



**NeoCharge**

Enabling Home Electrification

## **NeoCharge Enabling Electrification Pilot with Clean Energy Access Working Group (CEAWG)**

**Pilot Overview:** NeoCharge's Smart Splitter is an intelligent, 240-volt outlet splitter that safely shares power between an electrical appliance and 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 low-income, disadvantaged homeowners and renters living in Southern California Edison's (SCE) service territory, namely avoiding costly electrical panel upgrades often triggered by 240V level 2 (L2) EV charging and appliance electrification. NeoCharge administered qualifying surveys to assess the Smart Splitter's suitability for each customer. If eligible, the customer received a fully subsidized Smart Splitter purchase and shared their project details in return. The pilot's key learnings include:

- 70% of participants who received the Smart Splitter avoided a panel upgrade
- On average, participants saved \$1375 on their home electrification project by using the Smart Splitter

### **Pilot Description and Results**

The Clean Energy Access Working Group (CEAWG) provides grant funding to external partners to support innovative pilot projects that help low-income and disadvantage communities realize and achieve the benefits of sustainable technologies like electric vehicles. In the summer of 2021, CEAWG funded Los Angeles Cleantech Incubator (LACI) and NeoCharge for a residential electrification pilot focused on EV charging, with up to \$34,000 of funding. The NeoCharge Enabling Electrification pilot was a game-changer in the electrification of low-income and disadvantaged communities in Southern California Edison's (SCE) service territory. The pilot aimed to explore the potential of the 240V Smart Splitter in helping community members save money on home EV charging installation, avoid costly electrical panel upgrades, or add a second electric appliance to their home.

Pilot participants were recruited via direct outreach by Community Base Organization, SBX Youth and Family Servicex Sigma Beta Xi, and NeoCharge Facebook ads. Potential participants 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 were looking to add a second EV to an existing 240-volt outlet. Eligible participants received a discount code that covered the entire cost of the Smart Splitter. Participants then self-installed their Smart Splitter and completed their electrification project. Qualification and post-participation surveys collected details about the customers' electrification projects, including the use case scenario, monetary savings, and whether they avoided a panel upgrade.

The results showcased the positive impact that the program brought to the community. The pilot demonstrated that the Smart Splitter help disadvantaged communities electrify their homes without incurring high costs associated with electrical panel upgrades. A stunning 70% of the participants who



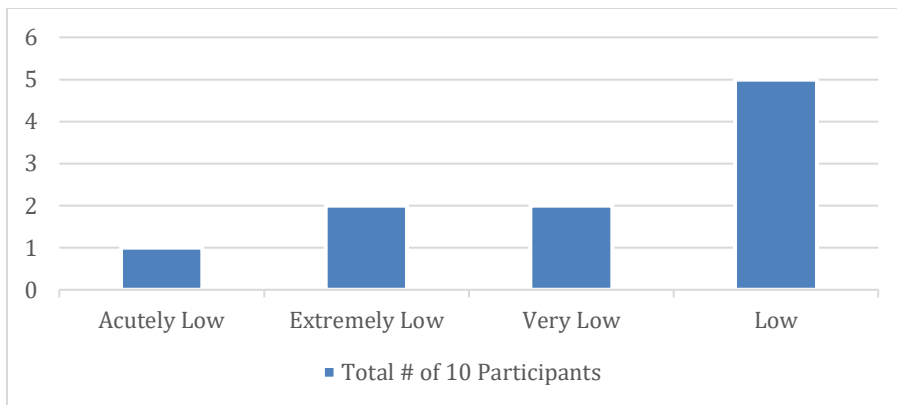
received the Smart Splitter avoided a panel upgrade, saving an average of \$1375 on their EV charging installation and demonstrating the immense potential of this technology.

### Survey Responses and Smart Splitter Orders

Qualification Survey Responses	Total Qualified Pilot Participants	Total Qualified Who Ordered Splitter	Post-Participation Survey Responses
14	13/14 = <b>92.8%</b>	10/13= <b>76.9%</b>	8/10 = <b>80%</b>

Of 14 submitted responses to the initial qualifying survey, 13 were SCE customers who could benefit from using the Smart Splitter. Of those, 10 customers ordered the Smart Splitter and completed the surveys detailing their project scopes.

### Income Distribution for Participants



Income limits were based on the following table from Urbanize Los Angeles:

Number of Persons in Household:		1	2	3	4	5	6	7	8
Los Angeles County Area Median Income: \$91,100	Acutely Low	9550	10900	12300	13650	14750	15850	16950	18000
	Extremely Low	25050	28600	32200	35750	38650	41500	44350	47200
	Very Low Income	41700	47650	53600	59550	64350	69100	73850	78650
	Low Income	66750	76250	85800	95300	102950	110550	118200	125800
	<b>Median Income</b>	63750	72900	82000	<b>91100</b>	98400	105700	112950	120250
	Moderate Income	76500	87450	98350	109300	118050	126800	135550	144300

\*<https://la.urbanize.city/post/here-are-californias-new-income-limits-2022>

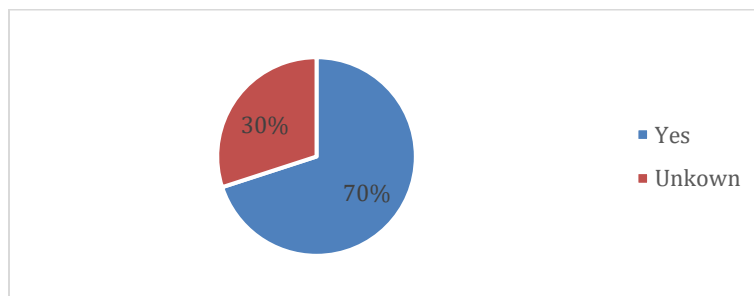


## Home Electrification Savings from Smart Splitter



By applying a weighted average to the midpoint of the above savings bands, NeoCharge determined the average savings for participants was **\$1375**, while the median savings was **\$1250**. The pilot average savings are lower than the **\$2000** average savings NeoCharge observes 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 240V outlet.

## Panel Upgrades Avoided by Smart Splitter Purchase



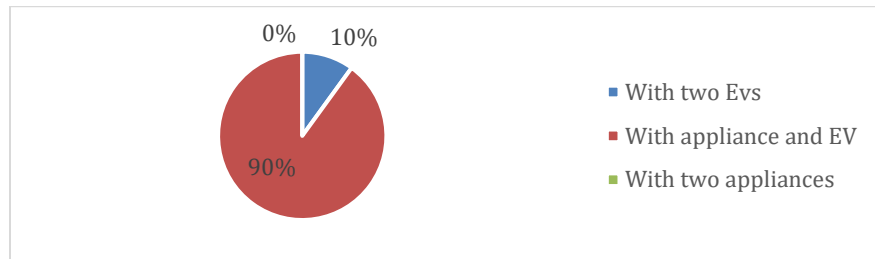
70% of pilot participants avoided a panel upgrade, which is slightly lower than the 80% of customers who avoid a panel upgrade by using the Smart Splitter based on data from NeoCharge's entire customer base. NeoCharge suspects the number would have been even closer to 80% if the remaining participants completed the post-participation survey.



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## 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. Across NeoCharge's entire customer base, approximately 1% of customers have used the Smart Splitter to share a 240V outlet between two electric appliances, such as a dryer and heat pump water heater.

### Case Study: Homeowner Used Smart Splitter to Charge 2 EVs

One low-income, single-family homeowner who participated was able to avoid a panel upgrade and save \$1250 dollars to enable simultaneous EV charging for their two EVs.

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

One very low-income, 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 drove a Nissan Leaf and would absolutely recommend the smart splitter to a friend.

## Looking Ahead

The NeoCharge Enabling Electrification pilot provided a valuable learning experience, validating the Smart Splitter's potential to assist low-income and disadvantaged homeowners save time and money on EV charging installation, while avoiding costly panel upgrades. Nearly all pilot participants used the Smart Splitter with an appliance and EV charger. As more homeowners leverage federal Inflation Reduction Act rebates to purchase electric appliances instead of gas appliances, NeoCharge expects more customers to take advantage of the Smart Splitter with two electric appliances.

Through the pilot, NeoCharge recognized the importance of working with a Community Base Organization (CBO) to reach disadvantaged and vulnerable community members successfully. NeoCharge partnered with SBX Youth and Family Services a CBO focused on helping Inland Empire families develop future professional leaders through various programs such as mentorship and education programs. SBX and NeoCharge worked together to develop bilingual flyers and draft email outreach campaigns to recruit pilot participants. Together we were successfully able to recruit 10 participants to the pilot and help these customers save thousands on getting EV charging setup in their homes.



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NeoCharge plans to launch its NeoCharge Connect Software platform in summer 2023. This app will provide EV drivers, with or without a Smart Splitter, access to charging session statistics, the ability to charge their EV during cheaper and cleaner electricity periods, and participate in demand response programs. With the Smart Splitter and NeoCharge Connect Software, NeoCharge aims to help more customers save money, reduce carbon emissions, and fully electrify their home without needing a panel upgrade.