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Claim: CO2 Emissions Are Greening The Planet

By Michael Bastasch

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Climate scientists often shriek about the supposed downsides of increased carbon dioxide emissions: a warmer planet, rising seas, impending doom, John Cusack, etc.

But is there an upside?

As it turns out, increased atmospheric concentrations of carbon dioxide are greening the planet, according to research done on the subject.

"One byproduct of increased carbon dioxide in the atmosphere and the longer temperate-zone growing seasons accompanying global warming is greater plant growth," wrote Bjorn Lomborg, director of the Copenhagen Consensus Center — also known for his book "The Skeptical Environmentalist."

Carbon dioxide is plant food. It's a substitute for water and allows plant life to thrive in areas that would have previously been impossible, including in the world's most arid regions — a phenomenon called "CO2 fertilization." A warmer world also means longer growing seasons in temperate zones, which further spurs plant growth.

"The unsung part about global warming. It will actually lead to a greener planet, because CO2 works as a fertilizer and global warming leads to more precipitation," Lomborg said, citing recent workby Jesse Ausubel, director of the Program for the Human Environment at Rockefeller University in New York.

"Global Greening," Ausubel said, "is the most important ecological trend on Earth today. The biosphere on land is getting bigger, year by year, by two billion tons or even more."

Ausubel is not the only research to note the effects of CO2 fertilization. Several other groups have also noted that carbon dioxide emissions are greening the planet.

"Well documented evidence shows that concurrently with the increased CO2 levels, extensive, large, and continuing increase in biomass is taking place globally — reducing deserts, turning

grasslands to savannas, savannas to forests, and expanding existing forests," according to a study by the libertarian Cato Institute from last year.

"Nevertheless, in nearly all regions and globally, the overall effect in recent decades is decidedly toward greening," Cato notes. "This result is also the opposite of what the IPCC expected."

In 2013, Australia's Commonwealth Scientific and Industrial Research Organisation (CSIRO) found that "CO2 fertilisation correlated with an 11 per cent increase in foliage cover from 1982-2010 across parts of the arid areas studied in Australia, North America, the Middle East and Africa."

"In Australia, our native vegetation is superbly adapted to surviving in arid environments and it consequently uses water very efficiently," said Dr. Randall Donohue, a CSIRO research scientist. "Australian vegetation seems quite sensitive to CO2 fertilisation."

Another 2013 study published in the journal Nature found a "substantial increase in water-use efficiency in temperate and boreal forests of the Northern Hemisphere over the past two decades."

"The observed increase in forest water-use efficiency is larger than that predicted by existing theory and 13 terrestrial biosphere models," the study added. "The increase is associated with trends of increasing ecosystem-level photosynthesis and net carbon uptake, and decreasing evapotranspiration."

But as Lomborg notes, CO2 fertilization is only one side of global warming and does not diminish the importance of the issue.

"Remember, this does not mean that global warming is not real or not overall a problem," he said. "There are definitely downsides to global warming (and in the long run these are greater than the upsides). But we don't get a balanced global conversation on climate change if we overwhelmingly hear about the downsides but rarely if ever hear about the upsides."

Scientists have also warned that higher temperatures, water scarcity and more severe weather could offset the benefits of "global greening."

"On the face of it, elevated CO2 boosting the foliage in dry country is good news and could assist forestry and agriculture in such areas; however there will be secondary effects that are likely to influence water availability, the carbon cycle, fire regimes and biodiversity, for example," CSIRO's Donahue cautioned.