Flipping the Switch:

Permanent In-Home TOU Cues for Peak Energy Reduction

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Co-Convened by:

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Flick device and pilot objectives

Smart reminder signals: Color & message cues of “in-home devices” are known to influence use at peak hours*

Previous device barriers: User set-up, placement and limited persistence of use are why these devices are not seen in the market

Simple & scalable design: Flick was designed specifically for the multi-family and affordable housing segment, with quick install and no Wi-Fi required

Objectives: Examining the effectiveness of installed Flick devices to influence behavior and reduce on-peak demand

*Brattle Group & Faruqui, et al

Pilot description

Description		Statistic
Unit Type	1bd & 1bath	2
	2bd & 1bath	178
	Studio & 1bath	6
Average Peak kW (4 to 9 PM)		0.89
Average Daily kWh		15.60

Designed as an **RCT** to evaluate the effects of Flick devices within a specific residential apartment complex

A sample of 186 units across 15 buildings were randomly assigned to either the **treatment group** (those who would receive a device) or a **control group** (those who would not)

Devices were **professionally installed** throughout the month of August 2024

Findings

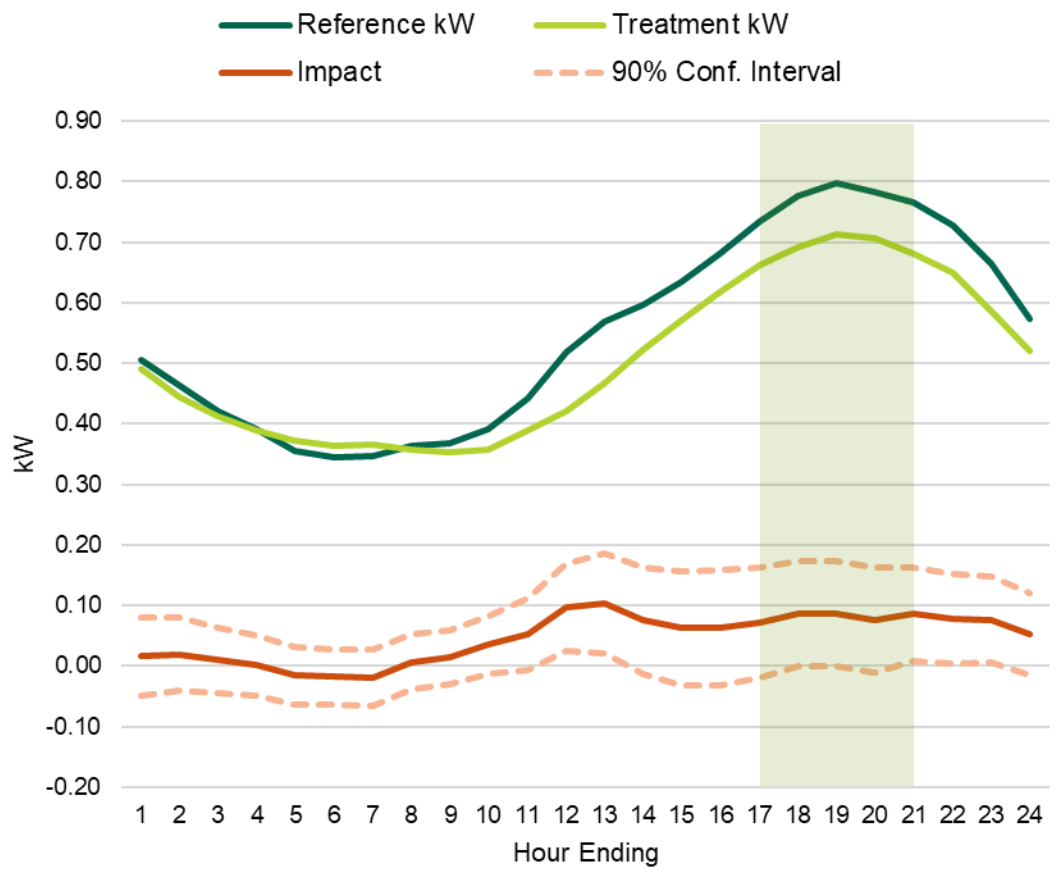
Impacts were estimated using AMI data and a difference-in-differences regression model

Peak (4-9 PM) reduction: 10.5%

24-hr energy reduction: 8.4%

Flick device may have increased energy behavior awareness (including outside of the TOU price signals)

Period	Reference kW	Treatment kW	Impact kW	90% Conf. Interval		% Impact
Peak (4-9 PM)	0.77	0.69	0.08	0.04	0.12	10.5%
Total (kWh)	13.21	12.10	1.11	0.77	1.46	8.4%



Study constraints

Small sample size

The study was limited to ~180 apartment units, which restricted the statistical power

High turnover within apartment complex attributed to small sample sizes

Brief evaluation period

The evaluation period was very brief, covering only two months (September and October 2024)

Such a short timeframe limits the ability to capture potential seasonal variations in energy consumption and occupant behavior

Only multi-family homes

The Flick system was designed to serve multi-family communities, and the pilot did not include any single-family homes

Pilot findings may not directly apply to single-family homes or the broader general residential population

In closing...

Despite the constraints, the Flick pilot underscores the **potential value of behavioral-based load flexibility tools**

Subsequent trials should be conducted across different **housing types, climates, and rates**

Larger trials and longer analysis periods will allow for **more robust analysis**

Testing of **other colors and messaging** may uncover additional benefits

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