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

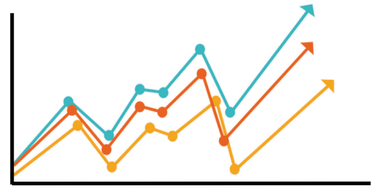
Funded through the **Demand Response Emerging Technologies (DRET)** collaborative which facilitates deployment of innovative new DR technologies, software and system applications that may enable cost-effective customer participation and performance in California's DR programs and wholesale market resources.

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?***

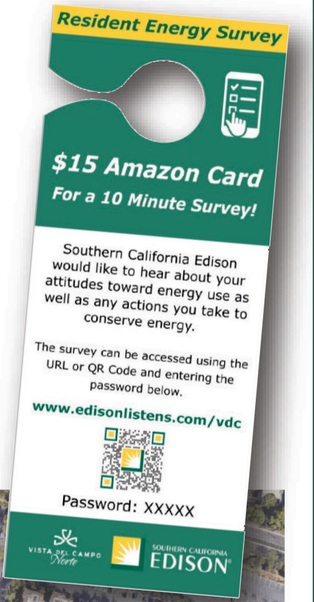


2. ***Do customers with Flick demonstrate any conservation or ongoing energy efficiency*** **from lower average usage vs customers without?**

THE DEVICE

Promotes low-effort customer pathway to optimize energy consumption

Education decal can be branded and placed on any switch plate



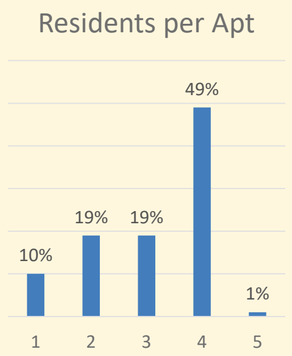
METHODOLOGY

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



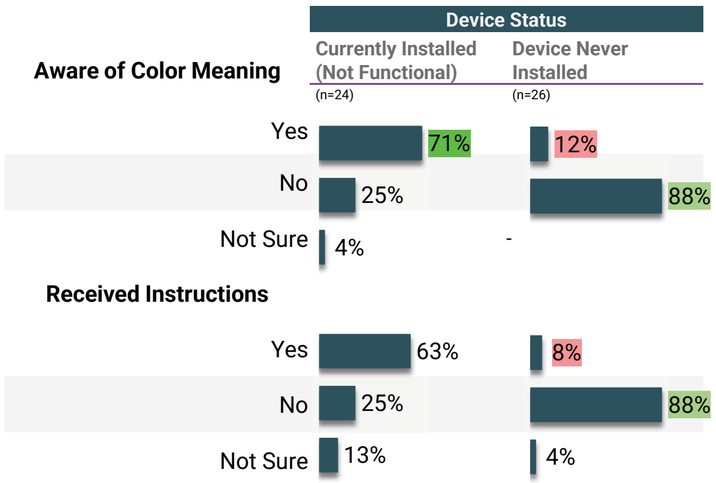
63% of respondents inhabit the apartment for less than 1 year

83% of respondents are ages 19 - 21

AWARENESS

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

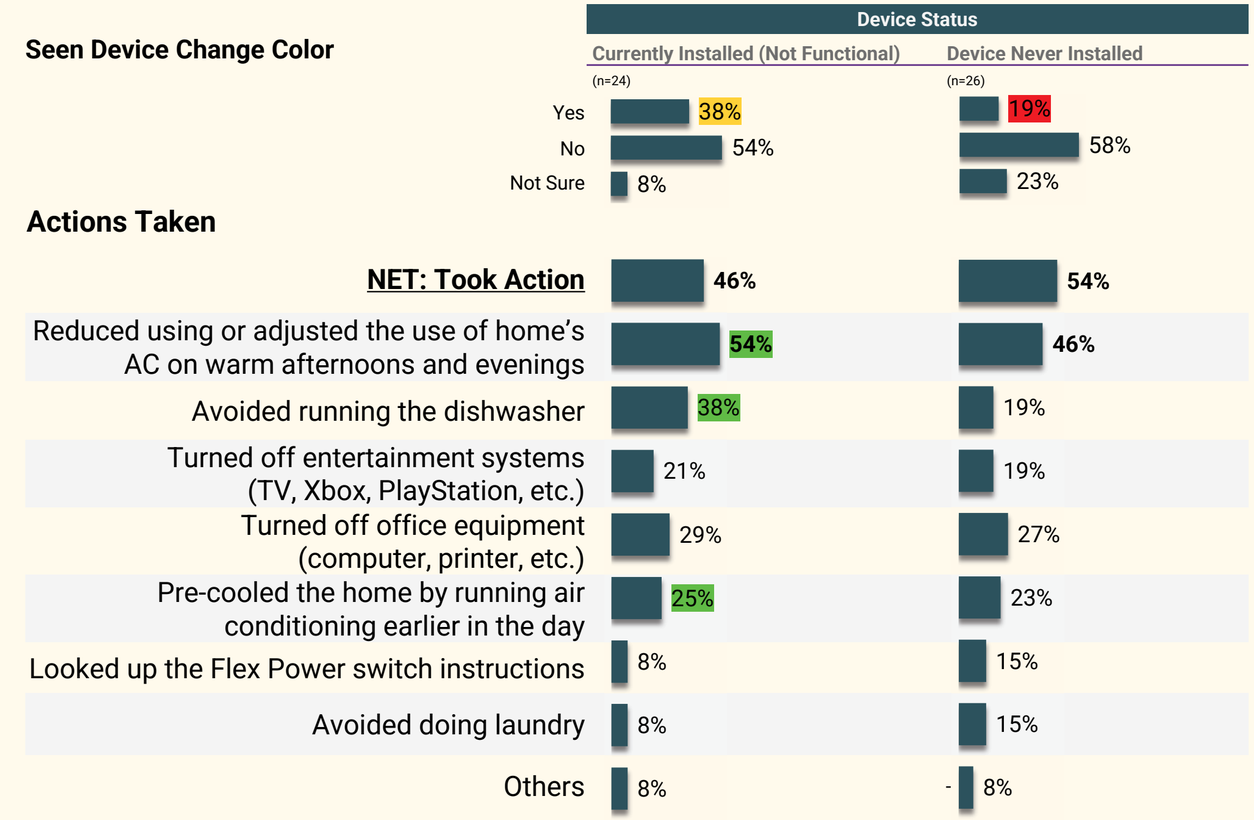
2 in 3 recall receiving instructions on the light switch



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

PRELIMINARY FINDINGS

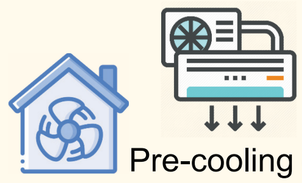
Of the 82 dwelling units with complete surveys, the majority (71%) are satisfied with the installed devices.



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

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

Shifted usage by adjusting AC use two ways:



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.