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24	IN AND FOR THE COUNTY OF SAN FRANCISCO						
25	COORDINATION PROCEEDING	JUDICIAL COUNCIL COORDINATION					
26	SPECIAL TITLE [CRC 3.550(c)]	PROCEEDING NO. 5310					
27	FUEL INDUSTRY CLIMATE CASES	Case No.: CJC-24-005310					
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2	THIS CASE RELATES TO:	FIRST AMENDED COMPLAINT FOR:
3	The County of San Mateo, individually and on behalf of The People of the State of California	1. PUBLIC NUISANCE ON BEHALF OF THE PEOPLE OF THE STATE OF CALIFORNIA;
4	et al. v. Chevron Corporation et al., San Mateo County Superior Court,	2. PUBLIC NUISANCE;
5	Case No.: 17CIV03222	3. STRICT LIABILITY – FAILURE TO WARN;
6	THE COUNTY OF SAN MATEO, individually	4. PRIVATE NUISANCE;
7	and on behalf of THE PEOPLE OF THE	5. NEGLIGENCE;
	STATE OF CALIFORNIA, and THE SAN	6. NEGLIGENCE – FAILURE TO WARN; and
8	MATEO COUNTY FLOOD AND SEA LEVEL RISE RESILIENCY DISTRICT,	7. TRESPASS.
9		
10	Plaintiffs, vs.	JURY TRIAL DEMANDED
11		
12	CHEVRON CORPORATION; CHEVRON U.S.A. INC.; EXXONMOBIL	
12	CORPORATION; EXXONMOBIL OIL	
13	CORPORATION; BP P.L.C.; BP AMERICA,	
14	INC.; SHELL PLC; SHELL USA, INC.,	
1.5	SHELL OIL PRODUCTS COMPANY LLC; CITGO PETROLEUM CORP.;	
15	CONOCOPHILLIPS; CONOCOPHILLIPS	
16	COMPANY; PHILLIPS 66; PHILLIPS 66	
17	COMPANY; TOTAL E&P USA INC.; TOTAL SPECIALTIES USA INC.; ENI S.p.A.; ENI	
	OIL & GAS INC.; ANADARKO	
18	PETROLEUM CORP.; OCCIDENTAL	
19	PETROLEUM CORP.; OCCIDENTAL CHEMICAL CORP.; REPSOL S.A.; REPSOL	
20	ENERGY NORTH AMERICA CORP.;	
	REPSOL TRADING USA CORP.;	
21	MARATHON OIL COMPANY; MARATHON	
22	OIL CORPORATION; MARATHON PETROLEUM CORP.; HESS CORP.; DEVON	
23	ENERGY CORP.; DEVON ENERGY	
	PRODUCTION COMPANY, L.P.; ENCANA	
24	CORP.; APACHE CORP.; and DOES 1 through 100, inclusive,	
25	unough 100, menusive,	
26	Defendants.	
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I. INTRODUCTION

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Defendants, major corporate members of the fossil fuel industry, have known for decades that unrestricted consumption of their fossil fuel products creates greenhouse gas pollution that warms the planet and changes our climate. They have known for decades that those impacts could be catastrophic and that only a narrow window existed to take action before the consequences would become irreversible. They have nevertheless engaged in a coordinated, multifront effort to conceal and deny their own knowledge of those consequences, discredit the growing body of publicly available scientific evidence connecting fossil fuel consumption to climate change, and persistently create doubt in the minds of customers, consumers, the media, journalists, teachers, and the public about the reality and severity of climate change. At the same time, Defendants have promoted and profited from a massive increase in the 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, particularly carbon dioxide ("CO₂") 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 global warming, rising atmospheric and ocean temperatures, ocean acidification, melting polar ice caps and glaciers, more extreme and volatile weather, and sea level rise. Plaintiffs, the People of the State of California, San Mateo County,² and the San Mateo County Flood and Sea Level Rise Resiliency District ("OneShoreline"), along with the County's residents, taxpayers, and infrastructure, suffer the consequences.

2. Defendants are vertically integrated extractors, producers, refiners, manufacturers, distributors, promoters, marketers, and sellers of fossil fuel products. Decades of scientific research show that pollution from the production and use of Defendants' fossil fuel products plays a direct and substantial role in the unprecedented rise in emissions of greenhouse gas pollution and

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¹ As used in this Complaint, "greenhouse gases" refers collectively to carbon dioxide, methane, and nitrous oxide. Where a source refers to a specific gas or gases, or when a process relates only to a specific gas or gases, this Complaint refers to them by name.

² As used in this Complaint, "San Mateo County" refers to all areas within the geographic boundaries of the County, including incorporated towns and cities.

8 Le Quéré et al. (2016), <u>supra</u> note 4, at 630.

increased atmospheric CO₂ concentrations since the mid-20th century. This dramatic increase in atmospheric CO₂ and other greenhouse gases is the main driver of the gravely dangerous changes occurring to the global climate.

- 3. Anthropogenic (human-caused) greenhouse gas pollution, primarily in the form of CO₂, is far and away the dominant cause of climate change and sea level rise.³ The primary source of this pollution is the extraction, production and consumption of coal, oil, and natural gas, referred to collectively in this Complaint as "fossil fuel products."⁴
- 4. The rate at which Defendants have extracted and sold fossil fuel products has exploded since the Second World War, as have emissions from those products. The substantial majority of all greenhouse gas emissions in history has occurred since the 1950s, a period known as the "Great Acceleration." About three quarters of all industrial CO₂ emissions in history have occurred since the 1960s, and more than half have occurred since the late 1980s. The annual rate of CO₂ emissions from production, consumption and use of fossil fuels has increased by more than 60% since 1990.
- 5. Defendants have known for more than 50 years that greenhouse gas pollution from their fossil fuel products has a significant impact on the Earth's climate and sea levels. Defendants' awareness of the damaging consequences of their products' ordinary use corresponds almost

³ <u>See IPCC, 2014: Climate Change 2014: Synthesis Report</u>. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland. Page 6, Figure SMP.3, https://www.ipcc.ch/report/ar5/syr/.

⁴ <u>See C. Le Quéré et al., Global Carbon Budget 2016, Earth Syst. Sci. Data 8, 632 (2016), http://www.earth-syst-sci-data.net/8/605/2016/. Cumulative emissions since the beginning of the industrial revolution to 2015 were 413 GtC attributable to fossil fuels, and 190 GtC attributable to land use change. <u>Id. Global CO₂ emissions from fossil fuels and industry remained nearly constant at 9.9 GtC in 2015, distributed among coal (41 %), oil (34 %), gas (19 %), cement (5.6 %), and gas flaring (0.7 %). <u>Id.</u> at 629.</u></u>

⁵ Will Steffen et al., <u>The Trajectory of the Anthropocene: The Great Acceleration</u> (2015), http://journals.sagepub.com/doi/abs/10.1177/2053019614564785.

⁶ R.J. Andres et al., <u>A synthesis of carbon dioxide emissions from fossil-fuel combustion</u>, Biogeosciences, 9, 1851 (2012), http://www.biogeosciences.net/9/1845/2012/.

⁷ Id.

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exactly with the Great Acceleration, and with skyrocketing greenhouse gas emissions. Armed with that knowledge, Defendants took steps to protect their own assets from these threats through immense internal investment in research, infrastructure improvements, and plans to exploit new opportunities in a warming world.

- 6. But instead of warning consumers and the public about the dangers of fossil fuels, Defendants mounted disinformation campaigns to undermine the burgeoning scientific consensus on climate change; create doubt in the minds of consumers, the media, teachers, and the public about the dire consequences of burning fossil fuels; and delay the necessary transition to a lower-carbon future. Defendants' climate deception campaigns, and their aggressive promotion of fossil fuel products despite knowing of their dangers, had the purpose and effect of unduly and substantially inflating and sustaining the market for fossil fuels. Defendants' tortious and deceptive conduct, both individually and collectively, drove fossil fuel consumption and delayed the transition to a lower-carbon future. This caused an enormous, foreseeable, and avoidable increase in anthropogenic greenhouse gas emissions and accelerated global warming, bringing devastating consequences to the City and its people.
- 7. Extreme flooding events will more than double in frequency on California's Pacific coast by 2050. Flooding and storms will become more frequent and more severe, and average sea level will rise substantially along California's coast, and in the San Francisco Bay Area including San Mateo County. The County, bordered on two sides by water and among the most vulnerable counties to sea level rise in California, has already spent millions of dollars to study and mitigate the effects of global warming. Sea level rise already adversely affects the County and OneShoreline and jeopardizes San Mateo's sewer systems, beaches, parks, roads, civil infrastructure, essential public services, and communities. Global warming has also resulted in

⁹ Sean Vitousek et al., <u>Doubling of coastal flooding frequency within decades due to sea-level rise</u>, Scientific Reports, (May 18, 2017) ("Only 10 cm of SLR doubles the flooding potential in high-latitude regions with small shape parameters, notably the North American west coast (including the major population centers Vancouver, Seattle, San Francisco, and Los Angeles), and the European Atlantic coast."); USGS, <u>In Next Decades</u>, <u>Frequency of Coastal Flooding Will Double Globally</u> (May 18, 2017), https://www.usgs.gov/news/next-decades-frequency-coastal-flooding-will-double-globally.

drought conditions that threaten the County's water supply, and increased risk of extreme wildfire in and around the County, both of which have already and will continue to require significant investment in preparation and recovery. To make matters worse, drought and wildfire conditions exacerbate the impact of subsequent heavy storms, resulting in more extreme flooding and landslides in the County. These impacts, as well as extreme heat, present myriad public health harms in the County, felt first and worst by its most vulnerable communities.

- 8. Defendants' production, promotion, marketing, and sale of fossil fuel products, and simultaneous concealment of the known hazards of those products, substantially, actually, and proximately caused Plaintiffs' injuries.
- 9. Accordingly, the County brings claims against Defendants for Public Nuisance on behalf of the People of California; and the County and OneShoreline bring claims against Defendants for Public Nuisance, Strict Liability for Failure to Warn, Private Nuisance, Negligence, Negligent Failure to Warn, and Trespass.
- 10. Plaintiffs do not seek relief as to state-owned property and assets. Plaintiffs do not seek any remedy for harms or violations for which the State or State agencies have exclusive authority to recover damages or obtain injunctive relief.
- 11. Plaintiffs hereby disclaim injuries arising on federal property and those arising from Defendants' provision of non-commercial, specialized fossil fuel products to the federal government for military and national defense purposes. Plaintiffs seek no recovery or relief attributable to these injuries.
- 12. Plaintiffs do not seek to impose liability on Defendants for their direct emissions of greenhouse gases and do not seek to restrain Defendants from engaging in their business operations.
- 13. By this action, the Plaintiffs seek to ensure that the parties responsible for causing and exacerbating climate change-related harms to the County bear the costs of its impacts, rather than Plaintiffs, local taxpayers, or residents.

II. PARTIES

A. Plaintiffs

- 12. Plaintiff, the People of the State of California ("the People"), by and through the County Counsel of San Mateo County, brings this suit pursuant to Code of Civil Procedure section 731, and Civil Code sections 3479, 3480, 3491, and 3494, to abate the nuisance caused by the effects of climate change in the County's jurisdiction.
- 13. Plaintiff County of San Mateo ("the County" or "San Mateo") is a political subdivision of the State of California. The County is located in the San Francisco Bay Area on the central portion of the San Francisco Peninsula, with its county seat in Redwood City.
- a. The County is bordered by water on two sides, with the San Francisco Bay to the East, and the Pacific Ocean to the West, and contains approximately 109 total miles of ocean-and bay-adjacent coastline.
- b. Sea level has already risen significantly along both the County's Ocean side and Bay side. The County anticipates and is planning for significant sea level rise by the year 2100,¹⁰ and the State of California projects possible sea level rise well above the County's estimates in that same period under a "business-as-usual" emissions scenario.¹¹
- c. The sea level rise impacts on the County associated with an increase in average mean sea level height include, but are not limited to, increased inundation and flooding in natural and built environments with higher tides and intensified wave and storm surge events; aggravated wave impacts, including erosion, damage, and destruction of built structures, as well as natural features like cliffs, beaches, and dunes, with consequent landslides; changes in sediment

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¹⁰ <u>See</u> County of San Mateo, <u>Sea Level Rise Vulnerability Assessment Final Report</u>, (Mar. 2018), https://www.smcsustainability.org/wp-content/uploads/2018-03-

^{24 | 12}_SLR_VA_Report_2.2018_WEB_FINAL.pdf.

¹¹ Gary Griggs et al. (CA Ocean Protection Council Science Advisory Team Working Group), <u>Rising Seas in California</u>: An Update on Sea-Level Rise Science, California Ocean Science Trust, p.26, Table 1(b) (Apr. 2017), http://www.opc.ca.gov/webmaster/ftp/pdf/docs/rising-seas-in-california-an-update-on-sea-level-rise-science.pdf; <u>see also</u> San Francisco Bay Tidal Datums and Extreme Tides Study, Final Report at 4-1 – 4-3 (Feb. 2016),

 $https://www.adaptingtorisingtides.org/wp-content/uploads/2016/05/20160429.SFBay_Tidal-Datums_and_Extreme_Tides_Study.FINAL_.pdf.$

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supply that could alter or destroy natural coastal habitats like beaches and wetlands, which would otherwise naturally mitigate sea level rise impacts; rising shallow groundwater that results in impacts to underground infrastructure, including buoyancy, seepage, corrosion, and infiltration; the mobilization of hazardous contaminants; liquefaction affecting stable soils; as well as saltwater intrusion on groundwater aquifers and wells, agricultural land, and infrastructure; magnification of other climate change impacts, due to the superimposition of sea level rise on shifts in precipitation patterns that result in more rain and an inability to drain storm flows and resultant flooding; increased frequency and severity of storms that cause erosion, flooding, and temporary sea level rise increases; and others. Compounding these environmental impacts are cascading social and economic impacts, which are secondary and tertiary injuries that arise out of physical sea level rise injuries to the County.

- d. Accounting for population increases over that time (by the year 2100), San Mateo is the only county on the West Coast with more than 100,000 residents at risk of three feet of sea level rise. 12
- Other climate impacts on the County include, but are not limited to, extreme e. precipitation events that cause extensive flooding and increased risk and severity of dangerous landslides and debris flows; increased risk of extreme wildfires in the County; and drought-related injuries to local water supplies, including potable and non-potable needs such as agriculture. The County will also experience public health harms disproportionately borne by communities made vulnerable by geographic, racial, or income disparities, including, but not limited to, illness and injury from extreme heat, extreme weather, air quality impacts from wildfire smoke, and increased vector borne illnesses.
- f. The County and OneShoreline own and operate civil infrastructure including, but not limited to levees, stormwater and sewage transport systems, an airport, and roads. The County owns, leases and/or controls real property within its jurisdiction. Much of the County's infrastructure and real property is on or near the Pacific Ocean and San Francisco Bay

¹² County of San Mateo, <u>Sea Level Rise Vulnerability Assessment</u>, <u>supra</u> note 10, at 23.

coasts, and has already suffered damage from rising sea levels and extreme flooding and will suffer increasing damage in the future through rising sea levels and through the exacerbation of natural climate phenomena such as coastal erosion and El Niño. County property and infrastructure is also vulnerable to increased risk of, and has already suffered damage from, wildfire, flooding, landslide and other climate-related hazards. These harms have and will damage recreational assets such as County parks and OneShoreline Creekside open space.

14. Plaintiff, the San Mateo County Flood and Sea Level Rise Resiliency District ("OneShoreline"), is an independent county-wide special district established by State legislation. OneShoreline unifies sea level rise resilience planning across jurisdictions, secures project funding, and builds projects to address the water-related impacts of climate change, including sea level rise, flooding, coastal erosion, and other harms that have resulted from Defendants' conduct. OneShoreline finances these climate resilience and adaptation projects, including building resilience for infrastructure and other developed areas, as well as environmental and recreational enhancements, through state and federal grant programs, and also receives financial contribution from the County and all twenty cities within the county, and generates revenue from special taxes and rents in active flood zones. The legislature formed OneShoreline with the power to bring suit. OneShoreline owns property damaged by and vulnerable to accelerating sea level rise and flooding, as well as other impacts of climate change.

B. Defendants

15. When reference in this complaint is made to an act or omission of the Defendants, unless specifically attributed or otherwise stated, such references should be interpreted to mean that the officers, directors, agents, employees, or representatives of the Defendants committed or authorized such an act or omission, or failed to adequately supervise or properly control or direct their employees while engaged in the management, direction, operation, or control of the affairs of Defendants, and did so while acting within the scope of their employment or agency.

16. <u>Chevron Entities:</u> Chevron Corporation and Chevron U.S.A. Inc.

a. Defendant **Chevron Corporation** is a multinational, vertically integrated energy and chemicals company incorporated in Delaware, with its global headquarters and

principal place of business in San Ramon, California. Chevron Corporation, through its predecessor Standard Oil Company of California, has been registered to do business in California since 1926. Chevron Corporation was formerly known as, did or does business as, and/or is the successor in liability to Standard Oil Company of California (also known as "Socal"), Texaco Inc., and ChevronTexaco Corporation.

- b. Chevron Corporation operates through a web of United States and international subsidiaries at all levels of the fossil fuel supply chain. Chevron Corporation and its subsidiaries' operations include, but are not limited to: exploration, development, production, storage, transportation, and marketing of crude oil and natural gas; refining crude oil into petroleum products and marketing those products; and manufacturing and marketing commodity petrochemicals, plastics for industrial uses, and fuel and lubricant additives.
- c. Chevron Corporation controls and has controlled group-wide decisions about the quantity and rate of fossil fuel production and sales, including those of its subsidiaries. Chevron Corporation determines whether and to what extent its corporate holdings market, produce, and/or distribute fossil fuel products.
- d. Chevron Corporation controls and has controlled group-wide decisions, including those of its subsidiaries, related to marketing, advertising, greenhouse gas emissions and climate change resulting from the company's fossil fuel products, and communications strategies concerning climate change and the link between fossil fuel use and climate-related impacts on the environment and humans. Overall accountability for climate change within Chevron Corporation lies with Chevron Corporation's Board of Directors and Executive Committee.
- e. Defendant **Chevron U.S.A. Inc.** is a wholly owned subsidiary of Chevron Corporation that acts on Chevron Corporation's behalf and is subject to Chevron Corporation's control. Chevron U.S.A. Inc. is a Pennsylvania corporation, with its principal place of business in San Ramon, California. Through its predecessors, Chevron U.S.A. Inc. has been registered to do business in California since 1965. 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, Chevron Chemical Company, and Chevron Chemical Company LLC.

- f. Defendants Chevron Corporation and Chevron U.S.A. Inc., together with their predecessors, successors, parents, subsidiaries, affiliates, and divisions, are collectively referred to herein as "Chevron."
- g. Plaintiffs' claims against Chevron arise out of and are related to the acts and omissions of Chevron in California and elsewhere that caused and will cause injuries in California, including in San Mateo County.
- h. Chevron has purposefully directed its tortious conduct toward California by distributing, marketing, advertising, promoting, and supplying its fossil fuel products in California, with knowledge that the intended use of those products for combustion has caused and will continue to cause climate change-related harms in San Mateo County, including Plaintiffs' injuries. Chevron's statements in California and elsewhere made in furtherance of its campaign of deception about and denial of climate change, and Chevron's affirmative promotion of its fossil fuel products as safe with knowledge of how the intended use of those products would cause climate change-related harms, were designed to conceal and mislead consumers and the public, including San Mateo and its residents, about the serious adverse consequences that would result from continued use of Chevron's products. That conduct was purposefully directed to reach San Mateo County and obscure the dangers of Chevron's fossil fuel products from San Mateo and its residents such that use of Chevron's fossil fuel products in San Mateo County would not decline.
- i. Over the last several decades and continuing to the present day, Chevron spent millions of dollars on radio, television, online, social media, and outdoor advertisements in the California market related to its fossil fuel products. Since at least 1970, and continuing to the present day, Chevron has advertised in print publications circulated widely to California consumers, including but not limited to the following: The Atlantic, Life, National Geographic, The New York Times, Sports Illustrated, Time Magazine, The Wall Street Journal, and The Washington Post. As further detailed herein, these include advertisements containing false or misleading statements, misrepresentations, and/or material omissions obfuscating the connection

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between the production and use of Chevron's fossil fuel products and climate change, and/or misrepresenting Chevron's products or Chevron itself as environmentally friendly.

- j. Significant quantities of Chevron's fossil fuel products are or have been transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in California, from which activities Chevron derives and has derived substantial revenue. Chevron conducts and controls, either directly or through franchise agreements, retail fossil fuel sales at gas station locations throughout California, at which locations it promotes, advertises, and sells its fossil fuel products under its various brand names, including Chevron, Texaco, and other brand names. Chevron operates over 1,500 Chevron-branded petroleum service stations in California. Chevron has owned and operated an oil refinery in Richmond, California, since 1902, and has owned and operated an oil refinery in El Segundo, California, since 1911. During the period relevant to this Complaint, Chevron sold a substantial percentage of all retail gasoline sold in California.
- Chevron historically directed its fossil fuel product advertising, marketing, k. and promotional campaigns to California, including through maps that identified the locations of its service stations in California. Chevron markets and advertises its fossil fuel products in California to California residents by maintaining an interactive website available to prospective customers by which it directs California residents to Chevron's nearby retail service stations. Chevron markets and sells engine lubricants and motor oils to California customers under its Delo, IsoClean, Techron, and Havoline brand names at retail outlets. Chevron offers a proprietary credit card known as the "Chevron Techron Advantage Credit Card," which allows consumers in California to pay for gasoline and other products at Chevron-branded service stations, and which encourages California consumers to use Chevron-branded service stations by offering various rewards, including discounts on gasoline purchases at Chevron service stations and cash rebates. Chevron further maintains two smartphone applications known as the "Chevron App" and the "Texaco App," both part of the "Chevron Texaco Rewards" program. The program offers California consumers a cashless payment method for gasoline and other products at Chevron- and Texaco-branded service stations. California consumers utilize the payment method by providing

their credit card information through the application. California consumers can also receive rewards, including discounts on gasoline purchases, by registering their personal identifying information in the apps and by using the applications to identify and activate gas pumps at Chevron

and Texaco service stations during a purchase.

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

- a. Defendant **Exxon Mobil Corporation** is a New Jersey corporation headquartered in Spring, Texas, and has been registered to do business in California since 1972. Exxon Mobil Corporation is a multinational, vertically integrated energy and chemical company and one of 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 Exxon Corporation; 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.; Standard Oil Company of New Jersey; and Mobil Corporation.
- b. Defendant **ExxonMobil Oil Corporation** is a wholly owned subsidiary of Exxon Mobil Corporation, acts on Exxon Mobil Corporation's behalf, and is subject to Exxon Mobil Corporation's control. ExxonMobil Oil Corporation is a New York corporation headquartered in Spring, Texas, and has been registered to do business in California since 1959. ExxonMobil Oil Corporation was formerly known as, did or does business as, and/or is the successor in liability to Mobil Oil Corporation. ExxonMobil Oil Corporation is engaged in the business of oil and natural gas production, refining, marketing, and distribution.
- c. Exxon Mobil Corporation controls and has controlled group-wide decisions about the quantity and rate of fossil fuel production and sales, including those of its subsidiaries. Exxon Mobil Corporation's 2022 Form 10-K filed with the United States Securities and Exchange Commission ("SEC") 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, products produced, and strategies to divest assets." Exxon Mobil Corporation determines whether and to what extent

its subsidiaries market, produce, and/or distribute fossil fuel products. For example, on October 11, 2023, Exxon Mobil Corporation announced its acquisition of Pioneer Natural Resources in a press release that referred to the corporate family generally as "ExxonMobil."

- d. Exxon Mobil Corporation controls and has controlled group-wide decisions, including those of its subsidiaries, related to marketing, advertising, greenhouse gas emissions and climate change resulting from the company's fossil fuel products, and communications strategies concerning climate change and the link between fossil fuel use and climate-related impacts on the environment and humans. Exxon Mobil Corporation's Board holds the highest level of direct responsibility for climate change policy. Exxon Mobil Corporation's Chairman of the Board and Chief Executive Officer, its President, and the other members of its Management Committee have been 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, when seeking funding for capital investments, to provide estimates of project costs related to greenhouse gas emissions.
- 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. Plaintiffs' claims against Exxon arise out of and are related to the acts and omissions of Exxon in California and elsewhere that caused and will cause injuries in California, including in San Mateo County.
- g. 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.
- h. Exxon has purposefully directed its tortious conduct toward California by distributing, marketing, advertising, promoting, and supplying its fossil fuel products in California, with knowledge that the intended use of those products for combustion has caused and will

continue to cause climate change-related harms in San Mateo County, including Plaintiffs' injuries. Exxon's statements in California and elsewhere made in furtherance of its campaign of deception about and denial of climate change, and Exxon's affirmative promotion of its fossil fuel products as safe with knowledge of how the intended use of those products would cause climate change-related harms, were designed to conceal and mislead consumers and the public, including San Mateo and its residents, about the serious adverse consequences that would result from continued use of Exxon's products. That conduct was purposefully directed to reach San Mateo County and obscure the dangers of Exxon's fossil fuel products from San Mateo and its residents such that use of Exxon's fossil fuel products in San Mateo County would not decline.

- i. Over the past several decades and continuing to the present day, Exxon spent millions of dollars on radio, television, online, social media, and outdoor advertisements in the California market related to its fossil fuel products. Since at least 1972, and continuing to the present day, Exxon has advertised its fossil fuel products in print publications circulated widely to California consumers, including but not limited to: The Atlantic, Life, National Geographic, The New York Times, People, Sports Illustrated, Time, The Wall Street Journal, and The Washington Post. As further detailed herein, these include advertisements containing false or misleading statements, misrepresentations, and/or material omissions designed to hide the connection between the production and use of Exxon's fossil fuel products and climate change, and/or misrepresenting Exxon's products or Exxon itself as environmentally friendly.
- j. Significant quantities of Exxon's fossil fuel products are or have been transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in California, from which activities Exxon derives and has derived substantial revenue. Exxon owns and operates a petroleum storage and transport facility in the San Ardo Oil Field in San Ardo, California. Exxon and its predecessors owned and operated an oil refinery in Torrance, California, from 1966 to 2016, shortly after an explosion disabled the refinery. Exxon Co. USA, an ExxonMobil subsidiary, operated a petroleum refinery in Benicia, California, from 1968 to 2000. Exxon also—both directly and through its subsidiaries and/or predecessors-in-interest—has supplied substantial quantities of fossil fuel products to California during the period relevant to

this Complaint. Currently, Exxon promotes, markets, and sells gasoline and other fossil fuel products to California consumers through approximately 600 Exxon- and Mobil-branded petroleum service stations in California. During the period relevant to this Complaint, Exxon sold a substantial percentage of all retail gasoline in California. Exxon also markets and sells petroleum products, including engine lubricants and motor oils sold under the "Mobil 1" brand name, to California customers through local retailers.

k. Exxon historically directed its fossil fuel product advertising, marketing, and promotional campaigns to California residents, including through maps that identify the locations of its service stations in California. To this day, Exxon continues to market and advertise its fossil fuel products in California to California residents by maintaining an interactive website available to prospective customers that directs California residents to Exxon's nearby retail service stations and lubricant distributors. Further, Exxon promotes its products in California by regularly updating and actively promoting its mobile device application, "Exxon Mobil Rewards+," throughout California, which encourages California users to consume fuel at Exxon stations in California in exchange for rewards on every fuel purchase.

18. **BP Entities: BP P.L.C. and BP 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 and low-carbon energy." 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, gasoline, 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 group-wide decisions about the quantity and rate of fossil fuel production and sales, including those of its subsidiaries. BP P.L.C. is the ultimate decisionmaker on fundamental decisions about the BP Group's core business, i.e.,

the volume of group-wide fossil fuels to produce and market, including among BP P.L.C.'s subsidiaries. For instance, BP P.L.C. reported that, in 2016–17, it brought online thirteen major exploration and production projects. These contributed to a 12% 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. expected 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 group-wide decisions, including those of its subsidiaries, related to marketing, advertising, climate change, and greenhouse gas emissions from its fossil fuel products, as well as communications strategies concerning climate change and the link between fossil fuel use and climate-related impacts on the environment and humans. BP P.L.C. makes decisions on production and use of fossil fuel reserves for the entire BP Group based on factors including climate change. BP P.L.C.'s Board of Directors is the company's highest decision-making body, with direct responsibility for the BP Group's policies concerning climate change policies. 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—both overseen directly by the Board—focused 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 is 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. is registered to do business in California. 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. was formerly known as, did or does business as, is or was affiliated with, and/or is the successor in liability to Amoco Oil Company; Amoco

Production Company; ARCO Products Company; BP Exploration & Oil, Inc.; BP Products North America Inc.; BP Amoco Corporation; BP Oil, Inc.; BP Oil Company; Sohio Oil Company; Standard Oil of Ohio (SOHIO); Standard Oil (Indiana); and Atlantic Richfield Company (a Pennsylvania Corporation) and its division, the Arco Chemical Company.

- e. Defendants BP P.L.C. and BP America, Inc., together with their predecessors, successors, parents, subsidiaries, affiliates, and divisions, are collectively referred to herein as "BP."
- f. Plaintiffs' claims against BP arise out of and are related to the acts and omissions of BP in California and elsewhere that caused or will cause injuries in California, including in San Mateo.
- g. BP has purposefully directed its tortious conduct toward California by distributing, marketing, advertising, promoting, and supplying its fossil fuel products in California, with knowledge that the intended use of those products for combustion have caused and will continue to cause climate change-related harms in San Mateo, including Plaintiffs' injuries. BP's statements in California and elsewhere made in furtherance of its campaign of deception about and denial of climate change, and BP's affirmative promotion of its fossil fuel products as safe with knowledge of how the intended use of those products would cause climate change-related harms, were designed to conceal and mislead consumers and the public, including San Mateo and its residents, about the serious adverse consequences that would result from continued use of BP's products. That conduct was purposefully directed to reach San Mateo County and obscure the dangers of BP's fossil fuel products from San Mateo and its residents such that use of BP's fossil fuel products in San Mateo County would not decline.
- h. Over the last several decades and continuing to the present day, BP—especially BP p.l.c.—spent millions of dollars on radio, television, online, social media, and outdoor advertisements in the California market related to its fossil fuel products. Since at least 1988 and continuing to the present day, BP has advertised in print publications circulated widely to California consumers, including but not limited to the following: The Atlantic, Life, National Geographic, The New York Times, People, Sports Illustrated, Time, The Wall Street Journal, and

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The Washington Post. As further detailed herein, these include advertisements containing false or misleading statements, misrepresentations, and/or material omissions obfuscating the connection between the production and use of BP's fossil fuel products and climate change, and/or misrepresenting BP's products or BP itself as environmentally friendly.

- i. Significant quantities of BP's fossil fuel products are or have been transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in California, from which activities BP derives and has derived substantial revenue. BP conducts and controls, either directly or through franchise agreements, retail fossil fuel sales at gas station locations in substantial portions of California, at which locations it promotes, advertises, and sells its fossil fuel products under its ARCO brand name. Among other operations, BP operates more than 300 ARCO-licensed and branded gas stations in California. From 2000 to 2013, BP also owned and operated an oil refinery in Carson, California. During the period relevant to this Complaint, BP sold a substantial percentage of all retail gasoline sold in California. BP's marketing and trading business maintains an office in Irvine, California. BP maintains an energy research center in San Diego, California.
- BP also markets and sells other fossil fuel products, including engine lubricant and motor oils, to San Mateo County and California consumers under its Castrol brand name.
- k. BP historically directed its fossil fuel product advertising, marketing, and promotional campaigns to California, including through maps that identified the locations of its service stations in California. BP markets and advertises its fossil fuel products in California to California residents by maintaining an interactive website available to prospective customers by which it directs California residents to BP's nearby retail service stations and/or lubricant distributors.

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¹³ BP, Bp in California, https://www.bp.com/content/dam/bp/country-sites/en_us/unitedstates/home/documents/where-we-operate/states/bp%20in%20California.pdf.

Shell Entities: Shell plc, Shell USA, Inc., and Shell Oil Products Company LLC 19.

- Defendant **Shell plc** (formerly Royal Dutch Shell PLC) is a vertically a. integrated multinational energy and petrochemical company. Shell plc is incorporated in England and Wales, with its headquarters and principal place of business in The Hague, Netherlands. Shell plc is the ultimate parent company of numerous divisions, subsidiaries, and affiliates, referred to collectively as the "Shell Group," that engage in all aspects of fossil fuel production, including exploration, development, extraction, manufacturing and energy production, transport, trading, marketing, and sales.
- b. Shell plc controls and has controlled group-wide decisions about the quantity and extent of fossil fuel production and sales, including those of its subsidiaries. Shell plc's Board of Directors determines whether and to what extent Shell subsidiary holdings around the globe produce Shell-branded fossil fuel products.
- Shell plc controls and has controlled group-wide decisions, including those of its subsidiaries, related to marketing, advertising, greenhouse gas emissions and climate change resulting from the company's fossil fuel products, and communications strategies concerning climate change and the link between fossil fuel use and climate-related impacts on the environment and humans. Overall accountability for climate change within the Shell Group lies with Shell plc's Chief Executive Officer and Executive Committee. For instance, at least as early as 1988, Shell plc, through its predecessors and subsidiaries, was researching company-wide CO₂ emissions and concluded that the Shell Group accounted for 4% of the CO₂ emitted worldwide from combustion, and that climatic changes could compel the Shell Group, as controlled by Shell plc, to examine the possibilities of expanding and contracting its business accordingly.

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d. Defendant **Shell USA**, **Inc.** (formerly Shell Oil Company) is a wholly owned subsidiary of Shell plc that acts on Shell plc's behalf and is subject to Shell plc's control. Shell USA, Inc. is incorporated in Delaware, with its principal place of business in Houston, Texas. Shell USA, Inc. has been registered to do business in California since 1949. Shell USA, Inc. was formerly known as, did or does business as, and/or is the successor in liability to Shell Oil Company; Shell Oil; Deer Park Refining LP; Shell Oil Products US; Shell Chemical LP; Shell Trading (US) Company; Shell Energy Resources Company; Shell Energy Services Company, L.L.C.; The Pennzoil Company; and Pennzoil-Quaker State Company.

- e. Defendant **Shell Oil Products Company LLC** is a wholly owned subsidiary of Shell USA, Inc., that acts on Shell USA, Inc.'s behalf and is subject to Shell USA, Inc.'s control. Shell Oil Products Company LLC is incorporated in Delaware, with its principal place of business in Houston, Texas, and has been registered to do business in California since 2001. Shell Oil Products Company LLC was formerly known as, did or does business as, and/or is the successor in liability to Shell Oil Products Company, which was a Delaware corporation that converted to a limited liability company in 2001.
- f. Defendants Shell plc, Shell USA, Inc., Shell Oil Products Company LLC, and their predecessors, successors, parents, subsidiaries, affiliates, and divisions are collectively referred to herein as "Shell."
- g. Plaintiffs' claims against Shell arise out of and are related to the acts and omissions of Shell in California and elsewhere that caused and will cause injuries in California, including in San Mateo County.
- h. Shell has purposefully directed its tortious conduct toward California by distributing, marketing, advertising, promoting, and supplying its fossil fuel products in California, with knowledge that the intended use of those products for combustion has caused and will continue to cause climate change-related harms in San Mateo County, including Plaintiffs' injuries. Shell's statements in California and elsewhere made in furtherance of its campaign of deception about and denial of climate change, and Shell's affirmative promotion of its fossil fuel products as safe with knowledge of how the intended use of those products would cause climate

change-related harms, were designed to conceal these harms and mislead consumers and the public, including San Mateo and its residents, about the serious adverse consequences that would result from continued use of Shell's products. That conduct was purposefully directed to reach San Mateo County and obscure the dangers of Shell's fossil fuel products from San Mateo and its residents such that use of Shell's fossil fuel products in San Mateo County would not decline.

- i. Over the last several decades and continuing to the present day, Shell spent millions of dollars on radio, television, online, social media, and outdoor advertisements in the California market related to its fossil fuel products. Since at least 1970, and continuing to the present day, Shell has advertised its fossil fuel products in print publications circulated widely to California consumers, including but not limited to the following: The Atlantic, Life, National Geographic, The New York Times, People, Sports Illustrated, Time, The Wall Street Journal, and The Washington Post. As further detailed herein, these include advertisements containing false or misleading statements, misrepresentations, and/or material omissions obfuscating the connection between the production and use of Shell's fossil fuel products and climate change, and/or misrepresenting Shell's products or Shell itself as environmentally friendly.
- j. Significant quantities of Shell's fossil fuel products are or have been transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in California, from which activities Shell derives and has derived substantial revenue. Shell conducts and controls, either directly or through franchise agreements, retail fossil fuel sales at gas station locations throughout California, at which locations it promotes, advertises, and sells its fossil fuel products under its Shell brand name. Shell operates over 1,000 Shell-branded petroleum service stations in California. During the period relevant to this Complaint, Shell sold a substantial percentage of all retail gasoline sold in California. Shell also supplies, markets, and promotes its Pennzoil line of lubricants at retail and service stations throughout California. From 1924 to 1992, Shell owned and operated an oil refinery in Carson, California, where it now owns and operates the property as a distribution facility for petroleum and petroleum products throughout Southern California. From 1915 to 2020, Shell owned and operated an oil refinery in Martinez, California.

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From 1998 to 2007, Shell owned and operated an oil refinery in Wilmington, California. From 1998 to 2005, Shell owned and operated an oil refinery in Bakersfield, California.

k. Shell historically directed its fossil fuel product advertising, marketing, and promotional campaigns to California, including through maps that identified the locations of its service stations in California. Shell markets and advertises its fossil fuel products in California to California residents by maintaining an interactive website available to prospective customers by which it directs California residents to Shell's nearby retail service stations. Shell offers a proprietary credit card known as the "Shell Fuel Rewards Card," which allows consumers in California to pay for gasoline and other products at Shell-branded service stations, and which encourages consumers to use Shell-branded gas stations by offering various rewards, including discounts on gasoline purchases. Shell further maintains a smartphone application known as the "Shell US App" that offers California consumers a cashless payment method for gasoline and other products at Shell-branded service stations. California consumers utilize the payment method by providing their credit card information through the application. California consumers can also receive rewards, including discounts on gasoline purchases, by registering their personal identifying information in the Shell US App and using the application to identify and activate gas pumps at Shell service stations during a purchase.

Citgo Petroleum Corporation ("Citgo") 20.

- Citgo is a direct, wholly owned subsidiary of PDV America, Incorporated, a. which is a wholly owned subsidiary of PDV Holding, Incorporated. These organizations' ultimate parent is Petroleos de Venezuela, S.A. ("PDVSA"), an entity wholly owned by the Republic of Venezuela that plans, coordinates, supervises and controls activities carried out by its subsidiaries. Citgo is incorporated in the State of Delaware and maintains its headquarters in Houston, Texas.
- Citgo and its subsidiaries are engaged in the refining, marketing, and b. transportation of petroleum products including gasoline, diesel fuel, jet fuel, petrochemicals, lubricants, asphalt, and refined waxes.
- Citgo is registered to do business in the State of California and has designated an agent for service of process in California. Citgo further does substantial fossil fuel

product-related business in California, and a substantial portion of its fossil fuel products are extracted, refined, transported, traded, distributed, marketed, and/or sold in California. For instance, Citgo sells significant volumes of fossil-fuel derived consumer motor oils and automobile lubricants through retail and wholesale distributers. Citgo further sells a wide variety of greases and oils for use in construction, mining, agricultural, and metalworking machinery and vehicles, and in many other industrial and commercial settings, through licensed distributors in California.

21. <u>ConocoPhillips Entities:</u> ConocoPhillips, ConocoPhillips Company, Phillips 66, and Phillips 66 Company

- a. Defendant **ConocoPhillips** is a multinational energy company incorporated in Delaware, with its principal place of business in Houston, Texas. ConocoPhillips consists of numerous divisions, subsidiaries, and affiliates that execute ConocoPhillips's fundamental decisions related to all aspects of fossil fuel production, including exploration, extraction, production, manufacture, transport, and marketing.
- b. ConocoPhillips controls and has controlled group-wide decisions about the quantity and rate of fossil fuel production and sales, including those of its subsidiaries. ConocoPhillips determines whether and to what extent its corporate holdings market, produce, and/or distribute fossil fuel products. ConocoPhillips's most recent annual report to the Securities and Exchange Commission subsumes the operations of ConocoPhillips's subsidiaries under its name. In ConocoPhillips's Form 10-K filed with the SEC for Fiscal Year 2022, the company represents that its value—for which ConocoPhillips maintains ultimate responsibility—is a function of its decisions to direct subsidiaries to develop crude oil, bitumen, natural gas, and natural gas liquids from ConocoPhillips's reserves into fossil fuel products and to explore for and replace those reserves with more fossil fuels: "Unless we successfully develop resources, the scope of our business will decline, resulting in an adverse impact to our business. . . . If we are not successful in replacing the resources we produce with good prospects for future organic development or through acquisitions, our business will decline."
- c. ConocoPhillips optimizes the ConocoPhillips group's oil and gas portfolio to fit ConocoPhillips's strategic plan. For example, ConocoPhillips' 10-K in 2022 summarizes the

"continued development of onshore assets" in the United States and new exploration activities in Alaska, Canada, the North Sea, and elsewhere. Similarly, 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.

- d. ConocoPhillips controls and has controlled group-wide 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 has the highest level of direct responsibility for climate change policy within the company. ConocoPhillips has developed and purportedly implements a corporate Climate Change Action Plan to govern climate change decision-making across all entities in the ConocoPhillips group.
- e. Defendant **ConocoPhillips Company** is a wholly owned subsidiary of ConocoPhillips that acts on ConocoPhillips's behalf and is subject to ConocoPhillips's control. ConocoPhillips Company is incorporated in Delaware, with its principal place of business in Houston, Texas, and has been registered to do business in California since 1947. ConocoPhillips Company was formerly known as, did or does business as, and/or is the successor in liability to Phillips Petroleum Company.
- f. Defendant **Phillips 66** is a multinational energy and petrochemical company incorporated in Delaware, 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.
- g. Defendant **Phillips 66 Company** is a wholly owned subsidiary of Phillips 66 that acts on Phillips 66's behalf and is subject to Phillips 66's control. Phillips 66 Company is incorporated in Delaware, with its principal place of business in Houston, Texas, and has been registered to do business in California since 2011. Phillips 66 Company had been registered since 1964 under a different name, Phillips Chemical Company, which was a wholly owned subsidiary

of the Phillips Petroleum Company. Phillips Chemical Company changed its name to Phillips 66 Company in 1985, and that iteration of Phillips 66 Company was terminated in 1991. Phillips 66 Company was formerly known as, did or does business as, and/or is the successor in liability to Phillips Petroleum Company; Phillips Chemical Company; Conoco, Inc.; Tosco Corporation; and Tosco Refining Co.

- h. Defendants ConocoPhillips, ConocoPhillips Company, Phillips 66, and Phillips 66 Company, as well as their predecessors, successors, parents, subsidiaries, affiliates, and divisions, are collectively referred to herein as "ConocoPhillips."
- i. Plaintiffs' claims against ConocoPhillips arise out of and are related to the acts and omissions of ConocoPhillips in California and elsewhere that caused and will cause injuries in California, including in San Mateo.
- California by distributing, marketing, advertising, promoting, and supplying its fossil fuel products in California, with knowledge that the intended use of those products for combustion has caused and will continue to cause climate change-related harms in San Mateo, including Plaintiffs' injuries. ConocoPhillips's statements in California and elsewhere made in furtherance of its campaign of deception about and denial of climate change, and ConocoPhillips's affirmative promotion of its fossil fuel products as safe with knowledge of how the intended use of those products would cause climate change-related harms, were designed to conceal and mislead consumers and the public, including San Mateo and its residents, about the serious adverse consequences that would result from continued use of ConocoPhillips's products. That conduct was purposefully directed to reach San Mateo County and obscure the dangers of ConocoPhillips's fossil fuel products from San Mateo and its residents such that use of ConocoPhillips's fossil fuel products in San Mateo County would not decline.
- k. Over the last several decades and continuing to the present day, ConocoPhillips spent millions of dollars on radio, television, online, social media, and outdoor advertisements in the California market related to its fossil fuel products. Since at least 1970, and continuing to the present day, ConocoPhillips has advertised in print publications circulated widely

Geographic, The New York Times, People, Sports Illustrated, Time, The Wall Street Journal, and The Washington Post. As further detailed herein, these include advertisements containing false or misleading statements, misrepresentations, and/or material omissions obfuscating the connection between the production and use of ConocoPhillips's fossil fuel products and climate change, and/or misrepresenting ConocoPhillips's products or ConocoPhillips itself as environmentally friendly.

- l. Significant quantities of ConocoPhillips's fossil fuel products are or have been transported, traded, distributed, promoted, marketed, manufactured, sold, and/or consumed in California, from which activities ConocoPhillips derives and has derived substantial revenue. ConocoPhillips conducts and controls, either directly or through franchise agreements, retail fossil fuel sales at gas station locations throughout California, at which locations it promotes, advertises, and sells its fossil fuel products under its various brand names, including Conoco, Phillips 66, and 76. ConocoPhillips also markets and sells to California customers at retail outlets engine lubricants and motor oils under its Phillips 66, Kendall, and Red Line brand names. ConocoPhillips operates hundreds of 76-branded petroleum service stations throughout California. During the period relevant to this Complaint, ConocoPhillips sold a substantial percentage of all retail gasoline sold in California.
- m. ConocoPhillips does substantial fossil fuel product-related business in California, and a substantial quantity of its fossil fuel products are extracted, refined, transported, traded, distributed, marketed, and/or sold in California. For instance, ConocoPhillips owns and/or operates oil and natural gas terminals in Richmond and Los Angeles, California; owns and operates oil refineries in Arroyo Grande, Colton, and Wilmington, California; and distributes ConocoPhillips fossil fuel products throughout California. Phillips 66 also owns and operates oil refineries in Rodeo, Santa Maria, and Los Angeles, California. All of these refineries were owned and operated by ConocoPhillips and its predecessors-in-interest from 1997 to 2012.
- n. ConocoPhillips has historically directed its fossil fuel product advertising, marketing, and promotional campaigns to California, including through maps identifying its

services throughout California. ConocoPhillips markets and advertises its fossil fuel products in 1 2 3 4 5 6 7 8 10 11 12 13 14

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California to California residents by maintaining an interactive website available to prospective customers by which it directs California residents to ConocoPhillips's nearby retail service stations. ConocoPhillips offers a proprietary credit card known as the "76 Credit Card," which allows consumers in California to pay for gasoline and other products at 76-branded service stations, and which encourages California consumers to use 76-branded service stations by offering various rewards, including discounts on gasoline purchases at 76-branded service stations and cash rebates. ConocoPhillips further maintains a nationwide smartphone application known as the "Fuel Forward App." The application offers California consumers a cashless payment method for gasoline and other products at 76-branded service stations. California consumers utilize the payment method by providing their credit card information through the application. California consumers can also apply for a 76 Credit Card through the application. By registering their personal identifying information in the application and by using the application to identify and activate gas pumps at 76-branded service stations, California consumers can receive additional rewards, such as further discounts on ConocoPhillips gasoline purchases.

22. **Total Entities:** Total E&P USA Inc. and Total Specialties USA Inc.

- **Total E&P USA Inc.** is a wholly owned subsidiary of Total S.A.—a French energy conglomerate—engaged in the North American segment of Total SA's fossil fuel productsrelated business. Total E&P USA Inc. and its subsidiaries are involved in the exploration for, extraction, transportation, research, and marketing of Total S.A.'s fossil fuel products. Total E&P USA Inc. is registered to do business in the State of California and has designated an agent for service of process in California.
- h. Total Specialties USA Inc., is a wholly owned subsidiary of Total SA, involved in the marketing and distribution of Total S.A.'s fossil fuel products. Total Specialties USA Inc. is incorporated in the State of Delaware and headquartered in Houston, Texas. Total Specialties USA Inc. is registered to do business in the State of California and has designated an agent for service of process in California. Total Specialties USA Inc. does substantial fossil fuel product-related business in California, and a substantial portion of its fossil fuel products are

extracted, refined, transported, traded, distributed, marketed, and/or sold in California. For instance, Total Specialties USA Inc. maintains regular distributorship relationships with several California distributors of Total fossil fuel products, including engine oils, lubricants, greases, and industrial petroleum products.

23. <u>Eni Entities:</u> Eni S.p.A. and Eni Oil & Gas Inc.

- a. **Eni S.p.A.** is a vertically integrated, multinational energy company focusing on petroleum and natural gas. Eni is incorporated in the Republic of Italy, with its principal place of business in Rome, Italy. With its consolidated subsidiaries, Eni engages in the exploration, development, and production of hydrocarbons; in the supply and marketing of gas, liquid natural gas, and power; in the refining and marketing of petroleum products; in the production and marketing of basic petrochemicals, plastics and elastomers; in commodity trading; and in electricity marketing and generation.
- b. **Eni Oil & Gas Inc.** is incorporated in Texas, with its principal place of business in Houston, Texas. Eni Oil & Gas Inc., is a wholly owned subsidiary of Eni America Ltd., a Delaware corporation doing business in the United States. Eni America, Ltd. Is a wholly owned subsidiary of Eni UHL Ltd., a British corporation with its registered office in London, United Kingdom. Eni UHL Ltd. is a wholly owned subsidiary of Eni ULT, Ltd., a British corporation with its registered office on London, United Kingdom. Eni ULT, Ltd. is a wholly owned subsidiary of Eni Lasmo Plc, a British corporation with its registered office on London, United Kingdom. Eni Investments Plc, a British corporation with its registered office in London, United Kingdom, holds a 99.9% ownership interest in Eni Lasmo Plc (the other 0.01% ownership interest is held by another Eni entity, Eni UK Ltd, a British corporation with its registered office in London, United Kingdom). Eni S.p.A owns a 99.99% interest in Eni Investments Plc. Eni UK Ltd. holds the remainder interest in Eni Investments Plc. Collectively, these entities are referred to as "Eni."
- c. Eni Oil & Gas Inc. is a successor-in-interest to Golden Eagle Refining Company, Inc. ("Golden Eagle"). At times relevant to this complaint, Golden Eagle did substantial fossil fuel-related business in California. Specifically, Golden Eagle owned and/or operated oil

refineries in Carson (Los Angeles County) and Martinez (Contra Costa County), California, and owned and/or operated oil pipelines in or near Long Beach (Los Angeles County), California.

24. Anadarko Petroleum Corp. ("Anadarko")

a. Anadarko is incorporated in the State of Delaware and maintains its principal place of business in The Woodlands, Texas. Anadarko is a multinational, vertically integrated energy company comprised of multiple upstream and downstream segments. These include exploration, production, gathering, processing, treating, transporting, marketing, and selling fossil fuel products derived primarily from petroleum and natural gas. In the United States, Anadarko entities operate fossil fuel product exploration and production concerns in Texas, the Gulf of Mexico, Alaska, the Powder River Basin, Utah, Colorado, and the Marcellus Shale Formation. Anadarko operates fossil fuel product production and exploration activities internationally in Algeria, Ghana, Mozambique, and Columbia, among others. Anadarko Petroleum Corporation is registered to do business in California and has designated an agent for service of process in California.

b. Anadarko is a successor-in-interest to HS Resources Inc. ("HS"). HS was an energy company headquartered in San Francisco, San Francisco County, California. It owned natural gas reserves in Colorado, North Dakota, South Dakota, Montana, and along the coasts of Texas and Louisiana, which it extracted and imported to California. HS was acquired by Kerr-McGee Corporation in 2001. Kerr-McGee was an energy exploration and production company owning oil and natural gas rights in the Gulf of Mexico, Colorado, and Utah, with its corporate headquarters in Oklahoma. Anadarko Petroleum Corporation acquired Kerr-McGee Corporation in 2006.

25. <u>Occidental Entities:</u> Occidental Petroleum Corporation and Occidental Chemical Corporation

a. **Occidental Petroleum Corporation** is a multinational, vertically integrated energy and chemical company incorporated in the State of Delaware and with its principal place of business in Houston, Texas. Occidental's operations consist of three segments:

(1) the exploration for, extraction of, and production of oil and natural gas products; (2) the

manufacture and marketing of chemicals and vinyls; and (3) processing, transport, storage, purchase, and marketing of oil, natural gas, and power. Occidental Petroleum Corporation is registered to do business in the State of California and has designated an agent for service of process in the State of California.

- b. **Occidental Chemical Corporation**, a manufacturer and marketer of petrochemicals, such as polyvinyl chloride resins, is a wholly owned subsidiary of Occidental Petroleum Corporation. Occidental Chemical Corporation is registered to do business in the State of California and has designated an agent for service of process in the State of California.
- c. Defendants Occidental Petroleum Corporation and Occidental Chemical Corporation are collectively referred to as "Occidental."
- d. Occidental does substantial fossil fuel product-related business in the State of California, and a substantial portion of its fossil fuel products are extracted, refined, transported, traded, distributed, marketed and/or sold in California. For instance, Occidental extracted and transported its fossil fuel products from approximately 30,900 drilling locations within the San Joaquin, Los Angeles, Ventura, and Sacramento Basins in California.
- e. In addition, Occidental conducts has conducted substantial activities in the state, including marketing and promotion; efforts to avoid or minimize regulation of greenhouse gas pollution in and from California; and efforts to influence statutory and regulatory debate regarding fossil fuel consumption, electric power distribution, and greenhouse gas pollution policies such that the exercise of jurisdiction comports with traditional notions of fair play and substantial justice. Since 1999, Occidental Petroleum Corp. and its subsidiaries have reported more than \$4.6 million in lobbying expenditures directed at numerous statutory and regulatory proposals before the California legislature and executive agencies, including the California Energy Commission, California Air Resources Board, and California Public Utilities Commission, related to its fossil fuel products business.

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26. Repsol Entities: Repsol S.A., Repsol Energy North America Corporation, and **Repsol Trading USA Corporation**

- **Repsol S.A.** is a vertically integrated, multinational global energy company, a. incorporated in the Kingdom of Spain, with its principal place of business in Madrid, Spain. Repsol is involved in multiple aspects of the fossil fuel industry, including exploration, production, marketing, and trading. Repsol engages in significant fossil fuel exploration and production activities in the United States, including in the Gulf of Mexico, the Marcellus Shale in Pennsylvania, the Eagle Ford Shale in South Texas, the Mississippi Lime in Oklahoma and Kansas, the North Slope in Alaska, and the Trenton-Black River in New York
- h. Repsol does substantial fossil fuel product-related business in the State of California, and a substantial portion of its fossil fuel products are extracted, refined, transported, traded, distributed, marketed and/or sold in California. For instance, Repsol subsidiary Repsol **Energy North America Corporation**, incorporated in the State of Texas and with its principal place of business in The Woodlands, Texas, is listed as a natural gas procurement, storage, transportation, scheduling, and risk management provider by Pacific Gas and Electric, a California utility. Repsol Energy North America Corporation is registered to do business in California and has designated an agent for service of process in California. Repsol subsidiary Repsol Trading **USA Corporation**, incorporated in the State of Texas and with its principal place of business in The Woodlands, Texas, is also registered do business in California and has designated an agent for service of process in California. Additionally, Repsol represents on its website that it is engaging in strategic opportunities involving its fossil fuel products in California, which may consist of crude oil, gasoline, diesel, and/or jet fuel.

27. Marathon Entities: Marathon Oil Company, Marathon Oil Corporation, and **Marathon Petroleum Corporation**

a. Marathon Oil Company is an energy company incorporated in the State of Ohio and with its principal place of business in Houston, Texas. Marathon Oil Company is registered to do business in California and has designated an agent for service of process in California. Marathon Oil Company is a corporate ancestor of Marathon Oil Corporation and

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Marathon Petroleum Company.

- Marathon Oil Company is a successor-in-interest to Husky Oil Ltd. ("Husky"), which it acquired in 1984. During times relevant to this Complaint, Husky operated oil production facilities near Santa Maria (Santa Barbara County), California, where it produced nearly 1,100 barrels per day. During the period relevant to this litigation, Husky did substantial fossil fuel product-related business in California.
- **Marathon Oil Corporation** is a multinational energy company c. incorporated in the State of Delaware and with its principal place of business in Houston, Texas. Marathon Oil Corporation consists of multiple subsidiaries and affiliates involved in the exploration for, extraction, production, and marketing of fossil fuel products.
- d. **Marathon Petroleum Corporation** is a multinational energy company incorporated in Delaware and with its principal place of business in Findlay, Ohio. Marathon Petroleum Corporation was spun off from the operations of Marathon Oil Corporation in 2011. It consists of multiple subsidiaries and affiliates involved in fossil fuel product refining, marketing, retail, and transport, including both petroleum and natural gas products.
- Defendants Marathon Oil Company, Marathon Oil Corporation, and Marathon Petroleum Corporation are collectively referred to as "Marathon."
- f. Marathon has purposefully directed its tortious conduct toward California by distributing, marketing, advertising, promoting, and supplying its fossil fuel products in California, with knowledge that the intended use of those products for combustion has caused and will continue to cause climate change-related harms in San Mateo County, including Plaintiffs' injuries. That conduct was purposefully directed to reach San Mateo County and obscure the dangers of Marathon's fossil fuel products from San Mateo and its residents such that the use of Marathon's fossil fuel products in San Mateo County would not decline.

28. **Hess Corporation ("Hess")**

Hess is a global, vertically integrated petroleum exploration and extraction a. company incorporated in the State of Delaware with its headquarters and principal place of business in New York, New York.

b. Hess is engaged in the exploration, development, production, transportation, purchase, marketing, and sale of crude oil and natural gas. Its oil and gas production operations are located primarily in the United States, Denmark, Equatorial Guinea, Malaysia, Thailand, and Norway. Prior to 2014, Hess also conducted extensive retail operations in its own name and through subsidiaries. Hess owned and operated more than 1,000 gas stations throughout the United States, including in California during times relevant to this complaint. Prior to 2013, Hess also operated oil refineries in the continental United States and U.S. Virgin Islands.

c. Hess has purposefully directed its tortious conduct toward California by distributing, marketing, advertising, promoting, and supplying its fossil fuel products in California, with knowledge that the intended use of those products for combustion has caused and will continue to cause climate change-related harms in San Mateo County, including Plaintiffs' injuries. That conduct was purposefully directed to reach San Mateo County and obscure the dangers of Hess's fossil fuel products from San Mateo and its residents such that the use of Hess's fossil fuel products in San Mateo County would not decline.

29. <u>Devon Energy Entities:</u> Devon Energy Corp. and Devon Energy Production Company, L.P.

- a. **Devon Energy Corp.** is an independent energy company engaged in the exploration, development, and production of oil, and natural gas. It is incorporated in the State of Delaware and maintains its principal place of business in Oklahoma City, Oklahoma. Devon is engaged in multiple aspects of the fossil fuel industry, including exploration, development, production, and marketing of its fossil fuel products.
- b. **Devon Energy Production Company, L.P.** is a Devon subsidiary registered to do business in the State of California and with a designated agent for service of process in California. Devon Energy does substantial fossil fuel product-related business in California.
- c. Devon Energy Corp. is a successor-in-interest to the Pauley Petroleum Company ("Pauley"). At times relevant to this complaint, Pauley did substantial fossil-fuel related business in California. Specifically, this included owning and operating a petroleum refinery in

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Newhall (Los Angeles County), California from 1959 to 1989, and a refinery in Wilmington (Los Angeles, Los Angeles County), California from 1988 to 1992. Pauley merged with Hondo Oil and Gas Co. ("Hondo") in 1987. Subsequently, Devon Energy Corp. acquired Hondo in 1992.

d. Defendants Devon Energy Production Company, L.P. and Devon Energy Corp. are collectively referred to as "Devon."

30. **Encana Corporation ("Encana")**

- Encana is a Canadian corporation with its principal place of business in a. Calgary, Alberta, Canada. Encana is an extractor and marketer of oil and natural gas and has facilities including gas plants and gas wells in Colorado, Texas, Wyoming, Louisiana, and New Mexico. By approximately 2005, Encana was the largest independent owner and operator of natural gas storage facilities in North America.
- b. Encana has done and continues to do substantial fossil fuel product-related business in California. Between 1997 and 2006, Encana owned and operated the Wild Goose Storage underground natural gas storage facility in Butte County, California. In 2003, Encana began transporting natural gas through a 25-mile pipeline from the Wild Goose Station to a Pacific Gas & Electric Co. ("PG&E") compressor station in Colusa County, where gas entered the main PG&E pipeline. Encana invested in a 100 billion cubic foot expansion of the facility in 2004, bringing gas storage capacity at Wild Goose to 24 billion cubic feet.

31. **Apache Corporation ("Apache")**

- Apache is a publicly traded Delaware corporation with its principal place of a. business in Houston, Texas. Apache is an oil and gas exploration and production company, with crude oil and natural gas exploration and extraction operations in the United States, Canada, Egypt, and in the North Sea.
- h. During the time at issue, Apache extracted natural gas from wells developed on approximately seven million acres of land held in the Canadian provinces of British Columbia, Alberta, and Saskatchewan, and Apache did substantial fossil fuel product-related business in California. Apache transported a substantial volume of the natural gas extracted from its Canadian holdings to California, where it sold that gas to electric utilities, end-users, other fossil fuel

companies, supply aggregators, and other fossil fuel marketers. Apache directed sales of its natural gas to California in addition to markets in Washington state, Chicago, and western Canada, to intentionally retain a diverse customer base and maximize profits from the differential price rates and demand levels in those respective markets.

C. Doe Defendants

32. The true names and capacities, whether individual, corporate, associate, or otherwise of Defendants Does 1 through 100, inclusive, are unknown to Plaintiffs, who therefore sue said Defendants by such fictitious names pursuant to California Code of Civil Procedure Section 474. Plaintiffs are informed and believe, and on that basis allege, that each of the fictitiously named Defendants is responsible in some manner for the acts and occurrences herein alleged, and that Plaintiffs' damages were caused by such Defendants.

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

- 33. As detailed below, each Defendant had actual knowledge, or should have known, that its fossil fuel products were hazardous because the intended use of the fossil fuel products for combustion would substantially contribute to climate change and result in harms to Plaintiffs. Defendants obtained knowledge of the hazards of their products independently and through their membership and involvement in trade associations such as API.
- 34. Defendants employed, financed, and participated in several industry-created front groups to serve their mission of flooding the markets with climate change disinformation and denialism. These organizations, acting on behalf of and under Defendants' supervision and control, assisted the deception campaign by implementing public advertising and outreach campaigns to discredit climate science, as well as funding scientists to cast doubt upon climate science and upon the extent to which climate change is caused by human activity. In sum, Defendants, through their front groups, engaged in a significant marketing campaign that misrepresented and concealed the dangers of their fossil fuel products with the aim of protecting or enhancing sales of these products to consumers, including consumers in California. Defendants actively supervised, facilitated, consented to, and/or directly participated in the misleading messaging of these front groups, from which Defendants profited significantly, including in the form of increased sales in California.

35. The American Petroleum Institute (API)

a. API is a national trade association representing the oil and gas industry, formed in 1919. API's purpose is to advance its members' collective business interests, which includes increasing consumer consumption of oil and gas for the financial profit of Defendants and other oil and gas companies. Among other functions, API also coordinates members of the petroleum industry, gathers information of interest to the industry, and disseminates that information to its members.

b. Acting on behalf of and under the supervision and control of Defendants, API has, since at least 1988, participated in and led several coalitions, front groups, and organizations that have promoted disinformation about the climate impacts of fossil fuel products to consumers—including, but not limited to, the Global Climate Coalition, Partnership for a Better Energy Future, Coalition for American Jobs, Alliance for Energy and Economic Growth, and Alliance for Climate Strategies. These front groups were formed to promote climate disinformation and advocacy from a purportedly objective source, when in fact these groups were financed and controlled by Defendants and other oil and gas companies. Defendants have benefited from the spread of this disinformation because, among other things, it has ensured a thriving consumer market for oil and gas, resulting in substantial profits for Defendants. In effect, API acts and has acted as a marketing arm for its member companies, including Defendants. Over the last several decades, API has spent millions of dollars on television, newspaper, radio, social media, and internet advertisements in the California market.

c. Member companies participate in API strategy, governance, and operation through their membership dues and by contributing company officers and other personnel to API boards, committees, and task forces. Defendants have collectively steered the policies and trade practices of API through membership, Executive Committee roles, and/or providing budgetary funding for API. Defendants have used their control over and involvement in API to develop and execute a long-term advertising and communications campaign centered on climate change denialism. The goal of the campaign was to influence consumer demand for Defendants' fossil fuel products. Defendants directly controlled, supervised, and participated in API's misleading

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¹⁴ 1991, 1996–1997, 2001, 2002, 2003, 2005–2016, 2018–2020.

messaging regarding climate change. That conduct directly impacted California, as Defendants worked with API to create and disseminate misleading advertisements that promote consumption of fossil fuel products in California.

- d. The following Defendants and/or their predecessors in interest are and/or have been API members at times relevant to this litigation: Chevron, ExxonMobil, Shell, ConocoPhillips, Anadarko, Occidental, Repsol, Marathon, EnCana, BP, Citgo, Hess, and Apache. Each of these Defendants consistently holds API leadership positions, participates in API committees and task forces formed to address climate change issues, makes decisions that determine API's conduct, and works with other Defendants to achieve these ends. Their control of and leadership roles in API are longstanding, deeply rooted, and continuous throughout relevant time periods.
- For example, Defendants served as corporate officers of API in the relevant e. time period, including executives from Exxon, Shell, Chevron, ConocoPhillips, Marathon, Hess and BP serving as API Board Chairman and on the Board's Executive Committee. Exxon's CEO served on API's Executive Committee, including as President and Chairman, for 21 of the 29 years between 1991 and 2020.¹⁴ Multiple high-level executives from Exxon, such as Presidents, Vice Presidents, CEOs, COOs, and Chairmen, served on API's Board in each year between 1994–2002. BP's CEO served as API's Chairman in 1988, 1989, and 1998. Multiple high-level executives from BP served on API's Board of Directors between 1994–2002. The Chairman and CEO of BP's predecessor ARCO served as API treasurer in 1998 and Chairman in 1999. Chevron's CEO served as API Chairman in 1994, 1995, 1997, 1998, 2003, and 2012. In 2002, Chevron's CEO served as API treasurer. Chairman and CEO of Chevron's predecessor Texaco served as API Board Chairman in 2001, and as treasurer in 1999. Multiple high-level executives from Chevron served on API's Board of Directors in each year between 1994-2002. Shell's President served as API treasurer in 1997 and sat on the Board's Executive Committee from at least 2005–2006. Multiple high-level Shell executives served on API's Board of Directors between 1994-2002. The

1 ConocoPhillips Chairman and CEO was API Chairman from 2016–2018, and currently serves on API's Executive Committee. In 2020, API elected Phillips 66 Chairman and CEO to serve a two-2 3 year term as its Board President, and Phillips 66's current President and CEO is on the API Board's 4 Executive Committee. Multiple high-level ConocoPhillips executives served on API's Board of 5 Directors between 1994–2002. Marathon or its predecessors' CEOs served on the API Board's Executive Committee across multiple decades, for example Marathon's then-CEO was Treasurer 6 7 and testified to Congress on behalf of API in 1994. Multiple high-level executives from Marathon 8 served on API's Board of Directors between 1994–2002. Multiple CITGO high-level executives served on API's Board of Directors between 1995-2002. Hess high-level executives served on API's Board of Directors in 1994 and 1995; and Hess' CEO currently serves on the API Board's 10 Executive Committee and served on API's Board of Directors from at least 2015 to 2021. Multiple 11 high-level executives from Occidental served on API's Board of Directors between 1994–2002. 12 Anadarko or its predecessors' high-level executives served on API's Board of Directors between 13 14 1994-2002. Anadarko's then-President and COO served on API's Executive Committee as

f. Relevant information was shared among API and Defendants and Defendants' predecessors-in-interest through the following: (1) API's distribution of information to its members, and/or (2) participation of Defendants' officers and other personnel, and those of Defendants' predecessors-in-interest, on API boards, committees, and task forces. This includes representatives of Exxon, Chevron, BP, Shell, ConocoPhillips, and Marathon sitting on both API's Committee for Air and Water Conservation and a special advisory group to API's Committee for Public Affairs, which worked together to develop research reports on air emissions and other environmental topics. Different representatives of Exxon, Chevron, BP, Shell, ConocoPhillips, and Marathon rotated in and out of these positions throughout the time periods discussed in this Complaint. Representatives from Marathon sat on the Executive Committee to API's Engineering and Technical Research Committee and on the Committee for Air and Water Conservation. Representatives from Chevron and Exxon chaired API's Engineering and Technical Research Committee, and representatives from BP and Exxon chaired API's Health and Biological Research

treasurer in 2001.

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Committee, also developing research documents. Different representatives of Exxon, Chevron, BP, Shell and ConocoPhillips rotated in and out of these positions throughout the time periods discussed in this Complaint.¹⁵

- 36. 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). 16
- 37. The Global Climate Coalition (GCC) was an industry group formed to preserve and expand consumer demand for fossil fuels by publicly casting doubt on climate science and opposing greenhouse gas emission reduction initiatives. The GCC was founded in 1989 in reaction to the first meeting of the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change, and to NASA scientist James Hansen's presentation to the Senate Committee on Energy and Natural Resources, in which Hansen emphasized that climate change was already happening and would lead to dire consequences if left unaddressed. The GCC disbanded in or around 2001. Founding members included API, Shell Oil Company (currently, Shell); Texaco, Inc. (currently, Chevron); Amoco (currently, BP); ARCO (owned by BP at the time); and Phillips Petroleum Company (currently, ConocoPhillips). GCC board membership during its existence included high-level executives from the founding members and Chevron, Exxon, and Mobil (Exxon). Tom Lambrix, director of government relations for Phillips Petroleum, was the first chairman of the GCC. Exxon was also a corporate member of the GCC over the course of the GCC's existence.

III. **AGENCY**

38. 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

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¹⁵ American Petroleum Institute, Comm. For Air and Water Conservation & Comm. On Public Affairs, Environmental Research: A Status Report (1972) (listing members of relevant 26 committees and their fossil fuel company affiliations),

https://files.eric.ed.gov/fulltext/ED066339.pdf. 27

¹⁶ Hereinafter, parenthetical references to Defendants indicate corporate ancestry and/or affiliation.

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

- 39. This Court's personal jurisdiction over Defendants named herein is proper because each Defendant maintains substantial contacts with California by and through their fossil fuel business operations in this state, as described above, and because Plaintiffs' injuries described herein arose out of and relate to those operations and occurred in California. Each Defendant purposefully availed itself of the California market, and thus of the benefits of the laws of the State, during all times relevant to this Complaint, so as to render California courts' exercise of jurisdiction over each Defendant consistent with traditional notions of fair play and substantial justice. Each Defendant researched, developed, manufactured, designed, marketed, distributed, released, promoted, and/or otherwise sold its fossil fuel products in markets around the United States, including within California.
- 40. Additionally, jurisdiction is proper over each non-resident Defendant for the following reasons:
- a. With respect to its subsidiaries, each non-resident Defendant controls and has controlled its direct and indirect subsidiaries' 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 its direct and indirect subsidiaries' decisions related to its marketing and advertising, specifically communications strategies concerning climate change and the link between fossil fuel use and impacts on the environment. Each subsidiary Defendant is the agent of its parent Defendant. As agents, the subsidiaries of each non-resident Defendant conducted activities in California at the direction and for the benefit of its parent company. Specifically, the subsidiaries furthered each parent company's campaign of deception and denial through misrepresentations, omissions, and affirmative promotion of the company's fossil fuel products as safe with knowledge of the climate

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change-related harms that would result from the intended use of those products, all of which resulted in climate change-related injuries in San Mateo and increased sales to the parent company. The subsidiaries' jurisdictional activities are properly attributed to each parent company and serve as a basis to assert jurisdiction over each of the non-resident Defendant parent companies.

- b. Through their various agreements with dealers, franchises, or otherwise, the Defendants direct and control the branding, marketing, sales, promotions, image development, signage, and advertising of their branded fossil fuel products at their respectively branded gas stations in California, including point-of-sale advertising and marketing. The Defendants dictate which grades and formulations of their gasoline may be sold at their respectively branded stations.
- Defendants, in coordination with API and other organizations, conspired to c. conceal and misrepresent the known dangers of burning fossil fuels, to knowingly withhold material information regarding the consequences of using fossil fuel products, to spread knowingly false and misleading information to the public regarding the weight of climate science research, and to promote their fossil fuel products which they knew were harmful. Through their own actions and through their membership and participation in climate denialist front groups, API and each Defendant were and are members of that conspiracy. Defendants committed substantial acts to further the conspiracy in California by making misrepresentations and misleading omissions to California consumers about the existence, causes, and effects of global warming; by affirmatively promoting the Defendants' fossil fuel products as safe, with knowledge of the disastrous impacts that would result from the intended use of those products; and by failing to warn California consumers about the disastrous impacts of fossil fuel use. A substantial effect of the conspiracy has also and will also occur in San Mateo, as the County and its residents have suffered and will suffer injuries from Defendants' wrongful conduct, including but not limited to the following: sea level rise, massive storms, coastal erosion, flooding, shallow groundwater rise, extreme heat, drought, reduced air quality, and other social and economic consequences of these environmental changes. Defendants knew or should have known based on information provided to them from their internal research divisions, affiliates, trade associations, and industry groups that their actions in California and elsewhere would result in these injuries in and to San Mateo County and its

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Defendants' conduct in furtherance of the conspiracy.

residents. Finally, the climate effects described herein are direct and foreseeable results of

- 41. The Superior Court of California for San Mateo County is a court of general jurisdiction and therefore has subject matter jurisdiction over this action.
- 42. Venue is proper in San Mateo County pursuant to Code of Civil Procedure sections 395 and 395.5 because the injury giving rise to the County's claims occurred in San Mateo County. Defendants have contributed to the creation of a public nuisance in San Mateo County, and the San Mateo County Attorney has the right and authority to seek abatement of that nuisance on behalf of the People of the State of California. Injuries San Mateo and OneShoreline have suffered personally have also occurred within San Mateo County.
- 43. Additionally, venue is also proper in San Francisco County for pre-trial purposes pursuant to the February 5, 2024 order from Judge Treat in Contra Costa Superior Court and February 9, 2024 order from the Judicial Council of California. Those orders coordinated this and other actions into JCCP 5310, Fuel Industry Climate Cases, in San Francisco County.

V. FACTUAL BACKGROUND

- Α. **Global Warming—Observed Effects and Known Cause**
- 44. The Earth is warming at a rate unprecedented in human history.
- 45. The Earth's atmosphere is warming, sea level is rising, snow and ice cover is diminishing, oceans are warming and acidifying, and hydrologic systems have been altered, among other rapidly accelerating changes to our climate. These changes are directly harming people's health, lives, lifestyles, and livelihoods, including in San Mateo County. According to the IPCC, the evidence that humans are causing this warming of the Earth is unequivocal.¹⁷ Greenhouse gas emissions caused by human activities are the most significant drivers of climate change. 18 Over

¹⁷ Climate Change 2021: The Physical Science Basis, THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, at v, 4, 41, 63, 150, 425, 506 (2021). https://report.ipcc.ch/ar6/wg1/IPCC_AR6_WGI_FullReport.pdf.

Id. at 41.

the past couple of decades, those emission rates have exceeded those predicted under previous "worst case" global emissions scenarios.

- 46. Greenhouse gases are largely byproducts of human combustion of fossil fuels to produce energy and use of fossil fuels to create petrochemical products. While there are several greenhouse gases contributing to climate change, CO₂ is the primary greenhouse gas emitted as a result of human activities.
- 47. Atmospheric and ocean temperatures have both increased substantially since the beginning of the global industrial revolution, and the rate of warming has also dramatically increased since the end of World War II.
- 48. In the geological short term, ocean and land surface temperatures have increased at a rapid pace during the late 20th and early 21st centuries:
- a. 2023 was the hottest year on record by globally averaged surface temperatures, exceeding mid-20th century mean ocean and land surface temperatures by approximately 2.12° F. Each month in 2023 was hotter by globally averaged surface temperatures than those respective months in any previous year. June, July, August, September, October, November and December 2023 were all the hottest average surface temperatures for those months.¹⁹
- b. The second hottest year on record by globally averaged surface temperatures was 2016, and the third hottest was 2020.²⁰
- c. The ten hottest years on record by globally averaged surface temperature have all occurred since 2014.²¹
- 49. The average global surface and ocean temperature in 2023 was approximately 2.12° F warmer than the 20th century baseline, which is the greatest positive anomaly observed

²⁶ NOAA National Center for Environmental Information, NOAA, Annual 2023 Global Climate

Report (Jan. 2024), https://www.ncei.noaa.gov/access/monitoring/monthly-report/global/202313.

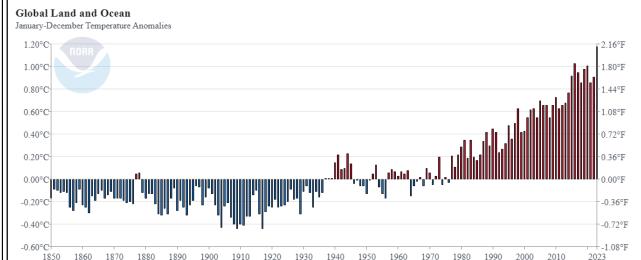
²⁰ <u>Id.</u>

²¹ <u>Id.</u>

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since at least 1850.²² The increase in hotter temperatures and more frequent positive anomalies during the Great Acceleration is occurring both globally and locally, including in San Mateo County. The graph below shows the increase in global land and ocean temperature anomalies since 1850, as measured against the 1901–2000 global average temperature.²³



<u>Figure 1: Global Land and Ocean Temperature Anomalies, January – December</u>

50. Prior to World War II, most anthropogenic CO₂ emissions were caused by land-use practices, such as forestry and agriculture, which altered the ability of the land and global biosphere to absorb CO₂ from the atmosphere; the impacts of such activities on Earth's climate were relatively minor. Since the beginning of the Great Acceleration, however, both the annual rate and total volume of human CO₂ emissions have increased enormously following the advent of major uses of oil, gas, and coal. The graph below shows that while CO₂ emissions attributable to forestry and other land-use change have remained relatively constant, total emissions attributable to fossil fuels have increased dramatically since the 1950s.²⁴

²² NOAA (2024), Annual 2023 Global Climate Report, <u>supra</u> note 19.

²³ <u>See id.</u>

²⁴ Global Carbon Project, <u>Global Carbon Budget 2016</u> (Nov. 14, 2016), http://www.globalcarbonproject.org/carbonbudget/16/files/GCP_CarbonBudget_2016.pdf, <u>citing</u> CDIAC; R.A. Houghton et al., <u>Carbon emissions from land use and land-cover change</u> (2012), http://www.biogeosciences.net/9/5125/2012/bg-9-5125-2012.html; Louis Giglio et al., <u>Analysis</u> of daily, monthly, and annual burned area using the fourth-generation global fire emissions

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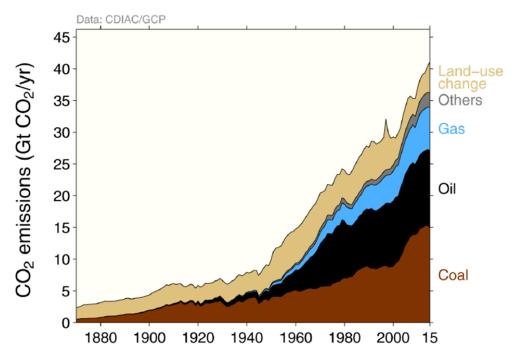


Figure 2: Total Annual Carbon Dioxide Emissions by Source, 1860–2015

51. As human reliance on fossil fuels for industrial and mechanical processes has increased, so too have greenhouse gas emissions, especially of CO₂. The Great Acceleration is marked by a massive increase in the annual rate of fossil fuel emissions: more than half of all cumulative CO₂ emissions have occurred since 1988.²⁵ The rate of CO₂ emissions from fossil fuels and industry, moreover, has increased threefold since the 1960s, and by more than 60% since 1990.²⁶ The graph below illustrates the increasing rate of global CO₂ emissions since the industrial era began.²⁷

<u>database</u> (2013), http://onlinelibrary.wiley.com/doi/10.1002/jgrg.20042/abstract; Le Quéré et al. (2016), <u>supra</u> note 4.

²⁵ R.J. Andres et al. (2012), <u>supra</u> note 6, at 1851.

²⁶ Le Quéré et al. (2016), <u>supra</u> note 4, at 630 ("Global CO₂ emissions from fossil fuels and industry have increased every decade from an average of 3.1 ± 0.2 GtC/yr in the 1960s to an average of 9.3 ± 0.5 GtC/yr during 2006–2015").

²⁷ Peter Frumhoff et al., <u>The Climate Responsibilities of Industrial Carbon Producers</u>, Climatic Change 132:157–171, 164 (2015).

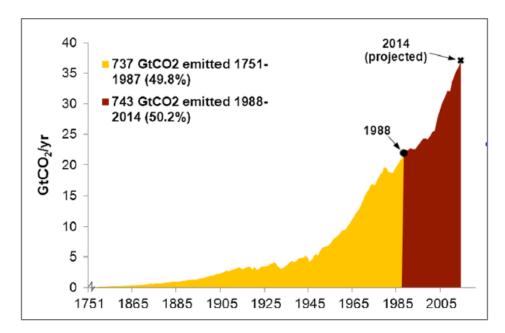


Figure 3: Cumulative Annual Anthropogenic Carbon Dioxide Emissions, 1751-2014

- 52. Since 1960, the concentration of CO₂ in the atmosphere has spiked from under 320 parts per million (ppm) to approximately 423 ppm.²⁸ The concentration of atmospheric CO₂ has also been accelerating. From 1960 to 1970, atmospheric CO₂ increased by an average of approximately 0.9 ppm per year; over the last five years, it has increased by approximately 2.4 ppm per year.²⁹
- 53. 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 CO₂.

²⁸ <u>Trends in Atmospheric Carbon Dioxide: Full Record</u>, GLOBAL MONITORING LABORATORY, https://gml.noaa.gov/ccgg/trends/mlo.html.

²⁹ <u>Trends in Atmospheric Carbon Dioxide: Growth Rate</u>, GLOBAL MONITORING LABORATORY https://gml.noaa.gov/ccgg/trends/gr.html.

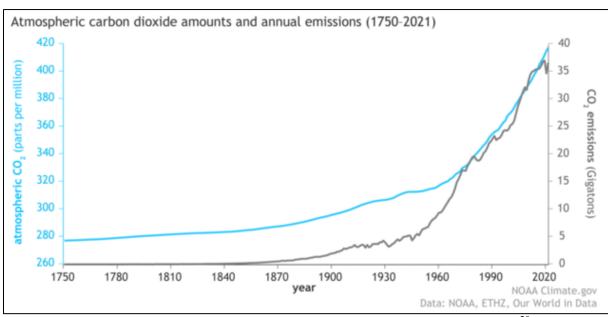


Figure 4: Atmospheric CO₂ Concentration and Annual Emissions³⁰

Because of the increased burning of fossil fuel products, concentrations of greenhouse gases in the atmosphere are now at an unprecedented level, one not seen in at least three million years.³¹

- 54. 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 heat waves.
- b. Sea level rise, due to the thermal expansion of warming ocean waters and runoff from melting glaciers and ice sheets.
- c. Changes to the global climate generally, bringing about longer droughts and
 dry periods interspersed with fewer and more severe periods of precipitation, and associated

³⁰ Rebecca Lindsey, <u>Climate Change: Atmospheric Carbon Dioxide</u>, CLIMATE.GOV (May 12, 2023), https://www.climate.gov/news-features/understanding-climate/climate-change-atmospheric-carbon-dioxide.

More CO₂ 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.

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impacts to the quantity and quality of water resources available to both human and ecological systems.

- d. Increased frequency and intensity of extreme weather events due to increases in evaporation, evapotranspiration, and precipitation, a consequence of the warming atmosphere's increased ability to hold moisture.
- Adverse impacts on human health associated with extreme weather, e. extreme heat, worsening air quality, and vector-borne illnesses.
- f. Flooding and inundation of land and infrastructure, increased erosion, higher wave run-up and tides, increased frequency and severity of storm surges, saltwater intrusion, shallow groundwater rise, and other impacts of higher sea levels.
- g. Ocean acidification, primarily due to the increased uptake of atmospheric carbon dioxide by the oceans.
- h. Changes to terrestrial and marine ecosystems, and consequent impacts on the populations and ranges of flora and fauna.

В. Defendants Went to Great Lengths to Understand, and Either Knew or Should Have Known the Dangers Associated With Their Fossil Fuel Products.

- 55. For decades, Defendants have known that their fossil fuel products pose risks of "severe" and even "catastrophic" impacts on the global climate through the work and warnings of their own scientists and/or through trade associations such as API. Defendants consistently researched or funded research into significant issues relevant to fossil fuels, and were aware of significant scientific reports on climate change science and impacts at the time they were issued. Thus, Defendants developed a sophisticated understanding of climate change that far exceeded the knowledge of the public, ordinary consumers, and Plaintiffs. Yet each Defendant decided to continue its conduct and commit itself to massive fossil fuel production. This was a deliberate decision to place company profits ahead of human safety and well-being, and to foist onto the public the costs of abating and adapting to the public nuisance of global warming.
- 56. Although concealed at the time, the industry's knowledge was later uncovered by journalists at Inside Climate News and the Los Angeles Times, among others. In 1954,

FIRST AMENDED COMPLAINT

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 1840.³² API provided those scientists funding 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.³³ In 1957, H.R. Brannon of Humble Oil Company (predecessor-in-interest to Exxon) measured an increase in atmospheric carbon dioxide attributable to fossil fuels, similar to—and in agreement with—that measured by Harrison Brown.³⁴

57. In 1959, API organized a centennial celebration of the American oil industry at Columbia University in New York City.³⁵ High-level representatives of Defendants were in attendance. One of the keynote speakers was nuclear physicist Edward Teller. Teller warned the industry that "a temperature rise corresponding to a 10[%] increase in carbon dioxide will be sufficient to melt the icecap and submerge . . . [a]ll the coastal cities." Teller added that since "a considerable percentage of the human race lives in coastal regions, I think that this chemical contamination is more serious than most people tend to believe."³⁶ 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."37

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³² See Benjamin Franta, Early Oil Industry Knowledge of CO₂ and Global Warming, 8 Nature 22 Climate Change 1024, 1024–25 (2018). 23

³³ Id.

³⁴ Id.; H.R. Brannon, Jr. et al., Radiocarbon Evidence on the Dilution of Atmospheric and 24 Oceanic Carbon by Carbon from Fossil Fuels, 38 Am. Geophysical Union Transactions 643, 25 644-46 (1957).

³⁵ See Allan Nevins & Robert G. Dunlop, Energy and Man: A Symposium (Appleton-Century-Crofts, New York 1960); see also Franta, supra note 32, at 1024–25.

³⁶ Edward Teller, Energy Patterns of the Future, in Energy and Man: A Symposium, 53–72 (1960).

³⁷ Id. at 70.

- 58. In 1965, the president of API, Frank Ikard, relayed the findings of a recent report to leaders of the fossil fuel industry at API's annual meeting, saying, "[o]ne of the most important predictions of the report is that carbon dioxide is being added to the earth's atmosphere by the burning of coal, oil, and natural gas at such a rate 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 quoting the report's finding that "the pollution from internal combustion engines is so serious, and is growing so fast, that an alternative nonpolluting means of powering automobiles, buses, and trucks is likely to become a national necessity."38
- 59. 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.
- 60. By 1965, concern about the risks of anthropogenic greenhouse gas emissions reached the highest level of the United States' scientific community. In that year, President Lyndon B. Johnson's Science Advisory Committee Panel on Environmental Pollution reported that by the year 2000, anthropogenic CO₂ emissions would "modify the heat balance of the atmosphere to such an extent that marked changes in climate . . . could occur."³⁹ President Johnson announced in a special message to Congress that "[t]his generation has altered the composition of the atmosphere on a global scale through . . . a steady increase in carbon dioxide from the burning of fossil fuels."⁴⁰
- 61. These statements from the Johnson Administration, at a minimum, put Defendants on notice of the potentially substantial dangers to people, communities, and the planet associated

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³⁸ Ikard, Meeting the Challenges of 1966, in Proceedings of the American Petroleum Institute (1965) p.13, available at https://www.documentcloud.org/documents/5348130-1965- API-Proceedings.

³⁹ President's Science Advisory Committee, Restoring the Quality of Our Environment: Report of the Environmental Pollution Panel, page 9 (Nov. 1965), https://hdl.handle.net/2027/uc1.b4315678.

⁴⁰ President Lyndon B. Johnson, Special Message to Congress on Conservation and Restoration of Natural Beauty (Feb. 8, 1965), http://acsc.lib.udel.edu/items/show/292.

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with use of their fossil fuel products. Moreover, Defendants had amassed a considerable body of knowledge on the subject through their own independent efforts.

- In 1968, API received a report from the Stanford Research Institute, which it had 62. hired to assess the state of research on environmental pollutants, including carbon dioxide. 41 The assessment endorsed the findings of President Johnson's Scientific Advisory Council from three years prior, stating that carbon dioxide emissions were "almost certain" to produce "significant" temperature increases by 2000, and that these emissions were almost certainly attributable to fossil fuels. The report warned of "major changes in the earth's environment" and a "rise in sea levels," and concluded: "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 CO₂ are detailed and seem to explain adequately the present state of CO₂ in the atmosphere." What was missing, the scientists said, was work on "air pollution technology and . . . systems in which CO₂ emissions would be brought under control."⁴²
- 63. In 1969, the Stanford Research Institute delivered a supplemental report on air pollution to API, projecting with alarming particularity that atmospheric CO₂ concentrations would reach 370 parts per million ("ppm") by 2000. 43 This projection turned out to almost exactly match the actual CO₂ concentrations measured in 2000 of 369.64 ppm.⁴⁴ The report explicitly connected the rise in CO₂ levels to the combustion of fossil fuels, finding it "unlikely that the observed rise in atmospheric CO₂ has been due to changes in the biosphere."
- 64. By virtue of their membership and participation in API at that time, Defendants received or should have received the Stanford Research Institute reports and were on notice of their conclusions.

⁴¹ Elmer Robinson & R.C. Robbins, <u>Sources</u>, <u>Abundance</u>, and <u>Fate of Gaseous Atmospheric</u> Pollutants, Stanford Rsch. Inst. (Feb. 1968),

https://www.smokeandfumes.org/documents/document16.

⁴² Id. at 108, 112. ⁴³ Elmer Robinson & R.C. Robbins, <u>Sources, Abundance, and Fate of Gaseous Atmospheric</u> Pollutants Supplement, Stanford Rsch. Inst. (June 1969).

⁴⁴ NASA Goddard Institute for Space Studies, Global Mean CO₂ Mixing Ratios (ppm): Observations, https://data.giss.nasa.gov/modelforce/ghgases/Fig1A.ext.txt.

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from oil platforms to develop and calibrate environmental forecasting theories related to predicting wave, wind, storm, sea level, and current changes and trends. Several Defendants and/or their predecessors in interest participated in the project, including Esso Production Research Company (Exxon), Mobil Research and Development Company (Exxon), Pan American Petroleum Corporation (BP), Gulf Oil Corporation (Chevron), Texaco Inc. (Chevron), and the Chevron Oil Field Research Company.

66. In 1972, API members, including Defendants, received a status report on all

In 1969, Shell memorialized an ongoing 18-month project to collect ocean data

environmental research projects funded by API. The report summarized the 1968 SRI report describing the impact of Defendants' fossil fuel products on the environment, including global warming and sea level rise. Industry participants who received this report include: American Standard of Indiana (BP), Asiatic (Shell), Ashland (Marathon), Atlantic Richfield (BP), British Petroleum (BP), Chevron Standard of California (Chevron), Cities Service (Citgo), Continental (ConocoPhillips), Dupont (former owner of Conoco), Esso Research (Exxon), Ethyl (formerly affiliated with Esso, which was subsumed by Exxon), Getty (Lukoil/ Exxon), Gulf (Chevron, among others), Humble Standard of New Jersey (Exxon/Chevron/BP), Marathon, Mobil (Exxon), Pan American (BP), Phillips (ConocoPhillips), Shell, Standard of Ohio (BP), Texaco (Chevron), Union (Chevron), Edison Electric Institute (representing electric utilities), Bituminous Coal Research (coal industry research group), Mid-Continent Oil & Gas Association (presently the U.S. Oil & Gas Association, a national trade association), Western Oil & Gas Association, National Petroleum Refiners Association (presently the American Fuel and Petrochemical Manufacturers Association, a national trade association), Champlin (Anadarko), Skelly (Lukoil/Exxon), Colonial Pipeline (ownership has included BP, Citgo, ExxonMobil, ConocoPhillips, Chevron entities, among others) and Caltex (Chevron), among others. 46

⁴⁵ M.M. Patterson, <u>An Ocean Data Gathering Program for the Gulf of Mexico</u>, Society of Petroleum Engineers (1969), https://www.onepetro.org/conference-paper/SPE-2638-MS.

⁴⁶ American Petroleum Institute, <u>Environmental Research</u>, A <u>Status Report</u>, Committee for Air and Water Conservation (Jan. 1972), http://files.eric.ed.gov/fulltext/ED066339.pdf.

67. In 1977, James Black of Exxon gave a presentation to Exxon executives on the "greenhouse effect," which was summarized in an internal memo the following year. Black reported that "current scientific opinion overwhelmingly favors attributing atmospheric carbon dioxide increase to fossil fuel consumption," and that doubling atmospheric carbon dioxide would, according to the best climate model available, "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.⁴⁷ Black reported that the impacts of global warming would include "more rainfall," which would "benefit some areas and would harm others," and that "[s]ome 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." Finally, Black reported that "[p]resent thinking holds that man has a time window of five to ten years before the need for hard decisions regarding changes in energy strategies might become critical." The figure below, reproduced from Black's memo, illustrates Exxon's understanding of the timescale and magnitude of global warming that its products would cause.

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⁴⁷ J.F. Black, Exxon Research and Engineering Co., memorandum to F.G. Turpin, <u>Exxon</u> <u>Research and Engineering Co. re The Greenhouse Effect</u> (June 6, 1978), 2, 23, available at https://www.documentcloud.org/documents/2805568-1978-Exxon-Presentation-on-GreenhouseEffect.

⁴⁸ Id. at 2.

HOW PREDICTED △T COMPARES WITH RECENT TEMPERATURES

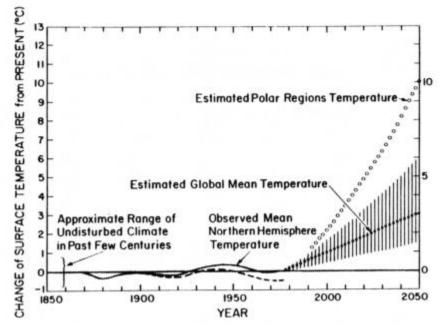


Figure 5: Future Global Warming Predicted Internally by Exxon in 1977

68. Black's report also stated:

There is general scientific agreement that the most likely manner in which mankind is influencing the global climate is through carbon dioxide release from the burning of fossil fuels . . . [and that] Man has a time window of five to ten years before the need for hard decisions regarding changes in energy strategies might become critical.⁴⁹

- 69. Thereafter, Exxon engaged in a research program to study the environmental fate of fossil fuel-derived greenhouse gases and their impacts, which included publication of peer-reviewed research by Exxon staff scientists and the conversion of a supertanker into a research vessel to study the greenhouse effect and the role of the oceans in absorbing anthropogenic CO₂. Much of this research was shared in a variety of fora, symposia, and shared papers through trade associations and directly with other Defendants.
- 70. Exxon scientists made the case internally for using company resources to build corporate knowledge about the impacts of the promotion, marketing, and consumption of

¹⁹ Id.

Defendants' fossil fuel products. Exxon climate researcher Henry Shaw wrote in 1978: "The 1 2 3 4 5 6 7 8

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rationale for Exxon's involvement and commitment of funds and personnel is based on our need to assess the possible impact of the greenhouse effect on Exxon business. Exxon must develop a credible scientific team that can critically evaluate the information generated on the subject and be able to carry bad news, if any, to the corporation."50 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[.]"51 Moreover, Shaw emphasized the need to collaborate with universities and government to more completely understand what he called the "CO₂ problem."⁵²

71. In 1979, API and its members, including Defendants, convened a Task Force to monitor and share cutting edge climate research among the oil industry. The group was initially called the CO₂ and Climate Task Force, but changed its name to the Climate and Energy Task Force in 1980 (hereinafter referred to as "API CO₂ Task Force"). API kept and distributed meeting minutes to Task Force members. Membership included senior scientists and engineers from nearly every major U.S. and multinational oil and gas company, including Exxon, Mobil (Exxon), Amoco (BP), Phillips (ConocoPhillips), Texaco (Chevron), Shell, Sunoco, Sohio (BP) as well as Standard Oil of California (Chevron) and Gulf Oil (Chevron, among others). The Task Force was charged with assessing the implications of emerging science on the petroleum and gas industries and identifying where reductions in greenhouse gas emissions from Defendants' fossil fuel products could be made.⁵³

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⁵⁰Henry Shaw, Memo to Edward David Jr. on the "Greenhouse Effect", Exxon Research and Engineering Company (Dec. 7, 1978).

⁵¹ Henry Shaw, Environmental Effects of Carbon Dioxide, Climate Investigations Ctr. (Oct. 31, 1977), https://www.industrydocuments.ucsf.edu/docs/tpwl0228. ⁵² Id.

⁵³American Petroleum Institute, AQ-9 <u>Task Force Meeting Minutes</u> (Mar. 18, 1980), http://insideclimatenews.org/sites/default/files/documents/AQ-

^{9%20}Task%20Force%20Meeting%20%281980%29.pdf (AO-9 refers to the API CO₂ Task Force).

- 72. In 1979, API sent its members a background memo related to the API CO₂ Task Force's efforts, stating that CO₂ concentrations were rising steadily in the atmosphere, and predicting when the first clear effects of climate change might be felt.⁵⁴
- 73. Also in 1979, Exxon scientists advocated internally for additional fossil fuel industry-generated atmospheric research in light of the growing consensus that consumption of fossil fuel products was changing the Earth's climate:

"We should determine how Exxon can best participate in all these [atmospheric science research] areas and influence possible legislation on environmental controls. It is important to begin to anticipate the strong intervention of environmental groups and be prepared to respond with reliable and credible data. It behooves [Exxon] to start a very aggressive defensive program in the indicated areas of atmospheric science and climate because there is a good probability that legislation affecting our business will be passed. Clearly, it is in our interest for such legislation to be based on hard scientific data. The data obtained from research on the global damage from pollution, e.g., from coal combustion, will give us the needed focus for further research to avoid or control such pollutants." 55

74. That same year, Exxon Research and Engineering reported that: "The most widely held theory [about increasing CO₂ concentration] is that the increase is due to fossil fuel combustion, increasing CO₂ concentration will cause a warming of the earth's surface, and the present trend of fossil fuel consumption will cause dramatic environmental effects before the year 2050."⁵⁶ Further, the report stated that unless fossil fuel use was constrained, there would be "noticeable temperature changes" associated with an increase in atmospheric CO₂ from about 280

⁵⁴ Neela Banerjee, <u>Exxon's Oil Industry Peers Knew About Climate Dangers in the 1970s, Too,</u> 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.

⁵⁵ Henry Shaw, Exxon Memo to H.N. Weinberg about "Research in Atmospheric Science", Exxon Inter-Office Correspondence (Nov.19, 1979),

https://insideclimatenews.org/sites/default/files/documents/Probable % 20 Legislation % 20 Memo % 20 (1979).pdf.

⁵⁶ W.L. Ferrall, Exxon Memo to R.L. Hirsch about "Controlling Atmospheric CO₂", Exxon Research and Engineering Company (Oct. 16, 1979),

http://insideclimatenews.org/sites/default/files/documents/CO2%20 and %20 Fuel%20 Use%20 Projections.pdf.

parts per million before the Industrial Revolution to 400 parts per million by the year 2010.⁵⁷ Those projections proved remarkably accurate—atmospheric CO₂ concentrations surpassed 400 parts per million in May 2013, for the first time in millions of years.⁵⁸ In 2015, the annual average CO₂ concentration rose above 400 parts per million, and in 2016 the annual low surpassed 400 parts per million, meaning atmospheric CO₂ concentration remained above that threshold all year.⁵⁹

75. In 1980, API's CO₂ Task Force members discussed the oil industry's responsibility to reduce CO₂ emissions by changing refining processes and developing fuels that emit less CO₂. In or around February 29, 1980, Dr. John Laurmann, a "recognized expert in the field of CO₂ and climate," made a presentation to its members.⁶⁰ 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 CO₂ buildup, impact on society, methods of modeling and their consequences, uncertainties, policy implications, and conclusions that can be drawn from present knowledge." His presentation identified the "scientific consensus on the potential for large future climatic response to increased CO₂ levels" as a reason for API members to have concern with the "CO₂ problem" and informed attendees that there was "strong empirical evidence that rise [in CO₂ concentration was] caused by anthropogenic release of CO₂, mainly from fossil fuel combustion." Moreover, Dr. Laurmann warned that the amount of CO₂ in the atmosphere could double by 2038, which he said would likely lead to a 2.5° C (4.5° F) rise in global average temperatures with "major economic consequences." He then told the Task Force that models

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⁵⁷ <u>Id.</u>

⁵⁸ Nicola Jones, <u>How the World Passed a Carbon Threshold and Why it Matters</u>, Yale Environment 360 (Jan. 26, 2017), http://e360.yale.edu/features/how-the-world-passed-a-carbon-threshold-400ppm-and-why-it-matters.

⁵⁹ Id.

⁶⁰ J. J. Nelson, American Petroleum Institute, letter to AQ-9 Task Force re The CO₂ Problem; Addressing Research Agenda Development (Mar. 18, 1980) p. 2, available at https://www.industrydocuments.ucsf.edu/docs/gffl0228.

⁶¹ American Petroleum Institute, <u>AQ-9 Task Force Meeting Minutes</u> (Mar. 18, 1980), http://insideclimatenews.org/sites/default/files/documents/AQ-

^{9%20} Task%20 Force%20 Meeting%20%281980%29.pdf (AQ-9 refers to the API CO2 Task Forcee).

showed a 5°C (9° F) rise by 2067, with "globally catastrophic effects." He also suggested that, despite uncertainty, "THERE IS NO LEEWAY" in the time for acting. A Task Force member and representative of Texaco leadership present at the meeting posited that the API CO₂ Task Force should develop ground rules for energy release of fuels and the cleanup of fuels as they relate to CO₂ creation. Attendees to the presentation also included scientists and executives from API, Exxon, and SOHIO (a predecessor to BP), and the minutes of the meeting were distributed to the entire Task Force. API minutes show that the Task Force discussed topics including "the technical implications of energy source changeover," "ground rules for energy release of fuels and the cleanup of fuels as they relate to CO₂ creation," and researching "the Market Penetration Requirements of Introducing a New Energy Source into World Wide Use."63 The Task Force even asked the question "what is the 50 year future of fossil fuels?"

In 1980, the API CO₂ Task Force also discussed a potential area for investigation: alternative energy sources as a means of mitigating CO₂ emissions from Defendants' fossil fuel products. These efforts called for research and development to "Investigate the Market Penetration" Requirements of Introducing a New Energy Source into World Wide Use." Such investigation was to include the technical implications of energy source changeover, research timing, and requirements.⁶⁴

77. By 1980, Exxon's senior leadership had become intimately familiar with the greenhouse effect and the role of CO₂ in the atmosphere. In that year, Exxon Senior Vice President and Board member George Piercy questioned Exxon researchers on the minutiae of the ocean's role in absorbing atmospheric CO₂, including whether there was a net CO₂ flux out of the ocean into the atmosphere in certain zones where upwelling of cold water to the surface occurs, because Piercy evidently believed that the oceans could absorb and retain higher concentrations of CO₂

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than the atmosphere.⁶⁵ This inquiry aligned with Exxon supertanker research into whether the ocean would act as a significant CO₂ sink that would sequester atmospheric CO₂ long enough to allow reckless emissions without triggering dire climatic consequences. As described below, Exxon eventually scrapped this research before it produced enough data from which to derive a conclusion.⁶⁶

78. Also in 1980, Imperial Oil (Exxon) reported to Esso and Exxon managers and environmental staff that increases in fossil fuel usage aggravates CO₂ in the atmosphere. Noting that the United Nations was encouraging research into the carbon cycle, Imperial reported that there was "no doubt" that fossil fuels were aggravating the build-up of CO₂ in the atmosphere and that "[t]echnology exists to remove CO₂ from [fossil fuel power plant] stack gases but removal of only 50% of the CO₂ would double the cost of power generation." Imperial also reported that its coordination department had been internally evaluating its and Exxon's products to determine whether disclosure of a human health hazard was necessary. The report notes that Section (8e) of Toxic Substances Control Act, 55 U.S.C. §§ 1601 et seq., requires that anyone who discovers that a material or substance in commercial use is or may be a significant risk to human health must report such findings to the Environmental Protection Agency within 15 days. Although greenhouse gases are human health hazards (because they have serious consequences in terms of global food production, disease virulence, and sanitation infrastructure, among other impacts), neither Imperial, Exxon, nor any other Defendant has ever filed a disclosure with the U.S. Environmental Protection Agency pursuant to the Toxic Substances Control Act.

79. Exxon scientist Roger Cohen warned his colleagues in a 1981 internal memorandum that "future developments in global data gathering and analysis, along with advances

⁶⁵ Neela Banerjee, <u>More Exxon Documents Show How Much It Knew About Climate 35 Years Ago</u>, Inside Climate News (Dec. 1, 2015),

https://insideclimatenews.org/news/01122015/documents-exxons-early-co2-position-senior-executives-engage-and-warming-forecast.

⁶⁶ Neela Banerjee et al., Exxon Believed Deep Dive Into Climate Research Would Protect Its Business, Inside Climate News (Sept. 17, 2015),

https://insideclimatenews.org/news/16092015/exxon-believed-deep-dive-into-climate-research-would-protect-its-business.

in climate modeling, may provide strong evidence for a delayed CO₂ effect of a truly substantial magnitude," and that under certain circumstances it would be "very likely that we will unambiguously recognize the threat by the year 2000." Cohen had expressed concern that the memorandum mischaracterized potential effects of reckless CO₂ emissions from Defendants' fossil fuel products: ". . . it is distinctly possible that the . . . [Exxon Planning Division's] scenario will produce effects which will indeed be catastrophic (at least for a substantial fraction of the world's population)."

- 80. 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 CO₂ will double in 100 years if fossil fuels grow at 1.4%/ a².
 - 3°C global average temperature rise and 10°C at poles if CO₂ doubles.
 - o Major shifts in rainfall/agriculture
 - o Polar ice may melt"69
- 81. 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 parts per million to about 340 parts per million in 1981 and acknowledged that despite differences in climate modelers' predictions, all models indicated a temperature increase caused by anthropogenic CO_2 within a global mean range of 4° C (7.2° F) . The report advised that 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 $(3.0 \pm 1.5)^{\circ}$ C $[5.4 \pm 2.7^{\circ} \text{ F}]$." It went further,

⁶⁷ Roger W. Cohen, Exxon Memo to W. Glass about possible "catastrophic" effect of CO₂, Exxon Inter-Office Correspondence (Aug. 18, 1981),

http://www.climatefiles.com/exxonmobil/1981-exxon-memo-on-possible-emission-consequences-of-fossil-fuel-consumption/.

⁶⁸ Id.

 $^{^{69}}$ Henry Shaw, Exxon Memo to E. E. David, Jr. about "CO2Position Statement", Exxon Inter-Office Correspondence (May 15, 1981),

 $https://insideclimatenews.org/sites/default/files/documents/Exxon\% 20 Position\% 20 on\% 20 CO2\% 20\% 281981\% 29.pdf. \\ \underline{\qquad}$

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82. 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."⁷² The primer also was "restricted to Exxon personnel and not to be distributed externally."⁷³ The primer compiled science on climate change available at the time, and confirmed fossil fuel combustion as a primary anthropogenic contributor to global warming. The report estimated a CO₂ doubling around 2090 based on Exxon's long-range modeled outlook. The author warned that the melting of the Antarctic ice sheet could result in global sea level rise of five feet which would "cause flooding on much of the U.S. East Coast, including the State of Florida and Washington, D.C."⁷⁴ Indeed, it warned that "there are some potentially catastrophic events that must be considered," including sea level rise from melting polar ice sheets. It noted that some scientific groups were concerned "that once the effects are measurable, they might not be reversible."⁷⁵

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⁷⁰ American Petroleum Institute, Climate Models and CO₂ Warming: A Selective Review and Summary, Lamont-Doherty Geological Observatory (Columbia University) (Mar. 1982), https://assets.documentcloud.org/documents/2805626/1982-API-Climate-Models-and-CO2-21

⁷¹ See Roger W. Cohen, Exxon Memo summarizing findings of research in climate modeling, Exxon Research and Engineering Company (Sept. 2, 1982),

²³ https://insideclimatenews.org/sites/default/files/documents/%2522Consensus%2522%20on%20 CO2%20Impacts%20(1982).pdf. (discussing research articles). 24

⁷² M. B. Glaser, Exxon Memo to Management about "CO₂ 'Greenhouse' Effect", Exxon Research and Engineering Company (Nov. 12, 1982),

http://insideclimatenews.org/sites/default/files/documents/1982%20Exxon%20Primer%20on%2 0CO2%20Greenhouse%20Effect.pdf.

⁷³ Id.

⁷⁴ Id.

Id.

83. In a summary of Exxon's climate modeling research from 1982, Director of Exxon's Theoretical and Mathematical Sciences Laboratory Roger Cohen wrote that "the time required for doubling of atmospheric CO₂ depends on future world consumption of fossil fuels." Cohen concluded that Exxon's own results were "consistent with the published predictions of more complex climate models" and "in accord with the scientific consensus on the effect of increased atmospheric CO₂ on climate."⁷⁶

84. At the fourth biennial Maurice Ewing Symposium at the Lamont-Doherty Geophysical Observatory in October 1982, attended by members of API, Exxon Research and Engineering Company president E.E. David delivered a speech titled: "Inventing the Future: Energy and the CO₂ 'Greenhouse Effect.'"⁷⁷ His remarks included the following statement: "[F]ew people doubt that the world has entered an energy transition away from dependence upon fossil fuels and toward some mix of renewable resources that will not pose problems of CO₂ accumulation." He went on, discussing the human opportunity to address anthropogenic climate change before the point of no return:

It is ironic that the biggest uncertainties about the CO₂ buildup are not in predicting what the climate will do, but in predicting what people will do. . . . [It] appears we still have time to generate the wealth and knowledge we will need to invent the

transition to a stable energy system.

85. Throughout the early 1980s, at Exxon's direction, Exxon climate scientist Henry Shaw forecasted emissions of CO₂ from fossil fuel use. Those estimates were incorporated into Exxon's 21st century energy projections and were distributed among Exxon's various divisions. Shaw's conclusions included an expectation that atmospheric CO₂ concentrations would double in

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⁷⁶ Roger W. Cohen, Exxon Memo summarizing findings of research in climate modeling, Exxon Research and Engineering Company (Sept. 2, 1982),

https://insideclimatenews.org/sites/default/files/documents/%2522Consensus%2522%20on%20 CO2%20Impacts%20(1982).pdf.

⁷⁷ E. E. David, Jr., Inventing the Future: <u>Energy and the CO₂ Greenhouse Effect: Remarks at the</u> Fourth Annual Ewing Symposium, Tenafly, NJ (1982), http://sites.agu.org/publications/files/2015/09/ch1.pdf.

2090 per the Exxon model, with an attendant 2.3–5.6° F average global temperature increase. Shaw compared his model results to those of the U.S. EPA, the National Academy of Sciences, and the Massachusetts Institute of Technology, indicating that the Exxon model predicted a longer delay than any of the other models, although its temperature increase prediction was in the mid-range of the four projections.⁷⁸

- 86. During the 1980s, many Defendants formed their own research units focused on climate modeling. The API, including the API CO₂ Task Force, provided a forum for Defendants to share their research efforts and corroborate their findings related to anthropogenic greenhouse gas emissions.⁷⁹
- 87. During this time, Defendants' statements express an understanding of their obligation to consider and mitigate the externalities of reckless 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 civilities, 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.

⁷⁸ Neela Banerjee, <u>More Exxon Documents Show How Much It Knew About Climate 35 Years</u> <u>Ago</u>, Inside Climate News (Dec. 1, 2015),

https://insideclimatenews.org/news/01122015/documents-exxons-early-co2-position-senior-executives-engage-and-warming-forecast.

⁷⁹ Neela Banerjee, <u>Exxon's Oil Industry Peers Knew About Climate Dangers in the 1970s, Too,</u> 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. ⁸⁰

88. In 1987, Shell published an internal "brief for companies of the Royal Dutch/Shell Group" titled "Air pollution: an oil industry perspective." In this report, the company described the greenhouse effect as occurring "largely as a result of burning fossil fuels and deforestation." Shell further acknowledged the "concern that further increases in carbon dioxide levels could cause climatic changes, notably a rise in overall temperature, having major environmental, social and economic consequences." ⁸²

89. 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 CO₂ buildup and warned that warming could "create significant changes in sea level, ocean currents, precipitation patterns, regional temperature and weather." They further pointed to the potential for "direct operational consequences" of sea level rise on "offshore installations, coastal facilities and operations (e.g. platforms, harbors, refineries, depots)."⁸³

⁸⁰ Richard E. Tucker, <u>High Tech Frontiers in the Energy Industry: The Challenge Ahead</u>, AIChE National Meeting (Nov. 30, 1988),

https://hdl.handle.net/2027/pur1.32754074119482?urlappend=%3Bseq=522.

Shell Briefing Service, <u>Air pollution: an oil industry perspective</u> (1987), at 4,
 https://www.documentcloud.org/documents/24359057-shell-briefing-service-air-pollution-an-oil-industry-perspective-nr1-1987.
 Id. at 5.

⁸³ Shell Internationale Petroleum, Greenhouse Effect Working Group, The Greenhouse Effect (May 1988), 1, 27, available at https://www.documentcloud.org/documents/4411090-Document3.html#document/p9/a411239.

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90. Similar to early warnings by Exxon scientists, the 1988 Shell report noted 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 mentioned 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."84

91. In 1989, Esso Resources Canada (Exxon) 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.⁸⁵ 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." 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. 86 The authors recommended factoring these eventualities into future development planning and also warned that "a rise in sea level could cause increased flooding and erosion damage on Richards Island."

92. In the mid-1990s, Exxon, Shell and Imperial Oil (Exxon) 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

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⁸⁴ *Id.* at 1, 6.

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⁸⁵Stephen Lonergan & Kathy Young, <u>An Assessment of the Effects of Climate Warming on</u> Energy Developments in the Mackenzie River Valley and Delta, Canadian Arctic, Energy Exploration & Exploitation, Vol. 7, Issue 5 (Oct. 1, 1989),

http://journals.sagepub.com/doi/abs/10.1177/014459878900700508.

⁸⁶ Id<u>.</u>

⁸⁷ ExxonMobil, Sable Project, Development Plan, <u>Volume 3 – Environmental Impact Statement</u> http://soep.com/about-the-project/development-plan-application/.

sea level has been rising over the past century For the design of coastal and offshore structures, an estimated rise in water level, due to global warming, of 0.5 m [1.64 feet] may be assumed for the proposed project life (25 years)."⁸⁷

- 93. Climate change research conducted by Defendants and their industry associations frequently acknowledged uncertainties in their climate modeling—those uncertainties, however, were merely with respect to the magnitude and timing of climate impacts resulting from fossil fuel consumption, not that significant changes would eventually occur. Defendants' researchers and the researchers at their industry associations harbored little doubt that climate change was occurring and that fossil fuel products were, and are, the primary cause.
- 94. In 1991, Ken Croasdale, a senior ice researcher for Exxon's subsidiary Imperial Oil, stated to an audience of engineers that greenhouse gas concentrations are rising "due to the burning of fossil fuels. Nobody disputes this fact." 88
- 95. Defendants also meticulously examined plausible scenarios if they failed to act in the face of their internal knowledge. For instance, Shell evaluated in a 1989 internal confidential planning document the issue of "climate change the greenhouse effect, global warming," which the document identified as "the most important issue for the energy industry." The document compared a scenario in which society "addresses the potential problem" with one in which it does not. Acknowledging that "[c]hanging emission levels ... and changing atmospheric CO2 concentration has been likened to turning around a VLCC [very large crude carrier]," even "substantial efforts" by 2010 would have "hardly any impact on CO2 concentration." In later years, however, the impacts are "strikingly different"; early efforts "will not prevent the problem arising,

⁸⁸ Jerving et al., <u>Special Report: What Exxon Knew About Global Warming's Impact on the Arctic</u>, L.A. Times (Oct. 10, 2015), available at https://www.latimes.com/business/la-na-advexxon-arctic-20151011-story.html.

⁸⁹ Shell, <u>Scenarios 1989–2010: Challenge and Response</u> (Oct. 1989), at 33, https://www.documentcloud.org/documents/23735737-1989-oct-confidential-shell-group-planning-scenarios-1989-2010-challenge-and-response-disc-climate-refugees-and-shift-to-non-fossil-fuels.

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but ... could mitigate the problem." The document described the consequences of failing to address the problem right away:

These seem small changes but they mask more dramatic temperature changes which would take place at temperate latitudes. There would be more violent weather – more storms, more droughts, more deluges. Mean sea level would rise at least 30 cm. Agricultural patterns would be most dramatically changed. Something as simple as a moderate change in rainfall pattern disrupts eco-systems, and many species of trees, plants, animals and insects would not be able to move and adapt.

The changes would, however, most impact on humans. In earlier times, man was able to respond with his feet. Today, there is no place to go because people already stand there. Perhaps those in industrial countries could cope with a rise in sea level (the Dutch examples) but for poor countries such defences are not possible. The potential refugee problem ... could be unprecedented. Africans would push into Europe, Chinese into the Soviet Union, Latins into the United States, Indonesians into Australia. Boundaries would count for little – overwhelmed by the numbers. Conflicts would abound. Civilization could prove a fragile thing.⁹⁰

- 96. In another 1989 confidential internal planning document, Shell anticipated that "public/media pressures" to "adopt[] environmental programmes" such as "much tighter targets for CO₂ emissions" could prompt "effective consumer responses" that "will lead to intense and unpredictable pressures on business."91 The scenario envisioned that "[c]oncerns about global warming and depletion will depress production of fossil fuels, their market share declining as renewables are actively promoted," given that "[w]here there can be real consumer choice it will be a dominant force, especially where interest is heightened by obvious environmental impact."92
- 97. In yet another 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

⁹⁰ Id. at 36.

⁹¹ See Shell UK, <u>UK Scenarios 1989</u> (Nov. 1989), at 31, 34,

https://embed.documentcloud.org/documents/24359062-snippets-of-confidential-shell-uknovember-1989-scenarios.

⁹² Id. at 34.

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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

98. Fossil fuel companies did not just consider climate change impacts in scenarios; they also incorporated those impacts in their on-the-ground planning. In the mid-1990s, Exxon, Shell, and Imperial Oil (Exxon) 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 global warming, of 0.5 m [1.64 feet] may be assumed for the proposed project life (25 years)."94

99. Despite the overwhelming information about the threats to people and the planet posed by continued use of their fossil fuel products, Defendants failed to act as they reasonably should have to mitigate or avoid those dire adverse impacts. Defendants instead adopted the position, as described below, that they had a license to continue the unfettered pursuit of profits from those products—including by intentionally misleading and deceiving the public regarding these threats. This position was an abdication and contravention of Defendants' responsibility to consumers and the public, including the County, to act on their unique knowledge of the reasonably foreseeable hazards of reckless production and promotion of their fossil fuel products.

⁹³ Royal Dutch/Shell Group, Group Scenarios 1998–2020 115, 122 (1998), http://www.documentcloud.org/documents/4430277-27-1-Compiled.html.

⁹⁴ ExxonMobil, Sable Project Development Plan, vol. 3, Environmental Impact Statement (Feb. 1996), 4-77.

C. Despite Their Early Knowledge That Global Warming Was Real and Posed Grave Threats, 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.

100. Notwithstanding Defendants' early knowledge of climate change, Defendants have engaged in advertising and communications campaigns intended to promote their fossil fuel products by downplaying the harms and risks of global warming. Initially, the campaigns tried to show that global warming was not occurring. More recently, the campaigns have sought to minimize the risks and harms from global warming. The deception campaigns had the purpose and effect of inflating and sustaining the market for fossil fuels, which—in turn—drove up greenhouse gas emissions, accelerated global warming, delayed the energy economy's transition to a lower-carbon future, and brought about devastating climate change impacts to San Mateo and its Disadvantaged Communities.

of anthropogenic greenhouse gases, and specifically those emitted from the use of Defendants' fossil fuel products, in causing global warming and sea level rise and the attendant consequences for human communities and the environment. On notice that their deception and products were causing global climate change and dire effects on the planet, Defendants were faced with the decision of whether to take steps to limit the damages their fossil fuel products were causing and would continue to cause for virtually every one of Earth's inhabitants, including the People of the State of California, OneShoreline, and the County of San Mateo and its citizens.

102. Defendants at any time before or thereafter could and should reasonably have taken any of a number of steps to mitigate the damage caused by their deception and fossil fuel products, and their own comments reveal an awareness of what some of these steps may have been. For example, Defendants should have issued reasonable warnings to consumers and the public of the

⁹⁵ CalEPA Disadvantaged Communities in San Mateo County, https://www.gethealthysmc.org/health-numbers/calepa-disadvantage/

https://www.gethealthysmc.org/health-numbers/calepa-disadvantaged-communities-san-mateo-county (last accessed Feb. 29, 2024).

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dangers known to Defendants of the consumption of their fossil fuel products. Doing so would have allowed consumers to act sooner and faster to reduce their fossil fuel consumption, and would have stimulated consumer demand for non-carbon energy alternatives whose use does not imperil the Earth. This process is now stutteringly underway, but was wrongfully delayed by Defendants' deception and continued downplaying of the reality and severity of climate change—and of fossil fuels' role in causing it.

- 103. 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 shaping consumer attitudes concerning 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. ⁹⁶ On June 23 of that year, NASA scientist James Hansen's presentation of this information to Congress engendered significant news coverage and publicity for the announcement, including coverage on the front page of <u>The New York Times</u>.
- b. On July 28, 1988, Senator Robert Stafford and four bipartisan co-sponsors introduced S. 2666, "The Global Environmental Protection Act," to regulate CO₂ and other greenhouse gases. Four more bipartisan bills to significantly reduce CO₂ 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." 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

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⁹⁶ <u>See</u> Frumhoff et al. (2015), <u>supra</u> note 27, at 161.

⁹⁷ N.Y. Times, <u>The White House and the Greenhouse</u> (May 9, 1998), http://www.nytimes.com/1989/05/09/opinion/the-white-house-and-the-greenhouse.html.

1	an objective, scientific analysis of climate change and its environmental, political, and economic
2	impacts.
3	d. In 1990, the IPCC published its First Assessment Report on anthropogenic
4	climate change, 98 in which it concluded that (1) "there is a natural greenhouse effect which already
5	keeps the Earth warmer than it would otherwise be," and (2) that
6	emissions resulting from human activities are substantially increasing the atmospheric concentrations of the greenhouse gases
7	carbon dioxide, methane, chlorofluorocarbons (CFCs) and nitrous oxide. These increases will enhance the greenhouse effect, resulting
9	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. 99
10	The IPCC reconfirmed these conclusions in a 1992 supplement to the First Assessment
11	report. ¹⁰⁰
12	e. The United Nations began preparation for the 1992 Earth Summit in Rio de
13	Janeiro, Brazil, a major, newsworthy gathering of 172 world governments, of which 116 sent their
14	heads of state. The Summit resulted in the United Nations Framework Convention on Climate
15	Change (UNFCCC), an international environmental treaty providing protocols for future
16	negotiations aimed at "stabiliz[ing] greenhouse gas concentrations in the atmosphere at a level that
17	would prevent dangerous anthropogenic interference with the climate system." ¹⁰¹
18	104. But rather than issuing warnings commensurate with their own understanding of
19	the risks posed by the expected and intended uses of fossil fuel products, Defendants embarked on
20	a decades-long series of campaigns designed to maximize continued dependence on their products.
21	105. Defendants' campaigns, which focused on concealing, discrediting, and/or
22	misrepresenting information that tended to support restricting consumption of (and thereby
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24	98 See IPCC, Reports,
25	http://www.ipcc.ch/publications_and_data/publications_and_data_reports.shtml. 99 IPCC, Climate Change: The IPCC Scientific Assessment, Policymakers Summary (1990),
26	http://www.ipcc.ch/ipccreports/far/wg_I/ipcc_far_wg_I_spm.pdf.
27	http://www.ipcc.ch/publications_and_data/publications_ipcc_90_92_assessments_far.shtml.
	101 United Nations, <u>United Nations Framework Convention on Climate Change</u> , Article 2 (1992),
28	https://unfccc.int/resource/docs/conykn/conyeng.ndf

decreasing demand for) Defendants' fossil fuel products, took several forms. The campaigns enabled Defendants to accelerate their business practice of exploiting fossil fuel reserves, and to concurrently externalize the social and environmental costs of their fossil fuel products. These activities directly contradicted Defendants' internal recognition that the science of anthropogenic climate change was clear and that the greatest uncertainties involved responsive human behavior, not scientific understanding of the issue.

as API, ICE, 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 Defendants were competitors in the marketplace, they combined and collaborated with each other and with API on this public campaign to misdirect and stifle public knowledge in order to increase sales and protect profits. The effort included promoting hazardous fossil fuel products through advertising campaigns that failed to warn of the existential risks associated with the use of those products, and that were designed to influence consumers to continue using Defendants' fossil fuel products irrespective of those products' damage to communities and the environment.

107. In a secretly-recorded video from 2021, an Exxon executive stated:

Did we aggressively fight against some of the science? Yes.

Did we join some of these shadow groups to work against some of the early efforts?

Yes, that's true. There's nothing illegal about that.

We were looking out for our investments. We were looking out for our shareholders. 102

108. In 1988, Joseph Carlson, an Exxon public affairs manager, described the "Exxon Position," which included among others, two important messaging tenets: (1) "[e]mphasize the

¹⁰² Jeff Brady, Exxon Lobbyist Caught on Video Talking About Undermining Biden's Climate Push, NPR (July 1, 2021, 11:37 AM ET), https://www.npr.org/2021/07/01/1012138741/exxonlobbyist-caught-on-video-talks-about-undermining-bidens-climate-push.

109.

Reflecting on his time as an Exxon consultant in the 1980s, Professor Martin

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

Likewise, Shell "shaped a series of influential industry-backed publications that downplayed or omitted key risks; emphasized scientific uncertainties; and pushed for more fossil fuels, particularly coal." ¹⁰⁵ In 1992, for instance, Shell released a publication for wide external distribution purporting to describe the "Basic Scientific Facts" of the "Potential Augmented

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. 104

¹⁰³Joseph M. Carlson, Exxon Memo on "The Greenhouse Effect" (Aug. 3, 1988),

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https://assets.documentcloud.org/documents/3024180/1998-Exxon-Memo-on-the-Greenhouse-Effect.pdf.

¹⁰⁴ 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-suppressthe-truth-about-climate-change.

¹⁰⁵ Matthew Green, Lost Decade: How Shell Downplayed Early Warnings Over Climate Change, DESMOG (Mar. 31, 2023, 21:00 PDT), https://www.desmog.com/2023/03/31/lost-decade-howshell-downplayed-early-warnings-over-climate-change/.

Greenhouse Effect." This document downplayed the scientific consensus (that Shell internally acknowledged) by referring to the "relatively few established scientific fundamentals" regarding the causes of climate change. 107 It also misleadingly suggested that a "particular cause" of global warming was "difficult" to identify, even though Shell had identified the use of its products as a significant contributor to the greenhouse effect in the previous decade. 108 (For example, in 1985, a Shell UK environmental scientist had published an article laying out the scientific fact that "[b]urning of fossil fuels which have taken millions of years to form has effectively upset the balance [of the Carbon Cycle] leading to an increase in CO2 in the atmosphere." 109).

A 1994 Shell report entitled "The Enhanced Greenhouse Effect: A Review of the Scientific Aspects" similarly emphasized scientific uncertainty, noting, for example, that "the postulated link between any observed temperature rise and human activities has to be seen in relation to natural variability, which is still largely unpredictable."110

112. 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 stated that "taking drastic action immediately is unnecessary since many scientists agree there's ample time to better understand the climate system." The subsequent article described the greenhouse effect as "unquestionably real and definitely a good thing," while ignoring the severe consequences that would result from the influence of the increased CO₂ concentration on the Earth's climate. Instead, it characterized the greenhouse effect as simply

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¹⁰⁶ Jan Kuyper, <u>Shell Group Planning</u>, <u>Business Environment Occasional Paper</u>, <u>Potential</u> Augmented Greenhouse Effect: Basic Scientific Facts (Sept. https://www.documentcloud.org/documents/24359060-1992-internal-shell-group-planningreport-potential-augmented-greenhouse-effect-and-depletion-of-the-ozone-layer ¹⁰⁷ Id. at 5.

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¹⁰⁸ Id.

¹⁰⁹ T.G. Wilkinson, Why and How to Control Energy Pollution: Can Harmonisation Work?, 8 Conservation & Recycling 7, 19 (1985), https://www.documentcloud.org/documents/24359067-26 1985-03-why-and-how-to-control-energy-pollution-by-tg-wilkinson-shell.

¹¹⁰ 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.

"what makes the earth's atmosphere livable." Directly contradicting their own internal reports and peer-reviewed science, the article ascribed the rise in temperature since the late 19th century to "natural fluctuations that occur over long periods of time" rather than to the anthropogenic emissions that Exxon and other scientists had confirmed were responsible. The article also falsely challenged the computer models that projected the future impacts of fossil fuel product consumption, including those developed by Exxon's own employees, as having been "proved to be inaccurate." The article contradicted the numerous reports circulated among Exxon's staff, and by API, by 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 the basis for reducing consumption 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. 111

113. Imperial Oil 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. 112

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¹¹¹ Exxon Corp., Global warming: who's right? (1996),

https://www.documentcloud.org/documents/2805542-Exxon-Global-Warming-Whos-Right.html.

¹¹² Robert Peterson, <u>A Cleaner Canada</u> in <u>Imperial Oil Review</u> (Summer 1998),

http://www.documentcloud.org/documents/2827818-1998-Imperial-Oil-Robert-Peterson-A-Cleaner-Canada.html.

Exxon and Mobil (Exxon) paid for a series of "advertorials," advertisements 114. located in the editorial section of The New York Times and meant to look like editorials rather than paid ads. These 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. For example, the 1993 Mobil advertorial below argued that "what's wrong with so much of the global warming rhetoric" is "[t]he lack of solid scientific data," and quoted a purportedly neutral scientific expert who insisted that "there is a large amount of empirical evidence suggesting that the apocalyptic vision is in error and that the highly touted greenhouse disaster is most improbable."113 It also quoted another purportedly neutral scientist who asserted that "the net impact [of a modest warming] may yet be beneficial."

¹¹³ Mobil, <u>Apocalypse No</u>, N.Y. Times, A19 (Feb. 25, 1993), https://www.documentcloud.org/documents/357243-1993-2-25-mob-nyt-apocalypse-no.

Apocalypse no

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For the first half of 1992, America was inundated by the media with dire predictions of global warming catastrophes, all of which seemed to be aimed at heating up the rhetoric from the Earth Summit in Rio de Janeiro last June.

Unfortunately, the media hype proclaiming that the sky was falling did not properly portray the consensus of the scientific community. After the Earth Summit, there was a noticeable lack of evidence of the sky actually falling and subsequent colder than normal temperatures across the country cooled the warming hysteria as well.

Everybody, of course, remembers the Earth Summit and the tons of paper used up in reporting on it—paper now buried in landfills around the world. But few people ever heard of a major document issued at the same time and called the "Heidelberg Appeal." The reason? It just didn't make "news."

Perhaps that is because the Appeal urged Summit attendees to avoid making important environmental decisions based on "pseudoscientific arguments or false and non-relevant data."

The Heldelberg Appeal was issued initially by some 264 scientists from around the world, including 52 Nobel Prize winners. Today, the Appeal carries the signatures of more than 2,300 scientists—65 of them Nobel Prize winners—from 79 countries. If nothing else, its message is illustrative of what's wrong with so much of the global warming rhetoric. The lack of solid scientific data.

Scientists can agree on certain facts pertaining to global warming. First, the greenhouse effect is a natural phenomenon; it accounts for the moderate temperature that makes our planet habitable. Second, the concentration of greenhouse gases (mainly carbon dioxide) has increased and there has been a slight increase in global temperatures over the past century. Finally, if present trends continue, carbon dioxide levels will double over the next 50 to 100 years.

Controversy arises when trying to link past changes in temperatures to increased concentrations of greenhouse gases. And it arises again when climate prediction models are used to conclude Earth's temperature will climb drastically in the next century and—based on such models—to propose policy decisions that could drastically affect the economy.

According to Arizona State University climatologist Dr. Robert C. Balling in his book, The Heated Debate (San Francisco: Pacific Research Institute for Public Policy, 1992), until knowledge of the interplay between oceans and the atmosphere improves, "model predictions must be treated with considerable caution." Moreover, models don't simulate the complexity of clouds, nor do they deal adequately with sea ice, snow or changes in intensity of the sun's energy.

And they don't stand up to reality testing. Comparing actual temperatures over the last 100 years against model calculations, the models predicted temperature increases higher than those that actually occurred. Moreover, most of the earth's temperature increase over the last century occurred before 1940. Yet, the real build-up in man-made CO₂ didn't occur until after 1940. Temperatures actually fell between 1940 and 1970.

Sifting through such data, Dr. Balling has concluded, "there is a large amount of empirical evidence suggesting that the apocalyptic vision is in error and that the highly touted greenhouse disaster is most improbable."

Other scientists have an even more interesting viewpoint. Notes atmospheric physicist S. Fred Singer, president of the Washington, D.C.-based Science & Environmental Policy Project, "the net impact [of a modest warming] may well be beneficial."

All of which would seem to suggest that the jury's still out on whether drastic steps to curb CO₂ emissions are needed. It would seem that the phenomenon—and its impact on the economy—are important enough to warrant considerably more research before proposing actions we may later regret.

Perhaps the sky isn't falling, after all.



Figure 6: Mobil "Apocalypse no" advertorial

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climate-change-was-nothing.

https://www.theguardian.com/environment/2021/nov/18/the-forgotten-oil-ads-that-told-us-

¹¹⁹ ExxonMobil, Unsettled Science (Mar. 23, 2000), reproduced in

• "Within a decade, science is likely to provide more answers on what factors affect global warming, thereby improving our decision-making. We just don't have this information today. Answers to questions about climate change will require more reliable measurements of temperature at many places on Earth, better understanding of clouds and ocean currents along with greater computer power." 120

and 2004 found that, while 83% of the company's peer-reviewed papers and 80% of its internal documents acknowledged the reality and human origins of climate change, 81% of its advertorials communicated doubt about those conclusions. ExxonMobil's tendency to contradict its own peer-reviewed research in statements meant for lay audiences also appeared at a year-to-year scale. Based on this "statistically significant" discrepancy between internal and external communications, the authors concluded that "ExxonMobil misled the public." ¹²²

118. Defendants—individually and through API, other trade associations, and various front groups—mounted a deceptive public campaign 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.

119. One of the key organizations formed by Defendants to coordinate the fossil fuel industry's response to the world's growing awareness of climate change was the International Petroleum Industry Environmental Conservation Association ("IPIECA"). In 1987, the IPIECA formed a "Working Group on Global Climate Change" chaired by Duane LeVine, Exxon's manager for science and strategy development. The Working Group also included Brian Flannery from Exxon, Leonard Bernstein from Mobil, Terry Yosie from API, and representatives from BP, Shell, and Texaco (Chevron). In 1990, the Working Group sent a strategy memo created by LeVine to hundreds of oil companies around the world, including Defendants. This memo explained that,

¹²⁰ Mobil, Science: What We Know and Don't Know, (1997), reproduced in

Communications (1977–2014), 12 Envtl. Research Letters, IOP Publishing Ltd. 12 (2017), https://iopscience.iop.org/article/10.1088/1748-9326/aa815f/pdf.

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forestall a global shift away from burning fossil fuels for energy, the industry should emphasize ncertainties in climate science, and the need for further research. 123

120. In 1991, the Information Council for the Environment ("ICE"), whose members cluded affiliates, predecessors and/or subsidiaries of Defendants, including Pittsburg and lidway Coal Mining (Chevron) and Island Creek Coal Company (Occidental), launched a ational climate change science denial campaign with full-page newspaper ads, radio commercials, public relations tour schedule, "mailers," and research tools to measure campaign success. cluded among the campaign strategies was to "reposition global warming as theory (not fact)." s target audience included older less-educated males who are "predisposed to favor the ICE genda, and likely to be even more supportive of that agenda following exposure to new info."124

121. An implicit goal of ICE's advertising campaign was to change public opinion. A emo from Richard Lawson, president of the National Coal Association noted that "[p]ublic pinion polls reveal that 60% of the American people already believe global warming is a serious nvironmental problem. Our industry cannot sit on the sidelines in this debate."125

122. The following images are examples of ICE-funded print advertisements nallenging the validity of climate science, which sought to obscure the scientific consensus on nthropogenic climate change in order to inflate consumer demand for fossil fuels: 126

Figure 7:

⁴ Id.

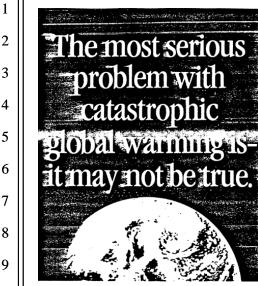
³ Benjamin A. Franta, Big Carbon's Strategic Response to Global Warming, 1950–2020, 140 2022), https://purl.stanford.edu/hq437ph9153.

⁵ 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, 136–166. Cambridge University Press. doi:10.1017/CBO9780511762154.008.8.

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¹²⁶ 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.











predict far-fitture global change. And the underlying physics of and the underlying physics of open to distate. If you care shout the environment, but don't care to be pressured into spending money on problems that don't exist, make aure you get the facts. Write: Informed Citizens for the Tork, North Dakos \$4505 or call (700) 746-5573. We'll send you the facts about global warming.

123. The Global Climate Coalition ("GCC"), on behalf of Defendants and other fossil fuel companies, spent millions of dollars on deceptive advertising campaigns and misleading material to discredit climate science and generate public uncertainty around the climate debate and thereby inflate consumer demand for fossil fuels. 127 The GCC operated between 1989 and 2001. Its founding members included Defendants Exxon, Shell, Phillips Petroleum Company (ConocoPhillips), and API. Defendants BP and Chevron also participated as members of the GCC. William O'Keefe, former president of the GCC, was also a former executive of API. 128 GCC's position on climate change contradicted decades of its members' internal scientific reports by asserting that natural trends, not human combustion of fossil fuels, was responsible for rising global temperatures:

The GCC believes that the preponderance of the evidence indicates that most, if not all, of the observed warming is part of [a] natural warming trend which began approximately 400 years ago. If there is an anthropogenic component to this

¹²⁷ <u>Id.</u>

¹²⁸ Jeff Nesmith, <u>Industry Promotes Skeptical View of Global Warming</u>, Cox News Service, May 28, 2003, http://www.heatisonline.org/contentserver/objecthandlers/index.cfm ?ID=4450&Method=Full.

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observed warming, the GCC believes that it must be very small and must be superimposed on a much larger natural warming trend. 129

124. The GCC's promotion of overt climate change skepticism also contravened its

internal assessment that such theories lacked scientific support. In December 1995, the GCC's Science and Technology Advisory Committee ("GCC-STAC"), whose members included employees of Mobil Oil Corporation (an Exxon predecessor) and API, drafted a primer on the science of global warming for GCC members. The primer concluded that the GCC's contrarian theories "do not offer convincing arguments against the conventional model of greenhouse gas emission-induced climate change." However, the GCC excluded this section from the publicly released version of the report. 130 Nonetheless, for years afterward, the GCC and its members continued to tout their contrarian theories about global warming, even though the GCC had admitted internally these arguments were invalid. Between 1989 and 1998, the GCC spent \$13 million on one ad campaign to obfuscate the public's understanding of climate science and undermine its trust in climate scientists. ¹³¹ For example, the GCC distributed a video to hundreds of journalists, which claimed that carbon dioxide emissions would increase crop production and feed the hungry people of the world. 132

In a 1994 public report, the GCC stated that "observations have not yet confirmed evidence of global warming that can be attributed to human activities," and that "[t]he claim that serious impacts from climate change have occurred or will occur in the future simply has not been

¹²⁹ Global Climate Coalition, Global Climate Coalition: An Overview 2 (Nov. 1996), http://www.climatefiles.com/denial-groups/global-climatecoalition-collection/1996-globalclimate-coalition-overview/.

¹³⁰ 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.

¹³¹ Wendy E. Franz, Kennedy School of Government, Harvard University, <u>Science</u>, <u>Skeptics and</u> Non-State Actors in the Greenhouse, ENRP Discussion Paper E-98-18 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.

¹³² SourceWatch, Global Climate Coalition,

http://www.sourcewatch.org/index.php/Global_Climate_Coalition (last edited Dec. 25, 2019).

proven."133 In 1994, the GCC Board of Directors was composed of high-level executives from API, Exxon, Phillips Petroleum Company (ConocoPhillips), and Texaco (Chevron). Representatives from Shell, Amoco (BP), and BP were also GCC members at that time. ¹³⁴ In 1995. the GCC published a booklet called "Climate Change: Your Passport to the Facts," which stated, "[w]hile 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." In 1995, GCC's Board of Directors included high-level executives from Texaco (Chevron), American Petroleum Institute, ARCO, and Phillips Petroleum Company. 136

In 1997, William O'Keefe, chairman of the GCC and executive vice president of 126. API, falsely wrote in a Washington Post op-ed, "[c]limate scientists don't say that burning oil, gas, and coal is steadily warming the earth." This statement contradicted the established scientific consensus as well as Defendants' own knowledge. Yet Defendants did nothing to correct the public record, and instead continued to fund the GCC's anti-scientific climate skepticism.

In addition to publicly spreading false and misleading information about the climate science consensus, the GCC also sought to undermine credible climate science from within the IPCC. After becoming a reviewer of IPCC's Second Assessment Report in 1996, the GCC used its position to accuse the convening author of a key chapter in the Report of modifying its

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¹³³ GCC, Issues and Options: Potential Global Climate Change, Climate Files (1994),

http://www.climatefiles.com/denial-groups/global-climate-coalition-collection/1994-potentialglobal-climate-change-issues.

¹³⁴ 1994 GCC Board Member List and Background Information, Climate Investigations Center, https://www.climatefiles.com/denial-groups/global-climate-coalition-collection/1994-boardmember-list-general-info/.

¹³⁵ GCC, Climate Change: Your Passport to the Facts, Climate Files (1995),

http://www.climatefiles.com/denial-groups/global-climate-coalition-collection/1995-climatechange-facts-passport.

¹³⁶ 1995 GCC IRS 1024 and Attachments, Climate Investigations Center (1995), https://www.documentcloud.org/documents/5798254-GCC-IRS-1023#document/p17

¹³⁷ William O'Keefe, A Climate Policy, in The Washington Post (July 5, 1997), https://www.washingtonpost.com/archive/opinions/1997/07/05/a-climate-policy/6a11899a-c020-4d59-a185-b0e7eebf19cc/.

conclusions. The GCC claimed that the author, climatologist Ben Santer, had engaged in "scientific cleansing" that "understate[d] uncertainties about climate change causes and effect... to increase the apparent scientific support for attribution of changes to climate to human activities." The GCC also arranged to spread the accusation among reporters, editors of scientific journals, and even the op-ed page of the <u>Wall Street Journal</u>. This effort "was widely perceived to be an attempt on the part of the GCC to undermine the credibility of the IPCC." 140

128. In the late 1990s, Defendants shifted away from openly denying anthropogenic warming toward peddling a subtler form of climate change skepticism. Defendants became alarmed by significant legal judgments Big Tobacco now faced as a result of decades spent publicly denying the health risks of smoking cigarettes, with a Shell employee explaining that the company "didn't want to fall into the same trap as the tobacco companies who have become trapped in all their lies." Defendants began to shift their communications strategy, claiming they had accepted climate science all along. Several large fossil fuel companies, including BP and Shell, left the GCC (although all Defendants remained members of API). At this point in time, Defendants publicly claimed to accept the reality that the climate is changing (or Earth is warming) and that climate change is anthropogenic.

129. Despite the shift in official public messaging, Defendants surreptitiously continued to organize and fund programs designed to deceive the public about the weight and veracity of the climate science consensus. In 1998, API convened a Global Climate Science Communications

^{23 || 138} Franz (1998), <u>supra</u> note 131, at 14.

¹³⁹ Naomi Oreskes & Erik Conway, Merchants of Doubt: How a Handful of Scientists Obscured the Truth on Issues from Tobacco Smoke to Global Warming, New York: Bloomsbury Press 205–13 (2011). See also S. Fred Singer, Climate Change and Consensus, Science vol. 271, no. 5249 (Feb. 2, 1996); Frederick Seitz, A Major Deception on 'Global Warming', Wall Street Journal (June 12, 1996).

¹⁴⁰ Franz (1998), <u>supra</u> note 131, at 15.

¹⁴¹ Nathaniel Rich, Losing Earth: A Recent History, London: Picador 186 (2020).

¹⁴² Franta 2022, <u>supra</u> note 123, at 170.

¹⁴³ <u>Id.</u> at 177.

1	Team ("GCSCT") whose members included representatives from Exxon, Chevron, and API. 144
2	There were no scientists on the "Global Climate Science Communications Team." Steve Milloy
3	(a key player in the tobacco industry's front group) and his organization, The Advancement of
4	Sound Science Coalition ("TASSC"), were founding members of the GCSCT. TASSC was a fake
5	grassroots citizen group created by the tobacco industry to sow uncertainty by discrediting the
6	scientific link between exposure to second-hand cigarette smoke and increased rates of cancer and
7	heart disease. Philip Morris had launched TASSC on the advice of its public relations firm, which
8	advised Philip Morris that the tobacco company itself would not be a credible voice on the issue
9	of smoking and public health. TASSC, through API and with the approval of Defendants, also
10	became a front group for the fossil fuel industry beyond its role in GCSCT, using the same tactics
11	it had honed while operating on behalf of tobacco companies to spread doubt about climate science.
12	Although TASSC posed as a grassroots group of concerned citizens, it received significant funding
13	from Defendants. For example, between 2000 and 2004, Exxon donated \$50,000 to Milloy's
14	Advancement of Sound Science Center; and an additional \$60,000 to the Free Enterprise
15	Education Institute and \$50,000 to the Free Enterprise Action Institute, both of which were
16	registered to Milloy's home address. 145 The GCSCT, including TASSC, represented a continuation
17	of Defendants' concerted actions to sow doubt and confusion about climate change in order to
18	inflate consumer demand for fossil fuels.
19	130. The GCSCT continued Defendants' efforts to expand the market for fossil fuels by

continued Defendants' efforts to expand the market for fossil fuels by convincing the public that the scientific basis for climate change was in doubt. The multi-milliondollar, multi-year plan, among other elements, sought to: (a) "[d]evelop and implement a national

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¹⁴⁴ In 1998, the GCC Board included executives from API, Amoco (BP), Chevron, Exxon, Mobil 23 (Exxon), and Texaco (Chevron); and CEOs from ARCO (BP) and Amoco (BP) were on the 24 executive committee for API's Board of Directors, and high-level executives from

ConocoPhillips, ARCO, Anadarko, Marathon, BP, Shell, Chevron, Citgo, and Exxon also served as Board members; see 1998 GCC Membership, Climate Investigations Center,

https://www.climatefiles.com/denial-groups/global-climate-coalition-collection/1998-26 membership/.

¹⁴⁵ 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.

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" ¹⁴⁶—a blatant attempt to deceive consumers and the general public in order to ensure a continued and unimpeded market for their fossil fuel products.

- 131. Exxon, Chevron, and API directed and 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." 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.
- 132. In furtherance of these strategies, Defendants made misleading statements to consumers 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 San Mateo County and California, including national publications such as <u>The New York Times</u>, <u>The Wall Street Journal</u>, and <u>The Washington Post</u>.
- 133. Another 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. These

^{| 146} Email from Joe Walker to Global Climate Science Team, <u>Draft Global Climate Science</u> Communications Plan (Apr. 3, 1998), https://assets.documentcloud.org/documents/784572/api-global-climate-science-communications-plan.pdf.

¹⁴⁷ Id.

allow donors to review his research before publication, and his housing institution agreed not to disclose the funding arrangement without prior permission from his fossil fuel donors. Between 2001 and 2012, various fossil fuel interests, including Exxon and API, paid Soon over \$1.2 million. The Soon, in correspondence with his corporate funders, described many of his scientific papers as 'deliverables' that he completed in exchange for their money. His Defendant-funded research includes articles in scientific journals accusing the IPCC of overstating

¹⁴⁸ Willie Soon & Sallie Baliunas, Proxy Climatic and Environmental Changes of the Past 1000

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¹⁵⁰ Union of Concerned Scientists 2007, <u>supra</u> note 145.

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¹⁸ Years, Climate Research 23, 88–110 (Jan.31, 2003), http://www.intres.com/articles/cr2003/23/c023p089.pdf.

^{19 | 149} Newsdesk, Smithsonian Statement: Dr. Wei-Hock (Willie) Soon, Smithsonian (Feb. 26, 2015), http://newsdesk.si.edu/releases/smithsonian-statement-dr-wei-hock-willie-soon.

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^{21 | 151 &}lt;u>S. Fred Singer</u>, SourceWatch (Feb. 25, 2020),

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http://www.sourcewatch.org/index.php/S._Fred_Singer; http://www.sourcewatch.org/index.php/Frederick_Seitz.

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Union of Concerned Scientists, <u>Climate Deception Dossier #1: Dr. Wei-Hock Soon's Smithsonian Contracts</u>, (July 2015),

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https://www.ucsusa.org/sites/default/files/attach/2015/07/The-Climate-Deception-Dossiers.pdf [https://perma.cc/JL2V-XYGL] & https://s3.amazonaws.com/ucs-documents/global-warming/Climate-Deception-Dossier-1_Willie-Soon.pdf.

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¹⁵³ Justin Gillis & John Schwartz, <u>Deeper Ties to Corporate Cash for Doubtful Climate</u>
<u>Researcher, New York Times</u> (Feb. 21, 2015), available at
<a href="https://www.nytimes.com/2015/02/22/us/ties-to-corporate-cash-for-climate-change-researcher-change-researcher-change

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Wei-Hock-Soon.html?mcubz=1. ¹⁵⁴ Id.

the negative environmental effects of carbon dioxide emissions and arguing that the sun is responsible for recent climate trends. Soon was also the lead author of a 2003 article that argued that the climate had not changed significantly. The article was widely promoted by other denial groups funded by Exxon, including via "Tech Central Station," a website supported by Exxon. ¹⁵⁵ Soon published other bogus "research" in 2009, attributing global warming to solar activity, for which Exxon paid him \$76,106. This 2009 grant was made several years after Exxon had publicly committed not to fund climate change deniers. 157

- Defendants intended for the papers of authors they funded to be distributed to and relied on by consumers when buying Defendants' products, including by consumers in San Mateo.
- Defendants have also funded dozens of think tanks, front groups, lobbyists, and dark money foundations pushing climate change denial. These include the Competitive Enterprise Institute, the Heartland Institute, Frontiers for Freedom, Committee for a Constructive Tomorrow, and Heritage Foundation. From 1998 to 2014, ExxonMobil spent almost \$31 million funding numerous organizations misrepresenting the scientific consensus that Defendants' fossil fuel products were causing climate change, sea level rise, and injuries to San Mateo, among other coastal communities.¹⁵⁸
- 137. Philip 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 causing climate change. 159

28 110hhrg37415/html/CHRG-110hhrg37415.htm).

¹⁵⁵ Union of Concerned Scientists (2007), supra note 145, at 13–14.

¹⁵⁶ Willie Soon FOIA Grants Chart (Feb. 8, 2011), available at https://www.documentcloud.org/documents/682765-willie-soon-foia-grants-chart-02-08-

^{2011.}html.

¹⁵⁷ Formerly found at

http://www.socialfunds.com/shared/reports/1211896380_ExxonMobil_2007_ Corporate_Citizenship_Report.pdf.

¹⁵⁸ ExxonSecrets.org, ExxonMobil Climate Denial Funding 1998–2014 http://exxonsecrets.org/html/index.php.

¹⁵⁹ Allegations of Political Interference with Government Climate Change Science: Hearing Before the Comm. on Oversight and Government Reform, 110th Cong. 324 (Mar. 19, 2007) (statement of Philip A. Cooney), https://www.govinfo.gov/content/pkg/CHRG-

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138. 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. 160 Eight years later, a 2015 Yale-George Mason University poll found that "[o]nly about one in ten Americans understands that nearly all climate scientists (over 90%) are convinced that human-caused global warming is happening, and just half . . . believe a majority do."161 Further, it found that 33% of Americans believe that climate change is mostly due to natural causes, compared to the 97% of peer-reviewed papers that acknowledge that global warming is real and at least partly human-caused. 162 The lack of progress, and even regress, in the public understanding of climate science over this period during which Defendants professed to accept the conclusions of mainstream climate science testifies to the success of Defendants' deception campaign in thwarting dissemination of accurate scientific expertise to the public regarding the effects fossil fuel consumption.

139. Beginning in 2015, journalists began to uncover mounting evidence of Defendants' campaign of deception. In September 2015, journalists at <u>Inside Climate News</u> reported that, as far back as the 1970s, Exxon had sophisticated knowledge of the causes and consequences of climate change and of the role its products played in contributing to climate change.¹⁶³

140. Between October and December 2015, several journalists at the Energy and Environment Reporting Project at Columbia University's Graduate School of Journalism and the

¹⁶⁰ American Opinions on Global Warming: A Yale/Gallup/Clearvision Poll, Yale Program on Climate Change Communication (July 31, 2007),

http://climate communication. yale.edu/publications/american-opinions-on-global-warming//.

¹⁶¹ Leiserowitz et al., <u>Climate Change in the American Mind</u> (Yale Program on Climate Change Comm. & Geo. Mason U., Ctr. for Climate Change Comm eds., Oct. 2015),

https://climatecommunication.yale.edu/wp-content/uploads/2015/11/Climate-Change-American-Mind-October-20151.pdf. $^{\rm 162}$ Id. at 7.

Neela Banerjee et al., <u>Exxon: The Road Not Taken</u>, Inside Climate News, https://insideclimatenews.org/project/exxon-the-road-not-taken/.

<u>Los Angeles Times</u> also exposed the fact that, as far back as the 1970s, Exxon and other members of the fossil fuel industry had superior knowledge of the causes and consequences of climate change and the role their products played in causing it.¹⁶⁴

- 141. In November 2017, the Center for International Environmental Law issued a report revealing that Defendants, including API, had superior knowledge of the causes and consequences of climate change and the role fossil fuel products played in causing it as early as the 1970s.¹⁶⁵
- 142. In September 2023, the <u>Wall Street Journal</u> reported that Exxon worked "behind closed doors" to sow public doubt about climate change. The article was based on "documents reviewed by the Journal, which haven't been previously reported." ¹⁶⁶

D. Defendants Could Have Chosen to Facilitate, and Be Part of, a Lower-Carbon Future, but Instead Chose Corporate Profits and Continued Deception

- 143. Defendants could have contributed to the global effort to mitigate the impacts of greenhouse gas emissions by, for example, issuing warnings commensurate with their own understanding of the risks posed by the expected and intended uses of fossil fuel products. Instead, Defendants undertook a momentous effort to deceive consumers and the public about the existential hazards of burning fossil fuels— all with the purpose and effect of perpetuating and hyperinflating fossil fuel consumption and delaying the advent of alternative energy sources not based on fossil fuels.
- 144. As a result of Defendants' tortious, false and misleading conduct, consumers of Defendants' fossil fuel products in San Mateo County, as elsewhere, have been deliberately and unnecessarily deceived about: the role of fossil fuel products in causing global warming, sea level rise, disruptions to the hydrologic cycle, and increased extreme precipitation, heat waves, drought,

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¹⁶⁴ The <u>Los Angeles Times</u> published a series of three articles between October and December 2015.

¹⁶⁵ Carol Muffett & Steven Feit, <u>Smoke and Fumes: The Legal and Evidentiary Basis for Holding Big Oil Accountable for the Climate Crisis</u>, CENTER FOR INT'L ENV'T L. (2017), https://www.ciel.org/reports/smoke-and-fumes.

¹⁶⁶ Christopher M. Matthews & Collin Eaton, <u>Inside Exxon's Strategy to Downplay Climate Change</u>, THE WALL STREET J. (Sept. 14, 2023), https://www.wsj.com/business/energy-oil/exxon-climate-change-documents-e2e9e6af.

and other consequences of the climate crisis; the acceleration of global warming since the midtwentieth century and the continuation thereof; and the fact that the continued increase in fossil fuel consumption creates severe environmental threats and significant economic costs for coastal communities, including San Mateo County. Consumers in San Mateo and elsewhere 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, heat waves, drought, and associated consequences.

145. By sowing doubt about the future consequences of unrestricted fossil fuel consumption, Defendants' deception campaign successfully delayed the transition to alternative energy sources, which Defendants forecasted could penetrate half of a competitive energy market in 50 years if allowed to develop unimpeded. This delay caused emission of huge amounts of avoidable greenhouse gases, thereby ensuring that the damage caused by climate change will be substantially more severe than if Defendants had acted forthrightly, commensurate with their internal knowledge of climate risks.

E. In Contrast to Their Denial and Downplaying the Risks of Climate Change in Public, Defendants' Internal Actions Demonstrate Their Awareness of and Intent to Profit from Uses of Fossil Fuel Products They Knew Were Hazardous.

146. 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; developing technology and infrastructure to extract, store, and transport fossil fuels in a warming arctic environment; 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.

- 147. For example, oil and gas reserves in the Artic that were not previously reachable due to sea ice are becoming increasingly reachable as sea ice thins and melts due to climate change. ¹⁶⁷ In 1973 Exxon obtained a patent for a cargo ship capable of breaking through sea ice ¹⁶⁸ and for an oil tanker ¹⁶⁹ designed specifically for use in previously unreachable areas of the Arctic.
- 148. In 1974, Chevron obtained a patent for a mobile arctic drilling platform designed to withstand significant interference from lateral ice masses,¹⁷⁰ allowing for drilling in areas with increased ice floe movement due to elevated temperature.
- 149. 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,¹⁷¹ allowing for drilling in previously unreachable Arctic areas that would become seasonally accessible.
- 150. Shell obtained a patent for an Artic offshore platform adapted for conducting operations in the Beaufort Sea in 1984.¹⁷²
- 151. In 1989, Norske Shell, Royal Dutch Shell's Norwegian subsidiary, altered designs for a natural gas platform planned for construction in the North Sea to account for anticipated sea

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Henderson & Loe, <u>The Prospects and Challenges for Arctic Oil Development</u>, Oxford

Institute for Energy Studies (Nov. 2014) p.1, available at https://www.oxfordenergy.org/publications/the-prospects-and-challenges-for-arctic-oildevelopment/.

¹⁶⁸ExxonMobil Research Engineering Co., Patent <u>US3727571A</u>, <u>Icebreaking cargo vessel</u>, (granted Apr. 17, 1973), https://www.google.com/patents/US3727571.

¹⁶⁹ ExxonMobil Research Engineering Co., Patent <u>US3745960A</u>, <u>Tanker vessel</u> (granted July 17, 1973), https://www.google.com/patents/US3745960.

¹⁷⁰ Chevron Research & Technology Co., Patent <u>US3831385A</u>, <u>Arctic offshore platform</u> (granted Aug. 27, 1974), https://www.google.com/patents/US3831385.

¹⁷¹ Texaco Inc., Patent <u>US3793840A</u>, <u>Mobile</u>, <u>arctic drilling and production platform</u> (granted Feb. 26, 1974), https://www.google.com/patents/US3793840.

¹⁷² Shell Oil Co., Patent <u>US4427320A</u>, <u>Arctic offshore platform</u>, Shell Oil Company (granted Jan. 24, 1984), https://www.google.com/patents/US4427320.

level rise. Those design changes were ultimately carried out by Shell's contractors, adding substantial costs to the project.¹⁷³

- 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 to 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.¹⁷⁴
- e. Shell projected that the additional 3 to 6 feet of above-water construction would increase the cost of the Troll A platform by as much as \$40 million.
 - F. Defendants' Actions Have Slowed the Development of Alternative Energy Sources and Exacerbated the Costs of Adapting to and Mitigating the Adverse Impacts of the Climate Crisis.
- 152. As greenhouse gas pollution accumulates in the atmosphere, some of which does not dissipate for potentially thousands of years (namely CO₂), climate changes and consequent adverse environmental changes compound, and their frequencies and magnitudes increase. As

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¹⁷³ <u>Greenhouse Effect: Shell Anticipates A Sea Change</u>, N.Y. Times (Dec. 20, 1989), http://www.nytimes.com/1989/12/20/business/greenhouse-effect-shell-anticipates-a-sea-change.html.

¹⁷⁴ <u>Id.</u>; Amy Lieberman and Suzanne Rust, <u>Big Oil braced for global warming while it fought regulations</u>, L.A. Times (Dec. 31, 2015), http://graphics.latimes.com/oil-operations/.

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those adverse environmental changes compound and their frequencies and magnitudes increase, so too do the physical, environmental, economic, and social injuries resulting therefrom.

Delayed societal development and adoption of alternative energy sources have therefore increased environmental harms and increased the magnitude and cost to remediate harms that have already occurred or are locked in by previous emissions. Therefore, Defendants' campaign to obscure the science of climate change and to expand the use of fossil fuels greatly increased and continues to increase the harms and rate of harms suffered by Plaintiffs. Had consumer demand to transition away from fossil fuels—and the market for affordable, reliable sources of clean energy—developed earlier, the subsequent impacts of climate change could have been avoided or mitigated.

154. Defendants have been aware for decades that clean energy presents a feasible alternative to fossil fuels. In 1980, Exxon forecasted that non-fossil fuel energy sources, if pursued, could penetrate half of a competitive energy market in approximately 50 years. 175 This internal estimate was based on extensive modeling within the academic community, including research conducted by the Massachusetts Institute of Technology's David Rose, which concluded that a transition to non-fossil energy could be achieved in around 50 years. Exxon circulated an internal memo approving of Rose's conclusions, stating they were "based on reasonable assumptions." ¹⁷⁶ But instead of pursuing a clean energy transition or warning consumers about the dangers of burning fossil fuels, Defendants chose to deceive consumers to preserve Defendants' profits and assets. As a result, much time has been lost during which consumers and market forces would have spurred a societal transition away from fossil fuels, which would have reduced or eliminated entirely the harmful effects of climate change in San Mateo.

¹⁷⁵ Shaw & McCall, Exxon Research and Engineering Company's Technological Forecast: CO₂ Greenhouse Effect (Dec. 18, 1980), at 5, available at

https://www.climatefiles.com/exxonmobil/1980-exxon-memo-on-the-co2-greenhouse-effectandcurrent-programs-studying-the-issue/.

¹⁷⁶ Exxon Research and Engineering Company, Coordination and Planning Division, CO₂ Greenhouse Effect: A Technical Review (Apr. 1, 1982), at 17–18, available at https://www.climatefiles.com/exxonmobil/1982-memo-to-exxon-management-about-co2greenhouse-effect/.

to the problem."177

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Despite Defendants' knowledge of the foreseeable, measurable harms associated with the consumption and use of their fossil fuel products, and despite the existence and 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 market and promote heavy fossil fuel use and conceal the connection between use of their products and the climate crisis, dramatically increasing the cost of abatement. This campaign was intended to and did reach and influence San Mateo 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 CO₂ emissions associated therewith, and mitigate the harms associated with the use and consumption of such products. Examples of that recognition include, but are not limited to the following:
- In 1961, Phillips Petroleum Company filed a patent application for a method a. to purify gas, among other things, as "natural gas containing gasoline hydrocarbons can contain undesirable amounts of sulfur and other compounds such as carbon dioxide which are undesirable in the finished gasoline product."¹⁷⁸
- b. In 1963, Esso (Exxon) obtained multiple patents on technologies for fuel cells, including on the design of a fuel cell and necessary electrodes, ¹⁷⁹ and on a process for increasing the oxidation of a fuel, specifically methanol, to produce electricity in a fuel cell. 180
 - c. In 1970, Esso (Exxon) obtained a patent for a "low-polluting engine and

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¹⁷⁷ John Browne, BP Climate Change Speech to Stanford, Climate Files (May 19, 1997), http://www.climatefiles.com/bp/bp-climate-change-speech-to-stanford/.

¹⁷⁸ Phillips Petroleum Co., Patent US3228874A: Method for recovering a purified component from a gas (filed Aug. 22, 1961), https://patents.google.com/patent/US3228874.

¹⁷⁹ Patents, Fuel cell and fuel cell electrodes, Exxon Research Engineering Co. (Dec. 31, 1963), https://www.google.com/patents/US3116169.

¹⁸⁰ Patents, Direct production of electrical energy from liquid fuels, Exxon Research Engineering Co. (Dec. 3, 1963), https://www.google.com/patents/US3113049.

drive system" that used an interburner and air compressor to reduce pollutant emissions, including CO₂ emissions, from gasoline combustion engines (the system also increased the efficiency of the fossil fuel products used in such engines, thereby lowering the amount of fossil fuel product necessary to operate engines equipped with this technology). ¹⁸¹

- d. In 1980, Imperial Oil 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 CO₂ in the atmosphere. Technology exists to remove CO₂ from stack gases but removal of only 50% of the CO₂ would double the cost of power generation."182
- 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."183
- f. A 1989 article in a publication from Exxon Corporate Research for company use only stated: "CO₂ emissions contribute about half the forcing leading to a potential

¹⁸¹ Patents, Low-polluting engine and drive system, Exxon Research Engineering Co. (May 16,

¹⁸² 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-

1970) https://www.google.com/patents/US3513929

Environmental.html#document/p2.

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¹⁸³ Synthetic Fuels and Renewable Energy, Shell Service Briefing, no. 2, 1987, https://assets.documentcloud.org/documents/4411089/Document2.pdf.

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."¹⁸⁴

- 158. Defendants could have taken other practical, cost-effective steps to reduce the risk created by their fossil fuel products and marketing. These alternatives could have included, among other measures:
- a. Accepting scientific evidence on the validity of anthropogenic climate change and the damages it will cause people and communities, including Plaintiffs, and the environment. Mere acceptance of that information 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 nearly 30 years, since at least 1988;
- b. Forthrightly communicating with Defendants' shareholders, consumers, banks, insurers, and Plaintiffs about the climatic 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 consumer awareness of the climatic dangers of fossil fuels, and to cause many consumers and business leaders to think the relevant science was far less certain that it actually was; and

¹⁸⁴ Brian Flannery, <u>Greenhouse Science</u>, <u>Connections: Corporate Research</u>, <u>Exxon Research and Engineering Company</u> (Fall 1989), http://www.climatefiles.com/exxonmobil/1989-exxon-mobil-article-technologys-place-marketing-mix.

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 its relation to Defendants' fossil fuel products.

G. Defendants Intended for Consumers to Use Their Fossil Fuel Products in a Way Defendants Knew Was Harmful.

- 159. Consumer use of fossil fuel products, particularly by driving gasoline-powered cars and other vehicles, is a significant contributor to climate change. However, as a result of Defendants' sustained and widespread campaign of disinformation, many consumers have been unaware of the magnitude of the threat posed by their use of fossil fuels, or of the relationship between their purchasing behavior and climate change.
- 160. By misleading consumers 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 the climate risks associated with their purchase and use of those products, Defendants have deprived and are continuing to deprive consumers of information about the consequences of their purchasing decisions.
- 161. Defendants intended for consumers to rely on their omissions and concealments and to continue purchasing Defendants' fossil fuel products without regard for the damage such products cause.
- 162. Knowledge of the risks associated with the routine use of fossil fuel products is material to consumers' decisions to purchase and use those products. As with cigarettes, history demonstrates that when consumers are made aware of the harmful effects or qualities of the products they purchase, they often choose to stop purchasing them, to reduce their purchases, or to make different purchasing decisions. This phenomenon holds especially true when products have been shown to harm public health or the environment. For example, increased consumer awareness of the role of pesticides in harming human health, worker health, and the environment has spurred a growing market for food grown organically and without the use of pesticides. With access to information about how their food is grown, consumers have demanded healthier choices, and the market has responded.

1	163. A consumer who received accurate information that fossil fuel use was a primary
2	driver of climate change, and about the resultant dangers to the environment and to public health,
3	might have decreased the consumer's use of fossil fuel products and/or demanded lower-carbon
4	transportation options. Indeed, recent studies and surveys have found that consumers with
5	substantial awareness of climate change are largely willing "to change their consumption habits.
6	to help reduce the impacts of climate change." ¹⁸⁵ If consumers were aware of what the
7	Defendants knew about climate change when the Defendants knew it, consumers might have opted
8	to avoid or minimize airplane travel; avoid or combine car travel trips; carpool; switch to more
9	fuel-efficient vehicles, hybrid vehicles, or electric vehicles; demand more charging infrastructure
10	for electric vehicles; use a car-sharing service; seek transportation alternatives all or some of the
11	time, if and when available (e.g., public transportation, biking, or walking); or adopt any
12	combination of these choices. In addition, informed consumers often attempt to contribute toward
13	solving environmental problems by supporting companies that they perceive to be developing
14	"green" or more environmentally friendly products. 186
15	164. As described herein, by casting doubt upon the scientific consensus on climate

As described herein, by casting doubt upon the scientific consensus on climate change, Defendants deceived consumers about the relationship between consumption of fossil fuels and climate change, and the magnitude of the threat posed by fossil fuel use. Consumers equipped with complete and accurate knowledge about the climate and the public health effects of continued consumption of fossil fuels would have likely formed a receptive customer base for

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steps to reduce global warming by not buying their products." Id. at 3.

¹⁸⁵ The Conference Board, Changes in Consumers' Habits Related to Climate Change May Require New Marketing and Business Models (Oct. 26, 2022), https://www.conference-

board.org/topics/consumers-attitudes-sustainability/changes-in- consumer-habits-related-to-

¹⁸⁶ See, e.g., Leiserwitz et al., Program on Climate Change Communication, Yale University, and

SHER **EDLING LLP** third of American consumers surveyed report "reward[ing] companies that are taking steps to reduce global warming by buying their products" and "punish[ing] companies that are opposing

Center for Climate Change Communication, George Mason University, Consumer Activism on Global Warming, September 2021 (Sept. 2021), https://climatecommunication.yale.edu/wpcontent/uploads/2021/12/consumer-activism-onglobal-warming-september-2021.pdf. About a

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clean energy alternatives decades before such demand in fact developed. Instead, Defendants' campaign of deception allowed them to exploit public uncertainty to reap substantial profits.

165. The delayed emergence of a scalable market for non-fossil fuel energy is attributable to consumers' industry-induced ignorance of the reality and severity of the climatic consequences associated with normal use of fossil fuels. The societal transition to a low-carbon economy would have been far cheaper and more efficient had Defendants publicly acknowledged the conclusions reached by their own scientists and the broader scientific community. As a result of this delay, huge quantities of avoidable greenhouse gas emissions have been released into the atmosphere, causing greater total emissions, higher peak emissions, and all associated climatic effects.

H. Defendants' Deceit Only Recently Came to Light, and Their Misconduct Is Ongoing.

- 166. The fact that Defendants and their proxies knowingly provided incomplete and misleading information to the public, including San Mateo consumers, only recently became discoverable due to, among other things:
- a. Defendants' above-described deception campaigns, which continue to this day;
- b. Defendants' concealment and misrepresentations regarding the fact that their products cause catastrophic harms; and
- c. the fact that Defendants used front groups such as API, the GCC, and ICE to obscure their involvement in these actions, which put Plaintiffs off the trail of inquiry.
- 167. Moreover, Defendants' tortious misconduct—in the form of misrepresentations, omissions, and deceit—began decades ago and continues to this day. Now, rather than engaging in outright denials of the existence of climate change, Defendants deflect attention from their role in causing climate change by falsely portraying fossil fuel products as environmentally friendly, climate-friendly, or otherwise less environmentally damaging than those products really are.
- 168. Defendants have continued to mislead the public about the impact of fossil fuel products on climate change through "greenwashing." Through recent advertising campaigns and

public statements in California and/or intended to reach California, including but not limited to online advertisements and social media posts, Defendants falsely and misleadingly portray these products as "green," and the Defendants portray themselves as climate-friendly energy companies that are deeply engaged in finding solutions to climate change. In reality, Defendants continue to primarily invest in, develop, promote, and profit from fossil fuel products and heavily market those products to consumers, with full knowledge that those products will continue to exacerbate climate change harms.

169. Defendants' greenwashing exploits consumers' concerns about climate change and their desire to purchase "green" products and spend their consumer dollars on products and businesses that are taking substantial and effective measures to combat climate change. Defendants' false advertisements are likely to mislead consumers by giving the impression that in purchasing the Defendants' fossil fuel products, consumers are supporting genuine, substantial, and effective measures to mitigate climate change through these companies' alleged investments in clean energy. Defendants' greenwashing ultimately attempts to persuade consumers to support Defendants' purported attempts to contribute to climate change solutions by purchasing and consuming these products, including the Defendants' fossil fuel products.

170. As described above, Defendants, directly and/or through membership in other organizations, continue to misrepresent their own activities, the fact that their products cause climate change, and the danger presented by climate change. Exemplars of Defendants' continuing misrepresentations, omissions, and deceit follow below.

171. 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." However, this statement is not supported by valid scientific research, and was and is contradicted by various studies. ¹⁸⁸

¹⁸⁷ David Hone, <u>Has Climate Change Run Its Course??</u>, <u>Shell Climate Change Blog</u> (June 14, 2018), https://blogs.shell.com/2018/06/14/has-climate-change-run-its-course.

¹⁸⁸ See, e.g., Fiona Harvey, <u>Carbon Emissions from Warming Soils Could Trigger Disastrous</u> Feedback Loop, <u>The Guardian</u> (Oct. 5, 2017), https://www.theguardian.com/environment/2017/

172. 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." ¹⁸⁹ In reality, the Fifth Assessment report 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."¹⁹⁰

173. Despite this fact, 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."191

174. Similarly, ConocoPhillips's "Climate Change Position" as it appeared on the company's website through 2020 stated 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 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." ¹⁹²

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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/dominoeffect-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-climatecrisis-scientists-fear.

¹⁸⁹ Chevron, Climate Change Resilience: A Framework for Decision Making 20 (Mar. 2018), https://www.chevron.com/-/media/shared-media/documents/climate-change-resilience.pdf.

¹⁹⁰ 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. Columbia Energy Exchange Podcast, John Watson, CEO, Chevron (Apr. 10, 2017),

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https://www.energypolicy.columbia.edu/us-energy-markets-policy. ¹⁹² ConocoPhillips, Climate Change Position (Oct. 28, 2020),

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https://web.archive.org/web/20201028115814/https://www.conocophillips.com/sustainability/int egrating-sustainability/sustainable-development-governance/policies-positions/climate-changeposition/.

1	175. On May 27, 2015, at Exxon's annual shareholder meeting, then-CEO Rex Tillerson
2	misleadingly downplayed global warming's risks by stating that climate models used to predict
3	future impacts were unreliable: "What if everything we do it turns out our models are lousy, and
4	we don't get the effects we predict? Mankind has this enormous capacity to deal with adversity,
5	and those solutions will present themselves as those challenges become clear." But as noted
6	above, in 1982 Exxon's scientific staff stated, based upon the climate models, that there was a
7	"clear scientific consensus" with respect to the level of projected future global warming and
8	starting shortly thereafter Exxon relied upon the projections of climate models, including its own
9	climate models, in order to protect its own business assets. Tillerson's statement reached
10	consumers because it was reported in the press, including in California, 194 as is common when
11	fossil fuel company CEOs make statements regarding climate change and as Exxon had reason to
12	know would occur.
13	176. Until approximately early 2017, Exxon's website continued to emphasize the
14	"uncertainty" of global warming science and impacts: "current scientific understanding provides
15	limited guidance on the likelihood, magnitude, or time frame" of events like temperature extremes

Until approximately early 2017, Exxon's website continued to emphasize the 176. 'uncertainty" of global warming science and impacts: "current scientific understanding provides limited guidance on the likelihood, magnitude, or time frame" of events like temperature extremes and sea level rise. 195 Exxon's insistence on crystal-ball certainty was clear misdirection, since Exxon knew that the fundamentals of climate science were well settled and showed global warming to present a clear and present danger. 196

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¹⁹⁵ Formerly found at http://corporate.exxonmobil.com/en/current-issues/climate-policy/meetingglobal-needs/managing-climate-change-business-risks.

¹⁹⁶ See IPCC, Climate Change 2014, Impacts, Adaptation, and Vulnerability, Summary for Policymakers, available at http://www.ipcc.ch/pdf/assessmentreport/ar5/wg2/ar5_wgII_spm_en.pdf.

¹⁹³ Dallas Morning News, Exxon CEO: Let's Wait for Science to Improve Before Solving

exxon-ceo-let-s-wait-for-science-to-improve-before-solving-problem-of-climate-change.

¹⁹⁴ See, e.g., David Koenig, Exxon shareholders to vote on climate change, fracking, San Diego

Union-Tribune, May 27, 2015, http://www.sandiegouniontribune.com/news/2015/may/27/exxon-

Problem of Climate Change (May 27, 2015),

shareholders-to-vote-on-climate-change/.

https://www.dallasnews.com/business/energy/2015/05/28/.

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Until approximately early 2016, API's website referred to global warming as 177. "possible man-made warming" and claimed that the human contribution is "uncertain." API removed this statement from its website in 2016 when journalistic investigations called attention to API's misleading statements on global warming and its participation in the climate change Task Force during the late 1970s and early 1980s.

178. Defendants bombard the public and consumers with the following advertisements, although these are a mere sliver of Defendants' extensive campaigns. Defendants' advertisements must be understood in their proper context—as following Defendants' substantial early knowledge on global warming risks and impacts, and following a decades-long campaign of misleading statements on global warming that primed the pump for massive use of their fossil fuel products.

Exxon's "Lights Across America" website advertisement states that natural a. gas is "helping dramatically reduce America's emissions" 197 even though natural gas is a fossil fuel causing widespread planetary warming and harm to coastal cities like San Mateo and the use of natural gas competes with wind and solar, which have no greenhouse gas emissions.

b. In 2017, Shell's CEO promoted massive fossil fuel use by stating that the fossil fuel industry could play a "crucial role" in lifting people out of poverty. 198 A Shell website promotion states: "We are helping to meet the world's growing energy demand while limiting CO₂ emissions, by delivering more cleaner-burning natural gas." ¹⁹⁹

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¹⁹⁷ Formerly found at

https://www.youtube.com/watch?v=tMu1CBjXfq4&list=PLIrXlHj7zayYGaExfTp_ B4t6gqTtkGf9A&index=6 (at 0:46).

¹⁹⁸ Shell CEO speech, Mar. 9, 2017, available at http://www.shell.com/media/speeches-andarticles/2017/deliver-today-prepare-for-tomorrow.html.

¹⁹⁹ Shell United States, Transforming Natural Gas, available at http://www.shell.us/energy-andinnovation/transforming-natural-gas.html.

	c.	BP touts natural gas on its website as "a vital lower carbon energy source"
and as playi	ing a "cru	icial role" in a transition to a lower carbon future. 200 BP promotes continued
nassive fos	sil fuel us	se as enabling two billion people to be lifted out of poverty. ²⁰¹

- d. Chevron's website implores the public that "we produce safe, reliable energy products for people around the world." Chevron also promotes massive use of fossil fuels as the key to lifting people out of poverty: "Reliable and affordable energy is necessary for improving standards of living, expanding the middle class and lifting people out of poverty. Oil and natural gas will continue to fulfill a significant portion of global energy demand for decades to come even in a carbon-constrained scenario." A prior Chevron advertisement still available on the web promotes Chevron fossil fuels on a massive scale by stating that "our lives demand oil." On the web promotes Chevron fossil fuels on a massive scale by stating that "our lives demand oil."
- e. ConocoPhillips promotes its fossil fuel products by stating that it "responsibly suppl[ies] the energy that powers modern life." Similarly, ConocoPhillips has the following advertising slogan on its website: "Providing energy to improve quality of life." ²⁰⁶

I. San Mateo County Has Suffered, Is Suffering, and Will Suffer Injuries From Defendants' Tortious Conduct.

179. 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

FIRST AMENDED COMPLAINT

^{9 | 200} BP, <u>Sustainability Report 2016</u> (Apr. 6, 2017),

https://www.bp.com/content/dam/bp/en/corporate/pdf/sustainability-report/group-reports/bp-sustainability-report-2016.pdf; Formerly found at http://www.bp.com/energytransition/shifting-towards-gas.html.

²⁰¹ BP, <u>Energy Outlook</u>, available at http://www.bp.com/en/global/corporate/energy-economics/energy-outlook.html.

²⁰² Chevron, <u>Products and Services</u>, available at https://www.chevron.com/operations/products-services.

²⁰³ Chevron, <u>Managing Climate Change Risks</u>, available at https://www.chevron.com/corporate-responsibility/climate-change/managing-climate-risk.

²⁰⁴ Chevron TV ad (2009), available at https://www.youtube.com/watch?v=-KyjTGMVTkA.

²⁰⁵ ConocoPhillips, <u>The Changing Energy Landscape</u>, available at http://www.conocophillips.com/who-we-are/our-company/spirit-values/responsibility/Pages/the-changing-energy-landscape.aspx.

 $^{^{206}}$ ConocoPhillips, $\underline{Producing\ Energy},$ available at http://www.conocophillips.com/what-we-do/producing-energy/Pages/default.aspx.

promotion of fossil fuel products and their concealment of known hazards associated with the use of those products; and their public deception campaigns designed to obscure the connection between their products and climate change and its environmental, physical, social, and economic consequences—is the direct and proximate cause that brought about or helped bring about climate change and consequent harms to San Mateo County. Such harms include: sea level rise and attendant flooding; increased frequency and intensity of extreme precipitation events, erosion, and landslides; higher groundwater levels and an accompanying increased risk of damage to underground infrastructure and contaminant spread from hazardous, superfund, landfills and similar sites; increased frequency and intensity of heat events; reduced air quality; and the cascading social, economic, health, and other consequences of these environmental changes. These adverse impacts will continue to increase in frequency and severity in San Mateo and disproportionately impact Disadvantaged Communities.

180. As an actual and proximate result of Defendants' conduct, which was a substantial factor in bringing about the aforementioned environmental changes, Plaintiffs' have suffered and will continue to suffer severe harms and losses. These include, but are not limited to, the following: increased costs associated with public health impacts, environmental impacts, and economic impacts; injury or destruction of facilities and property deemed critical for operations, utility services, and risk management, as well as other assets that are essential to community health, safety, recreational opportunities, and well-being; increased costs for responding to poor air quality, increasingly frequent and intense weather events, including extreme heat, sea level rise, coastal and inland storms and associated flooding, and extreme precipitation events; and increased costs to communities to plan and prepare for, and to mitigate, adapt, and become resilient to climate change's effects.

181. Plaintiffs have already incurred, and will foreseeably continue to incur, injuries and damages because of sea level rise and disruptions to the hydrologic cycle including increased frequency and severity of drought, increased frequency and severity of extreme precipitation events, increased frequency and severity of shoreline erosion, increased frequency and severity of heat waves, increased frequency and severity of wildfires, increased public health hazards, and

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consequent social and economic injuries associated with those physical and environmental changes, all of which have been caused and/or exacerbated by Defendants' conduct.

But for Defendants' conduct, Plaintiffs would have suffered no or far less injuries and damages than they have, and will foreseeably endure, due to expected anthropogenic sea level rise, disruption of the hydrologic cycle, and associated consequences of those physical and environmental changes.

i. **Sea Level Rise-Related Conditions and Injuries**

- 183. San Mateo County has experienced significant sea level rise over the last half century attributable to Defendants' conduct.
- 184. The San Francisco Bay Area, including San Mateo County, has experienced significant sea level rise over the last half century attributable to Defendants' conduct. 207 San Mateo County will experience additional, significant, and dangerous sea level rise by 2100, ²⁰⁸ and the increases will continue and accelerate. Additionally, San Mateo County will experience greater committed sea level rise due to the "locked in" greenhouse gases already emitted. 209 The County will suffer greater overall sea level rise than the global average.²¹⁰
- In addition to weather and climate changes already observed, the County is at an increased risk of suffering extreme injuries in the future. For example, there is a 93% chance that the County experiences a devastating three-foot flood before the year 2050, and a 50% chance that such a flood occurs before 2030. Average sea levels along the County's shores are expected to rise by almost three feet by the year 2100, causing multiple, predictable impacts, and exacerbating the impacts of extreme events.

2100. Id.

San Francisco Bay Area sea level rise is projected to be 91.9 cm (36.2 inches) over 2000 by

²⁰⁷ Griggs et al. (2017), <u>supra</u> note 11, at 23, box 2, figure 2.

²⁰⁸ Id. at 26, Table 1(b).

Peter U. Clark et al., <u>Consequences of Twenty-First-Century Policy for Multi-Millennial</u> Climate and Sea-Level Change, Nature Climate Change Vol. 6, 363–65 (2016).

²¹⁰ Global sea level rise is projected to be 82.7 cm (32.6 inches) above 2000 levels by 2100. See National Research Council, Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past Present and Future (2012), at page 107 at Table 5.2, page 117 at Table 5.3. The

186. Sea level rise is the physical consequence of (a) the thermal expansion of ocean waters as they warm; (b) increased mass loss from land-based glaciers that are melting as ambient air temperature increases; and (c) the shrinking of land-based ice sheets due to increasing ocean and air temperature.²¹¹

- 187. Of the increase in energy that has accumulated in the Earth's atmosphere between 1971 and 2010, more than 90% is stored in the oceans.²¹²
- 188. Anthropogenic forcing, in the form of greenhouse gas pollution largely from the production, use and combustion of fossil fuel products, is the dominant cause of global mean sea level rise since 1970, explaining at least 70% of the sea level rise observed between 1970 and 2000.²¹³ Natural radiative forcing—that is, causes of climate change not related to human activity—"makes essentially zero contribution [to observed sea level rise] over the twentieth century (2% over the period 1900–2005)."²¹⁴
- 189. Anthropogenic greenhouse gas pollution is the dominant factor in each of the independent causes of sea level rise, including the increase in ocean thermal expansion,²¹⁵ in glacier mass loss, and in more negative surface mass balance from the ice sheets.²¹⁶
- 190. There is a well-defined relation between cumulative emissions of CO₂ and committed global mean sea level. This relation, moreover, holds proportionately for committed regional sea level rise.²¹⁷
- 191. Nearly 100% of the sea level rise from any projected greenhouse gas emissions scenario will persist for at least 10,000 years.²¹⁸ This owes to the long residence time of CO₂ in

²¹¹ NOAA, Is sea level rising, Ocean Facts http://oceanservice.noaa.gov/facts/sealevel.html.

²¹² <u>IPCC, 2014: Climate Change 2014: Synthesis Report, supra</u> note 3, at 4, https://www.ipcc.ch/report/ar5/syr/.

²¹³ Slangen et al., <u>Anthropogenic Forcing Dominates Global Mean Sea-Level Rise Since 1970</u>, Nature Climate Change, Vol. 6, 701 (2016).

 $^{10^{214}}$ Id.

 $^{26 \}quad \boxed{}^{215} \, \underline{\underline{\text{Id.}}}$

^{216 &}lt;u>Id.</u>

²¹⁷ Clark et al. (2016), <u>supra</u> note 209, at 365.

²¹⁸ Id. at 361.

the atmosphere that sustains temperature increases, and inertia in the climate system. ²¹⁹

Anthropogenic greenhouse gas pollution caused the increased frequency and severity of extreme sea level events (temporary sea level height increases due to storm surges or extreme tides, exacerbated by elevated baseline sea level) observed during the Great Acceleration. 220 The incidence and magnitude of extreme sea level events has increased globally since 1970.²²¹ The impacts of such events, which generally occur with large storms, high tidal events, offshore low-pressure systems associated with high winds, or the confluence of any of these factors, ²²² are exacerbated with higher average sea level, which functionally raises the baseline for the destructive impact of extreme weather and tidal events. Indeed, the magnitude and frequency of extreme sea level events can occur in the absence of increased intensity of storm events, given the increased average elevation from which flooding and inundation events begin. These effects, and others, significantly and adversely affect Plaintiffs, with increased severity in the future.

193. Historical greenhouse gas emissions alone through 2000 will cause a global mean sea level rise of at least 7.4 feet.²²³ Additional greenhouse gas emissions from 2001–2015 have caused approximately 10 additional feet of committed sea level rise. Even immediate and permanent cessation of all additional anthropogenic greenhouse gas emissions would not prevent the eventual inundation of land at elevations between current average mean sea level and 17.4 feet of elevation in the absence of adaptive measures.

194. The relationship between anthropogenic CO₂ emissions and committed sea level rise is nearly linear and always positive. For emissions, including future emissions, from the year 2001, the relation is approximately 0.25 inches of committed sea level rise per 1 GtCO₂ released.

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²¹⁹ Id. at 360.

²²⁰ IPCC, 2013: Summary for Policymakers, page 7, Table SPM.1 (2013), 25

https://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WGIAR5 SPM brochure en.pdf.

²²¹ IPCC, Climate Change 2013: The Physical Science Basis, Contribution of Working Group I to the Fifth Assessment Report of the IPCC, 290 (2013),

http://www.climatechange2013.org/images/report/WG1AR5 ALL FINAL.pdf.

²²³ Clark et al. (2016), <u>supra</u> note 209, at 365.

For the period 1965 to 2000, the relation is approximately 0.05 inches of committed sea level rose per 1 GtCO₂ released. For the period 1965 to 2015, normal use of Defendants' fossil fuel products caused a substantial portion of committed sea level rise. Each and every additional unit of CO₂ emitted from the use of Defendants' fossil fuel products will add to the sea level rise already committed to the geophysical system.

195. Projected onshore impacts associated with rising sea temperature and water level include increases in flooding and erosion; increases in the occurrence, persistence, and severity of storm surges; infrastructure inundation; public and private property damage; and pollution associated with damaged control and waste infrastructure, and the lack thereof. All of these effects significantly and adversely affect Plaintiffs.

196. Sea level rise has already taken grave tolls on inhabited coastlines. For instance, the U.S. National Oceanic and Atmospheric Administration ("NOAA") estimates that high tide flooding occurs from 300% to 900% more frequently within U.S. coastal communities today than just 50 years ago. ²²⁴ Sunny day tidal flooding is now occurring more than a half mile inland from San Francisco Bay in several different cities within San Mateo County.

197. Nationwide, more than three quarters (76%) of flood days caused by high water levels from sea level rise between 2005 and 2014 (2,505 of the 3,291 flood days) would not have happened but for human-caused climate change. More than two-thirds (67%) of flood days since 1950 would not have happened without the sea level rise caused by increasing greenhouse gas emissions.²²⁵

198. Regional expressions of sea level rise will differ from the global mean and are especially influenced by changes in ocean and atmospheric dynamics, as well as the gravitational, deformational, and rotational effects of the loss of glaciers and ice sheets.²²⁶ Due to these effects,

²²⁴ <u>Is sea level rising</u>, <u>supra</u> note 216.

²²⁵ Climate Central, <u>Sea Level Rise Upping Ante on 'Sunny Day' Floods</u> (Oct. 17, 2016), http://www.climatecentral.org/news/climate-change-increases-sunny-day-floods-20784.

²²⁶ Clark et al. (2016), supra note 209, at 364.

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San Mateo County will experience significantly greater absolute committed sea level rise than the global mean.²²⁷

199. The County's assessments show that the San Francisco Bay Area and San Mateo County are "particularly vulnerable to sea level rise and changes in salinity, temperature, and runoff." This is because San Mateo County's topography, geography, and land use patterns make it particularly susceptible to injuries from sea level rise with low-lying and highly urbanized areas along San Francisco Bay and communities along increasingly erosive Pacific coastline; and because the California coast South of Cape Mendocino, including San Mateo County, is projected, due to its geophysical characteristics, to experience a higher rate of sea level rise and a greater absolute amount of sea level rise than the global mean. ²²⁹

200. Given an emissions scenario in which the current rate of greenhouse gas pollution continues unabated, sea level in the San Francisco Bay Area, including San Mateo County, will rise significantly by the year 2100.²³⁰

201. San Mateo County's sea level rise vulnerability analyses anticipate extreme sea level rise events equivalent to a 1% annual-chance flood of 42-inches over and above expected changes to the mean sea level height along the County.²³¹ Such an event, even with the minimum anticipated sea level rise, would inundate thousands of acres of County land,²³² breach flood protection infrastructure,²³³ swamp San Francisco International Airport²³⁴ (located within the

²²⁷ See id., Figure 3(c).

²²⁸ County of San Mateo, <u>Sea Level Rise Vulnerability Assessment</u>, <u>supra</u> note 10, at 22.

²²⁹ Global sea level rise is projected to be 82.7 cm (32.6 inches) above 2000 levels by 2100. <u>See</u> National Research Council, <u>Sea-Level Rise for the Coasts of California</u>, <u>Oregon, and</u> Washington: Past Present and Future (2012) at page 107 at Table 5.2: page 117 at Table 5.3. The

<u>Washington: Past Present and Future</u> (2012) at page 107 at Table 5.2; page 117 at Table 5.3. The San Francisco Bay Area sea level rise is projected to be 91.9 cm (36.2 inches) over 2000 by 2100. Id.

²³⁰ Griggs et al. (2017), <u>supra</u> note 11, at 26, Table 1(b).

²³¹ <u>See</u> County of San Mateo, <u>Sea Level Rise Vulnerability Assessment</u>, <u>supra</u> note 10, at 74.

²³² <u>See id</u>. at 60.

²³³ <u>See id</u>. at 70–71.

County), and harm some of the most vulnerable communities in the County, ²³⁵ among other impacts.

202. San Mateo County published a Sea Level Rise Vulnerability Analysis in March 2018. The Assessment is the County's first analysis of its overall vulnerability to sea level rise and its impacts from permanent inundation, temporary flooding caused by storm events, erosion, and saltwater intrusion. The Assessment formally identifies actual risks to the County expected with three feet of sea level rise, and the consequences associated with taking no action to prevent or mitigate the harms associated with those expected impacts.²³⁶

203. Areas of the County that already experience regular flooding and that will suffer further due to elevated sea level include, but are not limited to, unincorporated County areas including the community of Pescadero, and the cities of Brisbane, South San Francisco, San Bruno, Millbrae, Burlingame, San Mateo, Belmont, San Carlos, Redwood City, Menlo Park, East Palo Alto, Half Moon Bay and Pacifica.

a. Among other County-owned and operated facilities threatened by the rising water level, includes facilities threatened by the rising water level, San Mateo owns and operates the Coyote Point Recreation Area and Coyote Point Marina, in the City of San Mateo on the shore of San Francisco Bay. The recreation area includes a beach with swimming and wind-surfing areas; several areas for picnicking; a youth playground; a Merchant Marine Memorial; and houses a riflery range, a Wildlife Center, and the Coyote Point Yacht club. The recreation area and Marina are at sea level, and the recreation area is almost entirely flat, such that it is highly vulnerable to inundation in the event of flooding.

b. In addition, the County operates the James V. Fitzgerald Marine Reserve on

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²³⁵ See, e.g., id. at 103, 107, 111; see also Avery Bick et al., Rising Seas, Rising Inequity? Communities at Risk in the San Francisco Bay Area and Implications for Adaptation Policy, EARTH'S FUTURE (2021).

²³⁶ <u>See also</u> County of San Mateo, South Coast Sea Level Rise Vulnerability Assessment & Adaptation Report (Aug. 2022), https://www.smcsustainability.org/wp-content/uploads/South-Coast-SLR-study_Executive-summary-and-Project-Overview-web.pdf; Coastal County Snapshots, San Mateo County, CA, Flood Series: Sea Level Rise, NOAA.Gov, available at https://coast.noaa.gov/snapshots/.

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ne Pacific Coast in the town of Moss Beach. The Fitzgerald Marine Reserve covers three miles of noreline, and encompasses a fragile, rocky intertidal ecosystem featuring seaweed, crabs, ponges, anemones, sea stars, mollusks, seals, and fish. The Reserve is a popular and scientifically nd ecologically important feature of the County, both for its residents and as an attraction for isitors. Because the Reserve is an intertidal habitat and includes partially submerged reefs, it is xtremely sensitive to sea level change, and could be permanently destroyed by inundation and ooding.

c. The County further owns and operates critical civil infrastructure that will e threatened with flooding and other harm from increase sea level rise, including the County enter, a county animal shelter, the San Carlos Airport, the Maple Street Shelter (a transitional nd emergency housing center), and Navigation Center (a 240-bed shelter site offering wrapround supportive services to unhoused individuals and families), wastewater treatment plants, nd two county jails. Unincorporated residential regions flood today due to higher sea levels and xtreme storms, including portions of North Fair Oaks, and unincorporated mobile home parks ear Redwood City, and in the unincorporated Harbor Industrial Area adjacent to the City of elmont.

204. Areas of San Mateo County that are already erosion hot spots and that will suffer arther erosion due to sea level rise include, but are not limited to, Middle and South Ocean Beach, Middle and Lower Daly City, Manor District, Beach Boulevard, Sharp Park, Rockaway Cove, inda Mar, Princeton and the Pillar Point Harbor, El Granada County Beach, and Mirada Road in alf Moon Bay.²³⁷

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See County of San Mateo, Sea Level Rise Vulnerability Assessment, supra note 10, at 48–50, Figure 3A.2.

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Figure 8: Areas Inundated with 1 to 3 Feet of Sea Level Rise

SFO inundated at 2 feet

Business and

industrial area

inundated at 3 feet

Bair Island State

Park inundated at 1 foot

Foster City

Redwood City

Data source: AECOM 2016. Overtopping and Inundation Maps developed using BCDC's Adapting to Rising Tides Methodology. For additional

maps and more information, refer to the Sea Level Rise and Overtopping Analysis for San Mateo County's Bayshore report.

Fair Oaks

Belmont

Brisbane

South

n Bay

Burlingame

Hillsborough

205. The preceding figure depicts the average high tide level on a daily basis with 1, 2, and 3 feet of sea level rise. With different storm scenarios, much more area could be inundated. As the image shows, much of San Mateo County, including some of its most critical infrastructure and valuable Bay-front property, will be submerged at one foot of sea level rise.²³⁸ Importantly, the figure does not include inundation from storms or increased erosion; it shows only inundation threats under average daily clear-weather high tides based on existing shoreline measurements for a few example assets and communities.

LEGEND

County Project Area

12" Sea Level Rise (1 foot)

24" Sea Level Rise (2 feet)

36" Sea Level Rise (3 feet)

Sea Level Rise Scenarios

Maple Street Shelter

access road inundated at 2 feet

Highway 101 inundated at 3 feet

East Palo Alto neighborhood

inundated at 1 foot

206. As a direct and proximate result of the acts and omissions of the Defendants' alleged herein, Plaintiffs have incurred millions of dollars of expenses to plan for and build resilience to future sea level rise injuries to its real property, improvements thereon, civil infrastructure, and citizens, to preemptively mitigate and/or prevent such injuries.

a. This includes performing a Sea Level Vulnerability Assessment at significant expense to the County, which found that parcels of real property valued at a total of \$23 billion situated on Plaintiff's San Francisco Bay shoreline will be threatened with serious or permanent inundation, and a need for \$910 million of infrastructural repair on its ocean coastline. Expected injuries include erosion of ocean- and bay-adjacent public land, erosion and/or inundation of privately owned properties and displacement of residents within San Mateo County.²³⁹

b. OneShoreline has and will continue to incur significant expense in developing sea level rise resiliency guidance and technical resources to address impacts to Flood Control Zones and coastal areas of the County. For example, to build climate resilience for developed, public access, and habitat areas along less than four of the County's approximately fifty-three miles of San Francisco Bay shoreline for the Cities of Millbrae, Burlingame, and a portion of the City San Mateo, OneShoreline is spending \$4 million just to develop early design and required environmental documents and is considering the need for an offshore structure to control the water level of the Bay for sea level rise and groundwater rise protection. ²⁴⁰ Regardless of the alternative chosen, additional tide gates, pump stations, levees, and sea wall will be required—all at significant expense. This project is one of ten reaches of San Mateo County's Bay

²³⁹ <u>See also County of San Mateo, Improving Flood Control in San Mateo County's Areas of Responsibility</u> (Feb. 3, 2016).

²⁴⁰ <u>See</u> OneShoreline, <u>Millbrae and Burlingame Shoreline Area Protection and Enhancement Project</u>, https://oneshoreline.org/projects/millbrae-burlingame/.

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shoreline that have projects in the stages of early planning, to design, to construction to protect against the impacts resulting from Defendants' conduct.²⁴¹

207. As a direct and proximate result of Defendants' acts and omissions alleged herein, Plaintiffs have incurred and will continue to incur significant expense educating and engaging the public and developing communication systems to minimize injury from climate change-related impacts including flooding. For example, OneShoreline developed the "Quick Guide to Safety Before, During, and After a Storm" in English and Spanish for residents and businesses in an area of the County that has seen intensified severe flooding in recent years, and is actively collaborating with community partners there to ensure the County's most vulnerable residents receive critical safety information.²⁴² OneShoreline has built and must expand a County-wide early warning system for flood emergencies that alerts residents and business owners to impending flooding, which it has done on multiple occasions during recent atmospheric rivers fueled by climate change. ²⁴³ OneShoreline has also acted and will continue to act to make San Mateo County resilient to sea level rise through new land use guidance. In 2023, OneShoreline's Board of Directors adopted a Planning Policy Guidance for land use plans and ordinances for the 12 cities in San Mateo County influenced by increasingly high Bay tides to consider so that private developments are sited and planned for future conditions caused by sea level rise, extreme storms, and groundwater rise. In 2025, OneShoreline will adopt countywide Planning Policy Guidance for Resilient Public Infrastructure to ensure the County's stormwater systems, roads, utilities, wastewater, and water recycling systems can function in climate change-driven future conditions. In the coming years, these planning guidance documents will need to be updated as information becomes available regarding the increased harms brought by climate change resulting from

²⁴¹ <u>See</u> OneShoreline, <u>Notice of Preparation and Scoping Meeting: Environmental Impact Report for the Millbrae and Burlingame Shoreline Area Protection and Enhancement Project,</u>

https://oneshoreline.org/wp-content/uploads/2023/11/ExtendedCommentPeriod_M-B-NOP-Public-Scoping-Meeting-Announcement.pdf.

²⁴² <u>See</u> OneShoreline, <u>Colma Creek, San Bruno Creek, Nevigable Slough, and nearby areas of the shoreline</u>, https://oneshoreline.org/projects/colma-creek.

²⁴³ <u>See</u> OneShoreline, <u>Countywide Flood Early Warning System and Flood Emergency Action Plan</u>, https://oneshoreline.org/projects/flood-ews.

Defendants' conduct. In the coming years, these planning guidance documents will need to be updated as information becomes available regarding the increased harms brought by climate change resulting from Defendants' conduct.

208. As a direct and proximate result of Defendants' acts and omissions alleged herein, Plaintiffs have incurred and will continue to incur sea level rise-related injuries and damages. These include infrastructural repair and upgrade (such as expansion of drainage systems, installing new pump stations, or constructing lagoons or coastal barriers) and reinforcement of roads and beach access. Just protecting the County's shoreline is estimated to ultimately cost \$11 billion.²⁴⁴

209. As a direct and proximate result of Defendants' acts and omissions alleged herein, Plaintiffs' real property has been inundated by sea water and inland flooding exacerbated by sea level rise, 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. By way of example, Surfer's Beach, one of the County's public beach properties near the city of Half Moon Bay, has lost 140 feet of accessible beach since 1964 due to erosion, which has been exacerbated and substantially contributed to by sea level rise and increased extreme weather.²⁴⁵ OneShoreline property along San Bruno Creek and San Francisquito Creek, built for the purpose of protecting the surrounding community from the effects of flooding, has seen damage in recent years due to extreme storms and sea level rise that has already cost, and will continue to cost, substantial amounts to repair and replace.

210. Without Defendants' fossil fuel-related greenhouse gas pollution, current sea level rise would have been far less than the observed sea level rise to date.²⁴⁶ Similarly, committed sea

²⁴⁴ <u>See</u> Metro. Transp. Comm'n Ass'n of Bay Area Governments & San Francisco Bay Conservation & Development Commission, Sea Level Rise Adaptation Funding and Investment Framework Final Report, at 13–14 (July 2023), https://www.adaptingtorisingtides.org/wp-content/uploads/2023/07/SLR_FundingReport_Book_ADA_071023_PM.pdf.

²⁴⁵ <u>See</u> County of San Mateo, <u>Sea Level Rise Vulnerability Assessment</u>, <u>supra</u> note 10, at 64.

²⁴⁶ Robert E. Kopp et al., <u>Temperature-driven Global Sea-level Variability in the Common Era</u>, Proceedings of the National Academy of Sciences, Vol. 113, No. 11, E1434-E1441, E1438 (2016), http://www.pnas.org/content/113/11/E1434.full.

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level rise that will occur in the future would also be far less.²⁴⁷ Defendants' conduct as described herein is therefore an actual, substantial, and proximate cause of Plaintiffs' sea level rise-related injuries.

ii. **Extreme Precipitation and Landslide-Related Conditions and Injuries**

211. Extreme precipitation events, with heavy rainfall falling over a small area, are a substantial, demonstrated threat in San Mateo County and will continue to increase as a result of climate change attributable to Defendants' conduct alleged herein. 248 Recent estimates show that climate change will result in storms in the San Francisco Bay Area that release up to 37% more precipitation by the year 2100.²⁴⁹ Warmer global temperatures lead to storm systems being able to hold a higher volume of water, which is then released as increasingly unprecedented levels of precipitation. These events result in flooding and landslides causing injuries to Plaintiffs. According to the California Department of Water Resources, in early 2023 California went from the three driest years on record to the three wettest weeks on record.²⁵⁰ At the official rain gauge at San Francisco International Airport, which is located in San Mateo County, just two atmospheric rivers in 2021 brought almost 3/4 of all rainfall that year and almost three times the rainfall of the vear before.

212. Flooding occurs when extreme precipitation events lead to river systems being overwhelmed, with floodwaters and debris overtopping the banks of creeks and rivers causing inundation. In addition, failure of stormwater systems to adequately provide drainage leads to inundation by surface runoff. Climate-driven storms also cause coastal flooding, where storm

²⁴⁷ Clark et al. (2016), supra note 209, at 365.

²⁴⁸ See Cal. Fourth Climate Change Assessment, San Francisco Bay Area Region, 19 (Jan. 2019), https://www.energy.ca.gov/sites/default/files/2019-11/Reg_Report-SUM-CCCA4-2018-005 SanFranciscoBayArea ADA.pdf.

²⁴⁹ Chrsitina M. Patricola, et al, Future changes in extreme precipitation over the San Francisco Bay Area: Dependence on atmospheric river and extratropical cyclone events, 36 Weather & Climate Extremes 1 (2022).

²⁵⁰ Terry Chea et al., Dramatic photos show how storms filled California reservoirs, Associated Press (Apr. 6, 2023), https://apnews.com/article/california-reservoir-levels-winter-stormsda455706e614b95fb49d98a211f788d3.

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surge results in inundation of coastal areas by ocean water.²⁵¹ Floods cause damage to County property, require costly recovery, and cause public health hazards.

- The principal flooding sources in San Mateo County are the Alpine Creek, Atherton Channel, Belmont Creek, Butano Creek, Colma Creek, Cordilleras Creek, Crystal Springs channel, Denniston Creek, El Granada Creek, Holly Street Channel, La Honda Creek, Lomita Channel, Montara Creek, Pacific Ocean, Pescadero Creek, Pilarcitos Creek, San Bruno Creek, San Francisco Bay, San Franciscquito Creek, San Gregorio Creek, San Mateo Creek, San Vincente Creek, and Woodhams Creek. Overflow from these sources during extreme precipitation events flows through roads, onto rail infrastructure, and into residences. 252 These dangerous conditions necessitate road closures and recovery efforts by the County, and necessitate emergency removal of debris in flooding creeks by OneShoreline, and cause other damages.
- b. County and OneShoreline facilities and infrastructure is at risk of increased damage due to flooding exacerbated by climate change. This includes roads, bridges, levees and water and sewer infrastructure. 253 Sewer systems are at risk of backing up and spilling sewage into homes, neighborhoods and the environment when exposed to flooding.²⁵⁴
- 213. Plaintiffs have experienced and will continue to experience more frequent and severe landslides and debris flows, which are particularly fast-moving and far-reaching landslides, as a result of increased extreme precipitation events. Landslides can cause death and injury, damage private and public property and critical facilities and infrastructure. They routinely cause dangerous conditions on the County's roadways, causing transportation hazards and requiring costly efforts to cleanup and mitigate against future events. They also cause harm to the County's

²⁵¹ MHMP 11-1-11-2.

²⁵² Id. at 11-8–11-9.

²⁵³ See Cal<u>Trans Adaptation Priorities Report, District 4</u> (Dec. 2020), https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/2020-adaption-prioritiesreports/d4-adaptation-priorities-report-2020-v2-a11y.pdf.

²⁵⁴ MHMP 11-21–11-23.

open space, natural resources, and ecosystems. Increases in drought conditions and wildfire also lead to increases in risk of catastrophic debris flows.

- a. Following drought conditions, for example, heavy rains in 2021 and 2022 resulted in flooding that caused crop loss and structural damage to the County's agricultural sector. ²⁵⁵
- b. Following the CZU Complex Fire in 2020, the County planned and prepared for increased risk of debris flows below the burn area, including planning for emergency communications and engaging the public to mitigate damages. During the following winter, many landslides and debris flows cut off major roads and caused the County injuries.²⁵⁶
- 214. Additionally, rising groundwater levels create numerous and increasing challenges for the continued use of public and private property, including risks that contaminants previously contained in hazardous, superfund, landfills and similar sites will spread via groundwater.

iii. Extreme Wildfire

215. The County has experienced and will continue to experience increased risk of wildfire attributable to Defendants' conduct. Climate change will increase the frequency, intensity and duration of wildfire events impacting the County, resulting in injuries. Climate change has resulted in an eight-fold increase in the probability of a large-scale fire – burning more than 1,000 acres – occurring in San Mateo County by 2070.²⁵⁷ Beginning in 2040, some areas of the County, including Half Moon Bay, Woodside and Portola Valley, will see a particularly substantial rise in wildfire risk, projected to continue rising in the decades thereafter.²⁵⁸

² || ²⁵⁵ See 2022 San Mateo County Agricultural Crop Report p.10 (Aug. 2023),

https://sanmateocounty.legistar.com/View.ashx?M=F&ID=12186983&GUID=DB950280-DD54-4D43-A3DE-58151CD8219F.

²⁵⁶ See Landslides, County of San Mateo Office of Sustainability,

https://www.smcsustainability.org/climate-change/climate-resilience/climate-risks/landslides/; Debris Flows and Flooding, County of San Mateo, https://www.smcgov.org/debris-flows-and-flooding.

^{257 &}lt;u>See</u> Climate Ready San Mateo County, <u>Wildfire & Climate Change Factsheet</u> p.1,

https://www.smcsustainability.org/wp-content/uploads/Climate-Ready-SMC-Hazard-Factsheet-Wildfire.pdf.

²⁵⁸ See id. at 2.

- 216. Increased wildfire risk threatens individuals, residences, open space, public and private infrastructure, County-owned real property and buildings, natural resources, and other County resources. In addition, the increased incidence and severity of wildfire in the region as a whole impacts the County, including by causing increased damages from smoke and ash from extreme fires raging outside San Mateo County.
- 217. The County owns four fire stations, and responds to approximately 2,275 fire protection and emergency response calls annually.²⁵⁹ The destructive force of wildfires will continue to be exacerbated by climate change, requiring significant expenditure in suppression and recovery.
- a. In August 2020, the CZU complex fire in San Mateo and Santa Cruz counties burned 86,509 acres and caused one fatality. It destroyed 1,490 structures, including historic buildings.²⁶⁰ Fire suppression costs totaled in the tens of millions of dollars. And the County additionally engaged in costly recovery efforts such as rebuilding and debris removal.
- 218. The County has expended and will continue to expend significant funds studying, planning, preparing for, and preventing increased wildfire injuries to the County and its residents.
- a. The County has incurred and will continue to incur significant damages to implement wildfire mitigation measures. For example, the County Fire Department has implemented fuel reduction and vegetation management projects using a variety of costly methods, including mechanical vegetation removal, chipping, pile burning, and prescribed burns. These methods are deployed to create defensible space around structures and neighborhoods, fuel-breaks along roads and ridges, and broader fuel-reduction zones to reduce damages from fire when it inevitably comes.²⁶¹ The County also implements forest health projects to create wildfire resiliency in Wunderlich and Huddart County Parks, and elsewhere.

²⁵⁹ County of San Mateo Performance, County Fire: Fire Protection, https://performance.smcgov.org/reports/Fire.

²⁶⁰ County of San Mateo, 2021 Multijurisdictional Hazard Mitigation Plan p.16-8 (2021), https://www.smcgov.org/media/53471.

²⁶¹ See, e.g., San Mateo – Santa Cruz County Community Wildfire Protection Plan (Apr. 2018), https://www.sanmateorcd.org/wp-content/uploads/2018/11/2018_CWPP_update_final-Opt.pdf.

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b. Increased wildfire risk requires the County to expend significant funding to engage and educate the public and prepare for wildfire risk in expanded areas of the County. The County has already convened stakeholder meetings. The County developed and launched the ZoneHaven Evacuation Tool to provide the public and first responders with a real time map during ongoing emergencies. In addition, the County must maintain evacuation routes, provide emergency short-term shelter, and create a long-term housing plan for residents and animals displaced due to wildfire. To plan and prepare for wildfire, the County expends significant resources coordinating with neighboring Santa Cruz County and State agencies, such as in the development of the San Mateo – Santa Cruz Community Wildfire Protection Plan.

c. The County has and will continue to incur damages from increased insurance costs resulting from the increased wildfire risk attributable to climate change.

219. Housing and County property are at increased risk of damage from wildfire due to Defendants' conduct. Structures are most at risk where it abuts or is intermixed with wildlands, in wildland/urban interface areas, that also fall in a high or very high fire severity zone.

²⁶² <u>See</u> Climate Ready San Mateo County, Wildfire & Climate Change Factsheet, <u>supra</u> note 257, at 4–5

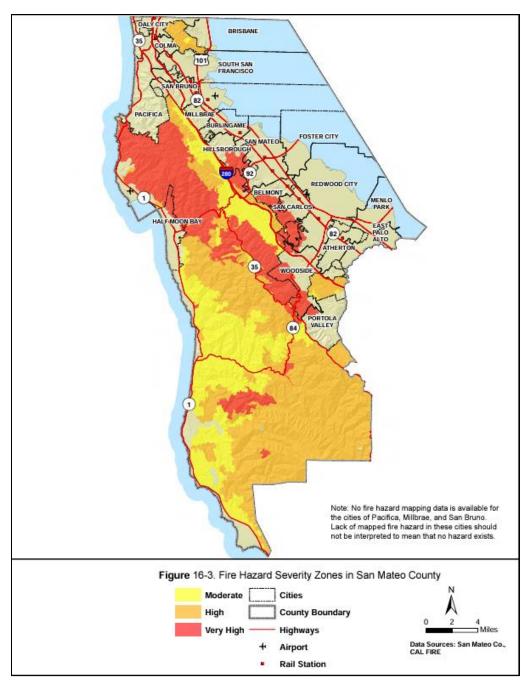


Figure 9: Areas Inundated with 1 to 3 Feet of Sea Level Rise

a. More than 40,000 of San Mateo County's residents live within "High" or "Very High" Fire Hazard Severity Zones, where more than 12,000 residential structures are

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vulnerable to damage from wildfire.²⁶³ Further, there are approximately 42,000 housing units located in proximity to wildlands putting them at risk of damage from wildfire.²⁶⁴

- b. Critical facilities containing hazardous material and fuel storage are present in areas of high and very high severity zones, increasing the cost of response to and recovery from wildfires. Other critical facilities in high severity zones include communication facilities.²⁶⁵
- 220. The County's parks and open spaces are more vulnerable to wildfire than urban areas. Wildfires in the County's parks will result in loss of biodiversity and harm to natural resources such as endangered and threatened plants and butterflies.²⁶⁶ Other environmental harms to the County are likely to include spread of invasive plant species, disease and insect infestation, and soil sterilization.²⁶⁷
- 221. The County has and will continue to incur injuries to the economy due to climate change-driven wildfires. Wildfires cause displacement and disruption of the day-to-day activities of residents, tourists, employees, and businesses. For many small businesses, the impacts of closures or loss of property may result in permanent closure. Historically underserved populations are more likely to lose jobs or income, experience prolonged unemployment, and face challenges finding affordable housing when attempting to return to their communities. Increased displacement risk disrupts vital social support networks that further isolate community members from resources. Fisheries, timber production, and agricultural will all be negatively impacted by increased incidence and severity of wildfires in and around the County.

iv. <u>Drought-Related Conditions and Injuries</u>

222. Climate change attributable to Defendants' conduct alleged herein will severely disrupt hydrological cycles, adversely impacting the water supply for San Mateo County. Whether

²⁶³ 2021 Multijurisdictional Hazard Mitigation Plan, <u>supra</u> note 260, at 16-12.

^{25 | 264} See Fire & Resource Assessment Program (FRAP), Cal. Dept. of Forestry and Fire Protection, California's Forests & Rangelands 2017 Assessment, 266 App. 11.2 (Aug. 2018).

²⁶⁵ 2021 Multijurisdictional Hazard Mitigation Plan, <u>supra</u> note 260, at 16-12.

 $[\]frac{266}{\text{See}}$ Climate Ready San Mateo County, Wildfire & Climate Change Factsheet, $\underline{\text{supra}}$ note 257, at 3.

²⁶⁷ 2021 Multijurisdictional Hazard Mitigation Plan, <u>supra</u> note 260, at 16-12–16-13.

or not precipitation goes up or down, climate change will likely cause longer and deeper droughts impacting the County.²⁶⁸ Drought conditions cause major problems for local water supplies and damage ecosystems and agriculture.²⁶⁹

- 223. The 2012–2016 California drought caused the most severe drought in 1,200 years and a 1-in-500 year low in Sierra Nevada snowpack. The impact to snowpack is critical as that Bay Area, including San Mateo County, relies on snow pack for 60% of its water supply. Loss of reliable water supply from snow pack, due to increased incidence and duration of drought conditions, will require costly climate adaptation measures such as alternative water storage, water-use efficiency, updated reservoir storage operations.
- 224. The County is a water supplier to two service areas. County Service Area 7 supplies water to La Honda residents and two County facilities, drawing from Alpine Creek. County Service Area 11 supplies water to Pescadero residents and commercial customers, drawing from two groundwater wells.²⁷⁰ Disruption to precipitation patterns resulting from climate change will affect the quantity, quality, and distribution of water available to citizens. The changing precipitation patterns will significantly alter the amount of water available from both surface and groundwater sources. Drought impacts to these water supplies will injure the County's ability to supply water to rate payers, reducing revenue and increasing the need for costly mitigation measures. Notably, other climate-related impacts, such as increased storms, wildfires, and landslides pose a risk to the County's water supply by threatening damage to water infrastructure.
- 225. Drought conditions require increased use of groundwater resources to meet water needs, requiring overdraft of those resources. Overdraft results in costly problems such as the need to deepen wells or drill new wells, land subsidence, saltwater intrusion and groundwater pollution.

²⁶⁸ <u>Id.</u> at 17-12; Cal. 4th Climate Change Assessment, <u>San Francisco Bay Area Region</u> Report, at 7 (Jan. 2019), https://www.energy.ca.gov/sites/default/files/2019-11/Reg_Report-SUM-CCCA4-2018-005 SanFranciscoBayArea ADA.pdf.

²⁶⁹ Cal. 4th Climate Change Assessment, <u>San Francisco Bay Area Region Report</u>, <u>supra</u> note 268, at 7.

²⁷⁰ <u>See Water Services</u>, San Mateo County Public Works, https://www.smcgov.org/publicworks/water-services.

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The County overlays nine groundwater basins.²⁷¹ As climate change exacerbates drought conditions, the County will incur significant cost managing and protecting its groundwater resources.

226. Plaintiffs must put significant time and resources into studying, planning for, and mitigating damage and vulnerabilities exacerbated by climate-driven changes to water supply in the County and regionally, including considering water supply alternatives. For example, the County contributes to regional water conservation planning efforts by the Bay Area Water Supply and Conservation Agency. The County also runs water conservation programs for residents and businesses within the County. OneShoreline is working with a major wastewater treatment and recycled water facility that serves eight cities and unincorporated areas along the San Francisco Bay shoreline which has started to flood during high tides to build resilience to sea level rise. OneShoreline has supported and will continue to help implement water supply resilience projects in the County, which may include major infrastructure projects like adding water recycling capability to existing shoreline water treatment plants, installing purple pipe systems from shoreline water treatment plants inland, and developing new water recycling infrastructure inland to allow for recycled water use in those areas.

227. The County's agriculture economy is vulnerable to climate-driven extreme drought conditions. In 2020–2022 extreme and severe drought conditions contributed to losses in the agriculture sector. Vegetable crops in particular saw decreases in production and value due to the drought. As drought conditions increase in frequency, duration and severity in the coming decades, farmers and ranchers in San Mateo County will need to take costly measures to adapt and mitigate damages.

²⁷¹ See Groundwater, County of San Mateo Office of Sustainability,

https://www.smcsustainability.org/water/groundwater/.

²⁷² <u>See</u> <u>2022 San Mateo County Agricultural Crop Report</u> p.10 (Aug. 2023), https://sanmateocounty.legistar.com/View.ashx?M=F&ID=12186983&GUID=DB950280-

DD54-4D43-A3DE-58151CD8219F.

v. Public Health Conditions & Injuries

228. The County has and will continue to incur expenses in planning and preparing for, and treating, the public health impacts associated with climate change attributable to Defendants' conduct alleged herein. Extreme heat, extreme weather, drought, vector borne illnesses, sea level rise and wildfire all have dire public health impacts projected to increase due to climate change.

229. Extreme weather, flooding and other climate hazards increase the incidence of drowning, being struck by objects, fire, explosions, electrocution, and exposure to toxic materials, among others. Extreme weather and other climate hazards have and will continue to destroy homes, schools and businesses, causing temporary and permanent displacement. Individuals and families may experience post-traumatic stress, depression, and increased risk of suicide.²⁷⁴ 17% of the County's residents live in a flood risk area.²⁷⁵

230. Extreme heat-induced public health impacts in the County will result in increased risk of heat-related illnesses (mild heat stress to fatal heat stroke) and the exacerbation of pre-existing conditions in the medically fragile, chronically ill, and vulnerable. Increased heat also intensifies the photochemical reactions that produce smog and ground level ozone and fine particulates (PM2.5), which contribute to and exacerbate respiratory disease in children and adults. Increased heat and carbon dioxide enhance the growth of plants that produce pollen, which are associated with allergies. Because of the County's urban infrastructure, increased temperatures will add to the heat load of buildings and exacerbate existing urban heat islands adding to the risk of high ambient temperatures.²⁷⁶ As of 2010, the County had more than 17,000 outdoor workers whose occupation increased their risk of heat illness. 78% of households do not have air conditioning, which can counter adverse effects of heat.²⁷⁷ North Fair Oaks, Menlo Park, Redwood City, and East Palo Alto are projected to be the most impacted by increases in the extreme heat

²⁷⁴ Maizlich et al., <u>Climate Change and Health Profile Report San Mateo County</u> p.12 (Feb. 2017), https://www.cdph.ca.gov/Programs/OHE/CDPH%20Document%20Library/CHPRs/CHPR081SanMateo_County2-23-17.pdf.

²⁷⁵ <u>Id.</u> at 19.

²⁷⁶ <u>Id.</u> at 13.

²⁷⁷ Id. at 17.

events the County is already experiencing. These communities will experience the largest increase in total number of high heat days. Especially in North Fair Oaks, Redwood City, and East Palo Alto, this is likely to further exacerbate existing health equity disparities. ²⁷⁸

- 231. Increased frequency and intensity of wildfires will increase fire-related death and injuries and increase respiratory and cardiovascular risks from smoke, ash, and fine particles. Particulate matter in wildfire smoke causes burning eyes, runny nose, and illness such as bronchitis. Wildfires may also result in repeated, temporary power outages which can be life-threatening if essential medical devices cannot be operated, food and medicine cannot be properly refrigerated, or there is a loss of access to running water.²⁷⁹
- 232. Increased frequency and intensity of drought will create human health impacts by reducing water availability to fight wildfires. Drought will also increase risk of exposure to health hazards including wildfires, dust storms, extreme heat events, flash flooding, degraded water quality, and reduced water quantity.²⁸⁰
- 233. In addition, a warming climate system, will create disease-related public health impacts in the County, including but not limited to, increased incidence of emerging diseases and vector-borne disease with migration of animal and insect disease vectors; physical and mental health impacts associated with severe weather events, such as flooding, when they cause population dislocation and infrastructure loss; exacerbation of existing respiratory disease, cardiovascular disease, and stroke as a result of heatwaves and increased average temperature; and respiratory distress and exacerbation of existing disease.²⁸¹
- 234. Sea level rise will increase risk of public health impacts in the County including, but not limited to, saltwater intrusion into coastal aquifers reducing quality and quantity of water

²⁷⁸ <u>See</u> Climate Ready San Mateo County, <u>Extreme Heat and Public Health Impacts & Adaptation Solutions Factsheet</u>, https://www.smcsustainability.org/wp-content/uploads/Climate-Ready-SMC-Hazard-Factsheet-Extreme-Heat-and-Health.pdf.

 $[\]frac{279}{\text{See}}$ Climate Ready San Mateo County, Wildfire & Climate Change Factsheet, supra note 257, at 3.

²⁸⁰ Id.

²⁸¹ Maizlich et al. (2017), <u>supra</u> note 274, at 13.

supply; loss of recreational venues and hazards to infrastructure and public safety due to coastal erosion; and indoor air quality problems from mold resulting from water intrusion.²⁸²

235. Public health impacts are likely to be disproportionately borne by communities made vulnerable by geographic, racial, or income disparities. For example, East Palo Alto is on the forefront of environmental injustice. It is an economically and socially excluded community with deep historical wounds affecting the stability of daily life for most of its residents, who experience the effects of climate change first and worst. The community has increased levels of asthma and respiratory conditions due to proximity to the heavy vehicle traffic of Highway 101, putting residence at an increased risk from wildfire smoke and extreme heat events. East Palo Alto is low-lying, between the Bay and the San Francisquito Creek, where climate-exacerbated flooding has and will continue to impact the health of the community.²⁸³ The County and OneShoreline are and will continue to implement costly interventions to ensure that vulnerable communities are provided with necessary information and resources to respond to climate change-related extreme weather events and to mitigate harm.

VI. <u>CAUSES OF ACTION</u>

FIRST CAUSE OF ACTION

(Public Nuisance on Behalf of the People of the State of California)

(Against All Defendants)

- 236. The People incorporate by reference each and every allegation in §§ I–V contained above, as though set forth herein in full.
- 237. The People of the State of California, acting by and through the San Mateo County Counsel, bring this claim seeking abatement pursuant to California public nuisance law, including section 731 of the California Code of Civil Procedure, and sections 3479, 3480, 3491, and 3494 of the California Civil Code.

²⁸² <u>Id.</u>

²⁸³ See Pandora Thomas et. al, <u>Acterra Community-Based Vulnerability Planning Pilot Project Report</u>, at 10–13 (2020), https://static1.squarespace.com/static/6046932c5163815f72a28b56/t/609d788dc734c917c83be30f/1620932753771/Acterra+Pilot+Project+Report+20200422.pdf.

238. Defendants, individually and in concert with each other, by their affirmative acts and omissions, have caused, created, assisted in the creation of, and/or maintained harmful climate change-related conditions, and continue to engage in that conduct. The climate change-related conditions include higher sea level, increased storm frequency and intensity, more frequent and extreme heat events, reduced air quality, and increased flooding, with compounding effects in San Mateo's Disadvantaged Communities. They (1) are harmful and dangerous to human health; (2) are indecent and offensive to the senses of the ordinary person; (3) obstruct and threaten to obstruct the free use of the People's property so as to interfere with the comfortable enjoyment of life and property; and (4) obstruct and threaten to obstruct the free passage and use of navigable lakes, rivers, bays, streams, canals, basins, public parks, squares, streets, and/or highways within San Mateo County. They therefore constitute a nuisance.

239. Defendants, and each of them, created, caused, contributed to, and assisted in the creation of these and other climate change-related harms in San Mateo County by, among other things, affirmatively and deceptively promoting the sale and use of fossil fuel products in San Mateo County which Defendants knew would cause or exacerbate climate change and its impacts in San Mateo County, including without limitation sea level rise, more frequent and extreme precipitation events, coastal and inland flooding, more frequent and extreme heat events, and reduced air quality. The affirmative misconduct also includes disseminating and funding the dissemination of information intended to mislead consumers and the public regarding the risks of climate change and its consequences that Defendants knew would inevitably follow from the intended or reasonably foreseeable use of their products. It also includes engaging in other conduct to manipulate and induce the public into using fossil fuels in a way that causes climate change harms and not using or delaying the shift to renewable energy.

240. Defendants' nuisance-creating conduct included egregiously making untruthful, deceptive, and/or misleading environmental marketing claims, explicit and implied, in violation of Cal. Bus. & Prof. Code § 17580.5. The People are within the class of persons that statute seeks to protect. Defendants' misleading environmental marketing claims include, but are not limited to, deceptively marketing fossil fuel products claimed to be "low carbon," "emissions-reducing,"

"clean" and/or "green," or otherwise environmentally beneficial or benign when in reality those products contribute to climate change and are harmful to the health of the planet and its people; and deceptively marketing their companies and their products as contributing to solutions to climate change when in reality their investments in clean energy and alternative fuels pale in comparison to their investments in expanding fossil fuel production.

- 241. The climate change-related harms that Defendants created, caused, contributed to, and assisted in the creation of, constitute a substantial and unreasonable interference with and obstruction of public rights and property, including, inter alia, the public rights to health, safety, welfare, peace, comfort, and convenience of San Mateo County residents and other citizens. These interferences with public rights, which Defendants knew their affirmative wrongful promotion would cause or exacerbate, include without limitation:
 - a. interference with the public's rights so regular and severe as to cause permanent inundation:
 - b. the destruction of real and personal property, rather than mere annoyance;
 - c. the loss of property and infrastructure within San Mateo County, which will actually be borne by the County's citizens as loss of use of public property and infrastructure and diversion of tax dollars away from other public services to sea level rise;
 - d. Plaintiffs' coastal properties, which serve myriad uses including industrial, residential, infrastructural, commercial and ecological, are not suitable for regular inundation;
 - e. Sea level rise, coastal inundation and flooding, and groundwater changes, which obstruct the free passage and use of roads and property, impair water quality in groundwater aquifers, damage critical public infrastructure, and lead to unprecedented and dangerous storm surges that can cause injury or even deaths;
 - f. More frequent and extreme precipitation events, including atmospheric rivers, which cause flooding that has recently resulted in deaths in San Mateo County, and can damage public infrastructure, obstructing the free passage and use of property;

g. More frequent and extreme heat events, which increase the risk of injury or death from dehydration, heat stroke, heart attack, and respiratory problems; and

- h. Public health harms including reduced air quality from smoke and dangerous pollutants caused by more frequent and intense wildfires across California, which exacerbates existing health conditions, damages lungs and increases rates of childhood asthma, respiratory and heart disease, and death, and which reduces visibility and obstructs scenic views.
- 242. The harms caused by Defendants' nuisance-creating conduct are extremely grave and far outweigh the social utility of that conduct.
- 243. This public nuisance affects and/or interferes with the rights of an entire community and/or the rights of a considerable number of persons in San Mateo County and the State of California to health, safety, peace, comfort, and convenience.
- 244. The People's injuries and threatened injuries from each Defendant's affirmative acts or omissions are indivisible injuries. Each Defendant's past and ongoing conduct is a direct and proximate cause of the People's injuries and threatened injuries. As a direct and proximate result of Defendants' acts and omissions, Plaintiffs will be required to expend significant public resources to mitigate the impacts of climate-related harms throughout San Mateo.
- 245. As a direct and proximate result of Defendants' conduct, as set forth above, the common rights enjoyed by the People of the State of California and by the general public in San Mateo County have been unreasonably interfered with because Defendants knew or should have known that their conduct would create a continuing problem with long-lasting significant negative effects on the rights of the public.
 - 246. Defendants' actions are a direct and legal cause of the public nuisance.
- 247. Defendants are jointly and severally liable to the People for committing a public nuisance.
- 248. The People of the State of California, acting through the County of San Mateo, have a clearly ascertainable right to have the public nuisance created by Defendants abated.

- 249. The People seek an order of abatement requiring Defendants, and each of them jointly and severally, to abate the nuisance, including by making payments into an abatement fund to address the public nuisance.²⁸⁴
- 250. Wherefore, the People of the State of California also pray for relief as set forth below.

SECOND CAUSE OF ACTION

(Public Nuisance on Behalf of San Mateo County and OneShoreline) (Against All Defendants)

- 251. Plaintiffs incorporate by reference each and every allegation in §§ I–V contained above, as though set forth herein in full.
- 252. Defendants, individually and in concert with each other, by their affirmative acts and omissions, have caused, created, assisted in the creation of, and/or maintained harmful climate change-related conditions, and continue to engage in that conduct. The climate change-related conditions include higher sea level, increased storm frequency and intensity, more frequent and extreme heat events, reduced air quality, and increased flooding, with compounding effects in San Mateo County's Disadvantaged Communities. They are (1) are harmful and dangerous to human health; (2) are indecent and offensive to the senses of the ordinary person; (3) obstruct and threaten to obstruct the free use of Plaintiffs' property so as to interfere with the comfortable enjoyment of life and property; and (4) obstruct and threaten to obstruct the free passage and use of public parks, squares, streets, bodies of water, and/or highways within San Mateo County. They therefore constitute a nuisance.
- 253. Defendants, and each of them, created, caused, contributed to, and assisted in the creation of these and other climate change-related harms in San Mateo County by, among other things, affirmatively and deceptively promoting the sale and use of fossil fuel products in San Mateo County which Defendants knew would cause or exacerbate climate change and its impacts in San Mateo County including without limitation sea level rise, more frequent and extreme

²⁸⁴ The People do not seek abatement with respect to any federal land.

precipitation events, coastal and inland flooding, more frequent and extreme heat events, and reduced air quality. The affirmative misconduct also includes disseminating and funding the dissemination of information intended to mislead consumers and the public regarding the risks of climate change and its consequences that Defendants knew would inevitably follow from the intended or reasonably foreseeable use of their products. It also includes engaging in other conduct to manipulate and induce the public into continued and elevated consumption of fossil fuels and delaying the shift to renewable energy in a way that exacerbates climate change harms.

- 254. Defendants' nuisance-creating conduct included egregiously making untruthful, deceptive, and/or misleading environmental marketing claims, explicit and implied, in violation of Cal. Bus. & Prof. Code § 17580.5. Plaintiffs are within the class of persons that statute seeks to protect. Defendants' misleading environmental marketing claims include, but are not limited to, deceptively marketing fossil fuel products claimed to be "low carbon," "emissions-reducing," "clean" and/or "green," or otherwise environmentally beneficial or benign when in reality those products contribute to climate change and are harmful to the health of the planet and its people; and deceptively marketing their companies and their products as contributing to solutions to climate change when in reality their investments in clean energy and alternative fuels pale in comparison to their investments in expanding fossil fuel production.
- 255. The climate change-related harms that Defendants created, caused, contributed to, and assisted in the creation of, constitute a substantial and unreasonable interference with and obstruction of public rights and property, including, *inter alia*, the public rights to health, safety, welfare, peace, comfort, and convenience of San Mateo County residents and other citizens. These interferences with public rights, which Defendants knew their affirmative wrongful promotion would cause or exacerbate, include without limitation:
 - a. interference with the public's rights so regular and severe as to cause permanent inundation;
 - b. the destruction of real and personal property, rather than mere annoyance;

- c. the loss of property and infrastructure within San Mateo County, which will actually be borne by its residents as loss of use of public property and infrastructure and diversion of tax dollars away from other public services to sea level rise;
- d. Plaintiffs' coastal properties, which serve myriad uses including industrial, residential, infrastructural, commercial, and ecological, are not suitable for regular inundation;
- e. Sea level rise, coastal inundation and flooding, and groundwater changes, which obstruct the free passage and use of roads and property, impair water quality in groundwater aquifers, damage critical public infrastructure, and lead to unprecedented and dangerous storm surges that can cause injury or even deaths;
- f. More frequent and extreme precipitation events, including atmospheric rivers, which cause flooding that has recently resulted in deaths in San Mateo County, and can damage public infrastructure, obstructing the free passage and use of property;
- g. More frequent and extreme heat events, which increase the risk of injury or death from dehydration, heat stroke, heart attack, and respiratory problems; and
- h. Public health harms including reduced air quality from smoke and dangerous pollutants caused by more frequent and intense wildfires across California, which exacerbates existing health conditions, damages lungs and increases rates of childhood asthma, respiratory and heart disease, and death, and which reduces visibility and obstructs scenic views.
- 256. The harms caused by Defendants' nuisance-creating conduct are extremely grave and far outweigh the social utility of that conduct.
- 257. This public nuisance affects and/or interferes with the rights of an entire community and/or the rights of a considerable number of persons in San Mateo County to health, safety, peace, comfort, and convenience.
- 258. In addition to the harms suffered by the public at large, Plaintiffs have suffered special injuries different in kind. Among other harms,

- a. Plaintiffs have been forced to spend or set aside significant funds to assess, plan
 for, and enact infrastructure changes needed to mitigate rising sea levels on
 Plaintiffs' publicly owned beaches and other public coastal properties;
- b. Plaintiff has had to plan for and provide additional emergency and other public services in response to more frequent and more intense flooding and storm surges on both properties owned by Plaintiffs, and properties owned, leased, and utilized by residents and visitors to Plaintiffs' communities.
- 259. Plaintiffs' injuries and threatened injuries from each Defendant's affirmative acts or omissions are indivisible injuries. Each Defendant's past and ongoing conduct is a direct and proximate cause of Plaintiffs' injuries and threatened injuries. As a direct and proximate result of Defendants' acts and omissions, Plaintiffs will be required to expend significant public resources to mitigate the impacts of climate-related harms throughout San Mateo County.
- 260. Defendants' wrongful conduct was oppressive, malicious, and fraudulent, in that their conduct was willful, intentional, and in conscious disregard for the rights of others. Defendants' conduct was so vile, base, and contemptible that it would be looked down upon and despised by reasonable people, justifying an award of punitive and exemplary damages in an amount subject to proof at trial, and justifying equitable disgorgement of all profits Defendants obtained through their unlawful and outrageous conduct.
- 261. As a direct and proximate result of Defendants' conduct, as set forth above, the common rights enjoyed by the general public in the San Mateo County have been unreasonably interfered with because Defendants knew or should have known that their conduct would create a continuing problem with long-lasting significant negative effects on the rights of the public.
 - 262. Defendants' actions are a direct and legal cause of the public nuisance.
- 263. Defendants are jointly and severally liable to Plaintiffs for committing a public nuisance.
- 264. Plaintiffs have a clearly ascertainable right to have the public nuisance created by Defendants abated.
 - 265. Wherefore, Plaintiffs pray for relief as set forth below.

THIRD CAUSE OF ACTION

(Strict Liability—Failure to Warn on Behalf of San Mateo County and OneShoreline)

(Against All Defendants)

- 266. Plaintiffs incorporate by reference each and every allegation in §§ I–V contained above, as though set forth herein in full.
- 267. Defendants, individually and in concert with each other, heavily marketed, promoted, and advertised fossil fuel products and their derivatives, which were sold or used by their respective affiliates and subsidiaries. Defendants received direct financial benefit from their affiliates' and subsidiaries' sales of fossil fuel products. Defendants' role as promoter and marketer was integral to their respective businesses and a necessary factor in bringing fossil fuel products and their derivatives to the consumer market, such that Defendants had control over, and a substantial ability to influence, the manufacturing and distribution processes of their affiliates and subsidiaries.
- 268. As manufacturers, advertisers, promoters, and/or sellers of fossil fuel products and their derivatives, Defendants had a duty to warn consumers, the public, and Plaintiffs of reasonably foreseeable environmental and health risks posed by those products and derivatives.
- 269. Throughout the times at issue, Defendants individually and collectively knew or should have known—based on information passed to them from their internal research divisions and affiliates, trade associations and entities, and/or from the international scientific community—that fossil fuel products, whether used as intended or misused in a foreseeable manner, release greenhouse gases into the atmosphere, causing global warming, sea level rise, increased intensity and frequency of precipitation events and flooding, increased intensity and frequency of storm surges, more frequent and severe heat waves and extreme temperatures, reduced air quality, and the consequences and injuries associated with those physical and environmental changes, which result in risks to human health and safety, damage to property and infrastructure, and loss of use of public services in San Mateo County.
- 270. Throughout the times at issue and continuing today, Defendants' fossil fuel products and their derivatives were used, distributed, and sold in a manner in which they were

reasonably foreseeably intended to be used, distributed, and sold, including but not limited to being combusted for energy, combusted to power automobiles, refined into petrochemicals, and refined and/or incorporated into petrochemical products including, but not limited to, fuels and plastics.

- 271. Defendants and their affiliates and subsidiaries knew, or should have known, that these fossil fuel products and their derivatives would be used by the County, its residents, and others within the County's limits, amongst others, in the manner reasonably foreseeably intended.
- 272. Throughout the times at issue and continuing today, fossil fuel products presented and still present a substantial risk of injury to Plaintiffs through the climate effects described above, whether used as intended or misused in a reasonably foreseeable manner. They were not reasonably safe at the time they left Defendants' control because they lacked adequate warnings and instructions. Defendants' actual and/or constructive knowledge described above also encompassed all of the risks described in this paragraph. The fossil fuel products and their derivatives reached consumers and the environment substantially unchanged from that in which they left the Defendants' control. Defendants and their affiliates and subsidiaries knew, or should have known, that these fossil fuel products and their derivatives would be used by Plaintiffs, their residents, and others within the San Mateo County's limits, amongst others, in the manner reasonably foreseeably intended.
- 273. Throughout the times at issue, the ordinary consumer would not recognize that the use or foreseeable misuse of fossil fuel products causes global and localized changes in climate, including those effects described herein.
- 274. At the time of manufacture, merchandising, advertising, promotion, or sale, Defendants could have provided warnings or instructions regarding the full and complete risks fossil fuel products and their derivatives posed because they knew, and/or should have known, of the unreasonable risks of harm associated with the use of these products, as described herein.
- 275. Throughout the times at issue, Defendants individually and in concert widely disseminated marketing materials, refuted the scientific knowledge generally accepted at the time concerning climate change, and advanced pseudo-scientific theories of their own, and developed public relations campaigns and materials that prevented reasonable consumers from recognizing

or discovering the latent risk that Defendants' fossil fuel products and their derivatives would cause grave climate changes. Defendants also represented, asserted, claimed, and warranted that their fossil fuel products and derivatives were safe for their intended and foreseeable uses.

- 282. Despite the Defendants' superior and unequal knowledge of the risks posed by fossil fuel products and their derivatives, Defendants, and each of them, breached their duty to warn by failing to adequately warn Plaintiffs, customers, and the public of the risks of climate change and other dangers that Defendants knew would inevitably follow from the intended or reasonably foreseeable use of Defendants' fossil fuel products.
- 283. Any warnings the Defendants may have issued as to the risks of their fossil fuel products and their derivatives were rendered ineffective and inadequate by Defendants' false and misleading public relations campaigns and statements about fossil fuel products, and their decadeslong efforts to conceal and misrepresent the dangers that follow from the intended or reasonably foreseeable use of such products.
- 284. Accordingly, throughout the times at issue, the ordinary consumer would not recognize that the use of fossil fuel products and their derivatives causes global and localized changes in climate, and consequent injuries to San Mateo County and its communities, as described herein.
- 285. Had the Defendants provided adequate warnings and not waged a deceptive campaign against climate science, their fossil fuel products and their derivatives would not have had widespread acceptance in the marketplace, and alternatives to fossil fuel products could have been developed faster, investment in fossil fuel alternatives would be greater, and/or fossil fuel alternatives would be used in greater amounts.
- 286. Moreover, had the Defendants provided adequate warnings about the adverse impacts to public health and the environment that result from the intended and reasonably foreseeable use of fossil fuel products and their derivatives, Plaintiffs and their residents would have taken measures to decrease fossil fuel dependency in order to avoid or lessen the climate related harms described herein and property damage that would inevitably follow.

287	7.	As a	result	of th	ne Defend	dants	' failu	re to warn	about the u	nreaso	onably d	angero	us
conditions	of	their	fossil	fuel	products	and	their	derivatives	, Defendan	ts are	strictly	liable	to
Plaintiffs													

- 288. Defendants' wrongful conduct was oppressive, malicious, and fraudulent, in that their conduct was willful, intentional, and in conscious disregard for the rights of others. Defendants' conduct was so vile, base, and contemptible that it would be looked down upon and despised by reasonable people, justifying an award of punitive and exemplary damages in an amount subject to proof at trial, and justifying equitable disgorgement of all profits Defendants obtained through their unlawful and outrageous conduct.
- 289. As a direct and proximate result of the defects previously described, fossil fuel products caused Plaintiffs to sustain the injuries and damages set forth in this Complaint, including damage to publicly owned infrastructure and real property, and the creation and maintenance of a nuisance that interferes with the rights of the County, its residents, OneShoreline, and of the People.
- 290. As a direct and proximate result of Defendants' acts and omissions as alleged herein, Plaintiffs have suffered monetary losses and damages in amounts to be proven at trial.
- 291. Defendants' acts and omissions as alleged herein are indivisible causes of Plaintiffs' injuries as alleged herein.
- 292. Wherefore, Plaintiff prays for relief as set forth below.

FOURTH CAUSE OF ACTION

(Private Nuisance on Behalf of San Mateo County and OneShoreline)

(Against All Defendants)

- 293. Plaintiffs incorporates by reference each and every allegation contained in §§ I–V above, as though set forth herein in full.
- 294. Plaintiffs own and manage extensive property within San Mateo County borders that has been injured and will be injured by climate change.
- 295. Defendants, and each of them, by their acts and omissions, have intentionally and unreasonably created a condition on Plaintiffs' property, and permitted that condition to persist,

which constitutes a nuisance by increasing sea level, increasing the frequency and intensity of flooding, increasing the frequency and intensity of extreme heat events (including fire smoke), and increasing the intensity and frequency of storms.

- 296. The condition created by Defendants substantially and negatively affects Plaintiffs' interest in their own coastal real property. In particular, higher sea level, increased storm frequency and intensity, increased frequency and intensity of extreme heat events (including fire smoke), and increased flooding frequency and intensity are:
 - a. harmful and dangerous to human health;
 - b. indecent and offensive to the senses of the ordinary person; and
- c. threatening to obstruct the free use of Plaintiffs' property and property owned by Plaintiffs' residents and citizens, so as to interfere with the comfortable enjoyment of life and property; and
- d. threatening to obstruct the free passage and use of navigable lakes, rivers, bays, streams, canals, basins, public parks, squares, streets, and/or highways within San Mateo.
- 297. The condition described above created by Defendants' conduct substantially interferes with Plaintiffs' use and quiet enjoyment of their coastal properties.
- 298. Plaintiffs have not consented to Defendants' conduct in creating the condition that has led to climate change and its associated harms.
- 299. The ordinary person, and the ordinary county or public entity in Plaintiffs' position, would be reasonably annoyed and disturbed by Defendants' conduct and the condition created thereby, because, *inter alia*, it infringes on Plaintiffs' ability to provide public space and safe property to residents and visitors, and has forced Plaintiffs to plan for and provide additional emergency and other public services in response to more frequent and more intense flooding and storm surges on properties owned by Plaintiffs.
- 300. The seriousness of rising sea levels, increased weather volatility, flooding, and extreme heat events (including fire smoke) is extremely grave, and outweighs the social utility of Defendants' conduct. The seriousness of the harm to Plaintiffs outweighs the benefit of Defendants' and each of their conduct.

- 301. Defendants' conduct was a direct and proximate cause of Plaintiffs' injuries, and a substantial factor in the harms suffered by Plaintiffs as described in this Complaint.
- 302. Defendants' acts and omissions as alleged herein are indivisible causes of Plaintiffs' injuries and damage as alleged herein.
- 303. Defendants' wrongful conduct was oppressive, malicious, and fraudulent, in that their conduct was willful, intentional, and in conscious disregard for the rights of others. Defendants' conduct was so vile, base, and contemptible that it would be looked down upon and despised by reasonable people, justifying an award of punitive and exemplary damages in an amount subject to proof at trial, and justifying equitable disgorgement of all profits Defendants obtained through their unlawful and outrageous conduct.
- 304. Defendants are jointly and severally liable to the Plaintiffs for causing a private nuisance.
 - 305. Wherefore, Plaintiffs pray for relief as set forth below.

FIFTH CAUSE OF ACTION

(Negligence on Behalf of San Mateo County and OneShoreline)

(Against All Defendants)

- 306. Plaintiffs incorporate by reference each and every allegation contained in §§ I–V above, as though set forth herein in full.
- 307. Defendants knew or should have known of the climate effects inherently caused by the normal use and operation of their fossil fuel products, including the likelihood and likely severity of global and local climate change and its consequences, and including Plaintiffs' injuries and damages described herein.
- 308. For decades, Defendants possessed knowledge—based on information passed to them from their internal research divisions and affiliates, from trade associations and industry groups, and from the international scientific community—that fossil fuels are the primary cause of climate change and that, if unabated, climate change would cause climate-related harms, including but not limited to: sea level rise, more frequent and extreme precipitation events, increased frequency and severity of heat waves and extreme temperatures, reduced air quality, and other

adverse environmental changes, and the associated consequences of those physical and environmental changes in San Mateo County and elsewhere, with compounding effects in Disadvantaged Communities. Defendants possessed knowledge that these climate-related harms would result in risks to human health and safety, damage to property and infrastructure, and loss of use.

- 309. Given the scientific evidence available to and conducted by Defendants, as referenced herein, such injury was likely and reasonably foreseeable.
- 310. Under California law, each Defendant had a duty to the Plaintiffs and their residents to exercise reasonable care in the marketing, promoting, sale, and/or labeling of their fossil fuel products and to act reasonably for the protection of San Mateo and its residents to avoid inflicting the injuries described herein. All Defendants had a duty to exercise reasonable care in the production and dissemination of information regarding the climate impacts of fossil fuel products to users of those products and to the public.
- 311. Defendants had superior knowledge of the risk posed by fossil fuel products at all times relevant to this Complaint.
- 312. Defendants, collectively and individually, had a duty to use due care in developing, testing, inspecting, selling, and marketing their fossil fuel products. That duty obligated Defendants collectively and individually to, *inter alia*, prevent defective products from entering the stream of commerce, and prevent reasonably foreseeable harm that could have resulted from the ordinary use or reasonably foreseeable misuse of Defendants' products.
- 313. Defendants, and each of them, breached their duty of due care by engaging in a campaign of disinformation regarding global warming and the climatic effects of fossil fuel products that prevented customers, consumers, and the general public from staking steps to mitigate the inevitable consequences of fossil fuel consumption, and incorporating those consequences into either short-term decisions or long-term planning. This includes when they advertised, promoted, and/or sold fossil fuel products and their derivatives, while failing to include warnings of the risk of harm associated with fossil fuel products and their derivatives, in a manner that they knew or should have known would result in injury to human health and safety, damage

SHER EDLING LLP to Plaintiffs' property and infrastructure, loss of use of Plaintiffs' services, and other damages to the Plaintiffs. Any warnings provided by Defendants were rendered ineffective by the years-long deceptive marketing practices and public relations campaigns, which promulgated false and misleading statements, casted doubt on the consensus of climate scientists, and advanced pseudo-scientific theories.

- 314. Defendants' individual and collective acts and omissions were actual, substantial causes of climate change and its consequences, including Plaintiffs' injuries and damages set forth herein.
- 315. Defendants' individual and collective acts and omissions were proximate causes of climate change and its consequences, including Plaintiffs' injuries and damages set forth herein. No other act, omission, or natural phenomenon intervened in the chain of causation between Defendants' conduct and Plaintiffs' injuries and damages, or superseded Defendants' breach of their duties' substantiality in causing Plaintiffs' injuries and damages.
- 316. As a direct and proximate result of Defendants' and each of their acts and omissions, Plaintiffs sustained injuries and damages as set forth herein.
- 317. Defendants' acts and omissions as alleged herein are indivisible causes of Plaintiffs' injuries and damage as alleged herein.
- 318. A reasonably careful company would not engage in a decades-long deceptive marketing and public relations campaign to promulgate such false and misleading statements, would not manufacture or distribute fossil fuel products and their derivatives without warning, would warn of these products' hazardous properties, and/or would take steps to enhance the safety and/or reduce the risk of the products.
- 319. Defendants' wrongful conduct was oppressive, malicious, and fraudulent, in that their conduct was willful, intentional, and in conscious disregard for the rights of others. Defendants' conduct was so vile, base, and contemptible that it would be looked down upon and despised by reasonable people, justifying an award of punitive and exemplary damages in an amount subject to proof at trial, and justifying equitable disgorgement of all profits Defendants obtained through their unlawful and outrageous conduct.

- 320. Defendants are jointly and severally liable to the Plaintiffs for causing a private nuisance.
 - 321. Wherefore, Plaintiffs pray for relief as set forth below.

SIXTH CAUSE OF ACTION

(Negligence - Failure to Warn on Behalf of San Mateo County and OneShoreline) (Against All Defendants)

- 322. Plaintiffs incorporate by reference each and every allegation in §§ I–V contained above, as though set forth herein in full.
- 323. At all relevant times, Defendants and their affiliates and subsidiaries were engaged in the business of manufacturing, advertising, promoting, and/or selling fossil fuel products and their derivatives.
- 324. Defendants, individually and in concert with each other, heavily marketed, promoted, and advertised fossil fuel products and their derivatives, which were sold or used by their respective affiliates and subsidiaries. Defendants received direct financial benefit from their affiliates' and subsidiaries' sales of fossil fuel products. Defendants' role as promoter and marketer was integral to their respective businesses and a necessary factor in bringing fossil fuel products and their derivatives to the consumer market, such that Defendants had control over, and a substantial ability to influence, the manufacturing and distribution processes of their affiliates and subsidiaries.
- 325. As manufacturers, advertisers, promoters, and/or sellers of fossil fuel products and their derivatives, Defendants had a duty to warn consumers, the public, and Plaintiffs of reasonably foreseeable environmental and health risks posed by those products and derivatives.
- 326. Throughout the times at issue, Defendants individually and collectively knew or should have known—based on information passed to them from their internal research divisions and affiliates, trade associations and entities, and/or from the international scientific community—that fossil fuel products, whether used as intended or misused in a foreseeable manner, release greenhouse gases into the atmosphere, causing global warming, sea level rise, increased intensity and frequency of precipitation events and flooding, increased intensity and frequency of

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storm surges, more frequent and severe heat waves and extreme temperatures, reduced air quality, and the consequences and injuries associated with those physical and environmental changes, which result in risks to human health and safety, damage to property and infrastructure, and loss of use of public services in San Mateo County.

- 327. Defendants knew or should have known, based on information passed to them from their internal research divisions and affiliates, their trade organizations, and/or from the international scientific community, that the climate effects described above rendered their fossil fuel products dangerous, or likely to be dangerous, when used as intended or misused in a reasonably foreseeable manner.
- 328. Throughout the times at issue and continuing today, Defendants' fossil fuel products and their derivatives were used, distributed, and sold in a manner in which they were reasonably foreseeably intended to be used, distributed, and sold, including but not limited to being combusted for energy, combusted to power automobiles, refined into petrochemicals, and refined and/or incorporated into petrochemical products including, but not limited to, fuels and plastics.
- 329. Defendants and their affiliates and subsidiaries knew, or should have known, that these fossil fuel products and their derivatives would be used by the County, its residents, and others within San Mateo County's limits, amongst others, in the manner reasonably foreseeably intended.
- 330. Throughout the times at issue and continuing today, fossil fuel products presented and still present a substantial risk of injury to Plaintiffs through the climate effects described above, whether used as intended or misused in a reasonably foreseeable manner. They were not reasonably safe at the time they left Defendants' control because they lacked adequate warnings and instructions. Defendants' actual and/or constructive knowledge described above also encompassed all of the risks described in this paragraph. The fossil fuel products and their derivatives reached consumers and the environment substantially unchanged from that in which they left the Defendants' control. Defendants and their affiliates and subsidiaries knew, or should have known, that these fossil fuel products and their derivatives would be used by Plaintiffs, San

Mateo County's residents, and others within the San Mateo County's limits, amongst others, in the manner reasonably foreseeably intended.

- 331. At the time of manufacture, merchandising, advertising, promotion, or sale, Defendants could have provided warnings or instructions regarding the full and complete risks fossil fuel products and their derivatives posed because they knew, and/or should have known, of the unreasonable risks of harm associated with the use of these products, as described herein.
- 332. Throughout the times at issue, Defendants individually and in concert widely disseminated marketing materials, refuted the scientific knowledge generally accepted at the time concerning climate change, and advanced pseudo-scientific theories of their own, and developed public relations campaigns and materials that prevented reasonable consumers from recognizing or discovering the latent risk that Defendants' fossil fuel products and their derivatives would cause grave climate changes. Defendants also represented, asserted, claimed, and warranted that their fossil fuel products and derivatives were safe for their intended and foreseeable uses.
- 333. Despite the Defendants' superior and unequal knowledge of the risks posed by fossil fuel products and their derivatives, Defendants, and each of them, breached their duty to warn by failing to adequately warn Plaintiffs, customers, and the public of the risks of climate change and other dangers that Defendants knew would inevitably follow from the intended or reasonably foreseeable use of Defendants' fossil fuel products.
- 334. Any warnings the Defendants may have issued as to the risks of their fossil fuel products and their derivatives were rendered ineffective and inadequate by Defendants' false and misleading public relations campaigns and statements about fossil fuel products, and their decadeslong efforts to conceal and misrepresent the dangers that follow from the intended or reasonably foreseeable use of such products.
- 335. Accordingly, throughout the times at issue, the ordinary consumer would not recognize that the use of fossil fuel products and their derivatives causes global and localized changes in climate, and consequent injuries to Plaintiffs and San Mateo County's communities, as described herein.

336. Had the Defendants provided adequate warnings and not waged a deceptive campaign against climate science, their fossil fuel products and their derivatives would not have had widespread acceptance in the marketplace, and alternatives to fossil fuel products could have been developed faster, investment in fossil fuel alternatives would be greater, and/or fossil fuel alternatives would be used in greater amounts.

- 337. Moreover, had the Defendants provided adequate warnings about the adverse impacts to public health and the environment that result from the intended and reasonably foreseeable use of fossil fuel products and their derivatives, Plaintiffs and their residents would have taken measures to decrease fossil fuel dependency in order to avoid or lessen the climate related harms described herein and property damage that would inevitably follow.
- 338. As a result of the Defendants' failure to warn about the unreasonably dangerous conditions of their fossil fuel products and their derivatives, Defendants are liable to Plaintiffs.
- 339. Defendants further breached their duty of care by making untruthful, deceptive, and/or misleading environmental marketing claims, explicit and implied, in violation of Cal. Bus. & Prof. Code § 17580.5. By violating the greenwashing statute, Defendants are presumed to have breached their duty per se under Evidence Code § 669.
- a. Defendants violated § 17580.5 with such conduct including deceptively marketing fossil fuel products claimed to be "low carbon," "emissions-reducing," "clean" and/or "green," or otherwise environmentally beneficial or benign when in reality those products contribute to climate change and are harmful to the health of the planet and its people; and deceptively marketing their companies and their products as contributing to solutions to climate change when in reality their investments in clean energy and alternative fuels pale in comparison to their investments in expanding fossil fuel production.
 - b. This conduct was the proximate cause of Plaintiffs' climate-related injuries.
- c. Plaintiffs' injuries resulted from an occurrence of the nature which the greenwashing statute was designed to prevent.
- d. Plaintiffs are among the class of persons for whose protection the greenwashing statute was adopted.

340. Defendants' wrongful conduct was oppressive, malicious, and fraudulent, in that
their conduct was willful, intentional, and in conscious disregard for the rights of others
Defendants' conduct was so vile, base, and contemptible that it would be looked down upon an
despised by reasonable people, justifying an award of punitive and exemplary damages in a
amount subject to proof at trial, and justifying equitable disgorgement of all profits Defendant
obtained through their unlawful and outrageous conduct.

- 341. As a direct and proximate result of the defects previously described, fossil fuel products caused Plaintiffs to sustain the injuries and damages set forth in this Complaint, including damage to publicly owned infrastructure and real property, and the creation and maintenance of a nuisance that interferes with the rights of Plaintiffs, San Mateo County's residents, and of the People.
- 342. Defendants' acts and omissions as alleged herein are indivisible causes of Plaintiffs' injuries as alleged herein.
- 343. As a direct and proximate result of Defendants' acts and omissions as alleged herein, Plaintiffs have suffered monetary losses and damages in amounts to be proven at trial.
 - 344. Wherefore, Plaintiffs pray for relief as set forth below.

SEVENTH CAUSE OF ACTION

(Trespass on Behalf of San Mateo County and OneShoreline)

(Against All Defendants)

- 345. Plaintiffs incorporate by reference each and every allegation in §§ I–V contained above, as though set forth herein in full.
- 346. Plaintiffs own, lease, occupy, and/or control real property within San Mateo County boundaries and within communities located within the County.
- 347. Defendants, and each of them, have intentionally, recklessly, or negligently caused ocean waters, storm surges, flood waters, extreme precipitation, and airborne pollutants including smog and wildfire smoke to enter Plaintiffs' property, by advertising, promoting, marketing, and/or selling fossil fuel products in a manner which, knowing those products in their normal operation and use or foreseeable misuse would cause global and local sea levels to rise, cause

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flooding to become more frequent and more intense, and cause storm surges to become more frequent and more intense.

- 348. Plaintiffs did not give permission for Defendants, or any of them, to cause ocean water to enter its property.
- 349. Plaintiffs have been and continue to be actually injured and continue to suffer damages as a result of Defendants and each of their having caused ocean water to enter their real property, by inter alia permanently submerging real property owned by Plaintiffs, causing flooding which have invaded and threatens to invade real property owned by Plaintiffs and rendered it unusable, and causing storm surges which have invaded and threatened to invade real Property owned by Plaintiffs and rendered it unusable.
- 350. Defendants' and each Defendant's conduct, including their decades-long campaign of deception, which had the purpose and effect of inflating and sustaining the market for fossil fuels, drove up greenhouse gas emissions, accelerated global warming, delayed the energy economy's transition to a lower-carbon future, and brought about devastating climate change impacts to San Mateo, was a substantial factor in causing the injuries and damages to Plaintiffs' public and private real property.
- Defendants' acts and omissions as alleged herein are indivisible causes of Plaintiffs' injuries and damage as alleged herein.
- 352. Defendants' wrongful conduct was oppressive, malicious, and fraudulent, in that their conduct was willful, intentional, and in conscious disregard for the rights of others. Defendants' conduct was so vile, base, and contemptible that it would be looked down upon and despised by reasonable people, justifying an award of punitive and exemplary damages in an amount subject to proof at trial, and justifying equitable disgorgement of all profits Defendants obtained through their unlawful and outrageous conduct.
 - 353. Defendants are jointly and severally liable to the Plaintiffs for causing trespass.
 - 354. Wherefore, Plaintiffs pray for relief as set forth below.

1	VII.	PKA :	YER FOR RELIEF		
2		1.	Compensatory damages in a	an a	mount according to proof;
3		2.	Equitable relief to abate the	nui	sances complained of herein;
4		3.	Reasonable attorneys' fees	purs	suant to California Code of Civil Procedure 1021.5
5	or oth	erwise;			
6		4.	Punitive damages;		
7		5.	Disgorgement of profits;		
8		6.	Finding Defendants jointly and severally liable for causing, creating, assisting in		
9	the cre	the creation, of, contributing to, and/or maintaining a public nuisance;			
10		7.	Ordering an abatement fund remedy to be paid for by Defendants to provide for		
11	infrast	frastructure and other support necessary for the People to abate the nuisances complained of			
12	herein;				
13		8.	Pre- and post-judgment inte	erest	as permitted by law;
14		9.	Costs of suit and expenses;	and	
15		10.	For such and other relief as	the	court may deem proper.
16	VIII.	JURY	Y DEMAND		
17		Plaint	iffs San Mateo County and O	neS	horeline demand a jury trial on all issues so triable.
18					
19	Date	ed: Jun	ne 10, 2024		OFFICE OF THE COUNTY COUNSEL
20					COUNTY OF SAN MATEO
21			В	By:	/s/ John D. Nibbelin
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FIRST AMENDED COMPLAINT

SHER EDLING LLP

PROOF OF SERVICE

I am employed in the County of San Francisco, State of California. I am over the age of eighteen (18) years and not a party to the action. My business address is 100 Montgomery St., Ste. 1410, San Francisco, CA 94104. I am readily familiar with Sher Edling LLP's practice for collection and processing of documents for mailing.

On June 10, 2024, I served copies of the following document:

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12	I dealers under nanalty of narium; that the	a foregoing is two and somest. Everytad in Con-
12	I declare under penalty of perjury that the	e foregoing is true and correct. Executed in San
13	Francisco, CA on June 10, 2024.	
14		
17		
15		/s/ Oni Strawn
		Oni Strawn
16		

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