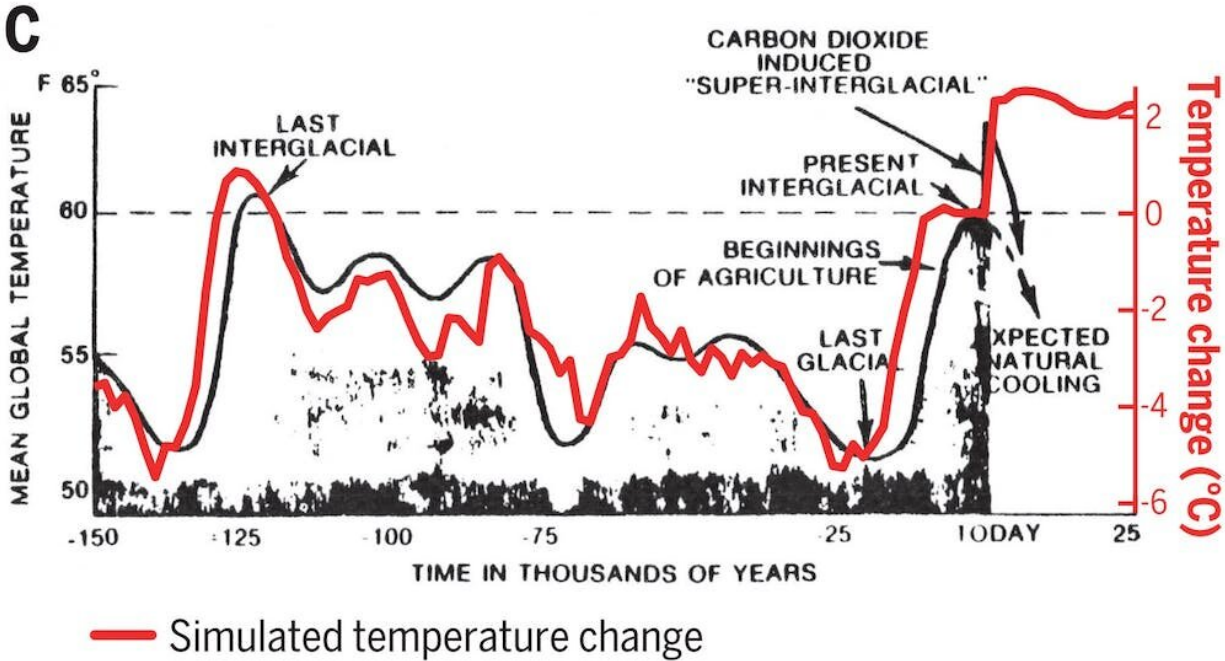


Exxon scientists accurately forecast climate change in the 1970s. What if we had listened to them and acted then?

January 30 2023, by John Grant



A 1977 internally reported Exxon graph, showing a 'carbon dioxide-induced 'super-interglacial.' Credit: Supran et al / Science, CC BY-SA

Writers of speculative- and science-fiction often identify a key point in time and explore how a seemingly insignificant event might change the path of humanity.

One of these moments came in the 1970s when oil giant Exxon chose to ignore its own commissioned research on the impact of fossil fuels. A new analysis published in the journal [Science](#) has found that Exxon's forecasts from that era have proven incredibly accurate, yet it did not act to prevent its own predictions from happening.

Instead, the company chose to maintain its role as an [oil company](#) and fund people to question the science and delay a coherent response. Staggeringly, in 1996 the company's chief executive, Lee Raymond, [referred to](#) "the unproven theory that [fossil fuels] affect the earth's climate." The company, now known as ExxonMobil, [denies the allegations](#), saying "those who talk about how 'Exxon Knew' are wrong in their conclusions."

So what if the senior executives of Exxon had seen their own research as a business opportunity? Here's one way things might have worked out.

Ahead of the emissions curve

Following the publication of terrifying research by Exxon in the late 1970s and the "[energy crisis](#)" in 1979, the policy direction of the US changes forever.

Nasa's earth sciences funding is soon increased. The agency responds enthusiastically by launching several satellites which over the 1980s confirms the Exxon research beyond any reasonable doubt—the world is indeed warming, thanks to human-caused emissions.

Senator (and in this world future president) Al Gore invites Nasa's James Hansen to present his findings, supported by the work of Exxon, to congress. As a result the US government commits to a net zero carbon economy by 2000. (A similar presentation [happened in our world](#) but, faced with greater scientific skepticism, it didn't have much immediate

policy impact.)

Solar provides power, and food

Following this, Exxon establishes a massive solar thermal power plant in the Californian desert. Unfortunately, complex engineering and intermittent energy production make it a challenging addition to the US energy grid. However, after ten years of research, the tech is exported to Egypt and Morocco where the output was more than enough to power these countries.

Further research results in enormous economic growth as the technology not only [produces power](#) but food through the use of [seawater greenhouses](#). By 2000, North Africa is the main exporter of large solar power plants around the world. This economic success is matched in northern Europe with government-supported firms developing offshore wind turbines and tidal power throughout the 90s.

Petrol becomes a quaint hobby



RIP petrol cars. Credit: Samoli / shutterstock

Back in the US, Exxon teams up with General Motors to develop in the late 1980s the first production electric vehicle, the [EV1](#). (This existed in our world too, but not until a decade later). The car uses [Nasa-patented batteries](#) and space-age materials to produce cars that outperform petroleum vehicles in every area but extreme range.

Exxon's PR machine devises a "plugging into the Sun" program promoting micro rooftop solar panels that refuel the EV1s for free. Millions of systems are manufactured and installed by subsidiaries of Exxon making it the wealthiest "energy" [company](#) on the planet.

The [micro-grids](#) developed for car charging are also suitable for developing countries without large electrical grids. A second wave of development occurs, this time driven internally by countries across the southern hemisphere. Exxon is held up as alleviating extreme poverty across the world and improving the lives of billions.

By the late 1990s, huge ["liquid metal" batteries](#) allow inter-seasonal energy storage, creating an energy reserve sufficient to allow the roll out of large wind and solar projects around the world. This makes coal and oil too expensive for energy production and its use is ramped down and eventually put into the history books by 1997.

The use of petroleum and gas does continue in the domestic sector, but [construction moves beyond the need for active heating and cooling](#) by the end of the decade and use of petroleum cars is seen as a quaint hobby for those that wish to use this very risky fuel.

Collapse averted

The age of oil is not entirely over. Demand for petrol continues at a level that oil companies are still able to make a small profit (environmentalists claim the oil companies are making "gas cars" cool so they don't lose their final market).

However, seeing the opportunity for the manufacture of gasoline, many renewable energy firms begin the manufacture of "synth oil," another space age output. The mineral oil companies push back but are unable to compete with the extremely low energy prices of synth oil as it uses virtually free energy from renewable energy systems off-peak.

By the 2000s, human society produces barely any greenhouse gases for manufacturing, transport or [energy](#). Things are not perfect, and there are concerns about poverty, conflict, resources running out and the

ecological impact of 8 billion humans and their dietary choices. The challenge for a stable, sustainable human society continues.

But climatic collapse—as we understand it in our world today—has largely been avoided.

And Exxon? Much like in our own timeline, Exxon is one of the world's largest companies. But its massive rollout of distributed solar systems has also made it one of the world's most liked companies.

In our world, former US vice president Al Gore won the Nobel peace prize in 2007 together with the UN's climate advisory body, the IPCC. In this world, Gore still gets a Nobel for his work in the 1990s, but shares it with Exxon CEO Lee Raymond—there is less need for an IPCC as scientists were listened to three decades previously.

This article is republished from [The Conversation](#) under a Creative Commons license. Read the [original article](#).

Provided by The Conversation

Citation: Exxon scientists accurately forecast climate change in the 1970s. What if we had listened to them and acted then? (2023, January 30) retrieved 1 June 2023 from <https://techxplore.com/news/2023-01-exxon-scientists-accurately-climate-1970s.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.