

**Richard G Lubinski**

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**How to Save on Your Electricity Rate**

*By Richard G. Lubinski*



To avoid having competing electricity companies, the states formed public utility commissions to provide for regulated utilities. These utility companies were granted exclusive rights to *generate*, *transmit*, and *distribute* electricity with no competition – a regulated monopoly. After 100 years of successful operation, some states decided to deregulate electricity – at least in part.

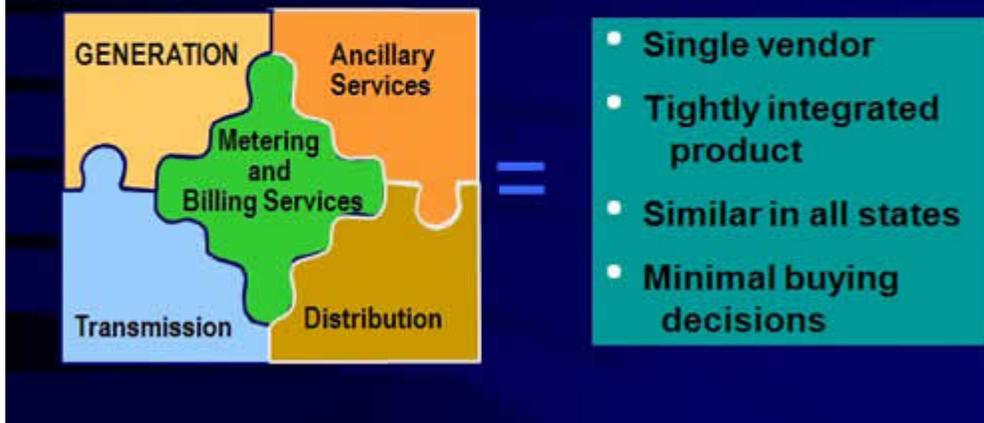


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## BEFORE: Electricity as a Bundled Product (before deregulation)



Courtesy of FirstEnergy Solutions

### Regulated Markets

In the good old regulated days, buying electricity was simple. There was only one power company and generally you had a choice of only one or two rates for your class of building. The electricity bill was relatively simple and was printed on a half page.

If your state is still regulated, you may be able to save money with an alternate electricity rate based on a larger volume of kWh per month, time of use, etc. Your electric distribution company (EDC) can explain the alternate rates and run the calculations for you to see if a rate change is worthwhile.

In many regulated and some deregulated markets, the price you pay for electricity depends on what time of day you use it. Power is very cheap at night (off peak times), more expensive midday, and most expensive in the afternoon. This time factor is less important in winter months.

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### Deregulated Markets

After deregulation, the energy commodity (generation component) is broken out as a separate item that can be purchased from a third party. A new item on your electricity bill called the "shopping

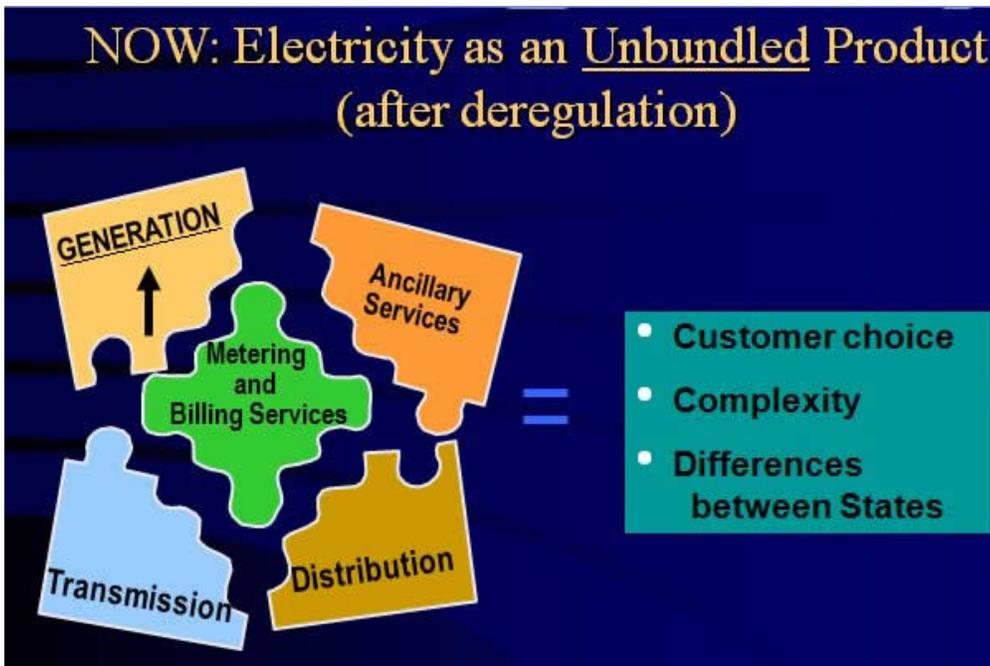
commodity quote that is less than the shopping credit, then you save money. This seems simple enough, but life and electricity bills tend to get more complicated over time.

The EDC continues to be regulated by the state public utility commission. In most cases, the EDC is permitted to add another line charge to the bill for "transition costs," including the cost of "stranded investments." The stranded investments represent the cost of the power plants, transmission lines, substations, and distribution lines that have not been recovered via depreciation.

Often the third-party generation service providers forget to advise their customers that they will lose any special rates, metering, and special contracts if they elect to save a little money by going to a third-party generation services company. This is true even if the third-party generation services provider is a wholly owned subsidiary of the EDC or its holding company. To make an apples-to-apples comparison of electricity commodity deals, you also need to consider if sales tax is included. If you elect to stay with the EDC for transmission, distribution, *and* generation, the bill will still breakout the generation component as the "standard service offer" (SSO).

Now your deregulated electricity bill can be two to five pages long and composed of several dozen line items that few users understand and even some EDC customer service people cannot adequately explain.

Electricity costs vary widely across the United States and even within states and regions. Electricity costs may be as low as \$0.03/kWh near a hydro-electric plant, and more than \$0.20/kWh on the west and east coasts. In the Caribbean, Bermuda, and Hawaii, electricity cost can be as high as \$0.50/kWh. The cost value of the kWh has a dramatic impact on the ROI for energy management investments.



*Courtesy of FirstEnergy Solutions*

#### What to Do?

Now that you understand the basics of electricity in deregulated markets, where do you find cost savings opportunities? Due to the cost of the EDC fuel, wire for poles, transformers, and other costs of production, electricity prices are increasing faster than inflation. Unlike natural gas, electricity cannot be stored, so the demand can only be produced as it is needed. This makes the electricity market different and less flexible than natural gas in both regulated and deregulated markets.

As a result, what you use and when you use it affects your building's average cost for electricity and, to a lesser extent, natural gas. Each building has a load profile that reflects when energy is

at that time will result in a higher average cost per kWh.

The first step is to contact the utility company to obtain a 12- to 24-month summary of your consumption and billing history. This one- or two-page report lists your monthly consumption in kWh, sometimes your peak load (measured in kW or KVA) and your billing amount. This summary should also show if the meter reading was actual or estimated for each month. This utility summary will reveal what your building uses and when it uses it.

An attractive load profile will result in a lower electricity generation quote, and an unattractive load profile in a higher quote. For large commercial and industrial accounts, this is taken to a higher level by getting "interval data" that shows what is used every 15 or 30 minutes for an entire month.

If your city or county received voter permission, it may have formed an energy-buying cooperative called an *aggregation pool*. Under this arrangement, your home, office building, or plant is automatically included in the pool, unless you elect to opt out in writing. The voluntary programs set up by local government and some trade associations are called opt-in plans.

The aggregation pools get quotes from multiple suppliers and provide a standard cost for the electricity generation part of the bill. The cost savings will be relatively small, on the order of 1/10 of one cent to as much as 1/2 of one cent per kWh.

Since wholesale electricity rates are higher in summer, you may get one cost for kWh in summer months and a lower cost in winter months. The challenge is the summer rates may be so high that they affect 50 percent of your annual electricity costs in only three or four summer months (as defined in the tariff).

Another way to save money is to help your EDC save money during the peak summer months. Utility companies can avoid or delay building the next power plant, transmission line, and substation if it can reduce its summer peaks. This new relationship between the electric utility and its customers is called demand response (DR). If you curtail the load of your home, office or plant *at the time that helps the utility*, the utility will share part of its cost savings with you. This kW load reduction is produced by turning up A/C thermostat settings, turning off water heaters, turning off some lights, or starting your generator. The utility company keeps score by installing more intelligent electricity meters (advanced metering). In some areas the utility will send out a radio signal to new generation DR thermostats or radio-controlled relays to automatically reduce some of its customer loads on hot summer days when every A/C unit is running nonstop. The automatic control system eliminates the need for advanced metering.

In exchange for your cooperation, most utilities will give you a billing credit on your electricity bills. A few creative utility companies offer a "free thermostat" that they control to "help the environment." These utilities do not pay their customers anything when they turn up the customers' A/C thermostats on very hot days.

Another version of this DR program is called Demand Side Management (DSM). Under DSM the utility companies supply energy-efficient compact fluorescent lamps (CFLs) or will help you pay for them with a DSM rebate. Some utility companies have very aggressive and successful DSM programs that help the utility companies and their customers all year long. Most utility companies or the State Energy Office (via a kWh tax on the electricity bills) provide DSM programs. A good way to determine if your area has DSM programs available is to check the [U.S. government website](#).

### **The Complete Solution Includes the Supply Side**

This entire discussion has been focused on supply-side energy management. However, to find the most cost-effective way to reduce your utility bills, you must also address the other side of the coin called demand-side management – also known as energy conservation. An ideal energy management plan addresses both your supply-side and demand-side energy management opportunities. Energy conservation is the most cost-effective source of new energy supply for the utility company and your building.

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Richard G. Lubinski is president of **Think Energy Management LLC**, an energy consulting firm. He is president of the Northern Ohio Chapter of the Association of Energy Engineers and holds national professional certifications including Certified Energy Manager, Certified Energy Auditor, Certified Demand Side Management Professional, Certified Sustainable Development Professional, Certified Energy Management Systems Contractor, Certified Business Energy Professional and Certified U.S. Green Lights Survey Ally. He was named Energy Engineer of the Year 2009 (AEE Region III),

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