



Electricity Deregulation and the Consumer

Competition is coming to the electricity industry, but can individual consumers really expect lower prices and an attractive array of new products and services?

The way Americans buy electricity is changing. Advances in technology, combined with pressures to reduce prices, are transforming the industry from one comprised of monopolistic, turf-bound utilities to one featuring more competitive firms vying for customers across state lines. In many ways, the industry is responding to the same forces that transformed the banking, telecommunications, and airlines industries just a few years ago. Only this time, change is expected to come fast—within the next few years rather than over a decade.

A restructured industry could mean lower consumer prices, just as it did when the airline industry and long-distance telephone service were deregulated in the 1970s and '80s. Then again, maybe not. Getting a better price is not a sure outcome if you are a residential as opposed to a large commercial or industrial consumer. It all depends on how deregulation plays out.

Right now, with few exceptions, all types of consumers receive power from local regulated electric utility companies at prices set by state public utility commissions. Eventually, however, we might all power our homes by shopping for bargains among the competing offers of companies nationwide. California, Rhode Island, and New Hampshire already have adopted policies that point in this direction.

“Going retail” in this manner would enhance opportunities for customization. Certain industrial and commercial customers, for instance, might contract to have their energy generated at power plants using local coal; or they might purchase interruptible service if the price were right. Households might opt to purchase electricity in a package deal that includes more efficient heating, cooling, and lighting equipment.

But alongside these potential benefits, restructuring the industry introduces complications and raises some concerns. Competition insofar as it exists today is the result of the Energy Policy Act that Congress passed in 1992. That law required all utilities to share their transmission lines. So now a utility in a high-rate state like New Hampshire can buy much cheaper electricity from West Virginia and have it delivered for a fee across regional transmission lines. Large electricity customers, such as factories and office buildings, are pressuring states to let them jump directly into the market and buy cheaper power out of state, too.

Some industry observers question the fairness of letting such well-positioned customers corner the benefits of new technology by purchasing power directly from a supplier of choice. The bargaining power of individual consumers would be puny compared with that of these commercial and industrial enterprises, which have the economies of scale and scope to command good deals. For equity's sake, these analysts maintain, utilities should continue to act as “portfolio managers” for all customers.

Even those who advocate direct retail sales between suppliers and consumers say government regulators

This article is adapted from the RFF primer *A Shock to the System: Restructuring America's Electricity Industry*. Published last July, the book was written by RFF Fellows Timothy J. Brennan, Karen L. Palmer, Raymond J. Kopp, Alan J. Krupnick, Dallas Burtraw, and Visiting Scholar Vito Staglano. To order a copy, see page 22.

will have to help individual consumers create large, more effective bargaining units (buying cooperatives) to keep from being elbowed to the pricing sidelines. To similar effect, some state plans now in the offing guarantee cuts in residential electricity bills, although the objective is to encourage local purchases once retail competition kicks in and interstate shopping begins.

But we are getting ahead of ourselves. Even though electricity is one of the most commonly consumed goods or services in the developed world, few of us understand how it is produced, how it is delivered where we need it, and how the prices we pay for it are determined. To understand the implications of future changes, we need to take a quick look at the present situation.

Defining Terms

Today the U.S. electricity industry has a vertical shape. Typically, a single company in a given geographic area generates electricity, transmits it to cities and towns, and then downloads and distributes power to factories, businesses, and homes. The industry's three functions—power generation, long-distance transmission, and local distribution—have long been regarded as “natural monopolies.” Keeping costs low has meant relying on one entity—usually an electric utility—to provide all three functions. Thus, although electricity is a top item of consumption, consumers—whether commercial, industrial, or residential—have had little say in its purchase.

Now, however, the old monopolies are coming apart. Generating electricity has become viable as a competitive enterprise. New high-efficiency gas turbines and combined-cycle gas turbines that generate electricity have lower combined capital and operating costs than traditional generators. Consequently, small, modularized systems can be manufactured to generate electricity at the same low cost as that from very large central power stations built only a few decades ago. What's more, these new, smaller units are mobile, and can be shipped and plugged into existing transmission systems that deliver electricity to towns or to a single unit, such as a factory.

It is the economic savings arising from these new technologies in generation that is changing the “look” of the electricity industry. By reducing the size of generating plants, electricity generation can now be “unbundled” from transmission and distribution—the

other two functions that traditionally were monopolized and provided as a package deal.

Between the electricity generator and the distribution company or customer stretches the system of transmission lines, termed the grid. Once electricity is generated, its transmission involves conducting the flow of electricity at high voltages from the points of generation to groups of electricity users, such as residential neighborhoods, industrial parks, or commercial centers. In addition to transmission lines, the transmission system consists of substations with voltage transformers, circuit breakers, and other equipment needed to transmit power. Besides delivering electricity, transmission networks or grids connect utilities and facilitate electricity sales among them. Because this process continues to involve substantial fixed costs, transmission is bound to remain more economical if it is provided by one utility in a given geographic area.

Traditionally, selling and physically delivering electricity to individual consumers have been done jointly in what is known as distribution. Until recently, virtually all retail customers have purchased power from the utility that delivers it to their premises. Distribution occurs after electricity has been transmitted to a geographic area. The process involves transforming or “downloading” the high voltages into lower voltages and then physically delivering them to individual households, industrial facilities, commercial establishments, government offices, and other users.

Like transmission, the physical distribution of electricity involves large fixed costs for capital equipment. But marketing it does not. Thus the sales aspect of distribution can be unbundled to become a competitive enterprise, and in the last few years new companies have mushroomed to broker interstate electricity sales to large industrial customers. Most of the electricity delivered to consumers, however, still is generated by distributing utilities and not priced in competitive markets.

Pricing Policies

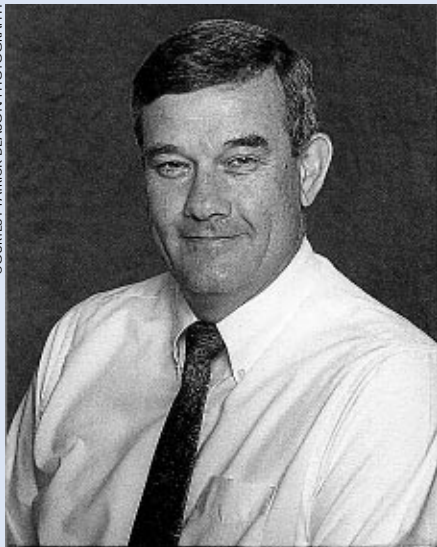
At the same time that technological advances have begun to chip away at old ways, the tradition of basing electricity prices on costs has come under increasing criticism. Closely regulated local utilities, each enjoying a government-protected franchise territory and the luxury of setting prices based on costs, have felt little pressure to adapt or expand their service offerings to

Will Retail Deliver?

Retail competition certainly has its attractions, among them lowering electricity prices, accommodating individual consumer preferences, increasing the available array of products and services, and speeding innovation in power supply. But will consumers really get all these things out of a retail market?

"Not unless competition truly does develop," Douglas R. Bohi says. And that won't happen, he adds, unless a number of small, vigorous companies are out there competing to offer genuine differences in products and services at attractive prices.

Bohi, who until recently directed RFF's Energy and Natural Resources Division, has been keeping a close watch on the electricity industry in the first throes of its latest transformation. He says states



Douglas R. Bohi

have to make sure that the distribution companies that now deliver and market electricity to customers are broken up in a way that promotes competition, not only from the outset but over time. It is Bohi's observation, however, that the very states that favor retail competition have not been sufficiently concerned about how to achieve it. "They are focusing on how generating companies should be broken up and who should control transmis-

sion, but not about competition in distribution," Bohi says. "They'll worry about the way retail competition plays out later." That's a mistake, he believes, because if there isn't competition in distribution, the benefits of retail will not be realized.

Even if existing distribution companies are broken up, competition may not be sustained. If the costs of selling electricity decline as company size increases, Bohi explains, the minimum efficient size of such companies might be so large that only one or two could survive in the same market. If that's the case, he says, true competition will never develop and the feasibility of a retail market for electricity itself will become questionable.

meet changing customer needs. Cost-based prices give utilities little incentive to run lean operations, since their revenues and profits would take a corresponding hit through lower prices.

Cost-based pricing also means that prices dip and peak even among closely located utilities, depending on local fuel rates and other variables. You can live in Pittsburgh and pay six cents more for every kilowatt hour—nearly twice as much—than your cousin does in Uniontown, fifty miles away. Prices yo-yo across the continent of franchised territories that each utility dominates. In many high-rate states in the Northeast and in California, you may pay 50 percent above the national average. As of September 1996 consumers in the State of New York were paying the highest residential price for electricity at about 14.7 cents per kilowatt hour. At the other end of the spectrum consumers in the State of Washington were paying about 5.0 cents per hour (Energy Information Administration, U.S. Department of Energy).

Competition provides a remedy to these disparities. Proposals to deregulate electricity generation and expand competitive electric power markets have been adopted by some states and are under consideration by many others. Some analysts argue that the benefits of efficient, low-cost, and high-quality electricity service can be had even without consumer participation. What is needed, they say, is for states to adopt methods that give utilities incentives to reduce their costs. Other observers argue, however, that only if consumers enter directly into the market will the full benefits of competition be realized. The lines of debate are largely set by opposing views of the outcome of each of these two scenarios.

Prospective Scenarios

The potential benefits of bringing more competition into the electricity industry—lower prices, reduced production costs, more services—ultimately will depend on how competition is put into effect. Although otherwise quite varied, proposals now under consideration are based on two distinct approaches: expanded wholesale competition and the introduction of competition at the retail level.

Changes in the law in the last decade have already created a limited wholesale market for nonutility generators to sell electricity to utilities. This market could be expanded to allow owners of newly deregulated

generating capacity to sell electricity directly to any utilities they want at whatever prices the market would bear; utilities could pick and choose. Distribution companies could buy transmission services from one utility and generation services from another—or from a nonutility generator. They would then transmit and distribute the electricity to industrial, commercial, and residential customers. Expanded wholesale competition would involve deregulating generation only. Customers would still purchase electricity as they do now—from a single, local, state-regulated utility.

If competition were extended to the retail level, though, consumers would enter directly into the competitive fray. Large industrial customers could contract with generators for power at prices negotiated by the two parties. As these markets developed, residential customers might buy electricity directly from generators, too. In addition to generation, the sales aspect of distribution would be deregulated and separated off from the other industry functions. Generating companies would sell power to electricity retailers or customers instead of to a local distributor with a monopoly franchise for selling power. Transmission would operate and likely be regulated the same as under expanded wholesale competition, except that power retailers, generators, or customers—not local distributors—would arrange for services.

Each of these two basic proposals is affected by how existing regulations are relaxed or reformed at both the state and federal levels. The diversity within each of the proposals is raising many unresolved issues about who has authority to do what, including which regulatory body, if any, has the authority to implement retail competition.

Many anticipate a shift in the balance of authority away from the states to the federal government. As the primary federal regulator of electricity policy, the Federal Energy Regulatory Commission (FERC) now

regulates use of the grid and pricing of transmission services. FERC also controls rates for wholesale power sales and authorizes most utility mergers. States now set retail electricity prices and most of the rules for entry into the generation business, as well as the boundaries that define a utility's exclusive service territory.

Despite the long history of states' deciding how electrical service should be provided to household customers, Congress may ultimately need to act before full retail competition can occur. To fully implement the policies that California, Rhode Island, and New Hampshire are adopting to favor retail choice will definitely require changes in federal law, some industry analysts say. What's more, since electricity transmission does not conform to state borders, a regional approach gains importance, leading some to argue that an overarching federal plan for deregulation makes more sense than piecemeal, state-by-state action.

Another jurisdictional issue involves identifying the dividing line between transmission, which is regulated by FERC, and distribution, which is regulated by the states. The distinction becomes crucial if utilities are going to sell transmission and distribution services separately to independent, retail electricity providers and customers.

What does all this imply for ordinary households? Probably nothing that most of us will notice if competition is limited to wholesale transactions. If competition extends to the retail level, however, households will play a more active role. In fact, we may have to "shop" among electricity providers for services in much the same way we do for the long-distance telephone services that used to be provided by the Bell system alone. This will mean more choices for households (and a deluge of advertising claims to sort through, too) but also an opportunity to tailor a service package suited to each household's needs. ☞