

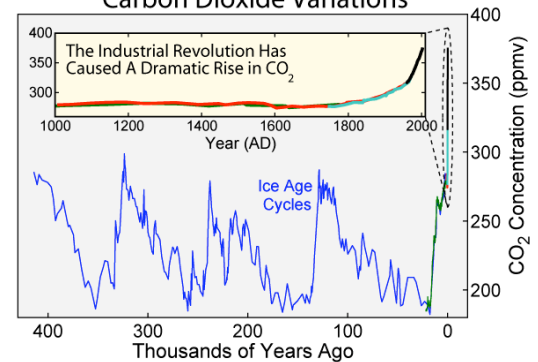
Climate Tipping Point May Have Passed, Swift Reversal Possible, Further Delay Fatal

1. We've released so much carbon dioxide (CO₂) by burning fossil fuels, deforestation and bad agricultural practices that atmospheric CO₂ is **now at 385 parts per million (ppm)**, 67% above the average of the past 800,000 years (covering many glacial/interglacial cycles), and **29% above the maximum of the same period**. The rate of increase is 2.2ppm/year and getting faster each year. From radioisotope fingerprinting of atmospheric CO₂, we know that the current excess of CO₂ in the air is from fossil fuel burning, not from natural causes, so humans are certainly responsible.
2. Due to planetary inertia, the full extent of warming from the CO₂ already in the air will not fully materialize until many years later. **We've set in motion 2 powerful positive feedback mechanisms**: ice-albedo (melting of ice-sheets reduces sunlight deflection by ice, ocean absorbs more heat than ice, hastening warming), and the release of greenhouse gases by warmer ocean, soil and biosphere, further speeding warming.
3. In Sep 2008, **one of the most feared manifestations of the second feedback effect is confirmed in the Arctic: massive deposits of sub-sea methane are bubbling to the surface** via "methane chimneys" as ice and permafrost (which serves as a "lid" to the methane hydrate) melts. Methane is a green house gas **at least 25 times stronger than CO₂**, and its deposits under the permafrost and the ocean floor are bigger than all the oil that was ever and could ever be extracted! **The Intergovernmental Panel on Climate Change (IPCC) did NOT take the warming effect of methane hydrate release into their calculations when they set 450ppm CO₂ as the "do-not-exceed" line**, for averting the worst catastrophes.
4. **In geological times, Earth was completely ice-free when CO₂ exceeded 450ppm. Sea level was 75 meters higher than today.** That concentration is fast approaching, even though the full extent of ice melting will take a long time to happen.
5. NASA's top climatologists tell us that the **safe upper limit** of atmospheric CO₂ that we should aim to stay below is probably **between 300-350 ppm**. **We have already overshot it**. The longer we stay above that, the less likely we could still stop the long term climate change that we've set in motion, which will eventually proceed way beyond human control.
6. Sudden warmings of a few degrees in the past have triggered mass extinctions. **Current species extinction rate is estimated at 100 to 1000 times the average extinction rates** in the evolutionary time scale of planet Earth. A mass extinction is underway and we have to reverse course quickly enough to prevent the worst. **(Please Read Other Side →)**

Information provided by Maggie Zhou, CSGF Board Member.

Please visit <http://www.freewebs.com/maggi Zhou/globalwarming.htm> for details & sources

Carbon Dioxide Variations



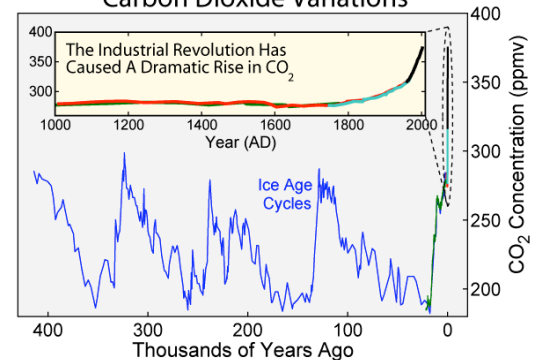
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Carbon Dioxide Variations



What Must We Do NOW?

1. Solving the climate crisis, economic woes, and addressing national security concerns all go hand-in-hand. **Renewable energies and a green, sustainable, re-localized economy is the answer that will create millions of local jobs nationwide, revive our economy, and cure our fossil fuel addiction, while ensuring a livable planet for ourselves and our descendants, all at a fraction of the US military costs, and pays back for itself.** Further delay inevitably leads to increasingly monstrous disaster relief and future wars and conflicts over increasingly scarce resources.
2. Aggressive yet achievable state-led initiatives are effective inducers of national policy shifts. In **Massachusetts** on Nov 4, voters in 11 state representative districts will be able to **VOTE YES** on the following *non-binding Secure Green Future Ballot Question*:
Shall the state representative from this district be instructed to vote in favor of legislation that:
 1. *reduces greenhouse gas emissions in Massachusetts by 80% (below 1990 level) by 2020, and*
 2. *phases out tax incentives for energy-intensive projects, while expanding job creation programs for locally-owned businesses and cooperatives involved in renewable energy, conservation, and sustainable agriculture?*
3. Join other Massachusetts residents in signing a **STATEWIDE PETITION** aimed at the same target as above by visiting www.securegreenfuture.org. **We need volunteers + donations** to raise public awareness of this initiative and to educate the public on the urgency for decisive action. **617-821-1453**
4. **Write letters-to-the-editor** to promote the SGF initiative.
5. **Call 10 friends** and ask them to call 10 of their own to spread the message.
6. **Be the solution.** Dedicate yourself to urgent, transformative action at the personal and policy levels.

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