

Time-of-Use Electricity Pricing: Savings When They Matter



Time-of-Use (TOU) electricity pricing gives Californians a valuable opportunity to take control of their energy use and electricity bills. TOU is a voluntary program that enables people to choose when they power up appliances based on electricity prices and make decisions that can both save them money and reduce harmful pollution.

Right now, California electricity rates have a tiered structure, meaning customers pay a set price per kilowatt throughout the day and that price increases as a family or business uses more energy throughout the month. Tiered rates can make electricity suddenly more expensive *without notice*, and customers have no way to turn back the clock once they have crossed into a higher price tier.

Similar to rush hour traffic, the power grid experiences times of extreme stress and high demand, prompting electric utilities to turn on expensive, fossil fuel “peaking” power plants to meet the state’s energy needs. This makes the true price of electricity vary throughout the day. Without knowing the true price of electricity or how much they will pay at the end of the month, Californians do not have the basic information they need to conserve power (and, thus, lower bills) when it matters most.

In contrast to tiered rates, TOU rates give customers a view of how much electricity costs throughout the day, so people can plan ahead. High-traffic energy times occur predictably in the late afternoon when everyone is running air conditioners, cooking, watching TV, and doing laundry. Well-designed TOU rates could empower people to lower their monthly electricity bills, reduce air pollution, and take advantage of cleaner, less expensive renewable energy simply by using non-essential appliances like extra lighting at lower-priced (off-peak) times.

Benefits of Time-of-Use (TOU) Electricity Pricing

1. Lower Electricity Bills

TOU gives people options to save by conserving and shifting energy use to cheaper times of the day. By paying more attention to the timing of energy use, Californians could have a new means of lowering energy bills and reducing the use of costly, polluting power plants. In fact, because peaker power plants run so infrequently and inefficiently, EDF estimates that if half of all Californians participate in TOU, electric utilities and customers could save nearly \$500 million annually.ⁱ

All Californians, including low-income families, have much to gain from TOU because it is a customer-focused program. For example, Washington D.C. initiated PowerCents DC, with nearly 900 residents, including low-income households, to test responsiveness to TOU pricing and to see how smart thermostats could help residents save money. The results showed that nearly all participants (regardless of household income) saved money and responded favorably to the program.ⁱⁱ Sacramento Municipal Utility District (SMUD) launched a similar program, and the vast majority of participants either paid the same amount as before or saved money through TOU.ⁱⁱⁱ With the right customer education programs and built-in safeguards, proactive Californians could easily replicate this outcome.

2. Freedom of Choice

TOU puts people in the driver's seat, empowering them to make energy choices – if they choose to. As California's electric utilities expand the use of TOU rates in the coming years, customers will have the option to opt-in or opt-out, effectively choosing how they want to pay for electricity. When SMUD implemented TOU pricing, people reported greater satisfaction with this plan compared to existing electricity rates, noting that TOU provides “fairer pricing” and “more opportunities to save money.”^{iv}

From an economic, health, and environmental perspective, EDF encourages Californians to choose TOU, as this program will open the door for other clean energy resources like rooftop solar and smart thermostats. This would allow California electric utilities to ensure broader access to renewable electricity across the state, especially inland. TOU will provide more payback for rooftop solar than the tiered rates, as solar energy can help customers avoid expensive peak energy times.^v Also, TOU could enable more opportunities for customers to save money and stay comfortable, such as using smart thermostats to pre-cool homes in advance of high-demand, peak energy times.

3. Clean, Healthier Air for All

Californians who choose to use TOU pricing will help reduce the need for fossil-fueled power plants by choosing to use electricity when renewable energy is available and by opting for other clean energy solutions like energy efficiency. Even those who choose not to participate in TOU will benefit from healthier, cleaner air.

TOU could bring relief to communities located near power plants, as they bear a significant health burden from breathing in toxins from these facilities. Power plant emissions have been linked to premature death, aggravated lung and heart disease, bronchitis and asthma (especially in children), and an increased number of missed school and work days.

With TOU, California has the tools at hand to protect air quality and help businesses and families save money without reducing the reliability of the electric grid. The next step is for Californians to demand more customer-focused choices like TOU from their electric utilities, and for utilities to provide robust education plans and enabling clean energy technologies. With Californians in the driver's seat, TOU can become another shining example of the Golden State's commitment to innovation, the environment, and its people.

For more information, please visit: www.edf.org/energy/electricity-pricing

ⁱ <http://www.edf.org/sites/default/files/R.12-06-013%20Residential%20Rate%20Proposal%20of%20EDF.pdf>

ⁱⁱ http://dcpsc.org/pdf_files/hottopics/PowerCentsDC_Final_Report.pdf

ⁱⁱⁱ Sacramento Municipal Utility District. (2014). *SmartPricing Options Final Evaluation (1st ed.)*. Sacramento, CA: Jennifer M. Potter, Stephen S. George, Ph.D., and Lupe R. Jimenez.

^{iv} <http://www.demandresponsetownmeeting.com/wp-content/uploads/2012/03/Potter-Jenn-2-DR.pdf>

^v <http://blogs.edf.org/energyexchange/files/2014/09/SolaROI-White-paper-with-appendix.pdf>