Dr. Michael Dorsey
08-10-2

Testimony of Dr. Michael Dorsey, Dartmouth College, Environmental Studies Program & University of California Santa Cruz, Environmental Studies Dept.,

prepared for Delivery to the California Air Resources Board

Hearing & Public Meeting to Consider the Assembly Bill 32 (AB 32) Scoping Plan to Reduce Greenhouse Gas Emissions in California, (Agenda Item 08-10-2)

[0520 Draft, 20 November 2009, check against delivery]

Economists, some environmentalists and a growing gaggle of politicians are pushing a grand strategy that a market mechanism — known as "carbon cap and trade" — can rescue us fastest from a climate catastrophe. But early evidence suggests that such a scheme may be a Faustian bargain.

Gov. Arnold Schwarzenegger is one of the chief proponents of the market view. He has rallied western state governors to create the Western Regional Climate Action Initiative, which "sets the stage for a regional cap-and-trade program" that he hopes will serve as a model for a national program. There are also visions to connect this regional effort to multilateral ones in Europe and beyond. The Kyoto Protocol, which went into effect in early 2005 (but which the United States has not signed), also endorses this approach.

Carbon cap and trade works this way: A group of nations (signatories to the Kyoto Protocol) or a group of states (the five Western states in Schwarzenegger's plan) cap their carbon emissions at a certain level. Then a government agency, such as the European Union or the California Environmental Protection Agency, issues permits to polluting industries that tell them how much carbon dioxide they are allowed to emit over a certain time.

Companies unable to stay under their cap can either buy permits, or "emission credits," on a trading exchange, which allows them to pollute more, or they will face heavy fines for exceeding their carbon dioxide targets. Firms that are able to come in under their caps can sell their excess credits on the exchange. Thus the right to pollute is a commodity bought and sold in a market.

The idea of trading pollution rights was part of the reauthorized 1990 Clean Air Act. The program successfully reduced the amount of sulfur dioxide emissions, which cause acid rain, largely because the sources were few enough (about 2,000 smokestacks in the Midwest) that they could be monitored effectively and because there was a national system, administered by the federal Environmental Protection Agency, to enforce the legally required limits, or caps.

Carbon trading on a global scale, however, amounts to an untested economic experiment. The most ambitious carbon-trading experiment to date began in the European Union in

2003. About 9,400 large factories and power stations in 21 member states were targeted, and the EU Greenhouse Gas Emissions Trading Scheme was established to trade pollution rights.

In January 2005, the EU governments distributed carbon credits — permits to pollute — to the companies and power plants. The credits were based in large part on what the firms estimated their annual carbon dioxide emissions would be. Because these credits were given out, not auctioned off, the firms did not pay for their pollution. Yet they stood to make money by selling them.

The EU's official accounting of the companies' emissions, released in April 2006, revealed that the companies' and power plants' actual emissions came in below estimates. Some said the firms had inflated their earlier emissions estimates, and thus all had credits to sell. This situation produced a surplus.

Once it was known that the number of available permits exceeded demand, prices slumped. Indeed, fear that there are too many permits for sale (combined with concerns about the EU's regulatory shortcomings) have effectively collapsed the market. A March 2007 report from Deutsche Bank Research noted that "many EU nations are still a long way from delivering on their Kyoto Protocol commitments to reduce carbon dioxide emissions."

Researchers at Open Europe, an economics think tank in Britain, recently issued a report on the experiment. They concluded that the EU Greenhouse Gas Emissions Trading Scheme represents "botched central planning rather than a real market." As a result, the report said, carbon trading has not resulted in an overall decline of the EU's carbon dioxide emissions.

These failures echo today in the US where the New England Regional Greenhouse Gas Initiative (RGGI, pronounced "reggie") is presently overallocated. RGGI's. The overallocatgion problems in RGGI collapsed the price of carbon even before that regional market officially turns-on, on 1 January 2009. Had regulators not intervened the price may have gone below zero.) Further RGGIs still-born start not only create crises of confidence in the market's presumed power, but complicates long-term carbon price discovery and thwarts speedy crisis resolution to a problem scientists are repeatedly telling us, almost daily we are running out of time to solve. Overall RGGI is not working because of the market magic, but because of proper government oversight, informed decision-making and keen citizen oversight—three things California regulators must keep in mind and fully heed.

Worse, the early evidence suggested that the trading scheme financially rewarded companies — mainly petroleum, natural gas and electricity generators — that disproportionately emit carbon dioxide. The pollution credits given to the companies by their respective governments were booked as assets to be valued at market prices. After the EU carbon market collapsed, accusations of profiteering were widespread. In fall 2006, a Citigroup report concluded that the continent's biggest polluters had been the winners, with consumers the losers.

Researchers at the UK based think-tank the Corner House argue that carbon trading is little more than a license for big polluters to carry on business as usual. For instance, the Greenhouse Gas Emissions Trading Scheme was further weakened by provisions that allowed big polluters to buy cheap "offset" credits from abroad. A British cement firm or oil company that lacked enough EU permits to keep on polluting could make up the shortfall by buying credits from, say, a wind farm in India or a project to burn landfill gas to generate electricity in Brazil. "Such projects," Lohmann said, "are merely supplementing fossil fuel ... not replacing it."

These problems may soon infect the cap-and-trade system of the five Western U.S. states. In July 2006, Schwarzenegger and British Prime Minister Tony Blair announced their intention to join together to address global warming, possibly by linking emerging markets for pollution credits in the U.S. with established ones in Europe. Just yesterday, in a video-tapped message, Former PM Blair thanked the Governor and delegates at the Governors Global Climate Summit for assembling 'regional' processes to 'set the world on this new path' of linking carbon trading schemes.

In the face of the evidence of failure of current schemes such a charge is reckless at best and a veritable death sentence to those that need immediate action now and do not have the luxury of time like well ensconced former Ministers and delegates living large in the Beverly Hills Hilton.

U.S. industry and environmental leaders joined together under the catchy name USCAP, for U.S. Climate Action Partnership. Among the participants are Alcoa, Caterpillar, Duke Energy, DuPont, General Electric, Pacific Gas & Electric, the Natural Resources Defense Council and the Pew Center on Global Climate Change. The group called for some form of carbon cap and trade, but its reduction targets, in effect, would keep atmospheric carbon dioxide at roughly current levels over the next five years.

The EU experience doesn't augur well for the effectiveness of a global carbon-cap-and-trade scheme in a world characterized by growing economic inequality and enormous differences in governmental capacity to provide oversight, let alone regulation. The risk is that by the time it's apparent such a scheme is not working, extreme climate change will already be wreaking havoc.

Appendix

Carbon Market Weaknesses*

♦ **Does not overcome existing "market barriers."** Many solutions to global warming, most notably energy efficiency, face numerous "market barriers" to deployment that have been long understood in California.[5] A cap and trade program will not overcome these barriers,[6] and complementary policies are needed to address them.

♦ **Does not spur innovation for any specific technology or in any specific sector.** A multi-sector cap and trade program provides a general signal to reduce GHG emissions, and since compliance can be achieved by taking a variety of actions, the program may not spur innovation for any specific technology or in any specific sector. Targeted policies, combined with RD&D, are more useful for spurring innovation for specific technologies or in specific sectors, which will be necessary to meet California's long-term GHG reduction goals.[7] (In general, the more specific the desired public policy outcome, the more useful it is to use narrower policy instruments.)

♦ **Could lead to undesirable side effects.** A cap and trade program offers emitters flexibility in how they reduce greenhouse gases to comply with the program, so there is a risk of undesirable side effects (especially if other laws and regulations to address those effects are not tight enough). For example, if emitters choose to adopt a measure that reduces GHGs but increases air pollution, that would be a serious concern, especially if the regulations to control air pollution are not strong enough or are not enforced.[8]

♦ **Provides limited public oversight and understanding of actions taken to reduce GHG emissions.** A cap and trade program typically provides emitters with diverse options for compliance (e.g., emission reductions at their own facilities, trading allowances, using banked allowances, etc.). The program is enforced by ensuring that each entity surrenders enough allowances to match its emissions. Since enforcement focuses on the outcome (i.e., lower overall emissions) and not the means to achieve the outcome, it provides less public oversight and understanding of the specific actions individual emitters take to reduce emissions than other more targeted regulatory programs.

♦ **Does not provide price certainty for investors.** Investors often prefer price certainty when making long-term capital-intensive investments. This can be mitigated to some extent if investors have clear expectations about the future of the market (e.g., through liquid futures markets).

A *poorly-designed* program would have further weaknesses. For example, a poorly-designed cap and trade mechanism poses greater risks for continuing or exacerbating environmental injustice.

For instance, offsets from out-of-state sources will not result in emission reductions of GHGs and co-pollutants (i.e. air and toxic pollutants) in communities already experiencing heavy air pollution. In addition, a poorly-designed cap and trade program that "grandfathers" allowances on historical emissions) would financially reward the

biggest polluters. If California adopts a cap and trade program as part of a package of policies to meet AB 32's limit, it is essential that the state learn from mistakes made in past cap and trade programs, in particular by setting the cap tightly, avoiding "windfall profits" to polluters, and avoiding offsets. Regulators in the Northeast's Regional Greenhouse Gas Initiative (RGGI) program and in the European Union (EU) are beginning to learn these lessons and starting to tighten their emission caps and to auction allowances.

*Sources:

1. NRDC Perspectives on "Cap & Trade" Design Elements to Reduce Greenhouse Gases in California, Sept. 2007.

4 By auctioning allowances and "internalizing the externality" of greenhouse gas emissions, the program incorporates the "polluter pays" principle, which is a basic tenet of international environmental law.

5 See, for example, Golove W.H. and J.H. Eto, *Market Barriers to Energy Efficiency: A Critical Reappraisal of the Rationale for Public Policies to Promote Energy Efficiency,* Lawrence Berkeley National Laboratory, March 1996, http://eetd.lbl.gov/ea/EMS/reports/38059.pdf.

6 The only market failure a cap and trade program corrects is the current lack of a cost for emitting GHGs.

7 This was a central theme of a recent paper by UC Berkeley Professor Margaret Taylor, which demonstrated that "demand-pull" policies such as performance-based standards, combined with RD&D, were most effective at advancing a specific type of technology (post-combustion technologies to control SO2). Taylor M.R., E.S. Rubin, D.A. Hounshell, "Regulation as the Mother of Innovation: The Case of SO2 Control," *Law and Policy,* Vol. 27, No. 2, April 2005, pp. 348-378.