

The Problem With Biofuels

More proof that there are no easy solutions to climate change

Wednesday, February 27, 2008; A16

AS THE United States searches for alternative ways to feed its addiction to petroleum, ethanol and other biofuels derived from organic material have been considered a miracle motor vehicle elixir. The energy bill signed by [President Bush](#) in December mandates that at least 36 billion gallons of biofuels a year be used by 2020. Yet separate studies released this month by [Princeton University](#) and the [Nature Conservancy](#) reveal that biofuels are not a silver bullet in the battle against global warming. In fact, they could make things worse.

Corn and sugar cane are common sources of ethanol. Aside from emitting fewer greenhouse gases than coal or oil when burned as fuel, these biofuel crops remove carbon from the atmosphere while they are growing -- thus making them nearly carbon-neutral.

But the studies show that ethanol may be even more dangerous for the environment than fossil fuels are. As the [Princeton](#) study points out, clearing previously untouched land to grow biofuel crops releases long-sequestered carbon into the atmosphere. While planting corn and sugar cane in already tilled land is fine, a problem arises when farmers churn up new land to grow more fuel or the food and feed displaced by biofuel crops.

The impact of these land-use changes is enormous. As the study from the Nature Conservancy warns, "converting rainforests, peatlands, savannas, or grasslands to produce biofuels in [Brazil](#), [Southeast Asia](#) and the United States creates a 'biofuel carbon debt' by releasing 17 to 420 times more carbon dioxide than the fossil fuels they replace." There are other negative effects. Massive amounts of water are needed to irrigate cornfields, setting up potential competition between farms and homes. The runoff of pesticides and nitrogen-based fertilizers used by farmers could lead to increased pollution and oxygen-depleted waterways. The natural gas used to make the fertilizer adds to the carbon deficit created by biofuels.

An essay in the May-June 2007 issue of Foreign Affairs by two professors from the [University of Minnesota](#) highlighted still another problem: The biofuels craze could starve people. "By putting pressure on global supplies of edible crops, the surge in ethanol production will translate into higher prices for both processed and staple foods around the world," they wrote. "If oil prices remain high -- which is likely -- the people most vulnerable to the price hikes brought on by the biofuel boom will be those in countries that both suffer food deficits and import petroleum."

The problems with corn-based ethanol, long regarded as a transitional fuel source, have been debated for years.

One alternative is to squeeze ethanol out of cellulose from switch grass, cornhusks and other biomass sources. But because cellulosic ethanol remains experimental, it might be years before it makes it from the laboratory to the gas tank.

It all adds up to another example that there is no quick, cheap and easy way to confront the menace of global warming.