

Ferguson: Energy Matters

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No Magic Bullets for Climate Change

One of my biggest gripes is about the amateur pundits proclaiming that limiting climate change will be easy. A magic bullet in the form of nifty new technology is about to solve our problems, they claim.

Two recent news items highlight how foolish this fantasy is.

The first was an announcement by the U.S. Department of Energy that it was pulling the plug on FutureGen, a much ballyhooed demonstration project in Illinois to develop a coal-fired power plant with minimal emissions of greenhouse gases. Instead of simply burning coal to make electricity and letting the carbon dioxide go up the stack, the FutureGen plant was to 'gasify' the coal, and remove the carbon dioxide before burning the 'syngas' produced. The separated carbon dioxide was then to be injected underground where it was supposed to remain more or less forever.

Five years into the project, DOE declared that its share of FutureGen costs had become too high and the agency was pulling out of the project. Accusations abound that the real reason was political pressure from Texas, which also wanted the project. Whatever the reason for the DOE pullout, the fiasco supports my suspicions—in which I am not alone—that FutureGen was primarily a public relations project to create the impression that the administration was engaged in the climate problem.

Coal is the most plentiful fossil fuel on Earth and the most popular energy source for electric generation. Even in the U.S., coal-fired power plants generate half the nation's electricity. Little progress can be made to limit climate change as long as the carbon dioxide created when coal is burned continues to be dumped into the atmosphere. Coal gasification, carbon capture, and sequestration have been touted as the solution.

The flap over FutureGen vividly illustrates that this so called 'solution'—is at best decades in the future.

The second item was a report published in authoritative journal Science on biofuels, another supposedly magic bullet. The most widely

used biofuel is ethyl alcohol, aka ethanol, made from corn (maize). Biodiesel made primarily from soy and palm oil is another fuel popular with the green crowd. The logic is simple—since the carbon dioxide emitted when these fuels burn was previously removed from the air by growing plants, the net impact on global warming is nil. Voila, we get energy without exacerbating climate change.

In real life, nothing is quite that simple. Corn grown in the U.S. requires massive amounts of fertilizer, pesticides, fuel for equipment and drying, transportation and so on, obtained from fossil fuels. Experts have argued for years whether corn ethanol (known as moonshine not long ago) has any climate benefits at all. Ethanol from sugar cane, popular in Brazil, scores better.

The magic bullet at last?

Alas, no. As the research reported in Science shows, increasing reliance on biofuels will inevitably increase the amount of land cultivated to grow the crops used to make the fuels. The Amazon forest is being cleared to grow sugar cane and soy. Forests are being cleared in Indonesia for palm oil plantations. Marginal grasslands are being plowed for corn and soy in the U.S. In the process, carbon that had been safely sequestered in soils is released into the atmosphere, more than offsetting the carbon stored by the growing crops.

The research results published February 7 are already under attack by the corn ethanol industry, of course. Corn and soy prices have skyrocketed, thanks to grain diverted to ethanol production with the assistance of substantial federal subsidies and 'clean fuel' mandates. The posturing by pandering politicians we saw recently in the Iowa caucuses illustrated that this profitable enterprise is in little danger.

More research will be done to refine the initial results published last week. I'm willing to bet, however, that the basic conclusions will withstand further scrutiny. Increasing the amount of land under cultivation to grow crops for biofuels is no silver bullet. On the contrary, it probably exacerbates the climate change.

Our modern way of life depends on massive amounts of energy which we have come to take for granted over the last century. Pretending that we can continue increasing this energy dependence and spread its benefits to more and more people while limiting climate change is dangerous foolishness.

Anyone who says the solution to our energy and climate problems will be cheap and easy is either a fool, a liar, or both. As I tried to teach my children, if it looks too good to be true, it probably is.

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Opinions expressed by DrF are not necessarily those of any organization with which he is affiliated.