

Climate crimes

The industry accountable - The scientists hired by big oil who predicted the climate crisis long ago

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Climate crimes: How Big Oil and Gas kept a dirty secret for decades Experts' discoveries lie at the heart of two dozen lawsuits that hope to hold the industry accountable for devastating damage.

Photo - Marty Hoffert: 'It never actually occurred to me that this was going to become a political problem.' Photograph: Zack Wittman/The Guardian.

[As early as 1958](#), the oil industry was hiring scientists and engineers to research the role that burning fossil fuels plays in global warming. The goal at the time was to help the major oil conglomerates understand how changes in the Earth's atmosphere may affect the industry - and their bottom line. But what top executives gained was an early preview of the climate crisis, decades before the issue reached public consciousness.

What those scientists discovered - and what the oil companies did with that information - is at the heart of [two dozen lawsuits attempting to hold the fossil fuel industry responsible](#) for their role in climate change. Many of those cases hinge on the industry's own internal documents that show how, 40 years ago, researchers predicted the rising global temperatures with stunning accuracy. But looking back, many of those same scientists say they were hardly whistleblowers out to take down big oil.

Some researchers later testified before Congress, using their insider knowledge to highlight the ways in which the oil industry misled the public. Others say they have few qualms with how the petroleum giants handled their research.

Few, however, could have predicted the imprint their work would have on history in efforts to hold the fossil fuel industry accountable for our climate emergency. The Guardian tracked down three of those scientists to see how they view their role today.

Dr Martin Hoffert, 83, physicist and Exxon consultant from 1981 to 1987

When I started consulting for Exxon, I had already begun to understand that the Earth's climate would be affected by carbon dioxide. There were only a small number of people in the world who were actively working on this problem because the global warming signal had not yet manifested itself in the data. So I was invited to join a research group at Exxon and one of my conditions to join was that we would publish our scientific research in peer-reviewed journals. It was a bunch of geeks

trying to figure out how the planetary atmosphere works.

We were doing very good work at Exxon. We had eight scientific papers published in peer-reviewed journals, [including a prediction](#) of how much global warming from carbon dioxide buildup would be 40 years later. We made a prediction in 1980 of what the atmospheric warming would be from fossil fuel burning in 2020. We predicted that it would be about one degree celsius. And it is about one degree celsius.

It never actually occurred to me that this was going to become a political problem. I thought: "We'll do the analyses, we'll write reports, the politicians of the world will see the reports and they'll make the appropriate changes and transform our energy system somehow." I'm a research scientist. In my field, if you discover something and it turns out to be valid, you're a hero. I didn't realize how hard it would be to convince people, even when they saw objective evidence of this happening.

Back in 1980, there was a guy working for Exxon and he was one of the inventors of the lithium battery, which electric cars now use. [This guy won the Nobel prize in chemistry](#) for his work on lithium batteries. Just imagine if Exxon management had taken our prediction seriously! They could have easily built huge factories to make lithium batteries to facilitate the transition to electric cars. Instead, they fired this guy. They shut down all their energy work. And they started funding climate deniers.

Very often people will ask me: "How much time do we have left before we can prevent this problem?" We don't have any time left. It's already happening.

Ken Croasdale, 82, researcher and engineer at Imperial Oil from 1968 to 1992

When I was working for Imperial Oil in the late 1980s, I was heading up a small group responsible for the research and development that we were doing in relation to the Arctic. My specialty was in building offshore structures in the Arctic region. In the early 90s, I did an assessment: if we did have temperatures rise in the Arctic, what might we expect in terms of ice conditions and how would those changes influence how we operate?

I was looking specifically at offshore operations. When we look at engineering structures, we're interested in how thick the ice is. One of the issues was: how much thinner might the ice be in a warming world? How would that affect how we design our platforms?

"I don't feel like I'm helping the evil empire. I don't feel any shame"

Climate research wasn't a big deal for the company, at that time. There was a lot of uncertainty, so people would shrug their shoulders a little bit. You'd say, "you need to look at this," and they'd say "maybe we do, maybe we don't." It wasn't looming big as an issue at that time.

My personal view is that climate change is occurring. But the primary driver is population and

consumption. When my grandfather was born, the world population was about 1.3 billion. When I was born it was 2.2 billion, and today it is 7.5 billion. The UN predicts a population of about 10 billion by 2055. In my opinion this is the primary driver of everything relating to our worsening environment.

I personally don't have any discomfort having worked for the oil companies. All the people I worked with were just as honest and ethical as people I've worked with in other organizations. I don't feel like I'm helping the "evil empire" - I don't feel any shame. I'm just helping a company that produces a product that is still massively consumed worldwide.

Steve Lonergan, 71, Exxon consultant from 1989 to 1990

I was involved in research on the social and economic impacts of climate change on Canada's north in the late 1980s and early 1990s. At the time, there weren't a lot of people doing this kind of work. Exxon Canada asked me if I would provide an assessment of how this would affect their operations in the north.

The models were regional at best, and could only provide general projections under different levels of carbon dioxide, or CO₂. This was a technical group, and I have no idea whether they had any influence on Exxon's senior management. There were a few engineers who were concerned about the issue of global warming. Whether they spoke up is another question.

Most of the scientists at the time accepted that these types of changes in CO₂ emissions were going to affect temperature and precipitation. The public did not, of course, and the industries did not, and the governments generally did not. But most of the scientific community was close to unanimous. It was nothing really new to any of us.

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At that time, the models were very general, but they did give you a sense that the farther north you go, the greater the warming is going to be. And the main reason for that is that the ice will melt. The question was, "What does it mean in terms of permafrost? What does it mean for ice breakup?"

My partner and I were interested in looking not just at average temperature or average precipitation, but the variability, the extremes. We started trying to figure out how we could model extremes in temperature and precipitation. This is important for the north because there are communities where their refrigeration is just a crate outside in the winter. So you can put reindeer meat in it and it freezes naturally.

But if you get extremes with above-freezing temperatures in January, that poses a problem for food supply. We did some modeling and our conclusion was that if CO₂ levels doubled, the probability was 50% that on any given day in January, a place that was normally -32 degrees would actually get above freezing.

Six or seven years later, every day for two weeks was above freezing, and all the reindeer meat thawed out. I didn't expect it would happen that quickly. That was the biggest shock.

For a long time, I wasn't a member of the Sierra Club or the Western Canadian Wilderness Society and so on, because I wanted to be seen as an objective observer. I wanted to be seen as somebody whose advocacy was through their research. [Climate change](#) is a very important environmental issue and so we need good research behind it.

We have people like Greta Thunberg, and we absolutely need them. But we also need the scientific community to show the evidence for some of the changes that were happening. That's the role I felt I played.

Emma Pattee

P.S.

- The Guardian. Fri 2 Jul 2021 11.00 BST:
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