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ELECTRIC VEHICLES FOR ALL: AN EQUITY TOOLKIT

Introduction

Setting the Stage

INTRODUCTION

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Making EVs
Affordable

Making EVs
Practical &
Accessible

Increasing EV
Awareness

The Curious Case
of Selling EVs

Diversify the EV
Market

Purpose

EMAIL

Low-income communities and communities of color disproportionately feel the impacts of vehicle pollution and can benefit the most from the clean air and cost-saving benefits of EVs. This toolkit is specifically designed to provide tools, tips, and resources that will help make EVs accessible to these underserved communities. The toolkit's chapters are broken out into sections that highlight information and lessons learned from current models in California like the Charge Ahead California Initiative (SB 1275, De León). Each locale will likely encounter different local obstacles and opportunities for making EVs accessible for all.

This toolkit relies heavily on California examples and lessons learned and is not meant to be an exhaustive list of tools, policies, or ideas of how to ensure low-income consumers gain access to EVs.

How to Use

The toolkit consists of chapters addressing different topics related to passenger EV access. Each chapter contains descriptions of tools used to increase access to EVs. An "Equity Guide" provides considerations so the tool creates real access to EVs for underserved communities. Each tool description provides "Tips for Success" where applicable and a list of "Helpful Links and Examples" readers can use for further research and learning.

Each chapter has a list of “Other Resources” to provide easy access to more EV related information.

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ELECTRIC VEHICLES FOR ALL: AN EQUITY TOOLKIT

[Introduction +](#)

[Setting the Stage](#)

SETTING THE STAGE

Overview

Setting the Stage is organized in the following sections:

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1. [Standard Definitions](#)
2. [Why Electric Vehicles?](#)
3. [Why Prioritize EV Access in Underserved Communities?](#)
4. [The Story in California: The Charge Ahead California Initiative](#)

Standard Definitions

Plug-in Electric Vehicles (EVs) – is the umbrella term for both plug-in hybrid electric vehicles (e.g. Chevy Volt and Toyota Prius Plug-in) and battery electric vehicles (e.g. Nissan Leaf and Tesla). Unless otherwise indicated, “electric vehicles” and “EVs” will be used throughout this toolkit to describe both of these types of plug-in electric vehicles.

Plug-in Hybrid Electric Vehicles (PHEVs) – can run on both electricity and gas. PHEVs can be plugged in and charged for everyday travel on battery power alone. The gas engine kicks in on longer trips when the battery reaches the end of its range.

Battery Electric Vehicles (BEVs) – run entirely on electricity, producing zero tailpipe emissions. The battery is recharged from an electrical outlet; current models have a range of 60 to over 250 miles on a full charge.^[1]

Fuel Cell Electric Vehicles (FCEVs) – use hydrogen gas to power an electric motor. Virtually no emissions are produced if the hydrogen comes from renewable energy sources.^[2]

FCEVs are not covered here because they are not yet widely available.

Underserved Communities – is an umbrella term used in this toolkit to identify low-income and moderate-income communities and communities of color. This term will be used interchangeably with “low-income communities and communities of color,” “people of color,” and “low-income consumers or individuals.”

Disadvantaged Communities – as used in this toolkit, identifies very specific census tracts throughout California that have the highest environmental and economic burden. [California's Global Warming Solutions Act of 2006](#) (2006, Pavley, Nunez), Assembly Bill (AB) 32, charges polluters for their greenhouse gas emissions with the money going into a fund called the Greenhouse Gas Reduction Fund . [Senate Bill 535](#) (2012, De León) requires that at least 25 percent of these funds go to projects that benefit disadvantaged communities, with at least 10 percent going to projects located within these communities. The California Environmental Protection Agency developed a tool called [CalEnviroScreen 2.0](#) to identify

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communities. This program directs hundreds of millions of dollars in investments that promote, clean air, jobs, transportation and energy efficiency, to benefit specific disadvantaged communities hit first and worst by climate change.

Community-Based Organization (CBO) – as used in this toolkit, is an umbrella term used to identify organizations and groups that are committed to improving the quality of life in their local community. The community could be defined geographically (e.g. a neighborhood) or on the basis of something like religious beliefs or a shared condition or cause (e.g. affordable housing, environmental justice, community health, community development). Typically, CBOs are base-building, meaning, they are active in the grassroots and can organize community members for various purposes like demonstrations. CBOs encourage community participation and work from the ground level to produce community-led solutions. More info [here](#).

Why Electric Vehicles

We must transform how people move to avoid a climate crisis. We have to shift our transportation values, norms, and infrastructure and encourage more walking, biking, carpooling, public transit use, and clean transportation. To meet federal air quality standards and reduce greenhouse gas pollution, we need to stop burning fossil fuels to move our cars, trucks, and buses and instead fuel our transportation sector with clean electricity from renewable sources.[\[3\]](#)

Exhaust from cars and trucks poisons our air and contributes to climate change. The transportation sector is responsible for 33 percent of greenhouse gas emissions nationally--the second largest source of emissions in America.[\[4\]](#) In California, the transportation sector is the largest source of emissions, accounting for nearly 50 percent of emissions, when accounting for production, refining, and use of petroleum.[\[5\]](#) Each year, passenger cars and trucks across the country “burn 121 billion gallons of gasoline and spew upwards of 3 trillion pounds” of toxic carbon pollution into our air.[\[6\]](#) Dirty air from vehicles makes millions of Americans sick and costs us billions in avoidable health costs.[\[7\]](#) For example, a 100 percent electric fleet in California running on electricity that is one-third renewable would avoid: \$13 billion in health, climate, and other societal damages annually, 10,000 asthma attacks every year and 275 tons of particulate matter every day.[\[8\]](#)

Oil dependence puts us at the mercy of volatile gas prices with no place to turn when they rise.

EVs can help tackle this crisis because they:

- **Cut air pollution and fight climate change** – EVs eliminate or reduce tailpipe exhaust resulting in better local air quality and less global warming emissions. Even when accounting for emissions over their lifetime, “battery electric vehicles produce far less global warming pollution than their gasoline counterparts—and they're getting cleaner.”[\[9\]](#) These benefits will only increase as we continue to clean our electricity grid with renewable sources of energy like wind and solar.
- **Boost regional and local economies** – EV drivers save money because it's cheaper to drive on electricity than gas. EVs have fewer moving parts, requiring less maintenance than gas or diesel engines. For example, a Nissan Leaf driver spends about \$421 per year on fuel compared to \$1,500 a year for a conventional vehicle driver.[\[10\]](#) Also, dollars previously spent on imported gasoline and oil are now spent within U.S. borders, boosting our economy. In California, dollars saved at the pump by charging up on electricity stay in California and can create 16 times more jobs than money spent on gasoline.[\[11\]](#)
- **Promote energy independence** – Electricity is often produced locally and typically from diverse sources. This makes its price more stable than oil prices that vary widely and are highly influenced by world events. Plugging in our cars reduces our vulnerability to the world oil market.
- **Can Support the Electricity Grid** – EVs can help replace dirty power plants with clean energy. Charging EVs during times of the day when there is excess renewable energy (like wind and solar) helps stabilize the electricity grid and avoids the need to dump clean energy or invest in stand-alone energy storage.[\[12\]](#)

Switching to cleaner, more efficient electric cars, trucks, and buses benefits all of us.

Why Prioritize EV Access in Underserved Communities?

Underserved communities (communities of color, in particular) are necessary in accelerating EV adoption and can benefit the most from the clean air and cost-saving benefits of EVs.

The U.S. aims to reduce “emissions by 26-28% below 2005 levels by 2025, and to make best efforts to reduce by 28%.”[\[13\]](#)

In California has committed to cutting greenhouse gas emissions to 40 percent below 1990 levels [by 2030](#) and 80 percent below 1990 levels [by 2050](#). The U.S. and California see the acceleration of EVs as necessary to meeting these goals.

We will not meet these climate goals without low-income communities of color for three reasons:

1. ***The Climate Gap: When you protect the least of us, you protect all of us.***[\[14\]](#)
Global warming emissions and climate change hit low-income communities and communities of color first and worst because these communities disproportionately live near busy roads and freeways, exposing them to dangerous levels of emissions. This leads to higher rates of asthma, cancer, and other pollution-related illnesses, increased health costs and [more missed school and work days](#). Low-income communities of color also suffer more during extreme weather events because of lack of resources to escape them. In order to make meaningful progress toward our GHG goals, we must target, prioritize, and protect our most impacted communities.
2. ***People of color are the fastest growing consumer segment in the state of California and the U.S.***[\[15\]](#) To meet our GHG reduction goals, EV use must grow exponentially. California needs at least 4 million EVs by 2030 to meet the 2050 GHG reduction goal and will not get there at current adoption rates.[\[16\]](#) People of color are the majority in California and will be majority in the U.S. by 2044.[\[17\]](#) This growth in population has also brought an increase in buying power, making consumers of color a critical segment for accelerating EV adoption. People of color need to buy EVs at a faster rate than whites for the U.S. and California to reach its climate goals.
3. ***People of color overwhelmingly support climate action.*** People of color support policies that protect their families from pollution and climate chaos. In 2015, The Greenlining Institute partnered with Latino Decisions, Presente.org, Communities for a Better Environment , the California Environmental Justice Alliance , and Physicians for Social Responsibility-Los Angeles to conduct a poll of California Latino voters.[\[18\]](#) Over 90 percent demanded climate action, 81 percent agreed that more money should go to fight pollution in black and Latino communities, and 75 percent agreed that California should provide financial assistance for low-income families to buy clean cars. Green For All surveyed voters of color in emerging battleground states with similar findings.[\[19\]](#) Officials should respond to these concerns, and all involved should understand that Americans of color represent a huge potential market for EVs.

Increasing EV access in communities most impacted by poverty and pollution is necessary to meet our climate goals and helps reverse a long history of environmental injustice and disinvestment.

Graph: Racial/ethnic composition: United States, 1980-2040

The Story in California: Charge Ahead California Initiative

The Greenlining Institute was among the first to shine a spotlight on the obstacles to widespread adoption of electric cars and trucks in communities of color in our 2011 report, "[Electric Vehicles: Who's Left Stranded?](#)" In 2012, we were part of a [historic settlement](#) between the California Public Utilities Commission and NRG Energy Inc., partly intended to make electric vehicles more accessible to underserved communities.

But that was not nearly enough. In 2014, Greenlining worked with the Coalition for Clean Air, Communities for a Better Environment, Environment California, and the Natural Resources Defense Council to co-sponsor Senate Bill (SB) 1275, the *Charge Ahead California Initiative*, authored by Senate President Pro Tem, Kevin de León (D – Los Angeles). The bill was supported by over 50 diverse groups.[\[20\]](#)

Now, working with these same allies as part of the Charge Ahead California campaign we shape implementation of this law, work to place one million light, medium, and heavy-duty EVs on California's roads by 2023 and ensure that all Californians, and especially lower-income households most impacted by air pollution, benefit from zero-emission vehicles.

SB 1275 directs the California Air Resources Board to use Greenhouse Gas Reduction Fund (cap-and-trade) dollars to create equity program

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transportation in communities most impacted by pollution and poverty, especially disadvantaged communities identified pursuant to [Senate Bill 535](#) (see "[Disadvantaged Communities](#)" definition).

CARB now funds the following projects:

- EV car-sharing programs in disadvantaged communities
- Low-income EV financing assistance programs
- Vouchers for replacing gas-guzzling "clunkers" with new or used EVs or with vouchers for transit and car-sharing
- Low and moderate income rebates within the [Clean Vehicle Rebate Project](#)

Additionally, SB 1275 directed CARB to place an income cap on individuals who can qualify for its Clean Vehicle Rebate Project (discussed in the "[rebate](#)" section)

Examples and lessons learned from implementation of these programs will be discussed in relevant sections throughout this toolkit.

Learn more at [ChargeAhead.org](#).

[callout]**Helpful Links:**

Info on EVs and equity:

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- [Electric Vehicles: Who's Left Stranded?](#) (July 2011) (The Greenlining Institute)
- [EVs Need Equity: California is Ditching Big Oil to Charge Ahead with Clean Cars for All](#) (October 2016) (The Greenlining Institute)
- [Racial Equity Toolkit: Implementing Greenlining's Racial Equity Framework](#) (July 2013) (The Greenlining Institute)
- [Driving Out of the Red with Greener Cars](#) (March 2014) (New America Foundation)

How do EVs work and what's currently available?

- [California Air Resources Board's Clean Vehicle website](#): information, incentives, vehicle info, etc.
- [Plug-in Electric Vehicle Collaborative](#) (PEVC): info on EVs, includes rebates, incentives, etc.
- [Plug-in Electric Vehicle Resource Center](#): DriveClean.ca.gov (California Air Resources Board and the California Plug-in Electric Vehicle Collaborative)
- [EV Everywhere](#) (U.S. Department of Energy)
- [A Consumer's Guide to Plug-in Electric Vehicles](#) (Electric Power Research Institute)
- [Plug-In & Get Ready](#) (Center for Sustainable Energy)
- [Union of Concerned Scientists EV resources](#)
- [Drive Clean and Save: Electric Vehicles are a Good Deal for California Consumers and the Environment](#) (July 2016) (Environment California Research & Policy Center)

[/callout]

Footnotes

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[12] Baumhefner, M. and Hwang, R. (2016). Driving Out Pollution: How Utilities Can Accelerate the Market for Electric Vehicles. *Natural Resources Defense Council.*

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[13] The White House, Office of the Press Secretary, *FACT SHEET: U.S. Reports its 2025 Emissions Target to the UNFCCC* (March 31, 2015).
<https://www.whitehouse.gov/the-press-office/2015/03/31/fact-sheet-us-reports-its-2025-emissions-target-unfccc>

[14] Espino, J., *EVs Need Equity: California is Ditching Big Oil to Charge Ahead with Clean Cars for All*, The Greenlining Institute – Blog, (October 28, 2015) (quoting Manuel Pastor); see also, Manuel Pastor biography, at <https://dornsife.usc.edu/pere/pastor/> see also, University of Southern California, Program for Environmental and Regional Equity, *The Climate Gap and How to Close it, National Fact Sheet*, at https://dornsife.usc.edu/assets/sites/242/docs/National_Climate_GapFact_Sheet_FINAL.pdf

[15] Nielsen, *The Multicultural Edge: Rising Super Consumers* (March 18, 2015).
<http://www.nielsen.com/us/en/insights/reports/2015/the-multicultural-edge-rising-super-consumers.html>

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<http://www.latinodecisions.com/blog/2015/08/19/new-poll-latinos-want-ca-legislature-to-tackle-pollution-climate-change-in-latino-communities/>; see also, <http://www.myhomesinpolucion.org/>

[19] Green For All, *Climate Change & Communities of Color Key Poll Findings and Top Lines*, at http://www.greenforall.org/climate_change_communities_of_color

[20] Businesses and Business Associations – Black Business Association; California Solar Energy Industries Association; Cerebrotech; ChargePoint; EverCharge; Motiv; Los Angeles Business Council; Solar Energy Industries Association; Sullivan Solar Power; ZeroTruck. Cities – City of Baldwin Park; City of Los Angeles. Community Development Corporations – FAME Corporations; We:

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Development Corporation. Environmental, Scientific, Consumer & Renewables Groups – California League of Conservation Voters; CalPIRG; Climate Resolve; Consumers Union; Environmental Defense Fund; Global; Green USA; Sierra Club California; Union of Concerned Scientists; Vote Solar. Equity, Justice and Faith Groups – Asian Pacific Environmental Network; California Environmental Justice Alliance; California Interfaith Power & Light; Catholic Charities Diocese of Stockton; Latino Coalition for a Healthy California; Los Angeles Alliance for a New Economy; Pacoima Beautiful; Valley LEAP. Public Health/Air Quality Voices – American Cancer Society Cancer Action Network; American Lung Association in California; Asthma Coalition of Los Angeles County; Baz Allergy, Asthma & Sinus Center (San Joaquin Valley); Breathe California; California Society for Pulmonary Rehabilitation; California Thoracic Society; Health Care Without Harm; Los Angeles County Medical Association; Moms Clean Air Force; Physicians for Social Responsibility—LA; Physicians for Social Responsibility—Sacramento; Physicians for Social Responsibility—San Francisco Bay Area; Regional Asthma Management and Prevention (RAMP); San Francisco Asthma Task Force; San Francisco Medical Association; San Joaquin Valley Air Pollution Control District; South Coast Air Quality Management District; St. John's Well Child and Family Centers. Transportation and Utility Voices – CALSTART; TransForm. Retrieved from www.chargeahead.org.

Making EVs Affordable +

Making EVS Practical & Accessible +

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ELECTRIC VEHICLES FOR ALL: AN EQUITY TOOLKIT

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Making EVs Affordable

MAKING EVS AFFORDABLE

Overview

Making EVs affordable is organized in the following sections:

1. [Purchase Incentive Tools](#)
2. [Financing Assistance](#)
3. [Other Resources](#)

Introduction

Electric vehicles are cleaner and cheaper to drive than conventional, gas-powered cars and trucks but cost more upfront than conventional vehicles. A new 2016 Nissan Juke costs \$20,250 compared to \$29,010 for a new, equivalent size 2016 all-electric Nissan Leaf.^[1] However, over a vehicle's full lifetime, EVs cost much less to own than a comparable gas or hybrid vehicle.^[2]

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percent of white households did not have access to a car, while 15.26 percent of households with people of color did not have access to a car.^[3]

This chapter describes common purchase incentives and financing assistance programs used to cut the cost of EVs. It provides an equity guide and tips to identify the clearest, most effective path to increasing access to EVs in underserved communities.



Tools and Guide

1. PURCHASE INCENTIVE TOOLS

Vouchers, rebates, tax credits, and sales tax exemptions are the most common EV financial incentives for consumers.

Typically, state and local governments use general funds for purchase incentives. California pays for its vouchers and rebates through [cap-and-trade dollars](#) collected from polluters. Paying for purchase incentives through general funds can have unwanted consequences, such as increasing the risk of low-income safety net services being cut during budget crunches, since safety net services typically are cut first. This increased risk perpetuates disinvestment and the cycle of poverty in low-income communities of color.

General fund-backed purchase incentives should minimize their impact on the general fund by leveraging private capital or repurposing existing public dollars and programs. Purchase incentives should also maximize benefits to underserved communities, to make up for the increased risk of losing safety net services.

Each purchase incentive tool is described below:

specific amount to buy an EV. EV vouchers typically come from local and state governments and usually require an application to determine if an individual is eligible. Eligibility is usually determined prior to the purchase of the EV.

For example, California offers qualified applicants a \$9,500 voucher if the individual is low-income, agrees to retire an eligible high-polluting vehicle, and intends to purchase a new or used EV (either BEV or PHEV) ([more info below](#)).

BENEFIT:

Cash vouchers give the consumer the equivalent to "cash-in-hand," allowing the consumer to use the voucher at the point of sale to bring down the price of the EV on the spot. Consumers, then, are able to get better financing packages and lower interest rates resulting in lower monthly payments.

For example, if Sekita uses a \$9,500 voucher to purchase a used 2013 Chevy Volt for \$13,000, then she only has to finance \$3,500. If Sekita were using a rebate (discussed below) instead, she would have to finance the full \$13,000 and receive the rebate a few weeks later, likely resulting in a higher interest rate and higher monthly payments. She would also likely have to put some of her own money down, adding another obstacle.

EQUITY GUIDE:

Vouchers are the most effective purchase incentive tool in giving low-income drivers real, meaningful access to EVs because they reduce the price of the EV at the time of purchase, thus creating more attractive and affordable financing scenarios. Vouchers can further increase EV access if they can be used for used EVs, which are a bargain right now for consumers. For example, you can get a used, reliable, 2012 Nissan Leaf under 50,000 miles for \$10,000 or less.^[4]

Additionally, targeting vouchers exclusively to low-income consumers increases the equity and cost-effectiveness of voucher funds by directing limited dollars to consumers who need the benefit the most.

[Click here for a California example.](#)

B. REBATE

Rebates typically work in two ways: instant cash rebates for consumer goods at the time of purchase (akin to cash vouchers above) or partial or full reimbursements after the purchase.^[5]

AFTER-PURCHASE REBATES:

Most rebates are of the mail-in variety and this is typically true for EV rebates as well. Mail-in rebates require consumers to pay the full cost of a good at the time purchase, then to send documentation to the manufacturer, retailer, or rebate program administrator to receive a rebate by mail.

INSTANT REBATES:

Also known as "point of sale" rebates, require consumers to fill out documentation at the point of purchase. Eligibility is determined on the spot and the rebate is applied immediately. The a

[Connecticut's program](#) is an example of a point of sale rebate.

BENEFIT:

Consumers effectively buy an EV at a discount equal to the size of the rebate, but have to wait a few weeks to get the benefit. However, if the rebate is of the "instant cash" variety, the benefit works like the voucher discussed above, equivalent to cash-in-hand.

[Click here for a California example.](#)

[Click here for a Massachusetts example.](#)

[Click here for a Connecticut example.](#)

EQUITY GUIDE:

After-purchase rebates are less effective than instant rebates and vouchers in helping low-income consumers access EVs and therefore less equitable.

A more equitable rebate should be designed and administered in a way that allows low-income consumers to take advantage of the subsidy at the point of purchase. This is especially true when further financing is needed to complete the purchase of a high cost item like a vehicle. Making used EVs eligible for the rebate makes it more equitable given their great affordability advantage.

Additionally, targeting rebates to low-income consumers only and/or creating an income cap on eligible consumers increases the equity and cost-effectiveness of rebate funds by directing limited dollars to consumers who need the benefit the most.

TIPS FOR SUCCESS:

MSRP Cap versus Income Cap

Typically, income caps ensure that limited public dollars go to consumers who need the EV subsidy the most, making them a more equitable and cost-effective approach. MSRP caps, on the other hand—like Washington state's \$35,000 cap—do not stop wealthy individuals like Mark Zuckerberg from getting the sales tax exemption benefit when he buys a 2016 Nissan Leaf for \$30,000, even though he has no need for any incentive. As a result, the public ends up subsidizing a purchase that would have happened anyway.

C. SALES TAX EXEMPTION

Sales tax exemptions for EVs lower the final cost by excluding them from sales taxes on purchased goods. Local or state laws create sales tax exemptions. Typically, the consumer sees the sales tax deducted from the overall cost of the car and the dealer documents that sales tax exemption to be later reported in the dealership's tax returns.^[6]

Sometimes EV sales tax exemptions are coupled with an MSRP cap, as is the case in Washington state,^[7] which limits exemptions to EVs sold or leased for \$35,000 or less.^[8]

at the time of purchase.

EQUITY GUIDE:

Sales tax exemptions can be effective in giving low-income drivers real, meaningful access to EVs because they reduce the price of the EV at the time of purchase.

However, practitioners should prioritize the most equitable strategy to fund low-income purchase incentives. That means purchase incentive programs should rely on funding mechanisms that minimize the need to dip into general fund dollars. For example, California's uses polluter fee dollars to fund EV vouchers and rebates.

Additionally, targeting sales exemptions exclusively for low-income consumers increases the equity and cost-effectiveness by ensuring lost sales tax dollars are spent on consumers who need the benefit the most.

TIP FOR SUCCESS:

MSRP Cap versus Income Cap

[See above.](#)

D. TAX CREDIT

Tax credits for buying EVs can lower how much you owe each year in income taxes (federal, state, and sometimes local). "Different from tax deductions, which lower your taxable income, tax credits can actually shave dollars off your tax bill." [\[9\]](#) In some cases, they might result in a refund. You can think of tax credits as a government incentive program to reward people for making good decisions, like buying EVs, going to college, or saving for retirement.[\[10\]](#)

Customers leasing EVs can also benefit from tax credits. Usually, leasing companies—which are the actual owners of the EV—factor in tax credits to the cost of the lease resulting in lower monthly lease payments for the customer.[\[11\]](#)

FEDERAL QUALIFIED PLUG-IN ELECTRIC DRIVE MOTOR VEHICLE CREDIT TAX CREDIT AND OTHER STATE TAX CREDITS:

Federal Tax Credit

The U.S. gives an income tax credit for buying *new* EVs. The credit amount ranges from \$2,500 to \$7,500 depending on the battery size of the vehicle—the more electric charge an EV can hold, the bigger the tax credit. For example, you can get a \$2,500 credit for the Toyota Prius plug-in hybrid (electric range: 20-30 miles), whereas the Chevrolet Volt (electric range: 53 miles) and Nissan Leaf (electric range: 107 miles) qualify for a \$7,500 credit.[\[12\]](#)

There's a myth that the federal EV tax credit is automatic and available to everyone. False. You can only get the full \$7,500 credit if your full-year tax bill is \$7,500 or more. In other words, you must have a tax liability of \$7,500 or more to get the full \$7,500 tax credit.

Let's say you buy a Nissan Leaf or similar electric range vehicle and you owe \$5,000 in income tax for 2017.[\[13\]](#)

You will only get \$5,000. The U.S. will not write a refund check for the other \$2,500.

Other State Tax Credits

Various states have their own EV tax credits that generally work the same as the federal tax credit. However, assignable state tax credits like Colorado's can provide a point of sale benefit. Assignable tax credits allow EV buyers to assign the credit to a dealer or financing entity to get an immediate discount on the purchase price.^[15] Additionally, some states (including Colorado) provide fully refundable tax credits. In other words, the full value of the EV tax credit is available to all EV buyers, regardless of their tax liability.

[Click here for a list of those tax credits and other incentives by state.](#)

[Click here for more info on what buyers might expect with EV tax credits.](#)

BENEFIT:

The EV is effectively purchased at discount equal to the size of the tax credit. Usually, you just have to wait for tax season to get the benefit.

EQUITY GUIDE:

If not assignable, state or federal tax EV credits are less effective than rebates and vouchers in helping low-income consumers access EVs and therefore less equitable. The federal EV tax credit disproportionately benefits higher income individuals because low-income individuals rarely have tax liability, let alone \$7,500's worth. In fact, 90 percent of federal EV tax credits go to consumers with yearly incomes of \$75,000 or more. ^[16]

A more equitable EV tax credit will only apply to low-income individuals and work like a tax refund, not requiring a certain threshold of tax liability. This would give low-income individuals the benefit of effectively buying an EV at below market price.

[Click here for more info.](#)

E. OTHER INCENTIVES

Examples of other useful, non-purchase EV incentives:

- Utility rates that encourage people to charge when electricity is less expensive
- HOV Lane Access
- Free or Reduced Rate Parking
- Reduced Vehicle Registration Fee
- Insurance Discounts
- Other Discounts and Special Offers

EQUITY GUIDE:

To the extent these other incentives are limited or have a "first come, first served" model, a certain number should be reserved for low-income drivers and low-income drivers should be prioritized.

[callout]***Helpful Links & Examples:***

- Reduced Vehicle Registration Fee examples: [District of Columbia](#), [Colorado](#)

[/callout]

F. EXAMPLES FROM CALIFORNIA

CLEAN VEHICLE REBATE PROJECT (CVRP) (REBATE):

CVRP is a statewide program that provided rebates to all Californians of \$2,500 toward the purchase or lease of a new battery electric vehicle (like a Nissan Leaf) or \$1,500 for a new plug-in hybrid (like a Chevy Volt). In 2014, the *Charge Ahead California Initiative* (SB 1275, De León) directed CARB to limit eligibility based on income to make the rebate more cost-effective and equitable.

As of March 29, 2016, low- and moderate-income drivers who have household incomes less than or equal to 300 percent of the federal poverty level now qualify for increased rebates. For example, a single person making \$35,640 (or less) will now qualify for \$4,000 in rebates for battery electric cars and \$3,000 for plug-in hybrids. An applicant living in a four-person household with a combined income of \$72,900 (or less) can also get the increased rebates. Applicants will have to report income on CVRP applications, and will be subject to random income-verification checks.

Also, as of March 29, 2016, consumers are not eligible for the CVRP program if their gross annual incomes are above:

- \$250K for single-filers
- \$340K for head-of-household filers
- \$500K for joint filers

Nonetheless, we must do more to ensure the income cap saves limited rebate funding for consumers who need them most.

[Click here for more info](#) and see below for more resources.

[callout]**Helpful Links & Examples:**

Examples

- [Income verification info](#)
- [California rebate implementation manual](#)
- [California rebate administrator solicitation](#)
- [California sample grant agreement for administrator](#)
- [Connecticut rebate implementation manual](#)

[/callout]

ENHANCED FLEET MODERNIZATION PROGRAM PLUS-UP (EFMP PLUS-UP) (VOUCHER):

- **Scrap and Replace Voucher:** EFMP Plus-Up participants who scrap old clunkers can receive vouchers for replacement vehicles worth between \$5,000 and \$9,500, depending on income level and the type of vehicle to be purchased (e.g. conventional hybrid, plug-in hybrid, or battery electric vehicle). Those vouchers can exceed the resale value of low-mileage used EVs that are still under warranty, providing participants immediate access to the benefits of driving an electric vehicle (which is the cost equivalent of driving on dollar-a-gallon gasoline).
- **Charging Equipment Incentive:** Program participants can also get an additional \$2,000 for the purchase and installation of a charging station for battery electric cars at their homes.
- **Mobility Option:** If participants scrap an old clunker, but don't want to replace it, they can get between \$2,500 and \$4,500 (depending on income level) in vouchers for public transit passes and car-sharing.

Currently, this program is only available in disadvantaged communities in two regions:

- The South Coast Air Quality Management District – includes all of Orange County and the urban portions of Los Angeles, Riverside, and San Bernardino counties.

Visit replaceyourride.com for more info or call toll free (855) 483-5107.

- The San Joaquin Valley Air Pollution Control District – includes all of San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, and Tulare Counties and part of Kern County. Attend a free smog check “Tune-in, Tune-up” event to qualify.

Visit valleyair.org for more info on “Tune-in, Tune-up” or call (559) 230-5800.

[Click here for more info.](#)

[callout]**Helpful Links and Examples:**

- [Automotive Dealership Operations Manual](#) (Replace Your Ride)

[/callout]

TABLE: INCOME LEVELS TO DETERMINE INCENTIVE ELIGIBILITY IN CA

leading to lower vehicle ownership rates. Poor credit or no credit means higher interest rates and high monthly payments that may be impossible for those living paycheck to paycheck. As a result, low-income consumers need credit enhancement to make loan options practical and accessible.

Financing assistance programs like loan loss guarantees for financial institutions or programs that buy down interest rates for consumers can improve loan options for low-income individuals interested in getting into an EV.

A. LOAN LOSS GUARANTEES

Loan loss guarantees (a.k.a. loan loss reserves) reduce risk for financial institutions making loans to individuals with low credit scores or no credit history. The guarantee is a portion of the bank's cash set aside to cover potential losses for bad loans.^[17] Loan loss reserve programs are typically funded through governments and require the beneficiary of the program (e.g. low-income consumer interested in purchasing an EV) to go through an application process.

For example, Opportunity Bank participates in a state funded loan loss reserve program and so will make loans to individuals who may not traditionally qualify for a loan or would only qualify for very high interest rate loans. Opportunity Bank can now provide low-interest loans to low-income individuals because they pose less of a risk for the bank than without the loan loss reserve. If the individual defaults, the bank can tap into its state-funded loan loss reserve to cover any dollars that were not paid.

BENEFIT:

A loan loss guarantee allows low-income consumers to access loan/financing options that otherwise would not be available to them, particularly if they lack credit or have bad credit. They can get lower interest rates with lower, more manageable monthly payments.

EQUITY GUIDE:

Loan loss reserve programs for EV purchases should strive to provide low interest loans for low-income individuals to minimize the overall financing costs, making monthly loan payments more accessible. To further increase EV access for low-income consumers, these programs should cover purchases of both new and used EVs.

Moreover, traditional credit worthiness assessments do not consider the benefits of lending to a consumer purchasing a fuel-efficient car. When fuel and maintenance cost savings are taken into account, lower interest rates are justified because the consumers enjoying those savings have a greater ability to repay loans than their credit history or credit score might indicate.^[18]

Additionally, targeting loan loss reserve programs to low-income consumers only increases the equity and cost-effectiveness of the program by ensuring limited dollars are spent on consumers who need the benefit the most.

B. PRICE BUY-DOWN VOUCHERS

Traditional buy-downs are like prepayments on a loan that reduce the monthly payments thereafter. Buy-down vouchers to purchase EVs work similarly to cash vouchers, discussed above. They lower the upfront cost of EVs by giving the consumer cash (or equivalent) to make buying an EV more affordable. Buy-down vouchers for EVs typically come from local and state governments. These vouchers differ from ca:

Tip: Buy-down vouchers should not be confused with buy-down offers from dealers, which do not result in savings to the consumer and only temporarily reduce a loan's interest rate and lower the monthly payment.[\[19\]](#)

BENEFIT:

Buy-down vouchers reduces the point-of-sale cost of EVs, making them more affordable and accessible for low-income consumers.

EQUITY GUIDE:

Buy-down vouchers should be coupled with low-interest loan programs to most effectively give low-income drivers real, meaningful access to EVs. For example, a financing assistance pilot program in Richmond, California (see below) combines low-interest loans with buy-down vouchers to maximize EV access for low-income consumers. Making the buy-down available for used EV purchases will further increase equity.

Additionally, targeting buy-down vouchers to only low-income consumers increases the equity and cost-effectiveness of the buy-down by ensuring limited dollars are spent on consumers who need the benefit the most.

Tip: Minimum ownership requirements (e.g. 30-month minimum) should be used to deter gaming of financing assistance programs to obtain an illegitimate benefit.

C. EXAMPLE FROM CALIFORNIA

The California Air Resources Board selected the Community Housing Development Corporation (CHDC) in Richmond as a pilot administrator. CHDC provides residents of disadvantaged communities in Alameda, Contra Costa, Santa Clara, Santa Cruz, Solano and San Francisco Counties:

- Loans of \$4,000-8,000 at 8% interest
- Up to \$5,000 in buy-down vouchers
- Vouchers of up to \$2,000 to buy and install EV charging equipment in single-family homes or multiunit dwellings

[Click here for more info.](#)

[callout]**Helpful Links & Examples.**

Examples of solicitations, applications, and grant agreements:

- [Financing Assistance Pilot Program administrator solicitation](#)
- [Financing Assistance Pilot Program administrator application](#)
- [Sample grant agreement for administrator](#)

[/callout]

3. OTHER RESOURCES

More helpful info:

Greenlining Institute)

- [An Electric Vehicle Buyer's Guide: Low-cost options are hitting the road](#) (Sierra Club)
- [Guest view: Electric vehicles growing option for Valley](#) (May 2016) (Recordnet.com)
- [Driving Out of the Red with Greener Cars](#) (March 2014) (New America Foundation): See pages 11-16.

Examples:

- [Making the Cleanest Cars Affordable](#) (California Air Resources Board): fact sheet
- [Clean Vehicle Rebate Project](#) (Center for Sustainable Energy)
- [Replace Your Ride](#) (EFMP Plus-Up) (South Coast Air Quality Management District)
- [Testimonial: EFMP Plus Up Customer - Jerome Mayfield](#) (Valley Clean Air Now)

Footnotes

[1] More cost comparison scenarios. See <http://cleantechnica.com/2013/04/07/nissan-juke-vs-nissan-leaf-cost-comparisons/>

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[3] PolicyLink, National Equity Atlas. Car Access in the U.S. Retrieved from http://nationalequityatlas.org/indicators/Car_access

[4] CarMax. (Accessed on 5/9/2016). Retrieved from <https://www.carmax.com/search#Distance=all&FreeText=&MaxYear=2012&MinYear=2012&Refinements=4294963090+4294963090>
See also <http://www.sierraclub.org/sierra/2016-3-may-june/feature/electric-vehicle-buyers-guide-low-cost-options-are-hitting-road>

[5] <https://www.consumer.ftc.gov/articles/0096-rebates>

[6] Example: Washington State Department of Revenue. (February 4, 2016). Retrieved from http://dor.wa.gov/docs/pubs/specialnotices/2015/sn_15_alternative_fuel_vehicles.pdf

[7] Washington State Department of Revenue. Retrieved from <http://dor.wa.gov/content/FindTaxesAndRates/TaxIncentives/IncentivePrograms.aspx#Energy>

[8] Washington State Department of Revenue. Retrieved from <http://dor.wa.gov/content/FindTaxesAndRates/TaxIncentives/IncentivePrograms.aspx#Energy>

[9] How Stuff Works. Retrieved from <http://money.howstuffworks.com/personal-finance/personal-income-taxes/tax-credit.htm>

[10] How Stuff Works. Retrieved from <http://money.howstuffworks.com/personal-finance/personal-income-taxes/tax-credit.htm>

[11] O'Dell, J. (April 14, 2016). Electric Vehicle Tax Credits: What You Need To Know. *Edmonds.com*. Retrieved from <http://www.edmonds.com/fuel-economy/the-ins-and-outs-of-electric-vehicle->

<http://www.edmunds.com/fuel-economy/the-ins-and-outs-of-electric-vehicle-tax-credits.html>

[14] O'Dell, J. (April 14, 2016). Electric Vehicle Tax Credits: What You Need To Know. *Edmunds.com*. Retrieved from <http://www.edmunds.com/fuel-economy/the-ins-and-outs-of-electric-vehicle-tax-credits.html>

[15] Charged: Electric Vehicles Magazine. Retrieved from <https://chargedevs.com/newswire/colorado-sweetens-ev-tax-credit/>

[16] Energy Institute, University of California Berkeley, Haas School of Business. (July 20, 2015). Retrieved from https://energyathaas.wordpress.com/2015/07/20/are-clean-energy-tax-credits-equitable/?utm_source=Blog+for+July+20%2C+2015&utm_campaign=blog+re+56&utm_medium=email

[17] Investor Words. Retrieved from http://www.investorwords.com/11675/loan_loss_reserve.html; The Free Dictionary. Retrieved from <http://financial-dictionary.thefreedictionary.com/Buydown>

[18] Baumhefner, M. (January 31, 2013). Why Can't Your Loan Be as Green and Efficient as Your Vehicle?. *Natural Resources Defense Council*. Retrieved from <https://www.nrdc.org/experts/max-baumhefner/why-cant-your-loan-be-green-and-efficient-your-vehicle>

[19] Lendingtree. Retrieved from <https://www.lendingtree.com/glossary/what-is-buydown>

Making EVs Practical & Accessible +

Increasing EV Awareness +

The Curious Case of Selling EVs +

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ELECTRIC VEHICLES FOR ALL: AN EQUITY TOOLKIT

Introduction +

Setting the Stage +

Making EVs Affordable +

Making EVs Practical & Accessible

MAKING EVS PRACTICAL & ACCESSIBLE

Overview

Making EVs practical and accessible is organized in the following sections:

1. [Address Specific Mobility Needs](#)

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- a. Technical Assistance
- b. Charging Infrastructure

3. [Other Resources](#)

Introduction

Making electric vehicles a real choice for underserved communities requires a lot more than providing subsidies to bring down the cost. EVs need to be practical and accessible.

- Practical: EVs should address specific mobility needs of the underserved community
- Accessible: (1) EV incentive applications should be simple and user-friendly, and technical assistance should be provided where necessary; (2) underserved communities should have access to convenient EV charging

For example, a low-income consumer may be eligible for various purchase incentives but lack access to charging infrastructure at home or at work, making it impossible for that person to own an EV. Or a low-income person might live and work in a densely-populated city with a robust mass transit system and have no need to own a car. People living in densely-populated areas may be better served by providing access to EV carsharing services because they might only need a car once in a while or for emergencies.

EV ownership is not a silver bullet in reducing poverty and pollution in underserved communities. However, EVs can still greatly benefit underserved communities by creating other mobility options not traditionally available to them, like EV carsharing discussed above.

This chapter describes how community mobility needs assessments, technical assistance, charging infrastructure, and shared mobility can be used to increase access to EV technology in underserved communities.

Tools and Guide

1. ADDRESS SPECIFIC MOBILITY NEEDS

A. COMMUNITY MOBILITY NEEDS ASSESSMENT

Conducting a community needs assessment is a critical first step to ensure a particular project, service, or investment makes practical sense and benefits the target community. Typically, these assessments require input from members of the target community regarding the particular need of interest.

For example, a community mobility needs assessment might s
members about their daily travel needs and what forms of tran

STAY CONNECTED. SIGN UP FOR EMAIL.



EQUITY GUIDE:

- EV ownership is not practical for every underserved community because mobility needs of communities vary. Poor rural communities, for instance, rely more on vehicle ownership or informal ride-sharing because of bad public transportation services and access.^[2] Poor urban communities in densely populated cities like New York or San Francisco, on the other hand, may have less of a need to own a car to get to work or complete daily tasks.
- Develop a system that identifies barriers experienced by different communities to help inform the EV project.^[3]
- A first step for EV projects in underserved communities should be to work with grassroots organizations in the local community to help with gathering relevant information in a culturally appropriate way (e.g. literacy level, language access, cultural issues/attitudes). For example, community mobility needs assessments should be conducted when siting charging infrastructure (see below) and carsharing services (see below) in underserved communities.

TIPS FOR SUCCESS:

EV technology differences

Keep in mind EV technology differences when assessing the mobility needs of an underserved community. For example, a limited range EV like a Nissan Leaf (~80-mile range) might not be the best EV for a low-income driver who lives in the suburbs and has to drive long distances regularly to get to work or run errands. That driver would benefit more from a plug-in hybrid EV like a Chevy Volt, which has about a 40-mile electric range but switches over to gas to keep going when its electric miles run out.

Leverage existing community needs assessments

For example, nonprofit hospitals have to conduct periodic community health needs assessments to evaluate the benefits they provide to the community.^[4] Leveraging the time and effort to conduct those assessments and coordinating with nonprofit hospitals on their information gathering can reduce administrative costs and greatly increase the benefit to underserved communities.

[callout]Helpful Links & Examples:

Here is some more info on assessing community needs:

- [Community Tool Box](#) (Work Group for Community Health and Development, University of Kansas)
 - [Developing a Plan for Assessing Local Needs and Resources](#)
 - [Understanding and Describing the Community](#)

- EVs For Equity: Needs Assessment of Electric Mobility Opportunities for Communities of Concern in San Francisco (copy with authors) (City Hall Fellows, SF Department of Environment)
- [The Central Valley Was Ride-Sharing Long Before Uber](#) (July 2014) (Valley LEAP, Rey León)
- Community Health Needs Assessment Toolkit (Rural Health Works)

[/callout]

B. SHARED-USE MOBILITY

Shared mobility services have taken off as a complement to public transit and an alternate to private car ownership. Shared-use mobility includes transportation services that are shared among multiple users, including the following:

- traditional public transit;
- taxis and limos;
- bikesharing and scooter sharing;
- carsharing (e.g. round-trip (like Zipcar), one-way (like car2go), and personal vehicle sharing (like Getaround));
- ridesharing (e.g. car-pooling, van-pooling);
- ride-sourcing (e.g. Lyft and Uber);
- shuttle services;
- neighborhood jitneys; and
- commercial delivery vehicles providing flexible goods movement

These services offer an opportunity to:[\[5\]](#)

- Provide more mobility choices
- Address last mile and first mile solutions
- Reduce traffic congestion
- Mitigate various forms of pollution
- Reduce transportation costs
- Reduce fossil fuel consumption
- Reduce pressures on parking spaces
- Improve efficiency
- Identify choices for those who cannot afford to buy and maintain a vehicle



travel choices and reduced car ownership costs. But a number of structural and financial barriers have prevented low-income communities from fully accessing shared mobility services.^[6] As a result, current usage of these services remains lower in low-income communities than usage by the general population.^[7]

EQUITY GUIDE:

To make shared mobility benefits reach underserved communities, [The Greenlining Institute](#) finds that services must be relatable, accessible, and practical:

Relatable means low-income consumers comprehend shared mobility services. The following practices can help:

- Conduct targeted outreach and education (available in key languages)
- Partner with community-based organizations to assess the target community's mobility needs and design and implement the shared mobility services (e.g. [LA carsharing pilot](#))
- Use community specific ethnic media channels to share information (e.g. Spanish language radio, Chinese language newspapers, etc.)
- Hire from within the community when recruiting sales staff for storefront locations, support staff for customer support hotlines, etc.

Accessible means low-income consumers can afford, sign-up, and know how to use the shared mobility service. The following practices can help:

- Provide subsidized, affordable rates
- Provide diverse payment options (e.g. cash, transit cards, Electric Benefit Transfer (EBT) cards)
- Provide in-person trainings/orientations to teach customers how to use the shared mobility service
- Provide tailored customer service, including multilingual customer service and support

Practical means the shared mobility services are useful and convenient to low-income consumers. The following practices can help:

- Ensure the services address specific community mobility needs
- Locate any necessary infrastructure or storefront locations in safe, frequently used areas

TIPS FOR SUCCESS:



Findings

- Different shared mobility types address different trip needs
- Shared mobility is best used as a complement to local mass transit
- There is no silver bullet for solving the transportation needs of low-income communities through shared mobility
- Core strategies for improving access to shared mobility are similar across shared mobility system types
- The market for shared mobility transportation is nascent and developing
- The government has multiple levers of influence and can play multiple roles in bringing shared mobility services to low-income communities
- Intermediaries have the opportunity to connect users to new opportunities within the shared mobility space

Recommendations

- Launch pilot projects based on research into the actual transportation needs faced by low-income communities
- Research shared mobility business models, especially those with cross-sector partnerships, to understand how best to reach low-income communities
- Incorporate shared mobility into long-term transportation planning
 - Cultivate ride-share programs to guide growth of local mass transit
 - Use ride-share to connect low-income communities to jobs
 - Explore options for public transit and shared mobility system integration
- Focus on comprehensive, collaborative approaches to barrier reduction
- Cultivate intermediaries to increase demand for services by addressing barriers

CALIFORNIA EXAMPLES:

[The Charge Ahead California Initiative](#) (SB 1275, De León), directed the California Air Resources Board (CARB) to create low-income electric carsharing pilot projects in [disadvantaged communities](#). This pilot program is designed to increase the visibility and use of EVs as well as improve mobility, economic opportunity, and air quality in the neighborhoods most impacted by pollution and poverty. To date, CARB has funded two pilots:

- *Los Angeles Leading by Example*: L.A. city government received \$1.7 million to double carsharing in L.A., placing 100 clean cars and 110 EV charging stations in disadvantaged communities, with a goal of serving over 7,000 users. Service will begin in Fall of 2016. A community-based organization steering committee with advised the design and implementation of this pilot. [Click here for more info.](#)

serving up to 2,000 residents. Service will begin in Fall of 2016. [Click here for more info.](#)

[callout]**Helpful Links & Examples:**

Examples

- [Carsharing Pilot Project administrator solicitation](#) (California Air Resources Board)
- [Carsharing Pilot Project administrator application](#) California Air Resources Board)
- [Sample grant agreement for administrator](#) (California Air Resources Board)
- [Request for Information \(RFI\) Innovative Electric Mobility Services](#) (California Energy Commission)

Helpful links with more research, tools, and case studies on shared mobility

- Shared-Use Mobility Center [Tools](#) and [Research](#)
- [Electric Carsharing in Underserved Communities: Considerations for Program Success](#) (January 2015) (The Greenlining Institute)
- [Can Shared Mobility Help Low-Income People Access Opportunity?](#) (December 2014) (Living Cities): This report explores the specific opportunities and challenges facing shared mobility programs in expanding services to low-income communities.
- [Case Studies: Can Shared Mobility Help Low-Income People Access Opportunity?](#) (December 2014) (Living Cities): This resource offers nine case studies of bike-share, car-share and ride-share programs, including accounts of how they've attempted to better serve and reach low-income communities

[/callout]

2. MAKING EVS ACCESSIBLE

A. TECHNICAL ASSISTANCE

Technical assistance can take various forms, but typically has the end goal of helping individuals or entities navigate complicated or resource intensive applications to receive public benefits. For example, in California, local agencies or non-profits applying for state grants for greenhouse gas reduction projects can receive technical assistance in the form of grant writing support or greenhouse gas reduction quantifications that a grant application may require.

EQUITY GUIDE:



rates. This is especially true when low-income programs are not well-coordinated or complementary, resulting in different applications with varying definitions, requirements, and criteria. This inconsistency and bureaucracy creates a barrier to accessing public benefits.

For example, the “Replace Your Ride” (RZR) scrap and replace program, incentivizing clean vehicle purchases in southern California, uses a case-management model. RZR assigns a dedicated staff person to help applicants who are having difficulty in filling out paperwork to get vouchers for EVs. This case-management model is particularly important when targeting immigrant communities who may have language barriers and lack the language proficiency or technical knowledge to complete necessary forms.

TIPS FOR SUCCESS:

A Universal Application Can Streamline Process

Creating a “universal application” can greatly increase access to low-income programs. Ideally, a program administrator or consumer would use this simple, user-friendly (e.g. app-based or online-based) universal application to determine an individual’s eligibility in real-time, across a number of programs, in order to maximize benefits to low-income households. For example, California has a number of low-income programs for solar, energy efficiency, and EV incentives. A universal application would streamline the eligibility and application process making it easy for low-income households to receive transformative benefits from multiple programs.

B. CHARGING INFRASTRUCTURE

Convenient access to charging is essential to owning an EV. Charging can be done at home, by plugging into your basic electrical outlet, called level 1 charging (120 volts). Individuals can also upgrade their home charging to level 2 charging (240 volts, like what electric clothes dryers need), which charges faster. Some workplaces provide level 1 and level 2 charging as an employee perk. Public charging can be level 1 and level 2 but can also be level 3 (Direct Current (DC) fast charging). Typically, level 3 charging takes at most 20 minutes to fully charge your EV, depending on the battery size of the EV and how much charge was left when you began. This type of charging is most akin to filling up a gas tank and can also be the most costly.

Access to home charging is a “virtual necessity” to the acceleration of the EV market.^[8] Consumers are very unlikely to buy EVs if they cannot charge at home.^[9] In order to ensure underserved communities have real access to EVs, ensuring they have access to home charging is critical.

EQUITY GUIDE:

in underserved communities to ensure they can access EV technology and ensure they are not left behind.

For example, two investor-owned utility charging infrastructure pilots in California were approved with 10 percent minimum deployment commitments in disadvantaged communities. [\[10\]](#) Another pilot proposal in California calls for a 15 percent minimum commitment in disadvantaged communities with a goal of hitting 20 percent. [\[11\]](#)

TIPS FOR SUCCESS:

Underserved communities disproportionately live in multi-unit dwellings

Increasing access to home charging for underserved communities means increased deployment of charging infrastructure in multi-unit dwellings (MuDs). EV stakeholders identify MuDs as a “tough nut to crack” given layers of complexity involving landlord/site host approval, the need for easements or licenses, the possible need for costly electrical upgrades and wire trenching, among other issues.

See below for more info, resources, and guides on installing charging stations in MuDs.

Incentivize charging that benefits the electricity grid

Charging EVs during off-peak hours (when the electric grid is underutilized) can lower average electricity cost for utility customers. Off-peak charging allows utilities to bring in new revenue and avoids the need for new capital investments.

Charging EVs during times of the day where there is excess renewable energy (like wind and solar) can help stabilize the electricity grid and avoid the need to squander clean energy or invest in stand-alone energy storage to hold the excess power. [\[12\]](#)

Offering lower rates for charging during times when the grid is underutilized and excess renewable power is available maximizes fuel cost savings by making charging cheaper than pumping gasoline. [\[13\]](#)

[callout] ***Helpful Links & Examples:***

Examples

- Utility settlement documents for EV charging station deployment pilots in California
 - [Pacific Gas and Electric](#)
 - [Southern California Edison](#)
 - [San Diego Gas and Electric](#)



Collaborative) (PEVC): Guidelines, case studies, decision guides, survey tools, webinars, outreach tools, and other resources

- [Workplace Charging](#) (PEVC): Guidelines, case studies, best practices, webinars, outreach tools, and other resources

[/callout]

3. OTHER RESOURCES

What type of charging do I need for my EV?

- [Plug-In America](#) (types of electric vehicle service equipment)
- [Plug-In & Get Ready](#) (Center for Sustainable Energy)
- [The EV Project](#)
- [The California Air Resources Board's Clean Vehicle website](#): Information, incentives, vehicle info, etc.
- [PEV Collaborative \(PEVC\) Resources](#): Information on EVs, includes rebates, incentives, information, etc.

What is the process to install charging infrastructure?

- [Center for Sustainable Energy](#)
- [Pacific Gas & Electric](#)
- [Southern California Edison](#)

Where are EV charging stations located?

- [Fuels Center Fuel Station Locator and Route Planning](#) (U.S. Department of Energy)
- [PlugShare](#): Interactive Charging Maps for US and Canada, Trip Planner, Mobile version available

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ELECTRIC VEHICLES FOR ALL: AN EQUITY TOOLKIT

Introduction +

Setting the Stage +

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INCREASING EV AWARENESS

Overview

Increasing EV awareness is organized in the following sections:

1. [Community Education and Outreach](#)
 - a. Community-based Organization Partnerships and Capacity Building
 - b. Other Relevant Partnerships
2. [Communications and Marketing](#)
3. [Educating Public Officials](#)
4. [Other Resources](#)

Introduction

Electric vehicle numbers are growing across the country. Yet, the general public still knows relatively little about EVs, has little trust in them, and has misconceptions about how they look and what they can do, “believing them to be small and lacking in power and style.”^[1]

Underserved communities are even less familiar with EVs. For example, The Greenlining Institute participated in EV ride and drive events throughout California targeting low-income communities and found many underserved community members lacked familiarity with how EVs worked. At one such event in Stockton, California, an event-goer questioned whether the Chevy Spark on hand had the ability to drive on the freeway, believing the EV couldn't go over 60 miles per hour.^[2] The car's actual top speed is 90 miles per hour.

Additionally, many underserved comm
these events knew nothing of EV purch

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low-income individuals. Increasing EV awareness ensures underserved communities gain access to them.

Worse, a lot of key decision-makers at the local and state level are also unfamiliar with EVs and any state or local efforts to increase EV adoption. Increasing awareness of the environmental and economic benefits of EVs can help grow the political support necessary to fund policies and programs to accelerate EV adoption, particularly in underserved communities who need these benefits the most.

This chapter describes how community outreach, education, communications and marketing can increase awareness of and build trust in EVs in underserved communities. The chapter also discusses EV education for key public officials.



Tools and Guide

1. COMMUNITY OUTREACH AND EDUCATION

In its simplest form, community outreach is the practice of conducting local public awareness activities through targeted community interaction.^[3] Community outreach has many forms; which to use depends on the outreach effort's purpose, goals, and target population. Community outreach to help expand access to EVs most often seeks to accomplish one or more of the following:

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- Educate or inform the target population, increasing their knowledge, awareness, and support of EVs
 - Example: Setting up EV ride and drive events at community events so that individuals can test drive EVs and learn more about how they work
 - Example: Public education campaigns to increase EV support and awareness about EV incentives, EV benefits, and how EVs work
 - Example: Handing out EV educational materials at community events or after church
- Educate or inform trusted people who interact with the target population, including community organizers, CBO staff, faith-based group staff, etc.
 - Example: Providing "train the trainer" sessions so that individuals can provide education in their own communities about EV benefits and how to access EV incentives
- Increase access to EVs by helping individuals apply for EV incentives or other EV related programs
 - Example: Provide one-on-one technical assistance for individuals interested in applying for local or state EV programs at EV ride and drive events.

EQUITY GUIDE:

Successful EV related community outreach and education to underserved communities requires:

Community-Based Organization (CBO) Partnerships and Capacity Building

Local and state agencies or stakeholders pushing EV related community outreach efforts must partner with trusted community groups who are familiar with the priorities, concerns, and barriers of the target community. The following steps will make it easier to find the right CBO partner for your EV relate

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- Identify the purpose for the CBO partnership (e.g. co-host a public input session, serve on an advisory committee, etc.)
- Identify the desired demographic and geographic audiences
- Investigate existing collaborations and networks between CBOs and relevant stakeholders and state and local government and follow threads
- Engage in exploratory discussion to assess mutual goals and whether the CBO's focus matches the audiences, subject matter, and activities the agency or stakeholder is contemplating for engagement
- Begin relationship building
- Have follow-up meetings to discuss goals and roles of the partnership

Typical CBO partner tasks include:[\[4\]](#)

- Expand awareness of upcoming public engagement processes
- Co-host public input sessions in locations familiar to community members
- Help agency/EV group staff understand the community's current level of knowledge so materials can provide helpful background context
- Help adapt information about the issue into language and a format that make sense to nontechnical experts and people with varying levels of education
- Translate information and provide bilingual facilitation if appropriate
- Recruit attendees and provide any needed support such as transportation and child care (more tips below)
- Help with reporting back to the community about how their input was used in the final decision and ways that they can stay involved and informed
- Help with [community needs assessr](#) **STAY CONNECTED. SIGN UP FOR EMAIL.**

- Help with the design and implementation of community-serving programs (e.g. by serving on steering/advisory committees)

A successful partnership will include capacity building for the community organization, depending on the extent of the work involved. CBOs generally do not have the staff time or money to take on activities outside the scope of their day-to-day work. As a result, CBOs will need some support to carry out the community outreach and education. Typically, this involves some kind of compensation for staff time and resources and/or training for CBO staff by the agency or stakeholder group.

Other Relevant Partnerships

Identifying and partnering with groups aligned with (1) increasing EV adoption or (2) increasing economic opportunities in underserved communities can create “win-win” scenarios and increase the success of EV related community outreach efforts. For example, in California, investor-owned utilities provide low-income programs like subsidized electricity rates to eligible ratepayers. Leveraging these points of contact can maximize the impact of both of the utility and EV related efforts. Depending on the local and state efforts targeting underserved communities, you can likely find key partners in:

- Utilities
- Local car dealerships
- Car dealer associations
- EV driver associations (e.g. Plug-in America)
- Automakers
- Electric vehicle service providers
- Labor unions with low-wage members (e.g. Service Employees International Union)
- Other relevant community groups (e.g. other CBOs, community colleges, YMCA, community centers, etc.)

TIPS FOR SUCCESS:

There is no universal or 'one size fits all' outreach approach[\[5\]](#)

- Different outreach and engagement strategies are needed that reflect the diversity within communities
- Having a diverse, inclusive, and robust set of stakeholders from different constituencies and communities avoids creating limited and unresponsive solutions — the more inclusive the stakeholder group, the greater the opportunities for support and input

Guidelines for effective outreach[\[6\]](#)

- Meet people where they are
- Be respectful
- Listen to your community
- Build trust and relationships
- Get the word out early and in a non-stigmatizing manner
- Offer service and information in a variety of locations (including home visits) and at non-traditional times, especially after work hours
- Make written information friendly and easy to understand (e.g. use graphics more than text and use real scenarios and examples that resemble the needs and conditions of the audience)
- Provide information in the primary language of those who will use the service
- Follow up, follow up, follow up!

Grassroots outreach tips to maximize effectiveness

- Encourage info-sharing and education about other relevant local or state low-income programs e.g. transit subsidies, and solar and energy efficiency programs

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- Leverage and coordinate with:
 - State and local EV campaigns and EV groups
 - Utility outreach programs aimed at low-income households
 - Existing community events like state fairs, annual community events, etc., to provide education, technical assistance, and ride and drive
- Community input meetings and events should help provide essential services that are likely to increase community member attendance and participation, including but:
 - Language interpretation where needed
 - Child care
 - Travel support (transit passes, parking validation, Lyft/Uber credits, etc.)
 - Attendance incentives (e.g. raffle prizes, vouchers for food and drinks, etc.)
- Outreach workers should come from the community they work in and are familiar with^[7]
 - “Outreach workers can play a vital role in developing community trust and a good reputation ‘on the street.’”^[8]
 - “Workers who live in the community they serve will understand the needs, concerns, and questions of the people they serve, and understand the barriers they face.”^[9]

Broad media outreach tips to maximize effectiveness

- Encourage ethnic media strategies, including advertising in ethnic print, online, radio and TV outlets, and reach out to these outlets for news coverage while using social media^[10] to increase reach and impact. Don't forget to include non-English language media outlets.
- Encourage contracting with minority-owned communications firms to create targeted, branded campaigns for underserved communities. An example of a successful multi-ethnic strategy is the California Endowment's "[Health f](#) STAY CONNECTED. SIGN UP FOR EMAIL.

[callout]*Helpful Links & Examples:*

- [Public Participation in Local Government Decision Making](#) (Institute for Local Government): This comprehensive survey compares the perspectives of local government officials and community leaders on public participation in California.
 - [Infographic](#) with highlights from research
- [Partnering with Community-Based Organizations for More Broad-Based Public Engagement](#) (Institute for Local Government): This publication is for local government officials interested in collaborating with local community-based organizations to enhance the breadth and depth of participation by community residents in local decision-making.
- [Public Engagement Case Study: City of Vallejo Launches Third Cycle of Participatory Budgeting](#) (Institute for Local Government): The City of Vallejo, California, launched its third cycle of Participatory Budgeting in 2015, a process that gives residents and stakeholders the opportunity to develop and prioritize community-generated ideas for a portion of the city budget for city council consideration.

[/callout]

2. COMMUNICATIONS AND MARKETING

Generally, communication is defined as “the process of transmitting ideas and information.”^[11] For purposes of this toolkit, communication means educating underserved communities, who lack EV awareness at a higher rate than the general public, about EV benefits and incentives. Effective marketing communicates this information in such a way “that people are aware of the message, understand it clearly, and respond to it positively.”^[12]

Although marketing “has its specific att... well to some general rules for commur

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- Communication is a two-way street – The intended message should be clear, understandable, and match your audience's understanding of that message.
- Communication has to be accessible – Put your message where your audience can't miss it. That means using channels they're most likely to pay attention to.
- Communication has to be noticeable – exposure to the message is not enough. Your audience has to pay attention to it.

EQUITY GUIDE:

Underserved communities need different communications strategies and messages to reflect their diversity. To ensure communication is understandable, accessible, and noticeable, stakeholders should use:

- The language of the target community (e.g. Spanish, Tagalog, etc.). Whether communicating in English or another language, ensure that messages are in clear, simple language
- Targeted messaging to ensure the message is culturally sensitive and resonates with the cultural values of the target community
- Trusted sources of information like ethnic media (e.g. Spanish-language radio, local Chinese-language newspapers, social media, etc.)

[Click here for more info](#) and see below for more resources.

[callout]***Helpful Links and Examples:***

- [Social Marketing](#) (Community Tool Box)
- [Communications to Promote Interest](#) (Community Tool Box)

[/callout]

Political support for equitable EV policies is also a critical piece to accelerating EV adoption in underserved communities. State and local officials make decisions impacting public budgets, regulations, and laws that affect EV promotion. As a result, it's important to educate public officials about the environmental and economic benefits of EVs and about any current EV promoting policies or efforts they should support.

For education efforts to be successful, communications with public officials and their representatives should follow the same general rules discussed above:

- Communication is a two-way street – The intended message should be clear, understandable, and match your audience's understanding of that message.
- Communication has to be accessible – Put your message where your audience can't miss it. That means using channels they're most likely to pay attention to.
- Communication has to be noticeable – exposure to the message is not enough. Your audience has to pay attention to it.

Keys to an effective public official education campaign include:

- A carefully designed message – to ensure the public official understands the message and that it resonates with her values and constituents
- A multi-channel communication strategy – to both ensure the public official receives the EV-related message and to instill a sense of urgency for politically supporting EVs

Some examples of effective channels to communicate the EV related message are:

- Op-eds in newspapers or magazines the target public officials (and their constituents) are likely to read

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- Periodic literature drops (e.g. fact sheets, op-eds) at the public official's office
- Briefings (e.g. legislative briefings) aimed at educating public officials and their staff about the relevant EV equity issue

EQUITY GUIDE:

In order to broaden and diversify the political support for equitable EV policies, education efforts should:

- Help build EV equity champions within legislative ethnic caucuses to ensure diverse leaders are advocating for equitable EV policies
- Uplift success stories of underserved community members benefitting from the EV related programs and policies

[callout]*Helpful Links & Examples:*

Examples of Effective Op-Eds:

- [California Communities Reap Benefits from Clean Air Policies](#) (April 2016) (Sacramento Bee)
- [Guest view: Electric vehicles growing option for Valley](#) (May 2016) (Recordnet.com)

Examples of Personal Stories:

- [Clean Cars for the Central Valley](#) (UpliftCA.org)

[/callout]

4. OTHER RESOURCES

Please find a list of helpful links below:

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- [Cleaner Cars from Cradle to Grave](#) (2015) (Union of Concerned Scientists): ([Report](#) here and [video](#) here)
- [How Clean is Your Electric Vehicle?](#) (Union of Concerned Scientists): Use our EV emissions tool to see emissions in your area —or explore specific EV models --
- [Charging Up: The Role of States, Utilities, and the Auto Industry in Dramatically Accelerating Electric Vehicle Adoption in Northeast and Mid-Atlantic States](#) (October 2015) (Sierra Club, Arcadia Center, and Conservation Law Foundation)
- [Community Engagement Guide for Sustainable Communities](#) (PolicyLink)
- [PEV Outreach Resources for Your Employees](#) (U.S. Department of Energy)

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The Curious Case of Selling EVs +

Diversify the EV Market +

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Introduction +

Setting the Stage +

Making EVs Affordable +

Making EVs Practical & Accessible +

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THE CURIOUS CASE OF SELLING EVS

Overview

The curious case of selling EVs is organized in the following sections:

1. [Education](#)
2. [Financial Incentives](#)

Introduction

Auto dealers are critical partners in making sure low-income individuals can access EVs. For an EV customer to have a traditional car buying experience, dealers must be willing and have the expertise necessary to sell EVs. In other words, dealers must have a financial incentive to sell EVs over gas-powered cars and must be knowledgeable about how they work to efficiently sell them. If dealers do not have these two things, they can actually hurt EV sales. In fact, consumers have reported that “dealerships and salespeople have attempted to dissuade them from purchasing an EV.”^[1] The reason: conventional cars make dealerships more money than EVs in the long run.^[2]

Dealerships make more money on vehicle maintenance, service and parts than on sales. For example, gas-powered combustion engines have over 2,000 parts that can break at any time, requiring service.^[3] Conventional cars also need regular oil changes. EVs on the other hand, “do not require the routine oil changes and service appointments that gasoline-powered cars do, which takes away from profits that come from routine maintenance.”^[4] These profits are so significant that it's “tough for dealers to ignore when instructing sales staff which cars to push on consumers and which to discourage drivers from purchasing.”^[5] The result is a perverse incentive not to sell EVs.

*Dealer incentive and education issues are evolving. We will update this chapter as new developments occur in the field.

Tools and Guide

1. EDUCATION

Dealer education efforts should focus on increasing three types of EV-related knowledge:

- EV technology – How different EV technologies work (e.g. plug-in hybrids vs. battery electric vehicles)
- EV benefits – The environmental and cost-saving benefits of different EV technologies and models
- EV incentives – What incentives are available and how to apply for them: e.g. purchase incentives, financing assistance, HOV access, subsidized utility rates, charging station purchase incentives, etc.

Typically, this type of education happens at in-person workshops, over webinars or conference calls, or through on-site sessions. Dealership associations, EV purchase incentive administrators, or other interested EV stakeholders are natural groups to provide dealers this type of education. In California, the Center for Sustainable Energy, which administers California's EV rebate, provides webinars and other types of education to dealers on a regular basis.

EQUITY GUIDE:

To the extent low-income EV purchase incentives and low-income financing assistance programs are available, education efforts should prioritize making dealers knowledgeable about these programs. This will ensure dealers are prepared to provide effective customer service to low-income individuals.



- Using an EV as their daily vehicle—the fastest way for sales people to learn about and become enthusiastic about EVs
- Outreach to local community groups and businesses for test-drive events at workplaces and other highly populated locations
- Participating in online EV user forums to answer questions and steer traffic to the dealership
- Maintaining a selection of 10–15 EVs during peak demand. These cars should be in good condition, cleaned, and charged. Information about incentives should be positioned prominently
- Featuring EVs alongside chargers (solar, if possible) to associate EVs with buyer values such as concerns for oil independence and environmental protection

2. FINANCIAL INCENTIVES

Financial incentives can motivate dealers to sell EVs and encourage them to become more knowledgeable about EVs. Dealerships need financial incentives to overcome potential lost profits related to the fact that EVs have need less service and maintenance than conventional cars, which means dealerships lose out on service and part profits.

For example, Connecticut has the “first statewide EV incentive program to offer an additional incentive of up to \$300 for dealerships for each eligible vehicle purchase or lease.”[\[7\]](#)

Local and state governments interested in increasing EV access in underserved communities should explore funding for dealership incentives.

EQUITY GUIDE:



them with any purchase incentive or financing assistance applications.

TIPS FOR SUCCESS:

Dealership recognition can also play a role in motivating auto dealers to sell more EVs. For example, Connecticut, Massachusetts, and Vermont “have given awards to dealerships that sold high numbers of EVs.”^[8] Giving awards to dealerships that sell the most EVs to low-income individuals makes the recognition program more equitable.

[callout]*Helpful Links and Examples:*

- [Dealer incentive process for Connecticut program](#): See page 8.

[/callout]

Footnotes

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ELECTRIC VEHICLES FOR ALL: AN EQUITY TOOLKIT

[Introduction +](#)

[Setting the Stage +](#)

[Making EVs Affordable +](#)

[Making EVS Practical & Accessible +](#)

[Increasing EV Awareness +](#)

[The Curious Case of Selling EVs +](#)

[Diversify the EV Market](#)

DIVERSIFY THE EV MARKET

[Overview](#)

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Diversify the EV market is organized in the following sections:

1. [Workforce Diversity and Inclusion](#)
2. [Job Training](#)
3. [Supplier Diversity](#)

Introduction

The clean energy economy is taking off, putting people to work in good jobs and helping employment to grow throughout the country. For example, the number of U.S. solar-related jobs “overtook those in oil and natural gas extraction for the first time” in 2015.^[1] In fact, U.S. solar industry employment “grew 12 times faster than overall job creation.”^[2] In California, clean energy jobs are growing faster than the rest of the U.S. Today over 500,000 Californians work in energy efficiency, solar power and related fields like EV production, EV charging infrastructure, and EV maintenance.^[3]

The clean energy economy employs a more diverse workforce than traditional energy industries like coal mining. For example, across the U.S., “solar Installation employs 16,000 more Latinos, 4,000 more African-Americans, 5,000 more Asian/Pacific-Islanders and 10,000 more women than the coal mining industry, which is 87% white and male.”^[4] We must do a lot more, though, to close the racial wealth gap. Diversity is increasing in America. By 2044, people of color will be in the majority in the United States and income inequality is on the rise.^[5]

We must fight for a fair and just transition from a fossil fuel economy to a clean energy economy. That means making sure our poorest and most polluted communities have access to cleaner, healthier, more vibrant neighborhoods and access to good, family-sustaining jobs. An equitable and inclusive economy is good for everyone. Inequality hinders “economic growth and racial and economic inclusion are the drivers of robust economic growth.”^[6] For example, [PolicyLink](#) found that in 2012, national “GDP would have been \$2.1 trillion higher . . . if people of color had earned the same their white counterparts.”^[7]

So how do we get a just transition? We create policies and strategies to promote inclusion and diversity throughout the EV market and the larger clean energy economy.

We need to target employment and we also need to create opportunities for diverse businesses to benefit from this clean energy boom. Entrepreneurship is key to the American dream, and all communities should have equal access to business opportunities.

This chapter provides tools, guides, tips, and helpful links to resources to help diversify the EV market and to help create policies and strategies that train underserved community members for EV related jobs.

Tools and Guide

1. WORKFORCE DIVERSITY AND INCLUSION

Workforce policies and strategies promoting diversity and inclusion ensure that everyone can benefit and prosper from EV-related job growth. In other words, underserved community members should be able to access good jobs related to EV production, EV charging station production, building EV charging infrastructure, and EV maintenance.

What does that look like? Let's use an example. Fun EVs (a hypothetical company) creates and sells EVs, and which employs people for management, human resources, engineering, manufacturing, and other occupations. A diverse and inclusive Fun EVs workforce means that it uses:

- Recruiting and hiring practices that target talented and diverse job applicants to fill professional (e.g. engineers, accountants, etc.) and management (e.g. CEO, VP, etc.) jobs. It does not rely solely on referral systems and does not recruit solely from high-ranked universities (which tend to be less diverse than lower-ranked schools).
- Targeted or local hiring practices to employ individuals from local underserved communities (see below).

EQUITY GUIDE:

To ensure EV-related jobs are accessible to underserved community members, especially if public funding is involved, stakeholders should consider these approaches:

High Road Strategies

A "High Road" strategy is "characterized by high-quality work, high-quality jobs and broad access to opportunity for a diversity of businesses and workers."^[8] High road strategies typically have four components:^[9]

1. Generating demand for green goods and services,
2. Ensuring job quality and equitable access to opportunity,
3. Supporting businesses that want to thrive in a high-road market and
4. Creating workforce training pipelines that connect vulnerable people to green jobs.

[Click here for best practices info](#) and see below for more resources.

Targeted and local hiring policies

Targeted hire: A policy "aimed at increasing employment opportunities for disadvantaged workers, who often experience difficulty accessing" workforce pipelines.^[10] Targeted hiring policies create "mechanisms to increase the availability and accessibility of opportunities for these workers. For example, targeted hiring policies "can recommend that a percentage of the total hours in a project are performed by apprentices, women, or disadvantaged workers."^[11]

[Click here for more info](#) and see below for more resources.

Local hire: A policy aimed at hiring people who live close to the place of work. This increases the availability and accessibility of local workers and is particularly valuable when the workplace is located in a city or area with a high low-income population. The local hiring policy, for example,

can require that a certain proportion of the people working on a project

[Click here for more info](#) and see below for more resources.

Ensure Access to Good, Family-supporting Jobs

Typically, these jobs pay well, and at minimum offer employer-provided benefits like health-care, pensions/retirement benefits, paid sick leave, paid vacation, safe working conditions, reasonable schedules, organizing rights, and a modicum of job security.^[12]

[Click here for more info](#) and see below for more resources.

Create Career Pathway Jobs

Entry-level jobs for at-risk youth or underserved community members can be designed as stepping stones towards real careers in the growing clean energy economy.

Career pathways provide an “integrated collection of programs and services intended to develop students’ core academic, technical and employability skills; provide them with continuous education, training; and place them in high-demand, high-opportunity jobs.”^[13]

Example from [Green For All Research](#):^[14]

[Limitless Vistas, Inc. \(LVI\)](#) is a New Orleans-based nonprofit organization that provides training and work experience to at-risk youth and disadvantaged young adults. LVI students receive hands-on training in a variety of areas, including urban planning and development, farming, and bioremediation. Additionally, LVI students work with a variety of partners to conduct environmental service projects while adding to their skill sets.

[Click here for more examples](#) and see below for more resources.

Remove barriers to employment that prevent many people of color from accessing jobs

Based on the [Ella Baker Center for Human Rights, Green-Collar Jobs Campaign](#), “people facing barriers to employment,” means people who are:^[15]

- No/low income and/or receive public assistance;
- People of color;
- Women;
- Previously homeless or in supportive or transitional housing;
- Overcoming prior criminal convictions or juvenile adjudication;
- Suffering from chronic under/unemployment;
- Single parents;
- Limited English speakers or speak English as a second language;
- Without a GED or high school diploma; and/or
- Emancipated foster care youth

Some possible strategies to remove those barriers, taken from [PolicyLink's research](#):^[16]

- Advocate for “Ban the Box” policies that eliminate questions about conviction history from job applications, ideally for private as well as public employers. “Sinc

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passed such a measure, hiring rates for people with records increased dramatically, from 2 percent in 2011 to 15 percent thus far in 2014."

- "Fund public transit, including buses, that connects communities of color with high unemployment to job centers."
- "Enact legislation forbidding employers from running credit checks on job applicants, as 10 states and several cities, including Chicago, have done."
- "Launch efforts to increase citizenship; studies show that immigrants who successfully naturalize increase their earnings by 8 to 11 percent."

Please reference the links below for more information and guidance on how to ensure underserved community members can access EV related jobs.

TIPS FOR SUCCESS:

Job tracking and reporting

EV related businesses using public funding or getting tax breaks should be required to track and report employment and workforce data in order to assess job benefits to underserved communities in particular.

To determine the overall jobs benefit accurately, as well as the specific benefits to underserved community members, employment and workforce data should be collected and tracked at the individual level: length of employment, hours worked, positions hired for, advancement, hard-to-employ characteristics, income-level, race, zip code or census tract.

[Click here for more info](#) and see below for more resources.

Helpful Links & Examples:

Helpful Links

- [Targeted Hiring and First Source Referral Systems](#) (Partnership for Working Families)
- [Just and Fair Employment for All: Good for Families, Communities, and the Economy](#) (PolicyLink)
- [Equitable Development Toolkit: Local Hiring](#) (PolicyLink)
- [Equitable Development Toolkit: Living Wage Provisions](#) (PolicyLink)
- [Expanding Opportunity: Employing The Formerly Incarcerated In The Green Economy](#) (Green For All)
- [Best Practices in Green Re-Entry Strategies](#) (Green For All)
- [Bridging the Economic and Climate Gap: A Workshop by Green For All](#) (Green For All)
- [Pathway to Clean Jobs and Prosperity: State Policies for Helping Low-income Working Families Build Clean Energy Careers](#) (The Working Poor Families Project)
- [The Equity Solution: Racial Inclusion Is Key to Growing a Strong New Economy](#) (PolicyLink)
- [Full Employment for All: The Social and Economic Benefits of Race and Gender Equity in Employment](#) (PolicyLink)

- [National Equity Atlas](#) (PolicyLink and Program for Environmental and Regional Equity at University of Southern California): A comprehensive data resource to track, measure, and make the case for inclusive growth
- [Exploring Targeted Hire: An Assessment of Best Practices in the Construction Industry](#) (UCLA Labor Center)
- [Job Projection and Tracking Guide](#) (Green For All)

Examples

- [LCP Tracker](#): A software solution for construction site compliance management, certified payroll and workforce reporting
- [Elation Systems](#): An information technology firm that focuses solely on providing web-based compliance management systems for government agencies, private businesses, and contractors to help them meet compliance reporting and monitoring requirements

[/callout]

2. JOB TRAINING

As the number of EVs on the road increases, so will the need for a workforce that is prepared and trained to build them, fix them, and make sure there's infrastructure to plug them in. Skilled workers for these jobs will not develop on their own, and the benefits of the clean energy economy will not "automatically spread to the workers and communities with the greatest economic needs."[\[17\]](#)

EQUITY GUIDE:

To ensure underserved community members can access the job training, stakeholders should consider the following these practices from the [Ella Baker Center for Human Rights, Green-Collar Jobs Campaign](#):

- Assess opportunities for EV-related jobs in your area
- Identify cross-sector partnerships, for example:
 - Community colleges
 - Local government officials
 - Community-based non-profit organizations
 - Green businesses and industry representatives
 - Labor unions
 - Existing job training programs and educational institutions
- Find funding
- Develop a comprehensive curriculum
 - Soft skills training: prepares participants to enter the world of work
 - Hard skills training: thorough hands-on training detailing how to perform tasks that will be required on the job

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- Financial literacy skills training: prepares participants to responsibly manage their money and save for the future
- Environmental literacy
- Paid internship or on-the-job training component: provides an opportunity for participants to successfully enter and stay in the labor market
- Green Business/Employer Councils: provide ongoing support to the training program by agreeing to take participants on as interns and, if they do well and there are openings, to hire them as employees
- Duration: Programs should balance brevity (so that graduates can get into green-collar jobs quickly) with to the need to provide enough time for students to learn and develop their skills in a comprehensive way
- Target participants and recruitment
 - Design your green-collar job training program with a definite group of target participants in mind
- Provide wrap-around support services
 - Comprehensive case management services provided by trained counselors or social workers can be critical for supporting people who face barriers to employment. Counselors develop individualized plans based on an assessment of a full range of needs, such as child care, transportation, housing, mental health, physical health, financial stability, and educational achievement. Counselors will often work with an individual's family members to involve them as part of the wraparound plan. And counselors will meet regularly and frequently with individuals to ensure progress and follow-through.

[Click here for best practices info and case studies.](#)

[callout]***Helpful Links & Examples:***

- [Green Pathways Out of Poverty: Workforce Development Initiatives](#) (Green For All)
- [Greener Skills: How Credentials Create Value In The Clean Energy Economy](#) (Green For All)
- [Greener Pathways: Jobs and Workforce Development in the Clean Energy Economy](#) (Green For All)
- [Making Green Work: Best Practices in Green-Collar Job Training](#) (Ella Baker Center for Human Rights, Green-Collar Jobs Campaign)
- [Green Job Training: Changing Lives, Fighting Climate Change \(video\)](#) (Green For All)
- [Green Equity Toolkit: Standards and Strategies for Advancing Race, Gender and Economic Equity in the Green Economy](#) (Race Forward: The Center for Racial Justice Innovation)
 - [Case studies video](#)
- [Careers in Electric Vehicles](#) (U.S. Bureau of Labor Statistics)
- [Electric Vehicle Infrastructure Training Program](#) (EVITP)
- [Transportation Electrification Curriculum Development](#) (University of California, Los Angeles – Luskin Center)

[/callout]

3. SUPPLIER DIVERSITY

Supplier diversity is the practice of purchasing goods and services from “diverse business enterprises” (DBEs) owned by minorities, women, disabled veterans, and LGBT individuals.

Companies that use supplier diversity to introduce competition into their procurement often find it leads to higher quality goods and services and lower prices. Companies that rely on the same “old-boy networks” of suppliers year after year often miss opportunities to buy better and cheaper goods and services. A smaller company can often provide faster, more tailored service than a bigger, one-size-fits-all company can.

Most of the major automakers have successful supplier diversity programs. Ford, General Motors, Honda, and Toyota are all members of the Billion Dollar Roundtable, a group of eighteen corporations that spend at least \$1 billion dollars annually with diverse businesses.[\[18\]](#)

By creating economic opportunities in communities that most need them, supplier diversity helps stimulate state and local economies, help create jobs in underserved communities, and build wealth for people of color. For example, most minority-owned businesses employ over 75% people of color.[\[19\]](#)

Supplier diversity also helps companies obtain better products and services at lower prices by encouraging diverse businesses to compete with entrenched suppliers.

Supplier diversity in the EV market can:

- Increase competition
- Improve and tailor customer service
- Stimulate crucial sectors of state and local economies
- Create jobs
- Improve the environment

As the nation's demographics continue to change, automakers that have strong partnerships with diverse businesses will instill brand loyalty in diverse markets, which will provide the automakers with a competitive advantage.[\[20\]](#)

EQUITY GUIDE:

To ensure EV related businesses benefit diverse businesses and underserved communities, especially if public funding is involved, stakeholders should consider these approaches:

- Identify large pots of public dollars that fund private business and advocate for laws or regulations that require that businesses receiving public funding to contract with diverse business enterprises for a minimum percent of their overall dollar spend on goods and services
- Require that each recipient of a publicly funded grant or loan report, on a periodic basis, their dollar spend on goods and services with diverse business enterprises

- Require that each recipient of a publicly funded grant or loan submit (to the relevant government agency) and implement a detailed and verifiable outreach plan for increasing opportunities to work with diverse subcontractors
- Require the relevant government agency (providing grants or loans to businesses) to establish guidelines for all grant or loan recipients to follow in carrying out the established supplier diversity mandates
- Require the relevant government agency to develop its own outreach program to inform and recruit the most qualified loan and grant applicants from diverse communities, including but not limited to women, minorities, disabled veterans, and LGBT business enterprises

[Click here for more info](#) and see below for more resources.

[callout]**Helpful Links & Examples:**

Helpful links

- [Equitable Development Toolkit: Minority Contracting](#) (PolicyLink)
- [Supplier Diversity Report Cards](#) (The Greenlining Institute)

Examples

- [Utility Supplier Diversity Program](#) (The California Public Utilities Commission): See General Order 156 for more info
- [Insurance Diversity Initiative](#) (California Department of Insurance): Assembly Bill 53 (Solorio, 2012), requires major California insurers to submit an annual report to the Insurance Commissioner regarding their efforts to increase procurement from women-, minority-, and disabled veteran-owned business enterprises
- [EmPower California](#) (California Energy Commission): [Assembly Bill 865](#) (Alejo, 2015) directs the Commission to develop and implement an outreach program to increase the participation of women, minority, disabled veteran, and LGBT business enterprises in their grants and loans

[/callout]

Footnotes

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REMOVING BARRIERS, CREATING ECONOMIC OPPORTUNITY

The Greenlining Institute advances inclusive and equitable policies designed to open doors for historically redlined communities.

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The Greenlining Institute works toward a future when communities of color can build wealth, live in healthy places filled with economic opportunity, and are ready to meet the challenges posed by climate change. To achieve this vision, Greenlining is committed to building a just economy by acting as an incubator of new policy ideas, a bridge builder between diverse partners, and an advocate to build momentum for transformative change. The Greenlining Institute is a 501(C)(3) nonprofit registered in the US under EIN: 94-3173571.

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