ajor fossil fuel companies have known the truth for nearly 50 years: their oil, gas, and coal products create greenhouse gas pollution that warms the planet and changes our climate. They've known for decades that the consequences could be "catastrophic" and that only a narrow window of time existed to take action before the damage might not be reversible. They have nevertheless engaged in a coordinated, multi-front effort to conceal and contradict their own knowledge of these threats, discredit the growing body of publicly available scientific evidence, and persistently create doubt in the minds of customers, consumers, regulators, the media, journalists, policymakers, and the general public about the reality and consequences of climate change.

This timeline highlights information, alleged in lawsuits against fossil fuel companies, that comes from key industry documents and other sources. It illustrates what the industry knew, when they knew it, and what they didn't do to prevent the impacts that are now imposing real costs on people and communities around the country. While the early warnings from the industry's own scientists and experts often acknowledged the uncertainties in their projections, those uncertainties were typically about the timing and magnitude of the climate change impacts — not about whether those impacts would occur or whether the industry's oil, gas, and coal were the primary cause. On those latter points, as these documents show, they were quite certain.

DATE	DOCUMENT	TEXT
NOV. 19, 1958	"SOURCES OF AIR POLLUTION – TRANSPORTATION," PRESENTATION AT THE NATIONAL CONFERENCE ON AIR POLLUTION BY CHARLES JONES, SHELL EXECUTIVE/MEMBER OF THE AMERICAN PETROLEUM INSTITUTE'S (API) SMOKE & FUMES COMMITTEE	"The petroleum industry supplies the fuel used by the automobile, and thus has a sincere interest in the solution to the problem of pollution from automobile exhaust. The stated objective of the Smoke and Fumes Committee of the American Petroleum Institute is 'to determine the causes and methods of control of objectionable atmospheric pollution resulting from the production, manufacture, transportation, sale, and <u>use</u> of petroleum and its products."
NOV. 5, 1965	"RESTORING THE QUALITY OF OUR ENVIRONMENT," REPORT OF THE ENVIRONMENTAL POLLUTION PANEL, PRESIDENT'S SCIENCE ADVISORY COMMITTEE	President Lyndon Johnson's Science Advisory Committee finds that "[P] ollutants have altered on a global scale the carbon dioxide content of the air" and "[M] an is unwittingly conducting a vast geophysical experiment" by burning fossil fuels that are injecting CO2 into the atmosphere. It concludes that by the year 2000, we could see "measurable and perhaps marked changes in climate, and will almost certainly cause significant changes in the temperature and other properties of the stratosphere."
NOV. 8, 1965	"MEETING THE CHALLENGES OF 1966," SPEECH BY FRANK IKARD, PRESIDENT OF THE AMERICAN PETROLEUM INSTITUTE (API) AT THE TRADE ASSOCIATION'S 45th ANNUAL MEETING	"The fact that our industry will continue to be confronted with problems of air and water conservation for many years to come is demonstrated by the massive report of the Environmental Pollution Panel of the President's Science Advisory Committee, which was presented to President Johnson over the weekend. This report will fan emotions, raise fears, and bring demands for action. The substance of the report is that there is still time to save the world's peoples from the catastrophic consequence of pollution, but that time is running out. One 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 to possibly cause marked changes in climateWe must not permit the job ahead of us in air and water conservation – either its size or its complexity – to become obscured by rash statementsOur industry is best understood, and its need are more readily appreciated, when it can when it can strike a single note."

FEB. 1968	"SOURCES, ABUNDANCE, AND FATE OF GASEOUS ATMOSPHERIC POLLUTANTS," REPORT PREPARED BY STANFORD RESEARCH INSTITUTE SCIENTISTS ELMER ROBINSON AND R.C. ROBBINS FOR THE AMERICAN PETROLEUM INSTITUTE	The American Petroleum Institute commissions a report finding that: • "[A]Ithough there are other possible sources for the additional CO2 now being observed in the atmosphere, none seems to fit the presently observed situation as well as the fossil fuel emanation theory." • "Significant temperature changes are almost certain to occur by the year 2000, and these could bring about climatic changes." • "There seems to be no doubt that the potential damage to our environment could be severe." • "What is lacking, however, is an application of these CO2 data to air pollution technology and work toward systems in which CO2 emissions would be brought under control."
JUNE 6, 1978	PRESENTATION SHARED WITH EXXON MANAGEMENT COMMITTEE FROM EXXON RESEARCH AND ENGINEERING SCIENCE ADVISOR, JAMES BLACK	Exxon Science Advisor James Black tells the company's Management Committee that "[T]here 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 "[M]an has a time window of five to ten years before the need for hard decisions regarding changes in energy strategy might become critical."
SEPT. 17, 1978	CONGRESS PASSES NATIONAL CLIMATE POLICY ACT	Congress passes the National Climate Policy Act to help "the Nation and the world to understand and respond to natural and man-induced climate processes and their implications."
DEC. 7, 1978	CO2 RESEARCH PROPOSAL FROM EXXON RESEARCH AND ENGINEERING'S ENVIRONMENTAL AREA MANAGER, HENRY SHAW	Exxon scientist Henry Shaw proposes that the company initiate a comprehensive research program "to assess the possible impact of the greenhouse effect on Exxon business." He argues that the company needs "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."
OCT. 16, 1979	"CONTROLLING THE CO2 CONCENTRATION IN THE ATMOSPHERE," STUDY BY EXXON EMPLOYEE STEVE KNISELY	An Exxon internal study finds that: • "The present trend of fossil fuel consumption will cause dramatic environmental effects before the year 2050." • "[R]ecognizing the uncertainty, there is a possibility that an atmospheric CO2 buildup will cause adverse environmental effects in enough areas of the world to consider limiting the future use of fossil fuels as major energy sources." • "The potential problem is great and urgent."
FEB. 29, 1980	MEETING MINUTES FROM THE AMERICAN PETROLEUM INSTITUTE'S (API'S) CO2 AND CLIMATE TASK FORCE: PRESENTATION BY DR. J. LAURMAN	Dr. J. Laurman tells API's Climate Task Force that "there is a scientific consensus on the potential for large future climatic response to increased CO2 levels" and that "remedial actions will take a long time to become effective."
AUG. 6, 1980	"REVIEW OF ENVIRONMENTAL PROTECTION ACTIVITIES FOR 1978- 1979," IMPERIAL OIL REPORT	An internal report distributed widely to Exxon/Esso Corporate Managers, finds that "[T]echnology exists to remove CO2 from stack gases but removal of only 50% of the CO2 would double the cost of power generation."

AUG. 18, 1981	MEMO FROM ROGER COHEN, DIRECTOR OF EXXON'S THEORETICAL AND MATHEMATICAL SCIENCE LABORATORY, TO SCIENTIST WERNER GLASS	Exxon Strategic Planning Manager Roger Cohen comments on an internal assessment of CO2 emissions and the greenhouse effect that is prepared at the request of Senior VP and Director Morey O'Loughlin: • "[I]t is very likely that we will unambiguously recognize the threat by the year 2000 because of advances in climate modeling and the beginning of real experimental confirmation of the CO2 effect." • "Whereas I can agree with the statement that our best guess is that observable effects in the year 2030 will be 'well short of catastrophic', it is distinctly possible that the [Planning Division's] scenario will later produce effects that will indeed be catastrophic (at least for a substantial fraction of the earth's population)."
APRIL 1, 1982	"CO2 'GREENHOUSE' EFFECT," INTERNALLY DISTRIBUTED SUMMARY BY EXXON MANAGER M.B. GLASER OF A TECHNICAL REVIEW PREPARED BY THE EXXON RESEARCH AND ENGINEERING COMPANY	An internal Exxon "CO2 'Greenhouse Effect' Summary" finds that "[T]here is concern among some scientific groups that once the effects are measurable, they might not be reversible and little could be done to correct the situation in the short term" and that "[M]itigation of the 'greenhouse effect' could require major reductions in fossil fuel combustion."
SEPT. 2, 1982	MEMO FROM ROGER COHEN, DIRECTOR OF EXXON'S THEORETICAL AND MATHEMATICAL SCIENCE LABORATORY, TO EXXON MANAGEMENT INCLUDING PRESIDENT OF EXXON CORPORATION'S RESEARCH AND ENGINEERING, E. E. DAVID JR.	The Director of Exxon's Theoretical and Mathematical Sciences Laboratory, Roger Cohen, summarizes the findings of their research in climate modeling: • "[O]ver the past several years a clear scientific consensus has emerged regarding the expected climatic effects of increased atmospheric CO2." • "It is generally believed that the first unambiguous CO2-induced temperature increase will not be observable until around the year 2000." • "[T]he results of our research are in accord with the scientific consensus on the effect of increased atmospheric CO2 on climate."
OCT. 1982	"INVENTING THE FUTURE: ENERGY AND THE CO2 'GREENHOUSE' EFFECT," E. E. DAVID JR. REMARKS AT THE FOURTH ANNUAL EWING SYMPOSIUM, TENAFLY, NJ	In a speech, E. E. David Jr., President of Exxon Research and Engineering Company, states: "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."
MAY 1988	"THE GREENHOUSE EFFECT," REPORT BY THE SHELL GREENHOUSE EFFECT WORKING GROUP	In a report prepared for Shell's Environmental Conservation Committee, the Company's Greenhouse Effect Working Group said: "Man-made carbon dioxide, released into and accumulated in the atmosphere is believed to warm the earth through the so- called greenhouse effectIf this trend continues, the concentration will be doubled by the third quarter of the next century" "If this warming occurs then it could create significant changes in sea level, ocean currents, precipitation patterns, regional temperature and weather. These changes could be larger than any that have occurred over the last 12,000 years" "Recognition of any impacts may be early enough for man to be able to anticipate and to adapt in time."

SUMMER 1988	PUBLIC AWARENESS OF THE GREENHOUSE EFFECT AND EFFORTS TO COMBAT IT RAMP UP	The summer of 1988 sees a flurry of activity around climate change policy: • Dr. James Hansen, Director of NASA's Goddard Institute for Space Studies, tells Congress that the Institute's greenhouse effect research shows "the global warming is now large enough that we can ascribe with a high degree of confidence a cause and effect relationship with the greenhouse effect." • At least four bipartisan bills are introduced in Congress, three championed by Republicans, to regulate greenhouse gas emissions.
AUG. 3, 1988	"THE GREENHOUSE EFFECT," DRAFT WRITTEN BY JOSEPH M. CARLSON, AN EXXON PUBLIC AFFAIRS MANAGER	Despite declaring the Greenhouse Effect "one of the most significant environmental issues for the 1990s," Carlson writes that Exxon's position should be to "emphasize the uncertainty in scientific conclusions regarding the potential enhanced Greenhouse Effect."
AUG. 31, 1988	VICE PRESIDENT GEORGE H.W. BUSH CAMPAIGN SPEECH IN MICHIGAN	Vice President George H.W. Bush, in a speech while running for President, says "[T]hose who think we are powerless to do anything about the greenhouse effect forget about the 'White House effect'; as President, I intend to do something about it."
DEC. 6, 1988	THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC) IS FORMED	The IPCC is formed in December 1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) to provide policymakers with regular assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation.
DEC. 20, 1989	"GREENHOUSE EFFECT: SHELL ANTICIPATES A SEA CHANGE," ARTICLE IN THE NEW YORK TIMES	A New York Times article reports: "In what is considered the first major project that takes account of the changes the greenhouse effect is expected to bring, [Shell] engineers are designing a huge platform that anticipates rising water in the North Sea by raising the platform from the standard 30 meters - the height now thought necessary to stay above the waves that come in a once-acentury storm - to 31 or 32 meters."
1991	"CLIMATE OF CONCERN," DOCUMENTARY PRODUCED AND DISTRIBUTED BY SHELL	Shell releases a 30-minute educational video warning of climate change's negative consequences ranging from sea level rise and wetland destruction to "greenhouse refugees." It concludes: "Global warming is not yet certain, but many think that the wait for final proof would be irresponsible. Action now is seen as the only safe insurance."
MAY 1991	INFORMATION COUNCIL FOR THE ENVIRONMENT (ICE) PR CAMPAIGN	The Information Council for the Environment (ICE), formed by the coal industry, launches a national climate change science denial campaign with data collection, full-page newspaper ads, radio commercials, a PR tour, and mailers.

APRIL 1994	"ISSUES AND OPTIONS: POTENTIAL GLOBAL CLIMATE CHANGE," GLOBAL CLIMATE COALITION (GCC) REPORT	"Scientific understanding indicates great uncertainty about the extent of any future climate change, and observations have not yet confirmed evidence of global warming that can be attributed to human activities. However, analyses show that options designed to reduce emissions significantly would be very costly, require major technical innovation, and might require fundamental changes in current human behavior The cost of inaction is very remote and speculative in time. But the cost of significant near-term restrictions of greenhouse gas emissions would be real and immediateBecause of the uncertainty about the science and the high costs of action, emission targets, timetables, carbon taxes and other costly regulations are not now justified."
DEC. 1994	"THE ENHANCED GREENHOUSE EFFECT: A REVIEW OF THE SCIENTIFIC ASPECTS," REPORT BY ROYAL DUTCH SHELL ENVIRONMENTAL ADVISOR PETER LANGCAKE"	"The threat of climate change remains the environmental concern with by far the greatest significance for the fossil fuel industry, having major business implications." "The group position is that: Scientific uncertainty and the evolution of energy systems indicate that policies to curb greenhouse gas emissions beyond 'no regrets' measures could be premature, divert resources from more pressing needs and further distort markets."
1995	"CLIMATE CHANGE: YOUR PASSPORT TO THE FACTS," GLOBAL CLIMATE COALITION (GCC) BOOKLET	"While many warnings have reached the popular press about the consequences of a potential man-made warming of the Earth's atmosphere during the next 100 years, there remains no scientific evidence that such a dangerous warming will actually occur." "Fact: No evidence exists to compel nations to make additional commitments to emissions reductions for the post-2000 period."
OCT. 1995	"IS CLIMATE CHANGE OCCURRING ALREADY?" INTERNAL REPORT BY SHELL INTERNATIONAL B.V. SCIENTIST PETER LANGCAKE	"The consequences of possible global warming are of great concern to each of us as inhabitants of our planet and to the energy industry, because of the adverse direct and indirect effects of inappropriate policies that might be implemented following the Rio Climate Convention (FCCC) to mitigate the accumulation of greenhouse Gases in the atmosphere" "In recent months, parts of the insurance industry have espoused the view that the climate signal has arrived and is evident from the mounting compensation claims from severe storms and floods" "The gradual emergence of a man-made climate change signal from the background noise of natural variability, guarantees that any initial pronouncement that a change in the climate has been detected and attributed to a specific cause will be controversial."
DEC. 1995	"PREDICTING FUTURE CLIMATE CHANGE: A PRIMER," GLOBAL CLIMATE COALITION'S (GCC) INTERNAL PRIMER DRAFT V. THEIR PUBLICLY DISTRIBUTED BACKGROUNDER, "SCIENCE AND GLOBAL CLIMATE CHANGE: WHAT DO WE KNOW? WHAT ARE THE UNCERTAINTIES?"	The Global Climate Coalition (GCC), a fossil fuel industry group, drafts an internal primer analyzing "contrarian theories" and concluding that they do not "offer convincing arguments against the conventional model of greenhouse gas emission-induced climate change." However, a publicly distributed version excluded this section while focusing on scientific disagreement and uncertainty by citing some of those same contrarian scientists.

1996	"REINVENTING ENERGY – MAKING THE RIGHT CHOICES," BOOK BY THE AMERICAN PETROLEUM INSTITUTE (API)	In a sweeping attack on climate science, the API argues against taking steps to reduce oil production or use: • "The state of the environment does not justify the call for the radical lifestyle changes Americans would have to make to substantially reduce the use of oil and other fossil fuels." • "We have no need to worry if the global climate becomes somewhat warmer over a 100-year period. If climate change was more dramatic, society would take greater steps to adapt."
FALL 1996	"GLOBAL WARMING: WHO'S RIGHT? FACTS ABOUT A DEBATE THAT'S TURNED UP MORE QUESTIONS THAN ANSWERS," PUBLICATION FROM EXXON CORPORATION	An eight-page Exxon publication questions the negative impact the greenhouse effect might have and plays up the uncertainty. The introductory statement by Lee Raymond, Exxon's chairman and CEO, claims that "[S]cientific evidence remains inconclusive as to whether human activities affect global climate."
NOV. 1996	REMARKS BY EXXON CEO AND AMERICAN PETROLEUM INSTITUTE (API) CHAIRMAN LEE RAYMOND AT THE ANNUAL MEETING OF THE API IN WASHINGTON, D.C.	"Everyone agrees that burning fossil fuels releases carbon dioxide and that such concentrations in the atmosphere are rising. But it's a long and dangerous leap to conclude that we should, therefore, cut fossil fuel use." "It's an old adage, but still true, 'United we stand, divided we fall.' I submit that we simply cannot afford to 'fall' on the critical long-term issues facing our industry, such as global climate changeThat begins with focusing on the common ground we share on issues with API."
1998	"GROUP SCENARIOS 1998-2020," INTERNAL REPORTS BY ROYAL DUTCH SHELL/SHELL GROUP	In 1998, Shell produced the results of a scenario planning process examining potential changes in energy consumption, technology, markets, and other factors. One such scenario essentially anticipated disasters that came to pass, and their repercussions, with remarkable accuracy. "In 2010, a series of violent storms causes extensive damage to the eastern coast of the U.S. Although it is not clear whether the storms are caused by climate change, people are not willing to take further chances. The insurance industry refuses to accept liability, setting off a fierce debate over who is liable: the insurance industry or the government. After all, two successive IPCC reports since 1993 have reinforced the human connection to climate change." "Following the storms, a coalition of environmental NGOs brings a class-action suit against the US government and fossil-fuel companies on the grounds of neglecting what scientists (including their own) have been saying for years: that something must be done. A social reaction to the use of fossil fuels grows, and individuals become 'vigilante environmentalists' in the same way, a generation earlier, they had become fiercely anti-tobacco. Direct-action campaigns against companies escalate. Young consumers, especially, demand action."
APRIL 3, 1998	"GLOBAL SCIENCE COMMUNICATIONS ACTION PLAN," DRAFT BY THE AMERICAN PETROLEUM INSTITUTE (API)	The API develops a multi-million-dollar communications and outreach plan to ensure that "climate change becomes a non-issue." It maintains that "[V]ictory will be achieved whenuncertainties in climate science [become] part of the 'conventional wisdom.'"

DEC. 11, 2000	LETTER FROM LLOYD KEIGWIN, SENIOR SCIENTIST AT THE WOODS HOLE OCEANOGRAPHIC INSTITUTION, TO PETER ALTMAN, NATIONAL CAMPAIGN COORDINATOR FOR EXXONMOBIL	A senior scientist at Woods Hole Oceanographic Institution, Lloyd Keigwin, sends a letter to Exxon's Peter Altman, summarizing their email and phone conversations regarding Exxon's misleading use of Keigwin's study results. "The sad thing is that a company with the resources of ExxonMobil is exploiting the data for political purposes when they could actually get much better press by supporting research into the role of the ocean in climate change."
JUNE 20, 2001	"YOUR MEETING WITH MEMBERS OF THE GLOBAL CLIMATE COALITION," US DEPARTMENT OF STATE MEMO AND TALKING POINTS	Talking points for State Department Undersecretary Paula Dobriansky's meeting with the Global Climate Coalition at API's headquarters: "POTUS rejected Kyoto, in part, based on input from you."
SEPT. 26, 2002	LETTER FROM MICHAEL MACCRACKEN, RETIRING SENIOR SCIENTIST FROM THE OFFICE OF THE US GLOBAL CHANGE RESEARCH PROGRAM, TO EXXON CEO LEE RAYMOND: "RE: WITH REGARD TO THE EXXONMOBIL FACSIMILE ON FEBRUARY 6, 2001 FROM DR. AG RANDOL TO MR. JOHN HOWARD OF THE COUNCIL ON ENVIRONMENTAL QUALITY"	Michael MacCracken, the former director of the National Assessment Coordination Office of the US Global Change Research Program, writes to Exxon CEO Lee Raymond in response to ExxonMobil's criticism of a US climate change assessment: "In my earlier experience, arguing for study of adaptation had been a position of industry, but now when this was attempted, ExxonMobil argued this was premature. Roughly, this is equivalent to turning your back on the future and putting your head in the sand—with this position, it is no wonder ExxonMobil is the target of environmental and shareholder critics Certainly, there are uncertainties, but decisions are made under uncertainty all the timethat is what executives are well paid to do. In this case, ExxonMobil is on the wrong side of the international scientific community, the wrong side of the findings of all the world's leading academies of science, and the wrong side of virtually all of the world's countries as expressed, without dissent, in the IPCC reportsTo call ExxonMobil's position out of the mainstream is thus a gross understatement. There can be all kinds of perspectives about what one might or might not do to start to limit the extent of the change, but to be in opposition to the key scientific findings is rather appalling for such an established and scientific organization."
OCT. 21, 2002	MARKUPS BY PHILIP COONEY, CHIEF OF STAFF FOR THE WHITE HOUSE COUNCIL ON ENVIRONMENTAL QUALITY, ON A DRAFT STRATEGIC PLAN FOR THE CLIMATE CHANGE SCIENCE PROGRAM	Philip Cooney, Chief of Staff for the White House Council of Environmental Quality and a former lawyer and lobbyist for the American Petroleum Institute with no scientific credentials, edits a Draft Strategic Plan for the US Climate Change Science Program to introduce uncertainty about global warming and its impacts. In 2005, Cooney resigns after being accused of doctoring scientific reports and is hired by Exxon. A Union of Concerned Scientists report published samples of Cooney's edits (p.56).
AUG. 12, 2009	EMAIL FROM API CEO JACK GERARD TO API'S MEMBERSHIP REGARDING A SERIES OF "ENERGY CITIZEN" RALLIES IN 20 STATES DURING THE END OF THE CONGRESSIONAL RECESS	The American Petroleum Institute's CEO, Jack Gerard, emails API's membership promising "up front resources" and encouraging turnout for "Energy Citizen" rallies in about 20 states. Gerard says they are "collaborating closely with the allied oil and natural gas associations" in order to "aim a loud message at those states' U.S. Senators to avoid the mistakes embodied in the House climate bill."

NOV. 11, 2014	"WSPA PRIORITY ISSUES," PRESENTATION BY WESTERN STATES PETROLEUM ASSOCIATION PRESIDENT CATHERINE REHEIS-BOYD	The Western States Petroleum Association, a top lobbying and trade association for the oil industry, describes in a presentation the "campaigns and coalitions [it has] activated that have contributed to WSPA's advocacy goals and continue to respond to aggressive anti-oil initiatives in the West," including investment "in several coalitions that are best suited to drive consumer and grassroots messages to regulators and policymakers."
MAY 2017	"CLIMATE CHANGE AND ENERGY," AMERICAN PETROLEUM INSTITUTE (API) REPORT	In a dynamic, innovation-driven industry like energy, the U.S. should be careful not to adopt prescriptive regulations that prevent technological improvements or shrink opportunities for investments that could deliver environmental benefits and consumer savings for years to come. Moving forward, our government leaders should embrace our nation's energy renaissance that has lowered costs for consumers, benefited American workers and improved the environment The oil and natural gas industry will continue to be an integral part of the effort to address the issue of climate change. Therefore, policies must support the development and use of our abundant oil and natural gas resources and encourage innovation.