



THE STATE TRANSPORTATION ELECTRIFICATION SCORECARD

Bryan Howard, Shruti Vaidyanathan, Charlotte Cohn, Nick Henner, Ben Jennings

RESEARCH REPORT
FEBRUARY 2021





EXECUTIVE SUMMARY

The transportation sector is responsible for 28% of greenhouse gas (GHG) emissions in the United States.¹ Electric vehicles (EVs) stand to play a critical role in reducing emissions and achieving aggressive climate goals. However, EVs still account for only approximately 2% of the American vehicle market. U.S. states have the power and potential to remove many of the barriers to EV adoption, support the EV market, and ramp up the building of EV charging infrastructure. This report evaluates the activities of the states and ranks the top 30 plus the District of Columbia on their policy and program efforts to electrify transportation.



¹ “Greenhouse Gas Emissions; Sources of Greenhouse Gas Emissions.” U.S. Environmental Protection Agency. Accessed October 1, 2020. epa.gov/ghgemissions/sources-greenhouse-gas-emissions

KEY FINDINGS



First place goes to **California**, which has prioritized EVs as a way to reduce state GHG emissions. California led in five of the six categories used to rank states in the *Scorecard*. It is the only state to set deadlines for electrifying transit buses, heavy-duty trucks, and commercial vehicles, and to adopt statewide building codes for wiring most types of new buildings and houses for EV charging.



Rounding out the top 10 are **New York**, the **District of Columbia**, **Maryland**, **Massachusetts**, **Washington**, **Vermont**, **Colorado**, **Oregon**, and **New Jersey**.



Outside the top 10, regional standouts are **Minnesota** in the Midwest, **Connecticut** in the Northeast, **Virginia** in the Southeast, and **Nevada** in the Southwest.



California and **New York** are among the few states working to ensure equitable access to electrified transportation. They are creating targeted programs for low-income, economically distressed, and environmental justice (EJ) communities. While these efforts are noteworthy, equity in EV access is an area where all states need to improve.



With the exception of a few leaders, states are in the early stages of creating a supportive policy environment for transportation electrification. All states, even early adopters of transportation electrification, still have considerable room to improve their policies supporting EVs and EV charging infrastructure.



State legislatures, executive agencies, and public utility commissions (PUCs) have diverse policy options to improve transportation electrification. They should look to existing state efforts for instructive examples.



Overall, states did better in planning and goal setting for EVs and deployment of EV charging infrastructure than in other areas, reflecting the fact that most states are just in the early stages of EV policy activity.



Many states also took steps to integrate EVs and EV charging infrastructure into the electric grid through rate design and continued improvement in electric system decarbonization.



Collective multistate action, including the State Zero-Emission Vehicle Programs Memorandum of Understanding (MOU) and Multi-State Medium- and Heavy-Duty Zero-Emission Vehicle MOU, are helping states make progress toward deployment targets and exchange best practices.

ACEEE's *State Transportation Electrification Scorecard* evaluates the progress that state legislatures and agencies (e.g., public utility commissions, departments of transportation) are making to implement policies to scale up deployment of light-duty electric vehicles (passenger cars, SUVs, and trucks) and heavy-duty electric vehicles (large commercial vehicles, such as freight trucks and buses) and the necessary charging infrastructure for personal, commercial, fleet, and public transit use.

The most common state actions to electrify transportation include planning for more EVs and EV charging options (23 states); incentives such as rebates, tax credits, and grants to buy large electric pickups and delivery trucks (27 states); using federal funds to buy electric transit buses (48 states); utility programs that offer lower electric rates at preferred times for EV (Level 2) charging (36 states); and utility funding to spur EV and EV charging adoption in low-income areas and environmental justice communities (15 states).

POLICY AREAS

The *Scorecard* evaluates states on their actions to support transportation electrification in the light-duty and heavy-duty sectors. States received points in the following policy areas, based on a 100-point scale:



Electric vehicle (EV) and EV charging infrastructure planning and goal setting (17 points):² government-led planning actions for transportation electrification as well as binding and nonbinding target setting for EV and charging infrastructure deployment



Incentives for EV deployment (30 points): financial and nonfinancial incentives to spur EV purchases and the installation of necessary charging infrastructure



Transportation system efficiency (12 points): policies that support the deployment of EVs while maximizing emissions reduction and improving accessible, cost-effective, equitable, and clean mobility options for all



Electricity grid optimization (10 points): actions taken by public utility commissions (PUCs) to support utility management of EV charging to maximize reliability and minimize costs and greenhouse gas (GHG) emissions



EV equity (10 points): state and utility efforts to ensure access to electrified transportation in low-income, economically distressed, and environmental justice (EJ) communities



Transportation electrification outcomes (21 points): metrics that track progress or evaluate results on EV adoption, infrastructure installation, and GHG emissions

² The *Scorecard* uses the terms *EV charging infrastructure* and *EV chargers* throughout the report. This infrastructure is also sometimes referred to as electric vehicle supply equipment (EVSE).

SCORES

Figure ES-1 shows the state rankings divided into six tiers. Our evaluation in the *Scorecard* focuses on the states that have demonstrated some level of progress on transportation electrification. We do not present scores below those of the top 30 because states ranked lower than that each achieved no more than 15% of the total available points in the *Scorecard*. However, throughout the report we do highlight the efforts of some unranked states that have made progress in a certain category. Detailed scores for all states are available in Appendix A.

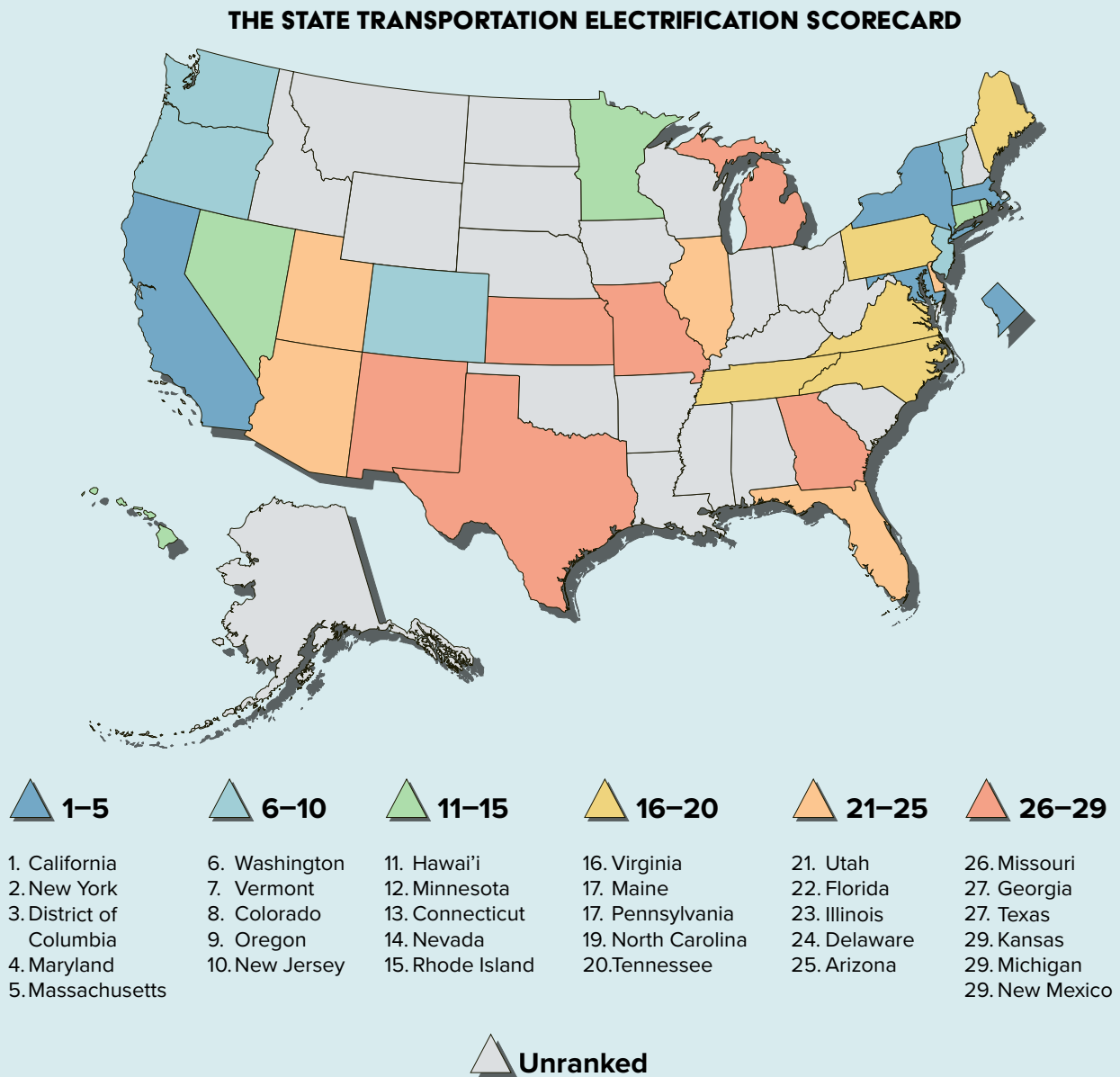


Figure ES-1. State scores in the *Transportation Electrification Scorecard*

Table S-1 describes states that were leaders in the specific policy areas evaluated. For more information about leading states, refer to the *Scorecard* chapter corresponding to each policy area.

Table ES-1. Policy area leaders

Area	States	Achievements
Planning and goal setting	California, Oregon, Washington, New York, and Colorado	<p>Created plans for EV and EV charging infrastructure covering both light-duty (LD) and heavy-duty (HD) EVs</p> <p>Set goals for LD EVs and have mandatory EV-supportive requirements in building codes or allow local governments to adopt such codes</p>
Incentives for EV deployment	California, New York, Maryland, and Massachusetts	<p>Have a range of financial and nonfinancial incentives for LD or HD EV purchases and infrastructure installation</p> <p>Have robust utility spending on EV charging infrastructure</p> <p>Have no EV fees or lower-than-average fees relative to state gas tax revenues collected from conventional vehicles</p>
Transportation system efficiency	California and District of Columbia	Have sector-wide GHG goals and goals for transit agency procurement
Electricity grid optimization	California, New York, and Hawaii	<p>Provide signals to effectively integrate EVs into the grid through L2- and DCFC-specific rates</p> <p>Make efforts to reduce carbon emissions from the electricity sector</p>
Equity	California and New York	<p>Direct state and utility investment toward programs for low-income, economically distressed, or EJ communities</p> <p>Demonstrate support for transitioning EV school bus fleets</p>
Outcomes	District of Columbia, California, and Washington	Have strong per capita EV charging infrastructure deployment, HD EV registrations, and EV deployment in transit bus fleets



POLICY RECOMMENDATIONS

States have made varying levels of progress on transportation electrification. However, more must be done to meet state EV deployment and climate targets while complementing economic development activities.

For states that are not included in the top 30, we recommend the following policy actions as important foundational steps to move transportation electrification ahead:

- ✓ Benchmark progress on transportation electrification; engage in comprehensive planning efforts that define a coordinated strategy to build out electrified transportation and include specific goals for EVs and the deployment of EV charging infrastructure.
- ✓ Collect data on key metrics to establish a baseline and track progress on EVs and EV charging infrastructure deployment. The data could include EV registration information for light- and heavy-duty EVs, location and count of EV charging locations, and demographic information on EV use by race and income. Make data publicly available, with the status of milestones shared through regular public reporting.
- ✓ Where state agencies and utilities are investing in EVs and EV infrastructure deployment, begin with equity in mind. Incorporate spending carve-outs or funding adders for low-income, economically distressed, and EJ communities in state and utility EV planning to ensure that the benefits of transportation electrification are distributed equitably. Encourage community participation in mobility needs assessment to direct this funding to locations and services of greatest need.
- ✓ Leverage existing funding sources such as the Volkswagen settlement fund and the federal Low or No Emission Program to support EV and EV charging infrastructure deployment, and evaluate other funding opportunities to create sustained funding for programs.
- ✓ Establish clear policy direction to encourage utility and third-party investment in EV charging infrastructure, such as exempting third-party EV charging providers from being defined as public utilities and approving utility electric vehicle charging programs and demonstration projects such as electric school buses.

For states that are represented in our top 30 but are earlier in the process of developing a robust environment for transportation electrification, we recommend the following next steps to help accelerate their markets and GHG emissions reductions:

- ✓ Offer on-the-hood incentives for the purchase of light- and heavy-duty EVs to offset the additional upfront cost of these vehicles.
- ✓ Codify targets for EVs and the deployment of EV chargers.
- ✓ Allow utilities to make investments to support EV charging infrastructure and to implement EV rates or managed charging programs that encourage integration of EVs into the grid.
- ✓ Encourage grid-scale decarbonization by establishing clean energy and energy efficiency targets for the electric industry, thereby reducing the life-cycle emissions of every EV on the road.
- ✓ Set a GHG emissions reduction goal and commitment for the transportation sector to ensure that EV deployment complements other efforts to reduce transportation GHG emissions.

For more information and to view the full report, visit aceee.org/transportation-electrification-scorecard.