

Affordable Energy for U.S. Businesses and Jobs: Clean Energy Standard Offer Program

Electric utility executives face difficult choices. As the demand for power grows, the options for new generators look increasingly expensive. Those expensive choices portend very bad news for American industry, which for years has relied on cheap electricity. Expensive power will hurt U.S. competitiveness and jobs.

Coal, once considered the low-cost source for electricity generation, now looks downright costly. Construction expenses have soared, and U.S. utilities in 2007 scrapped plans for some 59 coal-fired power plants and postponed dozens more. Consider the cost escalations associated with Duke Energy Carolinas' Cliffside Project. In 2002, Duke projected the two-unit coal-fired facility would cost approximately \$2 billion. Four years later, estimates rose by \$1 billion (almost a 50-percent

increase). After the North Carolina Utilities Commission rejected a permit for two units, Duke announced that a single facility would reach \$1.8 billion, excluding financing costs. Thus, in the course of five years, the cost of a single Cliffside unit rose almost to the level originally anticipated for two units.

Part of the cost-escalation problem results from China and India building more and more power plants, increasing the worldwide expenses for engineering expertise and steel and other construction materials. China, in fact, added 90,000 MW of coal-fired capacity in 2006 while India built an additional 930 MW, compared with 600 MW developed in the United States.

Another part of the problem is that U.S. coal-fired power plants finally are paying a larger share of the costs associated with their pollution. The Clean Air Interstate Rule (CAIR) and mercury regulations are forcing even existing generators to spend billions on pollution controls, often costing more than the plant's initial construction. Rather than pay those expenses, some utility executives are closing their outmoded and dirty generating units. The addi-

tion of scrubbers and bag houses also increases a power plant's demand for electricity (a parasitic load) and decreases its efficiency.

Delivered power from new coal plants, in fact, now demands at least 10 cents per kWh, almost double today's industrial average. Sequestering carbon, if it works, adds another 7 cents per kWh. Natural gas generators, including combined-cycle gas turbines, also require over 10 cents per kWh, and as gas generation increases, fuel costs, already high, will rise.

Renewable and nuclear power avoid greenhouse-gas emissions, but new wind generation exceeds 11 cents per kWh and solar photovoltaics require at least 24 cents per kWh (Europe and Ontario offer 42 cents per kWh contracts for solar power). Although the costs of new nuclear generation are unknown, reactors seem unlikely to be built without substantial government subsidies, and long-term waste storage remains unresolved.

How, then, does the United States obtain both affordable and clean power? The answer lies in looking at electricity options from new perspectives. The conventional energy debate assumes that

Richard Munson is Senior Vice President of Strategic Planning and Public Affairs for Recycled Energy Development (RED) of Westmont, Illinois, which is involved in the conversion of waste energy into electricity.

power plants will be built the way they have for decades – as large, centralized facilities that require long-distance transmission lines to bring power to consumers. Yet this approach is amazingly wasteful, throwing away two-thirds of the fuel's energy potential. Put another way, centralized power plants suffer from a dismal 33 percent efficiency, which has not increased since Eisenhower was in the White House. European countries, in contrast, are taking a different approach by capturing the waste heat from power plants in order to heat nearby buildings, run industrial processes, and operate air conditioners and chillers.

The conventional energy debate also focuses on specific technologies, with most utility executives

advancing larger subsidies for coal-fired power plants and nuclear reactors, while environmentalists favor substantial tax breaks for wind turbines and solar collectors. Yet rather than have politicians and lobbyists pick technological winners, why not set a goal, perhaps based on increased efficiency or decreased greenhouse-gas emissions, and allow market competition to determine the most efficient or clean approaches?

Here's a modest proposal that could have profound implications for the U.S. economy and environment. Why not have each state calculate the true costs of generating and delivering electricity from a new centralized power plant and then offer long-term

contracts to anyone who can supply clean power at just 80 percent of that cost? Utility executives should appreciate obtaining new electricity at a discount. Assuming a strict efficiency standard for "clean power," environmentalists should welcome the reduced emissions of pollutants and greenhouse gases. Energy entrepreneurs, meanwhile, would jump at the opportunity to invest billions in new power projects.

The Tennessee Valley Authority and Ontario Power Authority are developing such Clean Energy Standard Offer Programs (CESOPs). The utilities welcome both the lower costs and the ability to integrate new power into their systems. They also like keeping the CESOP facility as a customer, as well as placing all interconnection costs into their rate base.

The CESOP approach offers flexibility. Some states may want to initially limit the offering to, say, 1,500 MW of capacity and then extend and modify the terms based on that experience. Strict penalties could be imposed on CESOP plants that fail to meet the efficiency test or to provide all the contracted power.

Projected electricity price hikes certainly will hurt the U.S. economy and they demand fresh options. Rather than continuing to build centralized power plants that throw away their heat or debating the political merits of alternative energy technologies, why not set a clean energy goal and allow entrepreneurs to offer power at a discount? U.S. competitiveness and employment are at stake. ■



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