

Time-Based Pricing for Residential Customers

Questions & Answers

WHAT IS TIME-BASED PRICING?

Time-based pricing reflects the fact that the costs of generating and delivering electricity change during the day in order to meet fluctuating demand. They are especially high during the mid-day “peak” period. Time-based pricing is part of the new business and policy areas known as demand response and smart grid.

DO CUSTOMERS PRESENTLY PAY DIFFERENT PRICES AT DIFFERENT TIMES?

No. They pay the same price regardless of when they use electricity. The vast majority of customers do not have an option to choose time-based pricing, nor do they receive any information with which to understand true electricity costs. There is no "price signal" for customers that would cause them to use electricity in a way whereby the electricity system can be optimized and its costs reduced.

IS “FLAT” PRICING BAD FOR RESIDENTIAL AND SMALL COMMERCIAL CUSTOMERS?

By offering flat prices, utilities are not letting customers know when it costs more to provide power—such as on hot summer afternoons. The flat, averaged prices also do not reflect the fact that customers are paying a "premium" to pay for some power plants that may be used only occasionally. Because customers at present cannot choose time-based pricing, they cannot avoid paying this premium. Time-based pricing allows customers to respond to price signals reflecting the true costs of electricity at different times, and it enables them to modify their consumption to take advantage of low off-peak prices. Time-based pricing, however, should be a choice and not a mandate for customers.

WHAT IS NECESSARY TO IMPLEMENT TIME-BASED PRICING?

State regulators approve the electricity prices that most customers pay, and they must introduce new time-based pricing options. To price electricity differently at different times, however, smart meters are also necessary. A smart meter records when a customer actually uses power, as opposed to a traditional meter, which records only the total use over the course of a month. A smart metering system allows frequent data exchange between the meter and the utility, while also allowing customers to have timely information about their usage.

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DO ALL CUSTOMERS BENEFIT IF SOME CUSTOMERS HAVE TIME-BASED PRICING?

Yes. If some customers take actions to reduce their electricity use during the peak period, utilities are able to avoid certain costs and operate their system more economically. The result is the avoidance of costs that all customers pay.

ARE THERE DIFFERENT TYPES OF TIME-BASED PRICING?

Yes. Three are most common. Time-of-Use Pricing (TOU) is when there are different prices set for certain periods of the day (e.g., the afternoon, evening, and night). Prices for the intervals are set in advance and only change a few times a year. Critical-Peak Pricing (CPP) reflects the costs associated with periods of especially high electricity demand. On a day designated as critical, the peak price is very high compared with other periods that day and the peak prices on non-critical days. By agreeing to reduce peak use on critical days, customers receive lower prices in other periods and can lower their bills. With Real-Time Pricing (RTP), prices change in relation to the continual fluctuations of the costs of generating power, e.g., on an hourly basis. CPP and RTP are often known as “dynamic pricing” because they are responsive to short-notice price signals.

HOW DO CUSTOMERS KNOW WHEN THE PRICE IS CHANGING?

Customers can receive price signals several ways, including via smart meters, the Internet, and in-home display devices that provide action-oriented information. There are even refrigerator magnets that display different colors based on different periods or different prices. It also is envisioned that electricity pricing information could soon become part of the daily news that consumers are provided in a manner similar to the "pollen count" or air quality warnings.

WILL RESIDENTIAL CUSTOMERS RESPOND TO AND ACCEPT TIME-BASED PRICING?

Yes. Studies and pilots show that customers will reduce or shift their usage to lower-price periods. Also, the use of smart, automated devices can increase savings. In a statewide pilot conducted in California, customers with a smart thermostat reduced peak use by 27% as compared to a 13% reduction for customers without such a thermostat. As for acceptance, 87% of customers in that pilot thought that the time-based rates were “fair” and about 70% opted to stay on the rate even after the incentive was reduced.

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