



State governments nationwide are paving the way for plug-in electric vehicles (PEVs) by enacting a range of policies. While there is no “ideal” or one-size-fits-all strategy, the following document provides an overview of state and local government policies that support transportation electrification. The state policy appendix document includes at least one representative state government example of that policy.

PEV Financial Incentives

Lower energy and maintenance costs for PEVs result in lower total cost of ownership today. However, initial purchase prices, while declining, are still higher than gasoline-powered vehicles. States can play a key role in incentivizing consumers and fleets to purchase PEVs through various financial incentives, for both new and used EVs. Point of sale approaches, such as rebates and vouchers, are preferable to tax credits. If tax credits are used, they should be refundable. Sales tax forgiveness is another approach.

Consumer Incentives:

Point-of-sale incentives help reduce the initial purchase cost of an EV quicker than other incentive options. This immediate price reduction is better than waiting to receive a rebate or tax refunds in the future. Sales tax exemptions are another popular point of sale approach, but likely won't provide as great of a financial benefit. It is important to extend incentives to used EVs, as this is a best practice to boost accessibility and inclusion to more low- and moderate-income drivers.

Fleet Incentives:

Many states have also established point-of-sale incentives for government and private fleets. Generally, the best approaches involve vouchers. Fleets that meet criteria can apply for vouchers for a fixed amount of funding for various types and classifications of commercial vehicles. The voucher applies directly to the purchase cost. The dealer or other vehicle seller then redeems the voucher for cash. Funding sources for voucher programs vary, but the federal Congestion Mitigation and Air Quality (CMAQ) program has been used by many for commercial and government fleet incentives.

EV Charging Infrastructure Incentives:

Range anxiety and lack of charging access are two of the greatest barriers to widespread EV adoption. States can help combat these barriers by supporting development of electric vehicle supply equipment (EVSE), by incentivizing private charging site hosts or public locations including those in the right-of-way (ROW). This should include multi-family housing (MFH), those who park at the curb, workplaces, retail locations, downtowns, and other places visited by drivers. Programs should ensure that underserved urban and rural communities benefit. Many states have elected to allocate a portion of Volkswagen Mitigation Funds, up to the 15% maximum allowed, to grants or other incentives for EV charging.

Registration Fees and Taxes on EVs

Gasoline taxes help fund state transportation infrastructure repairs and upgrades. With the increased adoption of electric and alternative fuel vehicles, many states have implemented fees or taxes on EVs and AFVs to maintain sufficient transportation funding. While the most common policy is a flat-rate EV-specific registration fee, the [Minnesota legislature](#) circulated a bill charging a 5.1 cent per-kWh tax on

electricity supplied from EVSE, which mirrors the structure of the traditional gasoline tax. Another alternative is a fee based on vehicle miles traveled.

While ensuring that all drivers share the transportation tax burden is important, some registration and other EV fees have placed a disproportionate burden on EV owners. In some states, fees are at least twice the amount that a comparable, energy-efficient gasoline vehicle pay in gas taxes. Also, these up-front fees are inherently regressive compared to the pay-as-you-go gas taxes. Thus, they are especially harmful to lower and moderate-income drivers, presenting another market barrier to EV adoption.

When adopting or revising EV fees, policies need to tax EV drivers at an amount commensurate to fuel-efficient conventional, gasoline vehicles. Hybrid (non-plug) vehicles should not pay an extra fee since all of their energy comes from gasoline, and such vehicles already pay gas taxes. As EV adoption grows, states need to explore and enact new taxation methods based on vehicle miles traveled (VMT) or consumption of electricity.

Direct Sales and Dealer Franchise Laws

Some electric vehicle companies, most notably Tesla, are selling vehicles directly to consumers. This replaces dealerships as the main point-of-purchase. There are numerous advantages to direct sales, like potential cost savings, little to no haggling, and no predatory lending schemes that disproportionately target lower-income consumers. Currently, only 22 states allow manufactures to do direct sales, with another 11 states making a direct sale exception for Tesla only.

Allowing direct sales provides consumers with more market choices at competitive prices. EVs can still be sold at dealerships, which increases the number of physical locations where consumers can purchase zero-emission vehicles. States that adopt direct sales also ensure that their residents are not traveling out-of-state to take advantage of direct sales elsewhere, which can create tax revenue implications.

In some states, auto dealer associations are especially influential among policymakers. While some dealer franchises have presented barriers to EV sales, they also are important stakeholders for EV advocates to engage. In certain states, strong direct sales advocacy may complicate efforts to work with auto dealers.

Non-Financial PEV Incentives

States may incentivize the adoption of PEVs without providing direct compensation to consumers by simplifying the purchase process or providing drivers with certain perks. These incentives do not involve allocating public funds for direct payments to consumers.

Right to Charge

According to [NESCAUM](#), “Right to charge laws provide residents at multi-unit dwellings (and other properties) with the right to install a charging station for the individual’s use provided that certain conditions are met (e.g., the individual assumes responsibility for all associated costs).” Right to charge laws do not require neighborhood organizations, property management companies, or other owners to pay for the charging station or provide it as an amenity.

State Building Codes

Building and energy codes can ensure reliable operation of EVSE and encourage the installation of additional infrastructure. Building code provisions typically require a minimum number or percentage of parking spaces for new residential or commercial construction to be “EV-capable”, “EV-ready” or “EV-installed.” At minimum, codes should require 20% of spaces to be “EV-capable,” preferably more. The Southwest Energy Efficiency Project has created [EV infrastructure model code](#) requirements. EV building code requirements are designed to reduce the costs of installing EV chargers at the new construction phase rather than as later retrofits. The cost of retrofitting may be up to seven times as high compared to making the building at least EV-capable initially.

EVSE Labeling and Pricing (Weights and Measures)

With numerous different EVSE providers and networks, there needs to be consistent and transparent consumer information related to pricing at charging stations. This will increase confidence and trust with drivers because they will not be surprised by fees or otherwise burdensome charging costs. The cost of charge should be presented in a common rate, usually \$/kWh, or by amount of time plugged-in, like \$/minute or \$/hour. If there are different rates for members versus non-members, this needs to be displayed clearly.

Transportation Electrification Planning

States should establish a TE Task Force, coordinated by their department of transportation, state energy office or other state agency. The Task Force can be created through administrative action alone; however, it is preferable to receive legislative support and authorization. The Task Force should develop a transportation electrification (TE) plan to guide and coordinate activity among multiple state agencies and departments. At the state-level, the legislature should pass point-of-sale vouchers for consumer EV and EVSE purchases and encourage utilities to develop their own TE plans consistent with state planning and policy.

After the state-level plan is underway, regional-state and community-based TE plans need to be developed. Regional agencies and planning commissions can advance electrification across counties and local governments and nonprofits will be major players for community-based planning. Some state funding to support regional and local TE planning is helpful. Both the state and local levels of TE planning will be covered in the forthcoming guidance on EV infrastructure planning.

State Fleet Electrification

Planning and implementing the transition to state fleet electrification is an element of overall TE planning. This is an area where states can lead by example and provide guidance for local governments and even the private sector.

The planning process should include gathering operating data on existing state fleet vehicles using telematics installed on at least a representative sample of vehicles of all types within various departments. The state should contract with a third-party with expertise in gathering and analyzing these data, then making recommendations based on cost and other pre-determined criteria. The plan should consider other cleaner fuel and vehicle options, such as biofuels, renewable natural gas, and renewable propane. These options may be viable in situations where EVs are not yet economical.

Utility and Regulator Guidance

Electric utilities are critical to advancing transportation electrification (TE) because of their unique position to address lack of charging access, which is a key barrier to EV adoption. When utilities are allowed and encouraged to invest in TE programs, all utility customers can benefit through lower electric rates, if programs and policies follow emerging best practices. The following includes best practices and guidance for governments to facilitate utility TE advances.

Suspending or Modifying Demand Charges

The largest economic barrier for fleet electrification is “demand charges” embedded in rate structures, which provide additional revenues to compensate for short-term and variable loads that drive costs for localized grid investments. These charges can discourage EVSE and EV deployments because they result in higher net operating costs for EVs than conventional vehicles, defeating what should be lower total lifecycle costs for many EV fleets. To reduce this barrier for commercial charging and fleet electrification, utilities should temporarily suspend demand charges. Alternative revenue approaches, like variable time of charge rates, or restructuring demand charges based on use patterns are preferable.

Make-Ready Grid Investments

Governments and/or regulators should approve utility make-ready investments that allow utilities to invest ratepayer dollars into the equipment and wiring needed to connect EVSE to the electrical grid. These make-ready investments can include traditional “customer side” installations, like electrical panels, conduit/wiring, and any trenching costs. These investments greatly improve EVSE capacity.

Utility-Owned Charging Stations

Although there are concerns that utility-owned charging stations crowd out EVSE investment, utility ownership is a desirable best practice in settings that are underserved or currently deemed uneconomic in the marketplace. Low-income and/or rural communities and remote highways are examples of settings that would benefit from utility-owned charging stations. If a utility owns and operates charging stations, it is appropriate for the utility to include charging fees to remain competitive in the evolving charging market, as long as rules ensure fees are not excessive and undermining the charging access.

Demand Response (DR) and Vehicle-Grid Integration (VGI) Pilots

Some regulators and utilities are experimenting with demand response (DR) programs that allow the electric utility to directly control the times of vehicle charging. In these pilots, the utility pays customers for the ability to throttle down or suspend charging for short periods to balance overall system load or demand in a local area. Customers can opt out of the program or a specific episode.

Some utilities are experimenting with vehicle-grid integration (VGI) programs. These allow EVs, when parked and plugged in to a VGI-capable device, to be used as grid resources (V2G) and/or to help manage peak energy loads in buildings (V2B). As EV adoption grows, VGI will offer additional value to the grid, energy managers and EV owners. Utilities and regulators should be encouraged and given the freedom to develop these and other kinds of pilot programs.

Site Host Ability to Charge Customers

An increasing number of state policymakers and/or regulators are clarifying rules that allow site hosts to charge customers for the electricity consumed. Site hosts should be allowed to charge for electricity

without being considered or regulated as a utility. Prior to recent changes, states held that only a utility could do this.

Data-gathering, reporting, program evaluation

Regulator should require utilities to collect and analyze data from charging units. Data help utilities, regulators, and other interested parties learn what features of utility TE programs are working, how loads are growing and impacting various parts of the system. They inform how rebate levels, make-ready investments, rates and other elements can be adjusted to increase efficient use of the system and provide charging where it is needed.

Low Carbon Fuel Standard or Clean Fuels Policy

LCFS mechanisms reduce the carbon intensity (CI) of transportation fuels, with an overall goal of reducing GHG emissions and encouraging alternative fuel use. Through LCFS programs, fuel producers are required to reduce the CI of the fuels they produce. Fuel producers can also generate and sell credits, which can create an alternate revenue source for electrification programs. These mechanisms help guide the market towards PEV adoption.

Zero Emission Vehicle (ZEV) Mandates

Thirteen states have adopted mandates that require a set quota of ZEVs to boost production and sale of EVs, with California's mandate being adopted by nine of those states. The requirements for the mandate are in terms of credits with the specific ZEV driving range corresponding to a credit amount. If too few ZEVs are sold to be in compliance with the mandate, then the company will need to purchase credits from another company that has exceeded their minimum ZEV sale quota. Although this is an effective government intervention to supplement the EV market and adoption, the ZEV mandate is a divisive approach, especially in states that subscribe to free-market approaches.

Regional Collaboration

States have begun to recognize the importance of regional collaboration, which allows states to build off each other's success, share best practices, and, most importantly, ensure continuity of EVSE infrastructure across state lines. Regional collaboration is critical to create EV-friendly corridors for interstate travel and goods movement, among other interstate transit activities.