Can low-income consumers benefit from EVs? Yes, but maybe not in a traditional way

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Over the past two years, virtually every utility or government entity I've spoken with about electric vehicles (EVs) has mentioned their desire to promote equity in electric transportation. This is a fantastic goal. And while most organizations are still in the planning phase, it's not surprising that many are having trouble developing solutions.

I'll start by saying that this is likely to be the most controversial post of my EV blog series, but equity is the elephant in the EV room. A common assumption is that to deliver the benefits of EVs to lower-income consumers or residents of multiunit dwellings, they must own or drive an EV and have a place to charge it. I'm proposing that this isn't the most appropriate goal, at least for the next several years. Instead, we should focus on the net environmental benefit of EVs, even if that means higher-income consumers are leading the way.

How can we reframe this EV problem?

To frame this conundrum, I find it most useful to examine what electric transportation provides (and doesn't provide) from an economic and social perspective. The first step is to realize that the basic functionality of a car with an internal combustion engine (ICE) is virtually identical to that of an EV. They both take the driver and passengers from point A to point B in a convenient manner. They both accommodate similar amounts of passengers and cargo. And they're essentially the same when it comes to safety and the speeds they travel.

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Given this functional equivalency, we can then look at secondary benefits. Policywise, EVs are being subsidized and promoted primarily to improve the local and global environment. If this is the key benefit, it's important to acknowledge that the driver of the car isn't directly receiving the benefit. It's the local air basin and the global climate that benefits. In other words, from an environmental standpoint, my neighbor's EV is helping me as much as it's helping her. As a policymaker, I would want my scarce electric transportation dollars to go toward replacing vehicles that pollute the most, such as

those that travel the most vehicle miles or get poor mileage. This is especially important in polluted urban settings that contribute to environmental injustice for communities of color.

According to our ethnographic research, EV sales to date have been oriented toward two primary personas: those who want to shrink their environmental footprint and those who want to drive something new, sexy, prestigious, or fun (your typical Tesla buyer). It's expensive to buy products in early technology markets, so people who have the financial means lead the way. Computers were unaffordable in the beginning, but mass-scale fabrication and distribution reduced prices over time. This can be said about smartphones, microwave ovens, air conditioners, and virtually every other technology introduced over the past 100 years. They're initially accessible only to a small group of consumers. Then if they succeed and grow, they enter the mainstream market, becoming affordable as economies of scale drive down costs and increase competition.

Ask these questions to start solving the EV equity conundrum

When tackling transportation equity, it's valuable to identify the specific attributes that policy and market actions are trying to enhance. For example:

- What transportation attributes are most important for the target audience?
- How do important consumer value attributes differ from policy objectives? How is the target group being unfairly treated today? How might we remedy this?
- How are electric transportation options superior or inferior to existing solutions or new non-electric options?
- If an attribute like clean air is a key policy objective, what's the fastest and most economical means of providing that benefit, given that pollution is typically dispersed over a large geographic area?

By starting with these questions, you can streamline and enhance your equity discussions. Contact us for information on how E Source can help with your organization's EV equity project.

What's the solution to EV equity?

So how might we deliver the benefits of electric transportation to lower-income consumers in the most expedient and economically efficient manner possible? If I were a policymaker, these would be my goals.

Find the right markets for the right solutions. Through segmentation and targeting using behavioral and demographic data, promote EV adoption to consumers who have the lowest purchase barriers. Use specialized marketing techniques for lower-income brackets, and form partnerships with utilities, government agencies, and nonprofits. Colorado estimates that 14% of state residents who are in the top EV segments make less than $35,000 per year. The faster we can get new EVs on the road, the faster they become affordable gently used cars.

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Prioritize low-income communities. Accelerate the electric conversion of high-polluting modes of

transportation—such as buses (public and school), delivery vehicles, and other fleets—in lower-income communities. Dominion Energy, for example, has an interesting program for Electric School Buses.

Permanently retire clunkers. Old, poorly maintained cars and trucks have high levels of emissions and contribute disproportionately to local air pollution, which leads to health impacts. The South Coast Air Quality Management District's Replace Your Ride program focuses on replacing high-polluting vehicles for income-qualified consumers in California.

Create innovative electric ride and car-share options. These programs can enhance not just the cleanliness of transportation for lower-income groups, but they can also become a preferred option due to their convenience, cost, and safety. Smart transportation advocacy group Forth Mobility's March 2020 Low-Income Carsharing Report (PDF) outlines the evolution of car-sharing and highlights programs designed to use the benefits of clean transportation to enhance the consumer experience.

Build charging infrastructure as the market evolves. Monitor the evolution of the market and ensure that charging infrastructure is available in lower-income communities and buildings when the time is right. California is already at that point as EVs are close to entering the mainstream market there.

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Redesign EV subsidies. To make EVs affordable for lower- and middle-income consumers, revisit subsidies like the $7,500 federal tax credit. For example, California adjusted its state rebate in late 2019 to exclude high-income consumers and expensive cars. At the same time, the state boosted the rebate amount for income-qualified buyers. One interesting program is the Bay Area Air Quality Management District's Clean Cars for All project, which provides direct grants based on customer need.

Promote preowned EVs. Create educational campaigns around the benefits of buying a used EV. Focus on their low fuel costs, low maintenance needs, and convenience when compared to a similar preowned ICE vehicle.

Support micromobility. Micromobility programs can support utilities' equity initiatives by providing electric transportation options for customers who might not be able to afford an EV. These programs can also get more ICE vehicles off the road, which will benefit customers. Members of the E Source Distributed Energy Resource Strategy or Mobility Services can read more in the E Source answer Should utilities invest in micromobility?

Since we're still in the early-adopter phase of this new technology, we can expect higher-income consumers to continue to dominate EV sales for the next few years. From an environmental perspective, this is still a positive outcome for society. And it will lead to a robust used EV market that will certainly expedite market transformation. Focusing on the customers who are most ready to buy an EV is the fastest way to achieve EV equity and meet environmental goals.

Need more EV resources?

Check out the other posts in my EV blog series:

- Utilities have an essential role to play in EV marketing. It's time to step up
- EV charging and pricing: What are consumers willing to pay?

- Why do people have electric vehicle range anxiety?
- Need to identify EV buyers? Try a personality test

My colleague Bryan Jungers gave a presentation on EV equity at the 2019 Utility Energy Forum. You can download his slides, More than Just Toys for the Rich: Designing EV Programs to Serve Low-Income Customers (PDF).

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