Last fall, Secretary Roderick Bremby of the Kansas Department of Health and Environment denied an application for an air permit by Sunflower Electric in connection with the company’s plan to build two 700-megawatt coal plants. In rejecting the application, Bremby cited the plants’ projected emissions of carbon dioxide (CO₂)—even though no state or federal law regulates CO₂. Bremby said, “I believe it would be irresponsible to ignore emerging information about the contribution of carbon dioxide and other greenhouse gases to climate change and the potential harm to our environment and health if we do nothing.”

In March, the Kansas Legislature overturned Bremby’s decision, but Governor Kathleen Sebelius vetoed the legislation. In April, the Kansas House of Representatives passed a new version of this legislation, which it hopes will either meet with the governor’s approval or garner enough votes to override her veto. As I write this, the new bill has yet to be signed or vetoed.

**SHAKY LEGAL AUTHORITY, EVEN WORSE ECONOMIC REASONING**

Bremby’s authority to deny the air permit supposedly emerges from the Kansas Air Quality Act, which defines air pollution so broadly as to include just about everything under the sun. Additionally, even if the U.S. Supreme Court’s decision in *Massachusetts v. EPA* defines CO₂ as a pollutant, there is a cavernous difference between stating that CO₂ is a pollutant and summarily banning new coal plants (or shutting down existing ones).

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Bremby’s decision has legal implications, but the economic implications are of more immediate concern, because environmentalists (and perhaps some renewable energy developers) are likely salivating at the prospect of expanding the Kansas precedent into a ban on new coal plants everywhere in the United States. Why stop with coal plants? In fact, to avoid the whiff of selective enforcement, Bremby’s banning of coal plants would have to be extended to all major sources of CO₂ and other greenhouse gases: automobiles;
oil production and refining; aircraft manufacturing; chemicals; agriculture; and, well, just about everything.\textsuperscript{4}

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In the 2007 annual report of “Kansas, Inc.” (a government agency that performs analysis and promotes economic growth in that state), Governor Sebelius said, “To ensure the promise of opportunity for future generations, we must build an environment that encourages business creation and growth.”\textsuperscript{5} Some might ask how reducing the supply of electricity and raising its price will help accomplish the governor’s goal. Of course, the answer is that development of renewable generation will create untold thousands of new jobs. Sure.

**ECONOMIC IMPACT STUDIES CAN BE VERY MISLEADING**

Numerous studies tout the economic benefits of renewable resource development. For example, a paper published in June 2007 by the National Renewable Energy Laboratory (NREL) estimated that building about 55,000 megawatts of new wind turbines in the western states by 2015 would create over 270,000 “jobs” during construction and over 480,000 jobs over a 20-year operation period.\textsuperscript{6} Wow! It almost sounds too good to be true—and it is.

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To understand why this is a false promise, a little background about typical economic impact analysis studies will help. Job impacts are divided into three categories: direct, indirect, and induced.\textsuperscript{7} The direct impacts of building a generating resource include all of the people who actually bolt the thing together, plus everybody who helps build the component parts. For example, building a wind farm requires construction workers to pour concrete foundations, crane operators to erect the turbines, workers to string the power lines and build a substation, and so forth. It also requires workers (likely located somewhere else) to build the turbines, manufacture cement, fabricate copper wire, and engage in other like activities.

The indirect job impacts arise because all of the industries that the wind farm developer purchases equipment and materials from also purchase equipment and materials. The cement plant, for example, requires equipment, raw materials, and electricity. The wind turbine manufacturer buys steel, ball bearings, gears, and generators. In this way, the process continues. Finally, induced impacts arise from the wages spent by all of those employees, who are also consumers.

Most economic impact studies determine employment impacts by looking at the total expenditures needed and tracing those expenditures through the local, state, or even national economy. Thus, if a proposed wind farm will cost $100 million to build, that $100 million injection is allocated among all of the different input industries (including construction) to determine the overall economic impacts on the economy.\textsuperscript{8}

Spending $100 billion to build new wind turbines may indeed create thousands of jobs, but so might spending that money on new coal and nuclear plants, or even spaceships.

Now, there is nothing at all wrong with economic impact analysis: such studies can shed light on the overall impacts of different public policies.\textsuperscript{9} But these economic paeans to renewable resources typically fail to provide some crucial additional information. First, most studies fail to provide benchmarks for comparison. Spending $100 billion to build new wind turbines may indeed create thousands of jobs, but so might spending that money on new coal and nuclear plants, or even spaceships. Second, many studies, including the NREL study, fail to consider where the money comes from for these expenditures.
In the case of building new renewable resources (wind or otherwise) to meet mandatory renewable portfolio standards (RPSs), the money will come from ratepayers. To the extent renewable resources are more expensive than conventional generation supplies, electric rates paid by consumers will increase. As their rates increase, ratepayers will have fewer dollars to spend. Thus, manufacturers—especially electric-intensive ones—will be less inclined to invest in new production facilities if the cost of electricity is too high, and they may raise the price of their products. The same is true of commercial firms. Retail consumers will pay higher prices for electricity, and they will also pay more for all goods and services that use electricity as an input. In essence, an RPS that mandates development that would not otherwise take place is a tax. And taxes do not create jobs—they reduce jobs.

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Critics may argue that such taxes are “worth the price” if we are to achieve broader environmental and social goals, such as reducing dependence on foreign oil or reducing CO2 emissions in Kansas. But nobody should be under the illusion that banning coal plants—or any other type of fossil fuel generation—and replacing them with renewable resources will provide economic manna from heaven. Renewables have risks, too, and costs that must be considered.

What are Kansans going to do when their power goes out, they find the courage to pull back the curtain on the renewable wizard’s promises, and they discover that behind it is . . . nothing? Move to Texas?

NOTES
1. State of Kansas Air Quality Statutes, Chapter 65.—PUBLIC HEALTH, Article 30.—AIR QUALITY CONTROL. Section 65-3002 states the following:
   Definitions. As used in this act, unless the context clearly requires otherwise:
   (a) “Air contaminant” means dust, fumes, smoke, other particulate matter, vapor, gas, odorous substances, or any combination thereof, but not including water vapor or steam condensate.
   (b) “Air contamination” means the presence in the outdoor atmosphere of one or more air contaminants.
   (c) “Air pollution” means the presence in the outdoor atmosphere of one or more air contaminants.

3. For example, the decision smacks of “selective enforcement.” If construction of new coal plants can be banned, why not ban purchases of cars, lawn mowers, and barbecues? Why not ban construction of new gas-fired generating plants, too?
4. The average individual emits about one-third of a ton of CO2 per year. Because the population of Kansas is about 2.8 million, Kansans are emitting almost one million tons of CO2 each year just by breathing.
7. Another issue concerns jobs versus job-years. Most studies, including the NREL study, estimate job-years. In other words, they estimate full-time equivalent (FTE) jobs created, not actual jobs.
8. The more local the area studied is, the smaller the estimated economic impacts will be. The reason is that more expenditures “leak out” of the local economy.
9. The author of this column has performed his share of these analyses. For example, see (1994). Estimating the economic impacts of geothermal resource development. *Geothermics, 23*(1), 43–59. Readers who would like a copy of this article can e-mail me.