

ComEd Hourly Pricing Performance vs. Fixed-Price Rate During 2014

ComEd's Hourly Pricing program allows participants to pay the hourly, wholesale market price for electricity. Elevate Energy administers the program and provides customer services to approximately 11,000 participants to help them manage costs, including high price alerts by email, phone or text, an online bill comparison tool, a mobile app, and education to help drive behavior change and maximize program benefits.

Elevate Energy conducts ongoing research to inform ComEd's Hourly Pricing program and drive continuous improvement. This study compared fixed-price and hourly rates by calculating how many fixed-price customers would have saved money in 2014 if they had been enrolled in Hourly Pricing.

Findings: Savings on Hourly Pricing

In 2014, 23% of ComEd's fixed-price customers who have a smart meter¹ would have paid less for electricity if they had been enrolled in Hourly Pricing. This is much lower than the findings of previous research for 2011-2013, and it can be attributed to two factors that created very high market prices for electricity: extreme cold weather during the polar vortex weather event, and large increases in the capacity charge paid by Hourly Pricing customers. Customers enrolled in Hourly Pricing conserved, shifted usage to lower-priced times, and broke even on average, whereas the fixed-price customers in this analysis would have lost \$30 (7%) on average.

In addition, 29% of customers enrolled in the Low-Income Home Energy Assistance Program (LIHEAP) would have saved money on Hourly Pricing. This result indicates that even during a difficult year hourly pricing programs are less likely to harm low-income customers.

Previous research found that customers with higher energy usage were more likely to save money on Hourly Pricing. 2014 was consistent with this finding: 78% of high energy users (monthly usage in the highest 20%) would have saved money on Hourly Pricing, whereas only 9% of customers with monthly usage in the bottom 80% would have saved money.

	#	% who save \$ on Hourly Pricing	Mean annual savings	Mean annual losses
All customers	9,350	23.0%	\$34.63 (3.7%)	\$49.41 (10.2%)
Enrolled in LIHEAP or PIPP	655	29.0%	\$30.86 (3.4%)	\$49.46 (9.9%)
High energy users (monthly usage in the Highest 20%: >894 kWh for single-family or >450 kWh for multifamily) ²	1,869	77.6%	\$45.01 (4.4%)	\$29.09 (3.0%)

Discussion: Polar Vortex

In Chicago the winter of 2014 was the coldest in over a century. January 6 and 7 broke temperature records with a low of -16°F (-41°F with wind chill). Electricity generators experienced unplanned outages for 22% of generation capacity. Combined with high demand this drove hourly prices to extreme levels, peaking at \$1.81 per kWh (typical hourly prices in winter are around \$0.04 per kWh). Customers enrolled in Hourly Pricing responded to these extreme prices by reducing electricity use by over 10%, which allowed Hourly



If they had been enrolled in ComEd's Hourly Pricing program in 2014...

- 23% of ComEd customers with smart meters¹ would have saved money, due to extreme prices during the polar vortex and large increases in the capacity charge.
- 29% of LIHEAP-enrolled customers would have saved money.
- 78% of high energy users would have saved money.

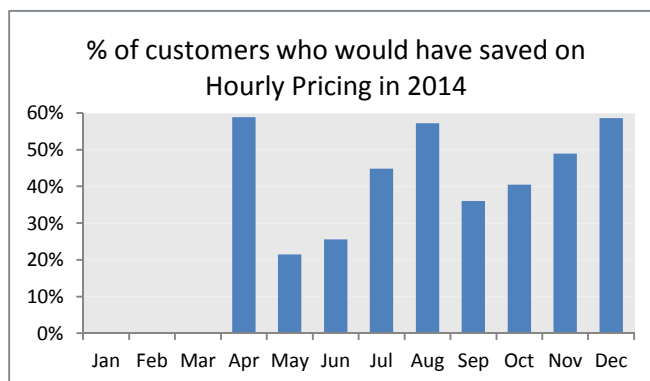
Extreme weather and capacity markets created a "perfect storm" of high market prices in 2014. Electricity markets and grid operations have been adjusted to try to protect against future extreme cold's effects on electric markets.

¹ These findings are for customers who had smart meters at the beginning of 2014, and not necessarily transferrable to the rest of the ComEd service territory. The analysis used a sample of 9,350 customers, randomly selected from 176,685 customers with smart meters in 2014.

² Cut-off points for high energy users are for customers without electric space heat; the 80th percentile of kWh usage would be higher for the 3.3% of customers in this study that have electric space heat.

Pricing customers to break even with average savings of \$1 for the year. Since these fixed-price customers were not exposed to extreme high prices and did not conserve in response to those prices, they would have experienced large mean losses of 21% during January-March had they been on Hourly Pricing. Almost none of the fixed-price customers would have saved money during the polar vortex without adjusting their usage, but in April-December the saving rate was higher and 44% would have saved on Hourly Pricing. Only 3.3% of these customers heat their homes with electricity, and 33% of electric space heat customers would have saved money on Hourly Pricing because they have higher electricity usage.

These extremes are not likely to occur again. PJM, the regional transmission organization that coordinates the electricity market and grid in 13 states including Illinois, has changed grid operations to prevent extreme prices in future winters, including helping generators with cold weather resiliency and creating a market to guarantee capacity during the winter as well as the summer.



Discussion: Capacity Markets

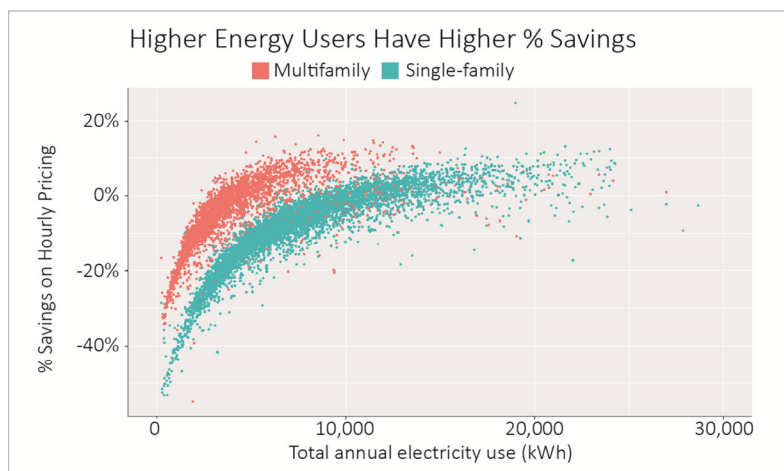
Even during April-December the saving rate was lower than in previous analyses, which found that 85% of fixed-price customers would have saved money on Hourly Pricing in 2012 and 97% of customers would have saved money in 2013. This is explained by capacity charges, which increased 363% from \$3.40/month in January-May to \$15.75/month and higher in June-December for single family customers, with equivalent increases for other customers. Although fixed-price customers are also charged for capacity, their charge is built into the per-kWh fixed-rate price of electricity while the capacity charge for Hourly Pricing customers is a flat monthly fee. In 2014 this approach benefitted higher users since capacity was not scaled to usage levels for first time Hourly Pricing customers (in 2015 capacity charges were adjusted and now scale to first time customer's usage in the previous summer). This could explain why 78% of high-usage customers would have saved money on Hourly Pricing while few other customers would have saved.

Discussion: High Energy Users

Despite the polar vortex and large increases in capacity charges, 78% of high energy users would have saved money on Hourly Pricing. In comparison, only 0.3% of customers with monthly usage in the bottom 20% would have saved money.³ This confirms the program policy of discouraging low energy users from enrolling, and highlights the importance of that policy in a year of extreme high prices.

Methodology

This study used anonymous hourly energy use data from smart meters for a retrospective look at a random sample of 9,350 households with smart electricity meters that were paying the fixed-price electricity rate in 2014. The data were adjusted to account for vacant homes, customers already enrolled in Hourly Pricing, and similar adjustments that are commonly used to remove potential data errors. The study calculated the supply and delivery costs that these fixed-price customers would have paid had they been enrolled in Hourly Pricing, including all charges except state and municipal taxes and franchise fees, and compared this to the equivalent costs on ComEd's fixed-price rate.



About Elevate Energy

Elevate Energy is a mission-driven organization that designs and implements programs that help people do more with less energy. We conduct research to inform the energy industry and the programs we administer.

³ Low energy users (monthly usage in the lowest 20%): <372 kWh for single-family or <173 kWh for multifamily). Cut-off points for low energy users are for customers without electric space heat; the 20th percentile would be higher for the 3.3% of customers that have electric space heat.
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