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Costs and Economic Impacts of the Lieberman-Warner Bill

The 110th Congress has seen several proposals aimed at reducing carbon dioxide emissions introduced. (An increased level of CO₂ in our atmosphere has received much of the blame for increased average temperatures near the earth's surface in recent decades.) S.2191, sponsored by Senator Joe Lieberman (I-CT) and Senator John Warner (R-VA), is the latest and fastest moving cap and trade bill introduced in Congress thus far. It was approved by the Senate Environment and Public Works Subcommittee and is expected to be considered by the full Senate in March or April of 2008. We have been studying S.2191 to understand its possible impacts on our costs and, ultimately, on your electric bill.

Cap & Trade System

S.2191 establishes a green-house gas emission allowance transfer system. It sets forth declining emission allowances for 2012- 2050. It requires CO₂ emissions to decline to 10% less than current levels by 2020 and 80% below current levels by 2050. This would be accomplished by using a cap and trade system. A cap is a CO₂ limit that is assigned to covered facilities. The cap is continually ratcheted down. Utilities emitting less than their allowance can sell their excess allowances to utilities that exceed their allowances. In cap and trade markets, prices can swing wildly as they have in The European Union's emission trading market and the U.S. Acid Rain Program. This price volatility creates uncertainty and may delay commitments to invest in new equipment and energy conservation. We believe that no cap and trade scheme will be affordable and economic until we have commercially viable carbon separation and storage (CSS) technology. Any new federal legislation ought to focus on the need to fund the development of new CCS technology first, before we focus on an emission reduction timeframe.

Despite the uncertainty of pricing in an allowance market, we have attempted to estimate the cost effect on Conway's current power supply resources. In our analysis, we considered several valuations, but for this discussion, we assume \$30 per ton of CO₂. This is considered a conservative estimate; other estimates exceed \$100 per ton.

Cost Effect on Current Supply Resources and Rates

Conway has an undivided ownership in two coal-fired generating stations, White Bluff (WBSES) and Independence (ISES) which were constructed about thirty years ago and now provide about 40% of our total needs. Under S.2191, these existing facilities CO₂ emissions would be capped beginning in 2012 based on 2006 CO₂ levels. They would receive Transition Assistance Allowances, but those begin declining in 2018 and are phased out completely by 2030. Beginning in 2012, a quantity of allowances would be auctioned. The amount auctioned begins at 21.5% and increases steadily and reach 69.5% in 2031. All percentages are based on 2006 CO₂ levels. Assuming allowances could be purchased, the cost of these allowances is undetermined; and prices could swing widely. These costs would ultimately be borne by the utility customer.

Conway currently purchases about 60% of its power supply from Constellation Energy Commodities Group (CECG). It is impossible to predict the mix of fuels (coal, natural gas, nuclear, etc.) which may be used to generate the electricity supplied under our power supply agreement with CECG. We assume that the majority is generated by burning natural gas, which also produces CO₂, although at a lower rate. We expect that future power supply contracts will assign the costs of CO₂ allowances to us.

Based on 2007 energy supply and sales, the following table summarizes the increase in our wholesale and retail costs and the resulting increase in residential rates if CO₂ allowances trade at \$30 per ton.

	Wholesale	Retail	Annual Avg.
	Increase	Increase	Residential
Year	Percent	Percent	Increase
2012	35.7%	32.9%	\$301
2030	55.9%	51.5%	\$471
2051	63.3%	58.4%	\$534

The percentage impact on our commercial and industrial customers should mirror that of the residential class. Remember, this represents only the increase due to CO₂ regulation, not inflation, increased cost of fuel, etc.

Cost Impact on New Generation

Conway is “short” on generation and needs to acquire additional resources to serve our loads present and future. We have been evaluating two base load, fossil fuel projects and analyzed the cost of S.2191 on their projected costs. Under typical operating conditions and a CO₂ cost of \$30 per ton, energy costs are estimated to increase on one project by 51% or \$10 million annually and 67% or \$12 million annually on the other. These added costs are in addition to the cost of incremental generation and transmission costs which must also be funded by rates.

Impacts on Natural Gas Customers

Natural gas is not exempt from Lieberman-Warner, but instead of the cap being applied to a generator, it is assessed “upstream” to production or importation. We did not attempt to analyze the impact on retail natural gas costs, but any added costs will ultimately be paid by retail consumers.

If Lieberman-Warner forces a shift from coal-fired electric generation to gas-fired generation, the increased demand for natural gas will further increase natural gas prices. It will also cause an increased reliance on imports of liquefied natural gas (LNG). Our pipeline infrastructure may not be able to support the increased demand for natural gas.

Cost to the Economy

Estimates of the economic impact of Lieberman-Warner are staggering. In one estimate, the gross domestic product (GDP) is reduced 1% to 1.6% or \$160 billion to \$250 billion in 2015 and reduced 2% to 2.5% or \$800 billion to \$1 trillion by 2050 (stated in real 2007 dollars). To put this in context, current social security spending is about \$600 billion.

It has been estimated that real annual spending per U.S. household will be reduced by an average of \$800 to \$1300 in 2015 and \$1500 to \$2500 by 2050.

Effect on Domestic Industry

Thus far, we have only discussed the impact of Lieberman-Warner on households. These same increases in electricity costs (and natural gas) will be felt by business customers as well. Some of Conway's largest employers would see their cost for electricity increase by more than \$1 million annually. Those who must compete in international markets could be driven out of business. This would create "job leakage" to countries without caps on greenhouse gases, further accelerating loss of U.S. manufacturing jobs without achieving an actual global environmental benefit. It has been estimated that 1.2 million to 1.5 million US jobs could be lost nationwide by 2015.

Conclusions

The CO₂ legislation proposed to-date, while well intended, could have dire economic consequences without an environmental benefit. If the U.S. adopts this cap and trade system and other countries, such as China or India, do nothing, it could have devastating effects on our economy. Our national security could be jeopardized by increasing dependence on imports of liquefied natural gas from many of the same countries we now rely on for crude oil. If countries such as China and India do not similarly restrict CO₂ emissions, any reduction in emissions made by the US may be erased by their emissions. Any legislation addressing carbon emissions must:

- consider the financial impact and the ability of consumers to pay for the program;
- focus first on the need to fund the research and development of new technologies to reduce, capture, transfer and sequester CO₂ before focusing on an emission reduction timeframe;
- protect the ability of U.S. industries to compete in world markets and carefully consider the international competitive impact on US jobs;
- maintain reliability, protect national security and avoid over-reliance on any one fuel, preserving fuel diversity;
- place an enhanced and immediate economy-wide focus on energy efficiency for all uses;
- consider commercially available technology when setting targets;
- develop more financially stable alternatives than a cap and trade market to encourage emissions reductions.

It is in the best interests of our country to carefully consider all these factors before adopting legislation that may or may not produce an environmental benefit.