

To: Brad Biddle

From: Sarah Laidlaw

Re: Greenhouse Gas Regulatory Policies

Date: March 15, 2009

Concern for climate control through reduction of greenhouse gases, especially carbon dioxide, has prompted the establishment of greenhouse gas regulatory institutions throughout the world. The United Nations Framework Convention on Climate Change was the first such intergovernmental effort to assess climate change and greenhouse gases. Established in 1994 and with a current membership of 192 nations, it works to gather and share information and strategies related to climate control.

International Policy

From the Convention came the 1997 Kyoto Protocol, the first major worldwide effort to enforce greenhouse gas reductions. The international treaty requires participating countries to reduce greenhouse gas emissions by 5% from the 1990 levels over the years 2008 through 2012. The Kyoto Protocol encourages countries to meet their reduction goals through their own methods, but suggests market-based mechanisms to encourage new clean technology and investment in business- and private-sector practices that reduce emissions. The Kyoto Protocol encourages a cap-and-trade system with the opportunity for offsets. A cap on emissions is set for each participating country, which is then allowed to trade emission allowances with other participating countries. Offsets, which include renewable energy project, energy efficiency projects, and destruction of industrial

pollutants, work to reduce greenhouse gas emissions beyond the required caps, acting as credits. Offsets may be traded within and amongst participating countries. The United States signed the Kyoto Protocol in 1998, but has yet to ratify it and is not expected to do so.¹

National Policy

There is no national regulation of greenhouse gases in the United States, but various members of Congress support such regulation. One legislative proposal was the 2007 Lieberman-Warner Bill (S. 2191). Had the bill passed, a national cap-and-trade system would have been implemented with the target of reducing emissions to 63% below 2005 levels by 2050.² Members of Congress and public interest groups continue to propose national regulatory plans. The plans generally require carbon producing industries to hold emission allowances, which the government controls to cap overall emissions. The allowances are either allocated by the government or purchased at government-run auctions. Proposals differ on cap admissions levels, companies to regulate, auction pricing, and auction revenue distribution.³

A further consideration in the United States is the use of an emissions tax over a cap-and-trade system. The tax would act to discourage companies from emitting greenhouse gases and encourage clean technology implementation. The Obama Administration, as well as the majority of Congress, is against the idea of a tax system, preferring cap-and-trade.

¹ United Nations Framework Convention on Climate Change, unfccc.int/2860.php.

² *Cap-and-trade bill is second-rate*, Los Angeles Times, Oct. 25, 2007, available at articles.latimes.com/2007/oct/25/opinion/ed-captrade25.

³ *An Evaluation of Cap-and-Trade Programs for Reducing U.S. Carbon Emissions*, Congressional Budget Office, June 2001, available at www.cbo.gov/doc.cfm?index=2876&type=0&sequence=2.

The Environmental Protection Agency is actively working toward the development of a national cap-and-trade system, and recently proposed a federal rule requiring a national registry for greenhouse gas reporting. The EPA believes a national registry is necessary for a successful greenhouse gas reduction program because it centralizes regulation.⁴

Regional Policy

Three regional greenhouse gas registries are already established within the United States. They are the Regional Greenhouse Gas Initiative (RGGI), the Midwestern Greenhouse Gas Reduction Accord (MGGRA), and the Western Climate Initiative (WCI).

The Regional Greenhouse Gas Initiative is a mandatory market-based effort to reduce greenhouse gases in the United States. Its member states are Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. It also involves several observer Canadian provinces. Using a cap-and-trade system it focuses on carbon gases emitted from the power sector, and aims to reduce those emissions by 10% from 2008 levels by 2018. It employs a gradual decrease model, maintaining 2008 emissions through 2014, and then reducing emissions levels by 2.5% per year over 2015 through 2018. It requires state auctions to sell all emission allowances, and all resulting revenue is used to promote energy efficiency, renewable energy, and other clean energy technologies. Each RGGI member state implements its own rules based on the RGGI model rules, which require emissions and auction reporting

⁴ Eileen Claussen, *Statement: EPA's Proposed National Greenhouse Gas Reporting Rule*, Pew Center on Global Climate Change, March 10, 2009, available at www.pewclimate.org/statement/EPA-registry/3.10.09.

through the CO2 Allowance Tracking System (COATS) software. Offsets are permitted within the RGGI system, and even non-member states may participate in offset trading.⁵

The Midwestern Greenhouse Gas Reduction Accord involves Illinois, Iowa, Kansas, Michigan, Minnesota, and Wisconsin, as well as Manitoba, Canada. Indiana, Ohio, South Dakota, and Ontario, Canada also participate as observers. The members hope to reduce emissions of carbon dioxide, methane, nitrous oxide, hydro-fluorocarbons, perfluorocarbons, and sulfur hexafluoride by establishing a multi-sector cap-and-trade system. The Accord sets reduction targets to mirror those of the participating member states, and currently aims to reduce emissions to 60-80% below 2005 levels by 2050. Emission allowance distribution will take place through auctions and allocation. Offsets are permitted, but only among MGGRA member states.⁶

The Western Climate Initiative involves Arizona, California, Montana, New Mexico, Oregon, Utah, and Washington, as well as British Columbia, Manitoba, and Quebec, Canada. Additionally, 14 states and Canadian provinces joined as observers. Its emissions target is 15% below 2005 levels by 2020. WCI is similar to MGGRA in that it regulates carbon dioxide, methane, nitrous oxide, hydro-fluorocarbons, perfluorocarbons, and sulfur hexafluoride through a multi-sector cap-and-trade system. Emission allowances are allocated to each participating state, which then distributes them through auctions, gifts, and throwaways. Throwaways, which occur when a state refuses to distribute an emission allowance, act as a method to reduce emissions within a state beyond the required

⁵ Regional Greenhouse Gas Initiative, www.rggi.org.

⁶ Midwestern Greenhouse Gas Reduction Accord, www.midwesternaccord.org.

reductions. The program has a phased introduction plan, starting with regulation of emissions from electricity in 2012 and expanding to emissions from transportation, residential, commercial, and industrial fuels in 2015. Offsets are utilized to encourage energy efficient programs, and the WCI Offset Committee is schedule to define offset eligibility criteria by the third quarter of 2009.⁷

Conclusion

The trend in greenhouse gas regulation is towards market-based cap-and-trade systems. No matter whether such systems are regional, national, or international, DBI's algae project will most likely be considered an offset. Within each cap-and-trade system, the potential for economic incentives in DBI's technology are dependant on 1) whether there is an opportunity for offsets within the system, 2) whether algae technology is an eligible offset program, and 3) whether DBI conforms to the system's application and participation requirements. Currently, Arizona is a member of WCI, which has not yet defined eligibility criteria for offsets. DBI should monitor WCI's Offset Committee and encourage the inclusion of algae technology in the WCI offset plan. DBI should also monitor developments in Congress related to a national regulatory system. It should support efforts to lobby Congress for the implementation of a viable offset program that includes algae technologies.

⁷ Western Climate Initiative, www.westernclimateinitiative.org.