50 STATES OF ELECTRIC VEHICLES

Q1 2022 Quarterly Report

Executive Summary

NC CLEAN ENERGY TECHNOLOGY CENTER

May 2022

AUTHORS

Rebekah de la Mora
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 2022 Quarterly Report,* May 2022.

COVER DESIGN CREDIT

Cover design is by Capital City Creative.

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* and *The 50 States of Grid Modernization*. 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 2022 ELECTRIC VEHICLE ACTION

In Q1 2022, 50 states plus DC took a total of 627 actions related to electric vehicles. Table 1 provides a summary of state and utility actions occurring during Q1 2022. Of the 627 actions catalogued, the most common were related to Financial Incentives (172), followed by Regulation (137), and Market Development (134).

Table 1. Q1 2022 Summary of Electric Vehicle Actions

Type of Action	# of Actions	% by Type	# of States
Financial Incentives	172	27%	37
Regulation	137	22%	39
Market Development	134	21%	25
Studies and Investigations	70	11%	31
Rate Design	57	9%	29
Deployment	57	9%	23 + DC
Total	**627**	**100%**	**50 + DC States**

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 2022

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

Washington Lawmakers Approve Light-Duty Vehicle Electrification Target

The Washington State Legislature enacted S.B. 5974 in March 2022, which sets a target for the state of having all publicly and privately owned passenger and light-duty vehicles of model year 2030 or later solar, purchased, or registered in the state be electric vehicles. The bill also creates an interagency electric vehicle coordinating council that will develop a plan to achieve the target.

Utilities File New Managed Charging Pilots in North Carolina and Wisconsin

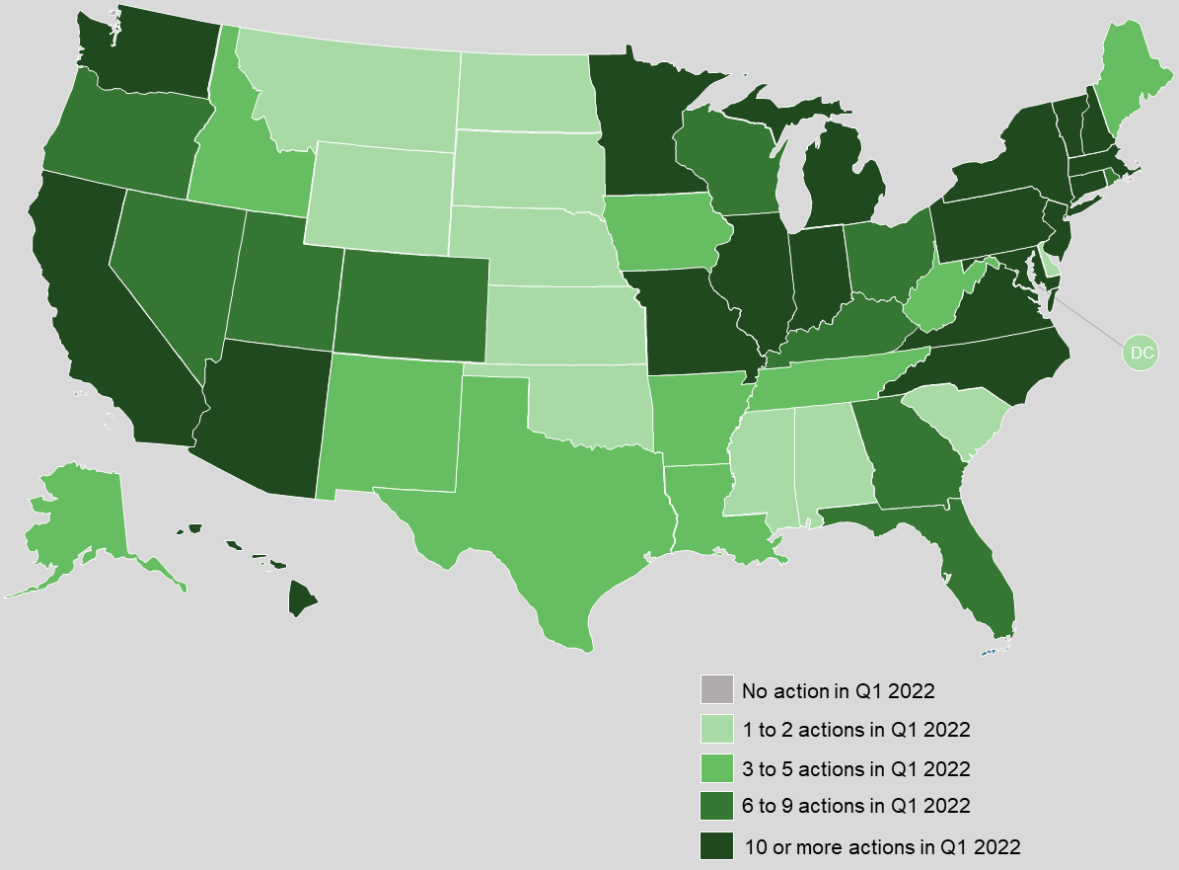
Duke Energy filed an application for a new managed charging pilot program in North Carolina in February 2022, which would allow residential customers to pay a fixed monthly rate for at-home charging, with the utility using vehicle telematics to actively manage charging. In

Wisconsin, Madison Gas & Electric requested approval for three new managed charging pilot programs, targeting multi-family buildings, fleets, and residential customers.

Missouri Regulators Approve New Utility Transportation Electrification Programs

In January 2022, the Missouri Public Service Commission issued decisions on transportation electrification portfolios proposed by Empire District Electric and Evergy. For Empire District Electric, regulators approved a residential charging station subscription program and programs to deploy utility-owned charging infrastructure at commercial sites. For Evergy, the Commission approved a new residential rebate program and an electric transit service rate.

Figure 1. Q1 2022 State and Utility Action on Electric Vehicles



North Carolina Governor Increases Zero-Emission Vehicle Adoption Target

The Governor of North Carolina issued an executive order in January 2022, increasing the state's goal for registered zero-emission vehicles to 1.25 million by 2030. The order also sets a goal of having at least 50% of new vehicle sales in the state be zero-emission by 2030. The

order directs the state's Department of Transportation to develop a Clean Transportation Plan for decarbonizing the transportation sector through a variety of strategies.

Georgia Legislators Adopt Resolution to Study Transportation Electrification

The Georgia General Assembly unanimously adopted a resolution in March 2022 creating a committee to study transportation electrification. The committee will develop a comprehensive, strategic plan setting policy objectives for infrastructure, economic preparedness, transportation funding, innovation, and the development of a successful electric vehicle market in the state.

Figure 2. Top Electric Vehicle Actions of Q1 2022

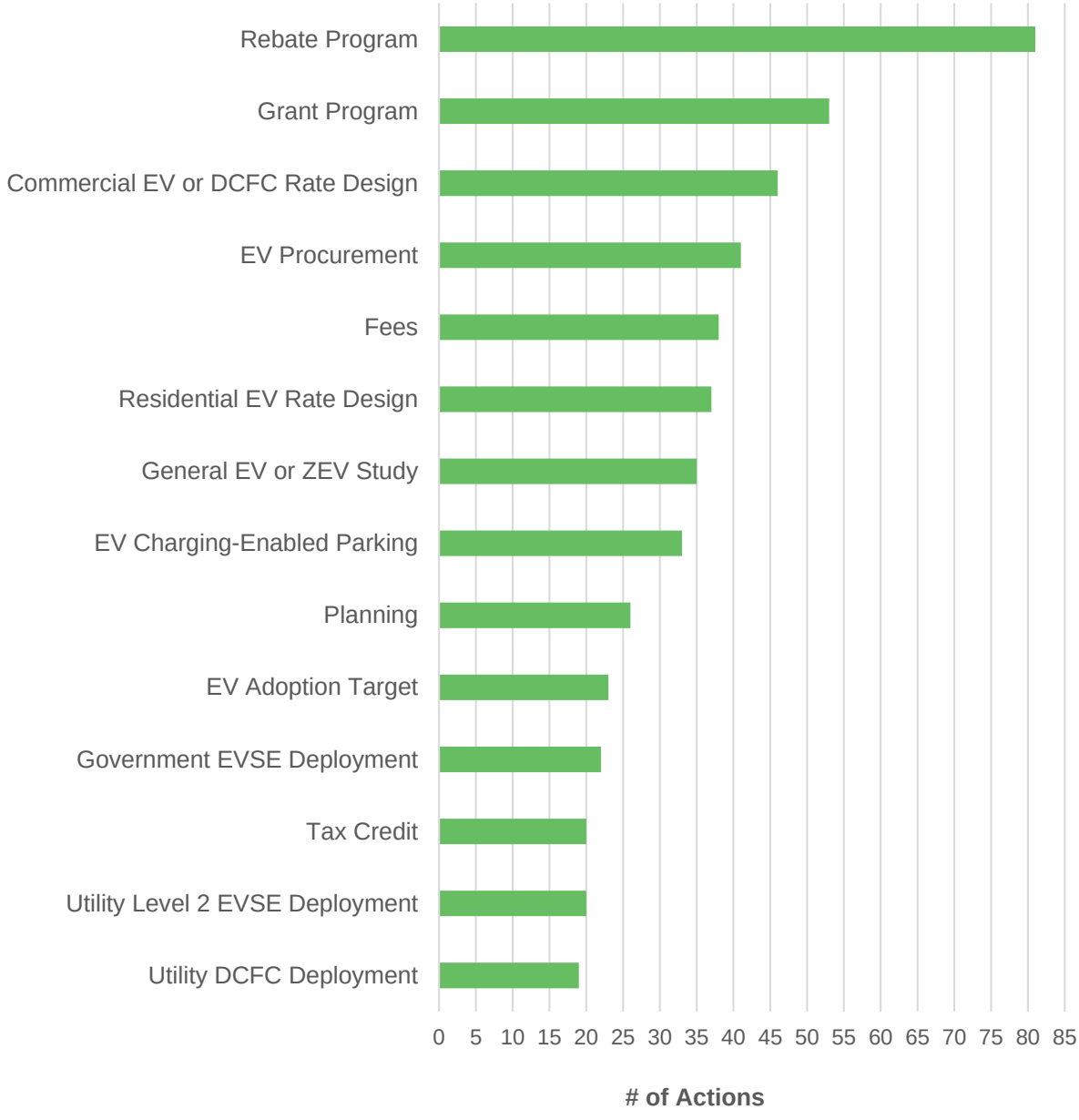
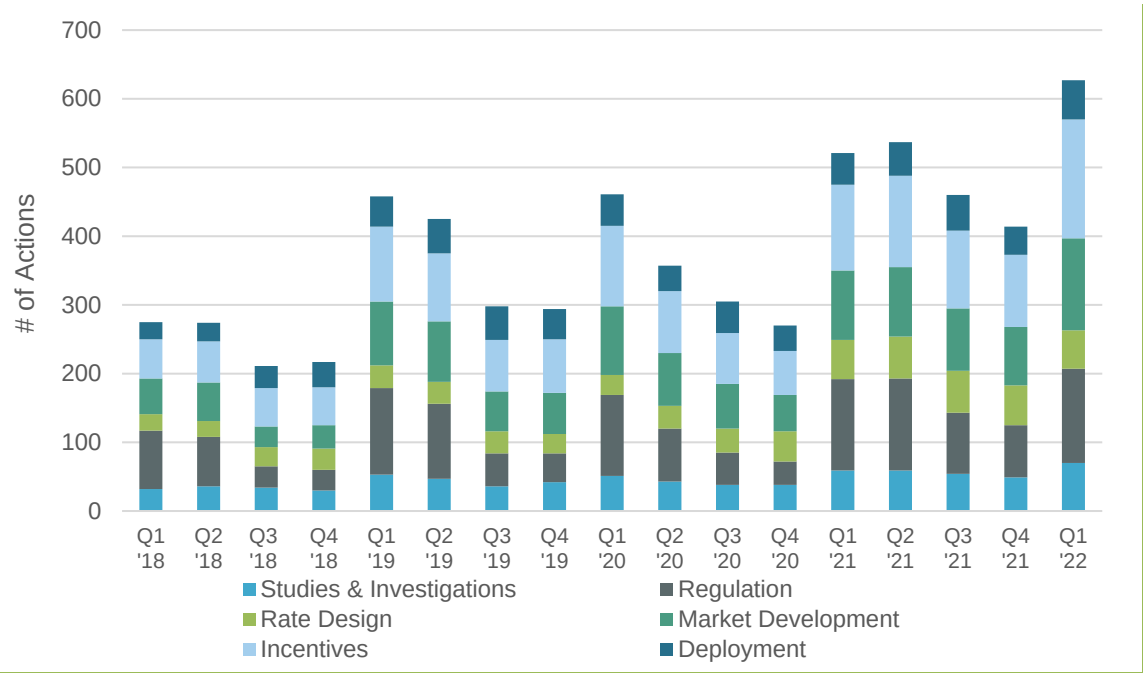


Figure 3. Electric Vehicle Action by Quarter, Q1 2018 to Q1 2022



TOP ELECTRIC VEHICLE POLICY TRENDS OF Q1 2022

States Planning for Federal Electric Vehicle Infrastructure Funding

During Q1 2022, many states began preparing for the use of federal electric vehicle infrastructure funding from the Infrastructure Investment and Jobs Act, enacted in November 2021. The North Carolina Utilities Commission opened a proceeding to collect comments related to the use of this funding, while West Virginia lawmakers enacted a bill requiring the creation of an electric vehicle infrastructure development plan for the use of National Electric Vehicle Infrastructure formula program funding. Similarly, the Montana Department of Environmental Quality is developing a plan for the use of this funding and a Kentucky bill would require the preparation of an electric vehicle infrastructure development plan for these funds. Other states considered legislation to create special funds for federal appropriations for electric vehicle infrastructure.

Utilities Developing Active Managed Charging Pilot Programs

A growing number of utilities are developing managed charging pilot programs to minimize grid impacts and provide system-wide benefits. In North Carolina, Duke Energy proposed a new managed charging pilot, where customers would pay a fixed monthly fee for at-home charging, with the utility able to pause charging for up to four hours, three times per month. Madison Gas & Electric requested approval for three new managed charging programs in Wisconsin during the quarter, including a program that will use a telematics platform for the utility to control vehicle charging. In Minnesota, regulators approved Xcel Energy's EV Optimization pilot in

March 2022. Through the pilot, Xcel Energy will work with customers to schedule daily vehicle charging based on the customer's choice of a preferred schedule that ensures charging occurs outside of the system peak. A managed charging working group has been working to refine managed charging programs for Eversource and United Illuminating in Connecticut, with revised design requirements filed in late April 2022. The programs will include both passive and active managed charging programs.

State Lawmakers Addressing Charging Infrastructure Siting Issues

Lawmakers in several states addressed issues related to charging infrastructure siting during the quarter. In Delaware, legislators passed a bill that requires municipalities with at least 30,000 people to adopt ordinances establishing a procedure to obtain a permit to install a charging station on property next to residential streets. Legislators in Utah and Washington enacted bills prohibiting homeowners' associations from unreasonably restricting the ability of homeowners to install electric vehicle charging equipment. Utah's legislation also specifies that associations may not charge a fee for homeowners to install or use charging stations. Similar legislation is pending in Hawaii, Illinois, and New York. In Hawaii, lawmakers are also considering a bill that would require homeowners' associations and other community associations to develop plans incorporating zero-emission vehicle fueling stations into their residential properties constructed after January 1, 2023.

Figure 4. 2022 Proposed Legislation on Electric Vehicles (as of late April 2022)

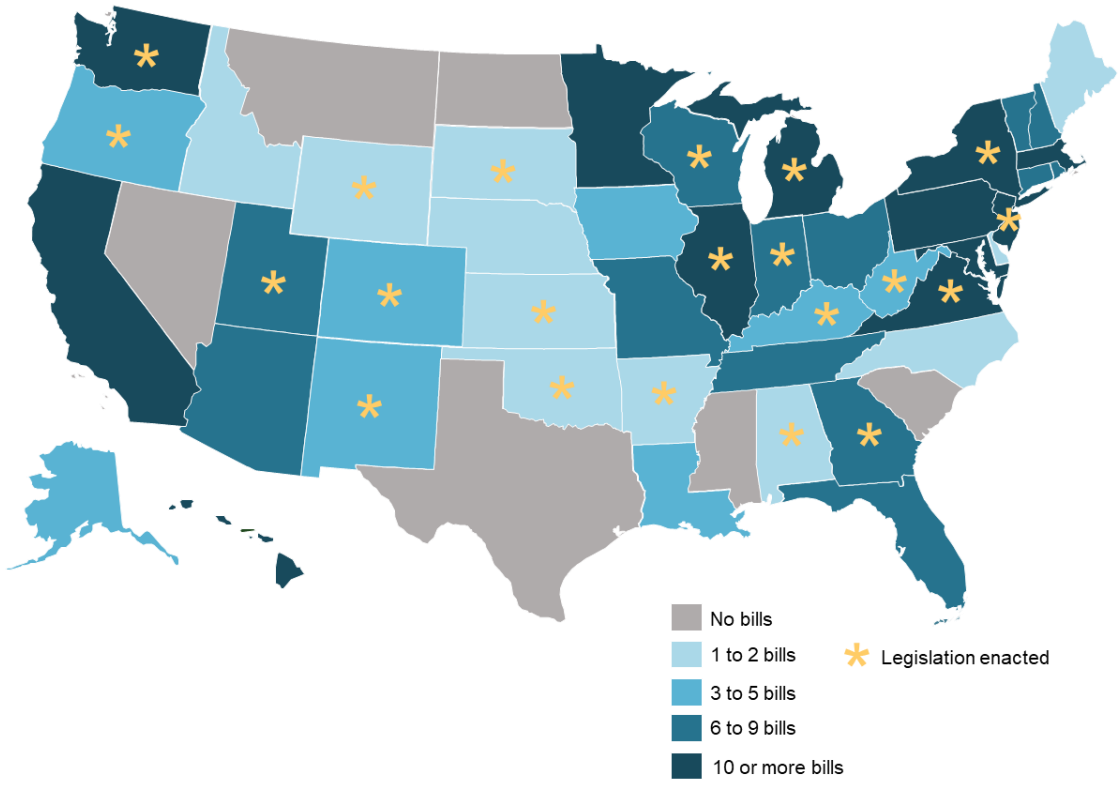
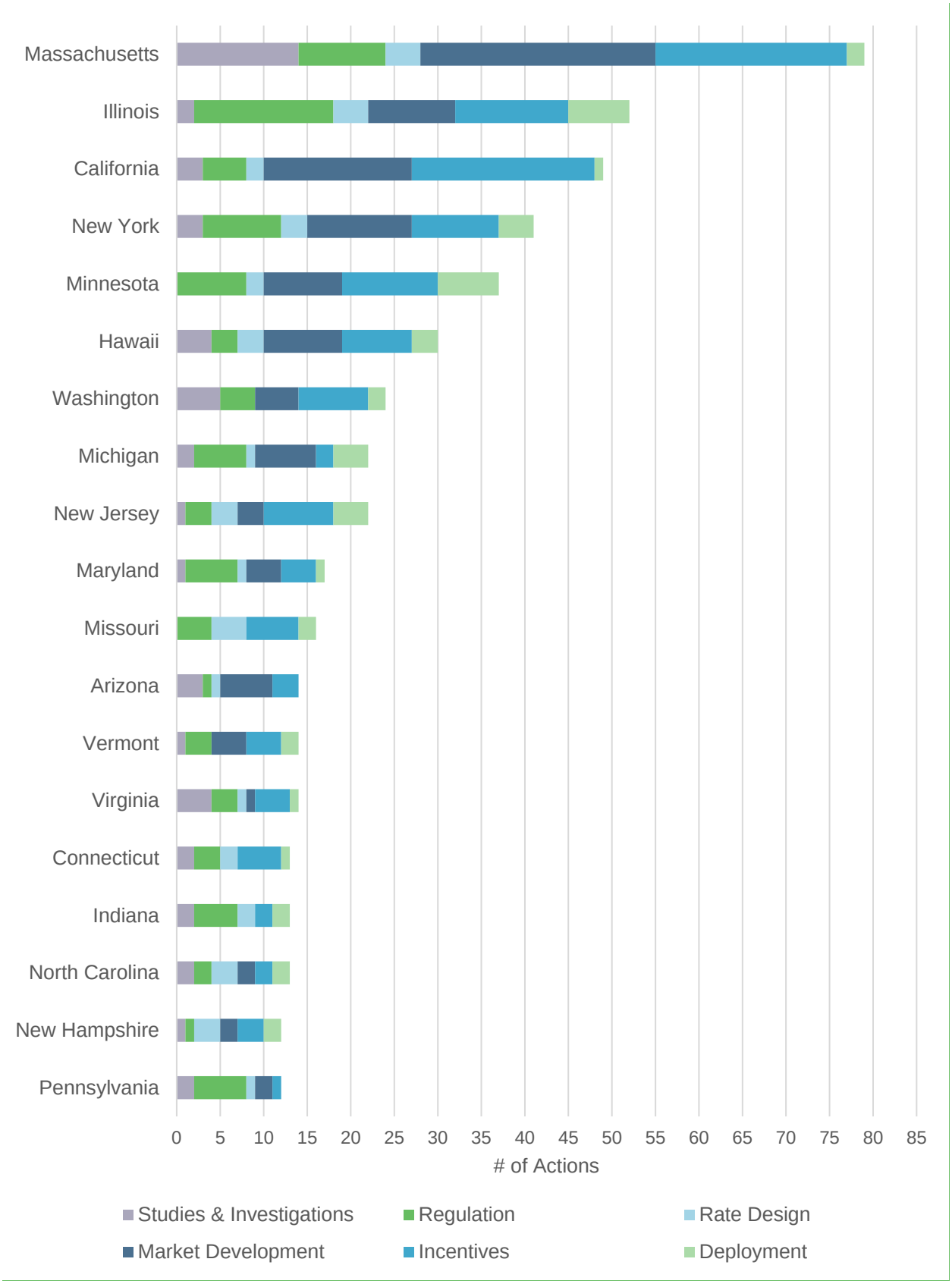


Figure 5. Most Active States of Q1 2022



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 2022 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) *(Includes 50 States of Electric Vehicles report, plus biweekly legislative & regulatory electric vehicle tracking, policy data sheets, & curated monthly email policy updates)*	$4,500	N/A
All-Tech Subscription *(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)*	$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.