf of and under the supervision and control of Fossil Fuel Defendants, assisted the deception campaign by implementing public advertising and outreach campaigns to discredit climate science, funding scientists to cast doubt upon climate science, denying the connection between fossil fuels and climate change, and overall engaging in a significant marketing campaign that misrepresented, omitted, and concealed the dangers of Fossil Fuel Defendants' fossil fuel products with the aim of protecting or enhancing Fossil Fuel Defendants' sales to consumers, including consumers in Maryland. Defendants actively supervised, facilitated, consented to, and/or directly participated in the misleading messaging of these front groups, from which Fossil Fuel Defendants profited significantly, including in the form of increased sales in Maryland.

39. **The National Mining Association ("NMA")** is a national trade association incorporated in Delaware and headquartered in Washington, D.C., representing more than 250 corporations and organizations in the mining industry. NMA was formed in 1995 through the merger of the National Coal Association, which was founded in 1917, and the American Mining Congress, which was founded in 1897. Both predecessor organizations were members of the Global Climate Coalition, and the National Coal Association was linked to the 1991 Information Council for the Environment campaign. CONSOL and the Pittsburg and Midway Coal Mining Company (Chevron) and/or their predecessors-in-interest are and/or have been NMA members at times relevant to this litigation. CONSOL's president and CEO currently serves as Chairman of

the Board for NMA. NMA and API have been co-members of various organizations that participated in Defendants' campaign of deception, including the Global Climate Coalition (NMA's predecessor, the National Coal Association was a founding member),[26] Alliance for Climate Strategies,[27] and Partnership for a Better Energy Future.[28] Moreover, Jack Gerard, who served as API's President and CEO until 2018, previously served as the CEO for NMA.[29]

40. **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).

41. **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 the National Coal Association, a predecessor of NMA. Over the course of its existence, GCC corporate members included Amoco (BP), ARCO (BP), API, Chevron, Exxon, Shell Oil, Texaco (Chevron), CONSOL (as Consolidation Coal Company), and Phillips Petroleum (ConocoPhillips).

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[26] *See Global Climate Coalition Membership*, CLIMATEFILES (1989), http://www.climatefiles.com/denial-groups/global-climate-coalition-collection/1989-membership.

[27] Caroline Jones et al., *Countermovement Coalitions: Climate Denialist Organizational Profiles*, BROWN UNIV. CLIMATE & DEV. LAB (2018), http://www.climatedevlab.brown.edu/uploads/2/8/4/0/28401609/covercountermovementcoalitions.2.2019.pdf.

[28] Herman K. Trabish, *Industry asks EPA to reconsider new emissions rule*, UTILITYDIVE (July 24, 2014), https://www.utilitydive.com/news/industry-asks-epa-to-reconsider-new-emissions-rule/290259.

[29] Press Release, American Petroleum Institute, *API President and CEO Jack Gerard To Depart in August* (Jan. 17, 2018), https://www.api.org/news-policy-and-issues/news/2018/01/17/api-president-and-ceo-jack-gerard-to-depart-in-august.

42. **The Annapolis Center for Science-Based Public Policy ("Annapolis Center")** was a national, nonprofit education organization founded in 1993 with the mission of "support[ing] and promot[ing] responsible energy, environmental, health, and safety decision-making," which ceased operations in or about 2009. The Annapolis Center received substantial funding from Defendant Exxon, and Exxon staff participated directly in the Annapolis Center's activities, including as members of strategic planning committees. The Annapolis Center also received funding from Defendant API. Its activities included publishing reports, pamphlets, and other documents emphasizing the supposed "uncertainty" of climate change and climate science, as well as hosting conferences and other events that emphasized that supposed uncertainty and advocated for a continued reliance on fossil fuels.

III. AGENCY

43. 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.

IV. JURISDICTION AND VENUE

44. This Court has subject matter jurisdiction over this matter under § 1-501 of the Courts and Judicial Proceedings Article of the Maryland Code.

45. This Court has personal jurisdiction over Defendants because they either are domiciled in Maryland; were served with process in Maryland; are organized under the laws of Maryland; maintain their principal place of business in Maryland; transact business in Maryland;

perform work in Maryland; contract to supply goods, manufactured products, or services in Maryland; caused tortious injury in Maryland; engage in persistent courses of conduct in Maryland; derive substantial revenue from manufactured goods, products, or services used or consumed in Maryland; and/or have interests in, use, or possess real property in Maryland.

46. With respect to its subsidiaries, each Defendant parent controls and has controlled decisions about the quantity and extent of its fossil fuel production and sales; determines whether and to what extent to market, produce, and/or distribute its fossil fuel products; and controls and has controlled decisions related to its marketing and advertising, and specifically communications strategies concerning climate change and the link between fossil fuel use and impacts on the environment. Each Defendant parent has the power to direct and control the resident subsidiaries named here. Thus, the subsidiaries are agents of the parent. As agents, the subsidiaries of each non-resident Defendant conducted activities in Maryland at the direction of their parent companies and for the parent 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 Anne Arundel County and increased sales to the parents. Therefore, the subsidiaries' jurisdictional activities are properly attributed to the parents and serve as a basis to assert jurisdiction over the Defendant parents. Each Defendant parent would have performed the acts and omissions alleged herein itself if its subsidiary did not exist.

47. Additionally, jurisdiction is proper over non-resident Defendants BP P.L.C., BP America, Inc., Chevron Corp., Chevron U.S.A. Inc., Exxon Mobil Corp., ExxonMobil Oil Corporation, Royal Dutch Shell PLC, Shell Oil Company, Citgo Petroleum Corp., ConocoPhillips, ConocoPhillips Company, Phillips 66, Phillips 66 Company, Marathon Oil Company, Marathon Oil Corporation, Marathon Petroleum Corporation, Speedway LLC, Hess Corp., CNX Resources

Corporation, CONSOL Energy Inc., and CONSOL Marine Terminals LLC because each of them, along with Crown Central, by and through API and other organizations like NMA, ICE, GCC, and the Annapolis Center, conspired in a coordinated campaign 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 that 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 Maryland and Anne Arundel County. Through their own actions and through their membership and participation in organizations like API and NMA, each Defendant was and is a member of that conspiracy. Defendants committed substantial acts to further the conspiracy in Maryland by making misrepresentations and omissions to Maryland consumers, including in Anne Arundel County, 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 Maryland and in Anne Arundel County, which have suffered and will suffer injuries from Defendants' wrongful conduct including, but not limited to, sea level rise, flooding, erosion, loss of wetlands and beaches, ocean acidification, 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 Maryland and elsewhere would result in these injuries in and to Maryland. The climate effects described herein are direct and foreseeable results of Defendants' conduct in furtherance of the conspiracy. Accordingly, at the time each Defendant agreed to participate in the conspiracy, it had a reasonable expectation that acts to be done in furtherance of the conspiracy by another co-conspirator Defendant or organization—i.e., concealing and misrepresenting the

known dangers of fossil fuels and discrediting climate change science, among other things—would be sufficient to subject that other co-conspirator to personal jurisdiction in Maryland.

48. Venue in this Court is proper because the County's causes of action arose in Anne Arundel County.

V. FACTUAL BACKGROUND

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

49. 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.

50. 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.

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

52. Prior to World War II, most anthropogenic CO_2 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_2 from the atmosphere; the impacts of such activities on Earth's climate were relatively minor. Since that time, however, both the annual rate and total volume of anthropogenic CO_2 emissions have increased enormously following the advent of major uses of oil, gas, and coal.

53. The graph below illustrates that fossil fuel emissions are the dominant source of increases in atmospheric CO_2 since the mid-twentieth century:

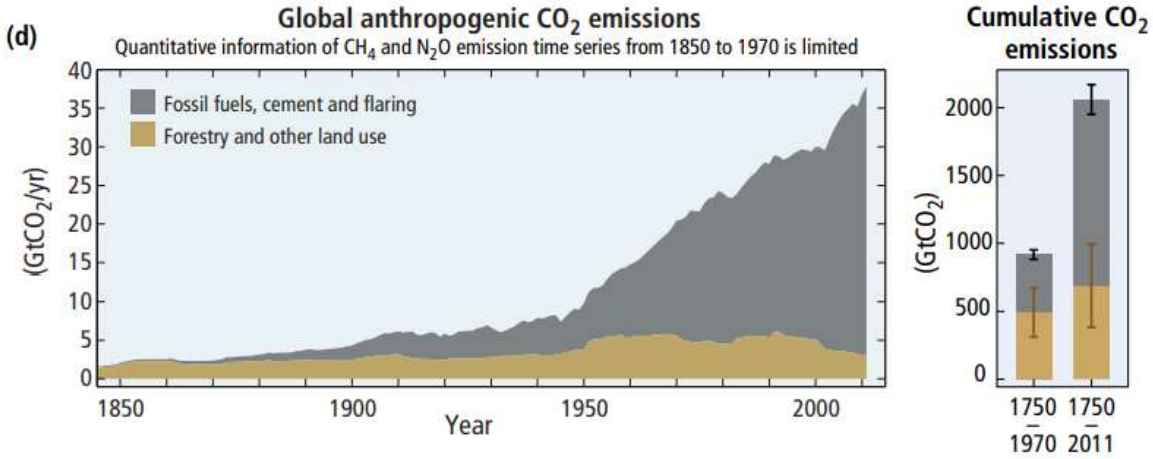

Figure 1: Global anthropogenic CO_2 emissions[30]

54. The recent acceleration of fossil fuel emissions has led to a correspondingly sharp spike in atmospheric concentration of CO_2. Since 1960, the concentration of CO_2 in the atmosphere has gone from under 320 parts per million ("ppm") to approximately 415 ppm.[31] The rate of growth of atmospheric CO_2 is also accelerating. From 1960 to 1970, atmospheric CO_2 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.[32]

55. 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_2.

[30] IPCC, *supra* note 3, at 3.

[31] NOAA Global Monitoring Laboratory, *Trends in Atmospheric Carbon Dioxide* (last visited Sept. 4, 2020), https://www.esrl.noaa.gov/gmd/ccgg/trends.

[32] *Id.*

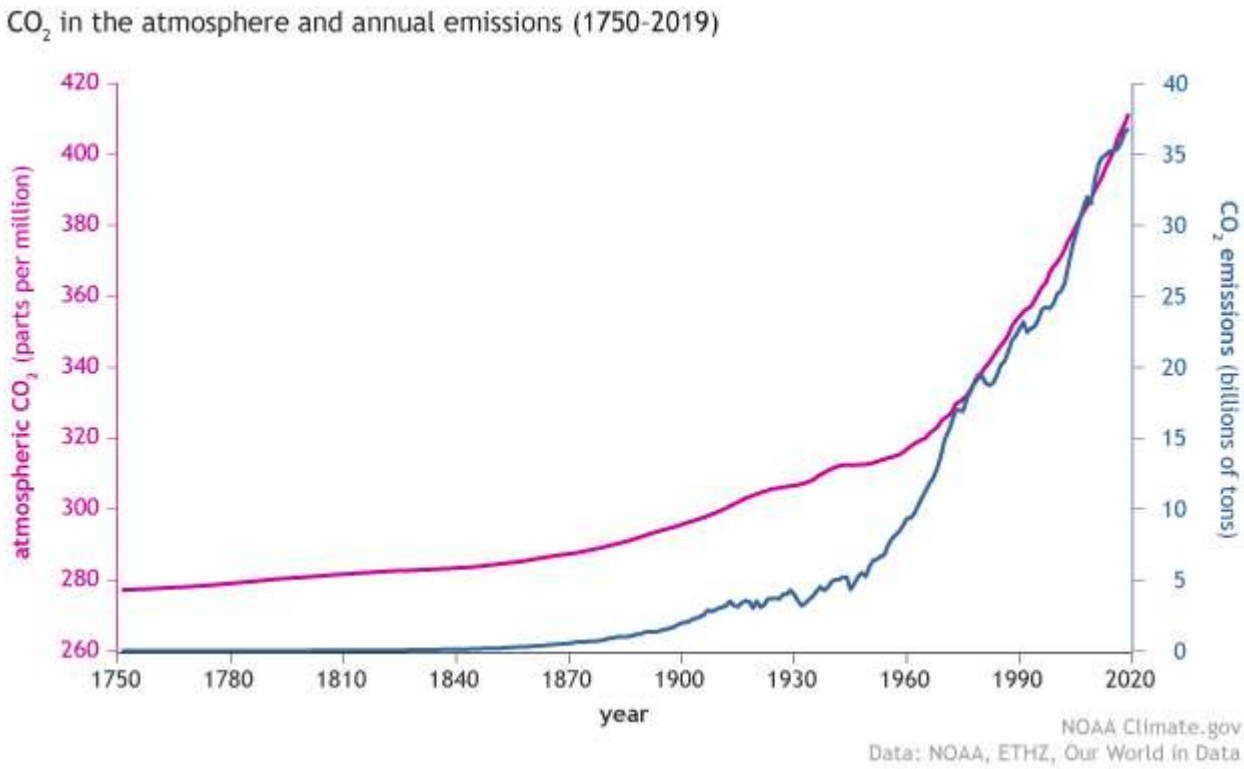

Figure 2: Atmospheric CO_2 concentration and annual emissions[33]

56. 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.[34]

57. 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

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

[34] *More CO_2 than ever before in 3 million years, shows unprecedented computer simulation*, SCIENCE DAILY (Apr. 3, 2019), https://www.sciencedaily.com/releases/2019/04/190403155436.htm.

temperatures have risen approximately 1°C (1.8°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.

58. As discussed below, these consequences of Defendants' conduct and its exacerbation of the climate crisis are already impacting Anne Arundel County, its community, and its resources, and will continue to increase in severity in Anne Arundel County.

59. 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 severe, or would be avoided entirely.[35]

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

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

62. 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 Anne Arundel County, its community, and its resources—associated therewith.

63. Defendants, individually and together, have substantially and measurably contributed to Anne Arundel County's climate crisis-related injuries.

[35] *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.

64. 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 API, 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.[36] API 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.[37]

65. 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 API. 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 Fossil Fuel Defendants and/or their predecessors-in-interest.[38]

66. In 1959, API organized a centennial celebration of the American oil industry at Columbia University in New York City.[39] High-level representatives of Fossil Fuel 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

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[36] *See* Benjamin Franta, *Early Oil Industry Knowledge of CO_2 and Global Warming*, 8 NATURE CLIMATE CHANGE 1024, 1024–25 (2018).

[37] *Id*.

[38] H.R. Brannon, Jr. et al., *Radiocarbon Evidence on the Dilution of Atmospheric and Oceanic Carbon by Carbon from Fossil Fuels*, 38 AMERICAN GEOPHYSICAL UNION TRANSACTIONS 643, 643–50 (1957).

[39] *See* ALLAN NEVINS & ROBERT G. DUNLOP, ENERGY AND MAN: A SYMPOSIUM (Appleton-Century-Crofts, New York 1960); *see also* Franta, *supra* note 36, at 1024–25.

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."[40]

67. 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."[41]

68. 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.[42]

69. Three days after President Johnson's Science Advisory Committee report was published, the president of API, 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.[43]

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

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[40] Edward Teller, *Energy patterns of the future*, in ENERGY AND MAN: A SYMPOSIUM 53–72 (1960).

[41] *Id.*

[42] PRESIDENT'S SCIENCE ADVISORY COMMITTEE, *Restoring the Quality of Our Environment: Report of the Environmental Pollution Panel* 9, 119–24 (Nov. 1965), https://hdl.handle.net/2027/uc1.b4315678.

[43] *See* Franta, *supra* note 36, at 1024–25.

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."[44]

70. 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.

71. 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.[45] 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." The scientists warned of "melting of the Antarctic ice cap" and informed API that "[p]ast and present studies of CO_2 are detailed and seem to explain adequately the present state of CO_2 in the atmosphere." What was missing, the scientists said, was work on "air pollution technology and . . . systems in which CO_2 emissions would be brought under control."[46]

72. In 1969, the Stanford Research Institute delivered a supplemental report on air pollution to API, projecting with alarming particularity that atmospheric CO_2 concentrations

[44] *Id.*

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

[46] *Id.*

would reach 370 ppm by 2000[47]—almost exactly what it turned out to be (369 ppm).[48] The report explicitly connected the rise in CO_2 levels to the combustion of fossil fuels, finding it "unlikely that the observed rise in atmospheric CO_2 has been due to changes in the biosphere."

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

74. In 1972, API members, including Fossil Fuel Defendants, received a status report on all environmental research projects funded by API. The report summarized the 1968 Stanford Research Institute report describing the impact of fossil fuel products, including Defendants', on the environment, including global warming and attendant consequences. Fossil Fuel 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 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).[49]

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[47] Elmer Robinson & R.C. Robbins, *Sources, Abundance, and Fate of Gaseous Atmospheric Pollutants Supplement*, STANFORD RESEARCH INSTITUTE (June 1969).

[48] NASA GODDARD INSTITUTE FOR SPACE STUDIES, *Global Mean CO_2 Mixing Ratios (ppm): Observations*, https://data.giss.nasa.gov/modelforce/ghgases/Fig1A.ext.txt.

[49] AMERICAN PETROLEUM INSTITUTE, COMMITTEE FOR AIR AND WATER CONSERVATION, ENVIRONMENTAL RESEARCH: A STATUS REPORT (Jan. 1972), http://files.eric.ed.gov/fulltext/ED066339.pdf.

75. 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 letter to the Vice President of Exxon Research and Engineering, Black summarized his presentations.[50] 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.

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

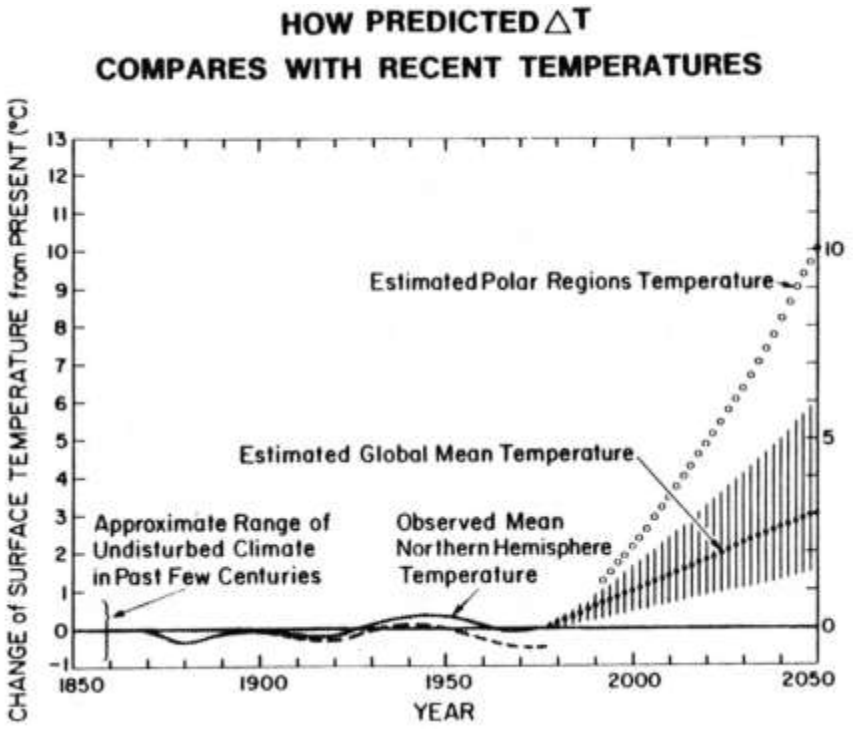

Figure 3: Future global warming predicted internally by Exxon in 1977.[51]

76. 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."[52]

[51] *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.

[52] *Id*.

77. 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[.]"[53]

78. In 1979, Exxon's W. L. Ferrall distributed an internal memorandum.[54] 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_2 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[.][55]

Those projections proved remarkably accurate: Annual average atmospheric CO_2 concentrations surpassed 400 ppm in 2015 for the first time in millions of years.[56] Limiting the carbon dioxide concentration in the atmosphere to 440 ppm, or a 50% increase over preindustrial levels, which

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[53] Henry Shaw, *Environmental Effects of Carbon Dioxide*, CLIMATE INVESTIGATIONS CENTER (Oct. 31, 1977), https://www.industrydocuments.ucsf.edu/docs/tpwl0228.

[54] Letter from W.L. Ferrall, Exxon Research and Engineering Co., to Dr. R.L. Hirsch, *Controlling Atmospheric CO_2*, CLIMATE INVESTIGATIONS CENTER (Oct. 16, 1979), https://www.industrydocuments.ucsf.edu/docs/mqwl0228.

[55] *Id*.

[56] 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.

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.

79. 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."[57] 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.[58]

80. In 1979, API and its members, including Fossil Fuel Defendants, convened a Task Force to monitor and share cutting edge climate research among the oil industry. The group was initially called the CO_2 and Climate Task Force, but in 1980 changed its name to the Climate and Energy Task Force ("CO_2 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 (Chevron), among others. The Task

[57] Memorandum from H. Shaw to H.N. Weinberg, *Research in Atmospheric Science*, CLIMATE INVESTIGATIONS CTR. (Nov. 19, 1979), https://www.industrydocuments.ucsf.edu/docs/yqwl0228.

[58] *Id.*

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.[59]

81. In 1979, API prepared a background paper on carbon dioxide and climate for the CO_2 Task Force, stating that CO_2 concentrations were rising steadily in the atmosphere, and predicting when the first clear effects of global warming might be detected.[60] API reported to its members that although global warming would occur, it would likely go undetected until approximately the year 2000, because, API believed, its effects were being temporarily masked by a natural cooling trend. However, this cooling trend, API warned its members, would reverse around 1990, adding to the warming caused by carbon dioxide.

82. In 1980, API's CO_2 Task Force invited Dr. John Laurmann, "a recognized expert in the field of CO_2 and climate," to present to its members.[61] 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_2 buildup, impact on society, methods of modeling and their consequences, uncertainties, policy implications, and conclusions that can be drawn from present knowledge." Representatives from Standard Oil of Ohio (predecessor to BP), Texaco (now Chevron), Exxon, and API were present, and the minutes of the meeting were distributed to the entire API CO_2 Task Force. Laurmann informed the Task Force of the "scientific

[59] 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.

[60] Memorandum from R.J. Campion to J.T. Burgess, *The API's Background Paper on CO_2 Effects*, CLIMATE INVESTIGATIONS CTR. (Sept. 6, 1979), https://www.industrydocuments.ucsf.edu/docs/lqwl0228.

[61] Letter from Jimmie J. Nelson, American Petroleum Institute, to AQ-9 Task Force, *The CO2 Problem; Addressing Research Agenda Development*, CLIMATE INVESTIGATIONS CTR. (Mar. 18, 1980), https://www.industrydocuments.ucsf.edu/docs/gffl0228.

consensus on the potential for large future climatic response to increased CO_2 levels" and that there was "strong empirical evidence that [the carbon dioxide] rise [was] caused by anthropogenic release of CO_2, 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_2 Task Force that global warming of 2.5°C would "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 (e.g., decades), then there would be "no leeway" for delay. The minutes of the CO_2 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_2 creation," and the Task Force discussed the requirements for a worldwide "energy source changeover" away from fossil fuels.[62]

83. 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_2 in the atmosphere.[63] Imperial

[62] *Id*.

[63] 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.

noted that "[t]echnology exists to remove CO_2 from stack gases but removal of only 50% of the CO_2 would double the cost of power generation."[64]

84. In December 1980, Exxon's Henry Shaw distributed a memorandum on the "CO_2 Greenhouse Effect."[65] 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_2 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.

[64] *Id*.

[65] Memorandum from Henry Shaw to T.K. Kett, *Exxon Research and Engineering Company's Technological Forecast: CO_2 Greenhouse Effect* (Dec. 18, 1980), https://www.documentcloud.org/documents/2805573-1980-Exxon-Memo-Summarizing-Current-Models-And.html.

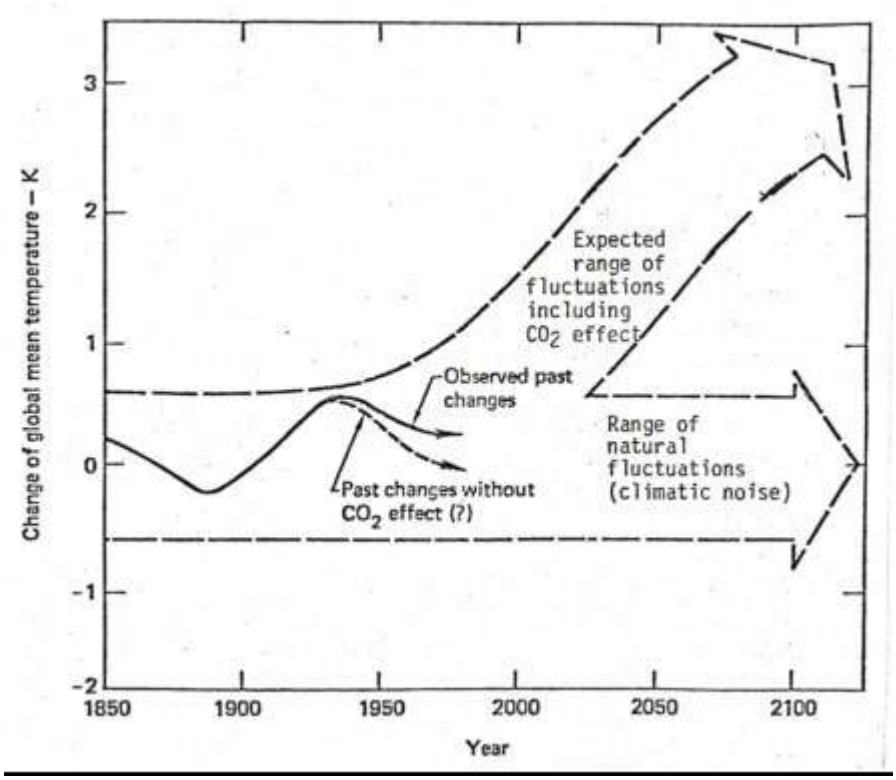

Figure 4: Future global warming predicted internally by Exxon in 1980.[66]

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 than "a few percent" of Gross National Product (i.e., $400 billion in 2018).[67] Exxon predicted that

[66] *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 of warming by the end of the century.

[67] *Id.; see Gross National Product*, FED. RESERVE BANK OF ST. LOUIS (updated Mar. 26, 2020), https://fred.stlouisfed.org/series/GNPA.

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.[68] 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."[69]

85. In February 1981, Exxon's Contract Research Office prepared and distributed a "Scoping Study on CO_2" to the leadership of Exxon Research and Engineering Company.[70] 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 monitoring and keeping the company apprised of outside research developments, including those on climate modeling and "CO_2-induced effects." The study also noted that other companies in the fossil fuel industry were "auditing Government meetings on the subject." In discussing "options

[68] Memorandum from Henry Shaw to T.K. Kett, *Exxon Research and Engineering Company's Technological Forecast: CO_2 Greenhouse Effect* (Dec. 18, 1980), https://www.documentcloud.org/documents/2805573-1980-Exxon-Memo-Summarizing-Current-Models-And.html.

[69] *Id.*

[70] Letter from G.H. Long, Exxon Research and Engineering Co., to P.J. Lucchesi et al., *Atmospheric CO_2 Scoping Study*, CLIMATE INVESTIGATIONS CTR. (Feb. 5, 1981), https://www.industrydocuments.ucsf.edu/docs/yxfl0228.

for reducing CO_2 build-up in the atmosphere," the study noted that although capturing CO_2 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."[71]

86. 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.

87. 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_2 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."[72] Cohen had expressed concern that the memorandum understated the potential effects of unabated CO_2 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)."[73]

88. 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_2 will double in 100 years if fossil fuels grow at 1.4%/a[2]

[71] *Id*.

[72] Memorandum from R.W. Cohen to W. Glass, CLIMATEFILES (Aug. 18, 1981), http://www.climatefiles.com/exxonmobil/1981-exxon-memo-on-possible-emission-consequences-of-fossil-fuel-consumption.

[73] *Id*.

- 3°C global average temperature rise and 10°C at poles if CO_2 doubles
  - Major shifts in rainfall/agriculture
  - Polar ice may melt"[74]

89. In 1982, another report prepared for API by scientists at the Lamont-Doherty Geological Observatory at Columbia University recognized that atmospheric CO_2 concentration had risen significantly compared to the beginning of the industrial revolution from about 290 ppm to about 340 ppm in 1981 and acknowledged that despite differences in climate modelers' predictions, there was scientific consensus that "a doubling of atmospheric CO_2 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."[75] Exxon's own modeling research confirmed this, and the company's results were later published in at least three peer-reviewed scientific papers.[76]

[74] Memorandum from Henry Shaw to Dr. E.E. David, *CO_2 Position Statement* (May 15, 1981), https://insideclimatenews.org/documents/exxon-position-co2-1981.

[75] AMERICAN PETROLEUM INSTITUTE, CLIMATE MODELS AND CO_2 WARMING: A SELECTIVE REVIEW AND SUMMARY (Columbia University, Mar. 1982), https://assets.documentcloud.org/documents/2805626/1982-API-Climate-Models-and-CO2-Warming-a.pdf.

[76] *See* Memorandum from Roger W. Cohen, Exxon Research and Engineering Co., to A.M. Natkin, Exxon Corp. Office of Science and Technology, CLIMATEFILES (Sept. 2, 1982), http://www.climatefiles.com/exxonmobil/1982-exxon-memo-summarizing-climate-modeling-and-co2-greenhouse-effect-research (discussing research articles and summarizing the findings of research in climate modeling).

90. 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."[77] 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_2 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.

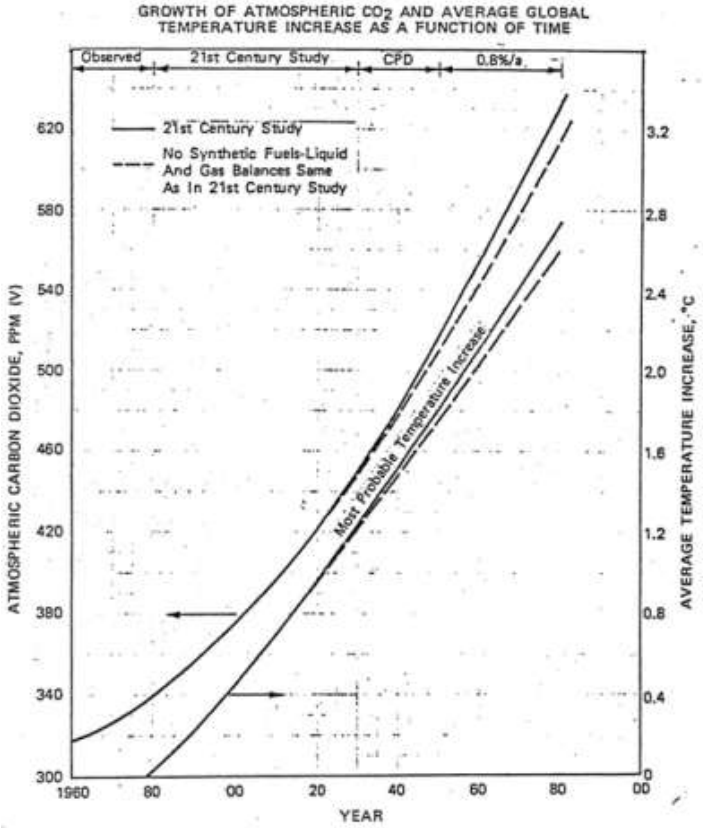

Figure 5: Exxon's 1982 internal prediction of future CO_2 increase and global warming.[78]

[77] Memorandum from M.B. Glaser, Exxon Research and Engineering Co., *CO_2 "Greenhouse" Effect* (Nov. 12, 1982), http://www.climatefiles.com/exxonmobil/1982-memo-to-exxon-management-about-co2-greenhouse-effect.

[78] *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

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 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 in 2018).[79] 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

curve). The same document indicated that Exxon estimated that by 1979 a global warming effect of approximately 0.25°C may already have occurred.

[79] *See Gross National Product*, FED. RESERVE BANK OF ST. LOUIS (updated Mar. 26, 2020), https://fred.stlouisfed.org/series/GNPA.

requirements for introducing them into widespread use, and which recommended that "vigorous development of non-fossil energy sources be initiated as soon as possible."[80] The primer also noted that other greenhouse gases related to fossil fuel production, such as methane, would contribute significantly to global warming, and that concerns over carbon dioxide would be reduced if fossil 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.

91. 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.[81] Cohen reported:

> [O]ver the past several years a clear scientific consensus has emerged regarding the expected climatic effects of increased atmospheric CO_2. The consensus is that a doubling of atmospheric CO_2 from its pre-industrial revolution value would result in an average global temperature rise of (3.0 ± 1.5) °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_2 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

[80] Memorandum from M.B. Glaser, Exxon Research and Engineering Co., *CO_2 "Greenhouse" Effect"* (Nov. 12, 1982), https://insideclimatenews.org/sites/default/files/documents/1982%20Exxon%20Primer%20on%20CO2%20Greenhouse%20Effect.pdf.

[81] Memorandum from Roger W. Cohen, Exxon Research and Engineering Co., to A.M. Natkin, Exxon Corp. Office of Science and Technology, CLIMATEFILES (Sept. 2, 1982), http://www.climatefiles.com/exxonmobil/1982-exxon-memo-summarizing-climate-modeling-and-co2-greenhouse-effect-research.

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_2 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 Brian Flannery at the Exxon-supported Ewing Symposium, later that year.

92. 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_2 'Greenhouse Effect.'"[82] His remarks included the following statement: "Few 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_2 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_2 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.

93. Throughout the early 1980s, at Exxon's direction, Exxon climate scientist Henry Shaw forecasted emissions of CO_2 from fossil fuel use. Those estimates were incorporated into Exxon's 21st century energy projections and were distributed among Exxon's various divisions. Shaw's conclusions included an expectation that atmospheric CO_2 concentrations would double in

[82] 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.

2090 per the Exxon model, with an attendant 2.3–5.6°F average global temperature increase. Shaw compared his model results to those of the U.S. Environmental Protection Agency ("EPA"), the National Academy of Sciences, and the Massachusetts Institute of Technology, indicating that the Exxon model predicted a longer delay than any of the other models, although its temperature increase prediction was in the mid-range of the four projections.[83]

94. During the 1980s, many Defendants formed their own research units focused on climate modeling. API, including the API CO_2 Task Force, provided a forum for Fossil Fuel Defendants to share their research efforts and corroborate their findings related to anthropogenic greenhouse gas emissions.[84]

95. 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.

[83] 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.

[84] 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.

> Prevention means engineering a new generation of fuels, lubricants and chemical products. . . . Prevention means designing catalysts and processes that minimize or eliminate the production of unwanted byproducts. . . . Prevention on a global scale may even require a dramatic reduction in our dependence on fossil fuels—and a shift towards solar, hydrogen, and safe nuclear power. It may be possible that—just possible—that the energy industry will transform itself so completely that 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.[85]

96. 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_2 buildup and warned that warming would "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)."[86]

97. 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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[85] 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.

[86] SHELL INTERNATIONALE PETROLEUM, GREENHOUSE EFFECT WORKING GROUP, THE GREENHOUSE EFFECT (May 1988), https://www.documentcloud.org/documents/4411090-Document3.html.

98. 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.[87] 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."[88] 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.[89] 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."

99. 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."[90]

100. 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 report to the UN at the end of 1990." The warning was an increasing frequency of abnormal

[87] *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).

[88] *Id.* at 369, 376.

[89] *Id.* at 360, 377–78.

[90] RONALD C. KRAMER, CARBON CRIMINALS, CLIMATE CRIMES 66 (1st ed. 2020).

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."[91]

101. 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 virtually destroyed farming on the Great Plains. . . . The threat of such climatic change is now one of our most urgent concerns.[92]

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[91] 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.

[92] Vatan Hüzeir, *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.

The film was not widely distributed.

102. The fossil fuel industry was at the forefront of carbon dioxide research for much of the latter half of the 20th 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-1990s 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.[93]

103. 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 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

[93] ROYAL DUTCH/SHELL GROUP, GROUP SCENARIOS 1998–2020 115, 122 (1998), http://www.documentcloud.org/documents/4430277-27-1-Compiled.html.

> global warming, of 0.5 m [1.64 feet] may be assumed for the proposed project life (25 years).[94]

104. 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. 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.

105. Despite the overwhelming information about the threats to people and the planet posed by continued unabated use of their fossil fuel products, Fossil Fuel Defendants failed to act as they reasonably should have to mitigate or avoid those dire adverse impacts. Fossil Fuel 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 Fossil Fuel Defendants' responsibility to consumers and the public, including the County, to act on their unique knowledge of the reasonably foreseeable hazards of unabated production and consumption of their fossil fuel products.

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.

106. 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

[94] EXXONMOBIL, SABLE PROJECT DEVELOPMENT PLAN, Vol. 3, 4-77, http://soep.com/about-the-project/development-plan-application.

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 Maryland, and Anne Arundel County and its inhabitants.

107. Before or thereafter, Fossil Fuel Defendants 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. Fossil Fuel Defendants should have warned the public, regulators, and Anne Arundel County consumers 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.

108. 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 consumers and the public, including those in Maryland and in Anne Arundel County, 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.[95] On June 23 of that year, NASA scientist James Hansen's presentation of this information to Congress

[95] *See* Peter C. Frumhoff et al., *The Climate Responsibilities of Industrial Carbon Producers*, 132 CLIMATIC CHANGE 161 (2015).

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_2 and other greenhouse gases. Four more bipartisan bills to significantly reduce CO_2 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."[96] 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,[97] 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

> 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.[98]

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[96] *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.

[97] *See* IPCC, *Reports*, ipcc.ch/reports.

[98] IPCC, CLIMATE CHANGE: THE IPCC SCIENTIFIC ASSESSMENT xi (1990), https://www.ipcc.ch/report/climate-change-the-ipcc-1990-and-1992-assessments.

The IPCC reconfirmed those conclusions in a 1992 supplement to the First Assessment report.[99]

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."[100]

109. 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.

110. 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 Anne Arundel County and other communities, Defendants embarked on a decades-long campaign designed to maximize continued dependence on their products and undermine national and international efforts to rein in greenhouse gas emissions.

111. 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

[99] IPCC, 1992 IPCC SUPPLEMENT TO THE FIRST ASSESSMENT REPORT (1992), https://www.ipcc.ch/report/climate-change-the-ipcc-1990-and-1992-assessments.

[100] UNITED NATIONS, UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE Art. 2 (1992), https://unfccc.int/resource/docs/convkp/conveng.pdf.

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 County's.

112. Fossil Fuel Defendants—on their own and jointly through industry and front groups such as API and the GCC—funded, conceived, planned, and carried out a sustained and widespread campaign of denial and disinformation about the existence of climate change and their products' contribution to it. The campaign included a long-term pattern of direct misrepresentations and material omissions to consumers, as well as a plan to influence consumers indirectly by affecting public opinion through the dissemination of misleading research to the press, government, and academia. Although Fossil Fuel Defendants were competitors in the marketplace, they combined and collaborated on this public campaign to misdirect and stifle public knowledge in order to increase sales and protect profits. 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 were designed to influence consumers to continue using Defendants' fossil fuel products irrespective of those products' damage to communities and the environment.

113. For example, in 1988, Joseph Carlson, an Exxon public affairs manager, stated in an internal memo that Exxon "is providing leadership through API in developing the petroleum industry position" on "the greenhouse effect."[101] He then went on to describe the "Exxon Position,"

[101] Memorandum from Joseph M. Carlson, *The Greenhouse Effect* (Aug. 3, 1988), https://assets.documentcloud.org/documents/3024180/1998-Exxon-Memo-on-the-Greenhouse-Effect.pdf.

which included two important messaging tenets among others: (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."[102]

114. 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 CO2 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.[103]

115. 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 conclusions as the mainstream view, Langcake still emphasized scientific uncertainty, noting, for

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[102] *Id*.

[103] *Examining the Oil Industry's Efforts to Suppress the Truth About Climate Change, Hearing Before the Subcomm. on Civil Rights and Civil Liberties of the Comm. on Oversight and Reform*, 116th Cong. 7–8 (Oct. 23, 2019) (statement of Martin Hoffert, Former Exxon Consultant, Professor Emeritus, Physics, New York University), https://oversight.house.gov/legislation/hearings/examining-the-oil-industry-s-efforts-to-suppress-the-truth-about-climate-change.

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."[104]

116. 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."[105]

117. 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, a predecessor to the National Mining Association ("NMA"), 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 believe global warming is a serious environmental problem. Our industry cannot sit on the sidelines in this debate."[106]

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[104] P. Langcake, SHELL INTERNATIONALE PETROLEUM, THE ENHANCED GREENHOUSE EFFECT: A REVIEW OF THE SCIENTIFIC ASPECTS (Dec. 1994), https://www.documentcloud.org/documents/4411099-Document11.html#document/p15/a411511.

[105] 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.

[106] 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).

118. 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.[107]

Figure 6: Information Council for the Environment advertisements

119. 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 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_2 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

[107] Union of Concerned Scientists, *Deception Dossier #5: Coal's "Information Council on the Environment" Sham* 47–49 (1991), http://www.ucsusa.org/sites/default/files/attach/2015/07/Climate-Deception-Dossier-5_ICE.pdf.

late 19th 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 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.[108]

120. API published an extensive report in the same year warning against concern over CO_2 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 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

[108] EXXON CORP., GLOBAL WARMING: WHO'S RIGHT? (1996), https://www.documentcloud.org/documents/2805542-Exxon-Global-Warming-Whos-Right.html.

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."[109]

121. 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.
>
> 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.[110]

[109] SALLY BRAIN GENTILLE ET AL., AMERICAN PETROLEUM INSTITUTE, REINVENTING ENERGY: MAKING THE RIGHT CHOICES (1996), http://www.climatefiles.com/trade-group/american-petroleum-institute/1996-reinventing-energy.

[110] Lee R. Raymond, Chairman and Chief Executive Officer, Exxon Corp., Address at the World Petroleum Congress (Oct. 13, 1997), https://assets.documentcloud.org/documents/2840902/1997-Lee-Raymond-Speech-at-China-World-Petroleum.pdf.

122. 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.[111]

123. 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 advertorial below[112] argued that economic analysis of emissions restrictions was faulty and inconclusive and therefore a justification for delaying action on climate change.

[111] 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.

[112] 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-whenfactsdontsquare.html.

But when we no longer allow those choices, both civility and common sense will have been diminished. □

who was dragged from his sister's car by police officers and shot in the face at point-blank range. The cops who have the power to do something about those officers, but choose not to. □

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

That seems to characterize the administration's attitude on two of its own studies which show that international efforts to curb global warming could 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 economic models were finally generated, the administration started distancing itself from the findings and models that produced them. The administration's top economic advisor said that economic models can't provide a "definitive answer" on the impact of controlling emissions. The effort, she said, was "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 emission reduction could be insignificant since developing countries will not be bound by the emission targets of a global warming treaty.

Downplaying Argonne's findings, the Energy Department noted that the study used outdated energy prices (mid-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 implementing 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

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Figure 7: 1997 Mobil advertorial

124. Also in 1997, the Annapolis Center conducted a "Global Climate Change Workshop," which culminated in a report titled "Global Climate Change: Policy Making in the Context of Scientific and Economic Uncertainty."[113] The report, which was distributed to members of Congress and the media, deceptively and misleadingly emphasized the supposed "uncertainty" surrounding climate change, contradicting the science understood by the Annapolis Center's own sponsors and advisors, including certain Defendants. The report stated, for example, that "[t]here are numerous discrepancies among observed data, and between observations and predictions from simulation models, that also lends uncertainty to the assessment of climate change," and that "[a]t both global and regional scales, the impacts of climate change remain highly uncertain . . . aggravated by the uncertainty about the capacities of societies to adapt to the natural variance in temperature change." It further stated, falsely and misleadingly, that "estimates of pre-historical and historical global temperature indicate a pattern of significant climate variability; thus, shorter-term measurements suggest little to no systematic change if natural variability is taken into account." Based on those supposed uncertainties, the report stressed that participants could not reach consensus on "to what extent to delay taking action to reduce carbon dioxide emissions until more information develops," because several felt that "the uncertainty surrounding future warming (for example over the next 30 years) validates delaying action." The report continued:

> We know that certain immediate mandates to curb emissions will be costly, and their ultimate effects are uncertain. However, if the decision is made to take action, it must be done deliberately and with knowledge that the consequences could be grave. Thus, the importance of the issue and the cost of remedial actions warrant substantially more study. The wrong action could have unnecessary as well as costly consequences.

[113] The Annapolis Center, *Global Climate Change: Policy Making in the Context of Scientific and Economic Uncertainty* (Oct. 1997), https://web.archive.org/web/20040101232408/http://www.annapoliscenter.org/Reports/globalclimatechangepolicy.pdf.

The report was released at a press conference at the National Press Club and was widely disseminated. At a strategic planning meeting in 1998, the Annapolis Center boasted that "[s]tories related to the Center's 1997 climate change report ran in 912 newspapers, with a readership of 43,602,944."[114] The Annapolis Center proposed holding another workshop and drafting another report for 1999, which would conduct "a review of the sciences that affect climate change and the uncertainties of those sciences on climate change." Employees of Defendants Exxon and API were members of the 1998 strategic planning committee. Defendant Exxon contributed at least $1 million to the Annapolis Center during its period of operations, and Defendant API contributed at least $40,000. The statements by the Annapolis Center described above misrepresented the science of climate change as understood at that time by Exxon and API. Those misleading and deceptive statements likely reached tens of millions of members of the public, by the Annapolis Center's own estimates.

125. In 1998, API convened a Global Climate Science Communications Team ("GCSCT") whose members included Exxon's senior environmental lobbyist, an API public relations representative, and representatives from Chevron. There were no scientists on the "Global Climate Science Communications Team." Steve Milloy (a key player in the tobacco industry's front group) and his organization The Advancement of Sound Science Coalition ("TASSC") were founding members of the GCSCT. TASSC was a fake grassroots citizen group created by the tobacco industry to sow uncertainty by discrediting the scientific link between exposure to second-hand cigarette smoke and increased rates of cancer and heart disease. Philip Morris launched TASSC on the advice of its public relations firm, which advised Philip Morris that the tobacco

[114] The Annapolis Center, *Strategic Planning Committee Draft Discussion Piece* (Oct. 29, 1998), archived at DESMOGBLOG, https://www.desmogblog.com/annapolis-center-science-based-public-policy#s34.

company itself would not be a credible voice on the issue of smoking and public health. TASSC, through API and with the approval of Fossil Fuel Defendants, also became a front group for the fossil fuel industry, using the same tactics it had honed while operating on behalf of tobacco companies to spread doubt about climate science. Although TASSC posed as a grassroots group of concerned citizens, it was funded by Defendants. For example, 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.[115] The GCSCT represented a continuation of Defendants' concerted actions to sow doubt and confusion about climate change in order to further Fossil Fuel Defendants' business interests.

126. Starting in 1998, the GCSCT continued Defendants' efforts to deceive the public about the dangers of fossil fuel use by launching a campaign to convince the public that the scientific basis for climate change was in doubt. The multi-million-dollar, multi-year plan included, among other elements, plans to: (a) "[d]evelop and implement a national media relations program to inform the media about uncertainties in climate science to generate national, regional, and local media coverage on the scientific uncertainties"; (b) "[d]evelop a global climate science information kit for media including peer-reviewed papers that undercut the 'conventional wisdom' on climate science"; (c) "[p]roduce . . . a steady stream of op-ed columns"; and (d) "[d]evelop and implement a direct outreach program to inform and educate members of Congress . . . and school teachers/students about uncertainties in climate science" to "begin to erect a barrier against further

[115] UNION OF CONCERNED SCIENTISTS, SMOKE, MIRRORS & HOT AIR: HOW EXXONMOBIL USES BIG TOBACCO'S TACTICS TO MANUFACTURE UNCERTAINTY ON CLIMATE SCIENCE (July 16, 2007), https://www.ucsusa.org/resources/smoke-mirrors-hot-air.

efforts to impose Kyoto-like measures in the future"[116]—a blatant attempt to disrupt international efforts to negotiate any treaty curbing greenhouse gas emissions to ensure a continued and unimpeded market for their fossil fuel products.

127. Exxon, Chevron, and API contributed to the development of the plan, which plainly set forth the criteria by which the contributors would know when their efforts to manufacture doubt had been successful. "Victory," they wrote, "will be achieved when . . . average citizens 'understand' (recognize) uncertainties in climate science" and "recognition of uncertainties becomes part of the 'conventional wisdom.'"[117] In other words, the plan was part of Defendants' goal to use disinformation to plant doubt about the reality of climate change in an effort to maintain consumer demand for their fossil fuel products and their large profits.

128. Soon after, API distributed a memo to its members illuminating API's and Fossil Fuel Defendants' concern over the potential regulation of their 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.'"[118] Further, the API memo stressed many of the strategies that Defendants 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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[116] Email from Joe Walker to Global Climate Science Team, *Draft Global Climate Science Communications Plan* (Apr. 3, 1998), https://assets.documentcloud.org/documents/784572/api-global-climate-science-communications-plan.pdf.

[117] *Id*.

[118] *Allegations of Political Interference with Government Climate Change Science*, *Hearing Before the Comm. on Oversight and Government Reform*, 110th Cong. 324 (Mar. 19, 2007) https://ia601904.us.archive.org/25/items/gov.gpo.fdsys.CHRG-110hhrg37415/CHRG-110hhrg37415.pdf.

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.

129. In furtherance of the strategies described in these memoranda, Defendants made misleading statements about climate change, the relationship between climate change and their fossil fuel products, and the urgency of the problem. Defendants made these statements in public fora and in advertisements published in newspapers and other media with substantial circulation to Maryland, including national publications such as the *New York Times*, *Wall Street Journal*, and *Washington Post*.

130. Phillip Cooney, an attorney at API from 1996 to 2001, testified at a 2007 congressional hearing that it was "typical" for API to fund think tanks and advocacy groups that minimized fossil fuels' role in climate change. Among the groups to which API provided funding were the Heartland Institute, Competitive Enterprise Institute ("CEI"), and the American Council on Capital Formation, each of which issued publications challenging the scientific consensus that

fossil fuels were causing climate change and opposed restrictions on Fossil Fuel Defendants' extraction, production, and sale of fossil fuels.[119]

131. Defendants, individually and through trade associations and front groups like API and GCC, 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.

132. 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.[120] Despite an internal primer stating that various "contrarian theories" (i.e., climate change skepticism) do not "offer convincing arguments against the conventional model of greenhouse gas emission-induced climate change," GCC excluded this section from the public version of the backgrounder[121] and instead funded and promoted some of those same contrarian theories. Between 1989 and 1998, the GCC spent $13 million on advertisements as part of a campaign to cast doubt on climate science.[122]

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[119] *Id*.

[120] *Id.*

[121] Memorandum from Gregory J. Dana, Assoc. of Int'l Auto. Mfrs., to AIAM Technical Committee, *Global Climate Coalition (GCC) - Primer on Climate Change Science - Final Draft* (Jan. 18, 1996), http://www.webcitation.org/6FyqHawb9.

[122] Wendy E. Franz, Kennedy School of Government, Harvard University, *Science, Skeptics and Non-State Actors in the Greenhouse*, ENRP Discussion Paper E-98-18, at 13 (Sept. 1998), https://www.belfercenter.org/sites/default/files/legacy/files/Science%20Skeptics%20and%20Non-State%20Actors%20in%20the%20Greenhouse%20-%20E-98-18.pdf.

133. 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."[123] 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."[124]

134. 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 Fossil Fuel Defendants directly or through Fossil Fuel Defendant-funded organizations like API,[125] but they frequently failed to disclose their fossil fuel industry underwriters.[126] Defendants intended for the research of scientists they funded to be distributed to and relied on by consumers when buying Fossil Fuel Defendants' products, including by consumers in Anne Arundel County.

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[123] 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.

[124] 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.

[125] *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.

[126] *E.g.*, *Smithsonian Statement: Dr. Wei-Hock (Willie) Soon*, SMITHSONIAN (Feb. 26, 2015), https://web.archive.org/web/20181105223030/https://www.si.edu/newsdesk/releases/smithsonian-statement-dr-wei-hock-willie-soon.

135. 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% of Americans personally believed global warming was happening, only 48% believed that there was a consensus among the scientific community, and 40% believed there was a lot of disagreement among scientists over whether global warming was occurring.[127]

136. 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."[128] The IPCC defined "very high confidence" as at least a 9 out of 10 chance.[129]

137. Fossil Fuel Defendants, individually and through their trade association memberships, including with Defendant API, worked directly, and often in a deliberately obscured manner, to evade regulation of the emissions resulting from use of their fossil fuel products and to conceal and misrepresent their products' known dangers.

138. Defendants have funded dozens of think tanks, front groups, and dark money foundations pushing climate change denial. These include CEI, 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 Fossil Fuel Defendants' fossil fuel products were causing climate change,

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[127] *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-warmingv.

[128] IPCC, SUMMARY FOR POLICYMAKERS: A REPORT OF WORKING GROUP I TO THE FOURTH ASSESSMENT REPORT 3 (2007), https://www.ipcc.ch/site/assets/uploads/2018/02/ar4-wg1-spm-1.pdf.

[129] *Id.*

sea level rise, and injuries to Anne Arundel County, among other communities.[130] Several Defendants have been linked to other groups that undermine the scientific basis linking fossil fuel products to climate change and sea level rise, including the Frontiers of Freedom Institute and the George C. Marshall Institute.

139. 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."[131] Despite this pronouncement, Exxon remained financially associated with several such groups after the report's publication.

140. 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.

141. As a result of Defendants' tortious, false, and misleading conduct, consumers of Defendants' fossil fuel products and policy-makers, in Anne Arundel County as elsewhere, have been deliberately and unnecessarily deceived about: the role of fossil fuel products in causing

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[130] ExxonSecrets.org, *ExxonMobil Climate Denial Funding 1998–2014*, http://exxonsecrets.org/html/index.php.

[131] EXXONMOBIL, 2007 CORPORATE CITIZENSHIP REPORT 41 (Dec. 31, 2007), http://www.documentcloud.org/documents/2799777-ExxonMobil-2007-Corporate-Citizenship-Report.html.

global warming, sea level rise, disruptions to the hydrologic cycle, increased extreme precipitation, heatwaves, drought, and other consequences of the climate crisis; the acceleration of global warming since the mid-20th century and the continuation thereof; and the fact that the continued increase in fossil fuel product consumption creates severe environmental threats and significant economic costs for coastal communities, including Anne Arundel County. 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.

142. 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.[132]

[132] Amy Lieberman & Susanne Rust, *Big Oil braced for global warming while it fought regulations*, L.A. TIMES (Dec. 31, 2015), https://graphics.latimes.com/oil-operations.

143. For example, in 1973 Exxon obtained a patent for a cargo ship capable of breaking through sea ice[133] and for an oil tanker[134] designed specifically for use in previously unreachable areas of the Arctic.

144. In 1974, Chevron obtained a patent for a mobile arctic drilling platform designed to withstand significant interference from lateral ice masses,[135] allowing for drilling in areas with increased ice floe movement due to elevated temperature.

145. 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,[136] allowing for drilling in previously unreachable Arctic areas that would become seasonally accessible.

146. Shell obtained a patent similar to Texaco's (Chevron) in 1984.[137]

147. 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 level rise. Those design changes were ultimately carried out by Shell's contractors, adding substantial costs to the project.[138]

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[133] ExxonMobil Research Engineering Co., *Patent US3727571A: Icebreaking cargo vessel* (granted Apr. 17, 1973), https://www.google.com/patents/US3727571.

[134] ExxonMobil Research Engineering Co., *Patent US3745960A: Tanker vessel* (granted July 17, 1973), https://www.google.com/patents/US3745960.

[135] Chevron Research & Technology Co., *Patent US3831385A: Arctic offshore platform* (granted Aug. 27, 1974), https://www.google.com/patents/US3831385.

[136] Texaco Inc., *Patent US3793840A: Mobile, arctic drilling and production platform* (granted Feb. 26, 1974), https://www.google.com/patents/US3793840.

[137] Shell Oil Co., *Patent US4427320A: Arctic offshore platform* (granted Jan. 24, 1984), https://www.google.com/patents/US4427320'.

[138] *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.

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.[139]

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.

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

148. As greenhouse gas pollution accumulates in the atmosphere, some of which does not dissipate for potentially thousands of years (namely CO_2), 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.

[139] *Id.*; Lieberman & Rust, *supra* note 132.

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

150. 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 Anne Arundel County and its residents.

151. 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_2 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 [1.8º—6.3º 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.[140]

152. Despite Defendants' knowledge of the foreseeable, measurable, and significant harms associated with the unabated consumption and use of their fossil fuel products, in Anne Arundel County 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 misleadingly and 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. This campaign was intended to and did reach and influence Anne Arundel County consumers, along with consumers elsewhere. At all relevant times, Defendants were deeply 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 1961, Phillips Petroleum Company filed a patent application for a method to purify gas, among other things, as "natural gas containing gasoline hydrocarbons can contain

[140] John Browne, *BP Climate Change Speech to Stanford*, CLIMATEFILES (May 19, 1997), http://www.climatefiles.com/bp/bp-climate-change-speech-to-stanford.

undesirable amounts of sulfur and other compounds such as carbon dioxide which are undesirable in the finished gasoline product."[141]

b. In 1963, Esso (Exxon) obtained multiple patents on technologies for fuel cells, including on the design of a fuel cell and necessary electrodes,[142] and on a process for increasing the oxidation of a fuel, specifically methanol, to produce electricity in a fuel cell.[143]

c. In 1970, Esso (Exxon) obtained a patent for a "low-polluting engine and drive system" that used an interburner and air compressor to reduce pollutant emissions, including CO_2 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).[144]

d. In 1980, Imperial Oil (Exxon) wrote in its Review of Environmental Protection Activities for 1978–79: "There is no doubt that increases in fossil fuel usage and decreases in forest cover are aggravating the potential problem of increased CO_2 in the atmosphere. Technology exists to remove CO_2 from stack gases but removal of only 50% of the CO_2 would double the cost of power generation."[145]

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[141] Phillips Petroleum Co., *Patent US3228874A: Method for recovering a purified component from a gas* (filed Aug. 22, 1961), https://patents.google.com/patent/US3228874.

[142] ExxonMobil Research Engineering Co., *Patent US3116169A: Fuel cell and fuel cell electrodes* (granted Dec. 31, 1963), https://www.google.com/patents/US3116169.

[143] ExxonMobil Research Engineering Co., *Patent US3113049A: Direct production of electrical energy from liquid fuels* (granted Dec. 3, 1963), https://www.google.com/patents/US3113049.

[144] ExxonMobil Research Engineering Co., *Patent US3513929A: Low-polluting engine and drive system* (granted May 26, 1970), https://www.google.com/patents/US3513929.

[145] IMPERIAL OIL LTD., REVIEW OF ENVIRONMENTAL PROTECTION ACTIVITIES FOR 1978–1979 2 (Aug. 6, 1980), http://www.documentcloud.org/documents/2827784-1980-Imperial-Oil-Review-of-Environmental.html.

e. A 1987 company briefing produced by Shell on "Synthetic Fuels and Renewable Energy" noted that while "immediate prospects" were "limited," "nevertheless it is by pursuing commercial opportunities now and in the near future that the valuable experience needed for further development will be gained." The brief also noted that

> the task of replacing oil resources is likely to become increasingly difficult and expensive and there will be a growing need to develop lean, convenient alternatives. Initially these will supplement and eventually replace valuable oil products. Many potential energy options are as yet unknown or at very early stages of research and development. New energy sources take decades to make a major global contribution. Sustained commitment is therefore needed during the remainder of this century to ensure that new technologies and those currently at a relatively early stage of development are available to meet energy needs in the next century.[146]

f. A 1989 article in a publication from Exxon Corporate Research for company use only stated:

> CO2 emissions contribute about half the forcing [sic] leading to a potential enhancement of the Greenhouse Effect. Since energy generation from fossil fuels dominates modern CO2 emissions, strategies to limit CO2 growth focus near term on energy efficiency and long term on developing alternative energy sources. Practiced at a level to significantly reduce the growth of greenhouse gases, these actions would have substantial impact on society and our industry—near-term from reduced demand for current products, long term from transition to entirely new energy systems.[147]

g. In 1996, more than thirty years after API's president warned that "time is running out" for the world to address the "catastrophic consequences of pollution," API published the book "Reinventing Energy: Making the Right Choices" to refute this very conclusion. Contradicting the scientific consensus known by its members for decades, the book claims:

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[146] *Synthetic Fuels and Renewable Energy*, SHELL SERVICE BRIEFING, no. 2, 1987, https://assets.documentcloud.org/documents/4411089/Document2.pdf.

[147] Brian Flannery, *Greenhouse Science*, CONNECTIONS: CORPORATE RESEARCH, EXXON RESEARCH AND ENGINEERING COMPANY, Fall 1989, http://www.climatefiles.com/exxonmobil/1989-exxon-mobil-article-technologys-place-marketing-mix.

"Currently, no conclusive—or even strongly suggestive—scientific evidence exists that human activities are significantly affecting sea levels, rainfall, surface temperatures, or the intensity and frequency of storms."[148]

h. The book downplayed nearly every aspect of established climate science. API baldly claimed that scientists do not understand how carbon flows in and out of the atmosphere and whether fossil fuels are even responsible for increasing concentrations of atmospheric CO_2. It then explained that even if some warming does occur, such warming "would present few if any problems" because, for example, farmers could be "smart enough to change their crop plans" and low-lying areas would "likely adapt" to sea level rise.[149]

i. As Anne Arundel County's vulnerability demonstrates, however, such adaptations, made necessary by Defendants' conduct, are enormously expensive. Defendants' strategy merely transferred the significant costs and externalities of their actions onto the County, and in the process, they reaped billions of dollars in profit.

j. In the publication, API also contended that "the state of the environment does not justify the call for the radical lifestyle changes Americans would have to make to substantially reduce the use of oil and other fossil fuels" and that the "benefits of alternatives aren't worth the cost of forcing their use." "Some jobs definitely will be created in making, distributing and selling alternatives. But they will come at the expense of lost jobs in the traditional automobile and petroleum industries," the authors continued. "Alternatives will likely be more expensive than

[148] AMERICAN PETROLEUM INSTITUTE, REINVENTING ENERGY: MAKING THE RIGHT CHOICES 79 (1996), http://www.climatefiles.com/trade-group/american-petroleum-institute/1996-reinventing-energy.

[149] *Id*. at 86–87.

conventional fuel/vehicle technology. Consumers, obviously, will bear these increased expenses, which means they will have less to spend on other products and cost jobs."[150]

k. API published this book in service of one goal—ensuring its members could continue to produce and sell fossil fuels in massive quantities that it knew would devastate the planet. The book's final section reveals this purpose. API concluded: "[S]evere reduction in greenhouse gas emissions by the United States or even all developed countries would impose large costs on countries but yield little in the way of benefits—even under drastic climate change scenarios."[151]

153. Fossil Fuel Defendants could have made major inroads to mitigate the County'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. Fossil Fuel Defendants had knowledge dating at least back to the 1960s, and indeed, internally researched and perfected many such technologies. For instance:

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;[152] and

b. In 1973, Shell was granted a patent for a process to remove acidic gases, including CO_2, from gaseous mixtures.[153]

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[150] *Id*. at 59, 68, 69.

[151] *Id*. at 89.

[152] Phillips Petroleum Co., *Patent US3228874A: Method for recovering a purified component from a gas* (granted Jan. 11, 1966), https://patents.google.com/patent/US3228874.

[153] Shell Oil Co., *Patent US3760564A: Process for the removal of acidic gases from a gas mixture*, (granted Sept. 25, 1973), https://www.google.com/patents/US3760564A.

154. Despite this knowledge, Fossil Fuel 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.[154] 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.[155]

155. Similarly, ConocoPhillips's 2012 Sustainable Development report declared developing renewable energy a priority in keeping with their position on sustainable development and climate change.[156] The company's 10-K filing from the same year told a different story: "As an independent E&P company, we are solely focused on our core business of exploring for, developing and producing crude oil and natural gas globally."[157]

156. Likewise, while Shell orchestrated an entire public relations campaign around energy transitions towards net zero emissions, a fine-print disclaimer in its 2017 sustainability

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[154] Press Release, Chevron, *Chevron Introduces New System to Manage Energy Use* (Sept. 25, 2001), https://web.archive.org/web/20170207205638/https://www.chevron.com/stories/chevron-introduces-new-system-to-manage-energy-use.

[155] Ben 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.

[156] CONOCOPHILLIPS, SUSTAINABLE DEVELOPMENT (2012), http://static.conocophillips.com/files/resources/2012-sd-report.pdf.

[157] CONOCOPHILLIPS, FORM 10-K: ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934 23 (Dec. 31, 2012), https://www.sec.gov/Archives/edgar/data/1163165/000119312513065426/d452384d10k.htm.

report reads: "we have no immediate plans to move to a net-zero emissions portfolio over our investment horizon of 10–20 years."[158]

157. BP, appearing to abide by the representations Lord Browne made in his speech described 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, which is a fossil fuel, and in 2007 the company reinvested in Canadian tar sands, a particularly high-carbon source of oil.[159] The company ultimately abandoned its wind and solar assets in 2011 and 2013, respectively, and even the "Beyond Petroleum" moniker in 2013.[160]

158. 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."[161]

159. Even if Fossil Fuel 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, Fossil Fuel Defendants could have taken other practical, cost-effective steps to reduce the use of

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[158] Shell, *Sustainability Report 2017: Definitions and Cautionary Note*, https://reports.shell.com/sustainability-report/2017/servicepages/about.html.

[159] 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.

[160] Javier E. David, *'Beyond Petroleum' No More? BP Goes Back to Basics*, CNBC (Apr. 20, 2013), http://www.cnbc.com/id/100647034.

[161] James R. Healy, *Alternate Energy Not in Cards at ExxonMobil*, USA TODAY (Oct. 27, 2005), https://usatoday30.usatoday.com/money/industries/energy/2005-10-27-oil-invest-usat_x.htm.

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 County; 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' stockholders, banks, insurers, consumers, the public, regulators, and the County and warning them 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;

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

d. Sharing their internal scientific research with consumers and 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' hazardous fossil fuel products; and

g. Adopting their stockholders' concerns about Fossil Fuel Defendants' need to protect their businesses from the inevitable consequences of profiting from their fossil fuel products. Over the period of 1990 to 2015, Fossil Fuel Defendants' stockholders proposed hundreds of resolutions to change Fossil Fuel Defendants' policies and business practices regarding climate change. Those included increasing renewable energy investment, cutting emissions, and performing carbon risk assessments, among others.

160. 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 Anne Arundel County and Elsewhere.

161. Defendants' coordinated campaign of disinformation and deception continues today, even as the scientific consensus about the causes and consequences of climate change has strengthened. Fossil Fuel Defendants have falsely claimed through advertising campaigns in Maryland and/or campaigns intended to reach Maryland, including Anne Arundel County, that their businesses are substantially invested in lower carbon technologies and renewable energy sources. In truth, each Fossil Fuel 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 Fossil Fuel Defendants' fossil fuel products are "green" or "clean" because they all ultimately continue to warm the planet.

162. Instead of widely disseminating information about their products and climate change, 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 Anne Arundel County, Defendants have failed to inform or warn those consumers about the foreseeable effects of their fossil fuel products in causing and accelerating the climate crisis.

163. 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 Anne Arundel County. They continue to omit that important information to this day.

164. Defendants have not just failed to disclose the catastrophic danger their products cause. After having engaged in a long campaign to deceive consumers and 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. These campaigns were intended to and did reach and influence the public and consumers, including in Anne Arundel County.

165. These misleading "greenwashing" campaigns are intended to capitalize on consumers' concerns about climate change and lead Anne Arundel County consumers to believe

that Defendants are actually substantially diversified energy companies making meaningful investments in low-carbon energy compatible with avoiding catastrophic climate change.

166. Contrary to this messaging, however, Fossil Fuel Defendants' spending on low-carbon energy is substantially and materially less than Fossil Fuel 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.[162] Meanwhile, Fossil Fuel 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.[163]

167. Ultimately, although Defendants currently claim to support reducing greenhouse gas emissions, 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.

168. For example, Exxon is projected to increase oil production by more than 35% between 2018 and 2030—a sharper rise than over the previous 12 years.[164] 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.[165] BP is projected to increase production of oil and gas by 20%

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[162] Anjli 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.

[163] *See, e.g.*, BP ANNUAL REPORT AND FORM 20-F 24 (2017), https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/investors/bp-annual-report-and-form-20f-2017.pdf.

[164] Jonathan Watts et al., *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.

[165] *Id.*

by 2030.[166] Chevron set an oil production record in 2018 of 2.93 million barrels per day.[167] Like the other Fossil Fuel 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 Chevron's "significant reserve additions in 2018" in multiple regions in North America and around the world, as well as significant capital projects involving construction of refineries worldwide.[168] Similarly, Marathon Petroleum has stated, "We have invested billions of dollars to make our operations more energy efficient[and] reduce our emissions[.]"[169] Yet only 1% of the company's capital spend from 2010 to 2018 was on low-carbon energy sources, all of which was in carbon capture and storage.[170]

169. Defendants' greenwashing campaigns deceptively minimize their role in causing climate change, including by suggesting that small changes in consumer choice and behavior can adequately address climate change. These campaigns misleadingly portray Defendants as part of the solution to climate change and distract from the fact that Defendants' fossil fuel products are the primary driver of global warming.

170. For instance: natural gas, as a fossil fuel, emits greenhouse gases at all phases of its lifecycle, including significant methane releases from extraction and transportation, CO_2 releases

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[166] *Id*.

[167] 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.

[168] CHEVRON, CHEVRON 2019 INVESTOR PRESENTATION (Feb. 2019), https://chevroncorp.gcs-web.com/static-files/c3815b42-4deb-4604-8c51-bde9026f6e45.

[169] MARATHON PETROLEUM CORP., PERSPECTIVES ON CLIMATE-RELATED SCENARIOS (Oct. 2018), https://www.marathonpetroleum.com/content/documents/Responsibility/MPC-ClimateReport-2018.pdf.

[170] Raval & Hook, *supra* note 162.

when gas is flared at the well, and CO_2 releases at the point of combustion. Methane is a greenhouse gas with a global warming potential many times higher than carbon dioxide. Methane traps more heat in the atmosphere and accelerates climate disruption at a faster rate than carbon dioxide. Methane has a powerful impact on global temperature and the climate system, particularly over short time horizons. For example, methane has a warming impact that is 86 times that of carbon dioxide over a 20-year time horizon. During that time, major changes will need to be made to address climate impacts that have already been caused by Defendants' campaign of deception. Yet, in Defendants' greenwashing advertisements, they misleadingly portray natural gas as "sustainable" in an effort to paint themselves as working to solve climate change by making energy "cleaner."[171] In reality, however, as the main drivers of greenhouse gas emissions and climate impacts, they are doing the exact opposite.

171. Below are representative excerpts from Defendants' greenwashing campaigns, which present a false image of Defendants as clean energy innovators taking meaningful action to address climate change. Defendants' actions to further entrench fossil fuel production and consumption squarely contradict their public affirmations of corporate responsibility and support for reducing global greenhouse gas emissions. Functionally, Defendants have cut fossil fuels from their brand but not their business. Their greenwashing advertisements to the contrary are deceptive to Anne Arundel County consumers.

i. Exxon's Misleading and Deceptive Greenwashing Campaigns

172. Exxon has directed greenwashing advertisements toward Maryland consumers at least as far back as 1990, through print advertisements in the *Baltimore Sun*. In 1990, Exxon placed

[171] *See, e.g.*, *The Mobility Quandary* (Content from Shell), WASH. POST, https://www.washingtonpost.com/brand-studio/shell/the-mobility-quandary ("Another critical component of a sustainable energy mix in transportation is further investment in natural gas, a cleaner-burning fossil fuel . . . .").

an advertisement in the *Baltimore Sun* promoting its "New Exxon Plus" gasoline as having "high performance and lower emissions" and a "unique clean engine formula."[172] The advertisement misleadingly portrayed Exxon's gasoline product as environmentally friendly, purporting that "it's . . . been reformulated to reduce emissions, for cleaner air." Exxon ran a similar advertisement in the *Baltimore Sun* in 1990, promoting its "New Exxon 93 Supreme" gasoline as "giv[ing] you our clean engine formula" and that "now, it too has been reformulated to reduce emissions."[173]

Figure 8: Exxon advertisement in the *Baltimore Sun*

[172] Exxon Advertisement, THE BALTIMORE SUN 6G (Jul. 22, 1990).

[173] Exxon Advertisement, THE BALTIMORE SUN 9G (Jul. 29, 1990).

173. Exxon has run a series of full-page advertisements in print editions and posts in the electronic edition of the *New York Times*, as well as on Exxon's YouTube channel, in which Exxon misleadingly promotes its efforts to develop energy from alternative sources such as algae and plant waste—efforts that are vanishingly small in relation to the investments Exxon continues to make in fossil fuel production.

174. For example, an online advertisement in the *New York Times*, accessible to and marketed toward Maryland consumers, promotes the company's development of algae biofuels, but omits that it is extremely resource intensive to produce algae for biofuel on a large scale due to the massive amounts of land and fertilizer needed. The advertisement also misleadingly tells consumers that Exxon is "working to decrease [its] overall carbon footprint," and that the company's "sustainable and environmentally friendly" biodiesel fuel could reduce "carbon emissions from transportation" by greater than 50%.[174]

175. Exxon has also directed multiple greenwashing campaigns to Maryland consumers through social media platforms including Facebook. In fact, more than 6,500 Facebook advertisements from Exxon have reached Maryland between May 2018 and February 2021. For instance, Exxon ran multiple Facebook advertisements in 2020 framing its products as "essential ingredients that go into [personal protective equipment] materials"[175] and that help to create "critical health care supplies"[176] during the COVID-19 pandemic. Exxon ran multiple Facebook advertisements in 2019 attempting to portray the company as a leader in addressing climate

[174] *The Future of Energy? It May Come From Where You Least Expect* (ExxonMobil Paid Post), N.Y. TIMES, https://www.nytimes.com/paidpost/exxonmobil/the-future-of-energy-it-may-come-from-where-you-least-expect.html.

[175] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=412885009916254.

[176] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=261648828615278.

change, by asserting the misleading claim that "natural gas . . . supports renewable energy" and that natural gas and renewable energy are "a perfect pair for a cleaner energy future"[177]; framing itself as "a leader in carbon-capture technology"[178]; and stating that Exxon "will invest up to $100 million over the next 10 years towards research in emissions reduction technologies."[179] In 2018, Exxon ran Facebook advertisements in Maryland portraying itself as "pioneering" technologies to reduce emissions and increase fuel efficiency.[180]

176. Exxon's advertisements promoting its investments in "sustainable and environmentally friendly" energy sources further fail to mention that the company's investment in alternative energy is miniscule compared to its ongoing "business as usual" ramp-up in global fossil fuel exploration, development, and production activities. From 2010 to 2018, Exxon spent only 0.2% of its capital expenditures on low-carbon energy systems, with nearly the totality of its spending (99.8%) focused on maintaining and expanding fossil fuel production. The company has simultaneously invested billions of dollars into development of Canadian tar sands projects, some of the most carbon-intensive oil extraction projects in the world.[181]

177. Exxon's investment is not nearly enough to produce alternative energy on the scale falsely implied and touted by Exxon in its advertisements. A 2019 report by InfluenceMap documents that Exxon's advertised goal of producing 10,000 barrels of biofuel per day by 2025 would equate to only 0.2% of its current refinery capacity—an amount the report referred to as "a

[177] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=452326435699710; Facebook Ad Library, https://www.facebook.com/ads/library/?id=1376317762539386.

[178] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=458849641538422.

[179] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=504245700346068.

[180] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=537719383314400.

[181] Raval & Hook, *supra* note 162. Exxon has invested more than $20 billion in capital expenditures at its open-pit tar sands mining operation at Kearl Lake in Alberta, Canada.

rounding error."[182] This is in sharp contrast to Exxon's projected increases in oil production by more than 35%, meaning any alternative fuel efforts are offset by massive oil emissions.[183]

178. Exxon's claim that its biodiesel fuel could reduce carbon emissions from transportation by greater than 50% is also highly misleading. For example, biodiesel fuel is typically a blend of only 5% to 20% biofuel, with the remainder coming from fossil fuel.[184] Because biodiesel is produced predominantly from fossil fuel, it is not "sustainable" nor "environmentally friendly" as claimed in Exxon's advertisement.

179. Supplementing these misleading campaigns, Exxon has promoted dozens of multimedia advertisements on platforms such as Instagram, Twitter, Facebook, and LinkedIn, where Exxon has millions of social media followers and its content has received hundreds of thousands of "likes" and "views." These advertisements overwhelmingly emphasize its claimed leadership in research on lowering emissions, algae biofuel, climate change solutions, and clean energy research. These advertisements were intended to and did reach the public and consumers in Maryland.

ii. Shell's Misleading and Deceptive Greenwashing Campaigns

180. Like Exxon, Shell has misleadingly promoted itself to Maryland consumers as environmentally friendly through advertisements in publications such as the *New York Times*. The

[182] INFLUENCEMAP, BIG OIL'S REAL AGENDA ON CLIMATE CHANGE (Mar. 2019), https://influencemap.org/report/How-Big-Oil-Continues-to-Oppose-the-Paris-Agreement-38212275958aa21196dae3b76220bddc.

[183] Watts et al., *supra* note 164.

[184] *See* U.S. Department of Energy, Alternative Fuels Data Center, *Biodiesel Blends*, https://afdc.energy.gov/fuels/biodiesel_blends.html.

advertisements are targeted to and read by Maryland consumers and intended to influence consumer demand for Shell's products.

181. As part of Shell's "Make the Future" campaign, the company has published numerous advertisements viewable on the *New York Times*[185] website, in which the company touts its investment in "alternative energy sources," including liquified natural gas ("LNG"), natural gas, and biofuel, which Shell repeatedly refers to as "cleaner sources."

182. Shell also directed misleading Facebook advertisements at consumers in Maryland as part of its "Make the Future" campaign, portraying the company as a leader in reducing emissions and creating new technologies. For example, Shell directed Facebook advertisements at Maryland consumers in 2019 emphasizing "cleaner transport" options, including hydrogen cars and electric bicycles.[186]

183. One Shell advertisement in the *Washington Post*, "The Making of Sustainable Mobility," refers to LNG as "a critical component of a sustainable energy mix" and a "lower-carbon fuel" that could "help decrease" CO_2 emissions.[187] The advertisement emphasizes Shell's leadership in "setting the course" for a "lower-carbon mobility future." Similarly, another Shell advertisement in the *Washington Post*, "The Mobility Quandary," emphasizes Shell's role in working to counteract climate change through investments in alternative energy: "Shell is a bigger

[185] *See, e.g.*, *Moving Forward: A Path To Net-Zero Emissions By 2070* (Shell Paid Post), N.Y. TIMES, https://www.nytimes.com/paidpost/shell/ul/moving-forward-a-path-to-net-zero-emissions-by-2070.html.

[186] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=322631258417230; Facebook Ad Library, https://www.facebook.com/ads/library/?id=2267802866883045.

[187] *See, e.g.*, *The Making of Sustainable Mobility* (Content from Shell), WASH. POST, https://www.washingtonpost.com/brand-studio/shell/the-making-of-sustainable-mobility.

player than you might expect in this budding movement to realize a cleaner and more efficient transportation future."[188]

184. Shell's statements emphasizing its involvement in these many areas of energy-related research, development, and deployment are misleading; the company's investments and activities are substantially smaller than its advertisements lead consumers to believe. In reality, only 1.2% of Shell's capital spending from 2010 to 2018 was in low-carbon energy sources, and that number continues to be heavily outweighed by Shell's continued expansion of its fossil fuel business.[189] Additionally, Shell's promotion of natural gas as a "critical component" of sustainable energy for transportation because it is "cleaner-burning" omits critical information about additional emissions from the extraction and transportation of natural gas, which include significant amounts of the potent greenhouse gas methane. LNG also produces significant greenhouse gas emissions at all stages of its lifecycle: in addition to the underlying natural gas production, processing, and transportation, liquefaction of natural gas to produce LNG requires cooling it to approximately -260°F, regasification, and combustion at the ultimate end use.

iii. BP's Misleading and Deceptive Greenwashing Campaigns

185. BP also has misleadingly portrayed itself as diversifying its energy portfolio and reducing its reliance on fossil fuel sales when its alternative energy portfolio is negligible compared to the company's ever-expanding fossil fuel portfolio. To this end, BP has employed a series of misleading greenwashing advertisements, which are intended to influence consumer demand for its products, including consumers in Maryland.

[188] *The Mobility Quandary* (Content from Shell), WASH. POST, *supra* note 163.

[189] Raval & Hook, *supra* note 162.

186. In 2006, BP placed several ads in the *New York Times* and the *New Yorker*, which reached Maryland consumers, promoting the company's $25 million investment in a BP Solar plant in Frederick, Maryland. BP portrayed itself as a leader in renewable energy by framing its Maryland plant as "the largest fully integrated solar plant in North America" and stating "[i]t's part of our commitment to broaden our renewable energy portfolio." But BP closed the plant four years later.[190]

187. BP has also run several greenwashing Facebook advertisement campaigns targeted at Maryland consumers, misleadingly portraying BP as a leader in reducing emissions and climate action. For example, in 2020, BP ran Facebook advertisements targeted exclusively at Maryland consumers, advocating for a "carbon price on transportation" because "Maryland needs a better environment for business"[191] and stating that the initiative would be "[a] win-win for MD" by supporting economic growth and jobs while "cutting emissions."[192] In 2018, BP ran a series of Facebook advertisements, nearly one-third of which targeted and reached Maryland consumers, promoting the company as "advanc[ing] the energy transition" and "tackl[ing] th[e] dual challenge" of providing more energy while reducing emissions.[193] BP also directed Facebook advertisements at consumers in Maryland and elsewhere in 2019, with misleading claims including

[190] *See* BP, Press Release, *BP Solar completes manufacturing restructuring with closure of Frederick, MD factory* (March 26, 2010), https://www.bp.com/en/global/corporate/news-and-insights/press-releases/bp-solar-completes-man-facturing-restructuring-with-closure-of-frederick-md-factory.html.

[191] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=249313863108772; *see also id.*, https://www.facebook.com/ads/library/?id=1243820179330687.

[192] *See id.*, https://www.facebook.com/ads/library/?id=361394491907894; *see also id.*, https://www.facebook.com/ads/library/?id=681905342682313.

[193] *See id.*, https://www.facebook.com/ads/library/?id=195813711126681; *see also id.*, https://www.facebook.com/ads/library/?id=2192900737702139; *id.*, https://www.facebook.com/ads/library/?id=207189216587385.

that "natural gas can become the centerpiece of a net zero carbon economy"[194]; that "BP is helping lower emissions" in "many ways"[195]; that BP is making its oil and gas products "cleaner and better"[196]; and that "[w]e agree – the world needs fewer emissions."[197]

188. BP ran its extensive "Beyond Petroleum" advertising and rebranding campaign from 2000 to 2008 and even changed its logo to a sunburst, evoking the renewable resource of the sun. BP uses the sunburst logo to advertise at its Maryland gas stations, where consumers purchase BP's gas. The "Beyond Petroleum" advertising campaign falsely portrayed the company as heavily engaged in low-carbon energy sources and no longer investing in but rather moving "beyond" petroleum and other fossil fuels. In truth, BP invested a small percentage of its total capital expenditure during this period in alternative energy research. The vast majority of its capital expenditure was focused on fossil fuel exploration, production, refining, and marketing.[198]

189. In 2019, BP launched an advertising campaign called "Possibilities Everywhere." These advertisements were misleading both in their portrayal of BP as heavily involved in non-fossil energy systems, including wind, solar, and electric vehicles, as well as in their portrayal of natural gas as environmentally friendly.

190. One "Possibilities Everywhere" advertisement, called "Better fuels to power your busy life," stated:

> We [] want—and need—[ ] energy to be kinder to the planet. At BP, we're working to make our energy cleaner and better. [. . .] At BP, we're leaving no stone unturned to provide [the] extra energy the world needs while finding new ways to produce and deliver it with fewer emissions. [. . .] We're bringing solar and wind energy to

[194] *See id.*, https://www.facebook.com/ads/library/?id=680453289147451.

[195] *See id.*, https://www.facebook.com/ads/library/?id=425768214975086.

[196] *See id.*, https://www.facebook.com/ads/library/?id=497972544144556.

[197] *See id.*, https://www.facebook.com/ads/library/?id=435441174014180.

[198] *See* BP, ANNUAL REPORTS AND ACCOUNTS 2008, https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/investors/bp-annual-report-accounts-2008.pdf.

> homes from the US to India. We're boosting supplies of cleaner burning natural gas. [. . .] More energy with fewer emissions? We see possibilities everywhere to help the world keep advancing.[199]

The accompanying video showed a busy household while a voiceover said, "We all want more energy, but with less carbon footprint. That's why at BP we're working to make energy that's cleaner and better."[200]

191. But BP's claim that non-fossil energy systems constitute a substantial portion of BP's business was materially false and misleading. For example, BP owns only approximately 1 gigawatt ("GW") of wind capacity, which is dwarfed by other companies including GE, Siemens, and Vestas (with about 39 GW, 26 GW, and 23 GW capacities, respectively).[201] Overall, installed wind capacity in the United States is approximately 100 GW, meaning BP's installed capacity is a mere 1% of the market.[202] Yet, "Blade runners," another advertisement in BP's "Possibilities Everywhere" campaign, described the company as "one of the major wind energy businesses in the US."[203] In short, BP's relatively small wind power portfolio is materially smaller than that conveyed in the company's advertisements.

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[199] *See* BP, *Better fuels to power your busy life*, https://web.archive.org/web/20191130155554/https://www.bp.com/en/global/corporate/who-we-are/possibilities-everywhere/energy-for-busy-lives.html.

[200] *Id*.

[201] For BP's wind capacity, see Press Release, *BP restructures U.S. Wind Energy Business for growth* (Dec. 21, 2018), https://www.bp.com/en/global/corporate/news-and-insights/press-releases/bp-restructures-us-wind-energy-business-for-growth.html. For wind capacity of GE, Siemens, and Vestas, *see* Greg Zimmerman, *Who's Powering the Wind Industry in 2019? Top 10 Wind Power Companies*, ENERGY ACUITY (Jan. 7, 2019), https://energyacuity.com/blog/top-wind-power-companies.

[202] *See* Elizabeth Ingram, *U.S. wind capacity grew 8% in 2019, AWEA says*, RENEWABLE ENERGY WORLD (Apr. 10, 2019), https://www.renewableenergyworld.com/articles/2019/04/u-s-wind-capacity-grew-8-in-2018-awea-says.html.

[203] *See* BP, *Blade runners*, https://web.archive.org/web/20191130192545/https://www.bp.com/en/global/corporate/who-we-are/possibilities-everywhere/wind-and-natural-gas.html.

192. The same is true for BP's activities in solar energy, which consist predominantly of its purchase of a minority interest in the solar company Lightsource (rebranded Lightsource BP).[204] The purchase price for this interest represents only 0.4% of BP's annual capital expenditure of approximately $16 billion, nearly all of which focuses on fossil fuels.[205] This is a far cry from BP's claim that it was "leaving no stone unturned" to find "new" ways to produce lower-emissions energy and playing a "leading role" in "advancing a low carbon future."

iv. Chevron's Misleading and Deceptive Greenwashing Campaigns

193. Chevron also engaged in greenwashing campaigns designed to deceive consumers about Chevron's products and its commitment to address climate change.

194. Chevron's 2007 "Will You Join Us?" campaign and its 2008 "I Will" campaign both misleadingly portrayed the company as a leader in renewable energy. The campaigns' advertisements portrayed minor changes in consumer choices (e.g., changing light bulbs) as sufficient to address environmental problems such as climate change.[206]

195. The overall thrust of the campaigns was to shift the perception of fault and responsibility for global warming to consumers and make Chevron's role and that of the broader fossil fuel industry appear small. The misleading solution promoted to consumers was not to switch away from fossil fuels, but instead to implement small changes in consumer behavior with continued reliance on fossil fuel products. By portraying greenhouse gas emissions as deriving

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[204] BP ANNUAL REPORT AND FORM 20-F 42 (2017), https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/investors/bp-annual-report-and-form-20f-2017.pdf.

[205] *See BP to maintain reduced capital spending through 2021*, OIL & GAS JOURNAL (Feb. 28, 2017), https://www.ogj.com/general-interest/article/17290398/bp-to-maintain-reduced-capital-spending-through-2021.

[206] *See* Duncan MaCleod, *Chevron Will You Join Us?*, INSPIRATION ROOM (Oct. 9, 2007), http://theinspirationroom.com/daily/2007/chevron-will-you-join-us*; see also* Jean Halliday, *Chevron: We're Not Big Bad Oil*, ADAGE (Sept. 28, 2007), https://adage.com/article/news/chevron-big-bad-oil/120785.

from numerous sources in addition to fossil fuels, Chevron's ads obfuscated the fact that fossil fuels are the primary cause of increased greenhouse gas emissions and the primary driver of climate change.

196. Misleading messages were emblazoned over images of everyday Americans, as in the example highlighted below:

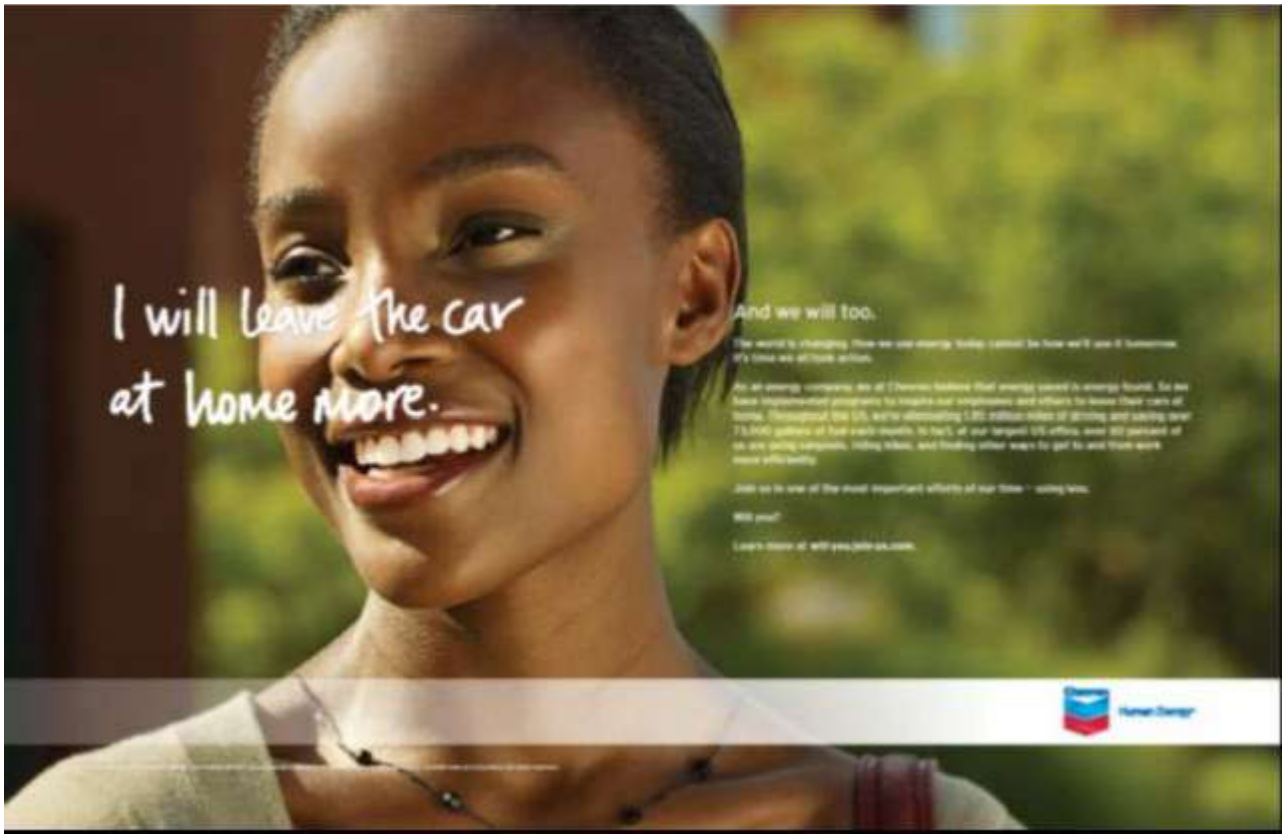

Figure 9: "Will You Join Us?" Chevron advertisement

197. In 2010, Chevron launched an advertising campaign titled "We Agree." The print, internet, and television ad campaign expanded across the United States and internationally. For example, the ad below highlighted Chevron's supposed commitment to the development of renewable energy, stating in large letters next to a photo of a young girl, "It's time oil companies get behind the development of renewable energy. We agree." The ad emphasized: "We're not just

behind renewables. We're tackling the challenge of making them affordable and reliable on a large scale."

Figure 10: "We Agree" Chevron advertisement

198. Chevron's portrayal of itself as a renewable energy leader was false and misleading. In reality, only 0.2% of Chevron's capital spending from 2010 to 2018 was in low-carbon energy sources and 99.8% was in continued fossil fuel exploration and development—a stark contrast to the message communicated to consumers through the company's advertisements.[207]

199. Chevron's "We Agree" campaign also featured misleading television advertisements. In one focused on renewable energy, a teacher says, "Ok, listen. Somebody has got to get serious. We need renewable energy." To which a Chevron environmental operations employee responds, "At Chevron we're investing millions in solar and biofuel technologies to make it work." In reality, Chevron has continued to overwhelmingly focus on fossil fuel extraction

[207] Raval & Hook, *supra* note 162.

and development, and its investment of "millions" in renewables is miniscule in comparison to its investment of billions in fossil fuels.

200. A 2019 Chevron advertisement currently on the *New York Times* website similarly touts the supposed benefits of expanded natural gas production for "unprecedented reductions in U.S. energy-related carbon emissions."[208] But this statement is misleading because the reference to "emissions" relies on studies that measure only CO_2 and ignore other important greenhouse gases, including methane, thereby painting an inaccurate and incomplete picture of natural gas's climate impacts.

201. Chevron has also directed greenwashing Facebook advertisement campaigns at consumers in Maryland, further misleading consumers by emphasizing renewable energy sources the company is "exploring"—when these renewable sources would actually be used to power Chevron's continued and expanded extraction of fossil fuels. For example, in 2019, Chevron ran Facebook advertisements targeted at consumers in Maryland highlighting that the company is "exploring renewable energy sources like wind farms to power [its] operations in the [P]ermian basin."[209] In 2019, Chevron also ran misleading Facebook advertisements in Maryland about how the company is "innovating [its] operations in the [P]ermian basin" through "advanced data analytics to help develop more productive wells" and make its energy sources "ever-cleaner."[210]

[208] Chevron, *How Abundant Energy Is Fueling U.S. Growth* (Chevron Paid Post), N.Y. TIMES (2019), https://www.nytimes.com/paidpost/chevron/how-abundant-energy-is-fueling-us-growth.html.

[209] Facebook Ad Library, https://www.facebook.com/ads/library/?id=2723046461090562; *see also* Facebook Ad Library, https://www.facebook.com/ads/library/?id=542943449584492.

[210] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=735530023588783.

v. Marathon's Misleading and Deceptive Greenwashing Campaigns

202. Like other Fossil Fuel Defendants, Marathon has sought to project an environmentally friendly public image in its advertising, stating, "We have invested billions of dollars to make our operations more energy efficient [and] reduce our emissions."[211] Yet only 1% of the company's capital spend from 2010 to 2018 was on low-carbon energy sources, all of which was in carbon capture and storage.[212]

vi. ConocoPhillips's Misleading and Deceptive Greenwashing Campaigns

203. ConocoPhillips has used misleading Facebook advertisements targeted at Maryland consumers to position itself as supporting the transition to renewable energy and achievement of state climate targets, despite the negligible fraction of its business invested in renewable energy compared to fossil fuels. In 2020, ConocoPhillips ran a Facebook advertisement targeted at Maryland and elsewhere highlighting its "plans to support demand for renewable fuels and help California meet its low-carbon objectives."[213]

204. ConocoPhillips has also directed greenwashing campaigns at consumers in Maryland through publications with significant circulation in Maryland. For example, in 2008, ConocoPhillips ran a series of advertisements in *The Atlantic* under the headline "Tomorrow begins today." The advertisements typically contained a picture of an older person and a child, and the text began with the phrase "[w]e're defined by what we pass on to the next generation," followed by statements such as: "That's why, as one of North America's leading producers of natural gas, ConocoPhillips is providing clean-burning fuel to homes"; "That's why

[211] MARATHON PETROLEUM CORP., PERSPECTIVES ON CLIMATE-RELATED SCENARIOS (Oct. 2018), https://www.marathonpetroleum.com/content/documents/Responsibility/MPC-ClimateReport-2018.pdf.

[212] Raval & Hook, *supra* note 162.

[213] Facebook Ad Library, https://www.facebook.com/ads/library/?id=684217372201533.

ConocoPhillips is working to provide clean, efficient technology to turn coal into clean-burning fuel"; or "That's why ConocoPhillips is funding college and university programs, like biofuels research at Iowa State University, to develop new energy sources." The ads continued with statements such as: "And we're stepping up our own research to create new, cleaner fuels and improve environmental performance."; or "And, because we believe we're responsible for finding long-term solutions for future generations, ConocoPhillips is exploring new sources of secure, stable energy."

205. ConocoPhillips made these misleading statements and omissions despite the fact that fossil fuels are the primary cause of increased greenhouse gas emissions and the primary driver of climate change, and that ConocoPhillips has continued to overwhelmingly focus on fossil fuel extraction and development. Further, describing natural gas as "clean-burning" is misleading because natural gas is a fossil fuel, the burning of which is the leading cause of climate change; and the focus on consumer use obscures the significant methane and other greenhouse gas emissions during the extraction and production of natural gas.

vii. API's Misleading and Deceptive Greenwashing Campaigns

206. API has also devoted considerable resources to deceiving consumers throughout the country about fossil fuels' role in climate change. During the 2017 Super Bowl, the most-watched television program in the United States, API debuted its "Power Past Impossible" campaign, with advertisements that told Americans that the petroleum industry could help them "live better lives." A 2018 study of the advertisements by Kim Sheehan, a Professor at the University of Oregon, concluded that the "campaign provides evidence of greenwashing through

both explicit communications (such as unsubstantiated claims that 'gas comes cleaner' and 'oil runs cleaner') and implicit communications (the use of green imagery)."[214]

207. In lockstep with its member companies, API has also shifted its messaging from climate denial to greenwashing in the last decade. API touts its members' purported commitments to reducing their carbon footprint while continuing its core mission of promoting its members' extraction, production, and sale of fossil fuels to consumers in Maryland, including in Anne Arundel County, and throughout the United States at unprecedented rates. API has directed a broad range of misleading advertisements at Maryland consumers, across print, radio, online, and television channels.

208. For example, in 2016, API introduced a "Renewable Fuel Standard advocacy campaign" in Maryland, featuring television and online advertisements aimed at turning public sentiment in Maryland against the Renewable Fuel Standard. According to API's own press release, the campaign was intended to "focus on how higher ethanol mandates can hurt consumers and threaten to reverse America's energy renaissance which has made the United States the number one producer of oil and natural gas in the world" and "help further inform Maryland voters about the potential dangers of the broken ethanol mandate."[215] This media campaign, directed at Maryland consumers, advocated for the increased production and purchase of oil and natural gas while failing to inform consumers of the effects of fossil fuels on the climate.

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[214] Kim Sheehan, *This Ain't Your Daddy's Greenwashing: An Assessment of the American Petroleum Institute's Power Past Impossible Campaign*, *in* INTELLECTUAL PROPERTY AND CLEAN ENERGY 301–21 (Matthew Rimmer ed., 2018).

[215] Reid Porter, *API Launches New RFS Advocacy Campaign in Maryland Focused on Consumers*, AM. PETROLEUM INST. (Aug. 9, 2016), https://www.api.org/news-policy-and-issues/misc/rfs-advocacy-campaign/rfs-advocacy-maryland.

209. In addition to lobbying state legislators, API launched a comprehensive "Natural Gas Solution" advertising campaign aimed at swaying the Maryland public against a state fracking ban. As part of this campaign, API ran a series of print advertisements in Maryland misleadingly promoting "clean, affordable natural gas"[216] and "clean-burning natural gas"[217] despite the fact that the production and transportation of natural gas results in significant emissions of methane, which can warm the planet more than 80 times as much as carbon dioxide over a 20-year period.[218] API also ran a series of radio advertisements in Maryland in 2016 and 2017 that included similarly misleadingly statements falsely portraying natural gas as "clean burning."[219] Both the print and radio advertisements pointed consumers toward a website entitled "The Natural Gas Solution." The website features an entire page focused on Maryland and directed at Maryland consumers, including in Anne Arundel County, which misleadingly asserts that "[n]atural gas protects the environment," and natural gas "mean[s] clean, affordable energy."[220]

210. Many of API's advertisements, including those directed at Maryland consumers, lead to a website run by API entitled "America's Natural Gas and Oil: Energy for Progress." Among many articles and images promoting fossil fuel companies' claimed contributions to clean energy, the website advertises "5 Ways We're Helping to Cut Emissions" and "4 Ways We're

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[216] *See* American Petroleum Institute Advertisement (Jan. 9, 2017), *available at* https://www.api.org/-/media/Files/News/Ads/print/2017/Maryland-Fracking-Print-Heating-20170109.pdf.

[217] *See* American Petroleum Institute Advertisement (Jan. 9, 2017), *available at* https://www.api.org/-/media/Files/News/Ads/print/2017/Maryland-Fracking-Print-Jobs-20170109.pdf.

[218] Jonah Kessel & Hiroko Tabuchi, *It's a Vast, Invisible Climate Menace. We Made It Visible.*, N.Y. TIMES (Dec. 12, 2019), https://www.nytimes.com/interactive/2019/12/12/climate/texas-methane-super-emitters.html.

[219] *See* American Petroleum Institute Radio Advertisement (Jan. 3, 2016), *recording available at* https://www.api.org/-/media/Files/News/Ads/radio/2017/MD-Fracking-Radio-20170103.mp3.

[220] *See Regions: Maryland*, THE NATURAL GAS SOLUTION, http://naturalgassolution.org/regions/maryland (last visited Feb. 8, 2021).

Protecting Wildlife."[221] These messages are not meant to encourage consumers to transition to low-carbon energy sources—just the opposite. By obfuscating the reality that fossil fuels are the driving force behind anthropogenic climate change, they are designed to increase consumers' use of fossil fuels in order to advance API's core mission of growing its member companies' oil and natural gas businesses.

211. As part of its "Energy for Progress" campaign, API has run a series of Facebook advertisements, many of which have reached a substantial number of Maryland consumers, that falsely paint the fossil fuel industry as a leader on climate change action. For example, in 2020, API ran advertisements with statements such as:

a. "We can tackle climate change and meet the world's energy needs by embracing new innovations together."[222]

b. "Through innovative partnerships, we've reduced CO_2 emissions to the lowest in a generation—and now we're working to reduce methane, too."[223]

c. "We can all agree we need strong climate solutions—and with natural gas as a dominant energy source, U.S. carbon emissions are the lowest levels in a generation."[224]

212. In 2019, API targeted Maryland consumers through similarly misleading Facebook advertisements about the fossil fuel industry's purported climate leadership, with statements including:

[221] *See* American Petroleum Institute, *5 Ways We're Using Energy for Progress*, ENERGY FOR PROGRESS, https://energyforprogress.org/the-basics (last visited Feb. 17, 2021).

[222] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=607947003408893.

[223] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=1088999391451965.

[224] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=2643209332629844.

a. "Millions of problem solvers working in natural gas are taking real steps to reduce greenhouse gas emissions."[225]

b. "We can supply clean, low-cost energy to the rest of the world while reducing harmful emissions. Learn more about how America's natural gas and oil industry is powering both climate solutions and our modern way of life." [226]

c. "America's natural gas & oil industry meets global energy demand, while also reducing methane emissions and its environmental footprint through smart regulations and industry action."[227]

G. Defendants Also Made Misleading Claims About Specific "Green" or "Greener" Fossil Fuel Products.

213. Defendants also have engaged in extensive and highly misleading marketing efforts aimed at promoting certain of their fossil fuel products as "green" and environmentally beneficial.

214. Defendants' advertising and promotional materials fail to disclose the extreme safety risk associated with the use of fossil fuel products, which are causing "catastrophic" climate change, as understood by Defendants for decades. Defendants continue to omit that important information to this day, consistent with their goal of maintaining consumer demand for their fossil fuel products despite the risks they pose for the planet and its people.

215. Defendants misleadingly represent that consumer use of certain fossil fuel products actually helps customers reduce emissions and gain increased fuel economy. But hyping relative climate and "green" benefits while concealing the dangerous effects of continued high rates of fossil fuel use creates an overall misleading picture that hides the dire climate impacts resulting

[225] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=474073120113596.

[226] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=2416220935156215.

[227] *See* Facebook Ad Library, https://www.facebook.com/ads/library/?id=1131467797063870.

from normal consumer use of Defendants' fossil fuel products. Contrary to Defendants' "green" claims, the development, production, refining, and consumer use of Defendants' fossil fuel products (even products that may yield relatively more efficient engine performance) *increase* greenhouse gas emissions to the detriment of public health and consumer welfare.

216. In addition, at the same time Fossil Fuel Defendants have been actively promoting their "greener" gasoline products at Maryland gas stations, including in Anne Arundel County, and on their company websites, Fossil Fuel Defendants have been massively expanding fossil fuel production and increasing emissions. If consumers understood the full degree to which Fossil Fuel Defendants' products contributed to climate change and that Fossil Fuel Defendants had not in fact materially invested in alternative energy sources or were otherwise environmentally cautious, they likely would have acted differently, e.g., by not purchasing Defendants' products or purchasing less of them.

217. In the promotion of these and other fossil fuel products, including at their branded gas and petroleum service stations in Maryland, Defendants fail to disclose the fact that fossil fuels are a leading cause of climate change and that current levels of fossil fuel use—even use of purportedly "cleaner" or more efficient products—represent a direct threat to Anne Arundel County and the environment. Defendants' omissions in this regard are consistent with their goal of influencing consumer demand for their fossil fuel products through greenwashing. Defendants also fail to require their vendors and third-party retail outlets to disclose facts pertaining to the impact the consumption of fossil fuels and their "cleaner" alternatives have on climate change when selling Defendants' products.

218. Defendants' marketing of gasoline, natural gas, and other fossil fuel products to Maryland consumers as "safe," "clean," emissions-reducing," and impliedly beneficial to the

climate—when production and use of such products is the leading cause of climate change—is reminiscent of the tobacco industry's effort to promote "low-tar" and "light" cigarettes as an alternative to quitting smoking after the public became aware of the life-threatening health harms associated with smoking.

219. Defendants' product promotions are positioned to reassure consumers that purchase and use of their products is beneficial in addressing climate change, when, in truth, continued use of such fossil fuels is extremely harmful—just as the tobacco companies' misleadingly promoted "low tar" and "light" cigarettes as a healthier, less harmful choice, when the tobacco companies knew any use of cigarettes was harmful.

220. As with tobacco companies' misleading use of scientific and engineering terms in advertising to enhance the credibility of their representations, Defendants' promotional materials for their fossil fuel products also misleadingly invoke similar terminology to falsely convey to Maryland consumers that the use of these products benefits the environment. For example, Exxon's advertisements of its Synergy™ and "green" Mobil 1™ products similarly reference "meticulous[] engineering," "the latest technology," "test data," "engineers," "innovation," and the claim that "scientists deliver [] unexpected solution[s]."[228] Shell advertises that its Shell Nitrogen Enriched Cleaning System "produces fewer emissions."[229] BP markets its Invigorate gasoline as a "cleaning agent that helps . . . give you more miles per tank," and "help[s] cars become clean, mean, driving machines," and its bp Diesel as "a powerful, reliable, and efficient

[228] *See, e.g.*, EnergyFactor by ExxonMobil, *Green motor oil? ExxonMobil scientists deliver an unexpected solution* (July 19, 2016), https://energyfactor.exxonmobil.com/science-technology/green-motor-oil-exxonmobil-scientists-deliver-unexpected-solution; Exxon Mobil, *Fuels*, https://www.exxon.com/en/fuels (last visited Feb. 1, 2021).

[229] *See, e.g.*, Shell, *Shell Nitrogen Enriched Gasolines*, https://www.shell.us/motorist/shell-fuels/shell-nitrogen-enriched-gasolines.html (last visited Feb. 1, 2021).

fuel made . . . to help reduce emissions."[230] Chevron advertises its Techron fuel with claims that emphasize its supposed positive environmental qualities, such as: "less is more," "minimizing emissions," and "up to 50% cleaner."[231] In a Q&A on Chevron's website, one question says, "I care for the environment. Does Techron impact my car's emissions?" Chevron answers that "[g]asolines with Techron" clean up carburetors, fuel injectors, and intake valves, "giving you reduced emissions."[232]

221. These misrepresentations, which were intended to and did in fact reach and influence Maryland consumers, were misleading because they emphasize the fuels' supposedly environmentally beneficial qualities without disclosing a material fact: the key role fossil fuels play in causing climate change.

H. Defendants Intended for Consumers to Rely on their Concealments and Omissions Regarding the Dangers of Their Fossil Fuel Products.

222. Consumer use of fossil fuel products, particularly by driving gasoline-powered cars and other vehicles, is a significant contributor to climate change.

223. By misleading consumers in Anne Arundel County and elsewhere about the climate impacts of using fossil fuel products, even to the point of claiming that certain of their products may benefit the environment, and by failing to disclose to consumers the climate risks associated with consumers' purchase and use of those products, Defendants have deprived and are continuing to deprive consumers of information about the consequences of consumers' purchasing decisions.

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[230] *See, e.g.*, BP, *Our Fuels*, https://www.bp.com/en_us/united-states/home/products-and-services/fuels.html (last visited Feb. 1, 2021).

[231] *See, e.g.*, Chevron, *Techron*, https://www.techron.com (last visited Feb. 1, 2021).

[232] *Id.*

224. In addition to Defendants misleading Anne Arundel County consumers by affirmatively misrepresenting the state of their and the scientific community's knowledge of climate change and by failing to disclose the dangerous effects of using their products, Defendants have sought to mislead consumers, and induce purchases and brand affinity, with greenwashing advertisements designed to represent Defendants as environmentally responsible companies developing innovative green technologies and products. In reality, Defendants' investment in renewable energy sources is miniscule and their business models continue to center on developing, producing, and selling more of the very same fossil fuel products driving climate change.

225. Defendants intended for Anne Arundel County consumers to rely on their omissions and concealments and to continue purchasing Defendants' fossil fuel products without regard for the damage such products cause.

226. Knowledge of the risks associated with the routine use of fossil fuel products is material to Anne Arundel County consumers' decisions to purchase and use those products.

227. As in the case of cigarettes, history demonstrates that when consumers are made aware of the harmful effects or qualities of the products they purchase, they often choose not to purchase them, to reduce their purchases, or to make different purchasing decisions.

228. There are now various local government initiatives to require climate change warning labels on gasoline pumps based on the principle that consumers will change their purchasing decisions when they have direct access to accurate information about the connection between their consumption of fossil fuels and climate change. Just as health warnings on tobacco products educate consumers and thereby reduce public health risks, governments recognize that fossil fuel warning labels that accurately relay risk can educate consumers and thereby reduce the risks and costs associated with climate change.

229. For example, a consumer who received accurate information that fossil fuel use was a primary driver of climate change and the resultant dangers to the environment and people might purchase less fossil fuel products, or decide to buy none at all. Consumers might opt to avoid or combine car travel trips; carpool; switch to more fuel-efficient vehicles, hybrid vehicles, or electric vehicles; use a car-sharing service; seek transportation alternatives all or some of the time, if available (e.g., public transportation, biking, or walking); or adopt any combination of these choices. In addition, informed consumers contribute toward solving environmental problems by supporting companies that they perceive to be developing "green" or more environmentally friendly products.

I. Defendants' Deceit Only Recently Became Discoverable, and Their Misconduct Is Ongoing.

230. The fact that Defendants and their proxies knowingly provided incomplete and misleading information to the public, including Anne Arundel County consumers, only recently became discoverable due to, among other things: Defendants' above-described campaign of deception, which continues to this day; Defendants' efforts to discredit climate change science and create the appearance such science is uncertain; Defendants' concealment and misrepresentations regarding the fact that their products, including natural gas, cause catastrophic harms; and the fact that Defendants used front groups such as API, the Global Climate Coalition, and the National Mining Association to obscure their involvement in these actions, which put the County off the trail of inquiry.

231. Moreover, Defendants' tortious misconduct, in the form of misrepresentations, omissions, and deceit, began decades ago and continues to this day. As described above, Defendants continue to misrepresent their own activities, the fact that their products cause climate change, and/or the danger presented by climate change, directly and/or through membership in

other organizations. Exemplars of Defendants' continuing misrepresentations, omissions, and deceit follow below.

232. In 2015, then-Exxon Mobil CEO Rex Tillerson argued that climate models were not strong enough to justify a shift away from fossil fuels, saying: "What if everything we do, it turns out our models are lousy, and we don't get the effects we predict? Mankind has this enormous capacity to deal with adversity, and those solutions will present themselves as those challenges become clear."[233]

233. In April 2017, Chevron CEO and Chairman of the Board John Watson said on a podcast, "There's no question there's been some warming; you can look at the temperatures data and see that. The question and debate is around how much, and how much is caused by humans."[234] In March 2018, Chevron issued a report entitled "Climate Change Resilience: A Framework for Decision Making," which misleadingly stated that "[t]he IPCC Fifth Assessment Report concludes that there is warming of the climate system and that warming is due in part to human activity."[235] In reality, the Fifth Assessment report, released in 2013, concluded that "[i]t is *extremely likely* [defined as 95–100% probability] that human influence has been the *dominant cause* of the observed warming since the mid-20th century."[236]

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[233] Dallas Morning News, *Exxon CEO: Let's wait for science to improve before solving problem of climate change* (May 27, 2015), https://www.dallasnews.com/business/energy/2015/05/28/exxon-ceo-let-s-wait-for-science-to-improve-before-solving-problem-of-climate-change.

[234] Columbia Energy Exchange Podcast, *John Watson, CEO, Chevron* (Apr. 10, 2017), https://www.energypolicy.columbia.edu/us-energy-markets-policy.

[235] CHEVRON, CLIMATE CHANGE RESILIENCE: A FRAMEWORK FOR DECISION MAKING 20 (Mar. 2018), https://www.chevron.com/-/media/shared-media/documents/climate-change-resilience.pdf.

[236] IPCC, SUMMARY FOR POLICYMAKERS: WORKING GROUP I CONTRIBUTION TO THE FIFTH ASSESSMENT REPORT 17 (2013), https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_SPM_FINAL.pdf.

234. As recently as June 2018, a post on the official Shell blog stated: "the potential extent of change in the climate itself could now be limited. In other words, the prospect of runaway climate change might have passed."[237] However, this statement is not supported by valid scientific research, and was and is contradicted by various studies.[238]

235. Similarly, ConocoPhillips's "Climate Change Position" on the company's website stated as recently as October 2020 that human activity is "contributing to" climate change and emphasizes "uncertainties," even though the science is clear: "ConocoPhillips recognizes that human activity, including the burning of fossil fuels, is contributing to increased concentrations of greenhouse gases (GHG) in the atmosphere that can lead to adverse changes in global climate. While uncertainties remain, we continue to manage greenhouse gas emissions in our operations and to integrate climate change related activities and goals into our business planning."[239]

J. The County Has Suffered, Is Suffering, and Will Suffer Injuries from Defendants' Wrongful Conduct.

236. Defendants' individual and collective conduct, including, but not limited to, their failures 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 with use of

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[237] David Hone, *Has climate change run its course??*, Shell Climate Change Blog (June 14, 2018), https://blogs.shell.com/2018/06/14/has-climate-change-run-its-course.

[238] *See, e.g.*, Fiona Harvey, *Carbon emissions from warming soils could trigger disastrous feedback loop*, THE GUARDIAN (Oct. 5, 2017), https://www.theguardian.com/environment/2017/oct/05/carbon-emissions-warming-soils-higher-than-estimated-signalling-tipping-points; Jonathan Watts, *Domino-effect of climate events could move Earth into a 'hothouse' state*, THE GUARDIAN (Aug. 7, 2018), https://www.theguardian.com/environment/2018/aug/06/domino-effect-of-climate-events-could-push-earth-into-a-hothouse-state; Fiona Harvey, *'Tipping points' could exacerbate climate crisis, scientists fear*, THE GUARDIAN (Oct. 9, 2018), https://www.theguardian.com/environment/2018/oct/09/tipping-points-could-exacerbate-climate-crisis-scientists-fear.

[239] ConocoPhillips, *Climate Change Position* (Oct. 21, 2020), https://web.archive.org/web/20201028115814/https://www.conocophillips.com/sustainability/integrating-sustainability/sustainable-development-governance/policies-positions/climate-change-position.

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; is a direct and proximate cause that brought about or helped bring about global warming and consequent sea level rise and attendant flooding, erosion, and loss of wetlands and wooded areas in Anne Arundel County; increased frequency and intensity of extreme weather events in Anne Arundel County, including coastal and inland flooding, extreme heat, extreme precipitation events, coastal storms, and others; and the cascading social, economic, and other consequences of these environmental changes. These adverse impacts will continue to increase in frequency and severity in Anne Arundel County.[240]

237. As actual and proximate results of Defendants' conduct, which caused the aforementioned environmental changes, the County has suffered and will continue to suffer severe harms and losses, including, but not limited to: injury or destruction of County-owned or operated infrastructure 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 adaptation and resiliency to global warming's effects, including flooding and sea level rise; and increased costs associated with mitigating public health impacts.

238. The County already has incurred, and will foreseeably continue to incur, injuries and damages due to Defendants' conduct, their 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, Anne

[240] *See* 2018 HAZARD MITIGATION PLAN UPDATE, *supra* note 12, at 3-42, 6-72–6-73, 6-77–6-106, 6-113–6-127, 6-137–6-140; *Inland and Coastal Flooding*, *supra* note 9; *Maryland's Sea Level Is Rising*, *supra* note 9; San Felice, *supra* note 9; *Surging Seas Risk Finder*, *supra* note 12; GENERAL DEVELOPMENT PLAN 2008, *supra* note 13, at 1; GENERAL DEVELOPMENT PLAN 2009, *supra* note 13 at 102, 107.

Arundel County, has, is, and will experience significant adverse impacts including, but not limited to, the following:

a. Sea levels have already risen 10 inches in parts of Anne Arundel County since 1950 and approximately one foot in the Chesapeake Bay in the past century.[241] Parts of Anne Arundel County are experiencing sea level rise of about one inch every five years, and average sea levels along the Maryland coast are rising at nearly twice the global rate, in part due to land subsidence.[242] Anne Arundel County will experience significant additional and accelerating sea level rise over the coming decades, which would cause severe harm to the County and its residents. The County is projected to experience at least five feet of sea level rise before the end of this century,[243] which poses serious risks to nearly 10,000 residents; more than 4,300 homes; and 50 miles of roads. There are also multiple contamination risks, including eleven EPA-listed contamination sites, eight wastewater sites, and two hazardous waste sites which are located below five feet of elevation in Anne Arundel County.[244] Additionally, much public infrastructure is at risk of inundation with up to five feet of sea level rise, including at least 53,729 feet of water lines, 66,212 feet of storm drain pipes, 9 stormwater management facilities, 169,202 feet of sewer gravity lines, 137,663 feet of sewer force mains, 9 water hydrants, and 24 sewer pumping stations; 6,905 acres of land cover and 18,850 properties, representing a total assessment value of more than $4.1 billion; 59 parks,

[241] *Maryland's Sea Level Is Rising*, *supra* note 9; GENERAL DEVELOPMENT PLAN 2008, *supra* note 13, at 1.

[242] *See Maryland's Sea Level Is Rising*, *supra* note 9; GENERAL DEVELOPMENT PLAN 2008, *supra* note 13, at 1.

[243] *See* GIS DATA PRODUCTS TO SUPPORT CLIMATE CHANGE ADAPTION PLANNING: ANNE ARUNDEL COUNTY, MARYLAND, MARYLAND DEP'T OF TRANSP. 6–7 (Fall 2016), https://www.esrgc.org/documents/resources/reports/GIS%20SLC%20Report%20-%20Anne%20Arundel.pdf.; *Surging Seas Risk Finder*, *supra* note 12.

[244] *See Surging Seas Risk Finder*, *supra* note 12.

including up to 46 County parks; and 221 marinas and yacht clubs in Anne Arundel County.[245] Coastal and inland flooding are also accelerating and worsening in Anne Arundel County, jeopardizing roads and other critical infrastructure; public and private property; natural and historic resources; and public safety, health, and well-being.[246] Indeed, 7,000 homes in Anne Arundel County may be underwater by 2040.[247] Low-lying coastal communities within Anne Arundel County are at particular risk of inundation and flooding from sea level rise and storm surge, including the peninsular community of Shady Side, where only one road enables residents to enter or leave the community.[248] By inundating roads, sea level rise jeopardizes access to Shady Side and many other communities throughout Anne Arundel County and may render some properties or communities inaccessible.[249] In fact, by 2100, the entire Shady Side peninsula will be at risk from a 100-year flood (a coastal flood with a 1% chance of occurring in any given year),[250] jeopardizing more than 4,500 residential properties. As sea level rise accelerates, travel disruptions are expected to impact not only coastal communities such as Shady Side but also more inland locations in Anne Arundel County.[251] Additionally, a Superfund site in the unincorporated Anne Arundel County community of Harmans is vulnerable to flooding as climate change accelerates, endangering public health and the environment.[252] Saltwater intrusion into groundwater is also

[245] 2018 HAZARD MITIGATION PLAN UPDATE, *supra* note 12, at 3-39–3-43.
[246] *See* 2018 HAZARD MITIGATION PLAN UPDATE, *supra* note 12, at 6-77–6-89; *Inland and Coastal Flooding*, *supra* note 9; *See Surging Seas Risk Finder*, *supra* note 12.
[247] Collins, *supra* note 13.
[248] *See* 2018 HAZARD MITIGATION PLAN UPDATE, *supra* note 12, at 3-42; GENERAL DEVELOPMENT PLAN 2008, *supra* note 13, at 1, 6–8; San Felice, *supra* note 9.
[249] *See* 2018 HAZARD MITIGATION PLAN UPDATE, *supra* note 12, at 3-42; GENERAL DEVELOPMENT PLAN 2008, *supra* note 13, at 7–8; San Felice, *supra* note 9.
[250] *See* GIS DATA PRODUCTS TO SUPPORT CLIMATE CHANGE ADAPTION PLANNING, *supra* note 243, at 13.
[251] *See id.* at 98.
[252] *See* David Hasemyer & Lise Olsen, *Battered, Flooded and Submerged: Many Superfund Sites Are Dangerously Threatened by Climate Change*, INSIDE CLIMATE NEWS (Sept. 24, 2020),

expected to contaminate local drinking water supplies in parts of Anne Arundel County, including Annapolis Neck, requiring residents to drill new wells at least 270 feet deep.[253] The destructive force and flooding potential from storm surges during coastal storms and other weather events have increased as the mean sea level has increased, and the combined effects of storm surges and sea level rise will continue to exacerbate flooding impacts on the County. Even if all carbon emissions were to cease immediately, Anne Arundel County would continue to experience sea level rise due to the "locked in" greenhouse gases already emitted and the time lag between emissions and sea level rise.

b. The County will be required to incur significant costs to address sea level rise, flooding, and other impacts of climate change. For instance, the County expects to spend at least $237 million to elevate public roads and repair or replace culverts threatened by inundation, flooding, and storms. Additionally, the County anticipates spending tens of millions of dollars on a "Septic-to-Sewer Conversion Program"[254] to connect the septic systems of up to 6,000 homes in areas vulnerable to flooding or with high groundwater tables to wastewater treatment plants in order to protect human health, drinking water supplies, and the fragile ecosystem of the Chesapeake Bay. Furthermore, the County is investing in a restoration project for Sawmill Creek to restore habitat lost from past flooding and scouring events, and provide flood control for surrounding communities, which will cost more than $13 million. The need for similar projects will likely increase into the future as the County seeks to reduce the impacts of flooding on human health and the environment. The County is also spending funds to help communities adapt to and

https://insideclimatenews.org/news/24092020/climate-change-epa-superfund-sites-hurricanes-floods-fires-sea-level-rise/.

[253] *See Water Quality Problem Areas Based on Existing Conditions*, ANNE ARUNDEL CTY. DEP'T OF HEALTH, https://aahealth.org/water-quality-problem-areas/ (last visited Feb. 26, 2021).

[254] *See* ANNE ARUNDEL CTY. SEPTIC TASK FORCE – 2019 FINAL REPORT, *supra* note 22, at 14–17.

mitigate the impacts of climate change, including through a "Replant Anne Arundel" urban tree planting program designed to reduce urban heat island impacts and intercept rainfall from increasingly frequent storms. The County has already contributed nearly $200,000 to the Replant Anne Arundel program. The County will also be required to spend additional funds providing public assistance payments in response to climate-related disasters and emergencies. For instance, major emergencies between 2009 and 2015, including winter storms, hurricanes, and tropical storms, resulted in millions of dollars of disaster costs in the County. The County has also invested in or identified several hazard mitigation projects to be financed through millions of dollars in capital improvement bonds, including, but not limited to, the Cape St. Claire stormwater runoff control project, back-up power sources for several public shelters, ongoing shoreline erosion control projects, ongoing emergency storm drain projects, and ongoing stormwater management infrastructure projects.[255]

c. Global warming is causing more extreme weather events in Anne Arundel County, with attendant physical and environmental consequences, including flooding, extreme precipitation, erosion, extreme heat events, and storms.[256] In the Northeast, including Maryland, the amount of precipitation falling as downpours has increased significantly over the past century, which increases the risks of flash flooding and soil erosion.[257] Between 1958 and 2012, the Northeast experienced a more than 70% increase in the amount of rainfall during heavy

[255] *See* 2018 HAZARD MITIGATION PLAN UPDATE, *supra* note 12, at 8-185–8-187.
[256] *See* Raymond Bradley et al., *Climate Change State Profiles Maryland*, CLIMATE SYS. RSCH. CTR., https://www.geo.umass.edu/climate/stateClimateReports/MD_ClimateReport_CSRC.pdf; *Climate Change Impacts*, U. MD. EXTENSION, https://extension.umd.edu/hgic/topics/climate-change-impacts (last visited Feb. 3, 2021); Mufson et al., *supra* note 256.
[257] *See Climate Change Impacts*, *supra* note 256.

precipitation events—the greatest increase of any region in the United States.[258] The total annual precipitation in Maryland has increased over the past several decades and has frequently exceeded the 20th-century average in recent years.[259] Maryland's average annual precipitation is projected to rise throughout this century, with increasingly frequent intense rainfall events: By 2100, a 100-year rain storm event will likely occur every 20 to 50 years.[260] Heavier precipitation, along with rising groundwater tables, contributes to increased risks of stormwater flooding events and inundation in Anne Arundel County. In recent years, extreme precipitation events in Maryland have increased the risk of hospitalization from asthma by 11%.[261] In Anne Arundel County, hospitalization rates for asthma are more than four times higher for Black residents than for white residents, and rates of asthma-related emergency department visits are more than five times higher for Black residents than white residents.[262] The frequency of storms is also increasing in Anne Arundel County. A storm with a 1% chance of occurring in 2020 is estimated to have a 10% chance of occurring by 2050.[263] Coastal storms have already caused tens of millions of dollars in damages in Anne Arundel County, along with fatalities, floods, power outages, road closures, and other disasters. Many of the impacts related to extreme weather events will particularly harm low-

[258] *See Climate Impacts in the Northeast*, U.S. ENVTL. PROT. AGENCY, https://archive.epa.gov/epa/climate-impacts/climate-impacts-northeast.html (last visited March 1, 2021).
[259] *See* Bradley et al., *supra* note 256, at 7.
[260] Jennifer Runkle et al., *Maryland State Climate Summary*, NOAA (2017), https://statesummaries.ncics.org/chapter/md.
[261] *See Highlights from the Maryland Climate and Health Profile Report*, MD. DEP'T OF HEALTH & MENTAL HYGIENE 2–3 (Apr. 2016), https://sph.umd.edu/sites/default/files/images/Dean%27s%20Office/MD_climate_and_health_highlights.pdf.
[262] *See* JURISDICTION PROFILE: ASTHMA IN ANNE ARUNDEL COUNTY, MD. ASTHMA CONTROL PROGRAM 2–3 (Aug. 2011), https://phpa.health.maryland.gov/mch/Documents/asthma_control/Profile_Anne%20Arundel.pdf.
[263] San Felice, *supra* note 9.

income County residents, many of whom already experience health access barriers, food insecurity, and other negative social and health indicators.[264]

d. Oceans are acidifying at an alarming rate, endangering Anne Arundel County's coastal ecosystems and economy. The Chesapeake Bay, comprising 64,000 square miles of watershed, is the largest estuary in North America and among the world's most productive estuaries. The Chesapeake Bay region is the nation's third most vulnerable region to sea level rise, while also threatened by changes in river discharge due to extreme precipitation, higher water temperatures, and acidification stemming from climate change.[265] Changes to coastal, bay, and inland water quality caused by climate change may limit recreational and other uses of surface water,[266] which could endanger industrial and recreational water activities in Anne Arundel County and their associated economic benefits for the County and its residents. Water temperatures in the Chesapeake Bay have already risen by 3°F and additional temperature rise poses risks to commercial fisheries and aquatic life in the Bay.[267] Several important fisheries species, including blue crabs, clams, and oysters, are projected to move northwards as waters warm and suitable habitats shift.[268] Ocean acidification will have substantial direct and indirect effects on the species and ecosystems of the Chesapeake Bay; more acidic conditions cause shifts in carbonate chemistry

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[264] *See* COMMUNITY HEALTH NEEDS ASSESSMENT (CHNA), ANNE ARUNDEL CTY. 8, 15–16, 41 (2019), https://www.aacounty.org/boards-and-commissions/partnership-for-children-youth-families/forms-and-publications/partnership-chna-master.pdf.

[265] Runkle et al., *supra* note 260.

[266] *See* 2018 HAZARD MITIGATION PLAN UPDATE 3-37, ANNE ARUNDEL CTY. (2018), https://www.aacounty.org/departments/office-of-emergency-management/forms-publications/Hazard-Mitigation-Plan-2018.pdf.

[267] *See* MD. COMM'N ON CLIMATE CHANGE, REPORT PREPARED FOR GOV. LARRY HOGAN & MD. GEN. ASSEMB. 16 (Dec. 2015), https://mde.maryland.gov/programs/Marylander/Documents/MCCC2015FinalReport.pdf.

[268] *See* MARYLAND COMMISSION ON CLIMATE CHANGE, 2016 ANNUAL REPORT 18 (2016), https://mde.state.md.us/programs/Marylander/Documents/MCCC/Publications/2016Report/MCCC_2016_final.pdf.

that make it harder for animals to form shells, thereby leading to thinner shells in bivalves such as oysters and clams.[269] Ocean acidification may also affect rates of reproduction and the outcome of predator-prey interactions, which can substantially alter the coastal ecosystem. Warming temperatures and acidification not only harm natural resources, but also harm the Anne Arundel County communities and industries that rely on them for sustenance, tourism, and business, thus injuring the County's economy and reducing tax revenue.

e. The annual air temperature has increased and will continue to increase in Anne Arundel County due to climate change. Annual temperatures in Anne Arundel County have already risen 1.4°C and are continuing to rise at a faster rate than the U.S. average.[270] Within 60 years, the climate in parts of Anne Arundel County will be approximately 9°F warmer and more humid.[271] Warming air temperatures have and will lead to poorer air quality, more heat waves, expanded pathogen and pest ranges, impacts on agricultural production, increased costs of cooling, 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, and increased allergen exposure. Higher average and more frequent extreme temperatures are expected to drive up energy use due to increased air conditioning use. Extreme heat events are occurring more frequently in Maryland, increasing the risk of heart attacks by 11%, particularly among

[269] TASK FORCE TO STUDY THE IMPACT OF OCEAN ACIDIFICATION ON STATE WATERS, REPORT TO THE GOVERNOR AND THE MARYLAND GENERAL ASSEMBLY 21 (Jan. 9, 2015), https://dnr.maryland.gov/waters/bay/Documents/MDOATF/OA_Report_010915.pdf.

[270] *See* Mufson et al., *supra* note 256.

[271] Rick Hutzell, *New climate study: Annapolis might feel like Mississippi in 60 years*, CAPITAL GAZETTE (Feb. 12 2019), https://web.archive.org/web/20201201082741/https://www.capitalgazette.com/environment/ac-cn-climate-model-20190212-story.html.

communities of color.[272] Maryland's coastal communities are also experiencing higher risks of salmonella and other infections due to extreme heat and extreme precipitation events.[273] Extreme heat events are projected to rise in all of Maryland's counties into 2040 and beyond.[274] Due to systemic inequities, communities of color and low-income communities are particularly vulnerable to extreme heat events. "Pregnant women exposed to high temperatures or air pollution are more likely to have children who are premature, underweight or stillborn, and African-American mothers and babies are harmed at a much higher rate than the population at large."[275] The urban heat island effect, which affects urbanized communities in Anne Arundel County, exacerbates the health impacts of extreme heat on communities of color and low-income communities in urban areas. County residents who face housing insecurity are also more vulnerable to the extreme temperatures and air pollution exacerbated by climate change.

239. Climate change is stressing important natural, cultural, and historical resources in Anne Arundel County. Sea level rise, coastal flooding, and shoreline erosion are and will continue to impact Anne Arundel County's coastal ecosystems, while also reducing recreational opportunities, limiting traditional coastal uses, and jeopardizing human health and property. Sea level rise is expected to lead to a loss of wooded areas and open wetlands in Anne Arundel County. Many miles of Anne Arundel County's shoreline have already experienced erosion, including moderate to high rates of erosion along some areas of shoreline. Hurricanes, tropical cyclones, and

[272] Between 2000 and 2012, the risk of heart attacks associated with extreme heat events increased three times more for Black Marylanders than for white Marylanders. *See Highlights from the Maryland Climate and Health Profile Report*, *supra* note 261, at 1–2.

[273] *See id.*

[274] *Id.*

[275] Christopher Flavelle, *Climate Change Tied to Pregnancy Risks, Affecting Black Mothers Most*, N.Y. TIMES (June 18, 2020), https://www.nytimes.com/2020/06/18/climate/climate-change-pregnancy-study.html.

other coastal storms generate significant erosion along the Anne Arundel County shoreline, which can require years to decades for beaches to naturally recover. Coastal erosion may damage or destroy millions of dollars of shoreline development in Anne Arundel County, and the loss of beach shoreline will likely contribute to decreased tourism and associated harms to the County and its residents. Climate change also threatens to damage or destroy many irreplaceable cultural and historical resources in Anne Arundel County, where highly valuable archeological resources have been discovered. 422 archaeological sites in Anne Arundel County—nearly a third of the County's recorded archaeological sites, including both prehistoric and historic sites—and at least 55 historical sites, such as historic buildings, bridges, lighthouses, districts, and roads, are at risk under up to five feet of sea level rise.[276] Given the economic significance of the tourism sector in Anne Arundel County, which generates billions in visitor spending and millions in tax revenue,[277] threats to the tourism industry stemming from impacts to natural, cultural, and historical resources will compound the County's injuries stemming from climate change.

240. Compounding these physical and environmental impacts are cascading social and economic impacts that cause injuries to the County and that have and will continue to arise out of localized climate change-related conditions.

241. Anne Arundel County's low-income communities and communities of color are particularly at risk from the impacts of climate change. Climate change is exacerbating, and will continue to exacerbate, underlying inequities faced by low-income communities and communities of color, who are disproportionately exposed to environmental hazards and at risk for many health conditions. Many of the health, economic, and job-related impacts of climate change in Maryland

[276] *See* 2018 HAZARD MITIGATION PLAN UPDATE, *supra* note 12, at 3-41–3-45, 6-87, 6-137–6-138, 8-185–8-187.
[277] *See* ECONOMIC IMPACT OF VISITATION REPORT, *supra* note 14, at 3–4.

disproportionately impact communities who are particularly vulnerable due to their proximity to impacts such as sea level rise or who lack sufficient resources to respond to the impacts of climate change.[278] Indeed, the majority of extremely low-income renters and homeowners in Anne Arundel County, as well as single-parent families, seniors, and people with disabilities, are at risk of housing insecurity or homelessness if an emergency occurs.[279] Low-income communities and communities of color are often unable to prepare in advance for events caused or exacerbated by climate change, and are forced to use a bigger proportion of their resources to rebuild in the aftermath—or are unable to rebuild at all.

242. The County has already incurred damages as a direct and proximate result of Defendants' conduct. The County 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 elevating roads, repairing or replacing culverts, implementing stormwater runoff controls, constructing additional stormwater management infrastructure, and restoring dams; a program to connect residential septic systems to wastewater treatment plants; and planning efforts. Additionally, the County has incurred and will incur significant expense in implementing policies to mitigate and adapt to climate change impacts, including through urban tree planting programs, water quality and habitat restoration projects, erosion control projects, and floodplain and coastal flood inundation mapping initiatives. The County has already allocated funds to climate adaptation, and future climate adaptation will come at a substantial cost to the County. The County has incurred costs in responding to incidents such as flooding and storm

[278] *See* MARYLAND COMMISSION ON CLIMATE CHANGE, *supra* note 268, at 23–24.
[279] *See* COMMUNITY HEALTH NEEDS ASSESSMENT, *supra* note 264, at 45.

events that injure persons and property within Anne Arundel County and/or that the County owns or bears responsibility for. The County's property and resources[280] have been and will continue be inundated and/or flooded by sea water, among other climate change-related intrusions, 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.

243. But for Defendants' conduct, the County 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.

244. Defendants' conduct as described herein is therefore an actual, direct, and proximate cause of the County's climate crisis-related injuries, and was necessary to those injuries and brought about or helped to bring about those injuries.

VI. CAUSES OF ACTION

FIRST CAUSE OF ACTION
(Public Nuisance)
(Against Fossil Fuel Defendants)

243. Plaintiff Anne Arundel County, Maryland realleges every allegation contained above as though set forth herein in full.

244. Fossil Fuel Defendants, individually and in concert with each other, by their affirmative acts and omissions, have created, contributed to, and/or assisted in creating, conditions that significantly interfere with rights general to the public, including public health, public safety, the public peace, the public comfort, and the public convenience.

245. The nuisance created and contributed to by Fossil Fuel Defendants is substantial and unreasonable. It has caused, continues to cause, and will continue to cause far into the future,

[280] Plaintiff disclaims injuries arising on federal property in the County.

significant harm to the community as alleged herein, and that harm outweighs any offsetting benefit. The health and safety of County residents is a matter of great public interest and of legitimate concern for the County and the entire state.

246. Fossil Fuel Defendants specifically created, contributed to, and/or assisted, and/or were a substantial contributing factor in the creation of the public nuisance by, *inter alia*:

a. Controlling every step of the fossil fuel product supply chain, including the extraction of raw fossil fuel products, including crude oil, coal, and natural gas from the Earth; the refining and marketing of those fossil fuel products; and the placement of those fossil fuel products into the stream of commerce;

b. Affirmatively and knowingly promoting the sale and use of fossil fuel products which Fossil Fuel 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, and extreme heat events;

c. Affirmatively and knowingly concealing the hazards that Fossil Fuel 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;

d. Disseminating and funding the dissemination of information intended to mislead customers, consumers, and regulators regarding the known and foreseeable risks of climate change and its consequences, which follow from the normal, intended use of Fossil Fuel Defendants' fossil fuel products;

e. Affirmatively and knowingly campaigning against the regulation of their fossil fuel products, despite knowing the hazards associated with the normal use of those

products, to continue profiting from use of those products by externalizing those known costs onto people, the environment, and communities, including the County; and failing to warn the public about the hazards associated with the use of fossil fuel products.

247. Because of their superior knowledge of fossil fuel products, and their position controlling the extraction, refining, development, marketing, and sale of fossil fuel products, Fossil Fuel Defendants were in the best position to prevent the nuisance, but failed to do so, including by failing to warn customers, retailers, regulators, public officials, or the County of the risks posed by their fossil fuel products, and failing to take any other precautionary measures to prevent or mitigate those known harms.

248. The public nuisance caused, contributed to, maintained, and/or participated in by Fossil Fuel Defendants has caused and/or imminently threatens to cause special injury to the County. The public nuisance has also caused and/or imminently threatens to cause substantial injury to real and personal property directly owned by the County for the cultural, historic, and economic benefit of Anne Arundel County's residents, and for their health, safety, and general welfare.

249. The seriousness of rising sea levels, 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, is extremely grave and outweighs the social utility of Fossil Fuel 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 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 property in the County;

b. the ultimate nature of the harm is the destruction of real and personal property, loss of public cultural, historic, 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 County, which will actually be borne by the County's citizens 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; and diversion of tax dollars away from other public services to the mitigation of and/or adaptation to climate change impacts;

d. Plaintiff'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. the social benefit of placing fossil fuels into the stream of commerce is outweighed by the availability of other sources of energy that could have been placed into the stream of commerce that would not have caused anthropogenic climate change and its physical and environmental consequences as described herein, and by the severe injuries caused by Fossil Fuel Defendants intentional and knowing

misrepresentations concerning their products' foreseeable harms; Fossil Fuel 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, Fossil Fuel Defendants instead acted affirmatively to obscure them from public consciousness;

f. the cost to society of each ton of greenhouse gases emitted into the atmosphere increases as total global emissions increase, so that unchecked extraction and consumption of fossil fuel products is more harmful and costly than moderated extraction and consumption; and

g. it was practical for Fossil Fuel 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 including providing adequate warnings and not making deceptive representations regarding their products, that would have mitigated greenhouse gas pollution and eased the transition to a lower carbon economy.

250. Fossil Fuel Defendants' conduct also constitutes a nuisance *per se* because it independently violates other applicable statutes. As set forth below, Fossil Fuel Defendants' conduct violates the Maryland Consumer Protection Act.

251. Fossil Fuel Defendants' actions were, at the least, a substantial contributing factor in the unreasonable violation of public rights enjoyed by the County and its residents as set forth above, because Fossil Fuel 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 Fossil Fuel Defendants' conduct the violations of public rights described herein would not have occurred, or would have been less severe.

252. Fossil Fuel Defendants' wrongful conduct as set forth herein was committed with actual malice. Fossil Fuel Defendants had actual knowledge that their products were dangerous and 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 impacts upon the rights of others, including Anne Arundel County and its residents. Therefore, the County requests an award of punitive damages in an amount reasonable, appropriate, and sufficient to punish these Fossil Fuel Defendants for the good of society and deter Fossil Fuel Defendants from ever committing the same or similar acts.

253. Anne Arundel County seeks an order that provides for abatement of the public nuisance Fossil Fuel Defendants have created, enjoins Fossil Fuel Defendants from creating future common-law nuisances, and awards the County damages in an amount to be determined at trial. Anne Arundel County pursues these remedies in its sovereign capacity for the benefit of the general public.

SECOND CAUSE OF ACTION
(Private Nuisance)
(Against Fossil Fuel Defendants)

254. Plaintiff Anne Arundel County, Maryland realleges every allegation contained above as though set forth herein in full.

255. Plaintiff owns, occupies, and manages extensive real property within Anne Arundel County, which has been and will continue to be injured by rising sea levels, higher storm surges, 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.

256. Fossil Fuel Defendants, and each of them, by their acts and omission, have created and contributed to conditions on Plaintiff's property, and permitted those conditions to persist, which substantially and unreasonably interfere with Plaintiff's use and enjoyment of such property for the public benefit and welfare, and which materially diminishes the value of such property for its public purposes, by increasing sea levels, causing more frequent and extreme drought, causing more frequent and extreme precipitation events, causing increased frequency and severity of heat waves and extreme temperatures, and the associated consequences of those physical and environmental changes.

257. Plaintiff has not consented to Fossil Fuel Defendants' conduct in creating the unreasonably injurious conditions on its real property or to the associated harms of that conduct.

258. The seriousness of rising sea levels, higher storm surges, 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, is extremely grave and outweighs the social utility of Fossil Fuel 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 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 property in the County;

b. the ultimate nature of the harm is the destruction of real and personal property, loss of public cultural, historic, 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 County, which will actually be borne by the County's citizens 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; and diversion of tax dollars away from other public services to the mitigation of and/or adaptation to climate change impacts;

d. Plaintiff'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. the social benefit of placing fossil fuels into the stream of commerce is outweighed by the availability of other sources of energy that could have been placed into the stream of commerce that would not have caused anthropogenic climate change and its physical and environmental consequences as described herein, and by the severe injuries caused by Fossil Fuel Defendants intentional and knowing misrepresentations concerning their products' foreseeable harms; Fossil Fuel 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, Fossil Fuel Defendants instead acted affirmatively to obscure them from public consciousness;

f. the cost to society of each ton of greenhouse gases emitted into the atmosphere increases as total global emissions increase, so that unchecked extraction and consumption of fossil fuel products is more harmful and costly than moderated extraction and consumption; and

g. it was practical for Fossil Fuel 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.

259. Fossil Fuel Defendants' conduct was a direct and proximate cause of Plaintiff's injuries, and a substantial factor in the harms suffered by Plaintiff as described in this Complaint.

260. Fossil Fuel Defendants' acts and omissions as alleged herein are indivisible causes of Anne Arundel County's injuries and damage as alleged herein, because, *inter alia*, it is not possible to determine the source of any individual molecule of CO_2 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 comingle in the atmosphere.

261. Wherefore, Plaintiff prays for relief as set forth below.

THIRD CAUSE OF ACTION
(Strict Liability Failure to Warn)
(Against Fossil Fuel Defendants)

262. Plaintiff Anne Arundel County, Maryland realleges every allegation contained above as though set forth herein in full.

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

264. Fossil Fuel Defendants knew or should have known, based on information passed to them from their internal research divisions and affiliates 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 physical and environmental changes, including the County's harms and injuries described herein.

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

266. Throughout the times at issue, Fossil Fuel Defendants breached their duty of care by failing to adequately warn any consumers or any other party of the climate effects that inevitably flow from the intended use of their fossil fuel products.

267. Throughout the times at issue, Fossil Fuel Defendants individually and in concert widely disseminated misleading marketing materials, tried to discredit the scientific knowledge generally accepted at the time, advanced pseudo-scientific theories of their own, and developed

public relations materials that prevented reasonable consumers from recognizing the risk that fossil fuel products would cause grave climate changes, undermining and rendering ineffective any warnings that Fossil Fuel Defendants may have also disseminated.

268. Given the grave dangers presented by the climate effects that inevitably flow from the normal 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.

269. Fossil Fuel Defendants' conduct was a direct and proximate cause of Plaintiff's injuries and a substantial factor in the harms suffered by Plaintiff as alleged herein.

270. As a direct and proximate result of Fossil Fuel Defendants' and each of their acts and omissions, Anne Arundel County 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 County and residents.

271. Fossil Fuel Defendants' acts and omissions as alleged herein are indivisible causes of Anne Arundel County'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_2 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 comingle in the atmosphere.

272. Fossil Fuel Defendants' wrongful conduct as set forth herein was committed with actual malice. Fossil Fuel Defendants had actual knowledge that their products were dangerous and that they had not provided reasonable and adequate warnings against those known dangers,

and acted with conscious disregard for the probable dangerous consequences of their conduct's and products' foreseeable impact upon the rights of others, including Anne Arundel County. Therefore, the County requests an award of punitive damages in an amount reasonable, appropriate, and sufficient to punish these Fossil Fuel Defendants for the good of society and deter Fossil Fuel Defendants from ever committing the same or similar acts.

273. Wherefore, Plaintiff prays for relief as set forth below.

FOURTH CAUSE OF ACTION
(Negligent Failure to Warn)
(Against Fossil Fuel Defendants)

274. Plaintiff Anne Arundel County, Maryland realleges every allegation contained above, as though set forth herein in full.

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

276. Fossil Fuel Defendants knew or should have known, based on information passed to them from their internal research divisions and affiliates 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 physical and environmental changes, including the County's harms and injuries described herein.

277. Fossil Fuel Defendants knew or should have known, based on information passed to them from their internal research divisions and affiliates 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.

278. Throughout the times at issue, Fossil Fuel Defendants breached their duty of care by failing to adequately warn any consumers or any other party of the climate effects that inevitably flow from the intended or foreseeable use of their fossil fuel products.

279. Throughout the times at issue, Fossil Fuel Defendants individually and in concert widely disseminated misleading marketing materials, tried to discredit the scientific knowledge generally accepted at the time, advanced pseudo-scientific theories of their own, and developed public relations materials that prevented reasonable consumers from recognizing the risk that fossil fuel products would cause grave climate changes, undermining and rendering ineffective any warnings that Fossil Fuel Defendants may have also disseminated.

280. Given the grave dangers presented by the climate effects that inevitably flow from the normal or 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.

281. Fossil Fuel Defendants' conduct was a direct and proximate cause of the County's injuries and a substantial factor in the harms suffered by the County as alleged herein.

282. As a direct and proximate result of Fossil Fuel Defendants' and each of their acts and omissions, Plaintiff Anne Arundel County, Maryland 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 County and its residents.

283. Fossil Fuel Defendants' acts and omissions as alleged herein are indivisible causes of Anne Arundel County'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_2 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 comingle in the atmosphere.

284. Fossil Fuel Defendants' wrongful conduct as set forth herein was committed with actual malice. Fossil Fuel Defendants had actual knowledge that their products were dangerous and that they had not provided reasonable and adequate warnings against those known dangers, and acted with conscious disregard for the probable dangerous consequences of their conduct's and products' foreseeable impact upon the rights of others, including Anne Arundel County. Therefore, the County requests an award of punitive damages in an amount reasonable, appropriate, and sufficient to punish these Fossil Fuel Defendants for the good of society and deter Fossil Fuel Defendants from ever committing the same or similar acts.

285. Wherefore, Plaintiff prays for relief as set forth below.

FIFTH CAUSE OF ACTION
(Trespass)
(Against Fossil Fuel Defendants)

286. Plaintiff Anne Arundel County, Maryland realleges every allegation contained above as though set forth herein in full.

287. Plaintiff owns, leases, occupies, and/or controls real property throughout the County.

288. Fossil Fuel Defendants, and each of them, have intentionally, recklessly, or negligently caused flood waters, extreme precipitation, saltwater, and other materials, to enter

the County's real property, by extracting, refining, formulating, designing, packaging, distributing, testing, constructing, fabricating, 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, more frequent and extreme droughts to occur, more frequent and extreme precipitation events to occur, increased frequency and severity of heat waves and extreme temperatures, and the associated consequences of those physical and environmental changes.

289. Anne Arundel County did not give permission for Fossil Fuel 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 Fossil Fuel Defendants' fossil fuel products.

290. Anne Arundel County has been and continues to be actually injured and continues to suffer damages as a result of Fossil Fuel 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 County, causing flooding and increased water table which has invaded and threatens to invade real property owned by the County and rendered it unusable, causing storm surges and heightened waves which have invaded and threatened to invade real property owned by the County, and in so doing rendering the County's property unusable.

291. Fossil Fuel Defendants' and each Fossil Fuel Defendant's introduction of their fossil fuel products into the stream of commerce was a substantial factor in causing the harms and injuries to County's public and private real property as alleged herein.

292. Fossil Fuel Defendants' acts and omissions as alleged herein are indivisible causes of Anne Arundel County's injuries and damage as alleged herein, because, *inter alia*, it is not

possible to determine the source of any individual molecule of CO_2 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 comingle in the atmosphere.

293. Fossil Fuel Defendants' wrongful conduct as set forth herein was committed with actual malice. Fossil Fuel Defendants had actual knowledge that their products were dangerous, and acted with conscious disregard for the probable dangerous consequences of their conduct's and products' foreseeable impact upon the rights of others, including Anne Arundel County. Therefore, the County requests an award of punitive damages in an amount reasonable, appropriate, and sufficient to punish these Fossil Fuel Defendants for the good of society and to deter Fossil Fuel Defendants from ever committing the same or similar acts.

294. Wherefore, Plaintiff prays for relief as set forth below.

SIXTH CAUSE OF ACTION
(Consumer Protection Act)
(Against All Defendants)

295. Plaintiff Anne Arundel County, Maryland realleges every allegation contained above as though set forth herein in full.

296. Maryland's Consumer Protection Act ("CPA") forbids any business from engaging in "any unfair or deceptive trade practice," including making any "[f]alse, falsely disparaging, or misleading oral or written statement, visual description, or other representation of any kind which has the capacity, tendency, or effect of deceiving or misleading consumers." Md. Comm. L. § 13-301(1). It also forbids the "[f]ailure to state a material fact if the failure deceives or tends to deceive." *Id*. § 13-301(3). And it also prohibits fraud-based deception, including "[d]eception, fraud, false pretense, false premise, misrepresentation, or knowing concealment, suppression, or

omission of any material fact with the intent that a consumer rely on the same in connection with" the sale of any consumer goods or services. *Id*. § 13-301(9).

297. The CPA authorizes a private right of action for "any person . . . to recover for injury or loss sustained . . . as a result of" an unfair or deceptive trade practice. Md. Comm. L. § 13-408(a). "Person" is in turn defined to include a "corporation . . . or any other legal or commercial entity." Md. Comm. L. § 13-101(h).

298. All Defendants are "persons" as defined under the CPA, and are required to comply with the provisions of the CPA in their marketing, promotion, sale, and distribution of fossil fuel products.

299. Anne Arundel County, Maryland, as a legal entity, is part of the broad class of persons that may avail themselves of a remedy under the CPA.

300. Fossil fuel products are "consumer goods" within the meaning of the CPA.

301. Anne Arundel County and its residents have purchased fossil fuel products marketed and produced by Defendants.

302. Defendants' marketing and promotion of fossil fuels are unfair, deceptive, and violate Maryland law because they deceived consumers in Anne Arundel County, led to the sale and consumption of fossil fuels that would otherwise not be consumed, and thereby caused Anne Arundel County and its residents to suffer losses from, *inter alia*, rising sea levels, increased flooding, and extreme heat.

303. Defendants have marketed fossil fuels through misstatements and omissions of material facts regarding: (i) the reasonably foreseeable or knowable severe risks posed by their fossil fuel products; (ii) the purported environmental benefits of their fossil fuel products; (iii) the actions they have taken to reduce their carbon footprint, invest in more renewables, or lower

their fossil fuel production; and/or (iv) their purportedly diversified energy portfolio with meaningful renewable and low-carbon fuel components. For example, Defendants engaged in deceptive marketing and promotion of their products by, *inter alia*, disseminating misleading marketing materials and publications refuting the scientific knowledge generally accepted at the time, advancing pseudo-scientific theories of their own, and developing public relations materials that prevented reasonable consumers from recognizing the risk that fossil fuel products would cause grave climate changes, undermining and rendering ineffective any warnings that Defendants may have separately disseminated. Defendants also engaged in misleading "greenwashing" advertisements, which deceitfully represented Defendants as leaders in renewable energy, made misleading claims that Defendants' businesses were substantially invested in lower carbon technologies and renewable energy sources, and misrepresented material facts about the environmental impacts of their products.

304. Defendants' various false and misleading material omissions rendered even their apparently truthful statements about their fossil fuel products' effects on the climate false and misleading, because those statements were materially incomplete. At the time Defendants disseminated their false and misleading statements or caused such statements to be made or disseminated, they knowingly failed to include material facts regarding the risks and benefits of their fossil fuel products, and intended that recipients of their marketing messages would rely upon such omissions.

305. Based on information passed to them from their internal research divisions and affiliates, from trade associations and industry groups, and/or from the international scientific community, Defendants knew of or recklessly disregarded 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 harms and injuries described herein by the County. Defendants had a duty to disclose this information to Maryland consumers to prevent their advertising and marketing statements from being misleading, and their failure to do so constituted a misrepresentation and/or omission in violation of the CPA.

306. Based on information passed to them from their internal research divisions and affiliates, from trade associations and industry groups, and/or from the international scientific community, Defendants knew or recklessly disregarded the fact 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. Defendants had a duty to disclose this information to Maryland consumers in order to prevent their advertising and marketing statements from being misleading, and their failure to do so constituted a misrepresentation and/or omission in violation of the CPA.

307. Defendants omitted, suppressed, or concealed from Maryland consumers their knowledge of the material fact that the use of their fossil fuel products contributes to climate change. Defendants intended for consumers, including those in Anne Arundel County, to rely on these omissions to continue purchasing and using Defendants' fossil fuel products without altering their behavior. Defendants' omissions occurred in Anne Arundel County and elsewhere.

308. By reason of Defendants' foregoing deception, misrepresentations, and omissions of material fact, Defendants sold more fossil fuels than they would otherwise would have sold,

and Defendants obtained income, profits, and other benefits that they would not otherwise have obtained.

309. Anne Arundel County has been injured as a direct and proximate result of Defendants' violations of the Consumer Protection Act, as alleged in this Complaint. These injuries have occurred as a direct and natural consequence of consumers, including Anne Arundel County, relying on Defendants' misleading statements and omissions about their fossil fuel products.

310. Each instance in which Defendants have advertised or sold fossil fuel products and either misrepresented material facts or suppressed, concealed, or omitted material facts related to the harms caused by the intended use of these products constitutes a violation of the CPA.

VII. PRAYER FOR RELIEF

The Plaintiff, **ANNE ARUNDEL COUNTY, MARYLAND**, seeks judgment against these Defendants for:

1. Compensatory damages in an amount exceeding $75,000 according to proof;
2. Equitable relief, including abatement of the nuisances complained of herein;
3. Recovery for injury or loss sustained as the result of a practice prohibited by the Maryland Consumer Protection Act;
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.

JURY DEMAND

Plaintiff demands a trial by jury as to all issues triable by jury in this matter.

April 26, 2021

Respectfully submitted,

/s/ *Gregory J. Swain*
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Attorneys for Plaintiff Anne Arundel County, Maryland

REQUEST FOR WRIT OF SUMMONS

Plaintiff respectfully requests that the Clerk issue a Writ of Summons for Service on Defendants, BP P.L.C., BP AMERICA, INC., BP PRODUCTS NORTH AMERICA INC., CROWN CENTRAL LLC, CROWN CENTRAL NEW HOLDINGS LLC, ROSEMORE, INC., CHEVRON CORP., CHEVRON U.S.A. INC., EXXON MOBIL CORP., EXXONMOBIL OIL CORPORATION, ROYAL DUTCH SHELL PLC, SHELL OIL COMPANY, CITGO PETROLEUM CORP., CONOCOPHILLIPS, CONOCOPHILLIPS COMPANY, PHILLIPS 66, PHILLIPS 66 COMPANY, MARATHON OIL COMPANY, MARATHON OIL CORPORATION, MARATHON PETROLEUM CORPORATION, SPEEDWAY LLC, HESS CORP., CNX RESOURCES CORPORATION, CONSOL ENERGY INC., CONSOL MARINE TERMINALS LLC, AMERICAN PETROLEUM INSTITUTE and that the Summons be directed to Plaintiff's counsel.

/s/ Gregory J. Swain
Gregory J. Swain, County Attorney