

50

STATES OF ELECTRIC VEHICLES

Q1 2024 Quarterly Report

Executive Summary



AUTHORS

Emily Apadula
Rebekah de la Mora
Justin Lindemann
Brian Lips
Vincent Potter
Autumn Proudlove
David Sarkisian

The [NC Clean Energy Technology Center](#) is a UNC System-chartered Public Service Center administered by the College of Engineering at North Carolina State University. Its mission is to advance a sustainable energy economy by educating, demonstrating and providing support for clean energy technologies, practices, and policies. The Center provides service to the businesses and citizens of North Carolina and beyond relating to the development and adoption of clean energy technologies. Through its programs and activities, the Center envisions and seeks to promote the development and use of clean energy in ways that stimulate a sustainable economy while reducing dependence on foreign sources of energy and mitigating the environmental impacts of fossil fuel use.

CONTACT

Autumn Proudlove (afproudl@ncsu.edu)

PREFERRED CITATION

North Carolina Clean Energy Technology Center, *The 50 States of Electric Vehicles: Q1 2024 Quarterly Report*, May 2024.

COVER DESIGN CREDIT

Cover design by Amira Ferjani and Justin Lindemann

COVER PHOTO CREDIT

Photo by Noya Fields. "Plug In Electric Vehicle." October 25, 2013. CC BY-SA 2.0. Retrieved from <https://www.flickr.com/photos/noyafieldsorg/34851733984/>

Photo by U.S. Department of Energy. "The new Nissan Leaf..." January 31, 2013. U.S. Government Works. Retrieved from <https://www.flickr.com/photos/departmentofenergy/8432748677/in/photostream/>

DISCLAIMER

While the authors strive to provide the best information possible, neither the NC Clean Energy Technology Center nor NC State University make any representations or warranties, either express or implied, concerning the accuracy, completeness, reliability or suitability of the information. The NC Clean Energy Technology Center and NC State University disclaim all liability of any kind arising out of use or misuse of the information contained or referenced within this report. Readers are invited to contact the authors with proposed corrections or additions.

PREVIOUS EDITIONS AND OTHER 50 STATES REPORTS

The full version of this report may be purchased [here](#). Previous executive summaries of *The 50 States of Electric Vehicles* are available for download [here](#).

In addition to *The 50 States of Grid Modernization*, the NC Clean Energy Technology Center publishes additional quarterly reports called *The 50 States of Solar*, *The 50 States of Grid Modernization*, and *The 50 States of Power Decarbonization*. These reports may be purchased [here](#). Executive summaries and older editions of these reports are available for download [here](#).

ABOUT THE REPORT

PURPOSE

The purpose of this report is to provide state and local lawmakers and regulators, electric utilities, the electric power industry, the transportation industry, and other energy stakeholders with timely, accurate, and unbiased updates about how states are choosing to study, adopt, implement, amend, or discontinue policies associated with electric vehicles. This report catalogues proposed and approved legislative, regulatory, and utility rate design changes affecting electric vehicles during the most recent quarter, as well as state and investor-owned utility proposals to deploy electric vehicles and charging infrastructure.

APPROACH

The authors identified relevant policy changes and deployment proposals through state utility commission docket searches, legislative bill searches, popular press, and direct communications with stakeholders and regulators in the industry.

Questions Addressed

This report addresses several questions about the U.S. electric vehicle landscape, including:

- How are states addressing barriers to electric vehicle and charging infrastructure deployment?
- What policy actions are states taking to support markets for electric vehicles and related infrastructure?
- How are utility companies designing rates and electric vehicle supply equipment companies designing charging equipment and controls to influence charging behavior of electric vehicle owners?
- Where and how are states and utilities proposing to deploy or pay for electric vehicles and electric vehicle charging infrastructure?

Actions Included

This report focuses on cataloguing and describing important proposed and adopted policy changes related to electric vehicles. For the purpose of this report, the definition of electric vehicle includes all-electric vehicles (EVs), hybrid electric vehicles (HEVs), and plug-in electric vehicles (PHEVs). In order to explore all policy actions related to electric vehicles, this report catalogs and describes actions related to the deployment of electric vehicle charging equipment, which is often referred to as electric vehicle supply equipment (EVSE). Additionally, the electric grid is impacted

by electric vehicle charging, so legislative and regulatory actions related to electric utilities are included in this report.

In general, this report considers an “action” to be a relevant (1) legislative bill that has been introduced, (2) executive order, or (3) regulatory docket, utility rate case, or rulemaking proceeding. Only statewide actions and those related to investor-owned utilities are included in this report. Specifically, actions tracked in this issue include:

Studies and Investigations

Legislative or regulatory-led efforts to study electric vehicles specifically, or electric vehicles as part of a broader grid modernization study or investigation.

Regulation

Changes to state rules related to electric vehicles, including registration fees, homeowner association limitations, and electricity resale regulations affecting vehicle charging.

Utility Rate Design

Proposed or approved changes to investor-owned utility rate design for electric vehicles, including new electric vehicle tariffs and significant changes to existing electric vehicle tariffs.

Market Development

New state policy proposals or changes to existing policies aimed at growing the electric vehicle market.

Financial Incentives

New state or investor-owned utility incentive programs or changes to existing incentive programs for electric vehicles and charging infrastructure.

State and Utility Deployment

Utility-initiated requests, as well as proposed legislation, to deploy electric vehicles or charging infrastructure.

Actions Excluded

While actions taken by municipal utilities and electric cooperatives are not comprehensively tracked in this report, particularly noteworthy or high-impact actions are included. The report also excludes actions related to grid modernization without an explicit electric vehicle component, as well as actions related to general time-varying rates not specific to vehicle charging; these types of actions are tracked in the 50 States of Grid Modernization report series.

EXECUTIVE SUMMARY

Q1 2024 ELECTRIC VEHICLE ACTION

In Q1 2024, 46 states plus DC and Puerto Rico took a total of 595 actions related to electric vehicles. Table 1 provides a summary of state and utility actions occurring during Q1 2024. Of the actions cataloged, the most common were related to Regulation (179), followed by Market Development (162), and Financial Incentives (134). All 50 states, plus DC and Puerto Rico, took actions planning for National Electric Vehicle Infrastructure (NEVI) program funding distribution.

Table 1. Q1 2024 Summary of Electric Vehicle Actions

Type of Action	# of Actions	% by Type	# of States
Regulation	179	30%	39 + DC, PR
Market Development	162	27%	31 + DC, PR
Financial Incentives	134	23%	36 + DC, PR
Rate Design	57	10%	26 + PR
Studies and Investigations	45	8%	21
Deployment	18	3%	14 + DC
Total	595	100%	46 States + DC, PR

Note: The “# of States/ Districts” total is not the sum of the rows because some states have multiple actions. Percentages are rounded and may not add up to 100%.

TOP ELECTRIC VEHICLE ACTIONS OF Q1 2024

Five of the quarter’s most notable electric vehicle actions are noted below.

New Mexico Policymakers and Regulators Advance Transportation Electrification

New Mexico policymakers and regulators took several actions during the quarter to advance transportation electrification in the state. Lawmakers enacted legislation adopting a clean fuel standard and establishing a tax credit for electric vehicles. Meanwhile, the Public Regulation Commission approved transportation electrification plans for El Paso Electric and PNM, and the Regulation and Licensing Department approved updated building codes with requirements for electric vehicle-capable parking.

Maryland Lawmakers Drive Opportunities for Bidirectional Charging

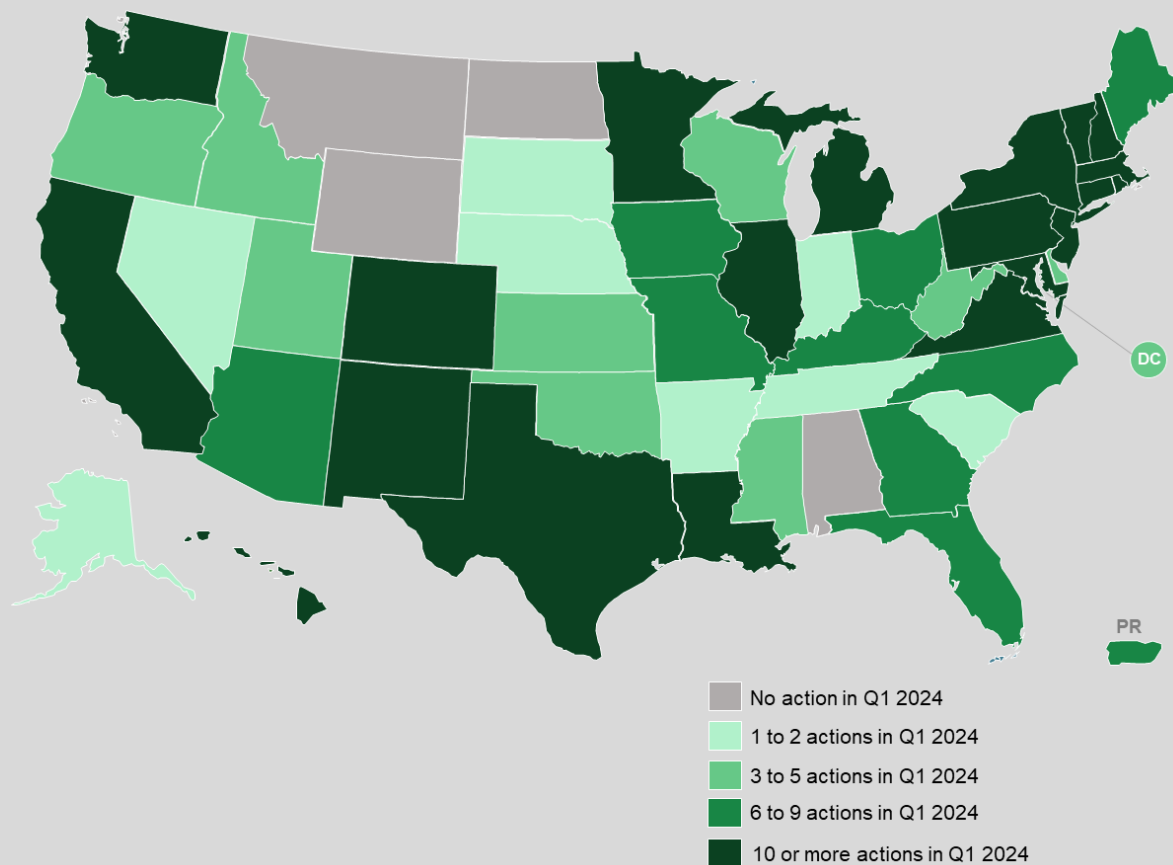
Maryland lawmakers passed legislation providing state-level support for bidirectional electric vehicle charging. The bill requires investor-owned utilities to file proposed programs for virtual

power plants, which could involve bidirectional-capable vehicles. The bill also directs the Public Service Commission to establish an expedited interconnection process for bidirectional electric vehicle systems providing electricity to the grid or buildings.

Connecticut Regulators Release Proposal for Medium- and Heavy-Duty Vehicle Charging

Connecticut regulators released a proposed program structure for medium- and heavy-duty electric vehicle charging in March 2024. The proposal includes make-ready and charging station incentives, as well as two rate design options. One rate option includes graduated per-kWh distribution charges that decrease as load factor increases, and the second option offers a flat monthly fee based on distribution marginal cost.

Figure 1. Q1 2024 State and Utility Action on Electric Vehicles



DTE Electric Files Transportation Electrification Plan in Michigan

DTE Electric filed its transportation electrification plan with Michigan regulators in January 2024. The plan includes charging station rebates for single-family homes, multi-unit dwellings,

public charging, and fleet charging. The plan also entails utility investment in make-ready infrastructure and new managed charging and bidirectional charging pilot programs, including vehicle-to-home and vehicle-to-grid programs.

Colorado Regulators Approve Black Hills Energy Transportation Electrification Plan

Colorado regulators approved Black Hills Energy’s 2024-2026 transportation electrification plan in February 2024, which includes rebates for charging stations and wiring, a grant program for charging stations at multi-family buildings, and incentives for electric bicycles, as well as fleet advisory services. The plan also includes a behavioral charging incentive pilot that will provide participants with a bill credit for off-peak charging and track charging behavior through telematics.

Figure 2. Top Electric Vehicle Actions of Q1 2024

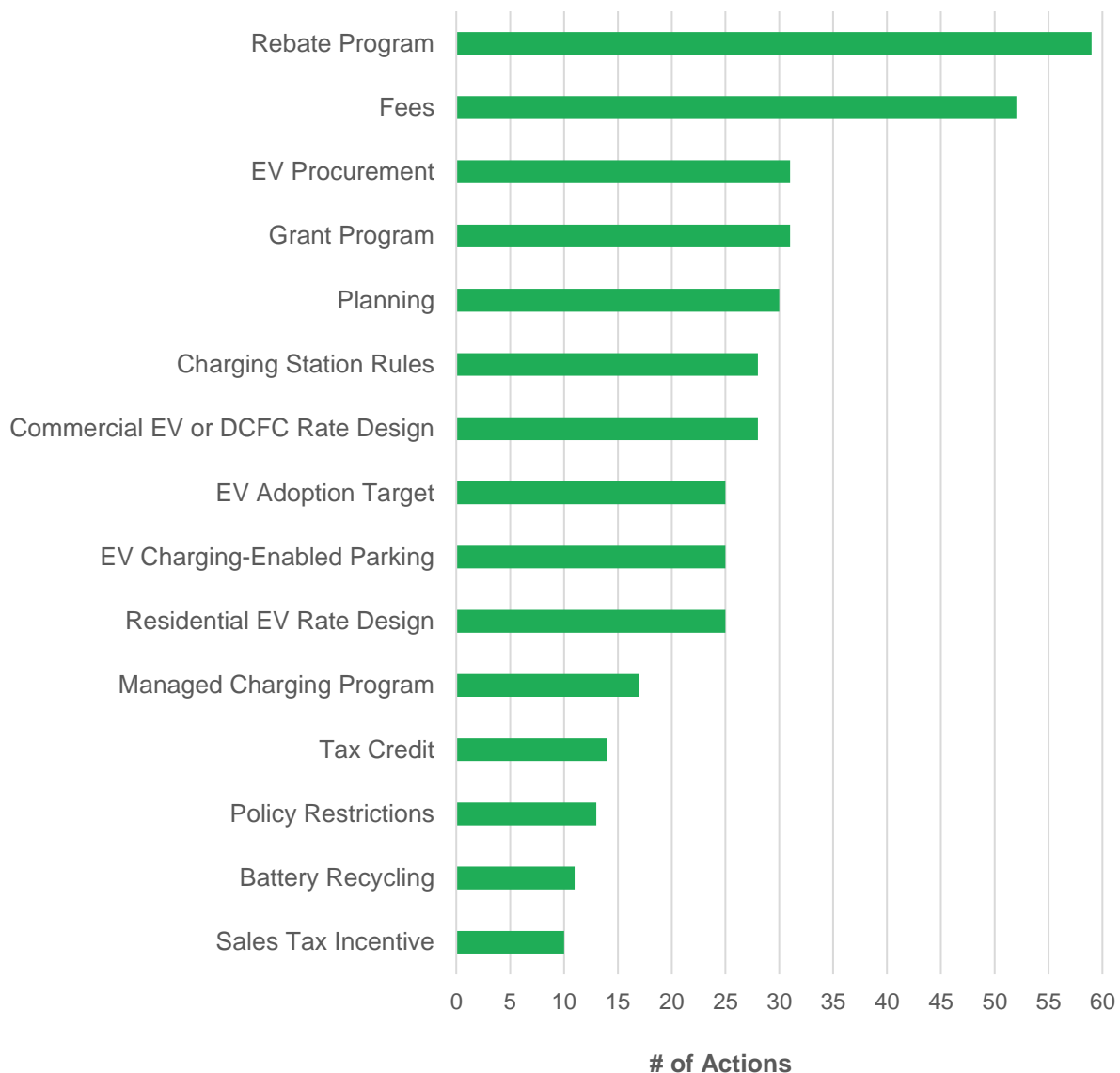
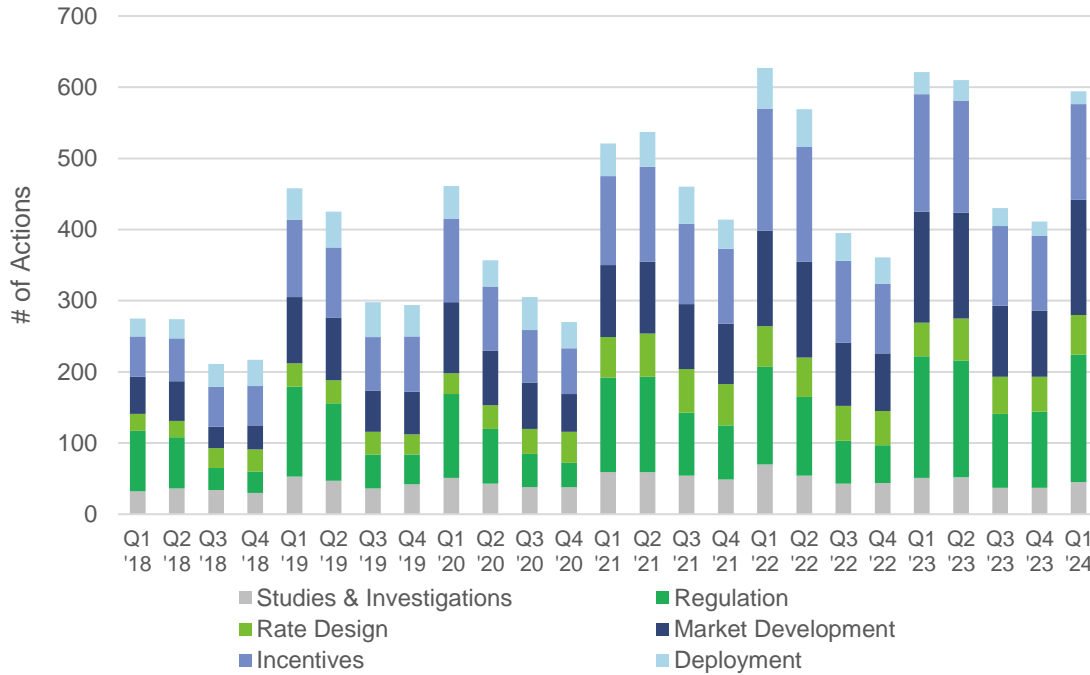


Figure 3. Electric Vehicle Action by Quarter, Q1 2018 to Q1 2024



TOP ELECTRIC VEHICLE POLICY TRENDS OF Q1 2024

States Consider Pulling Back or Prohibiting Zero-Emission Vehicle Targets

A prominent trend during Q1 2024 was that of states pulling back previously adopted zero-emission vehicle targets or prohibiting the adoption of vehicle emission standards – specifically, California’s Advanced Clean Cars II rules. In Kentucky, lawmakers enacted legislation that prohibits executive agencies from requiring the purchase of electric vehicles and prevents RFPs from including only electric vehicles. Another bill enacted in Kentucky prohibits state agencies from adopting California’s vehicle emission standards. Legislation introduced in Alaska, Louisiana, Maryland, and Minnesota would prohibit the adoption of vehicle emissions standards, while bills introduced in California, Minnesota, New Mexico, New York, Vermont, Virginia, and Washington would relax or repeal existing standards. Legislation introduced in New Hampshire would prohibit state agencies from buying or leasing electric vehicles for 10 years, and legislation under consideration in Louisiana would limit the percentage of electric vehicles in the state’s fleet to 3%. Meanwhile, Maine’s Board of Environmental Protection voted down the adoption of California’s Advanced Clean Cars II and Advanced Clean Trucks rules.

Lawmakers Pursue Battery Recycling Requirements

State lawmakers across the country are considering legislation adopting requirements for electric vehicle battery recycling. The California Senate passed a bill requiring all electric

vehicle traction batteries sold with motor vehicles in the state to be recovered and reused, repurposed, remanufactured, or recycled at the end of their useful life. Hawaii's State House passed legislation establishing an electric vehicle battery recycling and disposal program, with producers or importers of vehicles responsible for end-of-life management. Similarly, New Jersey lawmakers enacted legislation early in the quarter specifying that U.S. manufacturers or importers are responsible for end-of-life battery management and must submit battery management plans. State legislators in Illinois and Puerto Rico have also introduced bills including requirements for electric vehicle battery recycling.

States and Utilities Advance Bidirectional Charging Programs

A fast-growing number of states and utilities are advancing bidirectional charging programs in their territories. Maryland legislators enacted a bill that allows for bidirectional charging participation in virtual power plant programs and directs the Public Service Commission to establish expedited interconnection processes for bidirectional charging systems. DTE Electric's transportation electrification plan includes new vehicle-to-home and vehicle-to-grid pilot programs, and Southern California Edison proposed a new vehicle-to-grid rate. Legislation under consideration in California would also require new electric vehicles sold in the state, beginning with model year 2030, to be bidirectional capable. Florida lawmakers considered legislation that would have created a workgroup on bidirectional charging, and several utilities are also pursuing bidirectional charging activities using electric buses.

Figure 4. 2024 Proposed Legislation on Electric Vehicles (as of late April 2024)

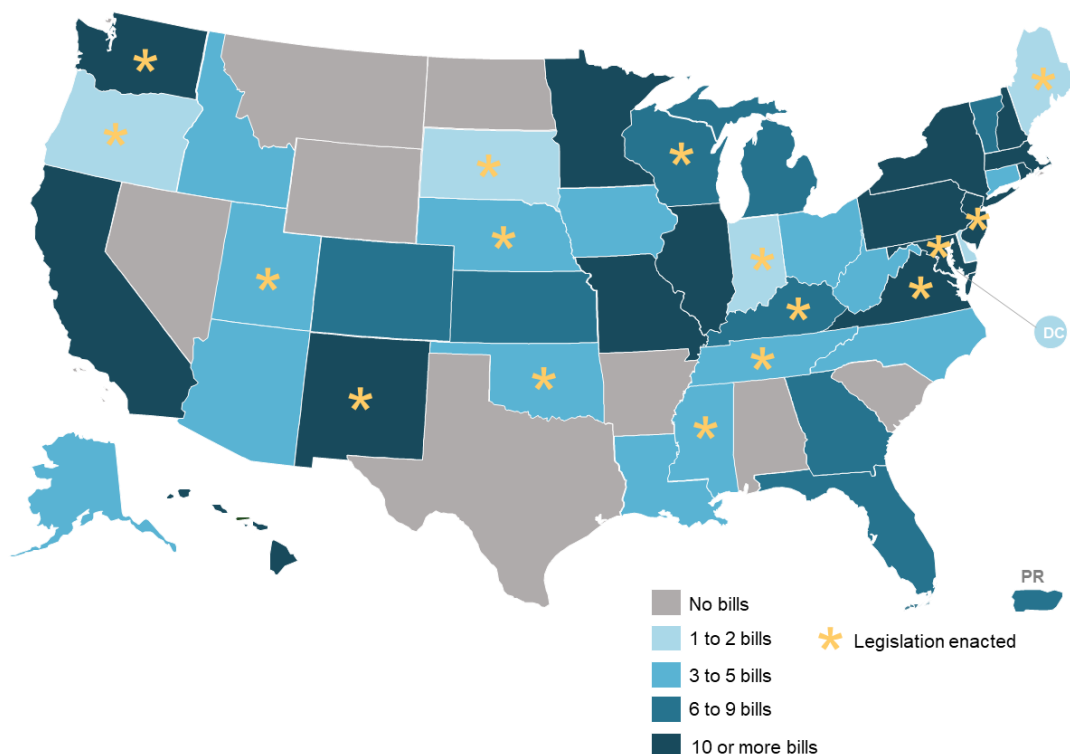
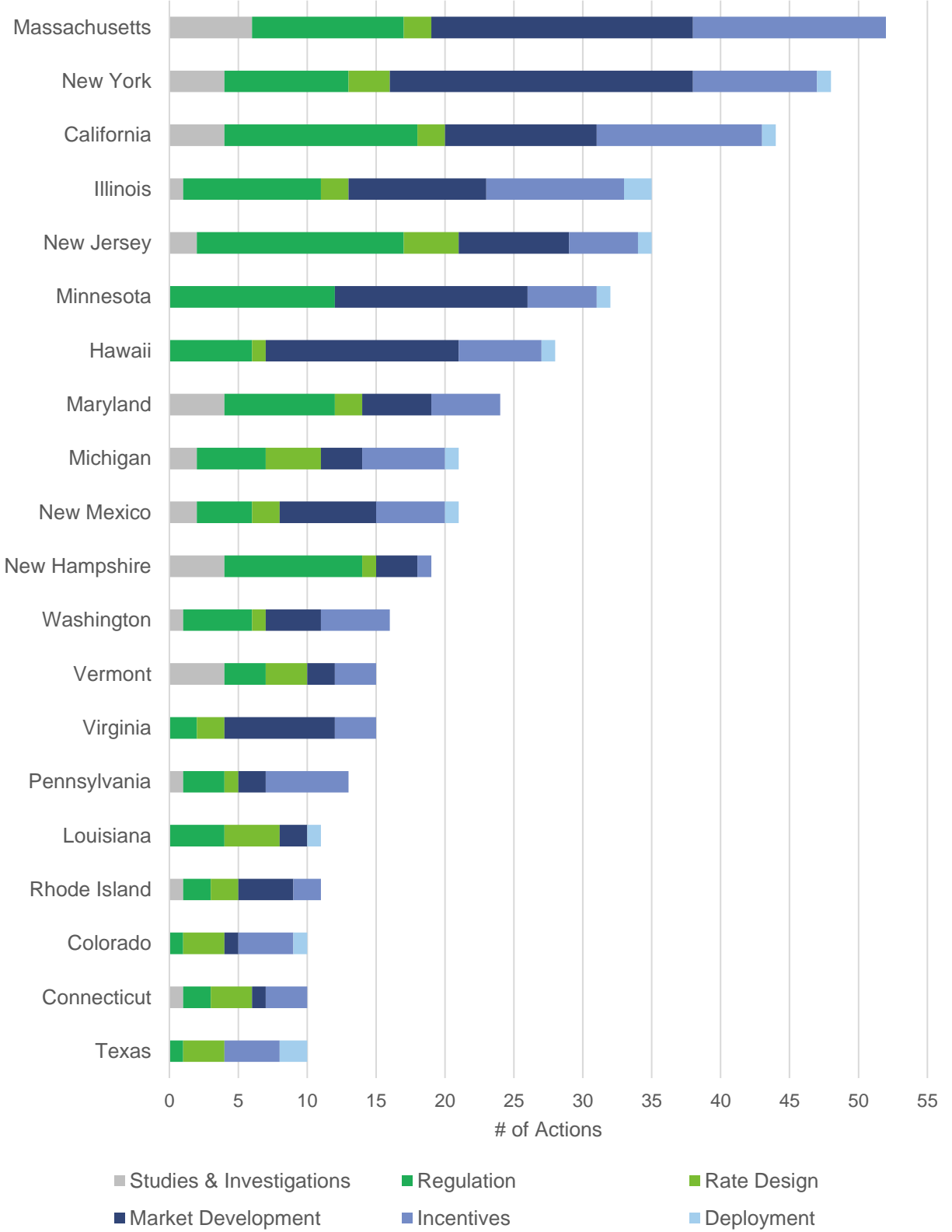


Figure 5. Most Active States of Q1 2024



FULL REPORT DETAILS & PRICING

FULL REPORT DETAILS

Content Included in the Full Quarterly Report:

- Detailed tables describing each pending and recently decided state and investor-owned utility action related to electric vehicles and charging infrastructure. Actions are broken out into the following categories:
 - Studies and Investigations
 - Regulation
 - Rate Design
 - Market Development
 - Financial Incentives
 - State and Utility Deployment
- Links to original legislation, dockets, and commission orders for each legislative and regulatory action
- Excel spreadsheet file of all actions taken during the quarter and separate Powerpoint file of all summary maps available upon request
- Qualitative analysis and descriptive summaries of electric vehicle policy action and trends
- Outlook of action for the next quarter

WHO SHOULD PURCHASE THIS REPORT

The 50 States of Electric Vehicles allows those involved in the electric and transportation industries to easily stay on top of legislative and regulatory changes. The report provides a comprehensive quarterly review of actions. At a cost of \$500 per issue (or \$1,500 annually), the 50 States of Electric Vehicles offers a significant time and financial savings. With direct links to original sources for all actions, customers may stay on top of legislative and regulatory developments between quarterly reports.

Electric Vehicle and Charging Infrastructure Companies

- Identify new market opportunities, as well as changing and risky markets
- Stay on top of state policy developments relevant to your business
- Give your own team a head start in tracking legislative and regulatory proceedings

Electric Utilities

- Learn about the approaches being taken by other utilities facing similar opportunities and challenges
- Stay on top of relevant state policy developments

- Utilize an objective source of information in legislative and regulatory proceedings

Investors and Financial Analysts

- Identify new investment opportunities and emerging areas of growth, as well as risky investments
- Identify active utility investment proceedings

Advocacy Organizations

- Learn about the electric vehicle actions under consideration across the country
- Learn about the outcomes of other states' policy discussions
- Utilize an objective source of information in legislative and regulatory proceedings

Researchers and Consultants

- Access valuable data requiring a vast amount of time to collect first-hand
- Identify research needs to inform electric vehicle proceedings
- Cite an objective source in your own research and analysis

PRICING

Visit <https://www.dsireinsight.com/subscriptions/> to purchase the full 50 States of Electric Vehicles Q1 2024 Quarterly Report or learn more about our additional subscription offerings.

Subscription Type	Annual Subscription	Single Report
50 States of Electric Vehicles Report	\$1,500	\$500
Single-Tech Subscription (Electric Vehicles) <i>(Includes 50 States of Electric Vehicles report, plus biweekly legislative & regulatory electric vehicle tracking, policy data sheets, & curated monthly email policy updates)</i>	\$4,500	N/A
All-Tech Subscription <i>(Includes 50 States of Electric Vehicles report, 50 States of Solar report, & 50 States of Grid Modernization report; plus biweekly legislative & regulatory tracking; policy data sheets, & monthly email policy updates for solar, grid modernization/energy storage, & electric vehicles)</i>	\$10,500	N/A

NON-PROFIT / GOVERNMENT DISCOUNT

A 20% discount is now available for non-profits and government entities. Please [contact us](#) for more information.

COMPLIMENTARY COPIES FOR POLICYMAKERS

We offer complimentary copies of the 50 States of Electric Vehicles, as well as the 50 States of Grid Modernization and the 50 States of Solar, to **policymakers and regulators** (limited to federal and state legislators and staffers, utility commissioners, utility commission staff, state consumer advocate office staff, and state energy office staff). [Contact us](#) to receive a complimentary copy of the most recent report.

CUSTOMIZED SOLUTIONS

The NC Clean Energy Technology Center also offers customized policy research and analysis services. Visit <http://www.dsireusa.org/services/> to learn more.