

FLICK POWER DEVICE PILOT

First Generation Field Testing

SOUTHERN CALIFORNIA EDISON

PURPOSE

- ☞ Evaluate to what extent a colored light signal device can increase / influence consumer response to DR signals, such as load shifting and curtailment.
- ☞ Does the device facilitate consumers thinking more about energy use?

Desired outcomes are to help customers:



take preemptive actions to reduce & shift their usage



better understand when peak hours are

Avoid unnecessary consumption



INTENTIONAL DESIGN

- ☞ Built for multi-family and affordable housing
- ☞ Installed for residents – no need for consumer set-up
- ☞ Encourages and enables participation into demand flexibility



Funded through the **Demand Response Emerging Technologies (DRET)** collaborative which facilitates deployment of innovative new DR technologies, software and system applications that may enable cost-effective customer participation and performance in California's DR programs and wholesale market resources.



The DRET collaborative benefits electricity ratepayers from the state's three largest investor-owned utilities and is authorized by the California Public Utilities Commission (CPUC) through 2027.

SCE & Flick Power's

KEY RESEARCH QUESTIONS

This experimental design can evaluate TOU and thus addresses 2 key research questions:

- 1** *What is the incremental impact from Flick in load shifting beyond what customers normally provide on a program or rate?*
- 2** *Do customers with Flick demonstrate any conservation or ongoing energy efficiency from lower average usage vs customers without?*



THE DEVICE

Promotes low-effort customer pathway to optimize energy consumption



Education decal can be branded and placed on any switch plate



METHODOLOGY

1. Capture pre-treatment data from the prior year.
2. Observe how customers enrolled in ELRP events perform with Flick (which sends specific signals to alert of an ELRP event).
3. Compute difference-in-differences calculations.

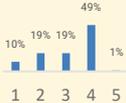


Online survey conducted Dec 6 – 17 with Vista Del Campo Norte community residents. Door hangers on every door advertised a \$15 of incentives for survey completion.

DEMOGRAPHICS

172 Total Respondents, 25 with installed devices, 90 not installed

Residents per Apt



63% of respondents inhabit the apartment for less than one year



83% of respondents ages 19 - 21



AWARENESS

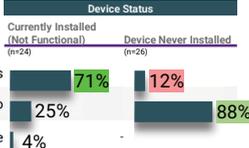


92% of respondents with currently installed devices were aware of the device.



2 in 3 recall receiving instructions on the light switch

Aware of Color Meaning



Most students (71%) aware of the device were also aware of its different color meanings.

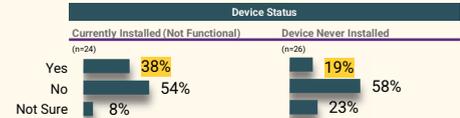
Received Instructions



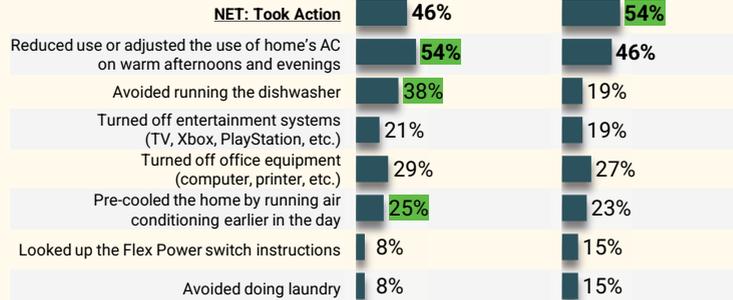
PRELIMINARY FINDINGS

☀️ Of the 82 dwelling units with complete surveys, the majority (71%) are satisfied with the installed devices.

Seen Device Change Color



Actions Taken



Prompted by Flick's demand response color signal, residents responded with impactful behaviors of:

Shifted usage by adjusting AC use two ways:



19% more **reduced consumption** by avoided dishwasher use



Shifting use from warm evenings
Pre-cooling earlier before peak

EARLY LEARNINGS



2nd Generation device must proactively signal to users when not functioning.



Future pilots ideally test with older demographics & longer duration tenants.



25 devices post-study were unable to access internet due to an ISP change and therefore could not function properly.