



Bad Science Fuels Environmental Policies

By Diane S. Katz

Summary

New research reveals that ethanol and other biofuels exacerbate the very problem they were supposed to improve. When politicians ignore sound science, their environmental policies often do more harm than good.

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In a stunning reversal of environmental doctrine, researchers have determined that ethanol and other heavily subsidized “biofuels” are far more polluting than the petroleum they were developed to replace. This latest policy blunder illustrates the costly consequences of ignoring science in climate change policy.

Two studies published online Feb. 7 by the journal “Science” report that the cultivation of corn for ethanol and other biofuel feedstocks substantially increases emissions of the greenhouse gases that are supposedly causing climate change. One of the studies calculated that corn-based ethanol, instead of producing a 20-percent reduction, nearly doubles greenhouse gas emissions over 30 years while the production of fuel from switchgrass increases emissions by 50 percent.

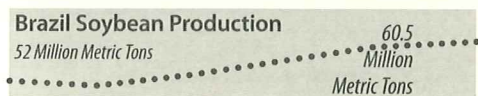
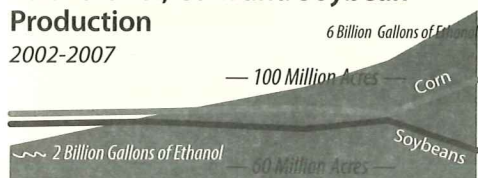
The excess emissions result from land conversions that are driven by demand for corn and other crops used to produce “renewable” fuels. According to the researchers, soil and plants together store 2.7 times more carbon than is present in the atmosphere. Thus, burning and plowing grasslands, rain forest, savannas and peat land for crop cultivation releases huge amounts of carbon dioxide into the atmosphere. Moreover, the loss of plants and soil reduces the absorption of carbon dioxide from the atmosphere that otherwise would occur.

The research team, headed by Timothy Searchinger of Princeton University, calculated that one hectare of corn grown for ethanol reduces greenhouse gases by 1.8 million tons per year. But the conversion of one hectare of forest produces between 604 million tons and 1,146 million tons of greenhouse gases. It can take centuries before this “carbon debt” is reversed through the use of biofuels in place of petroleum.

Environmental benefit, in the form of reduced emissions of greenhouse gases, may be achieved if biofuels are produced with “waste biomass,” such as wood by-products and agricultural debris, or from biomass grown on abandoned agricultural lands, researchers say.

Excess carbon emissions are not the only unintended consequence associated with biofuels. The National Academy of Sciences has reported that ethanol production is taxing water supplies, while the boom in corn and other feedstock production fosters soil erosion and fertilizer runoff. Also overlooked is the effect of biofuel policy on fuel prices: The lower

U.S. Ethanol, Corn and Soybean Production 2002-2007



Source: U.S. Dept. of Agriculture

costs engendered by subsidies fuels energy consumption and, in turn, emissions of greenhouse gases.

Corn acreage in the United States increased 18 percent — or 14 million acres — between 2006 and 2007. Much of the increase is the result of subsidies that will exceed \$5 billion this year alone. The impact on global agriculture is dramatic. The subsidies impel American farmers to devote evermore acres to corn for ethanol. The consequent reduction in U.S. supplies of soybeans and other displaced crops sends commodity prices higher, which prompts farmers elsewhere, particularly in Brazil and Southeast Asia, to clear land for cultivation.

Recent legislation promises to intensify the trend. The federal energy bill signed by President George Bush on Dec. 20, 2007, calls for biofuels to comprise 15 percent of all transport fuel by 2022 — or 36 billion gallons per year compared to 7.5 billion now produced annually. Meanwhile, the European Union last month proposed a 10 percent biofuel mandate.

Michigan lawmakers and Gov. Jennifer Granholm, too, have been overtaken by biofuel fever, proposing to expand state tax breaks and other economic incentives for the production of ethanol and crop-based fuels in the state.

The obvious disconnect between environmental policy and science is hardly surprising given the political pressure to act on climate change. As Nicholas Nuttall, a spokesman for the United Nations Environmental Program told the New York Times: “There was an unfortunate effort to dress up biofuels as the silver bullet of climate change.”

But contrary to conventional wisdom, there’s no “consensus” about a causal link between carbon dioxide and climate change; predictions of future warming; or what effects may result from climate change. Unfortunately, that hasn’t kept lawmakers and regulators from imposing all manner of dictates in utter ignorance of the actual effects on the environment.

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Diane S. Katz is director of science, environment and technology policy with the Mackinac Center for Public Policy, a research and educational institute headquartered in Midland, Mich. Permission to reprint in whole or in part is hereby granted, provided that the author and the Center are properly cited.

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Michael D. Jahr
Director of Communications
140 West Main Street
P.O. Box 568
Midland, Mich. 48640

Phone: 989-631-0900
Fax: 989-631-0964
www.mackinac.org
Jahr@mackinac.org