**Date:** Thursday, August 25 2016 12:51 PM
**Subject:** FW: BIOFUELS UPDATE: ***New Study Says Biofuels Boost Carbon Emissions; Groups Respond
**From:** Bryan Just
**To:** Patrick Kelly [redacted]; Sabrina Fang [redacted]; Frank Macchiarola [redacted]
**Attachments:** Carbon-balance-of-biofuel_CC_Aug2016.pdf

Patrick,

# Redacted

Bryan

-----Original Message-----
From: Redacted - Privacy
Sent: Thursday, August 25, 2016 12:23 PM
To: Bryan Just
Subject: BIOFUELS UPDATE: ***New Study Says Biofuels Boost Carbon Emissions; Groups Respond

2016-08-25 12:23:00 EDT
***New Study Says Biofuels Boost Carbon Emissions; Groups Respond

University of Michigan researchers said Thursday that rising use of biofuels in the U.S. has led to a net increase in carbon dioxide emissions associated with global warming, challenging long-held renewable fuel industry arguments that the crop-based fuels deliver greenhouse gas reductions.

According to a study conducted by research professor John DeCicco and co-authors at the institute, increased carbon uptake from U.S. crops was only enough to offset 37% of the CO2 emitted by biofuel combustion. The study is based on U.S.
Department of Agriculture crop production data examining biofuel use from 2005 to 2013.

"This is the first study to carefully examine the carbon on farmland when biofuels are grown, instead of just making assumptions about it," DeCicco said.
"When you look at what's actually happening on the land, you find that not enough carbon is being removed from the atmosphere to balance what's coming out of the tailpipe."

The study said U.S. biofuel use rose from 4.2 billion gal in 2005 to 14.6 billion gal in 2013 and over that period, additional carbon uptake on croplands offset only 37% of the biofuel-related CO2 emissions. The study, "Carbon Balance Effects of U.S. Biofuel Production and Use," was published online Thursday in the journal, Climatic Change.

The study said the environmental justification for increased use of renewable fuels "rests on the assumption that biofuels, as renewable alternatives to fossil fuels, are inherently carbon neutral because the carbon dioxide released when they are burned was derived from CO2 that the growing corn or soybean plants pulled from the atmosphere through photosynthesis. That assumption is embedded in the carbon footprint models used to justify and administer policies such as the federal [Renewable Fuel Standard] and the California Low-Carbon Fuel Standard. The models, which are based on a technique called lifecycle analysis, have often found that

crop-based biofuels offer at least modest net greenhouse gas reductions relative to petroleum fuels."

DeCicco and his colleagues, however, said they analyzed real-world data on crop production, biofuel production, fossil fuel production and vehicle emissions -- without presuming that that biofuels are carbon neutral.

"When it comes to the emissions that cause global warming, it turns out that biofuels are worse than gasoline," DeCicco said. "So the underpinnings of policies used to promote biofuels for reasons of climate have now been proven to be scientifically incorrect. Policymakers should reconsider their support for biofuels."

Biofuel advocates were quick to slam the study, citing the fact that that the study was partially funded by the American Petroleum Institute, perhaps the most influential opponent of the RFS.

The Renewable Fuels Association (RFA) said DeCicco's study failed to account for the distinctive origins of the carbon embedded in the fuel, citing previous studies that have compared biofuels and their release of carbon emissions that were sequestered in plants in the crop rather than fossil fuels that emit carbon that was previously sequestered underground for millions of years.

"It is this new carbon that is contributing to climate change," RFA said in a statement. "When considered on a full lifecycle basis, scientists generally agree that first-generation ethanol reduces GHG emissions by 30-60% compared to petroleum, while second-generation ethanol offers reductions of 80% or more."

Biofuels proponents previously criticized DeCicco's studies for not taking the full lifecycle analysis of biofuels and their biomass feedstocks into account, compared with fossil fuels.

"Overwhelmingly, objective research demonstrates that biofuels are among the best tools we have to reduce greenhouse gas emissions and combat the effects of climate change," Growth Energy CEO Emily Skor said in a statement. "The latest attacks from John DeCicco and his sponsors in the oil industry reflect the same bogus arguments they have made for years, and policymakers aren't going to be fooled."

Pro-RFS group Americans United for Change called the study, "the latest case of oil industry payola."

"Big Oil releasing a report claiming biofuels bear more blame for climate change than gasoline produced by dirty fossil fuels is like a Ryan Lochte police
report: a totally made up story to cover up their own guilt," Americans United for Change President Brad Woodhouse said. "It's the same play book Big Oil has been using for decades. They find scientists willing to take their money to say what they want to say, try to pass it off as scientific and unbiased, and use it to stop policies that would protect the climate and threaten the profits of the oil companies."

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