



Avoiding Harmful Solutions (to Our Climate and Energy Problems)

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We are starting to get a number of submissions for TOD:LOCAL and we thank all of you for submitting them; keep them coming! This one is by Nelson Harvey of [The Wild Green Yonder](#), a blog about grassroots urban sustainability, alternative economics, and ecological design.

Arguments for rapid action on global warming are often framed in terms of the precautionary principle: given the potentially catastrophic consequences of the problem, we're better off taking action to prevent them, even if some uncertainty remains about just how bad they'll be. But in thinking about the legislation and technologies intended to combat global warming, it's important to remember that even the most attractive solutions will likely have problems of their own.

Of course, global warming itself is an unintended consequence. The large-scale adoption of petroleum-based fuels in the 19th century was viewed at the time as a remarkable example of progress, enhancing personal mobility, manufacturing, and basic living standards in ways that hugely benefited the human race. Given the spell of technological innovation that pervaded that period, any doomday projections about petroleum causing a global environmental crisis would likely have been dismissed out of hand.

It's arguable whether science at the time of the industrial revolution could have even suggested how severe a problem global warming would eventually become, or whether economics could have predicted the oligopolistic oil markets of today. But the basic tendency, letting excitement about a solution blind us to its potential risks, is one that continues to manifest itself in many forms. [Cass Sunstein](#), a legal theorist and professor at the University of Chicago, discusses the issue eloquently in his 2005 essay "[Cost Benefit Analysis and the Environment](#)."

Sunstein evokes the controversial case of the ban on DDT, the harmful neurotoxin contained in some pesticides that Rachel Carson railed against in her seminal book "Silent Spring." While the health effects of the ban in wealthy countries have almost certainly been positive, it may be a different picture in poor countries, where the chemical was one of the most widely-used treatments for malaria. Sunstein also brings up opposition to genetically modified foods. He claims that that banning them based on concerns about human health could have the perverse effect of eliminating their potential to improve global food security.

These are both fiercely debated issues, but another contemporary example is the effect of the Clean Air Act on powerplant efficiency. This famous piece of environmental legislation has had a hugely positive effect on air pollution in the U.S., reducing emissions of pollutants like nitrous oxide and particulate matter by at least 30 percent since 1970. Much of this reduction has come because of requirements in the act that oil coal-fired powerplants feature new emissions reduction technology when they are renovated. The downside of this, though, is that it decreases the plants' overall efficiency, requiring it to burn more coal than they previously would have, and thus emit more carbon dioxide.

How do we minimize our exposure to such unintended consequences, while still taking the steps necessary to deal with current problems? It's a tall order. One potential starting place was outlined in a recent post over at the Wild Green Yonder: let's do all we can to implement ecological solutions that rely on mechanisms we understand.

The risk of complex technological schemes is that a malfunction could give us far more than we bargained for. Ideas like injecting sulfur particles into the atmosphere to reflect solar radiation (proposed in today's NYT), or seeding the oceans with iron to increase their uptake of carbon dioxide, carry huge burdens of risk and uncertainty to match their potential payoffs. By focusing on what we know first, at least we can be sure that our "solutions" don't leave us worse off than the problem we intended to solve.



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