

# Statement for the Record

Texas House Select Committee on Electric Generation & Environmental  
Effects

On

**ELECTRIC POWER FOR TEXAS: ECONOMIC AND  
ENVIRONMENTAL CONSIDERATIONS**

April 9, 2008

By

**H. Sterling Burnett, Ph.D.**  
Senior Fellow

**National Center for Policy Analysis**  
**12770 Coit Rd., Suite 800**  
**Dallas, Texas 75251**  
**(972) 386-6272**

Chairman Bonnen and distinguished members of this select committee, I thank you for the honor of being allowed to appear here today at this important hearing to discuss the critical needs Texas faces in meeting its future demands for electricity, especially in the face of concerted efforts by environmental lobbyists to impose costly, what I believe to be unnecessary, environmental restrictions upon energy production and use: restrictions that, while raising the cost of electric power, will do little or nothing to curb global warming (if that is a worthwhile concern). On behalf of the National Center for Policy Analysis, a leader in promoting private alternatives to government regulation and control, I hope to bring clarity to the issue of Texas electric choices, especially vis-à-vis global warming.

Texas has prospered in recent years. The state's population and economy have grown at a steady pace, and estimates are that this growth will continue. However, as I argued in a recent study published by the Texas Public Policy Foundation,<sup>1</sup> continued economic growth, and the prosperity it brings and spreads, relies upon continued growth in available power. Despite improvements in efficiency allowing ongoing improvements in the amount of Gross National Product and Gross Domestic Product per unit energy used, the world has yet to discover a way to decouple continued economic growth from increased power use. Based on forecasts by the Electric Reliability Council of Texas (ERCOT),<sup>2</sup> Texas needs both more baseload capacity – power supplied regularly to the system for normal operation – and peak capacity – power available when usage surges beyond the amount needed on most days (in Texas this usually means on the hottest days during the summer). Absent new supplies, Texas could face even higher prices and periodic, increasingly frequent outages.

---

<sup>1</sup> Power for the Future: The Debate over New Coal-Fired Power plants in Texas (January 2008), which can be found at <http://www.texaspolicy.com/pdf/2008-01-PP02-power-burnett.pdf>

<sup>2</sup> ERCOT, December 19, 2007 update of the May 2007 Capacity, Demand and Reserves report, [http://www.ercot.com/news/presentations/2007/ERCOT\\_2007\\_CDR\\_December\\_Update\\_FINAL.xls](http://www.ercot.com/news/presentations/2007/ERCOT_2007_CDR_December_Update_FINAL.xls)

How dire is the situation? Texas's population is expected to grow to an estimated 40 million by 2030 and 50 million by 2040.<sup>3</sup> Job growth, including in the energy intensive chemical manufacturing and refining industry – of which Texas accounts for a disproportionate share compared to the nation as a whole -- is also expected to continue. If these estimates are correct, at a modest 2 percent annual growth rate in demand, ERCOT has estimated that by 2015, Texas will need 22 percent more power at peak times and 21 percent more power in general.<sup>4</sup> This estimate might be low, however, since ERCOT has reported that peak demand actually increased about 2.5 percent per year between 1990 and 2006.

Looking farther out, since power plants are long-term investments, Texas is estimated to need between 48 and 63 percent more energy by 2025 – and that is before accounting for the scheduled and/or anticipated retirement of older power plants. As early as 2010, Texas will need an additional 500 MW of power generation to replace power from power plants that are 50 years old or more as they are shuttered.<sup>5</sup> By 2015, Texas, with a modest growth in demand of 2 percent, will need between 7,000 MW of new peak capacity if only power plants 50 years or older are retired and 48,000 MW if power plants 30 years and older are retired. Neither 2010 nor 2015 are that far out!

With this as background, my first point is this, there are two primary concerns the vast majority of your constituents have with regard to electric power; two that dominate all others: a reliable adequate supply; and relatively low, stable prices. Despite a vocal minority pushing environmental concerns to the forefront, you will hear more, more vociferous complaints about

---

<sup>3</sup> Texas State Data Center, <http://txsdc.utsa.edu/pubsrep/pubs/txchalcog/cogtab2-07.txt>

<sup>4</sup> ERCOT, Transmission Issues Associated with Renewable Energy in Texas, 2005, pp. 6-7.

<sup>5</sup> Bernard L. Weinstein and Terry L. Clower, Our Energy Future: The Need to Expand and Diversify Texas Power Generation, (March 2007), p. 3.

power failing or prices rising than any other issue. Please keep that in mind during the remainder of my testimony.

While there are several possible fuel sources for generating baseload power, coal is the least expensive source of reliable power that can be brought to market in the short-term. Indeed, though I haven't had the opportunity to review it yet and thus cannot vouch for its methodology or findings, a recent study by Cambridge Energy Research Associates (among others) has argued that advanced coal-fired power plants have the lowest inflation adjusted cost to build of any other source for power.

Certainly each of the major significant possible sources of power have a place in Texas's electric portfolio, but each of the other sources have drawbacks that make them less attractive in the short to medium term for new power.

Nuclear power is reliable, clean and its fuel is relatively inexpensive, but the process of getting a new nuclear power plant approved, sited and built and operating is lengthy – far to lengthy to help in the short-term. Texas will need more reliable power before the first new nuclear plant breaks ground – much less the multiple plants that the state will eventually need.

Natural gas is another reliable, relatively clean, source of energy, but, relative to coal is has limited supply, it has competing uses – it is a critical input to chemical refining -- making it valuable for things other than electricity production, and prices are relatively high, and fluctuate a great deal. Texas, arguably, already relies on natural gas to too great an extent from a price stability, energy security perspective – which is the prime reason, that, despite a relatively successful deregulation, Texas's electric rates are higher than the nation on average.

Wind power has virtues as a distributed source of power, but few, in my belief as a source of power for the electric grid. Contrary to popular belief it is hardly an experimental or

cutting edge technology, yet it receives substantial subsidies – without which the industry would collapse (or at least, would not see anywhere near the growth curve it is currently experiencing). It contributes to energy sprawl, for instance, a comparison of “footprints” is telling: to produce 1,000 MW of power, a wind farm would require approximately 192,000 acres, or 300 square miles; a nuclear plant needs less than 1,700 acres, or 2.65 square miles (within its security perimeter fence); and a coal powered plant takes up about 1,950 acres, 3.05 square miles. In addition, the costs of wind farm construction and equipment is skyrocketing, as is, as a report just last week detailed, the cost of connecting wind towers to the grid – building the wires to get the wind from where they are sited to where we need the energy is estimated to be more than \$6 billion. Wind’s greatest drawback is its unreliability. As we saw just a month ago, you can’t count on wind for either baseload or as ERCOT points out, reserve power. For instance, during peak demand, ERCOT’s most recent estimate is that you can count on an average of 8.7 percent of West Texas wind farm’s rated capacity (4,000 MW becomes 348 MW quite quickly), with a range from 0 to 49 percent. Texans’ demand that their air conditioner’s and lights work on demand, and their refrigerators and freezers must run all the time. Redundant or backup power for wind farms is truly expensive, yet that expense is rarely figured into the cost of wind.

There are two main concerns raised by the opponents of new coal fired power plants. The first is that the plants will increase air pollution in the various metropolitan areas, harming human health and making it harder to be in compliance with federal clean air standards. Based on the best available research and common sense, -- I would point you to a colleague, Joel Schwartz’s work on this (also published by the Texas Public Policy Foundation and by the National Center for Policy Analysis) I don’t believe that this is a serious concern but I don’t have time to address this hear, though I will be willing to answer questions regarding this matter.

The second is that the plants will emit large quantities of carbon dioxide and contribute to global warming. The primer that I provided as an attachment with my testimony gives some of the reasons that I believe this should not be an issue preventing the building of new coal fired power plants.

The earth has warmed a modest amount (about 1 degree Fahrenheit) over the past 150 years. But the extent to which humans are responsible for this rise and whether continued warming will cause serious environmental harms are issues actively debate in the scientific community. What is clear is that the amount of greenhouse gases has risen, mostly since 1950, and the electric utility sector contributes about 25 to 40 percent of the human-emitted greenhouse gases in the atmosphere. Coal emits far more CO<sub>2</sub> per unit of energy produced than any other electric power source.

All this being true, if human energy use if the prime culprit behind the present warming trend, there is no policy proposal on the table to reduce greenhouse gas emissions by an amount necessary to significantly reduce further warming – and all of the proposals put forward thus far would have substantial costs far outweighing their benefits.

Concerning the former point, the Kyoto Protocol requires industrialized countries to reduce greenhouse gas emissions by an average of 5 percent below 1990 levels overall, in an effort to avert human-induced global warming. More specifically, the U.S. would be required to - reduce its greenhouse gas emissions by about 40 percent, to seven percent below their 1990 levels, between 2008 and 2012. Despite these substantial reductions, according to the National Center for Atmospheric Research, even if all of the Kyoto signatories met their targets, the earth would be only .07 to 0.19 degrees Celsius cooler than it would be absent Kyoto. Greenhouse gas concentrations will continue to increase, as fast growing countries exempt from emissions cuts — such as China, India, South Korea, Brazil, and Indonesia — will account for as much as 85

percent of the projected emissions increase in the next two decades. Indeed, China, which is averaging one new coal-fired power plant a week, is surpassing the U.S. as the largest greenhouse gas emitter at the end of 2007.

The Congressional Budget Office calculated that the Kyoto protocol would have cost the economy over \$300 billion annually. Indeed, every peer review of the economic costs of the Kyoto treaty have shown that its benefits would far exceed its costs.<sup>6</sup> As a result, the Bush administration wisely decided not to submit Kyoto to the Senate for ratification or to attempt to implement it through legislation or regulations.

In the past year four major studies have been produced analyzing recent federal proposals to reduce greenhouse gas emissions through cap-and-trade mechanisms. The results of these analyses should be sobering for those who think we can prevent global warming at little or no cost.

A study from the Massachusetts Institute of Technology concluded that a proposal by Senators Bernie Sanders (I-VT) and Barbara Boxer (D-CA) is tantamount to imposing a tax of \$366 billion annually, or more than \$4,500 per family of four, by 2015. And the annual costs will grow after 2015.<sup>7</sup>

A study by the Congressional Budget office detailed how a cap-and-trade system would result in massive \$300 billion wealth redistribution from the poor and working class to wealthier Americans.<sup>8</sup> As noted above, proposals that raise energy prices are highly regressive, as the poor

---

<sup>6</sup> Stephen Brown, "Global Warming Policy: Some Economic Implications," National Center for Policy Analysis, Policy Report No. 224, May 1999

<sup>7</sup> Sergey Paltsev, et., al., "Assessment of U.S. Cap-and-Trade Proposals," Report Number 146, MIT Joint Program on the Science and Policy of Global Change (April 2007), [http://web.mit.edu/globalchange/www/MITJPSPGC\\_Rpt146.pdf](http://web.mit.edu/globalchange/www/MITJPSPGC_Rpt146.pdf)

<sup>8</sup> Tradeoffs in Allocating Allowances for CO2 Emissions, Congressional Budget Office (April 2007).

spend a disproportionate share of their income on energy or items upon which energy makes up a significant share of their costs.

Indeed, energy bills gobble up 15 percent of the income of the poorest households, many of which include a member who is elderly or disabled, compared to 3 percent of income in average households. And the number of households that can be defined as "low-income" has risen to include about 30 percent of the U.S. population, while the number of families and the amount of money that can be provided by federal energy assistance programs have fallen.

An EPA analysis of the Senate's leading climate change bills indicated that they would hit would hit the U.S. economy hard.<sup>9</sup>

While under any new climate law, U.S. gross domestic product doubles in 2030 from its current \$13.8 trillion, EPA models show a measure by Sens. Joe Lieberman (I-Conn.) and John Warner (R-Va.) would slice off as much as 3.8 percent of GDP growth or \$983 billion annually. By contrast, a rival proposal from Sens. Jeff Bingaman (D-N.M.) and Arlen Specter (R-Pa.) promises a loss of just 1.4 percent or \$369 billion to the economy. EPA found roughly the same GDP cuts under a measure from Lieberman and Sen. John McCain (R-Ariz.) (\$133 billion to \$419 billion).

A study by the National Association of Manufacturers and the American Council on Capitol Formation confirms that the U.S. economy would grow slower and less between now and 2030 if the Liebermann-Warner proposal becomes law.<sup>10</sup> More specifically, the bill would shave between 0.8 percent and 1.1 percent off the gross domestic product in 2020 (\$151 billion to \$210

---

<sup>9</sup> EPA Analysis of the Lieberman-Warner Climate Security Act of 2008, S. 2191 in 110th Congress, March 14, 2008 [http://www.eenews.net/features/documents/2008/03/14/document\\_pm\\_01.pdf](http://www.eenews.net/features/documents/2008/03/14/document_pm_01.pdf)

<sup>10</sup> Analysis of The Lieberman-Warner Climate Security Act (S. 2191) Using The National Energy Modeling System (NEMS), American Council for Capital Formation and the National Association of Manufacturers Analysis Conducted by Science Applications International Corporation (SAIC), March 14, 2008. [http://www.eenews.net/features/documents/2008/03/13/document\\_pm\\_03.pdf](http://www.eenews.net/features/documents/2008/03/13/document_pm_03.pdf)

billion) and between 2.6 percent and 2.7 percent by 2030 (\$630 billion to \$669 billion). The bill would also result in between 1.2 million to 1.8 million job losses in 2020 and 3 million to 4 million job losses by 2030.

Each of these studies confirm that there would be little benefit to the environment – and no effect on future warming -- from U.S. emission curbs since they would be more than offset by soaring pollution in China, India, South America and Africa.

Climate change bills are, in sum all pain, no gain. Whether state, federal or international, before adopting any carbon restricting climate change bills, the public and legislators should demand to know, how much cooler will it be? How many cases of malaria and other tropical diseases will be prevented? How much coastal flooding will it prevent? Are there other actions, like adaptation, rather than energy restrictions that could prevent more harm at lower costs? These questions are where the rubber hits the road.

In the end, Texas proportionately more than the rest of the nation, will need more energy, and greenhouse gas restrictions will only make supplying that energy more difficult and much more expensive – is that a policy anyone should endorse?