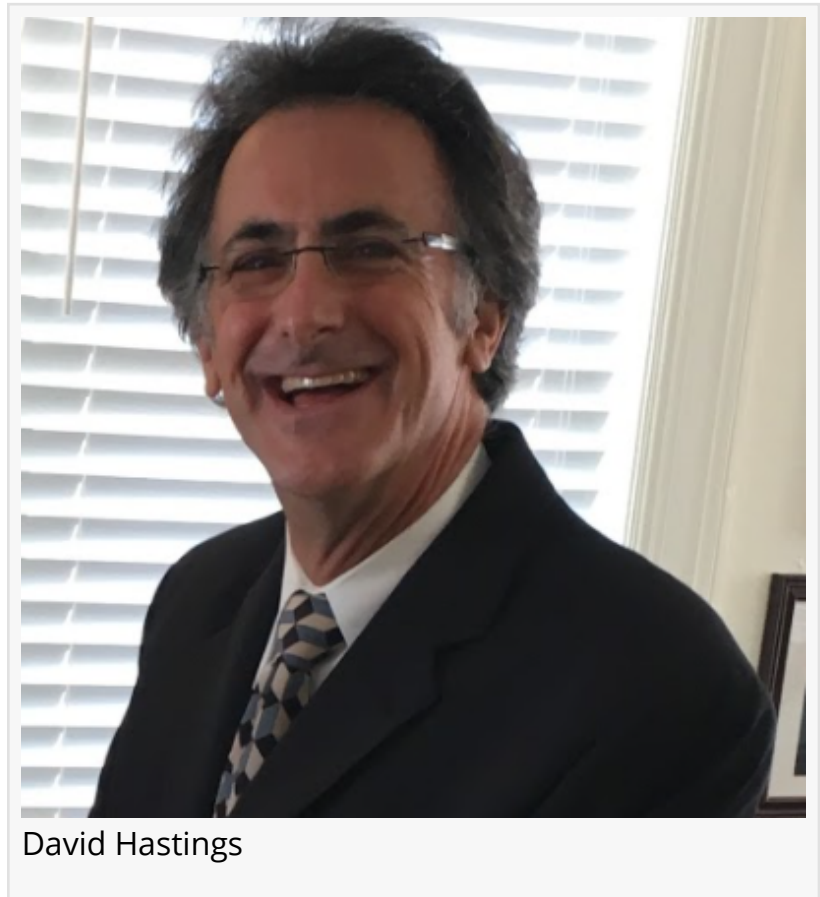


Dr. David Hastings explains carbon capture and how it can help mitigate climate change

David Hastings on carbon capture and how it can help mitigate climate change

GAINESVILLE, FL, UNITED STATES , November 3, 2020 /EINPresswire.com/ -- Dr. [David Hastings](#) shines an expert spotlight on carbon capture and storage as a means to lower carbon dioxide in the atmosphere and prevent the worst impacts of climate change. But, can we scale up fast enough?

A former college professor, Dr. [David Hastings](#) is an expert on climate change and remains passionate about sustainability and solutions for the climate crisis. With a focus on reducing carbon dioxide in the atmosphere, the Gainesville-based academic provides a closer look at carbon capture and storage.



David Hastings

"Often I am asked, 'What is carbon capture and storage?'" says Dr. David Hastings, speaking from his home in Gainesville, Florida.

Dr. David Hastings is a retired college professor who arrived in Florida two decades ago to teach marine science and chemistry at Eckerd College in St. Petersburg, FL. According to Dr. Hastings, carbon capture and storage is a method to remove carbon dioxide from the atmosphere by capturing and sequestering it to a repository where it can not escape. It is usually most efficient to extract the carbon dioxide from large point sources, such as factories and electric power plants burning coal, oil or natural gas. The carbon dioxide is then transported to storage sites and deposited where it cannot re-enter the atmosphere. "The goal is to stop the release of large amounts of waste carbon dioxide, primarily from electric utilities and heavy industry," adds Dr. David Hastings.

The process Dr. [David Hastings believes](#) is a leading method of mitigating the contribution of waste carbon dioxide toward global warming. "It is also a way," Prof. Hastings goes on, "of mitigating the waste's contribution toward worsening ocean acidification."

Much of the waste carbon dioxide sequestered through carbon capture efforts can be deposited and stored in deep geological formations, or in the form of mineral carbonates such as calcium carbonate. The National Energy Technology Laboratory claims that North America currently has sufficient storage capacity, between deep geological formations and other existing solutions, for almost a thousand years of waste carbon dioxide capture and storage at current production rates. "Deep ocean storage has been ruled out based on its potential to acidify the marine environment," notes Dr. David Hastings.

Alternative avenues are also being explored at length, including so-called pyrogenic carbon capture and storage. "Currently the subject of extensive ongoing research, pyrogenic carbon capture and storage is a highly promising technology that could not only further mitigate climate change," adds Dr. David Hastings in closing, "but also improve soil fertility in the process."

The latest carbon capture and storage methods, Dr. David Hastings reports, can reduce carbon dioxide emissions at large point sources by as much as 90 percent, according to the Intergovernmental Panel on Climate Change – the United Nations body for assessing the science underlying our concern for climate change. Global carbon capture and storage efforts are now reportedly collecting more than 40 megatonnes of waste carbon dioxide annually. "This is equivalent to over 40 million tonnes, which seems like a lot" points out Dr. David Hastings, "but pales in comparison to what is needed." Globally, about 37 billion tonnes of carbon dioxide are emitted to the atmosphere annually according to the UN Environment program. Dr. Hastings goes on: "Avoiding climate disaster requires 10 billion tonnes of carbon dioxide emissions to be eliminated or removed from the atmosphere each year by mid-century, and 20 billion tonnes per year by 2100."

Dr. Hastings has major reservations and concerns with this approach. "A major problem with carbon capture and storage is that while the technology exists to remove carbon dioxide from the air and from the smokestacks of power plants, it is not clear that we can scale up fast enough" Dr. Hastings states.

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