

Climate change: a carbon-rich problem

Business



Atmospheric concentration of carbon dioxide has been increasing since the Industrial Revolution, and the earth's temperature is rising along with it. The rising temperature is harming the environment by melting ice and making winters warmer.

The main reason we haven't switched to clean energy to avoid this warming is because the switch would be expensive and time consuming. Because of this, energy companies still use fossil fuels, which generate excessive amounts of carbon dioxide, to save money in the short term. These companies say that coal, oil, and natural gas either don't emit CO₂, don't emit as much as claimed, or that the CO₂ doesn't affect the climate. This view is shared by many across the world. Environmental supporters say these compounds do emit CO₂ and warm the climate. We are getting better, but we haven't converted to clean energy, and there are still upcoming consequences of climate change.

Carbon dioxide (CO₂), nitrous oxide (N₂O), and methane – natural gas (CH₄) concentrations in the atmosphere have reached their highest point in the past 802, 000 years, and the earth's temperature has been rising with along with these gases' concentrations. Antarctic ice records (along with current circumstances) give scientists data comparing carbon dioxide levels to a rise in temperature. They can also create models of how temperature and carbon concentrations would be fluctuating as a result of natural causes based on past conditions. These calculated conditions don't match or even come close to matching the actual temperature fluctuations⁵, and the increasing temperature trends are correlating with the amount of human-made CO₂, N₂O, and CH₄ (mostly CO₂). We know this is the case because our cars,

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power plants, and factories emit greenhouse gases, and greenhouse gases increase the Earth's temperature in turn, which is happening now.

This temperature increase can cause widespread habitat destruction. This can make it difficult for many species to survive. This includes humans. A lot of coastal cities and island nations are threatened by storms, storm surges, waves, and the rising oceans. This habitat destruction can even make species go extinct. A very dangerous form of habitat destruction is the declining amount of arctic sea ice.

Over the past two decades, the average arctic temperature has risen ≈ 1 °C. This has resulted in less sea ice formation. We've been measuring the surface area of arctic sea ice every winter, and it keeps hitting record lows on how much of it there is. This is causing habitat destruction, mainly the of habitats of polar bears. Polar bear wild populations are declining, largely due to the melting ice.

This is causing them to move south – a habitat that isn't so suited to their needs. This melting also results in less water being locked up in ice, meaning it's in with the regular ocean water. This causes the oceans' water level to rise, threatening coastal cities like New York and Amsterdam. The melting ice is a huge problem for all of these reasons. Earth's temperature has been rising far above its average in response to greenhouse gas emissions, mainly due to human activity. Temperature has been rising and falling in close correlation with atmospheric CO₂ concentrations for millions of years, and climate change is perfectly natural.

Today however, we're a driving force in global climate change – not natural forces. We know this because the Earth's temperature has been rising since we began making greenhouse gasses. Our technology, cars, power plants, and houses literally generate tons of carbon dioxide. And we know that greenhouse gases absorb and reemit heat rays toward the surface, heating the planet. So we know that we're influencing the climate with our CO₂ emissions.

Moreover, under our control the climate has warmed significantly, something it wouldn't have done without our involvement. This has happened incredibly rapidly; in just a few centuries, rather than a few millennia. And we don't know exactly how to cool the climate; effectively undoing what we've messed up, and ecosystems and natural forces haven't been able to keep up with our activity. That means we either have to stop now to contain the warming and keep our planet safe, or we can keep going and continue to hurt our planet. But we currently don't agree on which one we're going to choose.

We're still burning fossil fuels with a lot of fuel in reserves. There are a lot of power companies that are taking no action. However, some power companies are taking steps towards clean energy. In 2015, Xcel Energy's Upper Midwest region was powered by 51% renewable, carbon-free energy sources. The Paris Climate Agreement is also a step toward reducing our carbon emissions and keeping our planet safe and healthy.

In short, we're divided on the options and may not ever come to a complete agreement. Climate change has its deniers, but it also has people who want

to protect our planet. We do have to switch to clean energy to avoid the more severe repercussions of climate change. Nowadays, we're getting to a point that clean energy is at least equal to the cost of fossil fuel combustion, so we may switch soon. But if we don't, there may be unintended consequences.

Furthermore, we have already guaranteed some consequences of climate change, but we can end what we started to avoid future damage thus saving Earth, animals, and our own future.