



The Flip Side of Carbon Dioxide

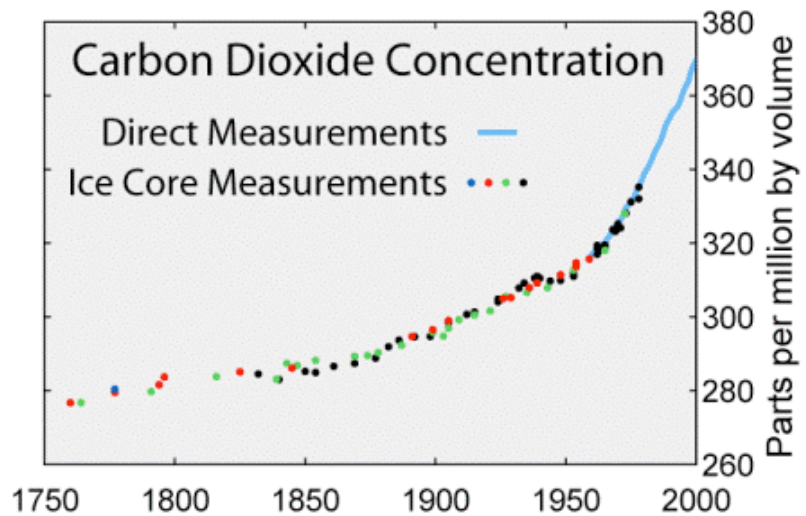
Make a flip book to show carbon increase

Background Info

Carbon dioxide (CO₂) is a greenhouse gas, which means that it traps heat in the Earth's atmosphere. This is a good thing because if there were not enough greenhouse gases in the atmosphere, the Earth would be far too cold for humans to live. Although the amount of CO₂ has changed with drastic periods of warming and cooling throughout the earth's history, levels have remained relatively constant at about **275 parts per million (ppm)** since humans have been on Earth. The relatively stable concentration of 275 ppm

means that for every million molecules in the atmosphere, 275 of them are carbon dioxide. Carbon dioxide levels have remained in a balanced state mainly because the Earth's carbon cycle, where carbon is exchanged and recycled among various places on Earth. The majority of carbon on Earth is stored in the Ocean and in forests.

With the dawn of the industrial era, humans have begun mining massive amounts of carbon stored underground. The carbon comes in the form of coal or oil, which we burn to make the energy that powers our cars, houses, and cities. The burning process requires oxygen, which bonds with the carbon released from coal or oil to form carbon dioxide in the air. By taking carbon out of storage from underground coal and oil deposits and releasing it into the atmosphere, we have increased the amount of carbon dioxide in the atmosphere to 392 ppm. The effects of this increased concentration of CO₂ has led to an overall warming of the Earth's atmosphere. This warming has disrupted the balance that has previously existed, and created the effects we call **climate change**. Current levels of CO₂ are very problematic because scientists estimate that the limit of carbon dioxide that is tolerable in the atmosphere is 350 ppm. We are far over the amount of carbon dioxide in the air that would keep our planet from feeling the effects of climate change. The only way to lower the amount of carbon dioxide in the atmosphere is to find alternative energy sources, rather than carbon based fossil fuels that make the problem worse.



This graph demonstrates how CO₂ concentrations have risen over time.

Credits

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