

Carbon Sequestration: The Ethanol Of The Next Decade?

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The climate change bill has become the poor cousin of health care this summer, but that may soon change. After the EPA issued its “endangerment finding” earlier this year and the Waxman-Markey bill passed a House vote in June, loyalties have been aggressively asserted. The oil and gas lobby is battling what it sees as the legislated decline of U.S. refining capacity. Environmental groups are anticipating their biggest coup since the 1970s. And the U.S. Chamber of Commerce is seeking its own [Scopes trial](#) [1] with the EPA over the science behind climate change. Clearly, a messy battle is brewing.

Even as this is happening, the Obama administration is pushing carbon control strategies forward through other, more direct, ways. At the end of August, a [few million dollars](#) [2] were committed toward carbon sequestration training programs. It’s a small but significant gesture. Not only does funding for knowledge-based programs get the ball rolling in the event of the bill’s passage, it suggests a future series of tax breaks and other incentives to folks who want to get into the carbon business.

Let’s just get used to it: carbon sequestration may well be the ethanol of the two-thousand-teens. Makers of analytical instruments everywhere seem to have an eye toward the business of greenhouse gas detection. Several of the 2009 R&D 100 Awards winners are related to the detection and management of industrial carbon emissions.

These include NETL’s [carbon detector](#) [3] that is able to find sequestration leaks, and two new solutions for catching carbon itself: [a point-source hydrate-based method](#) [4] for controlling industrial emissions from Los Alamos National Laboratory, and [a solid-state clay sorbent](#) [5] that’s also from NETL. And then there’s Battelle. One of their highest-profile product deployments of late is a [carbon dioxide detector](#) [6] capable of determining the partial pressure—known as pCO₂—of CO₂ in the ocean and atmosphere. This is an important metric for understanding the global ocean uptake of atmospheric CO₂.

So as political (if not scientific) consensus builds over the reality of human-generated climate change, technology companies large and small will jump into the mix. But just as ethanol had its problems—competition with food crops, low energy per square acre for corn-based production—carbon sequestration also has its failings.

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One is that because there is no direct economic impact of storing carbon (it won't actually produce anything useful, unless we find a way to use porous rock filled with CO₂), the artificial system of carbon credits has to work as advertised. Another problem is that the bill, which does address other greenhouse gases, can't possibility cover the gamut of contributing factors, such the natural release of hydrates, the cycles of solar energy, the global shifting of ecosystems, and the other things humans do to change their environment, such as population growth, overfishing, release of ozone-depleting [nitrogen oxides](#) [7], heavy-metal mining, mercury emissions, and decomposing plastics. The list obviously goes on.

I kind of like the fact that humanity is making its first attempts to manage its own climate atmosphere. Carbon sequestration alone probably won't work. But if we can get over our technological provincialism and begin putting solutions together that are free of the political process, someday we will manage what is, for the time being, unmanageable.

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[1] <http://blogs.wsj.com/environmentalcapital/2009/08/25/inherit-the-wind-a-scope-trial-for-climate-change/>

[2] <http://www.energy.gov/news2009/7845.htm>

[3] <http://www.rdmag.com/Awards/RD-100-Awards/2009/07/Process-Detects-CO2-Leaks/>

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[5] <http://www.rdmag.com/RD100-Awards-Solid-State-Sorbent-Grabs-CO2/>

[6] <http://www.battelle.org/SPOTLIGHT/8-20-09pCO209.aspx>

[7] http://www.noaanews.noaa.gov/stories2009/20090827_ozone.html

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