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Title: Insights from the Regulated Price Plan Pilot Project in the Province of Ontario

Abstract: Time-of-Use (TOU) pricing was introduced in Ontario with the goal of reducing electricity consumption among residential customers during 'peak' times of day when demand on generation and distribution infrastructure is highest. TOU pricing charges consumers different hourly Kilowatt-Hour (kWh) prices depending on the time of day. Ontario adopted a three-period TOU pricing structure comprised of Off-Peak (when prices are lowest), Mid-Peak, and On-Peak (when prices are highest) periods. In an effort to improve the efficiency of the electricity grid in the province of Ontario, Alectra Utilities, in partnership with BEworks Inc, the world's first management consulting firm dedicated to the application of Behavioral Economics to social and business challenges, together with the Ontario Energy Board implemented a large in-field pilot project with approximately 18,000 rate payers to test the effect of three new pricing schemes as well as one communications intervention on conservation behaviors among rate payers.

The following interventions were tested via randomized control trial: Enhanced Pricing: Larger On- to Off-Peak price differential relative to standard TOU pricing. Interim findings indicate that Treatment and Control customers did not differ in their on-peak consumption.

Dynamic Pricing: Variable On-Peak kWh rates depending on anticipated demand. There are also Critical Peak Periods in which customers experience an especially high kWh rate. Interim findings indicate that Treatment customers reduced on-peak consumption by 15.6% and reduced critical peak consumption by 15-30% relative to Control customers.

Overnight Pricing: Higher than normal On-Peak pricing and super-low Off-Peak kWh rate between midnight and 6am. Interim findings indicate that Treatment customers reduced on-peak consumption by 7.4%, but increased overnight consumption by 29.6% relative to Control customers. Communication Intervention: This is a monthly report referred to as a 'Nudge Report' because it contains information drawn from the field of behavioural economics intended to nudge conservation behaviours. Interim findings indicate that Customers in the Enhanced pricing pilot receiving these reports reduced on-peak consumption by an additional 1.5%. Customers in the Dynamic pricing pilot reduced critical peak consumption by an additional 3.5%.

These findings indicate that rate-payers are responsive to pricing signals, but only when the financial incentive to do so is sufficiently high. In addition, simple communications infused with tactics drawn from the field of behavioral economics can provide incremental gains in peak conservation, and can even be effective in doing so when pricing signals are not.