



Biochar - the superior solution

Our Current Climate Situation

Too much CO₂ is already stored in the air and continues to build up; CO₂ can stay in the air for many years.

The “tipping point” has been passed where we can just reduce our use of fossil fuels to prevent catastrophic climate change. Reducing fossil fuel use only slows down the rate of increasing CO₂ in the air. Even if we stopped using fossil fuels, the amount of CO₂ in the air would continue to increase for years.

We face a catastrophe unless we start pulling CO₂ from the air.

Reducing emissions isn't enough - we have to draw down the carbon stock in the atmosphere.

What level of catastrophe do we face? We have had the same stable and moderate climate—allowing for easy agriculture—for only 10,000 years. The stability of the climate comes from a combination of greenhouse gas levels, polar ice, ocean currents, and other factors. Excess CO₂ in the air traps more heat. Increasing heat melts the polar ice. Melting polar ice increases the heat held by oceans and slows the ocean currents. Slowing ocean currents cause greater temperature extremes. The extra heat will also melt the permafrost, releasing huge amounts of methane and CO₂ ...and on and on. We now face a chain reaction that, at worst, could result in an “extinction level event.”

A Solution

Most of the CO₂ released into the air each year does not come from burning fossil fuels; rather, most of it comes from decaying biomass (organic waste). Plants pull gigantic amounts of CO₂ from the air each year—and then release it back into the air as they decay.

What we need to do is rather simple in concept: We need to keep a portion of CO₂ that is stored in biomass from being released back into the air

each year. If we can store more CO₂ than is being released into the air by burning fossil fuels, we have a good chance of avoiding the worst of climate change. The net result will be less total carbon emitted into the air each year.

The Goal

The goal is to get CO₂ levels down to 280 parts per million (ppm), the level of CO₂ we had in the air before the industrial revolution. We currently have 387ppm of CO₂ in the air. Further, the rate of increase keeps increasing each year.

This goal of 280ppm is in sharp contrast to the goal of current political leaders. Political leaders have only proposed slowing down the rate of increase—which cannot possibly avoid catastrophe.

Strategies and a Call to Action

The most natural and cost-effective way of storing CO₂ is by pyrolysis (chemical decomposition of organic substances by heating with low oxygen) of biomass to create biochar. The Amazonians used pyrolysis thousands of years ago to create biochar; the biochar improved the productivity of their soil. The result of pyrolysis is activated charcoal (carbon to improve the soil) and natural gas (for energy). The Amazonians did not burn the natural gas for fuel, of course, but we can.

The following three steps, if implemented well, can do more to reduce the excessive carbon in our air than all other alternative energy, recycling, and energy efficiency efforts combined:

- 1) Farmers and forestry departments must convert their organic waste to biochar.
- 2) New power plants must use biomass as the feedstock.
- 3) Existing coal-fired plants must shift over to biomass as the feedstock.

For more information, visit <http://tinyurl.com/yadjvvn>

Reducing emissions isn't enough – we have to draw down the carbon stock in the atmosphere; biochar is a superior solution.