

**MEMORANDUM**

Date: February 11, 2008

To: SEA Clients, Friends of SEA and Other Interested Energy Consumers

From: Sieben Energy Associates – Jerry Burin

Re: 2008 Electric Utility Energy and Environment Conference

On January 28 and 29 I attended the EUEC Energy and Environment Conference and trade show in Tucson, Arizona. This was the 11<sup>th</sup> annual meeting where more than 1,400 representatives of the electric utility industry and other stakeholders come together to discuss the state of their industry and its intersection with environmental issues and government regulation. The keynote speakers were Minnesota Governor Tim Pawlenty, the current chair of the National Governors Association and Anthony Earley Jr., Chairman and CEO of DTE Energy, the energy holding company that owns Detroit Edison and Michigan Consolidated Gas.

Governor Pawlenty described how this year's theme of the NGA was "Securing a Clean Energy Future" with a focus on energy conservation, renewables, research and development of new energy technologies and greenhouse gas management and reduction. The nation's governors, he said, clearly recognized that "we're at the early stage of a global transformation" when it comes to energy policy. To cap his point Governor Pawlenty spoke about the recently announced Midwest Greenhouse Gas Reduction Accord, the regional agreement signed by six Midwestern governors, including Illinois' Governor Rod Blagojevich, to limit greenhouse gas emissions from their states beginning in 2010. The Midwest accord mirrors similar accords among northeast and western states.

Anthony Earley noted that, with respect to recognizing the relationship between energy use and climate change, "the public is way ahead of policy makers but utilities are catching up on environmental matters." It will take a portfolio of technologies, he said, including energy efficiency, expanded use of renewables, nuclear power and advancements in coal-burning power generation, to meet the nation's carbon reduction goals. The utility industry, he reminded the audience, had mastered reducing sulfur dioxide and nitrous oxide emissions and was now tackling the state-by-state implementation of mercury reduction regulation. He was confident that electric utilities would be up to the next challenge of limiting carbon dioxide emissions into the atmosphere.

I attended a series of breakout sessions about the role of wind power as a strategic resource in an electric utility's portfolio of power generation assets. Speakers described how there is now 75,000 megawatts of wind





capacity worldwide with 12,000 MW of the total here in the U.S. Nearly half the U.S. total, 5,000 MW, has been put in service since 2005. With thirty states having mandated Renewable Portfolio Standards ranging from 10% to 25% (the percentage of power utilities must source from renewable generation), wind power is viewed as the predominant renewable energy source for meeting future compliance requirements. With the ultimate goal of producing 20% of the nation's power from wind resources, many questions are on the table. Do we have enough wind resources and manufacturing capacity? How much wind energy can the power system accommodate? As their acceptance of wind resources increases, electric utilities are coming to better understand wind's role in their generation portfolio but answers to these questions still require much evaluation and analysis.

Presenters describing the growing market for "carbon offsets" explained that the majority of regulatory regimes being debated today, including regulation at the federal level, are based upon a "cap and trade" design. Under "cap and trade" emitters, such as electric utilities, will be limited as to the amount of CO<sub>2</sub> they can pump into the atmosphere (the "cap") but be eligible to participate in a market whereby CO<sub>2</sub> allowances can be "traded" between emitters that successfully fall below the limit and those who can't. Although some markets for the voluntary trading of carbon dioxide emissions are already underway (the Chicago Climate Exchange for example) and a regulated market has existed in Europe for several years (not without its challenges), presenters shared concerns about the role of large new carbon trading exchanges and about what a carbon offset really is.

Nevertheless, organizations were encouraged to get a good understanding of their greenhouse gas emission inventory and also understand supply chain implications of GHG emissions. Although a voluntary market for carbon offsets exists today, the future growth of carbon offsets will be in response to the "compliance market" – the market associated with carbon reduction mandated by state (and potentially national) carbon regulation.

Much was made of the notion of "additionality" – whether or not an offset project might have occurred had there not been a carbon market. Thus not only can the quantitative value of carbon offsets come under scrutiny, but the qualitative value is being scrutinized as well. There's a healthy skepticism about whether claims of carbon offsets are real.

A presentation on the growth of carbon offset markets and trading exchanges opened with a review of that morning's article in the *Washington Post* exposing the many flaws in the U.S. House of Representatives' claim in 2007 that it had purchased carbon offsets to counter carbon-based electric power used when the House was in session. The fact that the no-till farming and power plant efficiencies supporting the offsets were flawed (by virtue of the additionality standard) reveals the risk associated with carbon offset claims. This highlighted the risk, the presenters said, of organizations making pronouncements about their carbon reduction or carbon neutrality. Such claims will



increasingly become the subject of strict scrutiny, sometimes leading to claims falling short for qualitative reasons.

In presentations drawing some of the largest attendance of the conference, representatives of the utility industry and their consultants had much to say about efforts to develop carbon sequestration technologies (capturing and storing CO<sub>2</sub> before emissions are released into the atmosphere). Even under the most optimistic scenarios of energy efficiency gains and the greater use of low- or no-carbon fuels, they said, carbon capture and storage (CCS) technologies are expected to be essential in the effort to stabilize carbon concentrations in the atmosphere. They spoke of the challenge of building a coal plant as clean as a natural gas plant.

The most suitable carbon storage facilities are found as deep as 6,000 feet below the earth's surface, often in aging oil and gas fields and at a considerable distance from the site of the power generation itself. Siting and permitting issues present significant challenges to electric utilities planning carbon capture facilities.

The Utility Geothermal Working Group, representatives of a consortium of electric utilities supporting the integration of geothermal technologies into mainstream applications, suggested that the entire country has resources suitable for geothermal heat pumps, using the constant temperature of the earth as a temperature exchange medium in both summer and winter. The federal government's production tax credit, a foundation of the wind power industry, is now available for geothermal technology. The three-to-five year development cycle for geothermal technology for power generation, presenters claimed, made the recurring short-term extensions of the PTC more of a hindrance than a help. Geothermal technology in the power generation sector, they said, could produce carbon-free electric power for 6½ to 9½ cents per kWh.

A representative of *Environment Northeast*, an environmental oversight organization with offices throughout the Northeast, described the upcoming Regional Greenhouse Gas Initiative also known as RGGI (pronounced "Reggie") – a market-based cap and trade program designed to reduce CO<sub>2</sub> emissions from electric power plants in ten northeast and middle Atlantic states that becomes effective in January 2009. RGGI could also become a model for a national program seeking to reduce the U.S.'s collective contribution to global warming.

The governing rules of RGGI provide for the participating states to be allocated allowances limiting their electric utilities' greenhouse gas emissions. The states will conduct auctions to sell off the allowances to electric utilities and use the proceeds to support energy efficiency, renewable energy, new energy technologies and consumer rebates. The utilities will then make efforts to reduce their greenhouse gas emissions with those that fail to meet their reduction goals purchasing allowances from others that



are successful. Again, the increasingly ubiquitous “carbon offsets” can be used to meet regulatory compliance obligations.

The role of municipal and biomass waste in reducing greenhouse gas emissions, recovery of waste heat for electric generation and the role of energy efficiency in achieving greenhouse gas reductions were presented in a series of papers on the second day of the conference. Unfortunately these presentations failed to attract the audience drawn to some of the other more technical aspects of the electric industry’s problems and perhaps fairly so given the attendees the conference was designed to attract. It appeared that energy efficiency has not been a major focus for much of the audience.

The final presentation I attended focused on how energy efficiency might become commoditized much like the way environmental attributes of green power generation are commoditized as renewable energy certificates. Such commoditized attributes have taken the name “White Tags” as a compliment to the term “Green Tags” used as an alternative for RECs. While twenty-nine states have adopted renewable portfolio standards (RPS) as a means of bringing an increment of green power into the utility mix, some are advocating using White Tags to supplement green power in meeting states’ RPS requirements.

Participants in the renewable energy market are advocating White Tags as an acceptable alternative in order to help offset what may become a shortage of renewable power (especially given the expiration of the federal government’s Production Tax Credit at the end of 2008, an important financial incentive to the wind energy business). Suddenly energy efficiency may not only be the path to reduce energy expenses but may also provide an entirely new revenue stream if adequate measurement and verification protocols are accepted by the carbon offset marketplace.

The EUEC conference was an excellent forum for an exchange of technical information and fostering cooperation between industry, government, regulatory bodies, academics and other stakeholders attending the conference.