TESTIMONY

OF

DAVID A. SCHLISSEL

BEFORE THE

KANSAS HOUSE OF REPRESENTATIVES

COMMITTEE ON ENERGY AND UTILITIES

FEBRUARY 6, 2008

Mr. Chairman and Members of the Committee, thank you for affording me an opportunity to submit this testimony. I would have preferred to present this testimony in person but I have previous work commitments that require me to be present at state regulatory commission hearings in Virginia.

Mr. name is David A. Schlissel. I am submitting this testimony on behalf of the Climate and Energy Project of the Land Institute in Salina, Kansas.

I am a Senior Consultant with Synapse Energy Economics, Inc. I have more than 34 years of experience as an attorney and consultant on energy and environmental issues including the need for and cost of proposed coal-fired power plants. My clients have included the U.S. Department of Justice, state regulatory commissions in Arizona, Arkansas, New Mexico and here in Kansas, municipally-owned utilities and power agencies in North Carolina, Texas, New York and Massachusetts, as well as state attorneys general, consumer advocates and environmental and consumer organizations in more than thirty states.

I hold engineering degrees from the Massachusetts Institute of Technology and Stanford University. I also have received a Juris Doctor degree from Stanford Law School. In addition, I have studied nuclear engineering and project management at the Massachusetts Institute of Technology.

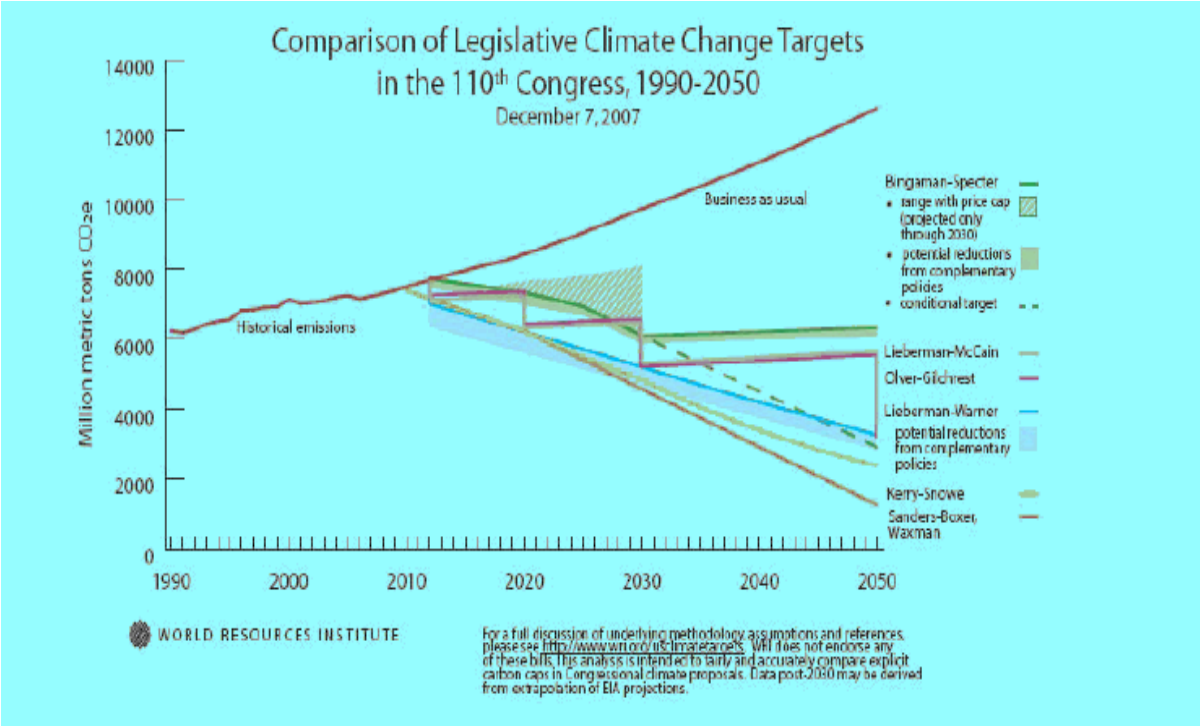
My purpose today is to alert you to the risk involved in building new coal-fired power plants such as those proposed for the Holcomb Expansion Project. I understand that you have been told that new coal plants are still the cheapest resource. That may have once

been accurate but it is no longer true. Impending federal regulation of greenhouse gas emissions, and its resulting costs, and soaring power plant construction costs suggest that coal is no longer the cheapest option. Instead, coal is a high risk alternative.

Federal regulation of greenhouse gases is no longer a matter of if -- it is a matter of when. More than 35 bills on global climate change have been introduced in the current Congress by members of both political parties.

Figure 1 below, shows the emissions trajectories that would be mandated under the major bills that have been introduced in the current Congress. These bills would generally require a reduction in overall CO_2 emissions of between 60 percent to 80 percent from current levels by the middle of this century. With such requirements on the horizon, building two 700 MW coal-fired power plants that will emit more than 10 million tons every year during an expected 40 to 60 year operating lifetime is clearly a step in the wrong direction.

Figure 1: Legislative Proposals Introduced in Current U.S. Congress



Although the form and details of the coming federal regulation of greenhouse gas emissions are uncertain, most expect that a cap-and-trade program will be established

under which caps will be set and generators, like Sunflower and Tri-State will have to purchase CO_2 emissions allowances.

There have been a number of analyses prepared during the past year or more of what the costs of these emissions allowances will be under the various proposals currently being considered by Congress. Synapse has developed a range of CO_2 emissions allowance price forecasts that we believe should be used by utilities in their resource planning and evaluation of the economics of proposed generating resources.

Figure 2: Likely Range of Costs of CO2 Emissions Allowances for the Holcomb Expansion

Two important points must be emphasized. First, our Synapse forecasts of future CO_2 emissions allowance prices are not extreme. Second, under our CO_2 price forecasts, the owners of the Holcomb Expansion coal plants will be paying between $67 million and $334 million a year for CO_2 emissions allowances by 2015, between $151 million to $600 million a year by 2020 and $387 million to $966 million a year by 2030. These are considerable costs even at the low end of our range. Coal is the most carbon intensive fuel. Lower and non-carbon emitting fuels will not have to pay such high costs for CO_2 emissions allowances.

One hoped-for solution for global climate change is the capture and sequestration of CO2 emissions from power plants. However, such capture and sequestration is not expected to be commercially viable until perhaps as late as 2020 to 2030, if indeed it is viable at all. And it will be very expensive. As shown in Table 1 below, studies by the Edison Electric Institute (which represents utility companies) and researchers at the Massachusetts Institute of Technology and the U.S. Department of Energy's National Energy Technology Laboratory have estimated that adding CO_2 capture equipment will increase the cost of generating power at new coal-fired power plants by somewhere between 61 and 81 percent.

Table 1: Projected Increase in the Cost of Generating Power Due to Carbon Capture and Sequestration

Source	Projected Increase in Cost of Electricity from Addition of CCS
Duke Energy Indiana[1]	68%
MIT Future of Coal Report[2]	61%
Edison Electric Institute[3]	75%
National Energy Technology Laboratory[4]	81%

The increased amount of water that would be required as part of the capturing of CO_2 emissions is another concern for the Holcomb Expansion. Studies at the National Energy Technology Laboratory have estimated that a coal-fired power plant with CO_2 capture will use 2.2 times the amount of water as a plant without CO_2 capture. Where will this water come from in Western Kansas and, if available, will it have to diverted from other important uses such as agriculture.

At the same time that future federal regulation of CO_2 emissions is coming, the prices of building new coal-fired have skyrocketed, in most part due to an intense worldwide competition for power plant design and construction resources and commodities. This

---

1 Testimony of James E. Rogers in Indiana Utility Regulatory Commission Cause No. 43114, Joint Petitioners' Exhibit No. 1, at page 13, lines 6-11.

2 *The Future of Coal*, *Options for a Carbon-Constrained World*, Massachusetts Institute of Technology, 2007, at page 19.

3 Letter to Hon. Edward J. Markey, Chairman, Select Committee on Energy Independence and Global Warming, from Thomas R. Kuhn, Edison Electric Institute, September 21, 2007, at page 4.

4 *Cost and Performance Baseline for Fossil Energy Plants*, *Revised August 2007,* DOE/NETL – 2007/1281, at page 17.

competition is fueled both by increasing demands for power plants here in the United States as well as in China and India. It is not expected to subside at any time in the near future.

For example, in mid 2006 Duke Energy Carolinas estimated that it could build two 800 MW coal plants for about $2 billion without financing costs. The Company now estimates that it will cost just about this much to build a single 800 MW power plant. And the Duke experience is typical of what other companies have been experiencing. The proponents of one plant, AMP-Ohio, have called the cost increases being experienced by proposed power plants, "staggering."

Similarly, Westar Energy announced in December 2006 that it was deferring site selection for a new 600 MW coal-fired power plant due to significant increases in the facility's estimated capital cost of 20 to 40 percent, over just 18 months. This prompted Westar's Chief Executive to warn: "When equipment and construction cost estimates grow by $200 million to $400 million in 18 months, it's necessary to proceed with caution." As a result, Westar Energy suspended site selection for the coal-plant and considered other options, including building a natural gas plant, to meet growing electricity demand. The company also explained that:

> most major engineering firms and equipment manufacturers of coal-fueled power plant equipment are at full production capacity and yet are not indicating any plans to significantly increase their production capability. As a result, fewer manufacturers and suppliers are bidding on new projects and equipment prices have escalated and become unpredictable.[5]

The combination of uncertainty about future CO_2 prices and escalating construction costs has led to the cancellation of more than proposed 20 coal plants, just since December 2006. Another three dozen plants have been delayed. At the same time, a growing number of companies have indicated that they will not seek to build new coal plants due to the regulatory and cost uncertainty and the risks that building such plants would pose for their customers. And state regulatory commissions in Oregon, Florida, North Carolina

---

[5] Id.

and Oklahoma have rejected applications for licenses to build new coal-fired power plants. Kansas is not alone.

Public Service of Colorado has recently concluded that:

> In sum, in light of the now likely regulation of CO_2 emissions in the future due to a broader interest in climate change issues, the increased costs of constructing new coal facilities, and the increased risk of timely permitting to meet planned in-service dates, Public Service does not believe it would be prudent to consider at this time any proposals for new coal plants that do not include CO_2 capture and sequestration.

The same factors will apply to Sunflower, Tri-State and the proposed Holcomb Expansion.