The Center for Climate Integrity (CCI) helps communities **hold oil and gas corporations accountable** for the massive costs of climate change.

LEADERS FOR CLIMATE ACCOUNTABILITY

CENTER FOR CLIMATE INTEGRITY

TIME

Rising Heat Is Making It Harder to Work in the U.S., and the Costs to the Economy Will Soar With Climate Change

CBS NEWS

Climate change is responsible for billions of dollars in flood costs, study says

npr

Extreme weather in the U.S. cost 688 lives and $145 billion last year, NOAA says

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## Increasing Temps

- **Infrastructure**
  - Increased cooling costs
  - Increased road damage
  - Increased damage to water/sewer pipes
- **Public health**
  - More cooling centers
  - Financing for A/Cs for low-income families and public housing
  - Increased vector-borne illness
  - Increased allergies and asthma
  - Reducing urban heat island effect
  - Protecting drinking water

## Extreme Precipitation & Flooding

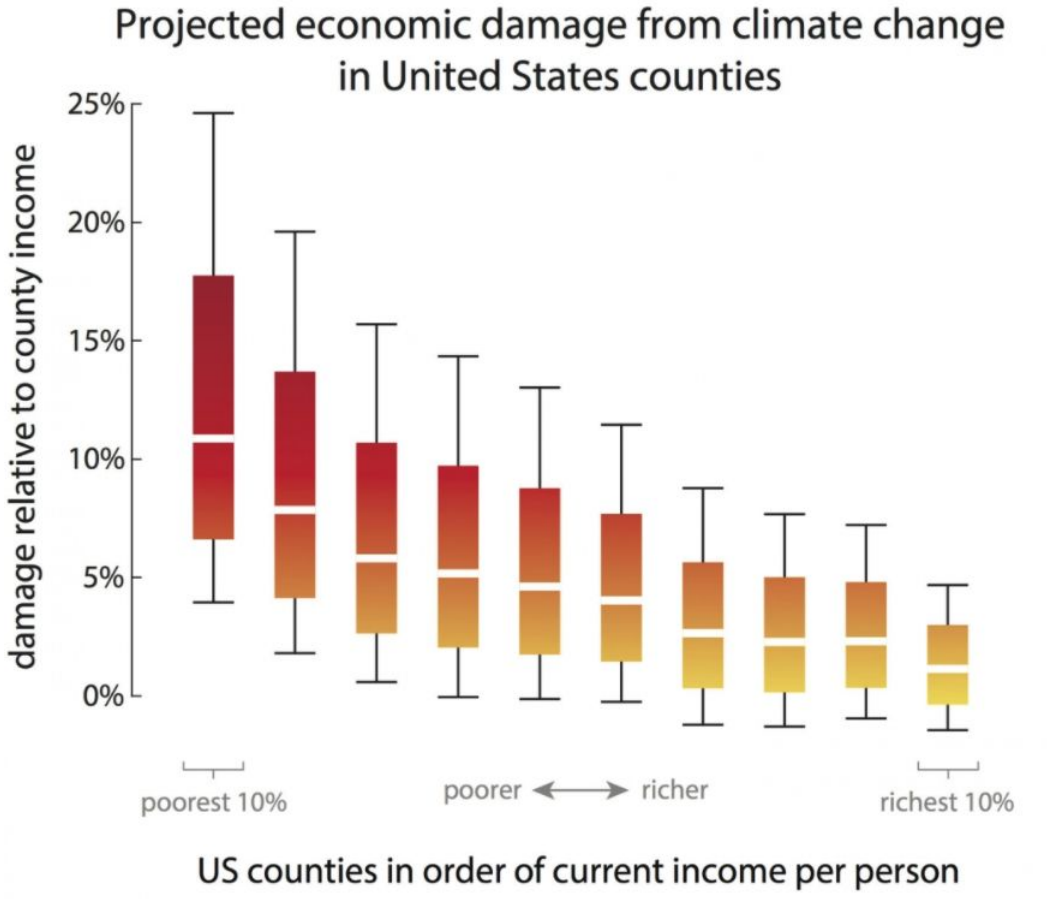
- **Infrastructure**
  - Addressing properties in flood-prone areas
  - More culverts, retention basins, relief drains, spillways, and more
  - Increased bridge inspection and repair
  - Increasing permeability of roads
  - Elevating roads, bridges, structures, and utilities
  - Floodproofing municipal buildings, wastewater treatment facilities, and more
  - Protecting emergency operations
- **Natural Systems Protection**
  - Protect and enhance wetlands, dunes, and vegetation buffers

## Other Extreme Weather

- **Risk Reduction**
  - Protecting power lines
- **Emergency response**
  - Increased investment in local emergency management and response capabilities
  - Increased costs for storm recovery and clean-up

## Wildfires & Water Scarcity

- **Infrastructure**
  - Increased costs for evacuation and displacement
  - Increased costs for rebuilding and repair
  - Increased need for water resilience projects
- **Natural Systems Protection**
  - Drought support for fish and wildlife
  - Drought support for agriculture
  - Ecosystem restoration
  - Water resilience projects
- **Public Health**
  - Increased health issues and hospitalizations
- **Regulation and planning**
  - Increased regulatory restrictions on water diversion and fishing
  - Water rights modernization
- **Emergency Response**
  - Increased costs for evacuation and displacement
  - Increased demand for emergency fire response
  - Increased demand for emergency drought response
  - Increased drinking water emergencies




*Hsiang, Kopp, Jina, Rising, et al. (2017)*

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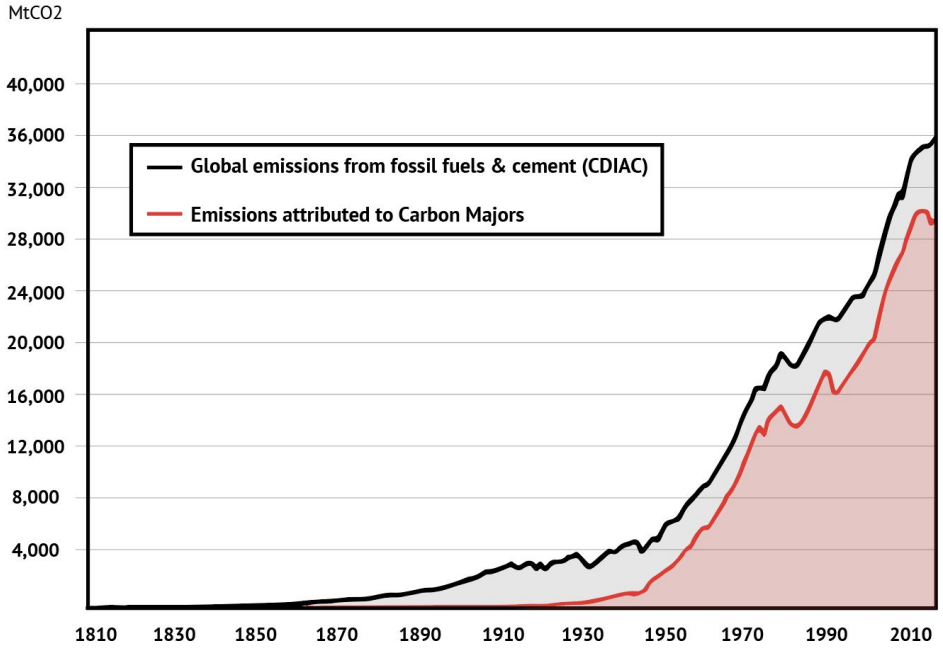
# RECAP

- Climate change is expensive
- Taxpayers are paying the price
- We are not all equally impacted

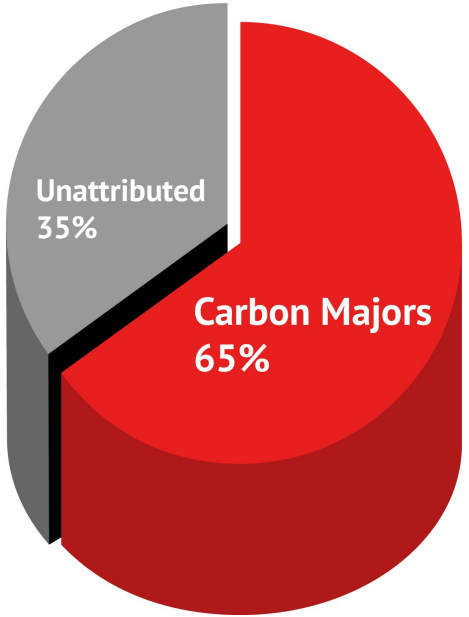
But climate change didn't happen on its own…

# Climate change didn't happen on its own

## Carbon Majors & Global C02 emissions, 1810-2017




## Carbon Majors & Unattributed percent of global emissions 1751-2013

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# We are not all equally to blame


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# They Knew

# Exxon 1978

VUGRAPH 18

## SUMMARY

I. $CO_2$ RELEASE MOST LIKELY SOURCE OF INADVERTENT CLIMATE MODIFICATION.

II. PREVAILING OPINION ATTRIBUTES $CO_2$ INCREASE TO FOSSIL FUEL COMBUSTION.

III. DOUBLING $CO_2$ COULD INCREASE AVERAGE GLOBAL TEMPERATURE 1°C TO 3°C BY 2050 A.D. (10°C PREDICTED AT POLES).

IV. MORE RESEARCH IS NEEDED ON MOST ASPECTS OF GREENHOUSE EFFECT

V. 5-10 YR. TIME WINDOW TO GET NECESSARY INFORMATION

VI. MAJOR RESEARCH EFFORT BEING CONSIDERED BY DOE

# Exxon 1979

PROPRIETARY INFORMATION
For Authorized Company Use Only

**Exxon Engineering** — Petroleum Department

79PE 554 — October 16, 1979

EXXON RESEARCH AND ENGINEERING COMPANY

## CONTROLLING THE $CO_2$ CONCENTRATION IN THE ATMOSPHERE

The $CO_2$ concentration in the atmosphere has increased since the beginning of the world industrialization. It is now 15% greater than it was in 1850 and the rate of $CO_2$ release from anthropogenic sources appears to be doubling every 15 years. The most widely held theory is that:

- The increase is due to fossil fuel combustion
- Increasing $CO_2$ concentration will cause a warming of the earth's surface
- The present trend of fossil fuel consumption will cause dramatic environmental effects before the year 2050.

However, the quantitative effect is very speculative because the data base supporting it is weak. The $CO_2$ balance between the atmosphere, the biosphere and the oceans is very ill-defined. Also, the overall effect of

# Exxon 1982

iddle latitudes. Other statistically significant
ncreases in both soil moisture and runoff rates at high
of the annual cycle with the exception of the summer
season. The penetration of moisture rich, warm air into high latitudes is
responsible for these increases.

The state-of-the-art in climate modeling allows only gross global zoning while some of the expected results from temperature increases of the magnitude indicated are quite dramatic. For example, areas that were deserts 4,000 to 8,000 years ago in the Altithermal period (when the global average temperature was some 2°C higher than present), may in due time return to deserts. Conversely, some areas which are deserts now were formerly agricultural regions. It is postulated that part of the Sahara Desert in Africa was quite wet 2,000 to 8,000 years ago. The American Midwest, on the other hand, was much drier, and it is projected that the Midwest would again become drier should there be a temperature increase of the magnitude postulated for a doubling of atmospheric $CO_2$ (see Figure 7).

In addition to the effects of climate on global agriculture, there are some potentially catastrophic events that must be considered. For example, if the Antarctic ice sheet which is anchored on land should melt, then this

EC-11-5/A9

# Chevron 1974


## United States Patent [19]

**Hudson et al.**

[11] **3,831,385**

[45] **Aug. 27, 1974**


[54] **ARCTIC OFFSHORE PLATFORM**


[75] Inventors: **Thomas A. Hudson**, Balboa Island; **Gordon E. Strickland, Jr.**, Yorba Linda, both of Calif.

[73] Assignee: **Chevron Research Company**, San Francisco, Calif.



[22] Filed: **June 26, 1972**

[21] Appl. No.: **266,084**

[52] **U.S. Cl.** ..... **61/46.5**, 61/1, 114/40, 165/47

[51] **Int. Cl.** ..... **E02b 15/02**, F24j 1/00

[58] **Field of Search** ..... 61/46, 46.5; 114/40, 41, 114/42, 5 D; 165/47; 166/.5; 9/8 P


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|---|---|---|---|
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| 3,632,172 | 1/1972 | Robinson et al. | 114/42 X |
| 3,749,162 | 7/1973 | Anders | 166/5 |
| 3,759,046 | 9/1973 | Anders | 61/46.5 |

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The Oil and Gas Journal of Sept. 14, 1970 pages 60–61.



*Primary Examiner*—Jacob Shapiro
*Attorney, Agent, or Firm*—Ralph L. Freeland, Jr.; Charles J. Gibeau


[57] **ABST**


A method and apparatus f
marine structure erected i
comes frozen through natu
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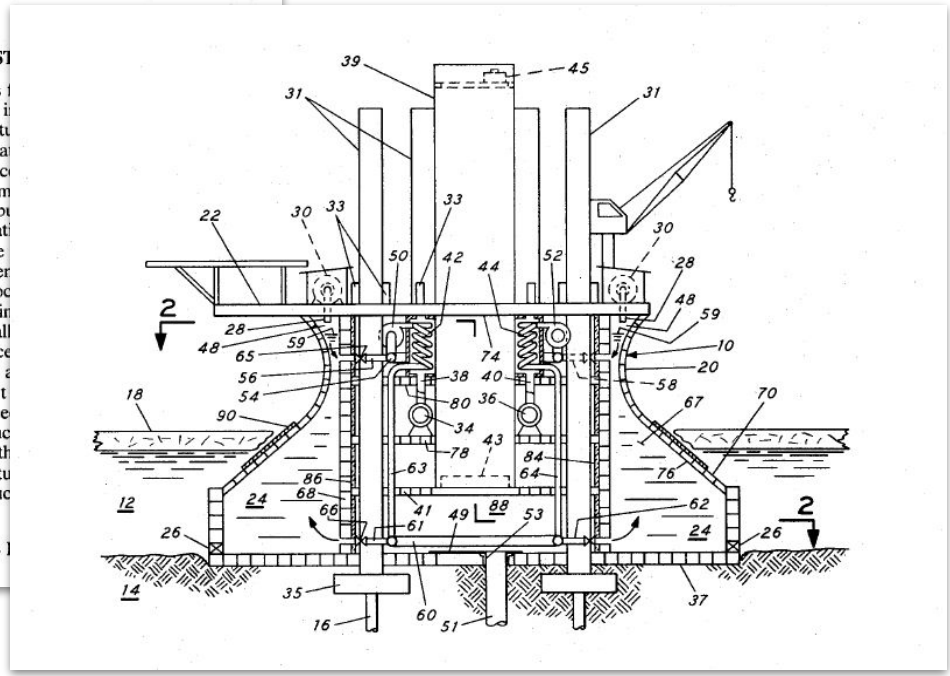
on the structure.


**15 Claims, 4 F**

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# Shell 1989

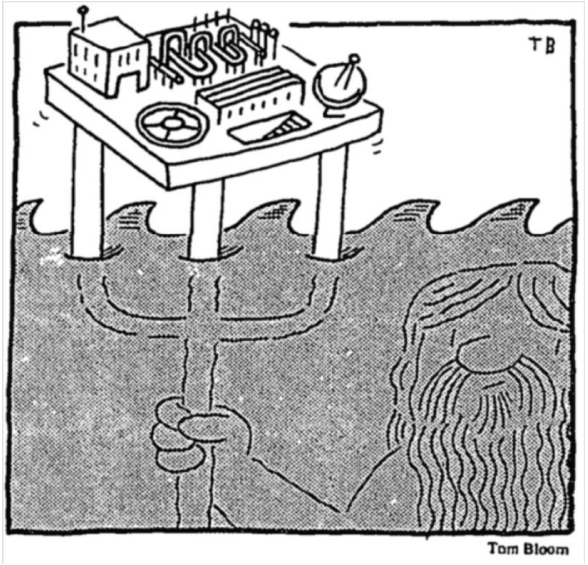
# *Greenhouse Effect: Shell Anticipates A Sea Change*

Whether global warming will raise the level of the world's oceans is still being debated, but engineers who build natural-gas production platforms at Shell Oil do not want to take chances. In what is considered the first major project that takes account of the changes the greenhouse effect is expected to bring, the engineers are designing a huge platform that anticipates rising water in the North Sea.

Norske Shell, the company's Norwegian subsidiary, had been planning to build in the Troll gas field a 1.5-million-metric-ton structure that would stand in more than 300 meters of water, or about 1,000 feet, and rise 30 meters above the surface, or about 100 feet.

But if those are the dimensions of the structure when it is put in place in 1995, how much will be above the water in 2065, at the end of its life? Engineers are not sure. The global warming of the greenhouse effect, which is caused by carbon dioxide from combustion trapping the sun's heat in the atmosphere, is expected to raise the sea level in two ways: Warmer temperatures mean less water tied up in the ice caps, and therefore more in the oceans; also, warmer water occupies more space than cool water.

So the engineers are considering raising the platform from the standard 30 meters — the height now thought necessary to stay above the waves that




Tom Bloom

come in a once-a-century storm — to 31 or 32 meters.

A one-meter increase would cost an additional $16 million, said Einar Knudsen, a spokesman for the company in Stavanger, Norway, and a two-meter rise roughly double that. The higher number is about 1 percent of the platform's projected cost.

Shell's problem with its gas platform is tougher than the engineering questions involved in building oil platforms, of which the North Sea has many. The oil platforms are typically expected to be in use for only 30 or 35 years. But according to Mr. Knudsen, "We have such huge gas reserves; we can see this production going on for up to 70 years."

# They Lied

# Exxon 1988

- EXXON SCIENTISTS ARE INTERACTING WITH KEY GOVERNMENT AGENCIES INCLUDING THE UNITED NATIONS' ENVIRONMENTAL PROGRAM, IPECA, OECD, DOE, AND U.S. EPA.

- EXXON IS PROVIDING LEADERSHIP THROUGH API IN DEVELOPING THE PETROLEUM INDUSTRY POSITION.

## EXXON POSITION

- EMPHASIZE THE UNCERTAINTY IN SCIENTIFIC CONCLUSIONS REGARDING THE POTENTIAL ENHANCED GREENHOUSE EFFECT.

- URGE A BALANCED SCIENTIFIC APPROACH.

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# New York Times (1974-2004)

## Lies they tell our children

"I don't have a future."

With tears streaming down her face, a 13-year-old girl made this bleak assessment to her father. To back up her pessimism, she had brought home from school a mimeographed sheet listing the horrors that awaited her generation in the next 25 years: Worldwide famine, overpopulation, air pollution so bad that everyone would wear a gas mask, befouled rivers and streams that would mandate cleansing tablets in drinking water...a greenhouse effect that would melt the polar ice caps and devastate U.S. coastal cities...a cancer epidemic brought on by damage to the ozone layer.

Moved by the girl's misery, her father, Herbert I. London of the Hudson Institute and New York University, wrote a book, *Why Are They Lying to Our Children?* The book documents how some of the myths of the 1960s and 1970s—and some much older than that—are being perpetuated and taught as gospel truth in some of our schools. And the book raises a question in our minds: Will the next generation have any better understanding of science and technology—both their merits and their problems—than our own?

Professor London's book is not a plea for unbridled technology. But it is a plea for balance. And school textbooks, he believes, are notoriously unbalanced. In dealing with environmental questions, for example, no textbook the professor could find made any mention of the following facts:

- Total automobile emissions of hydrocarbons, carbon monoxide, and nitrogen oxide in the U.S. are less than half what they were from 1957 to 1967.
- The amount of unhealthy sulfur dioxide in the air has been steadily declining since 1970.
- The bacteria level in the Hudson River declined by more than 30 percent between 1966 and 1980.

Textbooks, Professor London finds, mythologize nature as eternally benign until disturbed by man. It's a rare schoolbook that talks about volcanoes belching radiation into the air, floods that overwhelm river towns, and tornadoes that lift people into oblivion. Moreover, textbooks hardly mention the promise of a bright future already on the horizon—when average life expectancy may approach 90 years, when products derived from recombinant DNA research will eliminate most viral diseases, when we will enjoy greater leisure, and materials—especially plastics—will be better, stronger, and safer.

Professor London's conclusion—with which we heartily agree—is that we should help our children think for themselves and reach balanced conclusions. Let's look at their textbooks, not to censor them but to raise questions. Let's give them different points of view and help discuss them. That way we can educate a new generation of citizens who aren't scared by science, and who won't be swayed by old mythologies.

Our youngsters do have a future. We, and the schools, should help them look forward to it with hope, even as they prepare to deal with its problems.

Mobil



## Apocalypse no

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 "pseudo-scientific arguments or false and non-relevant data."

The Heidelberg 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 $CO_2$ 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 $CO_2$ 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.

Mobil

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# API 1998

## Global Climate Science Communications

## Action Plan

### Project Goal

A majority of the American public, including industry leadership, recognizes that significant uncertainties exist in climate science, and therefore raises questions among those (e.g. Congress) who chart the future U.S. course on global climate change.

Progress will be measured toward the goal. A measurement of the public's perspective on climate science will be taken before the plan is launched, and the same measurement will be taken at one or more as-yet-to-be-determined intervals as the plan is implemented.

### Victory Will Be Achieved When

- Average citizens "understand" (recognize) uncertainties in climate science; recognition of uncertainties becomes part of the "conventional wisdom"
- Media "understands" (recognizes) uncertainties in climate science.
- Media coverage reflects balance on climate science and recognition of the validity of viewpoints that challenge the current "conventional wisdom"


"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 … We were looking out for our investments."

Keith McCoy
Senior ExxonMobil Lobbyist
2021

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**Reuters** @Reuters · Oct 28, 2021

After repeatedly being asked by Representative **Carolyn Maloney** to 'no longer spend any money either directly or indirectly to oppose efforts to reduce emissions and address climate change,' Big Oil executives refused to take the pledge reut.rs/3pMHFKg


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# So who should pay?

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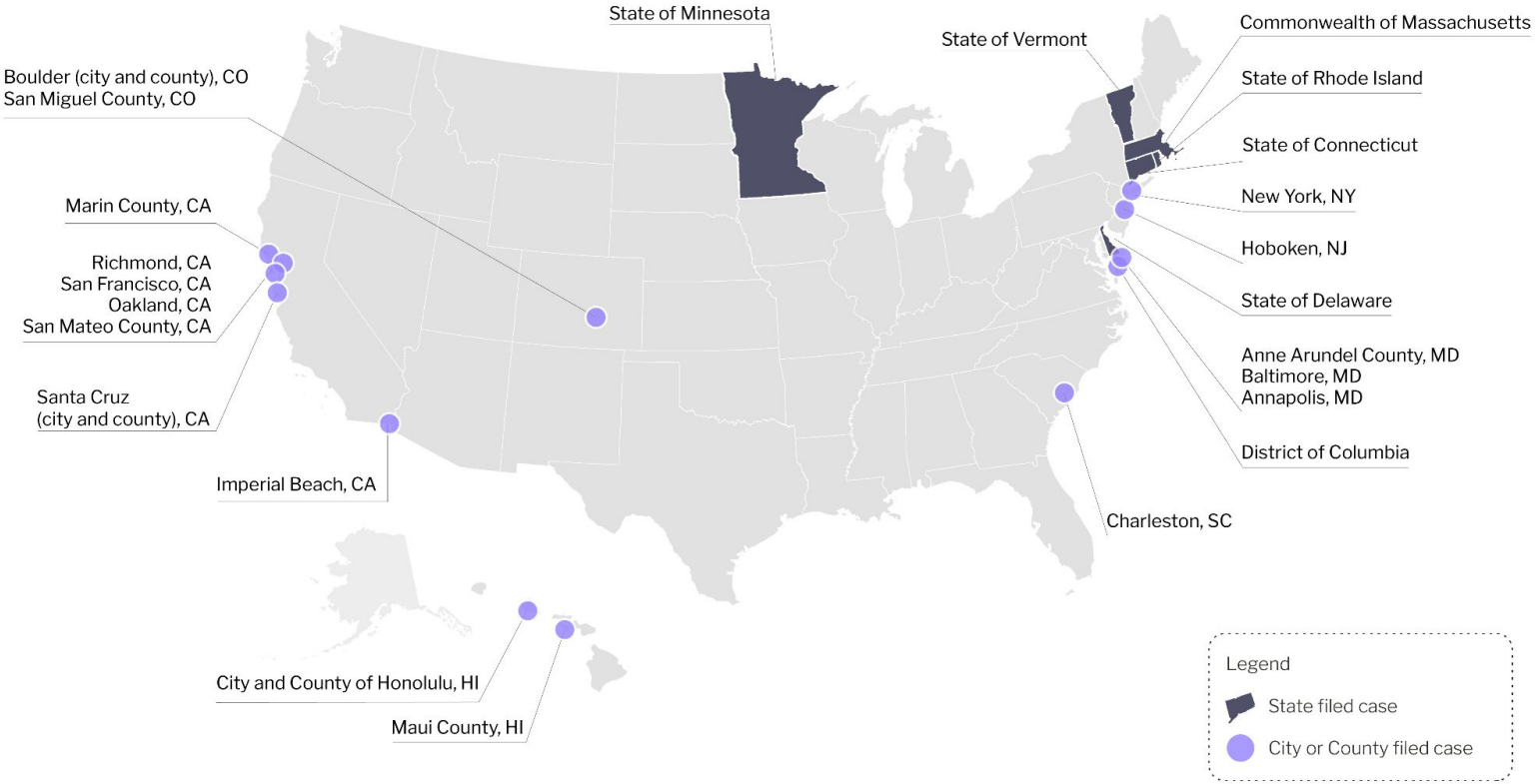
# Cases Underway to Make Climate Polluters Pay

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# Hoboken 2020

**20-606**

RESOLUTION PRIORITIZING ADDRESSING RESILIENCY EFFORTS AT THE HOBOKEN HOUSING AUTHORITY WITH FUNDS RECOVERED FROM THE CLIMATE CHANGE LITIGATION

**WHEREAS**, like in many other cities, the effects of climate change have had greater impacts on low-income communities and communities of color; and,

**WHEREAS**, in Hoboken, the Hoboken Housing Authority (HHA) suffered millions of dollars of damage as a result of Superstorm Sandy, some impacts of which are still being felt today; and,

**WHEREAS**, the vast majority of the HHA lies in the western portion of the City, which because the topography of Hoboken has more frequent and higher levels of flooding during storm events than in much of the rest of the City; and,

**WHEREAS**, this impact is therefore disproportionately borne by the residents on the HHA, which is a community of lower income and of color; and,

**All communities**—regardless of size or wealth—can seek justice for the harms perpetrated against them by Big Oil.

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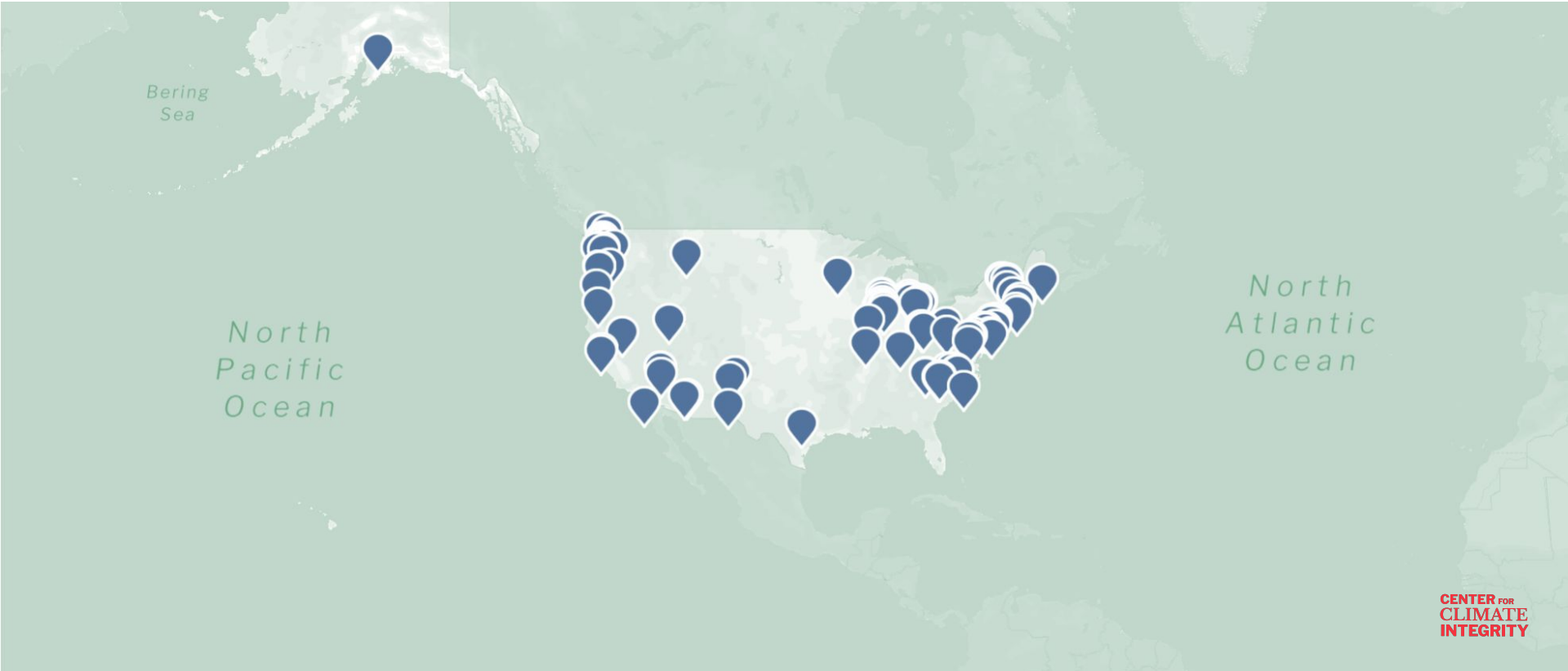
# What can you do?

## Join Leaders For Climate Accountability

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# What you can do:

- ❑ **Pursue accountability**
- ❑ **Shift the public narrative**
  - ❑ Op-eds
  - ❑ Social media
  - ❑ Rapid response
  - ❑ Earned media
  - ❑ Committee hearing
  - ❑ Cost accounting
  - ❑ Townhall
  - ❑ Policy

# How we can help:

- ❑ **CCI's legal team**
  - ❑ Provide expertise
  - ❑ Facilitate educational conversations
- ❑ **CCI's communications team**
  - ❑ Messaging training and guides
  - ❑ Talking points
  - ❑ Press support
  - ❑ Ghost-writing
  - ❑ Shareable social media content
  - ❑ Identifying and crafting rapid responses
- ❑ **CCI's campaigns team:**
  - ❑ Event facilitation and speaker intros
  - ❑ Issue expertise
  - ❑ Sample legislation
  - ❑ Legislative analysis

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LEADERS FOR CLIMATE ACCOUNTABILITY

# Sign up to be a Leader for Climate Accountability!

Leaders for Climate Accountability is a national network of public officials who support holding corporate polluters accountable for their outsized role in creating and perpetuating the climate crisis.

Leaders are committed to making the fossil fuel industry pay their fair share of the enormous costs of protecting our communities from the damages caused by climate change; defending local democracy and access to the courts; and refusing to let our communities get stuck with the bill for a crisis the oil and gas industry knowingly caused.

The name and photo associated with your Google account will be recorded when you upload files and submit this form

Easy to join.

It's free!

We're here to help.

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