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UTILITIES FACE HEADLINE RISK – AND MORE

This morning, the new Chairman of the Senate Environment and Public Works Committee, Barbara Boxer (D-CA), will hold her first hearing on global warming. The only witnesses will be other Senators. Most will testify in favor of bills they have sponsored, or cosponsored, which impose significant costs on companies that emit “global warming gases,” principally carbon dioxide. Since electric utilities produce 40 percent of U.S. carbon dioxide emissions, supporters of limiting greenhouse gas emissions indirectly will be testifying in favor of raising the costs of producing electricity.

Shareholders of utilities that burn coal should be especially fired up. Utilities that burn coal produce four times as much carbon dioxide as those that burn natural gas, making it reasonable to assume they will bear four times the burden of any future law than natural gas fired utilities, and infinitely more than nuclear power producers which emit no greenhouse gases. Using state-of-the art technology, it would cost coal-fired utilities 84 percent more to produce electricity – if overnight the Nation’s 1,100 coal-fired plants, mostly in the Midwest and Northwest, were forced to “capture” and bury carbon dioxide during the combustion process (see http://www.netl.doe.gov/technologies/carbon_seq/core_rd/co2capture.html)!

New Regulatory Costs will Drive Supply/Demand for Energy Alternatives

The Nation’s electricity bill will not leap by \$80 billion overnight, because Congress will phase in carbon dioxide utility capture requirements over time. However, the price of electricity produced by coal-fired plants is headed higher as the debate over global warming moves from whether it is happening to what to do about it. Some utilities may switch rather than fight as a 84 percent production cost increase would stimulate a wave of changes. Many coal-fired utilities, for example, could retrofit to use natural gas, driving up natural gas demand and its price. Existing nuclear power plants also could expand capacity. Utilities also could invest more in high efficiency transmission and distribution lines because they often would cost less per kilowatt saved than generating additional kilowatts. Long-term generation shifts could be massive because electricity is now sold wholesale, with purchasers and sellers hundreds of miles away. There also would be a demand response. Consumers would buy more energy efficient refrigerators and air conditioners, and learn to live with hotter rooms in summer, for example.

As in many dynamic situations, there would be winners and losers. The losers are easier to spot, but a myriad of potential winners merit investors’ notice.

Companies At Risk: Here is a sample of publicly-traded electric utility companies that could face a cooler investor climate as the global warming debate heats up, and there are certainly

others. These appear to rely on coal to produce more than half of their U.S. electricity, which puts them above the national industry average: American Electric Power (**AEP**), Ameren (**AEE**), Dominion (**D**), Dayton Power and Light (**DPL**), E.ON U.S. (**EON**), First Energy (**FE**), Southern (**SO**), and TXU Energy (**TXU**).

Chemical Companies Might Benefit: Although it is not cheap, the least costly way to capture carbon dioxide from coal-fired utilities is to send the flue gas, which includes 10 to 15 percent carbon dioxide after coal is burned, through a mixture of “aqueous amines.” Amines are a class of chemicals produced by combining ammonia with alcohols in different ways. Companies involved with the production of amines or the installation of amine-based systems include Dow (**DOW**) and Huntsman (**HUN**). Amines react strongly to carbon dioxide, making it possible to isolate the reaction byproduct and separate out the carbon dioxide for burial. According to international experts assembled to study electric utility “carbon dioxide capture and storage,” eighty percent of the costs involved in capturing and storing carbon dioxide take place on site. To understand how global warming experts expect utilities to capture and store carbon, see http://arch.rivm.nl/env/int/ipcc/pages_media/SRCCS-final/IPCCSpecialReportonCarbondioxideCaptureandStorage.htm

Producers of Environmental Products Might Benefit: On June 22, 2005, during Senate floor debate of the Energy Act, Senators McCain and Lieberman offered an amendment designed to limit U.S. carbon dioxide emission in 2010 to the levels emitted in 2000. Senator Carper (D-DE) quoted GE’s CEO Jeffrey Inmelt as saying that his company would double its environmentally friendly technologies and products to \$20 billion within 5 years if carbon dioxide limits became mandatory (see page S7005 of the Congressional Record), as he spoke in support of the McCain-Lieberman amendment. Other firms will follow GE’s lead. DuPont, Fluor, Foster Wheeler, Bechtel, Air Products, and Cummins would not be far behind.

Pipeline Companies, and Oil and Gas Production Companies, Might Benefit: In most cases, the most economical way to ship carbon dioxide for burial is by pipeline. Currently, there are only 1,500 miles of carbon dioxide pipelines in the United States, with Kinder Morgan the biggest operator. The reason for so few miles is simple. Why pay to ship a gas when it can be vented for free? In the future, carbon dioxide might be piped to rebuild reservoir pressure in depleting oil and gas fields where studies have demonstrated it will boost field production but not later resurface. It also could be piped to the ocean bottom where in deep water, carbon dioxide becomes a liquid heavier than water. The world’s oceans have an average depth of 12,500 feet and have an apparent carbon dioxide carrying capacity equal to 300 years of current global consumption or more. Davy Jones’ locker has a lot of spare capacity.

Owners of Gas Fields Will Benefit: Currently, utilities use coal to produce 50 percent of the Nation’s electricity. They rely on natural gas to produce 19 percent. If coal bears a carbon tax four times that of natural gas, per Btu produced, it is apparent which direction natural gas prices will go.

The 110th Senate has Four Proposals to Weigh

Senate staff predict that four serious proposals will be introduced in the Senate. Three have already been dropped into the hopper. Given that global warming is such a contentious issue, a Senate filibuster, probably lead by former Environment Committee Chairman Jim Inhofe (R-OK), seems inevitable. It takes 60 votes to overcome a filibuster talkathon. With that in mind, let us take a look at the proposals and their chances.

- Senators Sanders (D-VT), Boxer (D-CA) and others have introduced S. 309, the most aggressive bill, described by Boxer as the “gold standard,” which employs the authority of a strengthened EPA to cut U.S. greenhouse gas emissions to 80 percent below 1990 levels by 2050, using mandatory emission caps that become progressively stricter over 40 years. It probably would command fewer than 30 votes on the floor.
- Senators Lieberman (I-CT), McCain (R-AZ), and Obama (I-IL) have introduced S. 280, which reduces greenhouse gases by 66 percent below 2000 levels by 2050. It relies on beefed-up EPA enforcement, establishes a “cap and trade” program for utilities, and offers incentives for nuclear power. With Hillary Clinton as a cosponsor, this is clearly the choice of 2008 presidential contenders. In the absence of Bush Administration support during this Congress, this tri-partite bill probably has 45 supporters – 39 Democrats, 5 Republicans, and one Independent.
- Senators Feinstein (D-CA) and Carper (D-DE) have introduced S. 317 that will affect only power plants, relying on “cap and trade” mechanisms to bring utility carbon emissions to 2001 levels by 2015, and then reduce them by 1 to 1.5 percent annually thereafter. It probably has 55 votes and is within striking distance of passing if the national mood becomes more “green.”
- The bill most likely to pass the Senate during the 110th Congress will be introduced shortly. The author will be Jeff Bingaman (D-NM), Chairman of the Senate Energy and Natural Resources Committee, who has been crafting his bill for almost a year. Bingaman says he is designing his bill so that it “can pass the Congress this year.” His draft proposal would limit emissions to 2013 levels by 2020 and then reduce them from there. His economy-wide “cap and trade” program will measure emissions by “greenhouse gas intensity,” defined as the amount of greenhouse gases produced per unit of economic output, and will compel emissions intensity reductions of 3 percent per year. In addition, companies earn credit for cost-effective emissions reductions not otherwise covered by “cap and trade.” To “pre-debut” the anticipated Bingaman-Specter (R-PA) bill, the Energy and Natural Resources Committee held a hearing on January 24, with the key witness, a Deputy Administrator of the Energy Information Administration, providing an analysis of the energy and economics impact of Bingaman’s draft bill indicating that the bill would have “modest” impact on the economy. In this hearing, Senators Landrieu (D-LA), Lugar (R-IN), Murkowski (R-AK), and Salazar (D-CO) were named as supporters.

Senator Bingaman will watch developments unfold in Boxer's rival Committee and also evaluate the country's response to passage of a global warming bill in the House, which is anticipated in just over five months. Expect the Senate to let the House act first.

House Leaders Will Take One Proposal Through Committee – But Have a Backup Ready

House Speaker Nancy Pelosi (D-CA) has already declared that the House will vote on a greenhouse gas emission reduction bill by July 4. To ensure that the timetable will be met, she will take the unusual step of creating a Select Committee on Energy Independence and Global Warming, and break the near-monopoly jurisdiction claimed by the House Energy and Commerce Committee. She is doing this to thwart potential passive aggression by the dean of the House, John Dingell (D-MI), who at age 80 has again become Chairman of the House Energy and Commerce Committee. Dingell will look out for Detroit automakers' interests which, pointedly, are not those of Nancy Pelosi. Detroit automakers are willing to boost miles per gallon standards somewhat recognizing that President Bush's support for this method for diminishing America's dependence on foreign oil makes a "give no quarter" position indefensible. Higher mileage standards carry with them a concomitant reduction in gasoline consumption and therefore a reduction in carbon dioxide emissions.

The Speaker may ask the Select Committee to have a draft bill ready before Independence Day, just in case Dingell sees things the way Bush does on auto mileage standards. Investors should anticipate that the full House will approve by the Fourth of July an aggressive bill that will be tough on automakers, and force coal-fired utilities to clean up carbon dioxide emissions on a rapid timetable as well.

The Senate Bill will Outline What Might Become Law This Congress

Any Senate bill that achieves sixty or more votes will not mirror legislation lauded by Speaker Pelosi as she shepherds her version through the House. The Bingaman bill is the only likely candidate. Still, President Bush's reluctance to sign a "global warming bill" is well known. To induce a presidential signature, Bingaman and other Congressional Democrats may have to create a coal-to-liquid fuel industry.

Last Friday, I met at the White House with the Chairman of the White House Council of Economic Advisers, along with another nine guests. Chairman Edward Lazear confirmed that President Bush views "coal-to-liquid fuel" as part of his drive to create alternative gasoline sources within 10 years, an initiative unveiled at last Tuesday's the State of the Union speech. The impact of such an initiative would be to spur production and rail shipment of more coal, driving up costs to coal-fired utilities.

The idea of turning to coal to reduce America's dependence on foreign oil is more plausible than it sounds on first hearing. In fact, China has decided to take the plunge knowing that the technology for turning coal into gasoline or diesel fuel is mature since South Africa has

done it for fifty years at its Sasol plants. Coal-to-liquid fuel plants apparently make economic sense if oil prices equal \$40 a barrel or more. U.S. coal-to-liquid fuel plants may be uneconomic unless oil prices rise above \$66 per barrel, however, if the carbon dioxide produced must be captured and stored.

Creating such plants likely will prove necessary if the U.S. is to produce 15 percent more of its auto fuel from “alternative” domestic sources by 2017 as Bush proposed last week. Producing ethanol from corn could generate up to 10 percent of U.S. supplies by 2017 before sharply higher corn prices destroy ethanol production profitability, but the remaining 5 percent would have to come from cellulosic sources utilizing unproven production methods, or from coal-to-liquid fuel.

Reality will trump rhetoric when the House and Senate Committees meld their bills in Conference. The final product will have to be based on the Bingaman bill and contain “sweeteners” to convince Bush to yield; otherwise, Bush will not sign it into law. If he vetoes it, his veto would be sustained.

A President Who will Sign a Greenhouse Gas Bill is Only 24 Months Away

If Congress fails to pass a bill this Congress, 2009 will bring renewed interest in cleaning out utility smokestacks. Unlike now, the 44th President likely will be a supporter of aggressive action to pare back greenhouse gas emissions. President Hillary Clinton, President Barack Obama, or President McCain would send Congress a bill to tightened electric utility carbon dioxide emissions and then sign the final version that he negotiates with Congress. By this time next year, the markets may conclude that both major presidential nominees support greenhouse gas emissions enforcement, making new tough laws likely, and bid down the value of coal-fired utility stocks and boost the equity values of greenhouse gas mitigation companies accordingly.

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