



TESTIMONY  
OF  
EZRA D. HAUSMAN, PH.D.  
BEFORE THE  
KANSAS HOUSE OF REPRESENTATIVES  
COMMITTEE ON ENERGY AND UTILITIES  
FEBRUARY 6, 2008

Mr. Chairman and Members of the Committee, thank you for hearing my testimony today.

My name is Ezra Hausman. I am here both as a climate scientist and as an expert in electricity markets—I hold a doctorate in Atmospheric Chemistry from Harvard University, and I have worked in various areas of electricity market design and analysis since 1998. I have served as an analyst and expert witness in numerous regulatory proceedings involving electricity market structure, electricity price forecasting, and economic analysis of electricity infrastructure investments and environmental regulations. I have also facilitated and served as an expert analyst for state-level stakeholder processes aimed at finding low-cost solutions to mitigating greenhouse gas emissions.

It is often said, and I believe this committee has been told, that coal is the lowest-cost source of electricity. This is simply not true. The era of cheap electricity from coal is over. Those who tell you otherwise are generally those who do not bear the risk of high costs in the future, but hope to pass along these costs to ratepayers. There are two major reasons that coal can no longer be considered a low-cost source of energy, especially for any new coal plants.

The first reason is the sharply increasing cost of constructing coal plants. In case after case and state after state, we have seen costs of proposed coal plants rising by up to a factor of two or more during the permitting process, and even higher should the project go into construction. My colleague David Schlissel, who could not be here today, has provided a number of examples of

this in his written testimony. The reasons for the cost increases include rising global demand for materials, labor, and expertise for all kinds of large, capital-intensive projects, especially in the developing world. These pressures are not going to let up any time soon.

The second factor which will profoundly impact the economics of coal within a very few years is the inevitable federal regulation of carbon dioxide emissions. A large and increasing number of carbon regulation proposals have come before Congress in the past few years, many of them carrying the name McCain as a principal sponsor. Both leading Democratic presidential candidates have also committed to pursuing carbon regulation should they be elected. There is simply no doubt, given the scientific certainty and enormous costs associated with global warming, that Congress will be forced to act on a timescale that will impact most if not all of the lifetime of new resources built today. Whatever the final form of the legislation, it will mean a cost for carbon emissions that is likely to be in the hundreds of millions of dollars per year for new, large coal-fired facilities.

My company, Synapse Energy Economics, has done a great deal of research to forecast what the likely costs of carbon emissions will be in the future and how they will impact the economics of various kinds of generation. But we are far from the only ones who anticipate this—in fact, if you take a look at any utility’s SEC filings, or at the minutes of their board meetings at which they discuss risks, or even at their officers’ public statements on the issue, the story is the same. Carbon regulation is coming, and coal-fired resources face an enormous risk of becoming uneconomic as a result.

It may be that in the future, when a low-cost approach to capturing and permanently storing carbon dioxide from coal plants is found, coal plants will once again make economic and environmental sense. This is not the case today. This is why companies whose shareholders bear the risk, such as independent generators in competitive markets, are not proposing to build new coal plants. Cooperatives and regulated utilities should be held to the same standard of prudence. They should protect their ratepayers by not making risky and uneconomic infrastructure investments with their money.

Excessive electricity costs to ratepayers is not the only reason that new coal plants using today’s technology should not be built. It is now a well-established scientific fact that burning fossil fuels is leading to increases in atmospheric carbon dioxide to levels not seen for all of human history.

It is also a well-established scientific fact that the climate of the Earth is highly sensitive to changes in the amount of carbon dioxide in the atmosphere, because this gas acts to trap heat in the lower atmosphere that would otherwise escape to space.

There is simply no question that the changes we are making to the atmosphere today will significantly alter the climate of the planet and the lives of our children and our grandchildren. I am afraid there is also no doubt that the vast majority of these changes will be socially and economically damaging and disruptive.

However, while climate change is a fact, scientists also agree that we have an opportunity today to mitigate or avoid the most damaging impacts on future generations including loss of agricultural productivity in Kansas and the surrounding region. To do this we must sharply limit the amount of CO<sub>2</sub> we continue to pump into the atmosphere. We must act decisively. Business-as-usual is simply not an option in the face of a challenge which so clearly imperils the balance of life on Earth and the well-being of our children.

The good news for Kansas is that the road to limiting CO<sub>2</sub> emissions is also the road to lower electricity costs and better economic development for Kansans: first, make more efficient use of electricity in homes and businesses throughout the state. Second, generate electricity, dollars and jobs from the wind resources which may be unequalled in any other state in the union.

The sooner we face the reality that coal is no longer a low-cost resource in any sense of the word, the sooner we provide the necessary strong incentive for finding a better way. We all know about the ingenuity and creativity of the marketplace and the miracles produced by entrepreneurial energy when there is a problem which must be solved, and a few dollars to be earned.

The day we say “no more” to irresponsible depletion of our natural resources, to destruction of our natural environment, and to perverse economics which burden ratepayers with excessive costs, will be the day when market forces are truly unleashed on the problem. Not one day earlier. This is exactly the success story of every single environmental law and regulation which has led to the dramatic improvements in human health and environment, including regulations of NO<sub>x</sub>, SO<sub>2</sub> and mercury from power plants. This will be the success story for carbon for which future generations will thank us. I am asking you to start today, now, in Kansas, in this very room.

The legislation before this committee falls far short of this goal. Certain aspects of the bill are promising, such as a limit on carbon emissions for new power plants in New Section 11. As written, however, this bill will only increase costs to shareholders without actually preventing any CO<sub>2</sub> emissions from ending up in the atmosphere. This is because the bill will not actually require new coal-fired power plants to capture and permanently store their CO<sub>2</sub> emissions. I say this for a number of reasons:

- The emissions limits are too high. A good starting point would be to allow carbon emissions no higher than those of the lowest-emissions fossil-fired power plant readily available, which would be about 1,100 pounds per MWh produced.
- The offsets are far too generous. As written, this law could be satisfied by any of a large number of low-cost activities, but these alternatives would be unlikely to avoid any CO<sub>2</sub> emissions into the atmosphere.
- Even the carbon capture elements of this law would allow for “catch and release”—there is no requirement for permanent storage of the captured CO<sub>2</sub>, which means that this aspect of the bill would be all cost and no benefit.
- The law does not force utilities to come up with a better way to generate electricity without emitting vast amounts of CO<sub>2</sub> into the atmosphere, and thus it will not spur innovation and economic development in Kansas as would a true technology-forcing bill.
- The law preemptively precludes a careful and reasoned consideration of the impacts of proposed generating projects by constraining the Secretary to overly restrictive legal interpretations and unrealistically foreshortened timeframes for consideration of permits.

The fact is, Kansas has a real choice to make today that will send a message to the world and will make a profound difference for the future. We can choose the easy but shortsighted path of turning a blind eye to the overwhelming scientific evidence, and saying that we “need” to build coal plants to serve our energy needs today, whatever the cost to ratepayers and to our children’s future. Or we can take the responsible path, harnessing the state’s abundant wind energy resources, challenging our engineers and entrepreneurs to come up with solutions that promise clean energy, economic prosperity, and a healthy planet for future generations. This is not just about a risk you can’t afford to take; it is also an opportunity that Kansas can’t afford to pass up.

The bill before you today does not meet the challenge of this second, more promising path. I urge you to reject it, to reject new coal plant plans that falsely promise low-cost electricity but do not include capture and permanent storage of carbon dioxide. Most of all, I urge you to rise to the historic challenge of protecting our planet for future generations. Thank you very much for your attention.