A BLUE PRINT FOR KANSAS ENERGY POLICY:

Meeting electricity demand
without new fossil fuel

Special interests in Kansas are pushing for coal powered plants, or nuclear power plants, to satisfy growth in electric demand. One source predicts that growth will be 1.3% to 1.6% per year, through the year 2020. (Kansas House Bill 2949). As outlined below, costly coal and nuclear power plants are unnecessary to solve Kansas' slowly expanding demands.

STEP ONE: CUT ENERGY DEMAND GROWTH

Kansas should immediately cut the annual demand growth to 0.4% through efficiency measures and DSM (Demand Side Management). The Western Governors' Association's (WGA) Energy Efficiency Report states that western states (including Kansas) can cut annual demand growth by a hefty 75% by employing "best practices" in energy efficiency. Assuming a business-as-usual growth rate of 1.6%, such "best practices" will leave Kansas with an annual demand growth for electricity of only 0.4%.

That we can cut demand growth to this amount can no longer be seriously disputed. According to ACEEE's 2006 National Scorecard, which ranked states based on energy efficiency policies and programs, Kansas came in a dismal 35th. The Scorecard states that the bottom 26 states "seriously lag" behind the rest. (Http://enviro.blr.com/display.cfm/id/97919.)

Conversely, examples of progress abound. The State of Vermont's department, *"Efficiency Vermont," used DSM and efficiency programs to level demand growth for electricity in that state from 1.5% per year to 0% per year.* (See comments of Efficiency Vermont's CEO in Salina Journal, 3/3/08). Likewise, Minnesota's "Next Generation Energy Act of 2007" requires utilities to help consumers reduce electrical use by 1.5% per year. (National Magazine of Policy and Politics, Mar. 15, 2008). The major utility, Excel, cuts demand growth by 1% per year. (See WGA Efficiency Report).

These programs give ratepayers a great rate of return on their investments. Connecticut found that its "Clean Energy Fund" generated $4 for in "future savings" for each $1 spent on its efficiency programs. (Magazine of Policy and Politics (Mar. 15, 2008)). California's ratepayers reap the benefits of efficiency programs, saving $3 for every $2 that its utilities invest in efficiency programs. As remarked on by one of their Utilities Commission staff members: "How many other investments yield a 50 percent financial return and reduce pollution?" ("California Illuminates the World," Craig Canine, 2006 (www.nrdc.org/onearth)).

A clear policy solution is to require efficiency in new buildings. Incredibly, 76% of all electricity from U.S. power plants supplies the Building Sector. The group "Architecture 2030" aims to have government and industry adopt the "2030 challenge", by requiring all new buildings to reduce fossil fuel consumption by 50% by 2010, and making all new buildings carbon neutral by 2030. (http://architecture2030.org)

STEP 2: BUILD WIND FARMS TO SATISFY REMAINING DEMAND

If Kansas follows Step 1, and reduces annual growth to 0.4% from now through 2020, Kansas will need to add less than 600 MW of new electric generating capacity by 2020.[1] *This can be produced by two moderately sized wind farms.*

Clearly, building these two wind farms will be relatively easy, quick, and beneficial. Right now there are 5 wind farms in Kansas, with 27 more wind farms in the planning stages. ("Wind Energy", www.hesston.edu/academic/faculty/nelsonk/physics/research/windenergy-BG/research.htm). If we adopted aggressive energy efficient measures today, the first few proposed wind farms to come on-line would cover Kansas' energy growth for many years to come, and the additional energy from the rest of the wind farms could be exported.

The cost of wind-produced power is no barrier. In 2006, the wholesale cost of power from wind was priced at or below wholesale power prices. (About 4 cents per KWh). (Wiser and Bolinger, "Annual Report on U.S. Wind Power" pg. 13(2007)). Claims by coal interests that wind farms are unworkable because the wind "varies" should fall on deaf ears, because the utilities are at this time making wind-power work. They are currently purchasing power from wind farms at ever increasing levels, and using the same "peaking equipment" that follows electricity demand up and down to also follow variations in wind.[2]

The little-discussed truth is that coal-power has calamitous external costs, which make it far more expensive than using wind farms.[3]

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1 We are assuming that Kansas currently has a capacity of 12,000 MW and consumes about 5000 MW on average. Wind farms contribute average energy equal to about 42% of their rated capacity. If energy consumption grows at 0.4% for 12 years, over that 12 years, the energy consumption will grow by approximately $(1.004)^{12} - 1.0 = 0.049$. Multiplying this by 5,000 MW average gives 245 MW average, and dividing by 0.42 gives 584 MW additional installed capacity of wind power by 2020.

2 As an example, Westar Energy is poised to purchase 400 megawatts capacity of wind farm generation by 2012. ("The Spin on Wind," Topeka Capitol Journal, Oct. 7, 2007). This, farm by itself, when coupled with efficiency, would almost cover the State's future needs out to 2020.

3 When the expected carbon tax is added to coal, coal will be much more expensive than integrating wind. The Stern Review calculates the social cost at $85/ton of carbon emitted. This is 9.8 cents per KWh. When one adds the health care costs to treat coal-powered-related diseases like asthma and heart failure, plus the environmental devastation of mountain-top removal, the true costs of coal are even higher.(http://www.hmtreasury.gov.uk/independent_reviews/stern_review_economics_climate_change/stern_review_report.cfm).

Wind farms will greatly benefit any local economy which hosts them. The Spearville, Kansas wind farm provides PILOT money (payment in lieu of taxes) to its county of $496,000 per year for 30 years. (Hutch News, June 10, 2006). Furthermore, long-term jobs are created, and landowners receive $2,000 to $5,000 per year for leasing land for a wind turbine, and a turbine's footprint scarcely disrupts the ability to continue farming around it. (See "What Do you Know About Energy?" Www.kansasruralcenter.org).

According to the Kansas Lt. Governor, Mark Parkinson, fossil fuel for electricity is unnecessary for Kansas:

> "Because the wind is so good in Kansas, our need for coal-fired plants is really reduced. We believe this state can address its growing energy needs through a combination of wind power and conservation and that *the need for additional coal plants is minimal to zero*." (Salina Journal on-line, March 17, 2008).

Conclusion

Energy efficiency should be dubbed our "first fuel", and we should aggressively pursue policies to promote it. To start us down the right road, we recommend that Kansas legislators begin adopting efficiency legislation from Minnesota's "Next Generation" Act (See https://www.revised.leg.state.mn.us/bin), and take up the "2030 Challenge" for new buildings.

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