

THE ELECTRICITY ANSWER: BALANCE AND DIVERSITY

Coal? Yes, coal looks like the solid base for rebuilding the tattered energy structure.

This section was written by Willard C. Rappleye Jr., editor of EXPERT REPORTS. He's a former editor of *American Banker*, founding editor of *Financier* and vice chairman of *FinancialWorld*.

Cheap, abundant energy is the feedstock for the world's most powerful economy. America's \$218 billion electricity system deploys it. Yet this vital system has become spectacularly susceptible to assaults and misadventures—oil shocks, environmental concerns, unprecedented weather extremes, swings from overcapacity to under, and political and corporate policy blunders.

These have combined over time to retard industrial progress and at times have threatened the way U.S. citizens live and work. Most recently the electric deregulation fiasco in California and the sudden spike in natural gas prices have struck hard at the historic confidence that Americans can have all the cheap energy they want.

A few years ago deregulation started to

look like the answer, and natural gas looked like a simple part of it. "High prices for power in different parts of the country created pressures on the industry to do some things differently," observes Allen Franklin, Chairman and CEO of Southern Company. "In California electric rates were about 50 percent higher than the national average; the Northeast had higher rates too. That caused a push to fix the industry all across the country."



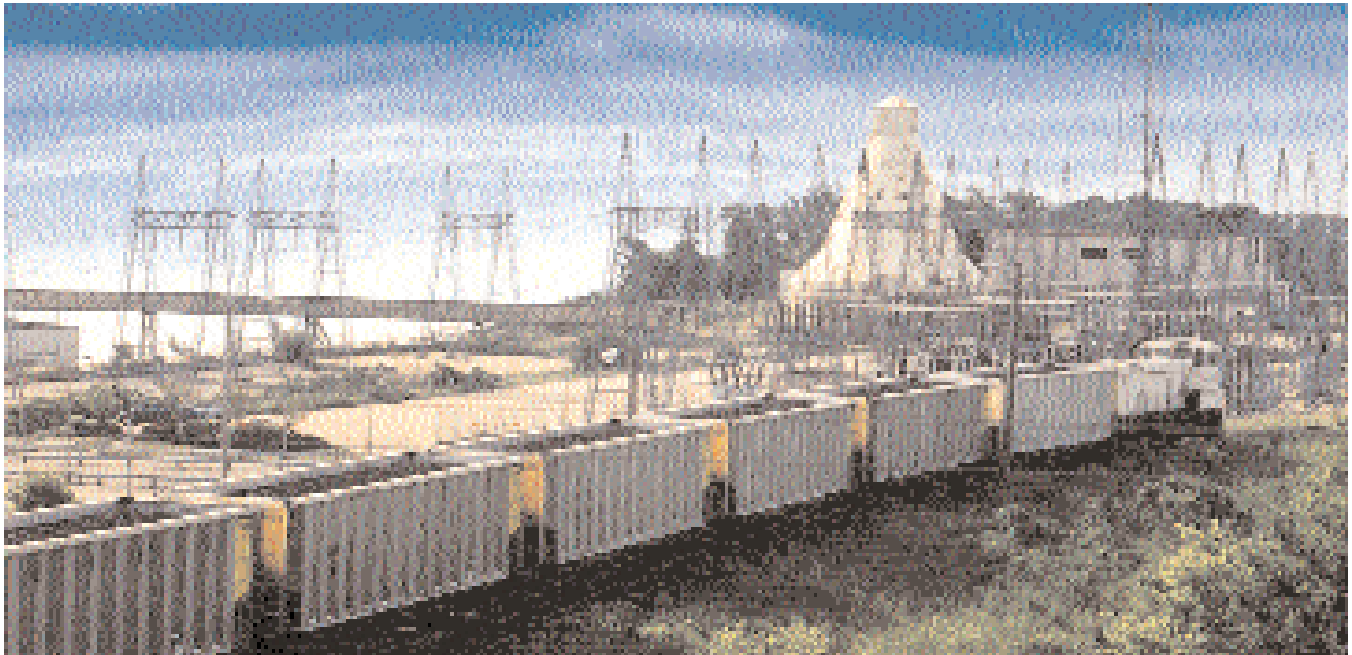
Allen Franklin
Chairman and CEO,
Southern Company

SOME DIDN'T NEED TO BE FIXED

"But here in the Southeast—and in the Pacific Northwest, because of all the hydropower—rates were substantially less. So there were pockets that we said didn't need to be fixed. The decision was made to leave deregulation to the states," he explains. "It was not a formal decision. It came from Congress having considered a number of comprehensive electric power restructuring bills, including a deregulation plan that would have imposed a national solution on all the states," he recalls. "Those packages just didn't go anywhere."

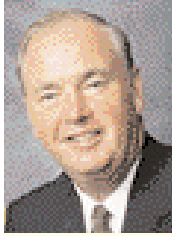
The current assaults on energy policy, regionally and nationwide, stem from the pressure of inexorable gains in electric usage from 3,162 billion kilowatt hours in 1995 to 3,425 in 1999. That's a steady rise of 2 percent a year—and no change is expected in the near future.

VITAL AND VULNERABLE. The \$218 billion electricity system that generates and deploys energy for the nation's life and work has been jolted. Strength to withstand future shocks and avoid risky dependence must be regained through comprehensive new policies.



GOT TO GET WORSE: AN INTERVIEW WITH SENATOR FRANK MURKOWSKI

The California experience "undeservedly" gives deregulation a bad name, declares Frank Murkowski (R., Alaska), Chairman, Senate Committee on Energy and Natural



Frank Murkowski
U.S. Senator
(R., Alaska)

Resources. It was not real deregulation, he maintains, because it froze consumer prices while it let wholesale prices run free, forcing California's electric utilities close to bankruptcy as they ate the difference. It also all but

wrecked the electric systems of its neighboring states, draining the self-sufficiency they had built up based on hydro power.

"Pennsylvania and its partners in the northeast, on the other hand, have done deregulation well," he points out. They took advantage of an existing infrastructure and permitted prices to fluctuate within bounds on both sides of the supply-demand equation. Pennsylvania's consumers have benefited from the new competition by some \$3 billion in savings on their electric bills since deregulation began there in 1999.

But rejiggering regulation is not likely to happen elsewhere, Murkowski warns. Some states where consumer price levels have been reasonable chose not to try; while others may have considered changes, their initial skepticism has been confirmed by California, and legislative action has stopped dead.

Natural gas, cheap and unregulated, has rushed to meet the growing needs of the electricity generators. But now that gas prices have spiked, individual and commercial consumers are raising an uproar—and the nation's energy system cannot provide any satisfactory alternative. Hence, Murkowski explains, the sudden urgent outcry for diversity and balance in energy.

Coal could be a big part of the answer, he says. Although it has long been the nation's primary source of energy, it has been losing market share to gas. "We've got more coal than we could ever possibly consume and the technology to clean it, and it produces energy cheaper than gas," Murkowski fumes. "But the EPA has created such a regulatory morass that a utility will say, 'Hell, I'm not going to build a coal plant. I'll go get gas. I can get a permit there.'"

But he does see a glimmer of hope flickering over the environmental obstructionists. It is not dawn yet, he concedes, "but it may be coming. How bad does it have to get before we can get them to realize that we have some higher causes here?"

Worse, he concludes, than it has so far.

But these pressures call attention to the urgency of creating a national policy broad enough to make the most of every element while avoiding too much dependence on any one of them; flexible enough to adjust to regional resources and requirements, anticipating vulnerabilities; and building in stabilizers against shocks—all in a structure, in the words of Lawrence Goldstein, president of the Petroleum Industry Research Foundation, of "balance and diversity."

STEPCHILD AND ORPHAN

His statistics show that natural gas, which currently accounts for 90 percent of domestic energy investment, is the primary engine for growth in the system, rising sharply in use from an 11 percent share of the U.S. market today to a projected 20 percent share in 2010. However, Goldstein believes the high risk of dependence will be sharply reduced if new policy proposals are enacted to require all gas-fired turbines to be backed up by an alternative fuel supply. Oil is not a factor, at less than 3 percent, and is expected to shrink as a source of electric power.

Coal, though, which he calls "the stepchild of national energy policy," is in decline, from its present share of about 53 percent to less than 50 percent by 2010. Meanwhile, nuclear power, which he calls policy's "orphan," is struggling and probably losing its battle to hold 22 percent of the electricity market share.

Both coal and nuclear energy sectors are striving to revive. Both could benefit greatly from changes in public attitudes—which wise policy could influence—and from relatively modest, precisely targeted government support. "If we spent a half billion dollars a year for five years on clean coal technology, we could find a way to burn it effectively, efficiently and environ-

mentally safely—and have as much of it in the ground as we could ever want," Goldstein predicts. "It would be the dominant source again."

For nuclear, "the whole relicensing process has to be streamlined, so that voices pro and con in the local communities can have their say, but without the process having to go through protracted, ill-defined delays," Goldstein maintains. Beyond that, "when and if the utility itself has come to a decision that it does not want to relicense a plant, then it might be in the national interest for the government to play a role in its operation."

RUNNING INTO BRICK WALLS

Atlanta-based Southern Company is an industry leader in the campaign to revive coal. With revenues last year of \$23.4 billion, it is now concentrating operations entirely on generating and distributing power in the Southeast, after spinning off its more volatile, unregulated, geographically diverse activities into a new entity called Mirant. As Southern is now structured, coal, which already supplies 70 percent of the company's energy, "has to be a major component of our future requirements," Franklin declares. "We have great expertise in coal. We have spent years and more than \$4 billion working with the Department of Energy on clean coal technology at the premier facility in the country, over near Birmingham. But we are running into brick walls when it comes to expanding coal generation.

"Coal has to come back in very quickly if we are going to continue to have low-cost energy," Franklin contends. "But that scenario is not reflected in the energy policy of this country. Everything is stacked against coal. Every environmental regulation is put in place to prevent new coal units from being built. You'd

RESOURCE UNDERUTILIZED. Coal is slipping as the dominant share of the nation's total fuel resource. The industry is constantly frustrated in all attempts to build new plants. Cheaper, cleaner and more efficient than ever, coal's revival is vital to the breadth and balance in energy growth.



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Richard Abdo
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have to be very, very brave to start one today. “But when you look at the price spike in natural gas, all of a sudden it doesn’t look so great compared to coal. At those prices, coal, even with the most advanced environmental equipment added, becomes highly competitive. So for more than a year we have been looking seriously at a new coal plant if for nothing else than to get the process started, to get folks seriously looking at coal again.”



Richard Abdo
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Another industry leader, Wisconsin Energy, which earned \$3.4 billion last year, has concluded that coal-fired plants must return to prominence in meeting future energy needs. That may surprise some, chairman Richard Abdo acknowledges, but to him it is a clear choice.

TIME TO TAKE STOCK

“For years, in a time of relative stability and predictability, the state’s policy of buy-not-build served us well. But not now,” Abdo says. Industry changes over the past 15 years created a risk-averse mindset among industry and public-policy decision makers in Wisconsin, and kept any large, new plants off the drawing boards. Small, gas-fired turbines met some of the rising demand. Excess capacity wheeled in from neighboring states could help at times, but that was dwindling. Abdo recognized that there would be no excess to spare when demand increased everywhere, and that Wisconsin’s transmission system could not handle the extra heavy loads even if it was available to meet emergencies. Then came the spike in natural gas prices. Wisconsin Energy took stock.

Deregulation, he says, is not the answer. “In

our situation, we are not interested in restructuring the marketplace,” Abdo emphasizes. “What interests us is building more capacity, using a balanced fuel mix, and monitoring the pulse of local and state energy needs.” Wisconsin Energy still needs gas as part of the mix, he says, “but we have kept our prices low because of fuel diversity. We have seen how prices skyrocket in other states that rely almost completely on natural gas. Here in Wisconsin we are at the tail end of the pipeline, so we’re especially vulnerable.” Coal, however, can help restore the balance. “We can get it delivered to our plants cheaper than anyone in the Midwest. We now have the technology to burn it efficiently in an environmentally responsible manner. Our goal is more coal,” he declares.

Last September, Wisconsin Electric proposed Power the Future, a master plan for the next 20 years, backed by a commitment to invest \$6 billion in the first decade. The centerpiece is the addition of 1,200 megawatts at its existing Oak Creek coal facility, which would save customers \$1.2 billion over the life of the plan.

Abdo is under no illusions that the company could build a new plant in Wisconsin today—political resistance to a new greenfield site would be far too great. But the company can expand and replace at existing coal-burning facilities. “Some of those sites were huge when we retired plants built in the 1940s,” he says. “There is plenty of room to put in the new technologies.”

Moreover, the Wisconsin economy is heavily dependent on manufacturing, he says, and, while the state is among the nation’s leaders in strictness of its environmental laws, “having a factory around does not offend our people.”

Still, Abdo admits, it’s a bold initiative. “I don’t know of anyone who has announced plans for a new coal plant in decades.”

COMMENTARY

MORE COAL IN THE MIX

By Stephen L. Miller, President, Americans for Balanced Energy Choices

Brownouts in California and sharply higher prices for electricity across the country are forcing Americans to recognize the larger role that coal—essential, affordable, abundant and increasingly clean—must play in the nation’s energy future.

The country’s prosperity—more offices, factories and homes, along with rising living standards—has led to a big jump in electricity production. Since the 1970s demand has more than doubled, and, according to the U.S. Energy Information Administration, will increase by more than 30 percent by 2020.

More than half of the electricity consumed in the U.S. today is generated by coal. Its use has more than tripled since 1970 and it now powers 21 of the 25 lowest-cost operating plants in the country. It can be relied on for even greater production in the future, with enough reserves in the ground to meet the country’s needs for the next 250 years at current consumption rates.

As the Bush administration and Congress develop energy policy options that will



encourage diversity in energy sources, all fuels must be allowed to compete. The role of coal, which is under assault from some quarters that continue to advocate its reduction, will remain indispensable. Artificial limits on the ability of any fuel to compete will increase costs, reduce reliability, and almost certainly make the United States more dependent on imports.

And because passing along a cleaner world to future generations is a commitment not an option, it is vital that coal be made an increasingly clean fuel source. Thanks in part to more than \$50 billion invested in technology by the generating companies, the Environmental Protection Agency credits the industry with a leading role in the reduction of nationwide pollution levels by nearly a third since 1970, when federal clean air laws were adopted. The rate of air emissions per ton of coal used has improved by about 70 percent during that time.

Advances in technology will continue to improve the environmental performance of coal-based generation, and the day is in sight when electricity from coal will be virtually emissions free and more valuable than ever.