



biofuels

update

by Gary Weidner

If words could wear out from use, one might suspect that for many of us words like green, sustainable, carbon, ozone, biodiesel, and ethanol would be pretty dog-eared by now. But one that has retained plenty of zing is “ethanol,” because it has given rise to lots of contention—environmental, economic, and political.

Even as alternative fuel supporters are pushing the federal government to raise the ethanol content in blended gasoline from 10 percent to 15 percent, a report issued by a prestigious body of scientists questions ethanol’s benefits, in particular corn ethanol.

The report comes from the Scientific Committee on Problems of the Environment, part of the International Council for Science, which convened a workshop involving 75 scientists from 21 countries in the fall of 2008. The purpose was to use “the best available science” to evaluate the effects of the push toward biofuels world-wide.

Corn ethanol does not fare well in the group’s report, which notes “In 2007, the U.S. used 24 percent of its national corn harvest to produce ethanol, which contributed 1.3 percent of national liquid fuel use.” A question explored in detail is whether there is enough suitable land available to grow the necessary feedstock.

Noting that biofuels are often promoted as a way to reduce global warming, the report finds that some biofuel production actually increases greenhouse gas emissions relative to the fossil fuels replaced.

Biofuels also compete for fresh water. The report says that water requirements to produce biofuels are from 70 to 400 times larger than for other energy sources, including fossil fuels. It adds that in 2007, roughly 1.2 trillion gallons of irrigation water were used for biofuel production, about six times as much water as the world’s people drank.

Interestingly, the report concludes that “Biomass can be used much more efficiently...through direct combustion to generate electricity and heat, rather than being converted

to liquid fuels such as ethanol.” Of course, some of that electricity could go toward fueling electric cars.

According to an article in the April 27, 2009 issue of *Waste and Recycling News*, the ethanol industry blasts the report, saying, “What is clear is the authors of this report prefer to include speculative theories about bio-fuel production rather than empirical research conducted by serious academics,” according to Tom Buis, CEO of a pro-ethanol group.

Meanwhile, an article titled, “Could Food Shortages Bring Down Civilization?” in the April issue of *Scientific American* builds an impressive case for how the competition between food and fuel for crops could lead to the failure of governments in unstable countries, and notes that failed states are a source of terrorists, drugs, weapons, and refugees. (Consider the pirate haven Somalia.)

As we go to press, California is completing an assessment of the climate impact of corn ethanol under a law requiring steep reductions in carbon emissions from motor fuels. The California Air Resources Board is expected to declare corn ethanol no better, and perhaps worse, than petroleum when total greenhouse gas emissions are considered.

Flex-fuel vehicles might be a good bet for sales and service until we have a better idea what will be offered at the pump in times ahead. *CT*

Download the Report

The complete report, titled “Rapid Assessment on Biofuels and the Environment: Overview and Key Findings,” is available at <http://cip.cornell.edu/biofuels>. The document is voluminous, at 17 chapters and well in excess of 200 pages.