

# 50 STATES OF ELECTRIC VEHICLES

Q3 2022 Quarterly Report

Executive Summary



## AUTHORS

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](mailto:afproudl@ncsu.edu))

## PREFERRED CITATION

North Carolina Clean Energy Technology Center, *The 50 States of Electric Vehicles: Q3 2022 Quarterly Report*, November 2022.

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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

## Q3 2022 ELECTRIC VEHICLE ACTION

In Q3 2022, 37 states plus DC took a total of 395 actions related to electric vehicles. Table 1 provides a summary of state and utility actions occurring during Q3 2022. Of the 395 actions catalogued, the most common were related to Financial Incentives (115), followed by Market Development (89), and Regulation (60). All 50 states, plus DC and Puerto Rico, took actions planning for National Electric Vehicle Infrastructure (NEVI) program funding distribution.

**Table 1. Q3 2022 Summary of Electric Vehicle Actions**

Type of Action	# of Actions	% by Type	# of States
Financial Incentives	115	29%	19 + DC
Market Development	89	23%	15
Regulation	60	15%	17 + DC
NEVI Planning <i>(Not Included in Totals)</i>	52	-	50 + DC, PR
Rate Design	49	12%	28
Studies and Investigations	43	11%	23
Deployment	39	10%	17
<b>Total</b>	<b>395</b>	<b>100%</b>	<b>37 States + DC</b>

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 Q3 2022

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

### California Regulators Adopt Electric Vehicle Submetering Protocol

The California Public Utilities Commission issued a decision in August 2022, adopting an electric vehicle submetering protocol and electric vehicle supply equipment communication protocols. The order requires investor-owned utilities to implement the submetering protocol for all customers with plug-in electric vehicles, enabling special rate structures to apply to a customer's vehicle charging load without the need for a separate meter to be installed.

### Massachusetts Lawmakers Enact Expansive Electric Vehicle Legislation

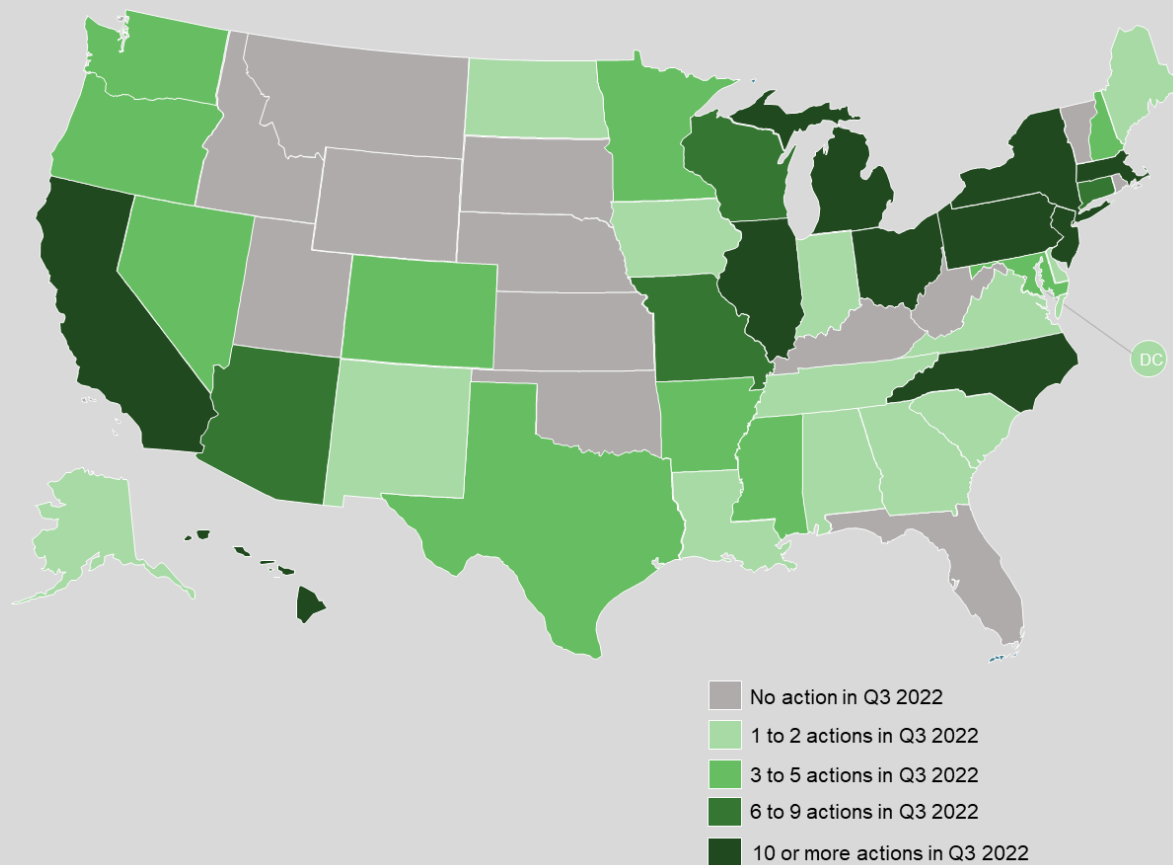
Massachusetts legislators enacted an expansive bill in August 2022 including numerous provisions related to electric vehicles. The bill establishes a rebate program for zero-emission

vehicles, directs distribution companies to submit electric vehicle rate proposals, and requires all Massachusetts Bay Transportation Authority passenger bus purchases and leases to be zero-emission vehicles by December 31, 2030.

### Duke Energy Carolinas Files Residential Vehicle-To-Grid Pilot Proposal in North Carolina

In North Carolina, Duke Energy Carolinas filed an application for approval of a vehicle-to-grid pilot program in August 2022. The pilot would be available to residential customers with chargers at their primary residences who are leasing bi-directional capable electric vehicles from participating OEMs. Duke Energy plans to launch the pilot in 2023 with the Ford F150 Lightning as the first eligible vehicle.

**Figure 1. Q3 2022 State and Utility Action on Electric Vehicles**



### South Carolina Energy Office Releases Transportation Electrification Report

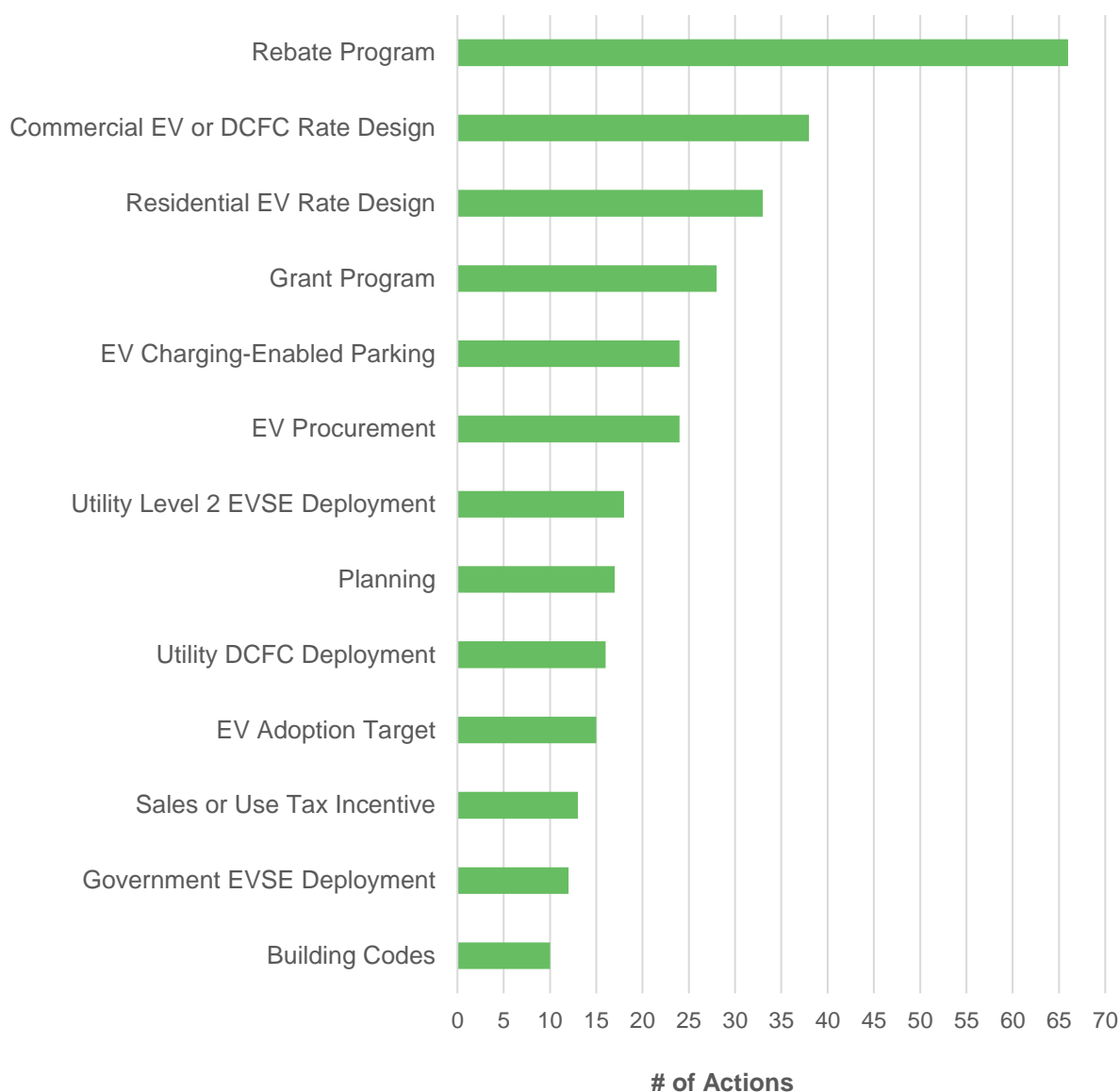
The South Carolina Energy Office released its transportation electrification report in September 2022, as required by legislation enacted in 2021. The report includes 27 recommendations

related to electric vehicle awareness efforts, public-private collaboration, an electrification roadmap, and legislative actions. The recommendations were developed by five working groups, which focused on infrastructure, incentives and financing, education and workforce development, public entities, and equity and accessibility.

### Maine Public Utilities Commission Approves Beneficial Electrification Rates

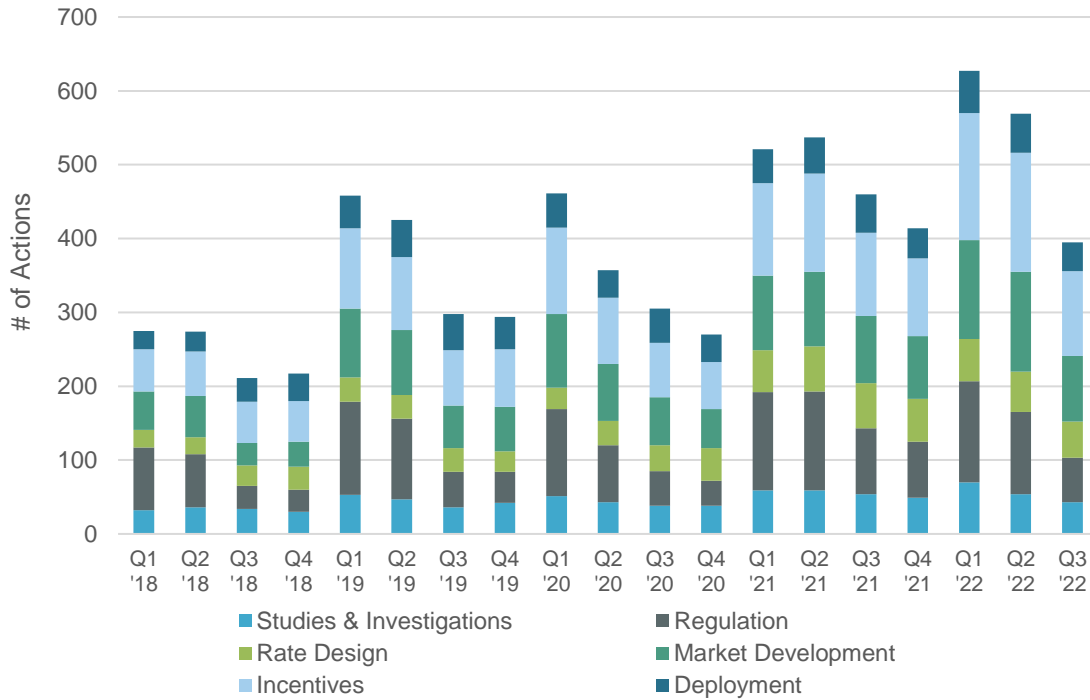
In September 2022, the Maine Public Utilities Commission approved rates designed to promote beneficial electrification for Central Maine Power and Versant Power. The rates include several tariffs designed for electric vehicle charging, energy storage, and heat pumps. The approved designs include separately-metered residential time-of-use rates and coincident peak rates for commercial charging stations.

**Figure 2. Top Electric Vehicle Actions of Q3 2022**





**Figure 3. Electric Vehicle Action by Quarter, Q1 2018 to Q3 2022**



## TOP ELECTRIC VEHICLE POLICY TRENDS OF Q3 2022

### States Planning for Distribution of National Electric Vehicle Infrastructure (NEVI) Program Funding

The Infrastructure Investment and Jobs Act, enacted by Congress in November 2021, provides transportation electrification funding for states to distribute through the National Electric Vehicle Infrastructure (NEVI) program. The NEVI program is focused on improving major transportation corridors through the U.S., with states required to develop Alternative Fuel Corridors on interstate highways. States were required to file deployment plans with the Federal Highway Administration (FHWA) by August 1, 2022, and the FHWA approved each state’s plan in September 2022. Following this approval, state agencies are now taking steps to implement their plans, with several states holding stakeholder workshops or issuing requests for information in advance of requests for proposals. This report contains a bonus section tracking each state’s activity related to the planning and distribution of NEVI program funding.

### Utilities Exploring Vehicle-To-Grid Capabilities

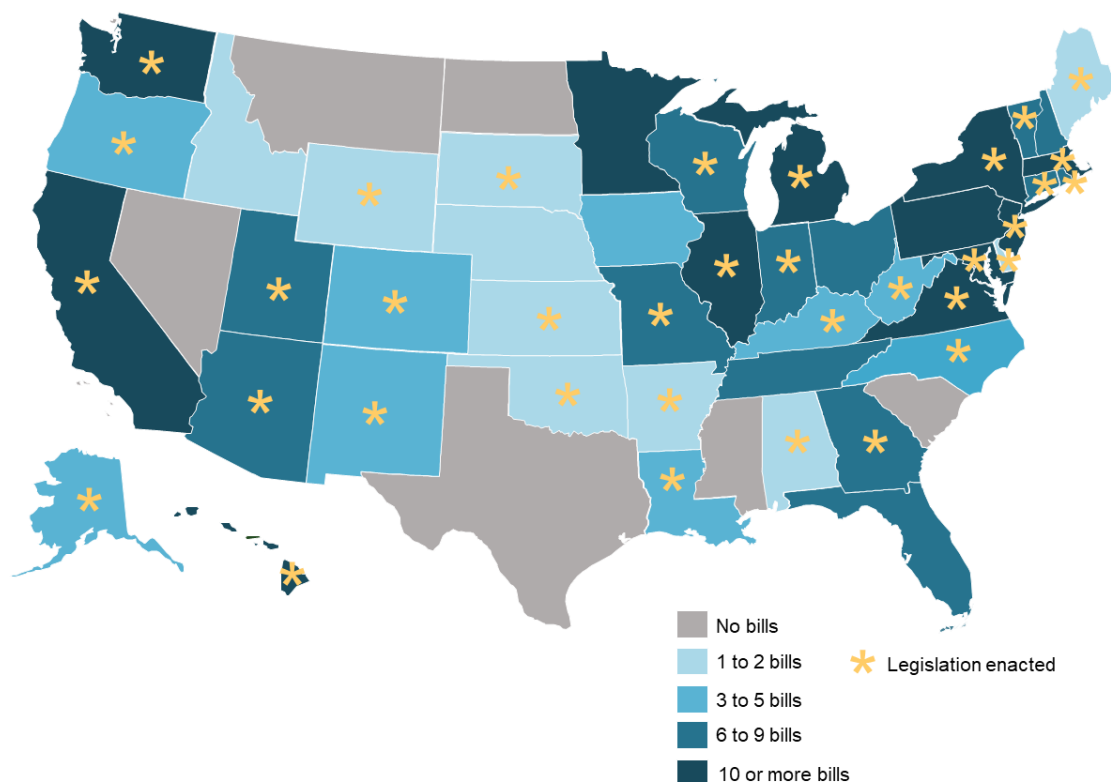
Utilities are increasingly exploring vehicle-to-grid capabilities and program designs through pilots, with many of these focused on larger vehicles, such as electric buses. In California, regulators are considering San Diego Gas & Electric’s proposed Vehicle-to-Grid Commodity Export rate, while a decision filed in October 2022 adopts rules for the compensation of

exported electricity from vehicles served under Pacific Gas & Electric’s real-time pricing tariff. Xcel Energy in Minnesota and NV Energy in Nevada filed proposals for vehicle-to-grid pilots targeting electric buses, while First Energy requested approval for a vehicle-to-grid-program that would enroll commercial or government customers. In North Carolina, Duke Energy Carolinas filed an application for approval of a vehicle-to-grid pilot targeting residential customers leasing electric vehicles with battery discharge capability.

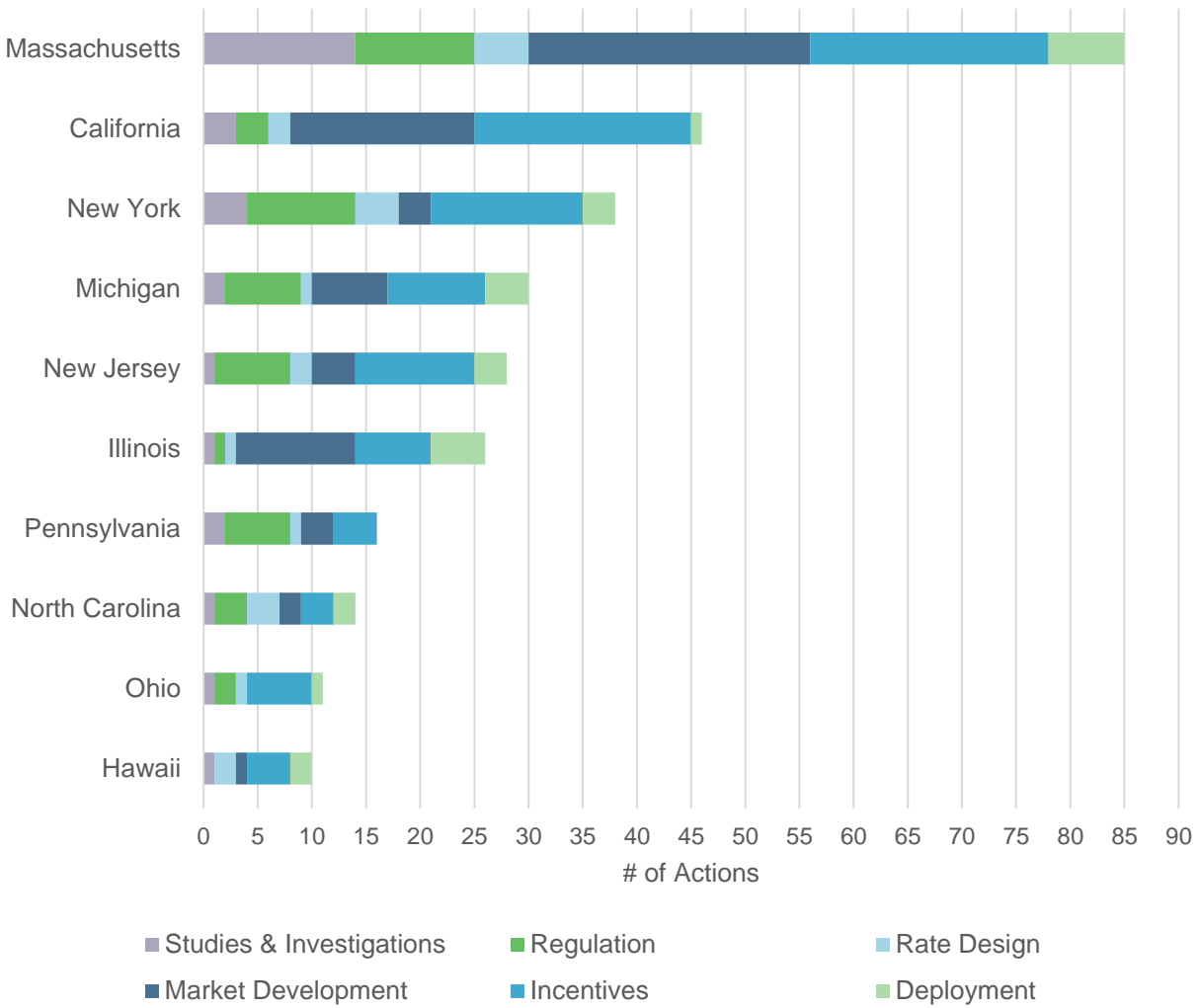
### Utilities Deploying Charging Infrastructure at Multi-Unit Dwellings

A number of utilities across the country are targeting multi-unit dwellings for charging infrastructure deployment in order to help overcome some of the challenges of reaching this market segment. In Connecticut, United Illuminating proposed a municipal curbside charging pilot for “garage orphan” residents in areas with limited off-street parking, which are often areas with high rates of multi-family dwellings. New York State Electric & Gas and Rochester Gas & Electric are taking a similar approach in New York, proposing a municipal curbside charging pilot to provide affordable curbside charging to residential customers without access to in-home charging. Southern Maryland Electric Cooperative filed its plans to install, own, and operate charging stations at multi-unit dwelling properties, and Xcel Energy in Wisconsin requested approval for a new multi-family electric vehicle service pilot that would allow the utility to own charging infrastructure at these sites.

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



**Figure 5. Most Active States of Q3 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

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Subscription Type	Annual Subscription	Single Report
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