THE CONVENIENT HALF-TRUTH

THERE IS NO SUCH THING AS "CLEAN CO2," JUST CO2

We hear it all the time in whatever advertising forum you choose. "Dirty Coal! What we need is renewables! Wind, solar biomass and geothermal; that is what this country needs to solve its energy issues."

And, what we get is natural gas.

On the used car lot, they call this a "bait and switch." Let's be charitable and call it "the convenient half-truth". Let's just not tell the folks that natural gas puts out half the CO_2 of those dirty coal plants. Let's just say it's clean and if were ever challenged, we can say we were talking about NOx and SOx.

I heard another one recently . . . "Natural Gas Equivalence." This scientific sounding expression is an attempt to add credence to the "convenient half-truth," as if by coining such a formal and technical sounding term it must be good. What "Natural Gas Equivalence" means is the 11,000 Btu/kWh heat rate of a simple-cycle peaking unit. This unit operated on natural gas produces approximately 1,300 lbm-CO_2/MWh, versus the Natural Gas Combined Cycle units at 800 lbm-CO_2/MWh. These units would be allowed to operate without Carbon Capture & Storage (CCS) and be considered "clean." Give me a break!

Fortunately the U.S. Environmental Protection Agency (EPA) has now leveled the playing field in the most objective of ways. In the old days, we used to say "you get what you measure." It still holds true today.

A carbon 'playing field'

On March 10, 2009, the U.S. Environmental Protection Agency (EPA) proposed the first rule that mandates reporting of GreenHouse Gas (GHG) emissions from large sources in the U.S. — including electricity generating facilities.

According to some accounts, the rule proposes that suppliers of fossil fuels or industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of GHG emissions submit annual reports to the EPA. The first annual report would be submitted to the EPA in 2011 for the calendar year 2010, except for vehicle and engine manufacturers, which would begin reporting for model year 2011.

The gases covered by the proposed rule are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), sulfur hexafluoride (SF_6), and other fluorinated gases including nitrogen trifluoride (NF_3) and hydrofluorinated ethers (HFE). Approximately 13,000 facilities, accounting for about 85% to 90% of greenhouse gases emitted in the U.S., would be covered under the proposal. The draft rule will be open for comment for 60 days following publication, and two public hearings will be conducted.

It seems clear that this effort is intended to serve as the baseline for some type of carbon constraints, whether in the form of a cap and trade, carbon tax or whatever, and that the implementation could begin as early as 2012.

In the mean time, there is considerable activity on the legislative, liability and technology issues, seen as critical enabling efforts toward safe and cost effective CCS. PS: I am glad we are now calling it "storage" instead of "sequestration."

Several high-level road mapping efforts have just been completed, one on CO_2 compression specifically and another one pipeline and storage issues. These included high-level industry, university and government sponsorship and participation, and the focus was to define technology needs to reduce overall cost to implement.

The U.S. Department of Energy (DOE) also just concluded a public review of its sponsored CCS programs that provided a good review of the various capture technologies that are being developed. These included the usual sorbent and solvent post-combustion processes, as well as membranes and oxy-fuel approaches. The interesting thing here is that there is a lot of activity in this area. Over time, this effort will lead to an array of more cost effective capture technologies.

On the political front, senior House Democrats have unveiled major climate legislation that contains new funding and programs to speed deployment of CCS, but the question remains whether CCS is enough to win support from coal-friendly lawmakers who are crucial to the bill's success.

The bill would establish a cap-and-trade program curbing U.S. emissions 20% below 2005 levels by 2020, with a midcentury target of 83% reductions of the heat-trapping gases. The bill includes new U.S. EPA funding for power plants and industrial operations to use CCS technologies, viewed as vital to the coal industry's long-term viability in a carbon-limited economy.

Under the proposed language, the EPA would also be charged with creating a "coordinated approach" to certifying and permitting sequestration sites and enacting rules to minimize the risk of the escape of sequestered carbon. It also requires the EPA and the DOE to define a "unified and comprehensive strategy" that addresses federal and state legal and regulatory barriers to commercial deployment of CCS technologies.

All of these efforts are both encouraging and accelerating, but if we continue to mislead the public and debate these issues at the extremes on behalf of vested interests and with this less than full disclosure, we are going to end up with bad policy.

It's time to level with the public. TI

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