

50 STATES OF ELECTRIC VEHICLES

Q3 2021 Quarterly Report

Executive Summary



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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.

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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

Q3 2021 ELECTRIC VEHICLE ACTION

In Q3 2021, 46 states plus DC took a total of 460 actions related to electric vehicles. Table 1 provides a summary of state and utility actions occurring during Q3 2021. Of the 460 actions catalogued, the most common were related to Financial Incentives (113), followed by Market Development (91), and Regulation (89).

Table 1. Q3 2021 Summary of Electric Vehicle Actions

Type of Action	# of Actions	% by Type	# of States
Financial Incentives	113	25%	30
Market Development	91	20%	19
Regulation	89	19%	25 + DC
Rate Design	61	13%	29
Studies and Investigations	54	12%	26
Deployment	52	11%	33 + DC
Total	460	100%	46 States + DC

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 2021

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

New York State Legislature Adopts 100% Zero-Emission Vehicle Sales Goals

The New York State Legislature enacted legislation in September 2021 establishing a goal for 100% of new passenger car and truck sales be zero-emission vehicles by 2035. The bill also sets goals of having 100% of medium- and heavy-duty vehicle sales be zero-emission vehicles by 2045 and 100% of off-road vehicles and equipment be zero-emission by 2035.

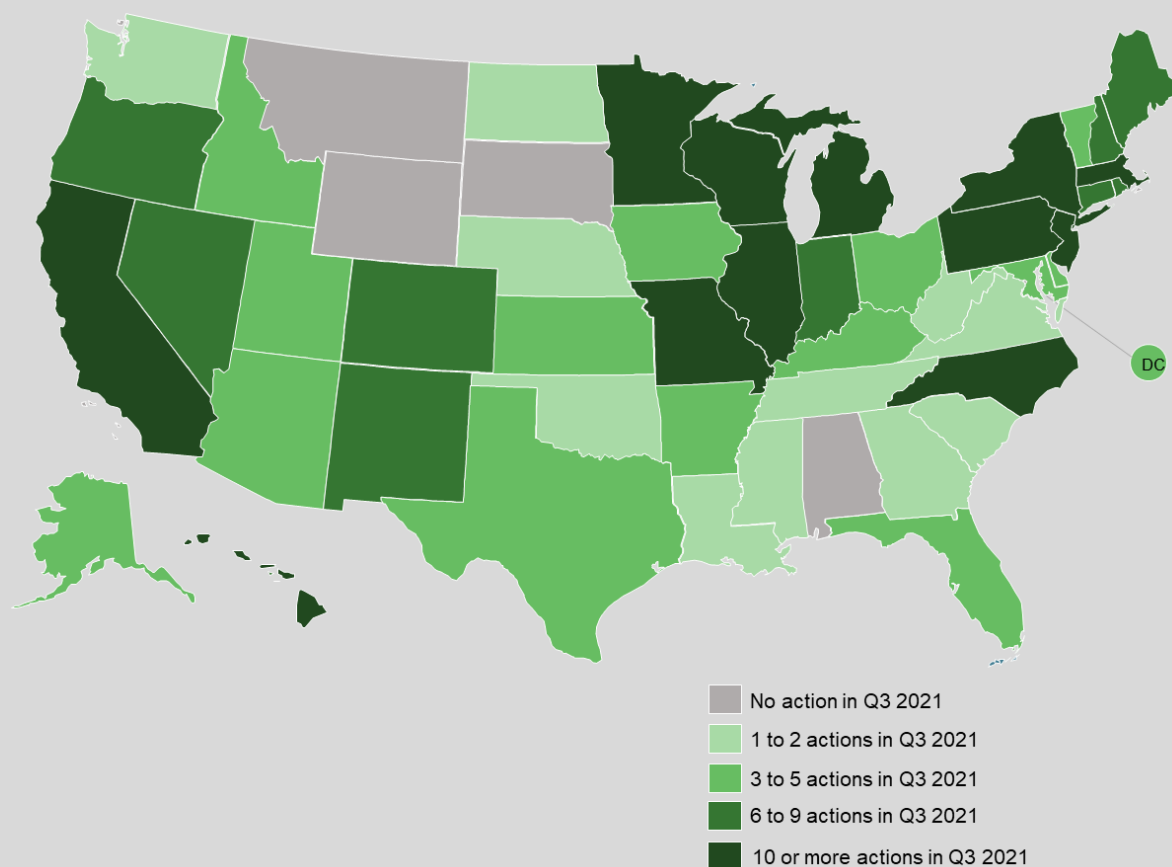
Massachusetts Utilities File Electric Vehicle Plans

Massachusetts' three investor-owned utilities, Eversource, National Grid, and Unitil, filed electric vehicle plans in July 2021 including a variety of new incentives for different charging segments, rate structures to promote off-peak charging and encourage DC fast charger development, and make-ready infrastructure deployment. Eversource's plan totals \$191.9 million, National Grid's plan is \$277.76 million, and Unitil's plan is about \$1 million.

Connecticut Regulators Approve Electric Vehicle Incentive Program

The Connecticut Public Utilities Regulatory Authority issued a decision in July 2021, approving the use of a make-ready ownership model for utility investment in charging infrastructure. The Authority also approved a new incentive program, which includes rebates for charging infrastructure for residential buildings, multi-unit buildings, destinations, workplaces, and light-duty fleets, as well as DC fast charging. The utilities are also to develop managed charging programs.

Figure 1. Q3 2021 State and Utility Action on Electric Vehicles



Illinois Legislators Require Utilities to File Beneficial Electrification Plans

Illinois lawmakers enacted major energy legislation in September 2021, which includes a number of important provisions for transportation electrification. Among these provisions is a directive for utilities to file beneficial electrification plans by July 1, 2022 that include make-ready infrastructure deployment, time-of-use rate for vehicle charging, optimized charging programs, commercial charging tariffs with demand charge alternatives, and increased access to DC fast charging.

New Mexico Regulators Approve Xcel Energy Transportation Electrification Plan

In September 2021, New Mexico regulators approved a slightly modified version of Xcel Energy's \$3.168 million transportation electrification plan. The plan includes residential wiring and charging station rebates, a managed charging program, a utility-owned residential charging service, make-ready infrastructure deployment for public charging, utility-owned fast charging station deployment, and advisory services.

Figure 2. Top Electric Vehicle Actions of Q3 2021

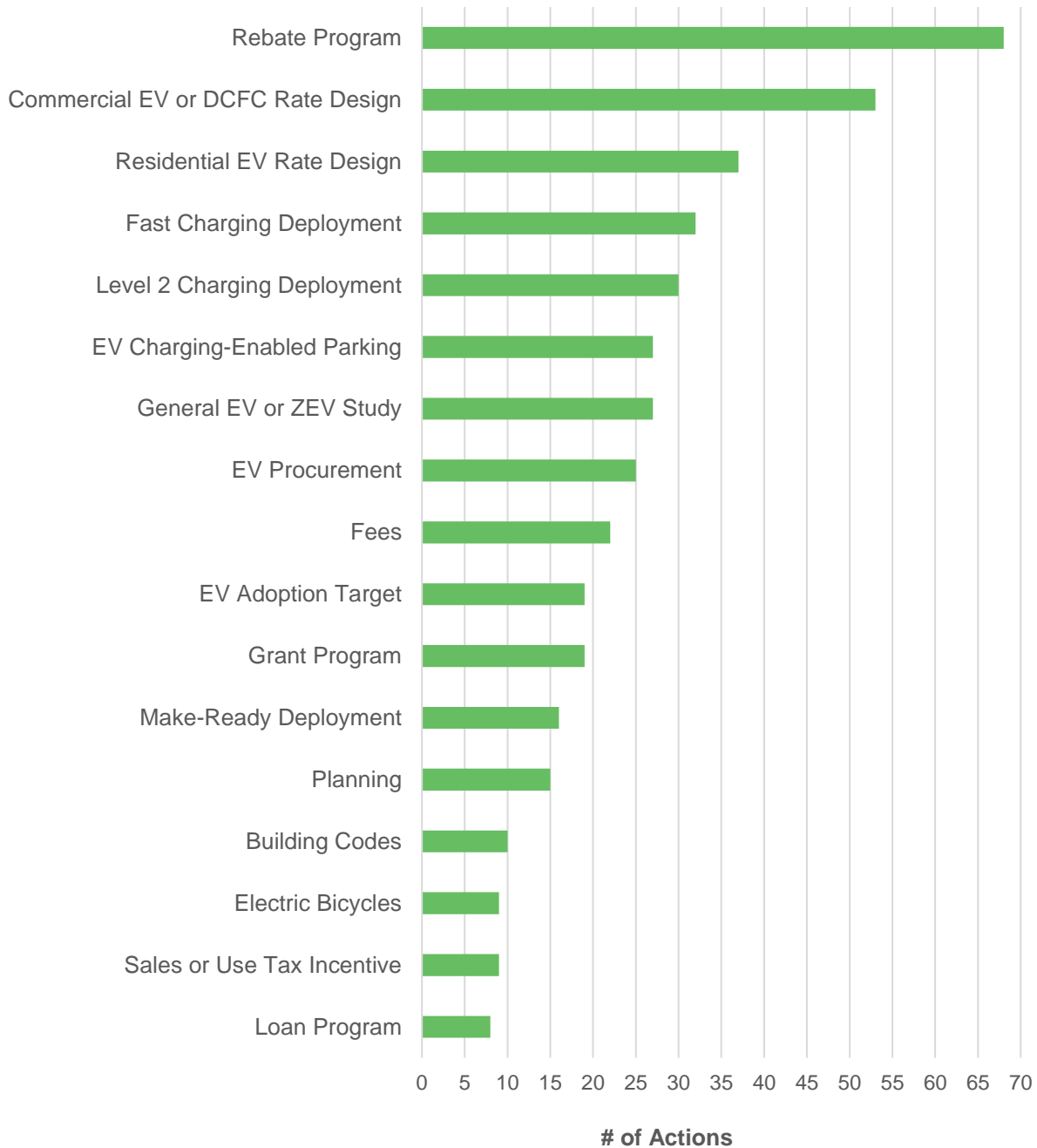
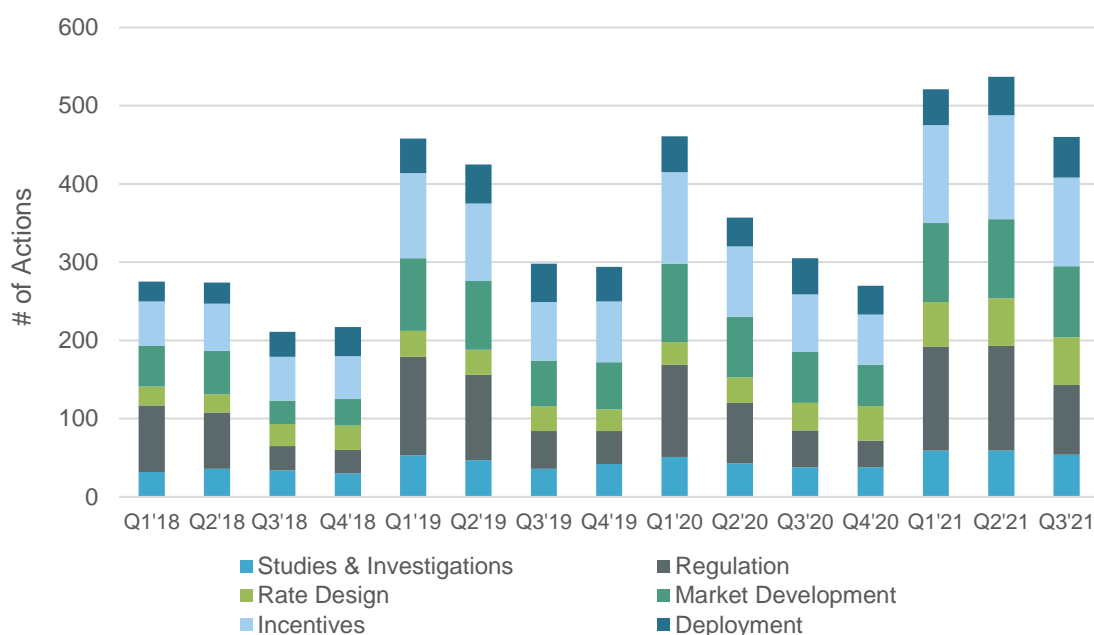


Figure 3. Electric Vehicle Action by Quarter, Q1 2018 to Q3 2021



TOP ELECTRIC VEHICLE POLICY TRENDS OF Q3 2021

Demand Charge Alternatives Based on Utilization Under Consideration

In a growing number of states, demand charge alternatives based on charger utilization are being considered as a rate design to encourage the development of fast charging infrastructure. In Massachusetts, all three investor-owned utilities proposed new demand charge alternatives that include a sliding scale of demand charges based on load factor, with remaining demand costs recovered through energy charges. Connecticut regulators recently directed utilities to file tariffs for separately-metered fast chargers and networked Level 2 chargers serving light-duty fleets that include demand charges that are lower when a station's load factor is low. The tariffs are also to include on-peak and off-peak kWh distribution charges that are higher when load factor is low. In Alaska, the railbelt electric utilities proposed a new rate structure that temporarily eliminates demand charges for DC fast chargers and instead recover costs through energy charges that are based on load factor.

States and Utilities Pursuing Transportation Electrification Through Regional Cooperation

States and utilities have been increasingly working to accelerate charging infrastructure deployment through regional cooperation. In late September 2021, the governors of five Midwestern states entered into a memorandum of understanding to create a regional framework to accelerate vehicle electrification. The states will work to coordinate regulatory schemes and share data and best practices. Similarly, the governors of eight intermountain

west states have also entered into a memorandum of understanding to collaborate on charging infrastructure development along major transportation corridors. An ever-growing number of utilities are also joining the Electric Highway Coalition, which aims to develop a network of DC fast charging stations along major highways. Several states have also signed memoranda of understanding to support zero-emission vehicle deployment and to accelerate bus and truck electrification.

States Dedicating Transportation Electrification Funds for Underserved Communities

Several states are adopting new requirements for utility transportation electrification investment that require a substantial portion of the investment be in underserved communities. The California Public Utilities Commission issued an order in July 2021 requiring that any utility proposal for transportation electrification investments dedicate at least 50% of the infrastructure or expenditures to underserved communities. Connecticut’s recently approved electric vehicle incentive program also includes higher incentive payments for underserved communities. Legislation enacted in Illinois in September 2021 requires that beneficial electrification plans dedicate at least 40% of make-ready infrastructure investment and 5% of bus electrification investment to environmental justice and low-income communities.

Figure 4. 2021 Proposed Legislation on Electric Vehicles (as of late October 2021)

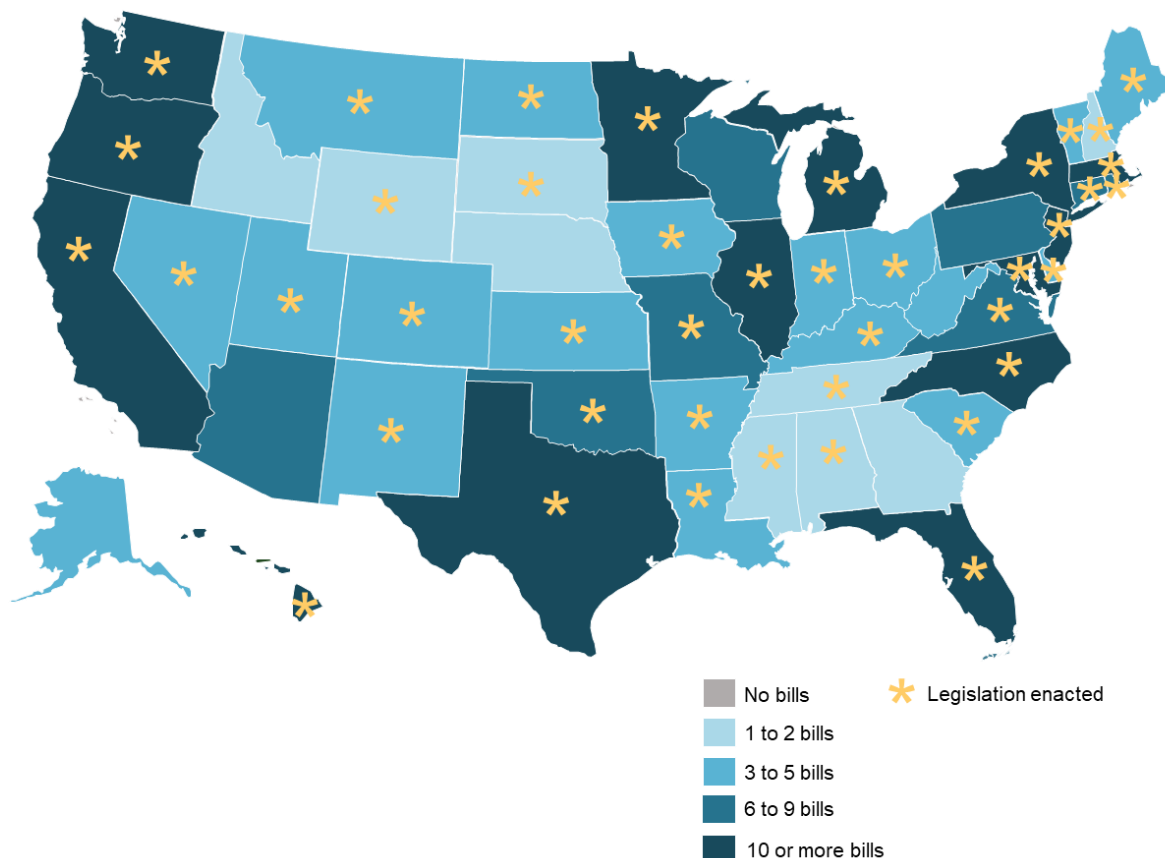
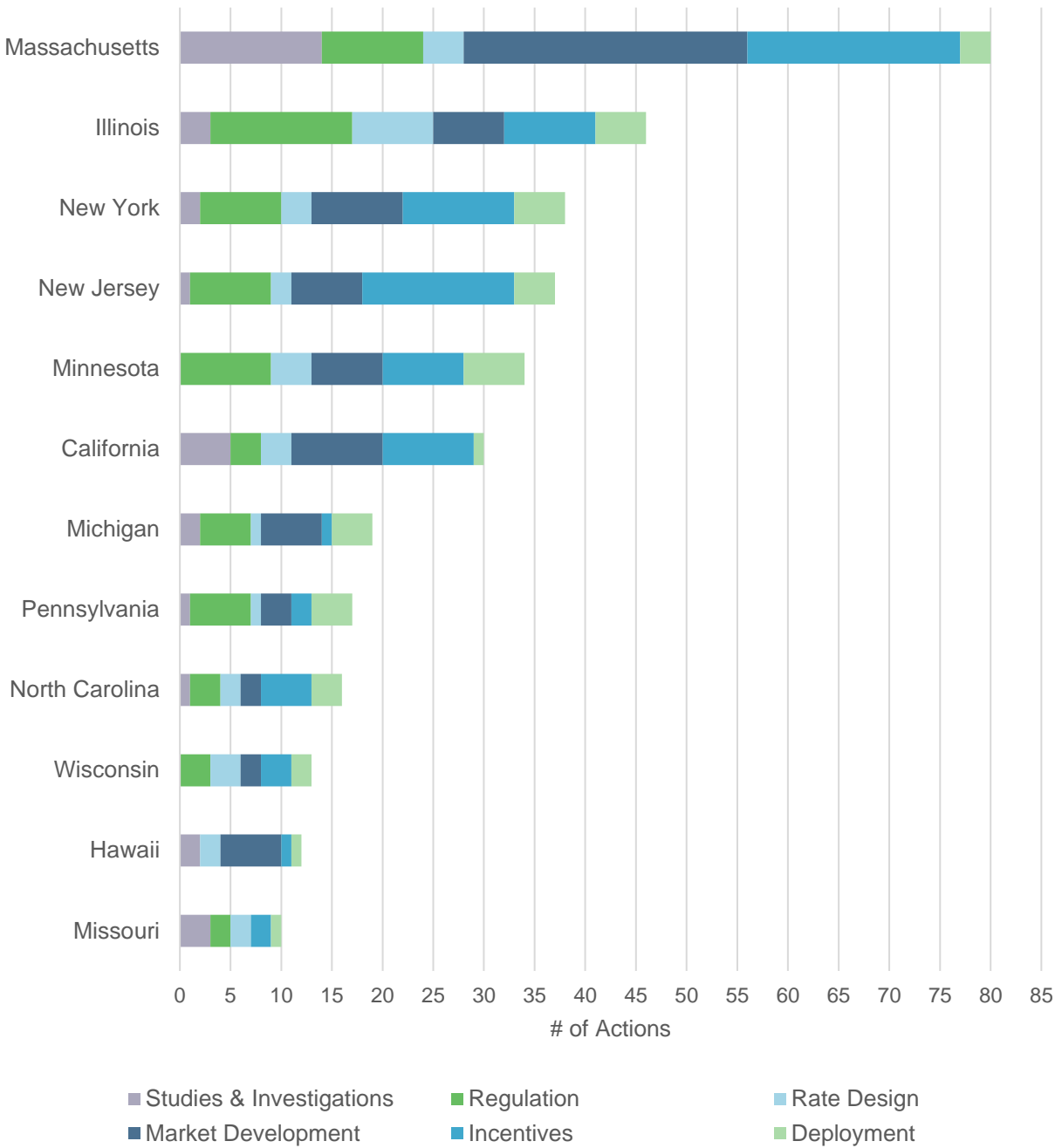


Figure 5. Most Active States of Q3 2021



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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