

February 7, 2008

President George Bush
The White House
Washington, DC 20500

Honorable Nancy Pelosi
The Capitol
Washington, D.C. 20515

Honorable John Boehner
The Capitol
Washington, DC 20515

Honorable Harry Reid
The Capitol
Washington, DC 20510

Honorable Mitch McConnell
The Capitol
Washington, DC 20510

Re: New Research on Biofuels

Dear President Bush, Speaker Pelosi, Congressman Boehner and Senators Reid and McConnell,

We write to call your attention to recent research indicating that many anticipated biofuels will actually exacerbate global warming.

These new analyses incorporate key elements missing from previous analyses. Despite the complexity of those previous analyses, biofuels ultimately provide greenhouse gas benefits primarily because growing the feedstock for the biofuel takes carbon out of the atmosphere. By contrast, gasoline and diesel fuel take carbon out of the ground and put it in the air. But to take carbon out of the atmosphere, most biofuels use land. If the land used to grow biofuels directly comes out of forest or grassland, there is a large, quick release of carbon from removing this vegetation and tilling the soil. Any ongoing carbon sequestration in trees or grass fodder is also lost. If biofuels use existing cropland, farmers around the world will replace most of the food, which they are likely to do in significant part by clearing forest and grassland, and releasing their carbon stores to the air. Previous accountings failed to assess the carbon losses from the areas directly impacted by biofuel use or implicitly assumed that using existing cropland would cause no indirect land use changes to replace the diverted food and feed. Emerging calculations now indicate that over a reasonable time frame and within a broad, reasonable set of assumptions, the increased emissions of greenhouse gasses from direct and indirect land use changes are likely to exceed the greenhouse gas savings of most biofuels whether these land use changes occur directly or indirectly.

This same causal chain means biofuels are contributing to the loss of some of the world's most valuable habitats, such as the Amazon and Cerrado in Brazil, and the rainforests of Southeast Asia. That is occurring not only directly but indirectly, in response to higher crop prices. Just rejecting biofuels produced on newly converted land would have little or no effect: Biofuel processors would use existing croplands, but other farmers would convert lands to replace the diverted grain, releasing greenhouse gasses to

the atmosphere and eliminating benefits of the biofuels. Cellulosic ethanol does not escape this problem if it is generated on productive lands, such as good cropland. And to the extent food diverted to biofuels is not replaced, because higher prices reduce demand, the world's poorest people will bear much of the cost. That represents a greenhouse gas benefit but not an acceptable one.

There is an urgent need for policy that ensures biofuels are not produced on productive forest, grassland or cropland.

Some opportunities remain to produce environmentally beneficial biofuels. Sources of feedstocks for biofuels that avoid land use change include municipal or industrial waste, and agricultural wastes, which nevertheless must be used with great care to preserve agricultural productivity and soil carbon and avoid soil erosion. Harvesting fall grass from agricultural reserve lands also holds promise. There is also potential to produce biofuels on some degraded lands or to manage them to increase their ability to capture or store carbon. Although the opportunities to use biofuels to effectively replace fossil fuels are more limited than previously believed, they could remain an important element in a comprehensive program of fossil fuel reduction.

Virtually all strategies for addressing climate change require that the world not only find alternatives to fossil fuels but also do a better job of protecting (and hopefully restoring) our forests and grasslands even in the face of the food demands of billions more people. Unsound biofuel policies could sacrifice tens to hundreds of millions of acres of such lands. We urge you to shape policies to assure that government incentives for biofuels do not increase global warming and in so doing provide leadership on this issue around the world.

Steve Hamburg
Director, Global Environment Program
Brown University
(401) 863-3449

William Chameides
Professor of the Environment
Nicholas School of the Environment
and Earth Sciences
Member National Academy of Sciences

R.A. Houghton
Deputy Director
Woods Hole Research Center

Stuart Chapin
Professor of Ecology
University of Alaska
Member, U.S. National Academy of
Sciences

Gene Likens
President Emeritus
Cary Institute for Ecosystem Studies
Member, U.S. National Academy of
Sciences

Tom Lovejoy
President
The H. John Heinz III Center for Science,
Economics and the Environment

C. Ford Runge
Distinguished McKnight University Professor
of Applied Economics and Law
University of Minnesota

David Wilcove
Professor of Ecology and Evolutionary Biology
and Public Affairs
Princeton University

Peter H. Raven
President
Missouri Botanical Society
Member, U.S. National Academy of
Sciences

William Schlesinger
President
Cary Institute of Ecosystem Studies
Member, U.S. National Academy of
Sciences