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The North American electricity system is one of the great engineering achievements of the past 100 years. This infrastructure represents more than $1 trillion in asset value, more than 200,000 miles of transmission lines operating at 230,000 volts and greater, 950,000 megawatts of generating capability and nearly 3500 utility organizations, serving more than 100 million customers (or well over 300 million people).

Providing reliable electricity is an enormously complex technical challenge, even on the most routine of days. Unfortunately, this incredible feat of engineering is destined to failure. It's a sad testament to a country that still leads the world in manufacturing and quality of life.

Few of us have control over our electric service. Most of us don't give it a second thought—*exc ept when our monthly bill comes or lights go out*
. The average American considers electricity an entitlement, rather than a privilege. That's not the way it is in much of the world.

Imagine living in Iraq or India, where countless people rely on generators for their power requirements and are lucky to have electricity only four to eight hours per day. Whoa! That could never happen "here," you say. Don't count on it.

The issues

There are a number of issues facing the power industry that will impact each and every American (and whether we'll have enough electricity in the future). The most significant of these, in my opinion, involves the clean-air legislation Washington is debating.

Ask any investor-owned power-company executive about cap and trade, clean coal and carbon sequestration, and you'll hear general concern about rising costs and profit margins. A utility must be able to pay investors *some* return or it won't have any investors. If it isn't making

money or is constantly operating on the edge, no one will want to lend it any money. What does all this have to do with keeping your lights on?

If the Clean Air Act passes as it's currently written, a number of older (coal) plants won't be able to meet the new standard. In fact, several large utilities are already planning to shut down older coal plants in anticipation of the new legislation—*due to the cost of bringing them into compliance* . What then? Don't bet on wind or solar to match the power generated by the base-loaded facilities we shut down.

Utility companies must look out for their investors. They can't run the risk of building new coal plants only to find out they don't meet the "new" standards. Nor can they invest in nuclear plants without some government loan guarantee to assist in the high cost of construction. And don't forget, plans for new coal- and nuclear-powered plants can't go anywhere without the need—*and high costs*
—to deal with various special-interest groups that dot the power-industry landscape.

The reality

Energy conservation will only cover a portion of the gap between our electricity supply and demand. The remaining portion must come from base-loaded power plants.
Proactive utilities are building gas-fired combined-cycle plants to meet customer demands. It's a calculated risk, given the spike in natural gas prices in the late '90s. When all is said and done, however, it is the path of least resistance. **UM**

Reference: U.S.-Canada Power System Outage Task Force—Causes of the August 14th Blackout

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