

**Dr. Peter Fox-Penner**  
**Keynote Address at the**  
**AAI 9th Annual Energy Roundtable**  
**March 3, 2009\***

Good afternoon. It's great to see many old friends and to participate in such a constructive day of dialogue. I consider it an undeserved honor to give today's keynote address, but I'll do my best.

Let me begin by thanking Al Foer and Diana Moss for inviting me to speak at today's Annual Energy Roundtable. Today's workshop is once again a credit to AAI's ability to spot emerging issues in the industry and assemble an august group to discuss these developments in a collegial and constructive setting. I wish we had more of these sorts of discussions.

It would be tempting to devote my remarks to a review of wholesale and retail electric markets in the U.S., or to offer my views on what went wrong with competition in the U. S. and how we should "fix" electric deregulation. I could also possibly entertain you with ideas for new electric laws should Congress enact or provide recommendations for how to reform transmission siting.

I will talk a bit about the state of electric markets across the country, but my remarks today are going to look much more at the forest than the trees – the thorny design and implementation issues that continue to bedevil us. Most of all, though, I want to reflect on the fact that, with a new President, a new domestic agenda, and an unhappy new global economic picture, the forces driving electric markets have changed profoundly – and we must change with them.

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## COMPETITION IN WHOLESALE AND RETAIL ELECTRIC MARKETS

Right now there are several very significant and sometimes contentious debates concerning wholesale market design. To give just three examples familiar to all of you, consider the quite lengthy and complex dialogs we're having on:

- Day 1 vs. Day 2 markets, *i.e.* degree of centralization and use of LMP
- Design of capacity markets; and the
- Design of competitive wholesale procurements for contracts.

There are also other new developments, such as the rise of private equity in the power industry the rise of vertical integration, new approaches to market power mitigation, and other issues.

With respect to the bulk power markets, I think that the substantial unsettled issues should not mask the fact that there is more convergence in market structure than may be apparent at first blush. Viewed from the forest rather than the trees, I think the U.S. is gradually converging on an electric industry structure with some generally common features.

The first of such features is open access transmission. In spite of all of the implementation controversies we have now gone through, the system is pretty well established in even the most conservative regions of the country. The unsolved problems, which I'll get to in a minute, are long term transmission rights and the ability to site and build new lines. But for the wires already in place, there is a somewhat workable form of access in place throughout much if not all of the country.

Second, and most important to me, there is still substantial vertical integration through both ownership and contracting. While functional separation may slowly be getting better, I see no end to either integration or the use of long term contracts in the business. Indeed, I see this increasing, for reasons I'll discuss in a moment.

Third, there is agreement on the desirability of establishing something approaching centralized regional least-cost commitment and dispatch. This is the main short-term goal of organized markets as well as tight pools are designed to achieve. This is a pro-efficient outcome U.S. policy makers have been trying to effectuate nationally since the 1960s. Bit by bit I think this is where the industry is heading.

The obvious structural corollary to this feature is that there are both day-ahead and real-time markets for spot energy as well as for some ancillary services. As long as you rely on them only for a small portion of your supply, and you police them properly, they work pretty darn well.

Fifth, prices are finally getting more time-differentiated, enabling demand response -- regardless of what sort of market structure you have downstream. This is very important for efficiency and control of market power, and it is an enormously positive development for the industry -- as important, in my opinion, than competition itself.<sup>1</sup>

Finally, two- or three-part wholesale markets are becoming the norm. Outside of Texas, and maybe even there, you cannot finance sufficient generation capacity in a politically sustainable energy market alone. Our capacity and uplift mechanisms are all over the map and the mix of regulation and competition in these areas is unsettled. Nevertheless, I believe we are well on our way to having capacity assurance mechanisms of some sort in every state and region, even perhaps Texas.

And finally, retail choice for small customers is mainly being replaced by *de facto* or *de jure* regulation, operating within FERC and state-regulated spot and contract markets. Only today, Governor O'Malley proposed a retail regulation bill in Maryland. At least six other states have moved towards some re-regulation. As I'll explain later, there may yet be a time for widespread retail choice, but this will depend on how the Smart Grid evolves.

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<sup>1</sup> Hanser, Phil, Wharton, Joe and Fox-Penner, Peter. "Real-Time Pricing Restructuring's Big Bang?" *Public Utilities Fortnightly*, March 1, 1997.

## **POLICY IMPERATIVES FOR THE NEW ENERGY ECONOMY**

This isn't just a picture of a market -- this is an industry structure. It's a structure with a wholesale market that may not be dominant, but one that is very much alive and functional within an industry that is still significantly regulated and integrated. As I said when I began, within this common framework there are still some very important developments, that need further evolution and resolution. However, as someone who has been deeply involved in these issues with all of you for many years, I stand before you today to say that something big has happened. The game has changed.

The policy imperatives facing the electric industry have changed dramatically. Five years ago, I would have said that electric competition was a major public policy objective in itself -- if not THE major public policy objective -- for the power sector. This is no longer the case. At a time of dramatic shifts in national energy policy, our objectives for the power sector have are different.

The new imperatives will not surprise to anyone here:

First, our power system must become greener and cleaner. Using more renewable energy has become so important-- from the standpoint of jobs and economic development as well as the environment-- that we are literally designing our power systems around pre-set levels of renewable power.

Second, I believe we will soon adopt mandatory greenhouse gas controls. As all of you know, this will give the industry its greatest policy challenge ever.<sup>2</sup>

Third, we are intensifying our efforts to reduce our dependence on foreign oil. This time, however, using electricity to fuel our cars is the dominant solution. This is a major new use for our power infrastructure, with many uncertainties, costs, and ongoing policy needs.

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<sup>2</sup> Marc Chupka, Peter Fox-Penner, and Robert Earle. "Transforming America's Power Industry: The Investment Challenge 2010-2030." prepared for the Edison Foundation Financial Conference,

Finally, there are new automation and control technologies, often called the “Smart Grid,” that hold great promise for improving electric services, but also require new investment and new business models -- both highly uncertain. Realizing the potential of the Smart Grid will be a major challenge.<sup>3</sup>

Today, when we talk about how to expand or improve electric markets, I think we have to evaluate these changes against their service to these national objectives.

### **THE NEW ENERGY ECONOMY AND POWER MARKETS**

So how will retail or wholesale competition help us grapple with climate change, renewables, plug-in hybrids and the smart grid? There are two rather different schools of thought. One school holds that expanded markets and competition will best serve these objectives; the other that regulation will hold its ground, if not expand a bit in the coming era.

I regard the evidence as mixed. There are many factors in the “New Energy Economy” that bode well for expanding – or at least maintaining – the electric industry structure we’re converging on. Here are some illustrative examples;

First, the new imperatives are likely to force a very substantial expansion of the grid – something we have largely failed to do so far in the U.S. and Europe (though not in England). We could not overcome the jurisdictional gridlock over transmission siting to serve the goal of competition – even though it was critically important – but there are strong signs that we will do it in order to enable the country to meet its green power objectives.

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November 10, 2008.

[http://www.eei.org/ourissues/finance/Documents/Transforming\\_Americas\\_Power\\_Industry.pdf](http://www.eei.org/ourissues/finance/Documents/Transforming_Americas_Power_Industry.pdf)

<sup>3</sup> See Fox-Penner, Peter. “A New Electricity Business Model for a Low-Carbon World,” presented at the 2008 Marketing Executives’ Conference Retreat “Rates on the Rise in a Rough Economy – Responding to New Realities,” Coeur d’Alene, Idaho October 14, 2008; Faruqui, Ahmad, “Will the Smart Grid Promote Wise Energy Choices?” Illinois Smart Grid Initiative, Chicago, August 5, 2008;

We are also likely to create a market for greenhouse gas emissions that will be, in the words of Dallas Burtraw, the largest expansion of property rights since the Western land rush of the 1800s. This will unleash a further torrent of investment in lower-carbon generation technologies, much of which will be outside the traditional utilities.

Demand response and innovative pricing schemes are also growing rapidly, enabling markets that naturally attenuate market power and are therefore much more attractive than the electric markets we've had so far. This is an area where the FERC's national leadership over many years is starting to pay dividends, and I think that the trend towards better pricing now firmly underway in the industry, though perhaps not as rapid as it could be.

Most significantly, the *distribution-level* smart grid will explode the current utility retail business model and replace it with an entirely new experience. Power customers will no longer blindly purchase commodity power without knowing anything other than their aggregate monthly take. They will be able to control their patterns of electricity production and use, including the charging of their electric car, with time-differentiated prices and locally distributed generation sources.

The dominant structural and regulatory vision – and that's really what it is at this stage, a vision -- is of distribution utilities as the regulated backbone of the smart grid, but not the commodity sellers. While this may sound like the somewhat discredited and posthumous Enron model of retail choice, it is built on technology that wasn't around in the 1990's. To put it another way, it is possible that smart grid technologies will enable retail choice benefits large enough to attract a critical mass of customers willing to pay for them. If so, it is quite possible that much of the technology and services provided by the smart grid will come from deregulated entities.

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Robert Earle and Ahmad Faruqi, "Impacts of the Smart Grid on Utilities," 25th Annual NAESCO Conference, Los Angeles, October 28, 2008. (Available at [www.brattle.com](http://www.brattle.com))

Turning to the negative factors, we might start with the counter to this smart-grid future. It is quite possible that state regulators will allow entry into the brave new world of customer-controlled power only in closely-overseen pilots. If successful, these pilots will expand in stages to allow customers more technological and pricing options. There is an awful lot of money at stake, not to mention customer safety, cyber-security, rate fairness, privacy concerns, the need for standardization, and extremely risky and capital intensive end use technologies that mostly won't survive without regulated off-take contracts.

As a result of all this, I give it at least even money that downstream Smart Grids will be primarily regulated for many years to come, at least until the technology and economics are much better understood.

I also think that the scale and speed of low-carbon investment needed is unlikely to occur without de-facto regulatory protection of one form or another. Even without the risks of changes in carbon permit prices and regulations, very few investors were willing to finance generators untethered to a regulated buyer. In an era of global commodity shortages, carbon price risks, and the need to press risky new technologies into service rapidly, it is difficult to imagine our recovering investment community having much of an appetite for risky generation cash flows.

Finally, we don't yet have a new transmission expansion approach and I, for one, am not sure of what a new approach will look like. It is possible that the solution to grid expansion involves a fair amount of vertical integration, in which case it will not be a boon to bulk power competition. To be clear, I believe that the stars are aligned for a "new deal" on transmission siting and cost – I just can't quite get my arms around what will work, or what it will mean for markets.

Unsurprisingly -- at least to me -- this suggests a mixed picture for the future of competition. It is here to stay, certainly at the wholesale level. It may advance or retreat at both wholesale and retail -- but perhaps not by much. Of much greater import, these markets will have to transition with the rest of the industry through changes much more dramatic than

any that occurred during the 1980s and 1990s. If we change our siting authority and build a national grid, create a nation of electric cars, build a trillion dollars of new green generators in the next twenty years, and make the grid smarter, every role markets play will be both challenged and critical.

### **AN AMICABLE NEW ERA OF POWER POLICY**

Which brings us back to our work here today. As our new President argues in other contexts, it is time to put aside the ideological battles of the past and focus on results. We need to help the industry through this transition. It will be an enormous challenge to retool our generation, expand high voltage lines, and install a smart grid. We will need every competitive and regulatory tool in our toolbox, sharpened and fully charged. Due to the cost involved, and the urgent need to control global climate change, we will have to focus on what works in practice, not ideology or theory.

This reminds me of what I have always thought was Betsy Moler's greatest moment as Chair of the FERC. Shortly after Order 888 came out, she was at a forum of very wise energy lawyers. One lawyer rose to ask her a question. With tremendous skill, he laid out a long series of complex implementation aspects of the Order which the Commission had not yet addressed. How, he demanded to know, did the Chair expect to resolve all of these exceptionally complex issues?

Without missing so much as a beat, Betsy rose to the microphone and said, "I'll tell you how. Amicably."

With that, let me thank you very much for your kind attention and close with my best wishes for a lot of amicable progress – today and in the months and years ahead.