

WebMemo



Published by The Heritage Foundation

No. 1912
May 2, 2008

Ethanol and Other Biofuels: A Global Warming Solution Worse Than the Problem

Ben Lieberman

There are risks to global warming policy as well as risks to global warming, and although the former could be costlier than the latter, they are often neglected in climate change debate. While it may seem far-fetched to some that responding to the “climate crisis” could do more harm than good, it is in fact already happening. Consider the biofuels mandate, which is contributing to the very global warming problems it was designed to prevent.

Global Warming and Hunger. Among the litany of scary predictions associated with global warming is the adverse impact on future food supplies. For example, the 2007 U.N. Intergovernmental Panel on Climate Change report states that by 2020, “agricultural production, including access to food, in many African countries is projected to be severely compromised.”¹ A frequently cited global warming study conducted for the Pentagon went one step further, outlining potential hunger-related political unrest and national security concerns and stating that “aggressive wars are likely to be fought over food, water, and energy.”² Environmental activists warn of crop failures adding to the waves of “climate refugees” fleeing areas that can no longer sustain them.

As with all global warming-related gloom-and-doom predictions, there are reasons for doubt. For example, the temperature increases during the 1980s and 1990s, on which current global warming concerns are largely based, were accompanied by increases in food production.³

Thus, the predicted link between warming and reduced food supplies is not based on past experi-

ence. And, even assuming that the planet warms as much as these scenarios predict, it may result in the agricultural sector finding methods to adapt to changing conditions in order that yields are not significantly reduced. Further, the link between global warming and increased drought, the main cause of the hypothesized decline in food supplies, is challenged by several researchers.⁴

Nevertheless, as global warming activists continue to predict alarming food shortages occurring at some point in the future, many look around and see a tightening food supply today. Only it was not caused by global warming: It was caused in part by global warming policy, specifically the move toward using food as fuel.

Biofuels Mandates and Hunger. America’s first mandatory policy to reduce global warming emissions is its biofuels mandate. Along with the national security and other perceived benefits, these agriculturally-based alternative fuels were purported to have lower global warming emissions than the petroleum-derived gasoline or diesel fuel they displace. At the beginning of the decade, Al Gore said that “by tripling U.S. use of bioenergy and bioproducts by 2010, we can keep millions of tons of greenhouse gases out of the air...”⁵

This paper, in its entirety, can be found at:
www.heritage.org/Research/EnergyandEnvironment/wm1912.cfm

Produced by the Thomas A. Roe Institute
for Economic Policy Studies

Published by The Heritage Foundation
214 Massachusetts Avenue, NE
Washington, DC 20002-4999
(202) 546-4400 • heritage.org

Nothing written here is to be construed as necessarily reflecting the views of The Heritage Foundation or as an attempt to aid or hinder the passage of any bill before Congress.

Thanks to the 2007 energy bill signed into law by President Bush last December, it is occurring even faster than Gore imagined. The U.S. is now required to mix 9 billion gallons of such fuels into the gasoline supply in 2008, up from less than 3 billion gallons in 2000. The mandate is mostly met by corn-based ethanol. Europe has also set similar targets for biofuels, mostly bio-diesel made from palm oil, rapeseed, or soybeans.

Not surprisingly, diverting crops from food to fuel use has raised food prices. At a little over \$2 per bushel when the mandate was first effective, the price of corn has recently surged well above \$5, due in large part to nearly a quarter of the crop's now being needed for fuel use. A host of corn-related foods, such as corn-fed meat and dairy, have seen sharp price increases. Wheat and soybeans are also up, partly as a result of fewer acres now being planted in favor of corn. European biodiesel mandates have had a similar impact.

A Purdue University study places the annual food cost increases for 2007 at \$22 billion and estimates that "\$15 billion of this increase is related to the recent surge in demand to use crops as fuel."⁶ That \$15 billion calculates to an additional \$130 per household in 2007, and food prices are considerably higher thus far in 2008.

Other factors—high energy costs, below-average yields in some regions, growing world population, a weak dollar—have also impinged on food supplies and prices. However, most experts see the biofuels

mandates as a substantial contributor, and one that exacerbates any other pressures on food costs.

With 800 million people at risk for hunger and malnutrition, the consequences are far more severe in developing nations than they are in developed nations. "When millions of people are going hungry, it's a crime against humanity that food should be diverted to biofuels," said Palaniappan Chidambaram, India's finance minister.⁷ World Bank President Robert Zoellick has acknowledged that "biofuels is no doubt a significant contributor" to high food costs, adding that "it is clearly the case that programs in Europe and the United States that have increased biofuel production have contributed to the added demand for food."⁸

Even some of the political unrest described in the Pentagon study is starting to emerge. Rising prices have led to food-related rioting in several developing nations.⁹ While it is not possible to demonstrate conclusively that, this rioting would not have occurred if not for the biofuels mandates, it is far from speculative to assume that the increased pressures of the mandates on food prices were contributors. In any event, the rioters are clearly not responding to global warming, as there has been no additional warming in 2007 and thus far in 2008.

Moreover, all of this is occurring from biofuels usage that is only a fraction of what will be required in the years ahead. America is only one-quarter of the way toward the 36 billion gallon requirement by 2022 included in last December's

1. U.N. Intergovernmental Panel on Climate Change, *Climate Change 2007: Synthesis Report*, November 2007, p. 11, at http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr_spm.pdf.
2. Peter Schwartz and Doug Randall, *An Abrupt Climate Change Scenario and Its Implications for United States National Security*, October 2003, p. 15, at <http://www.gbn.com/GBNDocumentDisplayServlet.srv?aid=26231&url=/UploadDocumentDisplayServlet.srv?id=28566>.
3. Ronald Bailey, *The True State of the Planet* (Washington, D.C.: The Free Press, 1995), pp. 49–82.
4. See M. Hoerling, J. Hurrell, J. Eischeid, and A. Phillips, "Detection and Attribution of Twentieth-Century Northern and Southern African Rainfall Change," *Journal of Climate*, Vol. 19 (2006), pp. 3989–4008.
5. Al Gore, *Earth in the Balance: Ecology and the Human Spirit* (New York: Plume, 2000), pp. xviii.
6. Corinne Alexander and Chris Hurt, Purdue University, "Biofuels and Their Impact on Food Prices," September 2007, at <http://www.ces.purdue.edu/extmedia/ID/ID-346-W.pdf>.
7. Quoted in Bob Davis and Douglas Belkin, "Food Inflation, Riots Spark Worries for World Leaders," *The Wall Street Journal*, April 14, 2008, at http://online.wsj.com/article/SB120813134819111573.html?mod=googlenews_wsj.
8. NPR, "Biofuels Boosting Food Prices," April 11, 2008, at <http://www.npr.org/templates/story/story.php?storyId=89545855>.
9. Davis and Belkin, "Food Inflation, Riots Spark Worries for World Leaders."

big energy bill. The European Union also has plans to increase its biodiesel use, though it is now reconsidering this policy.

To add insult to injury, the global warming benefits of biofuels have been called into question. Two recent studies published in the journal *Science* conclude that, rather than reducing carbon dioxide and other greenhouse gas emissions, biofuels actually increase them.¹⁰ One study finds that clearing lands for energy crops creates a so-called carbon debt by “releasing 17 to 420 times more carbon dioxide than the annual greenhouse gas (GHG) reductions that these biofuels would provide by displacing fossil fuels,”¹¹ while the other projects “GHG emissions from corn ethanol nearly double those from gasoline for each km driven.”¹²

Last year, a study conducted for the Organization for Economic Cooperation and Development, presciently entitled “Biofuels: Is The Cure Worse Than the Disease?” stated that “the rush to energy crops threatens to cause food shortages and damage to biodiversity with limited benefits.”¹³ The authors were right. Oxfam, an international aid organization

that has been very vocal about the threat of global warming, now concedes that “large-scale growth in biofuels demand has pushed up food prices and so far there is little evidence that it is reducing overall carbon emissions.”¹⁴

Conclusion. The very food-related problems that we see today are much like the hypothesized future ones that were supposed to be caused by global warming. That global warming policy is more likely a contributor than global warming itself is a strong enough reason to rethink this policy.

For this reason, Congress should repeal its current biofuels mandate. In addition, as the Senate soon takes up debate on S. 2191, the major global warming bill, it should heed the biofuels lesson and avoid any measures that may also prove to be more trouble than they are worth.

—Ben Lieberman is Senior Policy Analyst for Energy and the Environment in the Thomas A. Roe Institute for Economic Policy Studies at The Heritage Foundation.

-
10. Joseph Fargione *et al.*, “Land Clearing and the Biofuel Carbon Debt,” *Science*, Vol. 319 (February 29, 2008), pp. 1235–1238; Timothy Searchinger *et al.*, “Use of U.S. Croplands for Biofuels Increases Greenhouse Gases Through Emissions from Land-Use Change,” *Science*, Vol. 319 (February 29, 2008), pp. 1238–1240.
 11. Fargione *et al.*, “Land Clearing and the Biofuel Carbon Debt,” p. 1235.
 12. Searchinger *et al.*, “Use of U.S. Croplands for Biofuels Increases Greenhouse Gases Through Emissions from Land-Use Change,” p. 1239.
 13. Richard Doornbosch and Ronald Steenblik, “Biofuels: Is the Cure Worse Than the Disease?” Organization for Economic Co-operation and Development, September 2007, p. 4, at <http://media.ft.com/cms/fb8b5078-5fdb-11dc-b0fe-0000779fd2ac.pdf>.
 14. Press release, “Oxfam and Care call for fundamental changes in tackling global hunger and food price hikes,” April 18, 2008, at http://www.oxfam.org.uk/applications/blogs/pressoffice/2008/04/oxfam_and_care_call_for_fundam.html.