



NeoCharge

Enabling Home Electrification

NeoCharge Home Electrification Pilot

Funding Provided by Silicon Valley Clean Energy's Innovation Onramp Program Final Report Prepared by NeoCharge¹

Pilot Overview: NeoCharge's Smart Splitter is an intelligent, 240-volt outlet splitter that safely shares power between an electrical appliance and an electrical vehicle (EV) charger or charges two EVs using one outlet. The pilot aimed to understand how the Smart Splitter can help facilitate electrification for homeowners and renters living in Silicon Valley Clean Energy's (SVCE) service territory, namely avoiding costly electrical panel upgrades often triggered by 240-volt level 2 (L2) EV charging and appliance electrification. NeoCharge administered qualifying surveys to assess the suitability of the Smart Splitter suitability for the customer. If eligible, the customer received a discount on their Smart Splitter purchase in return for sharing project details. Key learnings from the pilot include:

- 70% of participants who purchased the Smart Splitter avoided a panel upgrade
- On average, participants realized a net savings of \$1075 on their home electrification project by using the Smart Splitter
- Switching from post-purchase Surveys to pre-purchase surveys allowed NeoCharge to gather crucial pilot information from potential participants prior to giving the discount code

Pilot Description and Results

The SVCE Innovation Onramp Program provides grant funding to external organizations to support innovative pilot projects. In the spring of 2021, SVCE issued a call for seed round pilots focused on building electrification, with up to \$20,000 of funding per pilot. NeoCharge was one of two applicants selected. The NeoCharge Home Electrification pilot aimed to understand how SVCE customers can use outlet-sharing technology to save money on home EV charging installation, avoid electric panel upgrades, or add a second electric appliance to their home.

Pilot participants were recruited via the SVCE monthly newsletter and NeoCharge Facebook ads. Customers were directed to a website to complete a qualification survey to determine whether there was a 240-volt outlet within range of where they charge their EV or if they are looking to add a second electric appliance to an existing 240-volt outlet. Eligible customers received a discount code to purchase the Smart Splitter; the average discount was \$262, which is approximately half the cost of the Smart Splitter. The discount varied slightly to encourage participants to share the details of the electrification project. The customer then self-installed their Smart Splitter and completed their electrification project. Details about the customers' electric projects, including the use case scenario, monetary savings, and

¹ <https://getneocharge.com/>



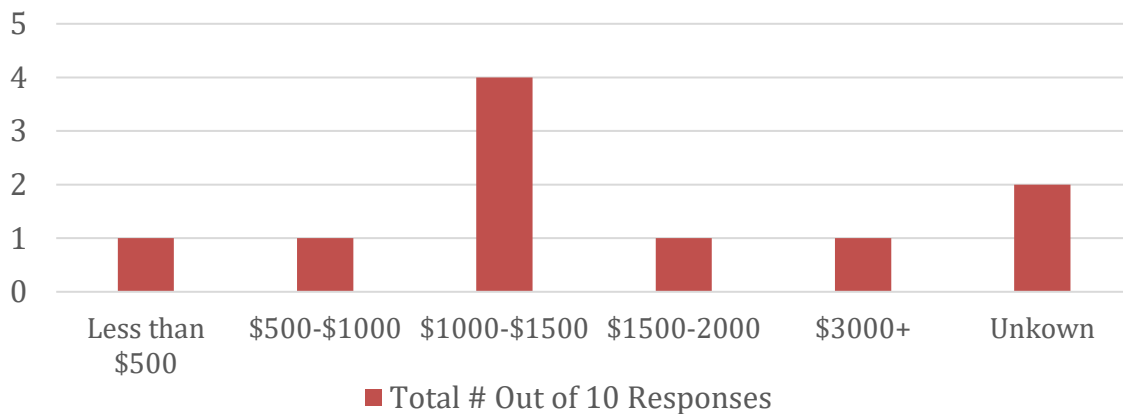
whether or not they avoided a panel upgrade, were gathered through a varied approach of either post- or pre-purchase surveys.

Survey Responses and Smart Splitter Purchases

Qualification Survey Responses	Total Qualified Pilot Participants	Total Qualified Who Purchased Smart Splitter	Post-Purchase Survey Responses from Purchasers	Pre-Purchase Survey Responses from Purchasers	Combined Pre & Post Purchase Survey Responses from Purchasers
89	59/89 (66%)	14/59 (24%)	4/8 (50%)	6/6 (100%)	10/14 (71%)

Of 89 submitted responses to the initial qualifying survey, 59 were SVCE customers who could benefit from a Smart Splitter purchase. Of those, 14 customers purchased the Smart Splitter and completed the surveys detailing their project scopes.

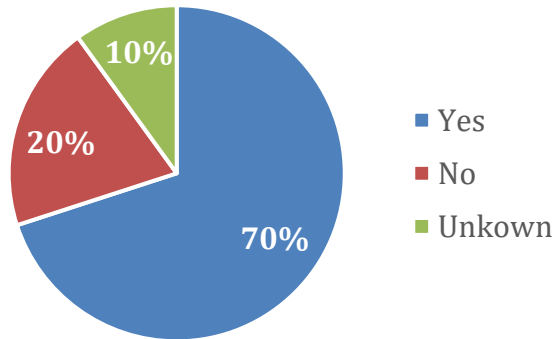
Home Electrification Savings from Smart Splitter



By applying a weighted average to the midpoint of the above savings bands, NeoCharge determined the average net savings for participants was **\$1,075**, while the median net savings was **\$1,250**. NeoCharge has observed a net average savings of \$2,000 per Smart Splitter purchase across its entire customer base. Pilot participants saved the most money if they were avoiding a panel upgrade, but, in some instances, savings may not be the only motivation for purchasing a Smart Splitter. For example, renters are largely unable to make investments in their properties to enable electrification, whether it is a panel upgrade or even wiring a new 240-volt outlet. One customer, who is not included in the analysis results because they did not complete the final project survey, was a townhome renter that was able to add EV charging by using the Smart Splitter to share the 240-volt dryer outlet.

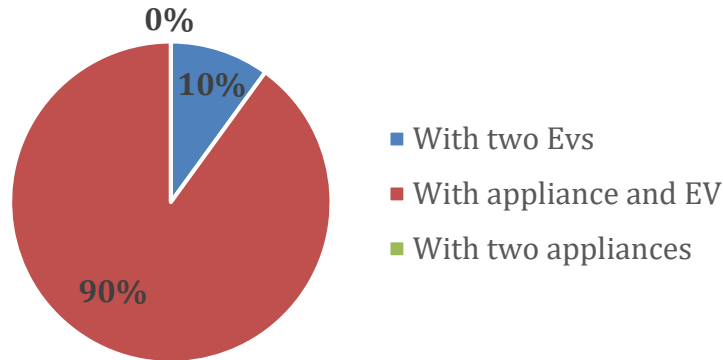


Panel Upgrades Avoided by Smart Splitter Purchase



70% of pilot participants avoided a panel upgrade, which is very close to the 80% of NeoCharge’s entire customer base that avoided a panel upgrade by using the Smart Splitter.

Smart Splitter Pilot Use Cases



Nearly all customers who participated in the pilot used the Smart Splitter to share a 240-volt outlet between an EV charger and an appliance; in all of those cases, the appliance was a dryer. No pilot participants used the Smart Splitter to share a 240-volt outlet between two electric appliances, such as induction stovetop and heat pump water heater. This use case currently represents a small fraction of NeoCharge’s Smart Splitter sales but is expected to grow over the next few years.



NeoCharge

Enabling Home Electrification

Case Study: Homeowner Used Smart Splitter to Charge 2 EVs

One single-family homeowner who participated was able to avoid a panel upgrade and save between \$500-\$1000 to charge his Chevy Bolt and Tesla Model Y at the same time. This participant used an Enel X Juicebox EV charger and regularly charged during TOU rates.

Case Study: Homeowner Used Smart Splitter with Dryer and EV Charger

One single-family homeowner avoided a panel upgrade and saved over \$3,000 dollars using the Smart Splitter to enable EV charging with their dryer and EV charger. This participant used a Grizzle-E EV charger and regularly charged during TOU rates.

Looking Ahead

Overall, this pilot was a valuable learning experience that affirmed many of NeoCharge's initial thoughts about the Smart Splitter being a piece of hardware that can help homeowners and renters save time and money on EV charging installation while avoiding expensive panel upgrades. Nearly all pilot participants used the Smart Splitter with an appliance and EV charger. In the future, NeoCharge expects more customers to leverage the Smart Splitter with two electric appliances as more and more homeowners begin to take advantage federal Inflation Reduction Act rebates to purchase electric appliances instead of gas appliances.

During the pilot, NeoCharge learned that customer survey completion rates were much higher if the survey was administered before the Smart Splitter purchase. Of the 8 participants who purchased a Smart Splitter using a discount code obtained after qualification and later received a post-purchase survey only 50% responded. Taking a different approach, NeoCharge issued a pre-purchase survey to qualifying customers and only issued the discount code after the survey responses were submitted. This allowed NeoCharge to get 6 more Smart Splitter purchases with a 100% survey response rate.

NeoCharge plans on taking this successful pre-purchase survey approach for future pilots. This will save time throughout the pilot and ensure that NeoCharge is able to quickly garner the desired insights from prospective pilot participants.

Additionally, NeoCharge plans to launch its Smart Splitter Companion App by in summer 2023. This app will allow any EV driver, with or without a Smart Splitter, to obtain charging session statistics and automatically charge their EV during periods of cheaper and cleaner electricity, as well as participate in demand response programs. Several pilot participants expressed interest in using the app to further optimize their EV charging for utility bill and emissions savings.