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Climate Crisis

Lest there be any doubt: questions about climate change answered

Scepticism about the cause of climate change persists among the public, proving fossil fuel firms did a good job of sowing confusion

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A beach in Lacanau, France, on July 24, 2026, as clouds of smoke rise into the sky from a wildfire. Photograph: Maximilien Lamy/AFP via Getty Images

Over the summer holidays, I met two retired engineers who had worked for many years in the [oil](#) industry. I was taken aback to discover that, while they accepted the reality of [global warming](#), they were highly sceptical of what they called the “obsession with greenhouse gases and net zero”.

But then, they are unlikely to be the only ones with doubts and questions, so I thought it worthwhile recounting the exchange here. The conversation went something like this:

How can anyone be sure the current warming isn't part of some natural cycle? We all know the earth has warmed and cooled many times in the distant past. One reason is the rate of warming – [climate change](#) in the distant past occurred gradually over thousands or millions of years, whereas we are now seeing a change over a period of about 150 years.

Is the correct term “global warming” or “climate change”? Either term is valid, but they have slightly different meanings. Essentially, climate change is the outcome of global warming.

Couldn't it be some unknown natural cycle, maybe a solar phenomenon? Decades of scientific research has failed to find any correlation with natural cycles. In addition, measurements show that the warming is most pronounced in the lowest part of the atmosphere – a clear signal that the cause is close to home.

['Sobering': Carbon emissions from oil, gas and coal continue to rise]

Close to home? It has been known for many years that Earth's temperature is regulated by its atmosphere. Simply put, our planet is warmed by heat from the sun, and the warm earth reradiates this heat outward to space. However, some of this reradiated heat is absorbed by certain gases in the atmosphere. Although these “greenhouse gases”, or GHGs, constitute only a tiny component of our atmosphere, they play a crucial role in keeping Earth warm.

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Sounds quite comfy? Yes, our planetary home would be a lot colder without the greenhouse effect. The problem is, human industry – in particular the burning of fossil fuels – is causing the concentration of greenhouse gases in the atmosphere to rise, so far by about 40 per cent. It is no great surprise that this increase is causing a detectable warming of the planet – a rise of about 1.5 degrees in average surface temperature so far.

That doesn't sound like much of a change? Unfortunately, a small rise in average temperature corresponds to a large change in heat energy absorbed, especially in the oceans. The warming is already having a destabilising effect on global climate, with a noticeable increase in the frequency and severity of storms, floods and wildfires around the world. Worse, some of the vulnerable nations of the global south now face the possibility of permanent drought with consequent large-scale emigration on an unprecedented scale.

[The village fighting a data centre: 'The country has been sold out to big tech']

Is there any direct evidence that greenhouse gases are the cause? Ever more convincing evidence has emerged in recent years. For example, satellite measurements of the heat radiated outward by Earth into space show clear absorption bands at exactly the wavelengths associated with greenhouse gases such as carbon dioxide, methane and nitrous oxide. Monitoring this outbound radiation over time shows a steady increase in absorption that correlates exactly with the increase in atmospheric greenhouse gas concentration.

Is global warming fixable? In principle, yes. We simply need to curb the emission of greenhouse gases from human industry and restore to full health natural carbon sinks such as forests and the ocean. This has been known for decades but very little progress has been achieved in reducing emissions. This is particularly worrisome given the existence of tipping points, ie critical points beyond which the global climate may be irreversibly changed.

['Nowhere left to go': Beluga whale off Ireland amid growing sightings of Arctic species]

So what's the problem? The main problem is a concerted resistance from the fossil fuel industry, which has used its immense wealth and power to influence politicians and the media, and to sow doubt and confusion about the issue. For example, while campaigning for a second presidential term, Donald Trump had many meetings with fossil fuel executives during which he openly undertook to cut all federal initiatives to combat climate change and to enhance fossil fuel extraction, in exchange for political donations to his election campaign. Once elected, he has delivered on this promise, resulting in a significant increase in greenhouse gas emissions from the world's largest economy. In this context, one can see how efforts to combat climate change are being hampered by politics contaminated by commercial interests.

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