

50 STATES OF ELECTRIC VEHICLES

Q4 2018 Quarterly Report
& 2018 Annual Review



NC CLEAN ENERGY
TECHNOLOGY CENTER

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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

Previous executive summaries and older editions 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 at [here](#). Executive summaries and older editions of these reports are available for download [here](#).

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GLOSSARY OF ABBREVIATIONS

ALJ	Administrative Law Judge
d/b/a	Doing Business As
DC	Direct Current
DER	Distributed Energy Resource
DG	Distributed Generation
EV	Electric Vehicle
EVSE	Electric Vehicle Supply Equipment
HOV	High Occupancy Vehicle
IOU	Investor-Owned Utility
IRP	Integrated Resource Plan
GW	Gigawatt
kW	Kilowatt
kWh	Kilowatt-hour
MW	Megawatt
PEV	Plug-In Electric Vehicle
PHEV	Plug-In Hybrid Electric Vehicle
PV	Photovoltaics
REC	Renewable Energy Credit or Certificate
RPS	Renewable Portfolio Standard
TOU	Time-of-Use
ZEV	Zero-Emission Vehicle

OVERVIEW

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 grow 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 and 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) an executive order, or (3) a 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

This report currently excludes actions taken by utilities that are not state-regulated, such as municipal utilities and electric cooperatives in many states. 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 electric vehicle charging; these types of actions are tracked in the 50 States of Grid Modernization report series.

TRANSPORTATION ELECTRIFICATION IN THE U.S.

In 2016, greenhouse gas emissions from the transportation sector surpassed electric power sector emissions for the first time since the late 1970s. The transportation sector continued as the largest contributor to carbon emissions in the U.S. during 2017 and 2018 (in comparison to the electric power, residential, commercial, industrial, agriculture, and manufacturing sectors).¹ Although this shift is based on many factors, it underscores the need to improve the efficiency and emissions profiles of the transportation sector. One approach to this concern has been to increase the use of electricity for providing transportation sector energy, while simultaneously shifting electricity generation toward cleaner sources.

The U.S. Electric Vehicle Market

The U.S. reached a new milestone with more than one million electric vehicles on the road as of November 2018. Over the past year, approximately 360,000 electric vehicles were sold in the U.S., compared to 200,000 in 2017.^{2,3} Automakers, like Toyota and Volkswagen, continue to announce plans to manufacture new, all-electric models. These companies are setting goals to offer more vehicle models and expand production of electric vehicles with more moderate prices within the next three to five years.

Electric vehicle sales represent approximately 1.7% of all light-duty vehicle sales in the US.⁴ Although total electric vehicle sales remain relatively low when compared to total vehicle sales, there are large regional differences. For example, more than 7.8% of vehicles sold in California were battery electric vehicles or plug-in hybrid electric vehicles, and there are 30 cities in California where electric vehicle sales exceed 10%.⁵ It took more than eight years to sell one million electric vehicles in the United States, but analysts expect that the next million will be sold in less than three years.⁶

Beyond price, charging infrastructure availability and range anxiety* remain barriers to consumer adoption of electric vehicles. As battery technology and associated vehicle designs and technologies improve, vehicle ranges are increasing, but the lack of more widespread charging infrastructure remains a deterrent to greater market acceptance in most parts of the country. While market factors play a large role in this, legal and regulatory barriers are also affecting the pace and location of infrastructure development.

Electric Vehicles and the Grid

Although electric vehicle sales represent only approximately 1.7% of all light-duty vehicle sales in the U.S., states and electric utilities are already examining the potential impacts of and opportunities for electric vehicles on the grid. The integration of electric vehicles into the electric system is a growing field of research, including vehicle-to-grid technologies, grid demand management, renewable energy integration, and more.

* "Range anxiety" refers to the fear that an electric vehicle will run out of power before reaching the destination or a charging station.

Many utilities are currently exploring the potential for electric vehicles to impact load growth in the future, to provide ancillary services, and to provide opportunities for customer engagement. Although other end-uses for electricity are not growing rapidly, and some are even projected to stay flat or decline in the coming years, transportation electrification appears to be a major potential growth area for utility companies, causing an increasing number of utilities to focus on what they can do to invest in and benefit from this growth.

2018 ELECTRIC VEHICLE ACTION

Table 1 provides a summary of state actions related to electric vehicles occurring during 2018. Of the 424 actions catalogued, the most common were those related to regulation (102), followed by financial incentives (89), and market development (78). The actions occurred across 47 states plus DC in 2018 (Figure 1). Box 1 highlights the states that saw some of the most electric vehicle actions during 2018, which are described in greater detail in the following sections.

Table 1. 2018 Summary of Electric Vehicle Actions

Type of Action	# of Actions	% by Type	# of States
Regulation	102	24%	38
Financial Incentives	89	21%	26 + DC
Market Development	78	18%	20 + DC
Studies and Investigations	53	13%	29 + DC
Deployment	52	12%	24 + DC
Rate Design	50	12%	24 + DC
Total	424	100%	47 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%.

Figure 1. 2018 Legislative and Regulatory Action on Electric Vehicles

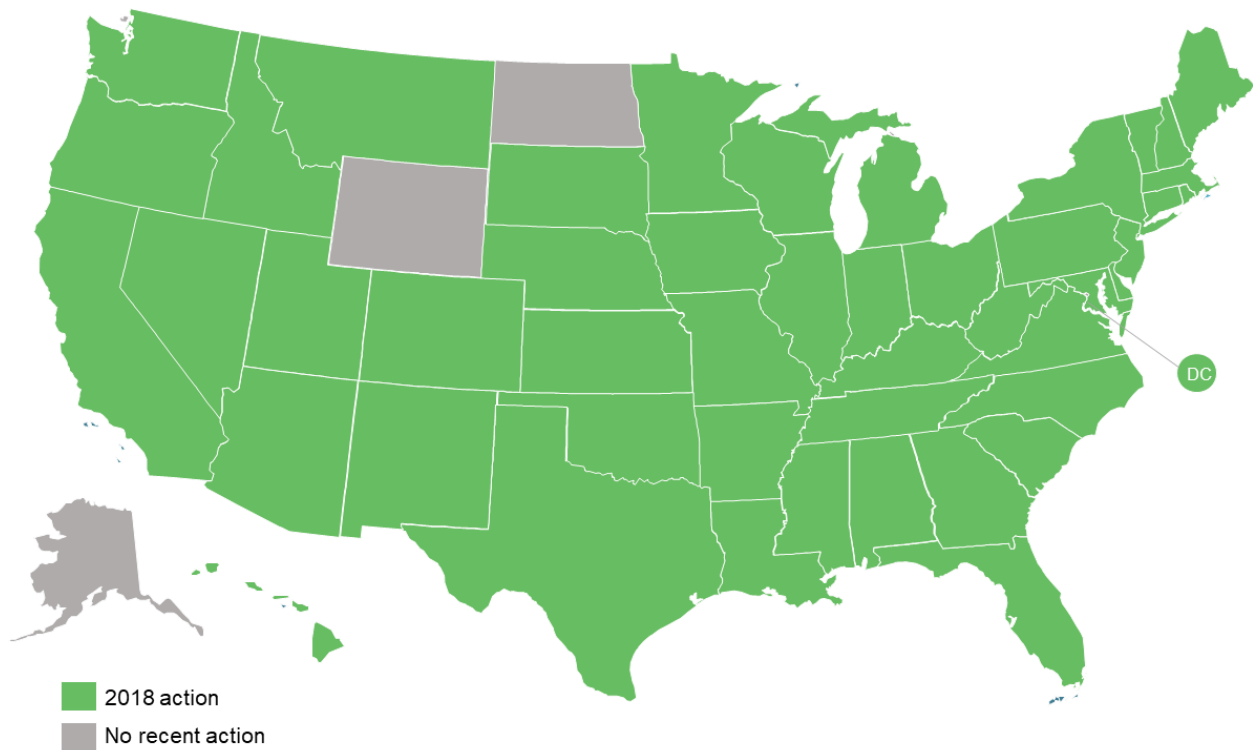
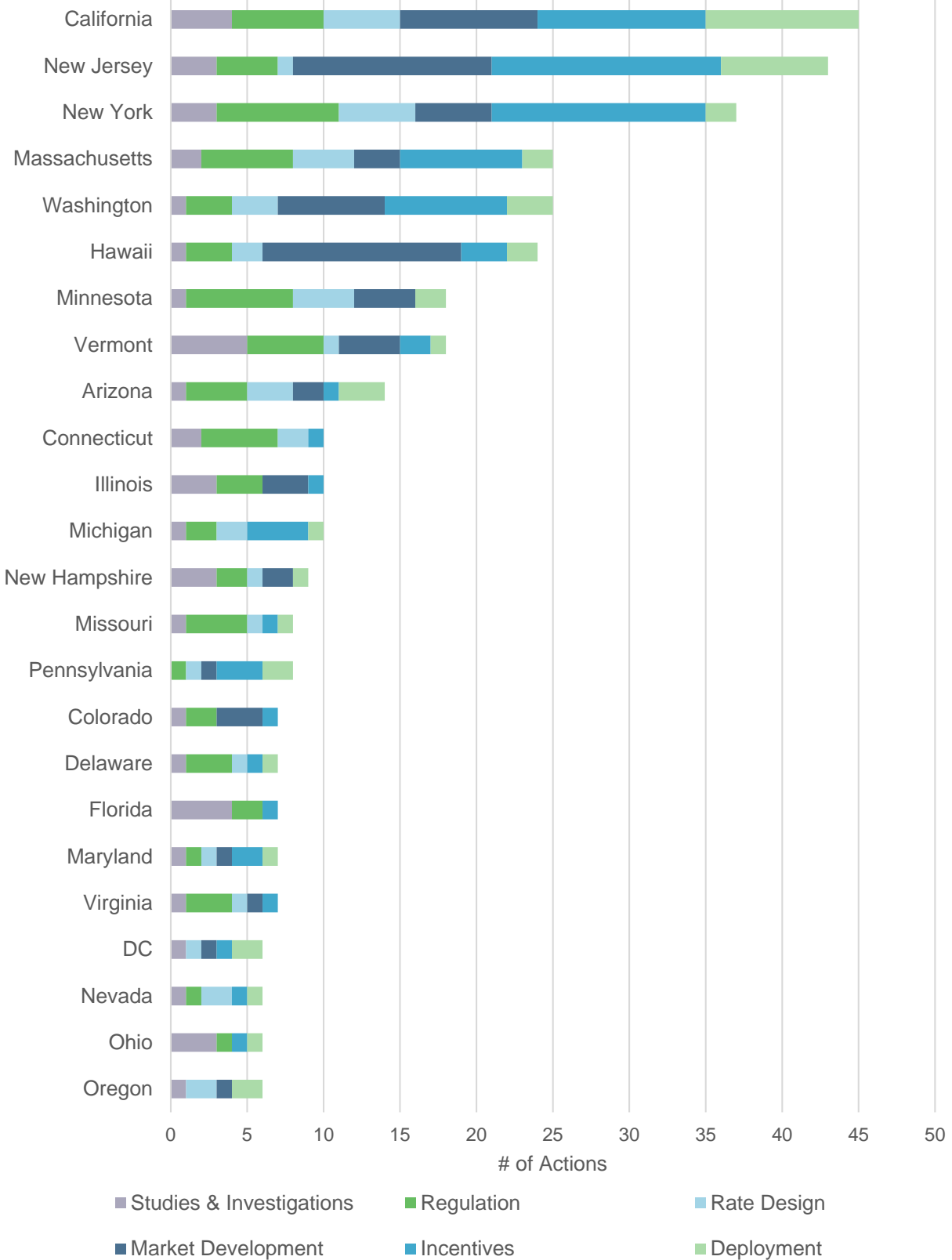
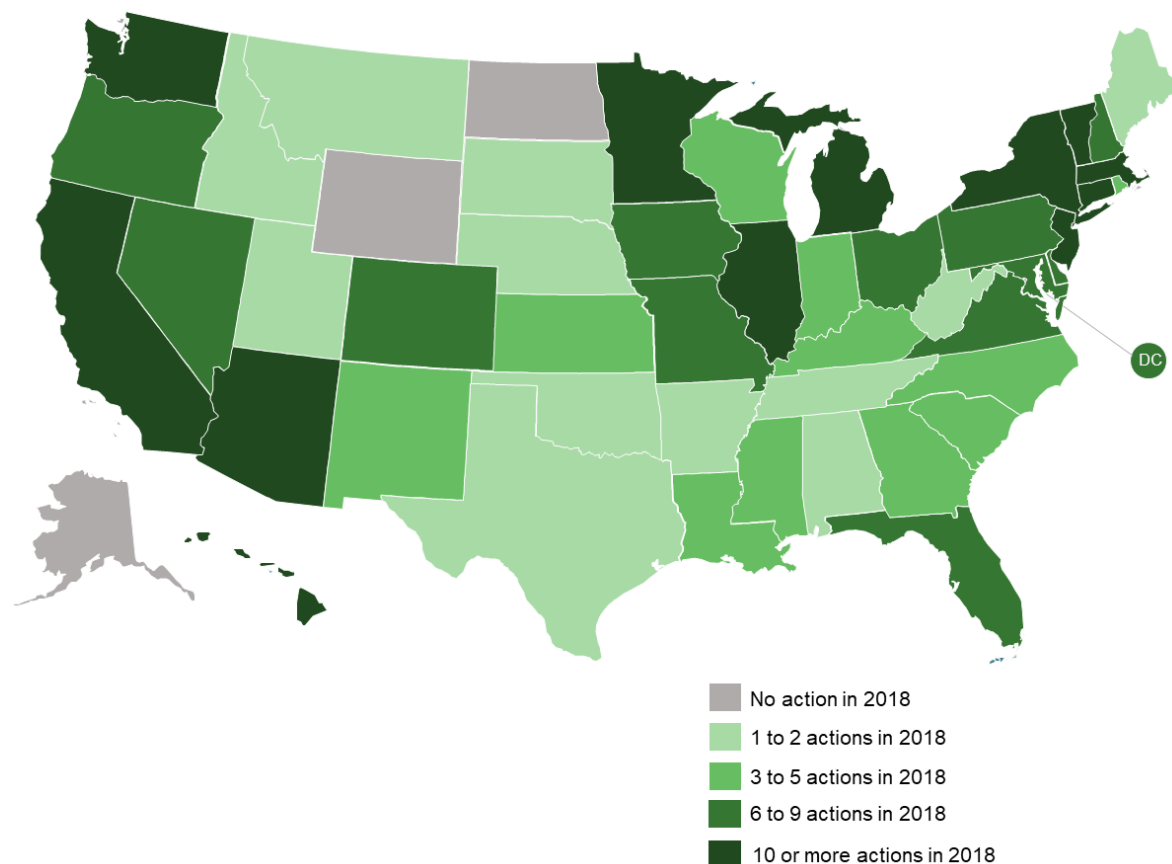


Figure 2. Most Active States of 2018



Nearly all U.S. states took legislative or regulatory actions related to electric vehicles in 2018. California, New Jersey, and New York took the greatest number of actions during the year, followed by Massachusetts, Washington, and Hawaii (see Figure 2). A total of 47 states and DC took actions related to electric vehicles during the year, with the majority of actions concentrated in particular states. The seven most active states account for over 50% of total actions taken during the year.

Figure 3. 2018 Electric Vehicle Activity, by Number of Actions



Nine states took actions in all six electric vehicle categories covered by this report – studies and investigations, regulation, rate design, market development, financial incentives, and deployment. The category with the greatest number of actions tracked in 2018 was regulation, driven largely by proposed legislation establishing additional fees for electric vehicle owners. There was also a significant amount of activity related to financial incentives for both electric vehicles and charging infrastructure, with many bills adopting new incentives, as well as utility proposals to offer rebates for charging equipment.

Geographically, the greatest number of actions were taken by states on the West Coast, in the Mid-Atlantic and Northeast, and in the Upper Midwest. as well as the upper Midwest. Electric vehicle activity continues to be highly concentrated in these regions, while also spreading to new states. In 2018, 47 states and DC took electric vehicle actions, compared to 43 and DC in

2017. New states taking electric vehicle actions in 2018 include Louisiana, Mississippi, Nebraska, North Carolina, and South Dakota. Alaska addressed electric vehicles in 2017, but did not take any actions covered by this report in 2018. Activity also increased in the most active states for electric vehicles; for example, California took 22 actions in 2017 and 45 in 2018.

Figure 4. Number of Electric Vehicle Actions 2017-2018

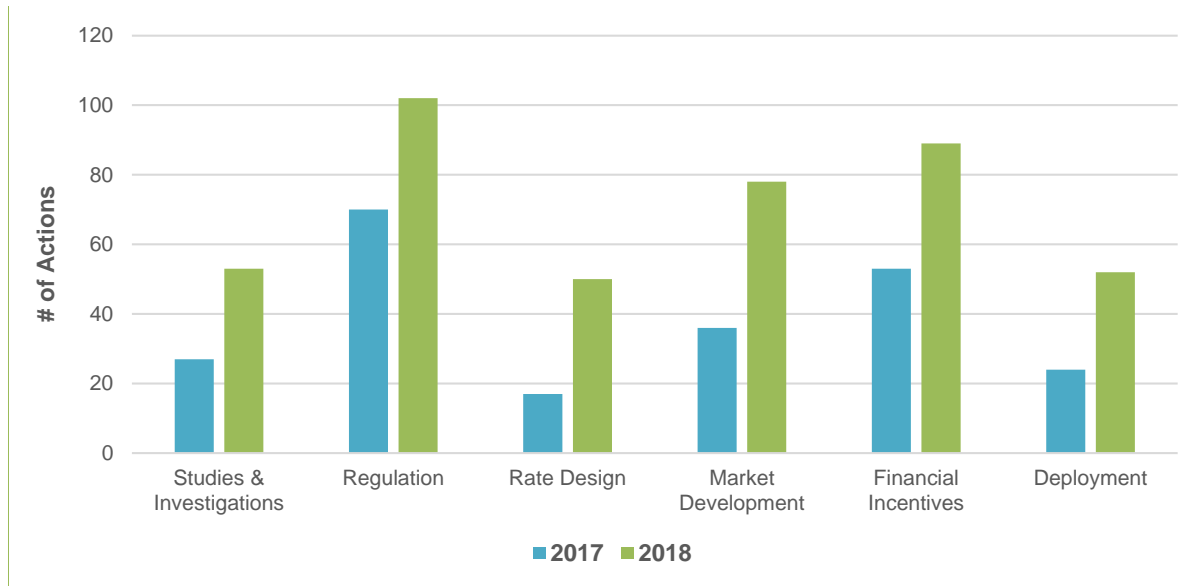
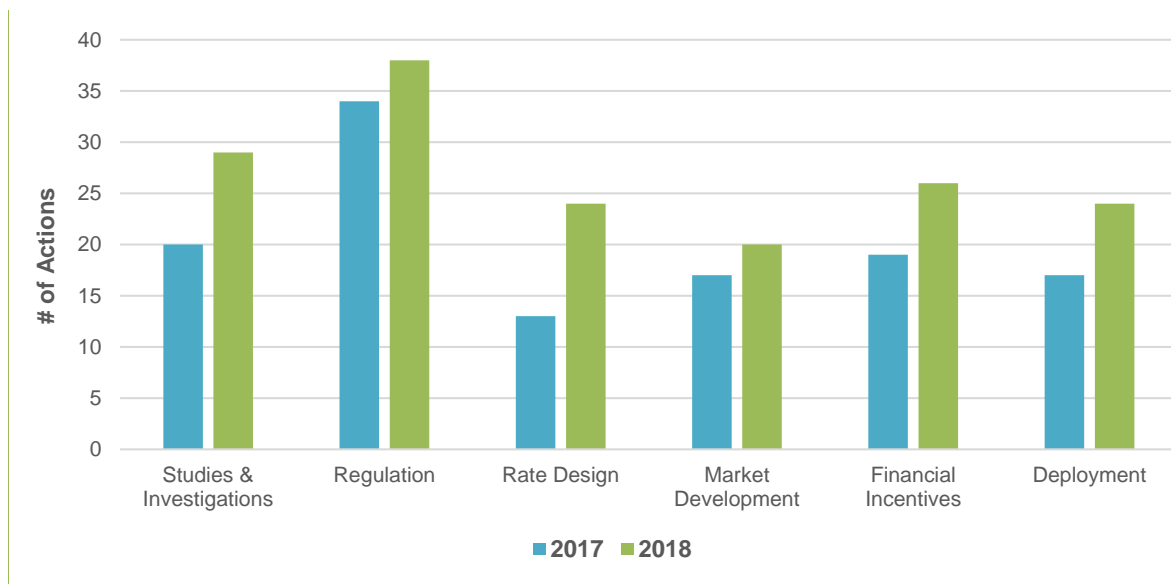


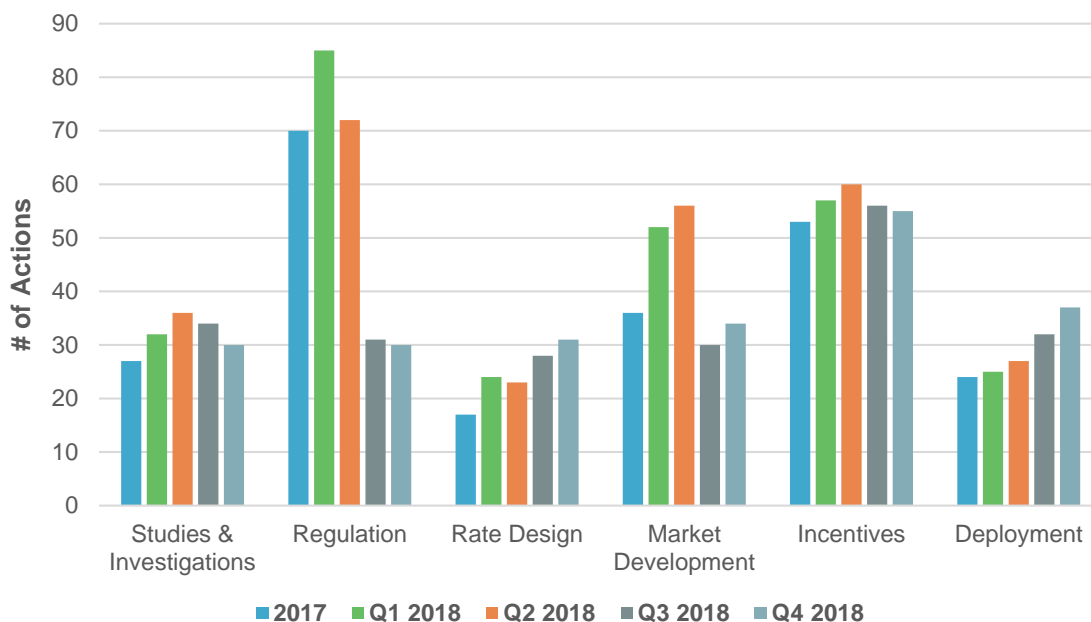
Figure 5. Number of States Taking Electric Vehicle Actions 2017-2018



Total electric vehicle action has increased substantially over the past year, with states and utilities taking approximately 227 actions in 2017 and 424 actions in 2018 (See Figure 4). Note that several actions were considered in both years. In 2018, activity also increased in every

category of electric vehicle actions. Activity related to rate design showed the most dramatic growth, increasing by 194% from 2017 to 2018. The number of states taking actions in each grid modernization category also increased from 2017 to 2018, with rate design also seeing the greatest jump in states, from 13 in 2017 to 24 in 2018 (See Figure 5).

Figure 6. Electric Vehicle Action by Category, 2017 to Q4 2018



Electric vehicle activity has shown a cyclical increase and decrease for the categories of regulation and market development, and to a lesser extent studies and incentives, based on when the majority of state legislatures are in session. The vast majority of activity within the categories of rate design and deployment is regulatory, and not affected by the same cycle of legislative sessions. Already in 2019, there were at least 172 bills related to electric vehicles under consideration across the country, as of early February 2019.

While 424 actions related to electric vehicles were taken in 2018, not all of these resulted in legislative or regulatory decisions. Figure 7 displays the most active states of 2018 by the status of each action taken. For the purposes of this graph, each individual action is assigned a status, so bills containing several different electric vehicle components may be counted multiple times. Bills enacted in 2018 that later led to regulatory action are counted as enacted bills. The graph is therefore not intended to be a precise representation, but rather to show that while some states can be considered very active, not all of the actions counted lead to policy changes or technology deployments.

The most common type of electric vehicle action under consideration in 2018 was the deployment of fast charging infrastructure, followed by deployment of Level 2 charging infrastructure, rebate programs for either electric vehicles or charging stations, and rate design for Level 2 charging (most often for residential charging, but also for public Level 2 stations).

Figure 7. Most Active States of 2018, by Action Status

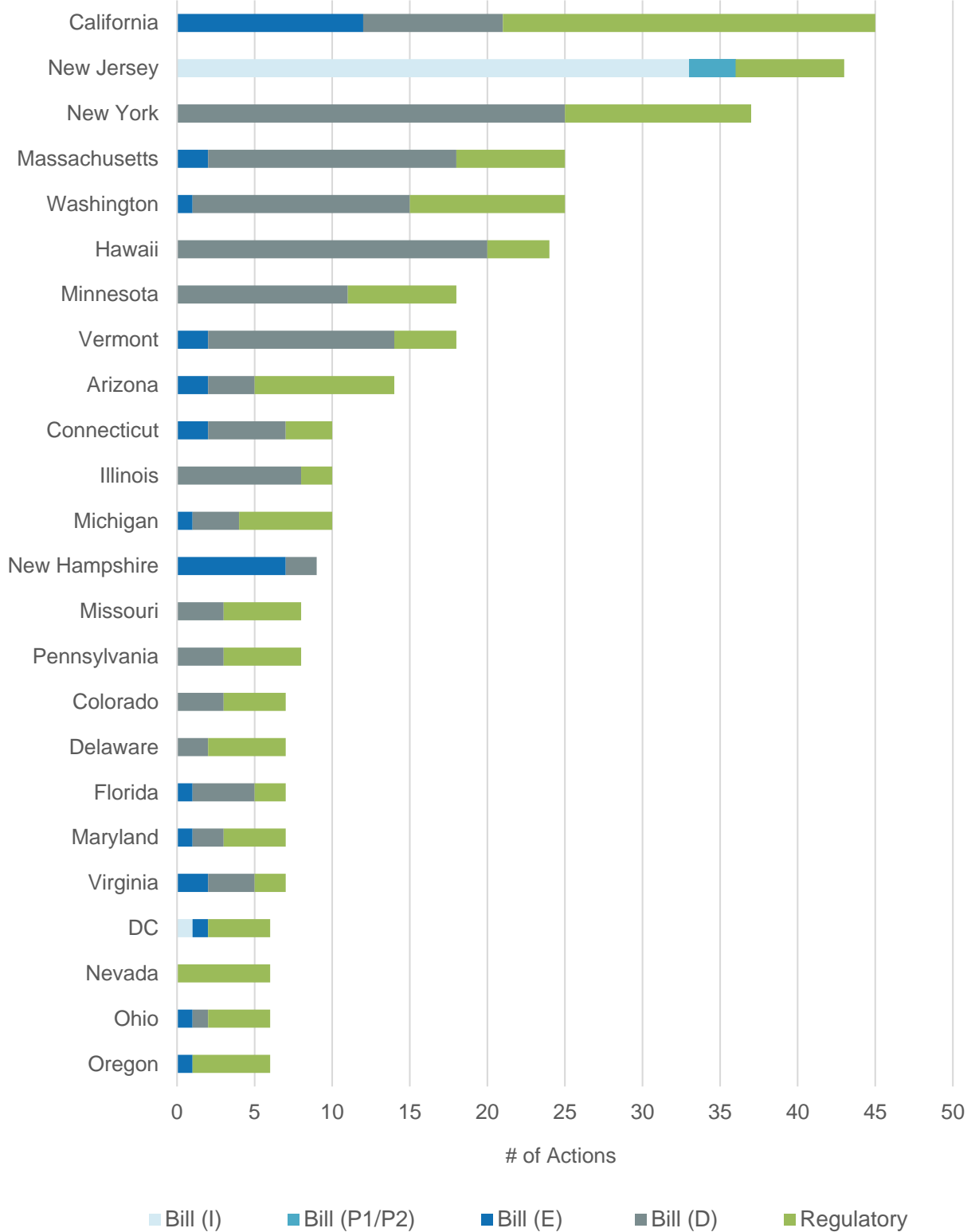
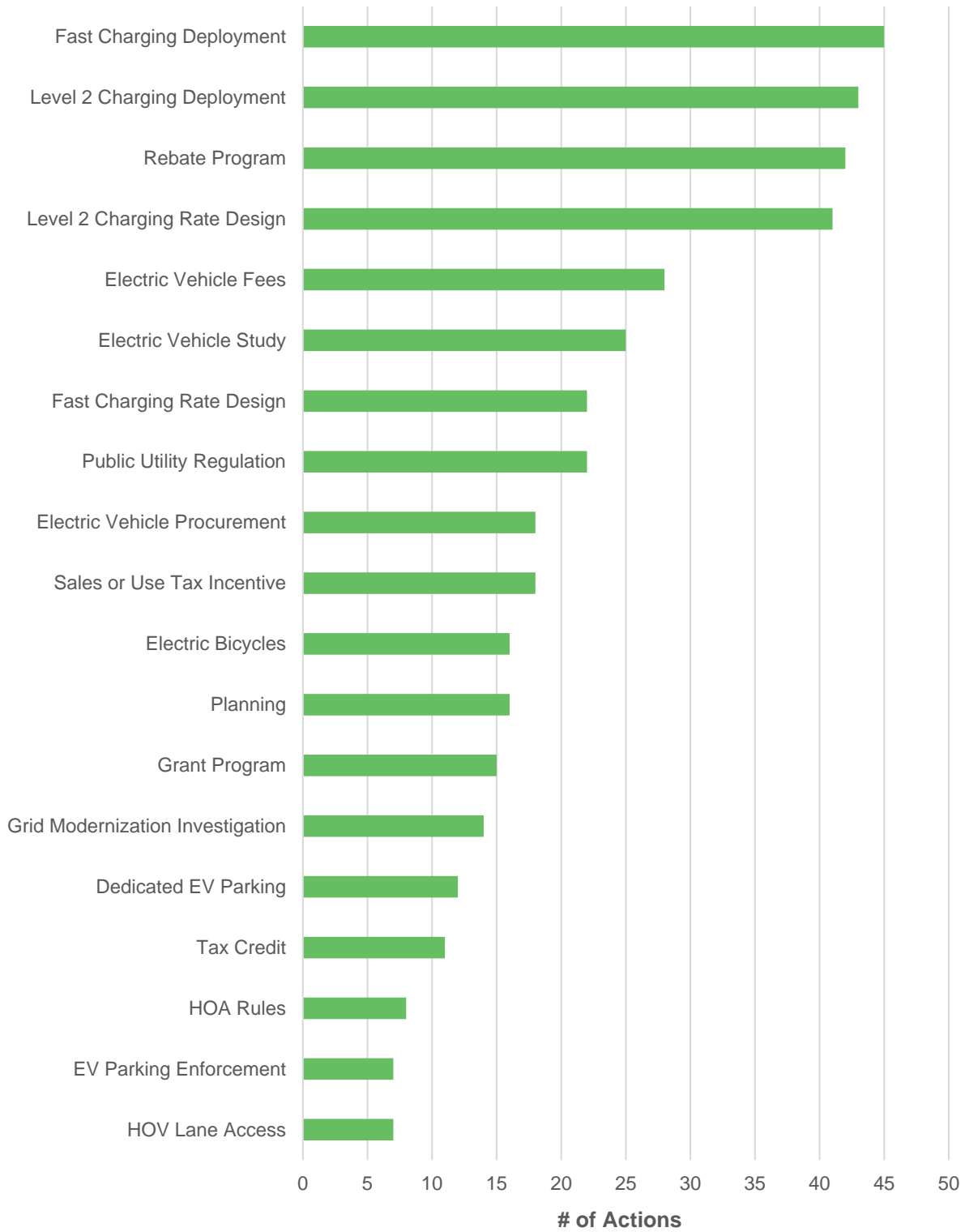


Figure 8. Most Common Types of Actions Taken in 2018



Box 1. Top Ten Most Active States of 2018

California

California regulators approved major transportation electrification plans from the state's investor-owned utilities and considered proposals for additional utility investments in charging infrastructure, as well as new rebate programs and rate offerings. The California State Legislature enacted several bills related to electric vehicles, initiating studies, modifying incentives, and establishing a clean miles standard for ridesharing companies.

New Jersey

Atlantic City Electric and PSE&G New Jersey proposed new electric vehicle programs in 2018, totaling \$14.9 million and \$261 million in investment, respectively. The programs include charging infrastructure deployment, rebate programs, and a new rate option. The state is also addressing clean transportation within its Energy Master Plan, and the Governor signed onto the multi-state memorandum of understanding to support zero-emission vehicles.

New York

New York regulators considered several electric vehicle rate design proposals in 2018, including rates to encourage fast charging development, as well as rebate programs proposed by utilities. The Governor also announced the \$250 million EVolve NY Initiative to expand charging infrastructure in the state. State lawmakers considered a large number of bills related to electric vehicles, although none of these were enacted.

Massachusetts

Massachusetts regulators approved National Grid's Phase I Electric Vehicle Market Development Program in 2018, and the utility also filed for approval of its Phase II program, totaling \$166.5 million in investment. Regulators also determined that electric vehicle charging service is not within the Department of Public Utilities' jurisdiction, while lawmakers enacted a bill prohibiting homeowner associations from preventing charging station installation.

Maryland

The Maryland Public Service Commission considered an expansive electric vehicle program proposal arising out of the state's PC 44 grid modernization proceeding. The program covers the state's four investor-owned utilities and includes rate designs, a variety of incentives, grants for innovative ideas, and technology demonstration projects. The Maryland General Assembly also enacted legislation extending the expiration date for electric vehicle access to high-occupancy vehicle lanes.

(Cont'd) Top Ten Most Active States of 2018

District of Columbia

Pepco filed a revised electric transportation program proposal in 2018, totaling \$15.2 million in investment. The proposed program includes off-peak charging rates, incentives for charging infrastructure, and direct deployment of fast charging infrastructure. The DC City Council also enacted the Electric Vehicle Public Infrastructure Expansion Act, creating a new charging station pilot program.

Nevada

The Public Utilities Commission of Nevada approved NV Energy's Electric Vehicle Infrastructure Demonstration Program in 2018, which includes rebates for various types of charging equipment, as well as incentives for off-peak charging. The Commission also determined that NV Energy may own and operate charging stations and considered a transitional demand charge proposed by NV Energy for customers with fast charging stations.

Minnesota

Minnesota regulators considered electric vehicle charging and infrastructure through an investigatory proceeding in 2018. Xcel Energy proposed two new electric vehicle pilot programs aimed at fleets and public charging, while the Commission approved a new residential electric vehicle service pilot for the utility. Minnesota Power also requested approval for modifications to its electric vehicle charging tariff.

Missouri

Kansas City Power and Light (KCP&L) requested approval for cost recovery and a tariff for its utility-owned charging network in 2018, although the Public Service Commission had previously ruled that charging stations are not electric plants and eligible for cost recovery. The Missouri Court of Appeals overturned this decision in 2018, determining that the Commission does have jurisdiction over KCP&L's charging stations. The Commission also considered an incentive program proposed by Ameren.

Pennsylvania

The Pennsylvania Public Utility Commission adopted a policy statement in 2018, clarifying that third-party electric vehicle charging does not constitute a resale of electricity. Duquesne Light Company, PECO, and UGI Utilities proposed new electric vehicle programs in 2018, including charging infrastructure investments, a rebate program, and a pilot rate rider for fast charging stations.

Box 2. Top Electric Vehicle Trends of 2018

States Clarifying Commission Jurisdiction Over Electric Vehicle Charging Stations

Policymakers and regulators in several states, including Alabama, Missouri, New Hampshire, Pennsylvania, and Vermont considered whether utility regulators have jurisdiction over electric vehicle charging stations. Alabama and New Hampshire clarified that electric vehicle charging station operators are not classified as public utilities, and Pennsylvania regulators adopted a policy statement that third-party charging does not constitute a resale of electricity.

Utilities Proposing Demand Charge Reductions or Alternatives for Fast Chargers

Several utilities proposed limited-time demand charge reductions or alternative charges for DC fast charging station operators in order to promote the development of these stations, since demand charges can often make fast charging stations cost-prohibitive. Demand charge reductions were approved in Nevada, Oregon, Pennsylvania, and Rhode Island, while utility proposals are under consideration in California, Massachusetts, and New York.

Governors Establishing Statewide Zero-Emission Vehicle Goals

Governors in several states established statewide goals related to electric vehicle adoption and charging infrastructure development in 2018. In North Carolina, Executive Order 80 sets a goal of 80,000 registered zero-emission vehicles by 2025, and California's Executive Order B-48-18 establishes a goal of 5 million zero-emission vehicles by 2030. Governors in Colorado, New Jersey, and Virginia also set goals or made recommendations related to electric vehicles and charging infrastructure development.

States Addressing the Future of Transportation Infrastructure Funding

Many states are addressing the future of transportation infrastructure funding, due to increased electric vehicle adoption and an associated decline in gasoline tax revenues, among other reasons. The Iowa Department of Transportation conducted a study of the impact of electric vehicles on transportation funding, while the Vermont Public Utility Commission considered funding mechanisms within its electric vehicle investigation. Many states considered bills establishing additional registration fees for electric vehicles in 2018.

Utilities Collecting Data on Electric Vehicle Charging Patterns

As a part of many utilities' electric vehicle programs, they are collecting data on customer charging patterns to inform future programs and rates, as well as to better understand the potential impact of electric vehicle charging on the electric grid. Duke Energy Florida, Lincoln Electric System in Nebraska, and the Tennessee Valley Authority all announced studies specifically collecting data on customer charging and offering incentives for participation.

(Cont'd) Top Electric Vehicle Trends of 2018

Utilities Focusing on Different Methods to Promote Off-Peak Charging

Most of the utility-led electric vehicle programs under consideration in 2018 included some method to promote off-peak charging. Several utilities proposed deployment of or rebates for smart chargers, including DTE Electric in Michigan and National Grid in Massachusetts. Other utilities proposed rebates for off-peak vehicle charging or rate structures that encourage off-peak charging.

Utilities and Stakeholders Finding Agreement on Electric Vehicle Programs

Utilities and stakeholders are often agreeing on electric vehicle program proposals and policy issues. Many stakeholders filed letters of support for Duke Energy's proposed electric vehicle plans in South Carolina, and parties reached unanimous agreement on NV Energy's new rate offering for fast charging stations. Utilities and stakeholders were also in agreement on the issue of Commission jurisdiction over charging stations in Alabama.

State Agencies Publishing Spending Plans for Volkswagen Settlement Funds

States agencies published their Beneficiary Mitigation Plans in 2018, outlining plans to spend funding received through the 2016 Volkswagen Settlement, paying out \$2.7 billion to states for environmental mitigation. States are permitted to allocate up to 15% of funds for charging infrastructure for zero-emission vehicles, and several states are also allocating funds for electric buses. Several state legislatures are considering funding priorities or providing additional resources to complement Mitigation Plan activities.

States and Utilities Investing in Electric Buses and Charging Infrastructure

Investment in electric buses and charging infrastructure ramped up in 2018, with several utilities including electric bus components within their transportation electrification programs. Pepco in DC, Delmarva Power & Light in Delaware, and National Grid in Massachusetts all proposed electric bus investments as part of broader electric vehicle programs. Arizona Public Service also proposed an electric school bus program as part of its Demand-Side Management Plan.

Utilities Piloting Vehicle-to-Grid Capabilities

Some utilities took steps to pilot vehicle-to-grid capabilities in 2018. PSE&G New Jersey proposed a program to test vehicle-to-grid and vehicle-to-building technology with electric buses. Duke Energy's proposed electric vehicle programs in South Carolina and a pilot proposed as part of San Diego Gas & Electric's Transportation Electrification Program would also test vehicle-to-grid capabilities with electric buses.

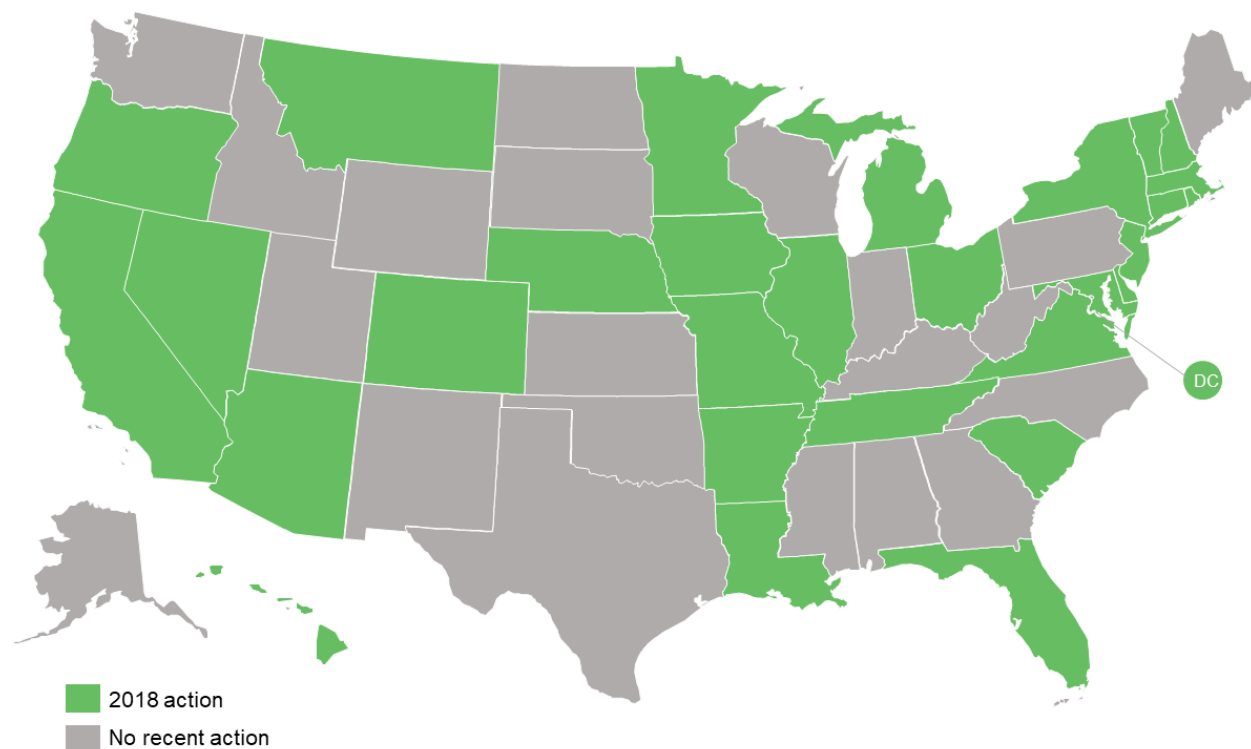
STUDIES AND INVESTIGATIONS REVIEW

Key Takeaways:

- In 2018, 29 states plus DC took action to study or investigate issues related to electric vehicles and charging infrastructure.
- Lawmakers in four states – California, Iowa, New Hampshire, and Vermont – enacted bills initiating new studies related to electric vehicles in 2018.
- Eight states completed or published new studies or investigations in 2018.

Regulators, utilities, and policymakers are proactively preparing for increased adoption of electric vehicles and deployment of charging infrastructure by investigating many issues related to electric vehicles and associated infrastructure. Although studies and investigations are a relatively common type of activity, with a total of 29 states and DC taking action in 2018, each state is addressing questions that are specific to their particular communities and regulatory environment.

Figure 9. 2018 Action on Electric Vehicle Studies and Investigations



Legislatures in four states – California, Iowa, New Hampshire, and Vermont – enacted a total of eight new bills initiating studies or investigations in 2018, with California, Iowa, and New Hampshire each enacting multiple bills. Some of these bills require states to develop broad electric vehicle planning roadmaps, while others call for the study of very specific topics.

California's studies will examine the charging infrastructure needed to reach the state's zero-emission vehicle goal, as well as reuse and recycling of electric vehicle batteries. Iowa's studies focus on electric vehicle infrastructure and the impact of electric vehicles on transportation infrastructure funding. A new commission in New Hampshire will also consider electric vehicle infrastructure, while studies will be conducted on transportation electrification and rate design. Finally, Vermont's Public Utility Commission is conducting an investigation of electric vehicle charging issues, ranging from rate design and regulation of charging stations to transportation infrastructure funding.

Table 2. Electric Vehicle Studies and Investigations Initiated by Legislation in 2018

State	Bill No.	Date Enacted	Description
CA	A.B. 2127	Sept. 2018	Requires biennial assessment of EV charging infrastructure needed for the state to meet a goal of 5 million ZEVs on the road by 2030.
CA	A.B. 2832	Sept. 2018	Requires a report on approaches for reuse and recycling of lithium-ion batteries used in EVs.
IA	H.F. 2256	Apr. 2018	Requires the Department of Transportation to conduct a study on the impact of increased usage of electric, hybrid, and other high-efficiency motor vehicles on the state's Road Use Tax Fund.
IA	S.F. 2311	May 2018	Requires a study on EV infrastructure support, including evaluation of the costs and benefits of various options.
NH	H.B. 1796	June 2018	Legislative oversight committee to submit a report to the Public Utilities Commission on several topics, including transportation electrification.
NH	S.B. 517	May 2018	Establishes the EV Charging Station Infrastructure Commission to make recommendations on ZEV and EVSE planning.
NH	S.B. 575	June 2018	Requires that the Public Utilities Commission study rate design standards.
VT	H.B. 917	May 2018	Directs the Public Utility Commission to conduct an investigation on EV charging issues.

Studies or investigations completed in 2018 were generally wide-ranging statewide energy or transportation plans, investigations into future grid regulatory challenges, or grid modernization plans. Electric vehicle planning or related topics are a small part of these much larger electric grid investigations or statewide plans. The inclusion and consideration of electric vehicles in ongoing investigations now may impact or lead to other types of state actions addressed in this report.

Studies completed in Illinois, Ohio, and Oregon were broad reports examining grid modernization, including aspects of electric vehicles and charging infrastructure. These reports followed months of stakeholder engagement and discussion on these issues. Connecticut's report also had a very broad scope, considering a comprehensive energy strategy for the state. Studies conducted in Delaware, Florida, and Hawaii were a bit narrower in scope, examining the costs and benefits of increased electric vehicle adoption, electric vehicle charging, and transportation electrification, respectively. The study prepared in Iowa addressed the most specific question, looking at the impact of electric vehicles on transportation infrastructure funding.

Table 3. Electric Vehicle Studies and Investigations Completed in 2018

State	Study Name	Date	Author	Description
CT	DEEP Comprehensive Energy Strategy	Feb. 2018	Dept. of Energy & Environmental Protection	Outlines past and current actions for promoting EVs. Recommends that the state develop an EV roadmap.
DE	Benefit Cost Analysis for Electric Vehicle Adoption in the Delaware DPL Territory	June 2018	Gabel Associates, Inc., on behalf of Delmarva Power & Light	Quantifies overall benefits and costs of increased EV adoption in the Delmarva service area.
FL	Electric Vehicle Charging Update	Sept. 2018	Florida Public Service Commission	Evaluate expected impact of EVs on electricity consumption, need for new generation, impacts on electricity distribution systems. Report provides updates to an initial report from 2012.
HI	Electrification of Transportation Strategic Roadmap	Mar. 2018	Hawaiian Electric Companies	Describes various actions that could accelerate adoption of EVs. These actions include communication with customers, buildout of EVSE, electrification of heavy-duty vehicles or equipment, providing incentives, and coordinating with grid modernization efforts.
IA	2018 Report on the Impact of Electric Vehicles to the Road Use Tax Fund	Dec. 2018	Iowa Department of Transportation	Finds current and near future revenue reductions are relatively small. Recommends adding a fee at charging stations, collecting a supplemental registration fee, and collect an excise tax on hydrogen fuels.
IL	NextGrid Draft Final Report	Dec. 2018	Illinois Commerce Commission	Report covers statewide energy policy with specific EV topics related to EVSE funding, equity issues, along with environmental or grid benefits.
OH	PowerForward Roadmap	Aug. 2018	Public Utilities Commission of Ohio	Grid modernization investigation includes plans for continued monitoring of EV activities to consider issues related to rate design, distribution system planning, corridor deployment, and markets for EVSE.
OR	Final Report (S.B. 978, 2017)	Sept. 2018	Oregon Public Utility Commission	Investigation on utility regulatory system and incentives. Roadmap does not focus on EVs, but mentions challenges of rapidly changing EV market.

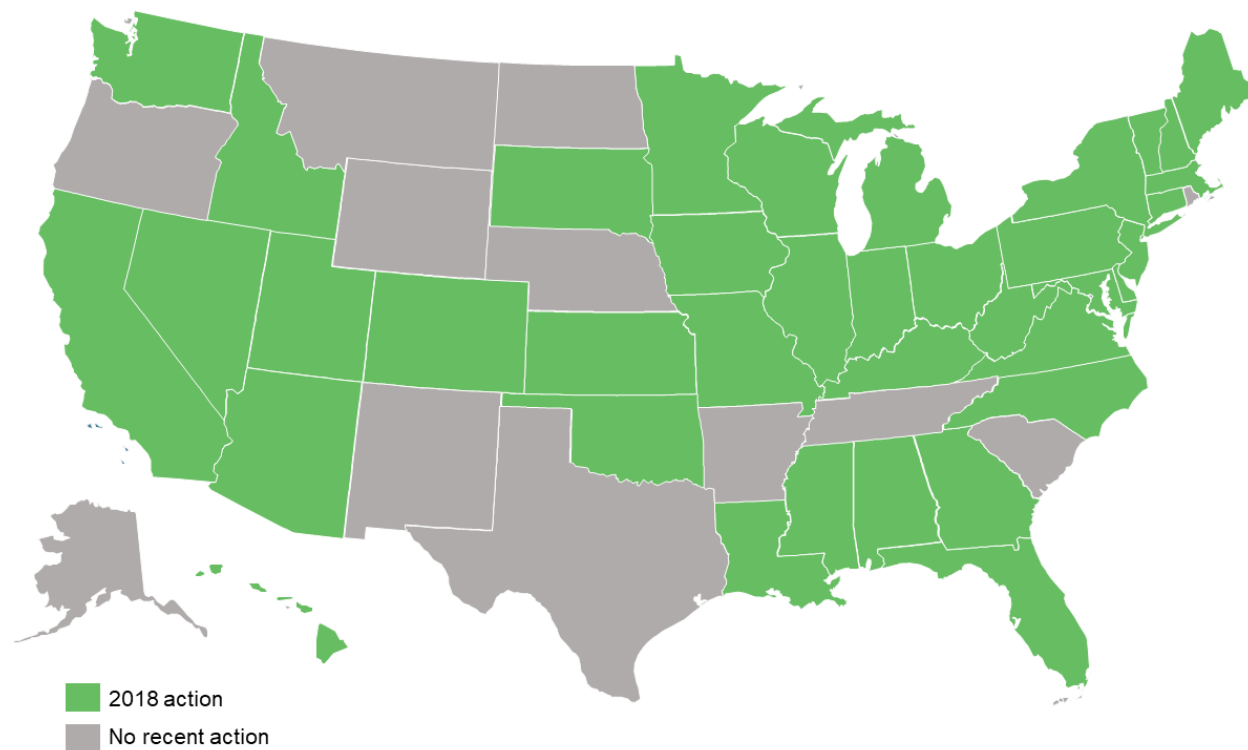
ELECTRIC VEHICLE REGULATION REVIEW

Key Takeaways:

- In 2018, 38 states considered 102 changes to rules and regulations regarding electric vehicles and charging infrastructure.
- Fifteen states considered the extent of utility commission jurisdiction over electric vehicle charging infrastructure.
- The most common issues addressed were additional fees for electric vehicle owners, public utility regulation, and electric bicycles.

In 2018, 38 states considered a total of 102 changes to electric vehicle rules and regulations. The most common topics addressed were additional fees on electric vehicles, public utility regulation, and electric bicycles, although the majority of electric vehicle fee and electric bicycle actions did not lead to policy changes.

Figure 10. 2018 State Action on Electric Vehicle Regulation



Lawmakers in 27 states considered additional fees on electric vehicles, the only topic considered by a majority of states in the nation. The widespread attention to electric vehicle fees is largely due to concerns over the impacts of electric vehicles on gasoline tax revenue, the most common source of transportation infrastructure funding. Many states (and the federal

highway trust fund) have already been facing declining purchasing power, due to increased vehicle fuel efficiency and the fact that not all states index their gasoline taxes to inflation.

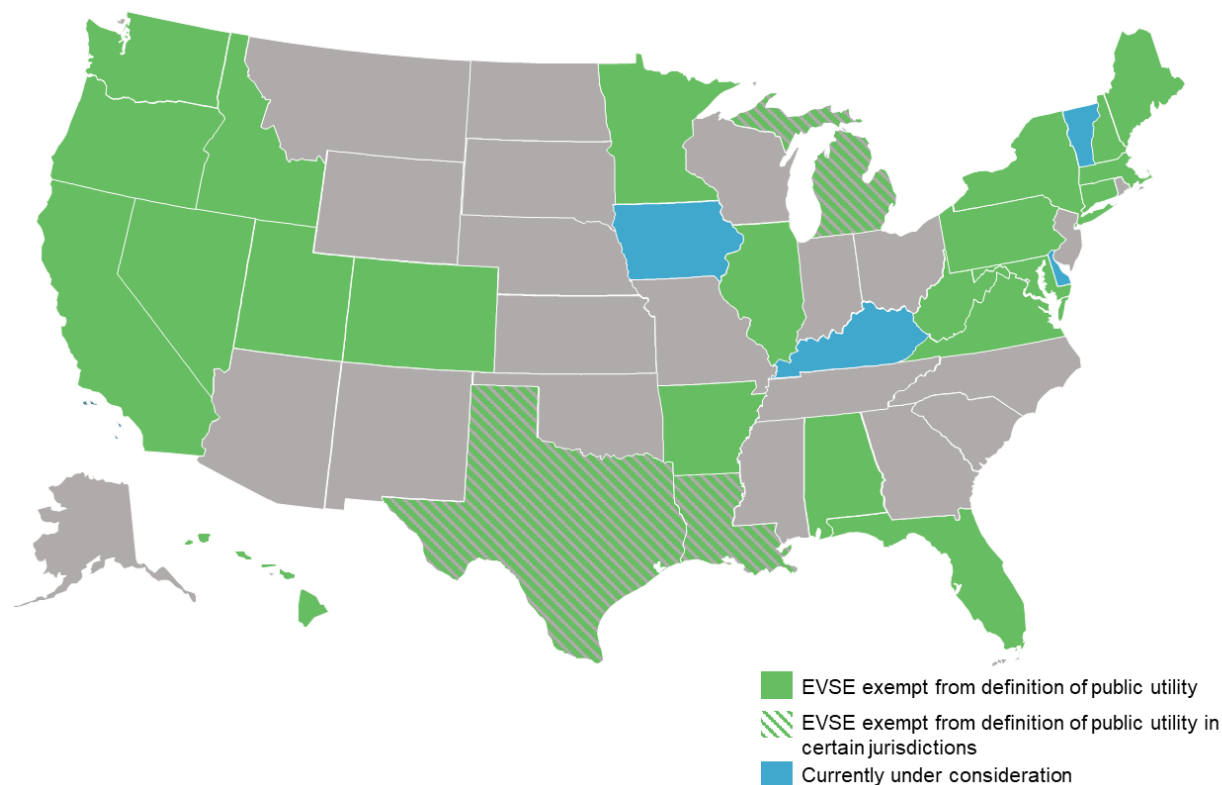
Table 4. Electric Vehicle Registration Fees Under Consideration in 2018

State	Current Fee	Proposed Fee	Decision
Colorado	\$50	\$100	Not Approved
Georgia	\$200	\$100	Not Approved
Hawaii	\$0	Not specified in bill	Not Approved
Hawaii	\$0	\$100	Not Approved
Iowa	\$0	All-Electric: \$150 Hybrid: \$50	Not Approved
Illinois	\$35 (every two years)	All-Electric: \$216 (annual) Hybrid: \$158.50 (annual)	Not Approved
Illinois	\$35 (every two years)	EVs would be charged the same fee as non-EVs	Not Approved
Kansas	\$0	All-Electric: \$150 Hybrid: \$75	Not Approved
Kentucky	\$0	All-Electric: \$150 Hybrid Plug-In: \$100 Hybrid: \$50	Not Approved
Maine	\$0	All-Electric: \$250 Hybrid: \$150	Not Approved
Maine	\$0	\$200	Not Approved
Minnesota	\$75 (Approved in 2017)	\$85	Not Approved
Minnesota	\$75 (Approved in 2017)	All-Electric: \$125 Hybrid: \$75	Not Approved
Minnesota	\$75 (Approved in 2017)	\$125	Not Approved
Mississippi	\$0	All-Electric: \$150 Hybrid: \$75	Approved
New Hampshire	\$0	All-Electric: \$125 Hybrid: \$75	Not Approved
Oklahoma	\$0 (Fee approved in 2017 ruled unconstitutional)	All-Electric: \$150 Hybrid: \$30	Not Approved
South Dakota	\$0	All-Electric: \$100 Hybrid: \$50	Not Approved
Utah	\$0	All-Electric: \$60 (2019), \$90 (2020), \$120 (2021+) Hybrid: \$26 (2019), \$39 (2020), \$52 (2021+)	Approved
Vermont	\$0	All-Electric: \$100 Hybrid: \$50	Not Approved
Washington	\$150	Reduces fee to \$30 for motorcycles	Not Approved
Wisconsin	\$100	\$125	Not Approved

There is concern among many state policymakers that increasing numbers of electric vehicles would speed up the decline in transportation revenue, particularly at a time when many states face aging roads, bridges, and transit systems in need of repair. Therefore, many states are

considering adopting additional fees on electric vehicles that are designed to offset lost gasoline tax revenue. Most states considered relatively simple flat annual fees, ranging from \$60 to \$250 for electric vehicles, with some states setting a lower fee for hybrid electric vehicles or plug-in hybrid vehicles. However, relatively few of these measures were ultimately passed. Mississippi and Utah adopted new electric vehicle fees in 2018, and Arizona lawmakers adjusted an existing fee based on the vehicle's value.

Figure 11. Regulation of Electric Vehicle Charging Infrastructure

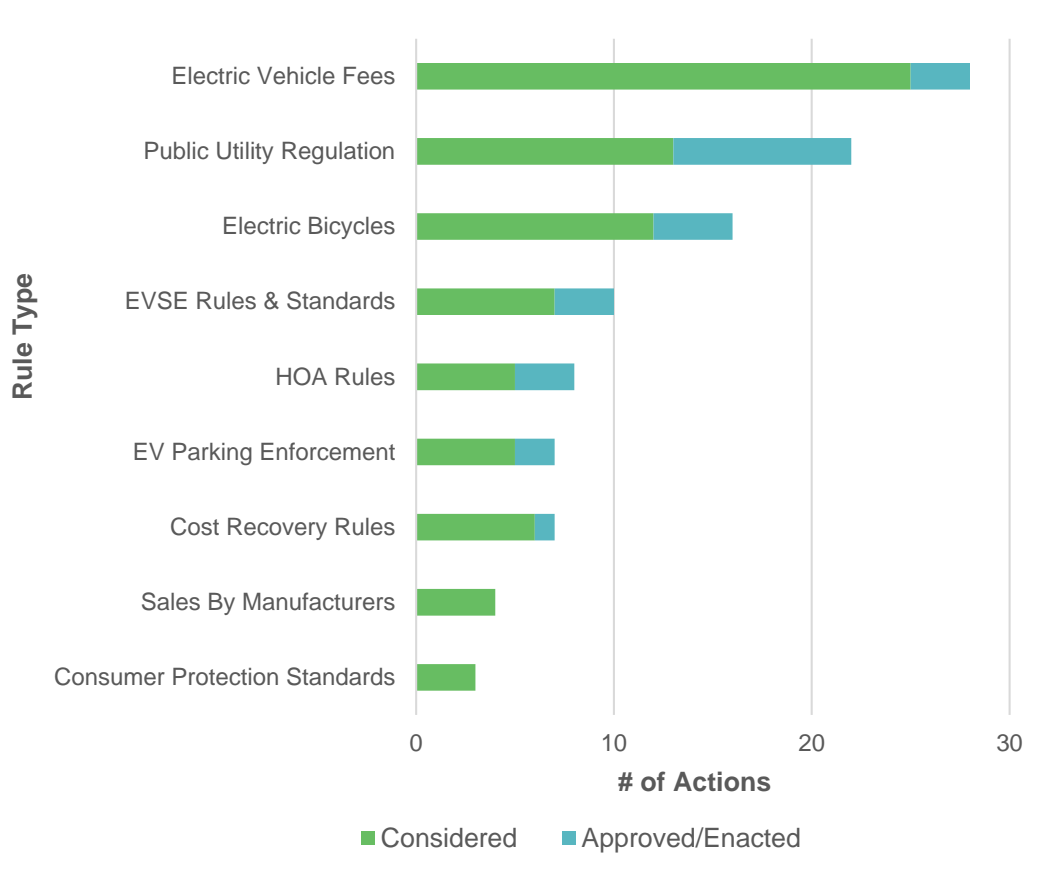


Several states considered whether electric vehicle charging stations are classified as public utilities and whether furnishing electricity for vehicle charging constitutes a resale of electricity. The majority of states addressing these questions are clarifying that charging infrastructure that is not owned by utilities does not classify its owner as a public utility and that electricity furnished for vehicle charging does not count as a resale of electricity. These clarifications have the effect of removing regulatory uncertainty for private companies, potentially encouraging the development of public charging infrastructure.

The New Hampshire General Court enacted a bill in 2018 clarifying that owners of electric vehicle charging stations are not public utilities and will not be regulated as such. The Alabama Public Service Commission and New Orleans City Council (which regulates investor-owned utility Entergy New Orleans) also determined that charging station owners and operators are not public utilities and subject to Commission regulation. Later in the year, the Pennsylvania Public

Utility Commission adopted a policy statement that electricity furnished for electric vehicle charging does not constitute a resale of electricity. Several states, including Iowa, Kentucky, and Vermont, are continuing to consider this issue in early 2019, and legislation addressing public utility regulation of charging infrastructure has been introduced in Missouri and New Mexico.

Figure 12. Most Common Types of Electric Vehicle Regulation Actions in 2018



Other issues considered during 2018 include the ability of homeowner associations (HOAs) to restrict the installation of charging infrastructure, penalties for non-electric vehicles parking in dedicated charging spaces, and electric bicycle regulation. The Massachusetts General Court enacted a bill in 2018 prohibiting HOAs from preventing charging station installation, and three states approved new electric bicycle rules.

charges. However, two proposals included demand charges (Westar Energy – KS and National Grid – NY), and two proposals (Xcel Energy – MN and Green Mountain Power – VT) took the form of subscription rates, allowing unlimited off-peak charging for a fixed monthly fee.

Regulators approved new charging rates in several states in 2018. In Indiana and Michigan, regulators approved residential charging rates proposed by Indiana Michigan Power, which sub-meter the charging station. In Kansas, regulators approved one of the few residential charging rates under consideration that includes a demand charge. Pennsylvania regulators approved PECO’s rate proposal including a demand credit for DC fast chargers, and the Rhode Island Public Utilities Commission also approved National Grid’s proposed demand charge reduction for fast charging stations.

Table 5. Demand Charge Alternatives Under Consideration in 2018

State	Utility	Proposed Alternative
California	Pacific Gas & Electric	Fixed subscription charge and time-of-use energy rates
Connecticut	Eversource	Billed on an equivalent per-kWh basis (Tariff already approved, expansion of eligibility considered in 2018)
Massachusetts	National Grid	Full demand charge discount (through a per-kW credit) for three years; 67% discount in year 4, 33% discount in year 5
Nevada	NV Energy	Demand charge discount, phasing down over 10 years
New Jersey	PSE&G New Jersey	Monthly rebates over 5 years equal to the difference between effective per-kWh cost of fast charging use and to-be-determined “target rate” (see Financial Incentives)
New York	Orange and Rockland Utilities	20% discount on delivery rates for 3 MW of charging load over 7 years
Pennsylvania	PECO Energy	Demand credit, initially equal to 50% of charging station nameplate capacity, offered over 5 years
Rhode Island	National Grid	Discount equal to 100% of distribution demand charge over three years; discount may phase down in later years
Washington	Pacific Power	No demand charge for first 2 years, transitioning to demand charges over years 3 to 12

A major rate design issue under consideration in 2018 was the impact of demand charges on the development of public fast charging stations. As these stations necessarily have a high power demand, the demand charges typically included on commercial rates can make fast charging stations cost-prohibitive to develop. In the interest of promoting the build-out public fast charging networks, several utilities have proposed reductions or alternatives to traditional demand charges for fast charging station operators. Table 5 provides a review of demand charge alternatives under consideration in 2018.

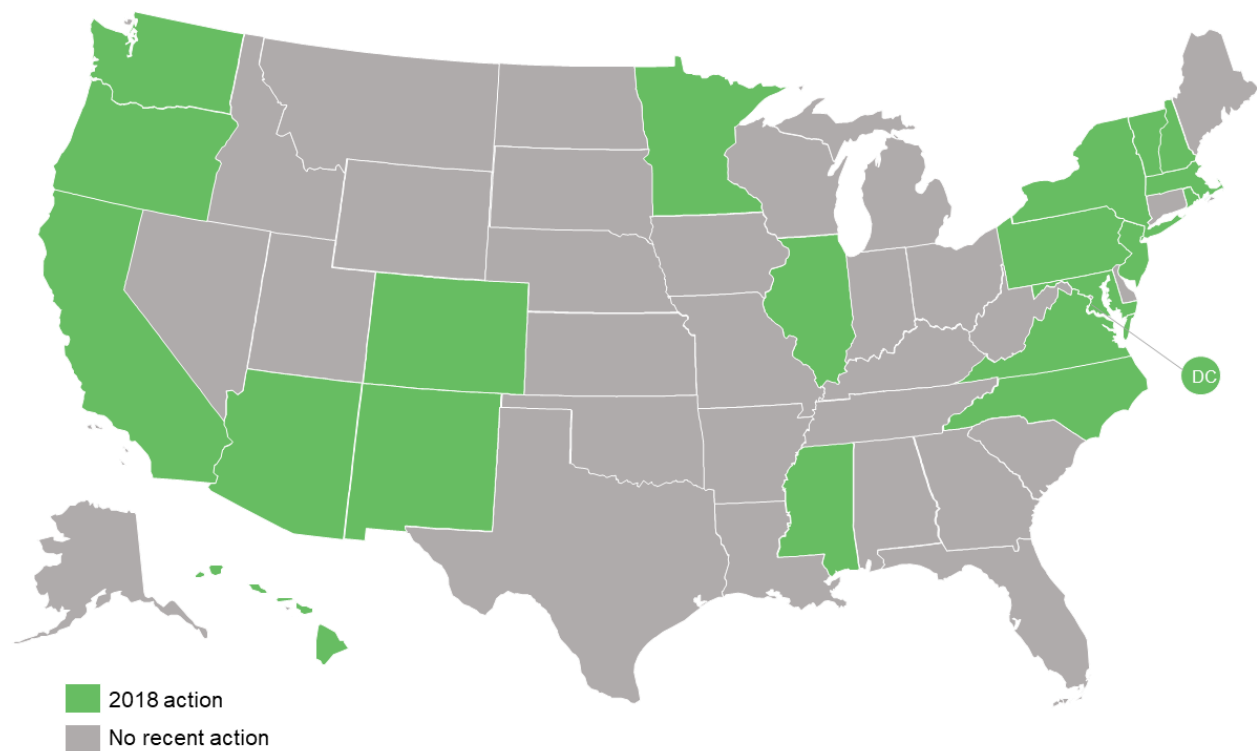
ELECTRIC VEHICLE MARKET DEVELOPMENT REVIEW

Key Takeaways:

- In 2018, 20 states plus DC took a total of 78 actions to encourage the adoption of electric vehicles and development of charging infrastructure.
- The most common types of actions were related to electric vehicle procurement, planning, and parking. These three types of actions accounted for 59% of all market development actions in 2018.
- Lawmakers in five states – California, Maryland, New Hampshire, New Mexico, and Oregon – enacted bills related to electric vehicle market development in 2018.

In 2018, 20 states plus DC took 78 policy actions related to developing state electric vehicle markets. Approximately 85% of all market development actions taken in 2018 were legislative. The most common types of market development actions related to: electric vehicle procurement, state and local planning, electric vehicle advisory groups, designated electric vehicle parking, and high-occupancy vehicle (HOV) lane access.

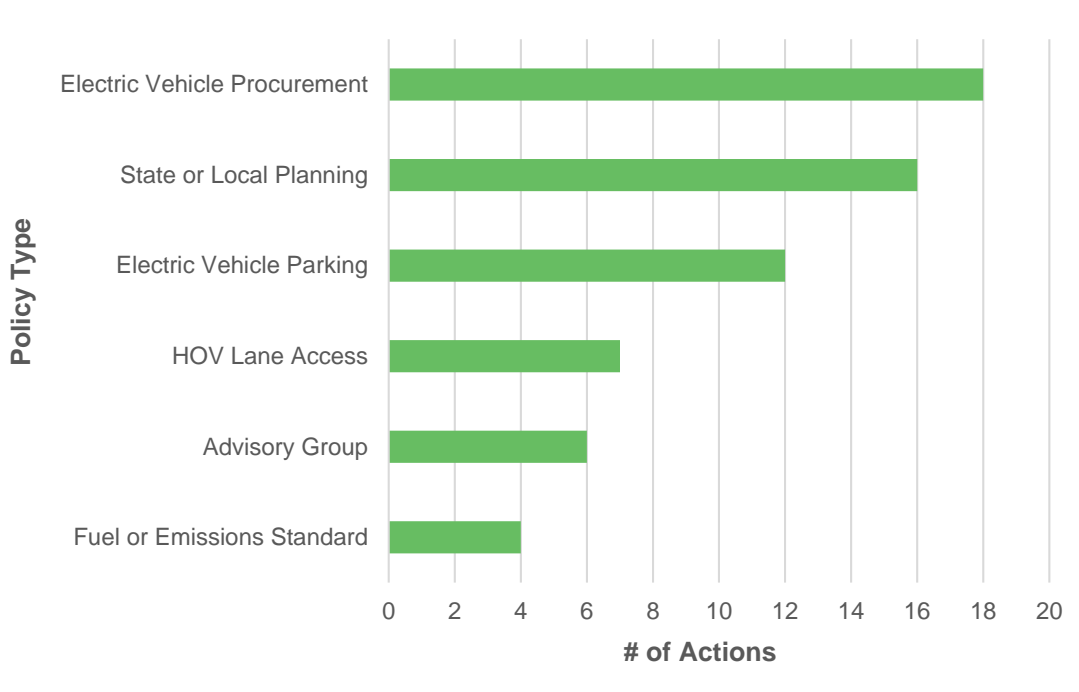
Figure 14. 2018 Action on Electric Vehicle Market Development



Hawaii and New Jersey took the greatest number of market development actions in 2018, although neither state had any bills enacted. The California State Legislature enacted a total of four bills in 2018; legislators passed bills related to electric vehicle parking at rental properties,

HOV lane access, zero-emission vehicle weight limits, and a “clean miles standard” for ridesharing companies. Other successful legislation includes electric vehicle procurement requirements of light-duty vehicles in New Mexico, allowing hybrid vehicles to access HOV lanes in Maryland, and the creation of a new transportation council and uniform signage requirements for charging infrastructure in New Hampshire.

Figure 15. Most Common Market Development Actions in 2018



Governors in at least three states – California, Colorado, and North Carolina – issued notable executive orders related to electric or zero-emission vehicles. In California, the Governor established a goal of having 5 million zero-emission vehicles on the road by 2030, and the Governor of North Carolina set a goal of having 80,000 registered zero-emission vehicles in the state by 2025. In Colorado, three executive orders related to electric vehicles have been issued within the past three years, taking executive action to allocate funding for electric vehicle deployment and set new zero-emission vehicle goals by joining the California zero-emission vehicle program. The Governor of New Jersey also signed onto the multi-state memorandum of understanding to support zero-emission vehicles.

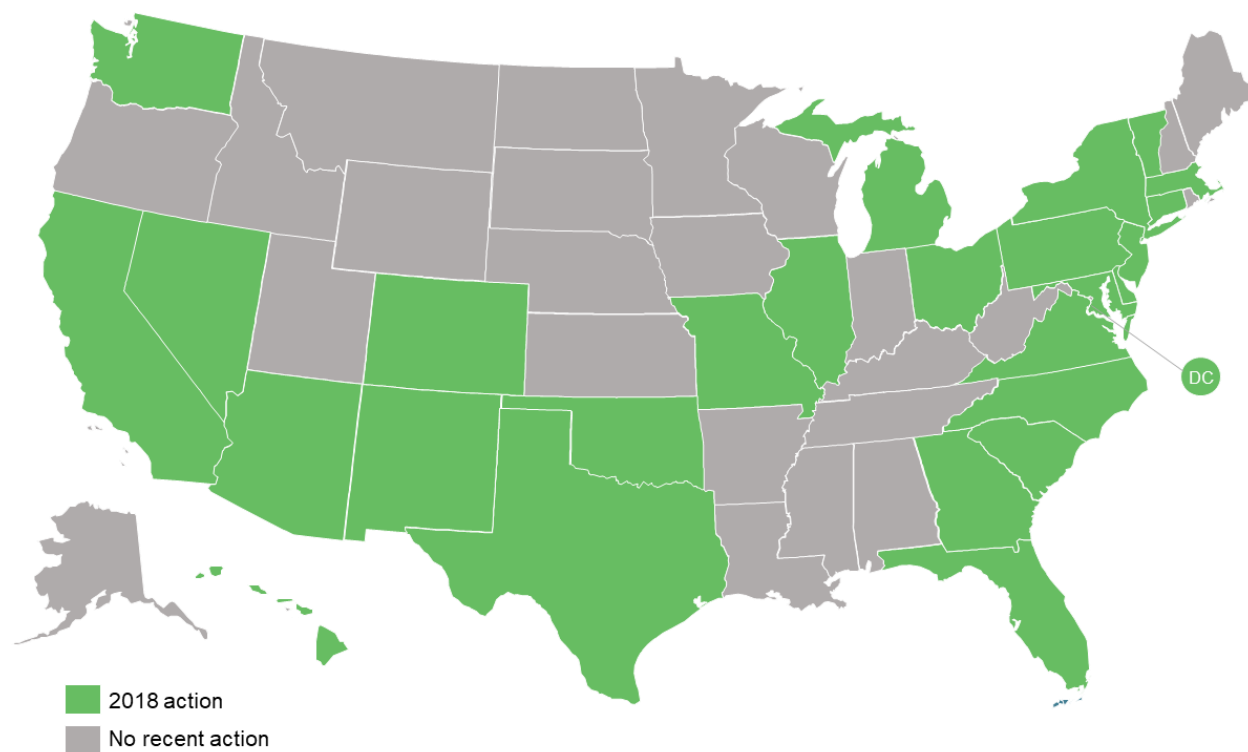
FINANCIAL INCENTIVES REVIEW

Key Takeaways:

- In 2018, there were 89 actions ongoing or under consideration in 26 states related to incentives for electric vehicles or charging infrastructure.
- The most common types of incentives under consideration were rebate programs (42), sales or use tax incentives (18), grant programs (15), and tax credits (11).
- Of the incentives under consideration in 2018, 44 pertained only to electric vehicles, 37 pertained to charging infrastructure, and 8 pertained to both.

In 2018, there were 89 actions ongoing or under consideration in 26 states related to financial incentives for electric vehicles and charging infrastructure. The types of incentives under consideration include rebate programs, sales tax exemptions, grant programs, tax credits, property tax exemptions, and loan programs.

Figure 16. 2018 Action on Financial Incentives

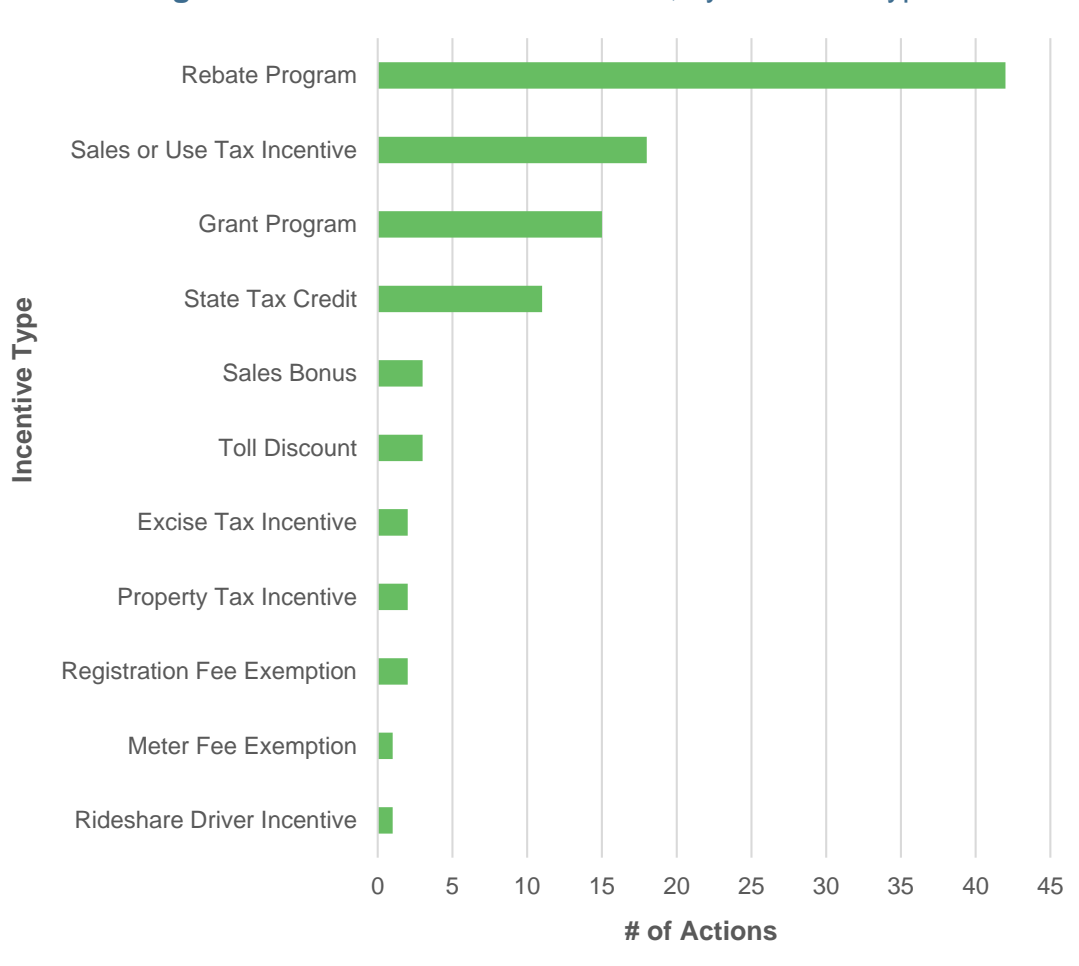


The majority of actions taken on financial incentives in 2018 were legislative, with 58 bills considered during the year. Legislative actions were proportionally more focused on electric vehicles themselves than on charging infrastructure, with 38 of the 58 bills aiming to incentivize electric vehicle adoption, 5 aiming to incentivize both electric vehicles and charging infrastructure, and 15 aimed at charging infrastructure only. Only six of these bills were enacted, with four of them in California, one in Massachusetts, and one in New Mexico.

The bills enacted in Massachusetts and New Mexico created new grant and loan programs, respectively. In California, lawmakers established a rebate program for low-income residents to replace zero-emission vehicle batteries and authorized a tax reduction for rides provided by zero-emission vehicles in San Francisco.

Another California bill added new types of projects (projects supporting grid integrated and integrated storage solutions, as well as charging management demonstration projects) to the existing Clean Truck, Bus, and Off-Road Vehicle and Equipment Technology Program. The final California bill enacted in 2018 requires greater outreach to low-income households and communities to be conducted as part of an existing zero-emission vehicle rebate program.

Figure 17. 2018 Action on Incentives, by Incentive Type



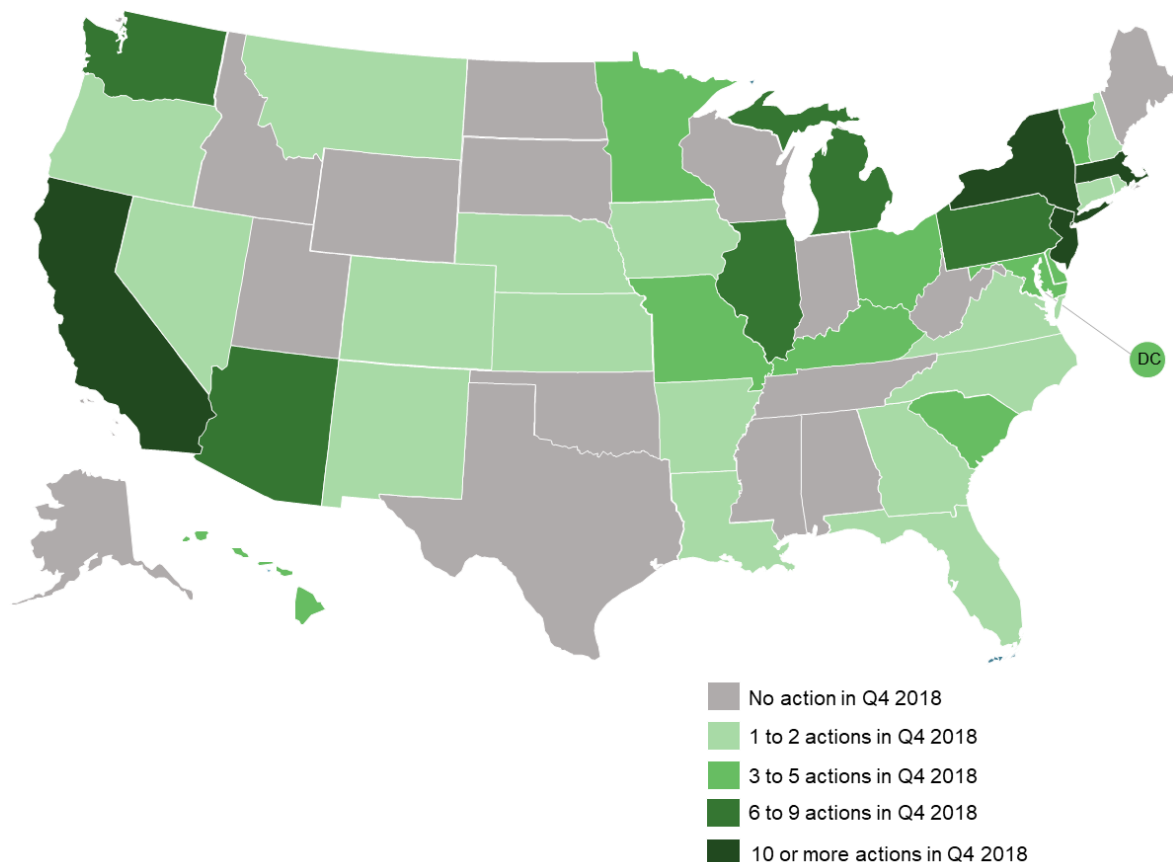
Utilities in 16 states and DC proposed or announced new financial incentives for electric vehicles or related infrastructure. Utility programs were predominantly focused on charging infrastructure, rather than vehicles; 23 of the 29 utility-proposed programs were exclusively for charging infrastructure, and 27 of the 29 included charging infrastructure. Regulators approved new utility incentives in eight states in 2018 – California, Massachusetts, Michigan, Nevada, New York, Ohio, Pennsylvania, and Washington.

Table 6. 2018 Utility Requests for Electric Vehicle Charging Investments

State	Utility	Proposed Budget	Approved Budget
AZ	Arizona Public Service	\$3.58 Million	Pending
CA	Bear Valley Electric	\$607,500	\$607,500
CA	Liberty Utilities (Transportation Electrification Program)	\$4.223 Million	\$4.223 Million
CA	Liberty Utilities (A.B. 1082/1083 Proposal)	\$4.687 Million	Pending
CA	Pacific Gas & Electric (Transportation Electrification Program)	\$258.3 Million	\$277.3 Million
CA	Pacific Gas & Electric (A.B. 1082/1083 Proposal)	\$11.3 Million	Pending
CA	San Diego Gas & Electric (Transportation Electrification Program)	\$160.6 Million	\$161 Million
CA	San Diego Gas & Electric (A.B. 1082/1083 Proposal)	\$18.8 Million	Pending
CA	San Diego Gas & Electric (Medium & Heavy Duty)	\$152.3 Million	Pending
CA	Southern California Edison (Transportation Electrification Program)	\$228.3 Million	\$372.5 Million
CA	Southern California Edison (Charge Ready Extension)	\$22 Million	\$22 Million
CA	Southern California Edison (Charge Ready II)	\$760 Million	Pending
CA	Southern California Edison (A.B. 1082/1083 Proposal)	\$19.77 Million	Pending
DC	Pepco	\$8.933 Million	Pending
DE	Delmarva Power & Light	\$1.74 Million	Pending
LA	Entergy New Orleans	\$500,000	Pending
MD	Baltimore Gas & Electric	\$48.1 Million	Pending
MD	Delmarva Power & Light	\$12 Million	Pending
MD	Pepco	\$32.2 Million	Pending
MD	Potomac Edison	\$12.4 Million	Pending
MA	National Grid	\$166.5 Million	Pending
MI	DTE Electric	\$7.73 Million	Pending
MN	Xcel Energy	\$23.6 Million	Pending
NJ	Atlantic City Electric	\$5.85 Million	Pending
NJ	PSE&G New Jersey	\$101 Million	Pending
NY	Orange and Rockland Utilities	\$1 Million	Pending
NC	Duke Energy Carolinas	\$25 Million	\$0
OH	Dayton Power & Light	\$7.2 Million	Pending
OR	Pacificorp	\$4.64 Million	\$4.64 Million
OR	Portland General Electric	\$4.3 Million	\$4.3 Million
PA	Duquesne Light Company	\$2.9 Million	\$1.8 Million
RI	National Grid	\$11.55 Million	\$3.9 Million
SC	Duke Energy Carolinas	\$7.1 Million	Pending
SC	Duke Energy Progress	\$3.3 Million	Pending
TOTAL		\$2.135 Billion	\$852.5 Million

Electric vehicle activity increased slightly in Q4 2018, despite the majority of state legislatures being out of session during the quarter. Activity in two categories – Market Development, Rate Design, and Deployment – increased during Q4 2018, while activity in the remaining three categories – Financial Incentives, Regulation, and Studies and Investigations – decreased.. New Jersey, New York, and California took the greatest number of actions during the quarter, each considering at least 20 actions (see Figure 23).

Figure 21. Q4 2018 Action on Electric Vehicles, by Number of Actions



For the second quarter in a row, just four states – New Jersey, New York, California, and Massachusetts – accounted for over half of the electric vehicle actions taken. This is due in large part to these states’ legislative sessions continuing into Q4 2018. However, only the bills under consideration in New Jersey will carry forward into 2019. Nearly half of the states taking actions during Q4 2018 took only one to two actions.

State legislative sessions are expected to be very busy for electric vehicle policy activity in 2019. As of early February 2019, at least 172 bills were under consideration related to electric vehicles and charging infrastructure were under consideration across 32 states. A wide variety of issues are under consideration, including additional fees for electric vehicles, dedicated electric vehicle parking requirements, transportation electrification planning, public utility regulation, and electric vehicle incentives.

The most common type of electric vehicle action taken in Q4 2018 related to Level 2 charging station deployment, followed closely by fast charging station deployment, rebate programs, and rate design for Level 2 charging. These actions were driven by utility proposals to invest in charging infrastructure, offer incentives for customers to install charging stations, and create new rate structures to promote off-peak charging. The greatest number of states (20 + DC) took action related to studies and investigations, highlighting a widespread interest in gathering information and engaging stakeholders.

Figure 22. Most Common Types of Actions Taken in Q4 2018

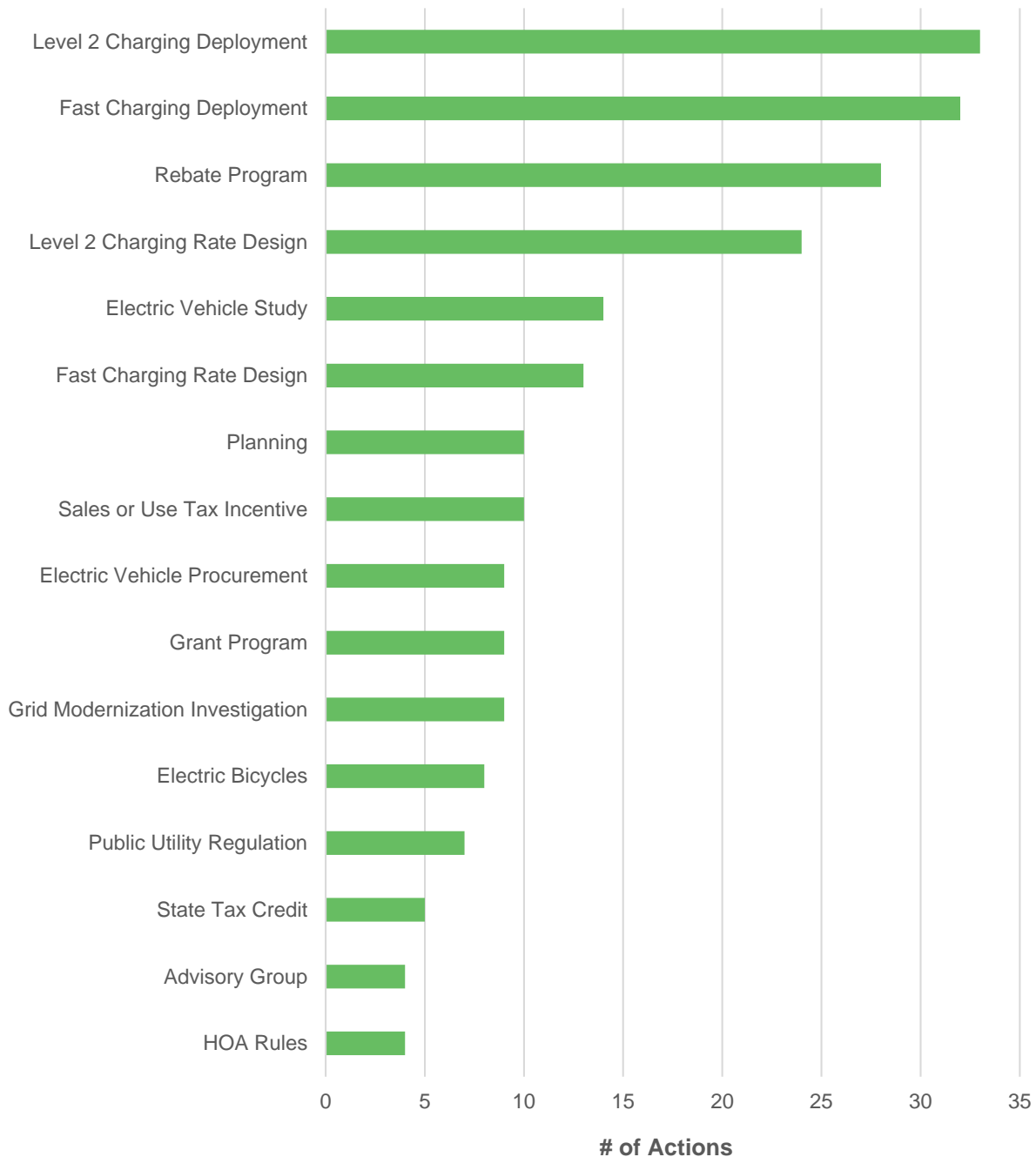
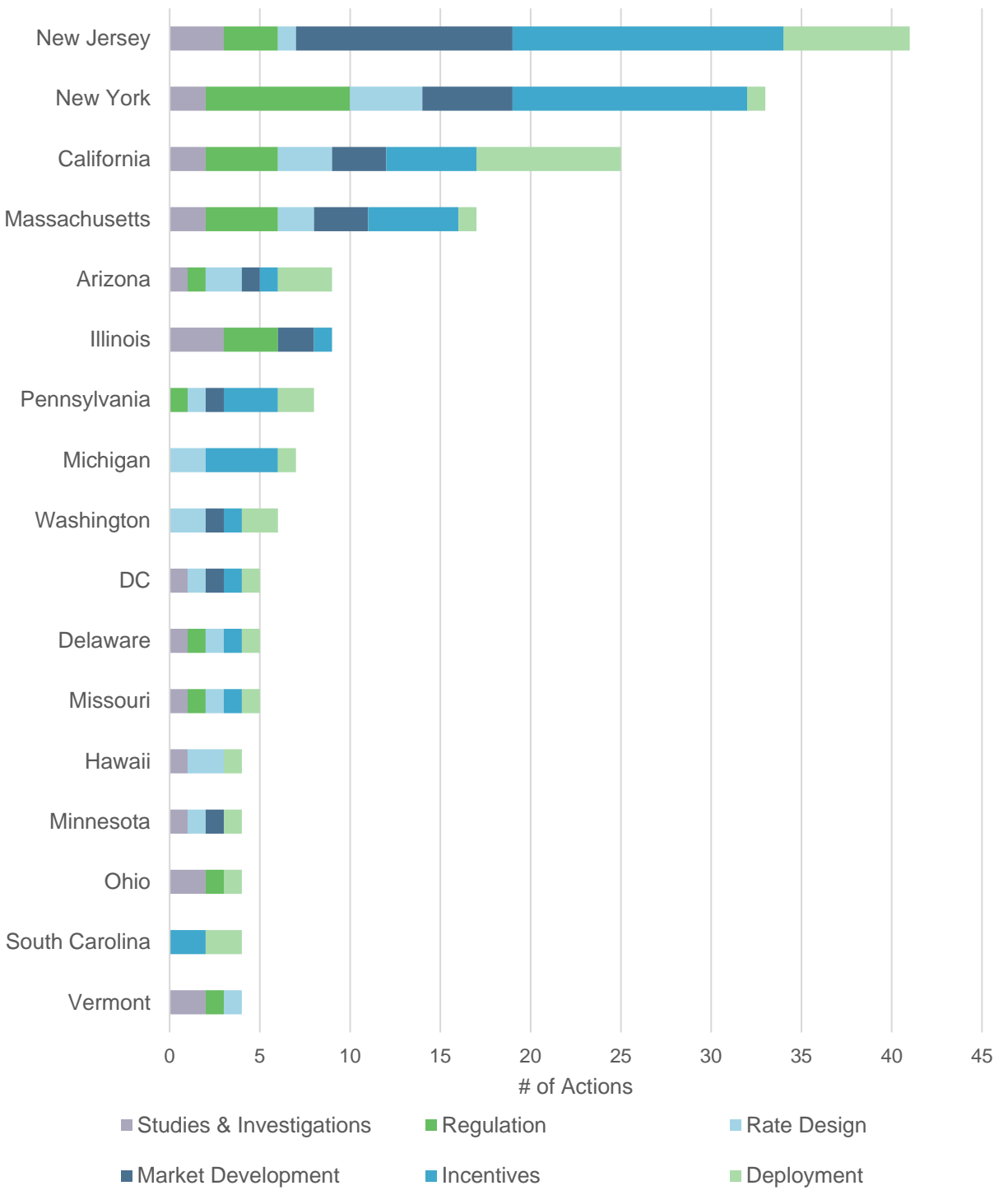


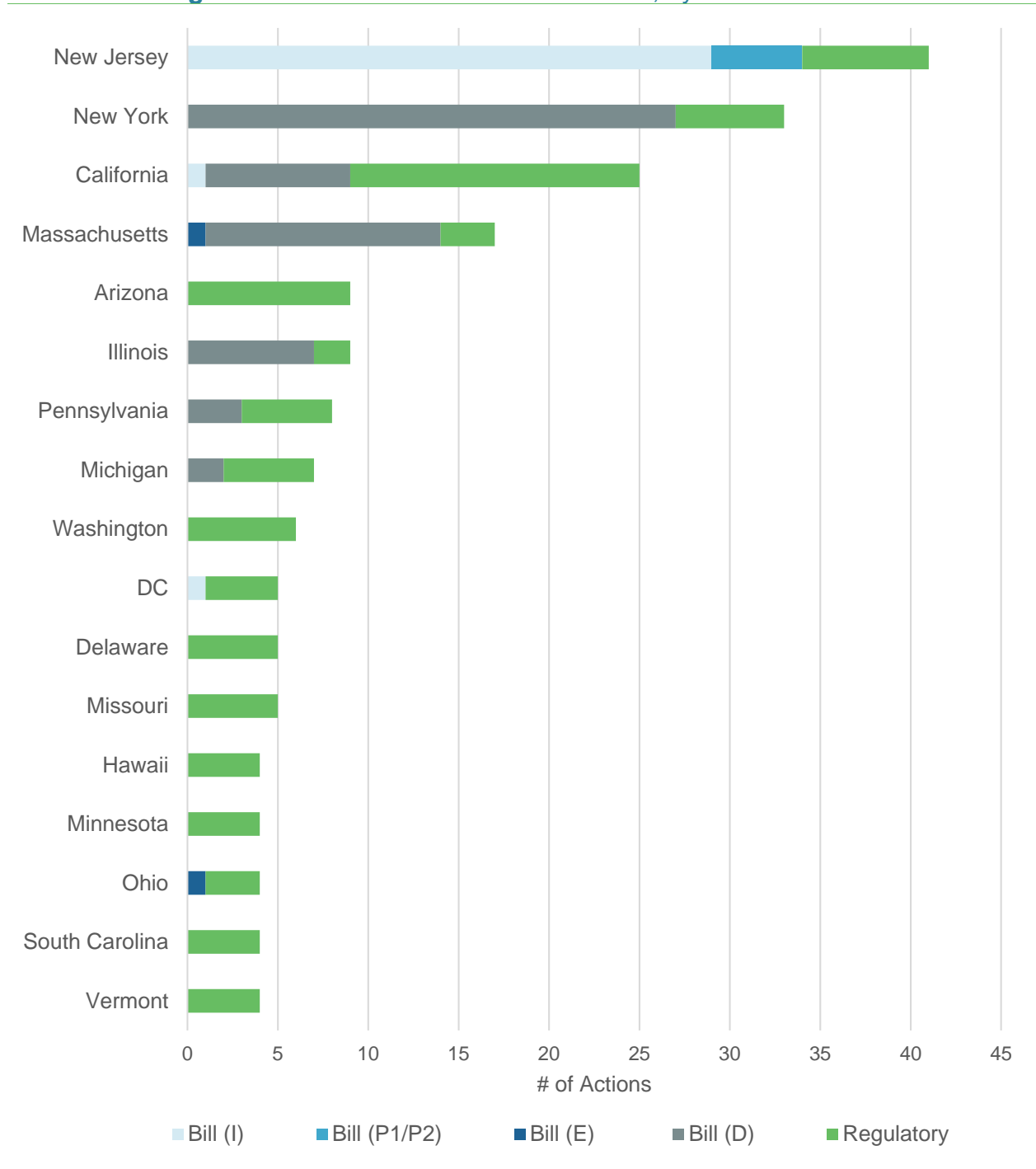
Figure 23. States with the Most Electric Vehicle-Related Actions in Q4 2018



Although 217 actions related to electric vehicles were taken in Q4 2018, not all of these resulted in legislative or regulatory decisions. Figure 24 displays the most active states of Q4 2018 by the status of each action taken (I = introduced, P1/P2 = passed one or both legislative chambers, E = enacted, and D = dead). For the purposes of this graph, each individual action is

assigned a status, so bills containing several different electric vehicle components may be counted multiple times. The graph is therefore not intended to be a precise representation, but rather to show that while some states may be considered very active, fewer actions led to policy changes or technology deployment.

Figure 24. Most Active States of Q4 2018, by Action Status



Box 3. Top Electric Vehicle Policy Actions of Q4 2018

National Grid Files Phase II Electric Vehicle Market Development Program in Massachusetts

As part of a general rate case filed in November 2018, National Grid requested approval for Phase II of its Electric Vehicle Market Development Program. The program includes a residential off-peak charging rebate, a demand charge discount for fast charging stations, charging station rebates, and utility deployment and ownership of Level 2 and fast charging stations.

Kentucky Public Service Commission Opens Docket Considering Jurisdiction Over Charging Stations

In November 2018, the Kentucky Public Service Commission opened a proceeding to review the Commission's jurisdiction over electric vehicle charging stations. The Commission noted increased ownership of electric vehicles in the state as a motivating factor for the investigation, as well as the fact that the state has fewer charging stations than neighboring states. The Commission is currently accepting comments on the issue.

North Carolina Governor Establishes Zero-Emission Vehicle Goal

In October 2018, the Governor of North Carolina issued Executive Order 80, establishing a goal of having 80,000 registered zero-emission vehicles in the state by 2025. The order also directs state agencies to prioritize zero-emission vehicles when purchasing or leasing new vehicles and directs certain agencies to create a zero-emission vehicle plan and motor fleet zero-emission vehicle plan.

Pacific Gas & Electric and Green Mountain Power File Subscription Rates

Pacific Gas & Electric (PG&E) in California and Green Mountain Power (GMP) in Vermont both requested approval for subscription rates for electric vehicle charging in Q4 2018. PG&E's proposed rates are available to commercial customers, while GMP's rate offers unlimited residential off-peak charging for a fixed monthly fee. GMP later withdrew its proposed rate in January 2019. Xcel Energy also indicated that it will file a subscription rate in Minnesota.

California Regulators Open Broad Rulemaking on Transportation Electrification

The California Public Utilities Commission opened a broad rulemaking proceeding on transportation electrification issues in December 2018. The proceeding will cover a transportation electrification framework for utility programs and investments, rate designs for electric vehicle charging, the Low Carbon Fuel Standard, low-income access to transportation electrification, vehicle-grid integration, cybersecurity, and more.

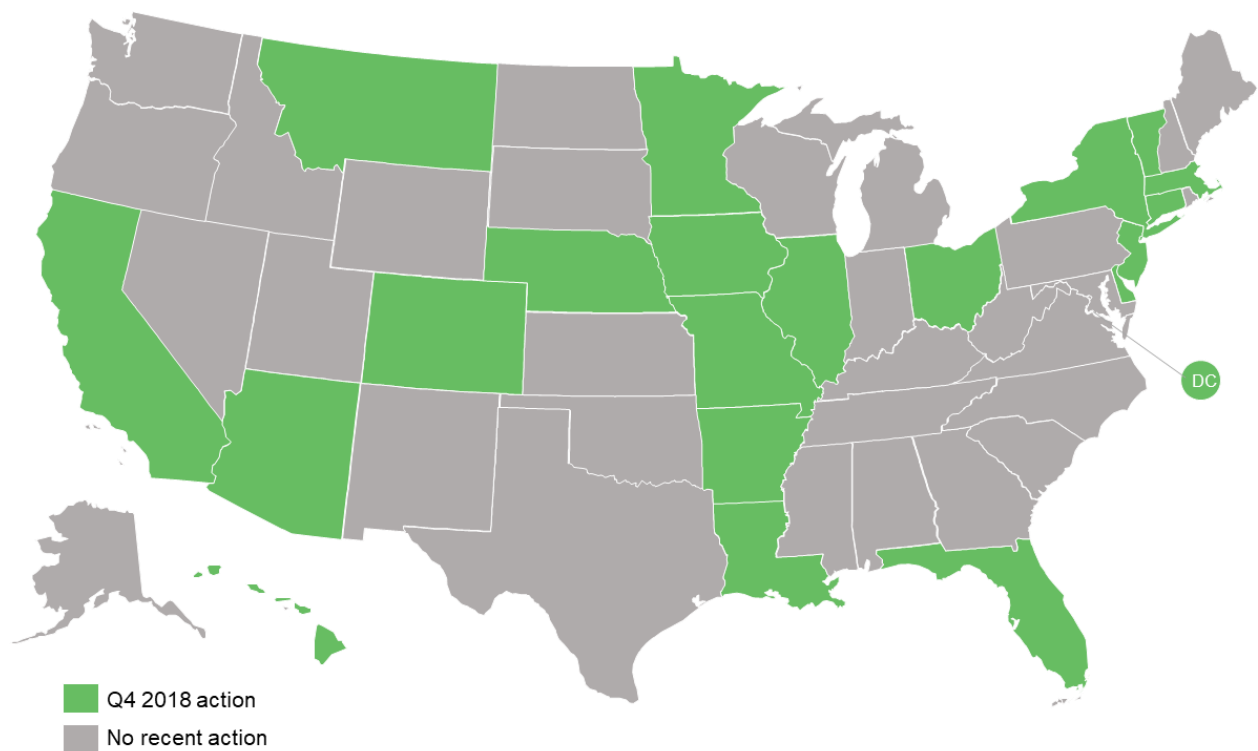
STUDIES AND INVESTIGATIONS

Key Takeaways:

- In Q4 2018, 20 states plus DC took action to study or investigate issues related to electric vehicles and charging infrastructure.
- The Iowa Department of Transportation published a study examining the impact of electric vehicles on the state's Road Use Tax Fund.
- The Public Utilities Commission of Ohio opened a new proceeding in October 2018 for its PowerForward Collaborative, which has focused on electric vehicle issues thus far.

In Q4 2018, several states continued to engage stakeholders, gather public comments, and share draft reports, as part of ongoing studies or investigatory proceedings related to electric vehicles. A total of 20 states and DC took actions related to electric vehicle studies during the quarter, with two draft studies and one final study published.

Figure 25. Action on Electric Vehicle Studies and Investigations (Q4 2018)



Regulatory proceedings accounted for the majority of studies and investigations in Q4 2018. These proceedings typically focus on electric vehicle charging issues, examining rate design, infrastructure considerations, and grid impacts. For example, the New York Public Service Commission is considering how to manage demand charges to encourage the development of fast charging stations. In other cases, these proceedings may include electric vehicles as a relatively small piece of a much larger investigation of grid modernization. For example,

Commissions in Illinois and Ohio are considering electric vehicle issues within the NextGrid and PowerForward proceedings. In December 2018, the New Orleans City Council also merged a proceeding on electric vehicles and charging infrastructure with a proceeding related to smart cities.

Box 4. Categorizing Studies and Investigations

In the 50 States report series, actions included within the category of Studies and Investigations do not include defined policy proposals or directives to implement a specific policy or regulatory change. Once a specific proposal is introduced, that action is included in the more specific category pertaining to that particular type of change, such as Regulation, Rate Design, or Market Development.

Public meetings and stakeholder engagement activities were the most common type of activity taking place during the final quarter of 2018. Several utilities commissions or utility working groups are preparing to release final studies during the spring or summer of 2019. A final report in Colorado's transportation electrification proceeding was filed in January 2019, and Illinois' final NextGrid report is set to be released in early 2019. New Jersey's Energy Master Plan is planned to be completed by June 2019.

Table 8. Updates on Electric Vehicle Studies & Investigations (Q4 2018)

State	Study Scope	Description	Source
AR	Distributed Energy Resources	In April 2016, the Public Service Commission (PSC) opened a general proceeding to explore DERs, including electric vehicles. The proceeding is intended to develop comprehensive recommendations on several issues, including DER integration. Among specific topics to be addressed in the proceeding, according to a November 2017 order, is the identification of currently non-quantified functionalities of DERs, including EVs that can be enabled or enhanced by AMI, and which may be better offered by the utility and by third parties. In July 2018, the Commission issued an order, establishing a list of issues to be addressed during the course of the proceeding. The list includes many specific topics within the broader categories of DER aggregation, rate structure and rate design, low-income customer participation, advanced technology, and distribution system planning and integrated resource planning. The Commission will schedule an initial educational workshop on DER and grid modernization issues, and is first accepting comments on the grouping of issues to be addressed in the proceeding and additional issues, the order and prioritization of these issues, means of addressing and building consensus on these issues, the expertise necessary to address these issues, and possible timeframes for events. Comments were due by September 28th. The Commission also deferred action on the electric cooperatives' request for exemption from this proceeding until after the educational workshop.	Docket No. 16-028-U Order No. 10
AZ	Electric Vehicles	In August 2018, Commissioner Dunn requested the opening of a docket for an inquiry into EVs, EV infrastructure, and transportation electrification in the state. In October 2018, the Commissioner requested that the docket be closed because the subject matter would be addressed in the Commission's generic rulemaking docket considering changes to energy rules (Docket No. RU-0000A-18-0284). The Commission closed the docket later in October.	Docket No. E-00000J-18-0266
CA	Battery Recycling	A.B. 2407, introduced in February 2018, requires the Secretary for Environmental Protection to convene the Lithium-Ion Car Battery Recycling Advisory Group on or before April 2019, and advise the legislature on policies related to the recovery and recycling of lithium-ion car batteries. The bill passed the Assembly in May 2018, but did not pass the Senate before the end of the legislative session.	A.B. 2407 (D)

	Zero-Emission Cargo Handling Equipment	A.B. 3015, introduced in February 2018, requires the Transportation Agency to include a review of zero-emission cargo handling equipment in its State Freight Plan. The bill also requires the State Air Resources Board to conduct an analysis of the cost-effectiveness of zero-emission cargo handling equipment. The bill did not advance before the end of the legislative session.	A.B. 3015 (D)
CO	Electric Vehicles	In October 2017, the Colorado Public Utilities Commission (PUC) opened an investigation into transportation electrification. The initial focus of the proceeding is on EVs, though the Commission noted that the investigation could also later address other beneficial electrification issues, including vehicle-to-grid technologies; electric trucks, buses, and medium- and heavy-duty vehicles; and water heating, space heating, and cooling. In May 2018, the PUC issued a decision ordering the PUC Staff to convene a working group on EVs and transportation electrification, with instructions to submit a written report by November 30, 2018. Issues to be addressed include rate design for EV charging and cost recovery for EV infrastructure. The working group submitted a draft report in late November 2018. The draft report discusses several EV issues, including beneficial electrification, make-ready infrastructure investments, rate design, metering, smart charging, fleet electrification, medium and heavy duty vehicle electrification, and education and outreach, but does not include recommendations. The final version of the report was filed on January 15, 2019, along with a statement from the working group members requesting that the PUC provide guidance on the ability of utilities to obtain cost recovery for investments in make-ready infrastructure. Recommendations from the final report included keeping this docket open to discuss general policy issues while allowing and encouraging utilities to file applications for pilot programs and tariffs, and allowing utilities to file applications for make-ready infrastructure investments.	Docket No. 17I-0692E
CT	Grid Modernization	In November 2017, the Public Utilities Regulatory Authority (PURA) opened a proceeding to investigate the state of the electric distribution companies' distribution systems and plans, near and long term needs of the distribution system, and whether any new or modified planning objectives, metrics, solutions, performance incentives, oversight and/or procurement mechanisms should be implemented. Focus areas highlighted by the PURA include DER integration; modernizing data sensing, analytics, control, and communications; alternatives to traditional capacity solutions; and rate design. In	Docket No. 17-12-03

		<p>March 2018, the PURA issued a Notice of Scope of Proceeding, outlining the scope of the first phase of the proceeding. This first phase will focus on establishing the PURA's regulatory framework for grid modernization and examining three questions: (1) What are the key cost drivers associated with maintaining and modernizing the electric distribution system? (2) To what extent is customer electric demand changing in the near-term and long-term, and how can distribution system planning efforts best respond to changing customer demand? and (3) What functions to grid modernization technologies serve and how can these technologies be deployed to most effectively and efficiently meet the needs of the electric distribution utilities and customers, in light of the evolving distribution grid and electric system? Question 2 is addressing the role of DERs, including EVs, and will inform rate design discussions. EVs could also be addressed in other ways throughout this proceeding. The PURA issued a request for comments in March 2018, regarding principles and objectives for investments in grid modernization, the stakeholder participation process, and the PURA's three questions outlined in the Notice of Scope of Proceeding. A technical meeting was held in June 2018, focusing on Topic 1, while Topics 2 and 3 were addressed at technical meetings in July and October 2018. A public hearing was held in late October, with briefs accepted in November and reply briefs in December 2018.</p>	
DC	Grid Modernization	<p>In June 2015, the DC Public Service Commission (PSC) initiated a proceeding to identify technologies and policies that can modernize its energy delivery system for increased sustainability, reliability, efficiency, cost-effectiveness, and interactivity. EVs are included within the scope of this investigation. In January 2017, the staff presented its Modernizing the Distribution Energy Delivery System for Increased Sustainability (MEDSIS) report. In the report, the Staff found the current definition of an EV to be adequate and recommended the PSC issue a notice of proposed rulemaking to adopt the definition. The PSC later accepted comments on whether a full assessment of the District's capabilities and characteristics is warranted at this time, and to what extent a consultant should be used to move MEDSIS forward more expeditiously. In February 2018, the PSC adopted a MEDSIS vision statement and stated that it would conduct a request for proposals for a MEDSIS consultant. A technical conference was convened by the hired consultant, the Smart Electric Power Alliance, in late June 2018. EVs were mentioned during the conference, but were not a primary focus.</p>	<p>Formal Case No. 1130</p> <p>MEDSIS website</p> <p>Transportation Electrification Program</p>

		<p>While these larger MEDSIS activities were taking place, PEPCO also hosted EV workshops in April, May, and June 2018. PEPCO used the workshops to present a revised EV program proposal and to receive input from stakeholders on several issues, including: operational and policy considerations, outreach and education, increasing EV penetration for broader and more diverse populations, and addressing barriers to EV penetration in all quadrants of DC. In September 2018, PEPCO filed an application for approval of its Transportation Electrification Program. The program consists of 13 offerings, including a mix of incentives, rates and direct deployment of charging infrastructure. The Program report also indicates that PEPCO hired an independent consultant, Gable Associates, to conduct a benefit-cost analysis of Pepco's proposed program. The analysis demonstrated that benefits exceed costs, and that there is net benefit across multiple stakeholder groups totaling \$321.3 million. The Commission accepted comments on the proposal through December 12, 2018.</p>	
DE	Electric Vehicles	<p>The Delaware Public Service Commission is considering a proposal from Delmarva Power & Light (DPL) to implement a new \$1.74 million plug-in vehicle program. The program would include utility ownership of EV charging equipment. In June 2018, DPL informed the parties that its parent company, Exelon, had engaged a consultant earlier in the year to study issues related to electric vehicles in its various jurisdictions, and requested to have the study (The Gabel Report) entered into the record, and to have the evidentiary hearings postponed to give all parties the opportunity to review the study. A September order asked parties to agree upon a new procedural schedule to provide for discovery upon the Gabel Report. The report quantifies the projected overall benefits and potential costs of increased EV adoption in DPL's service territory, and estimates the net benefit that will result using three different net benefit tests during a period from 2019 through 2035. The study concludes that residents in DPL territory will realize a total savings of \$996 million over the period through lower electricity costs, cleaner air, reduced vehicle operating expenses, and federal vehicle purchase incentives. The study also demonstrates a variety of benefits for the grid. Delmarva, the Public Advocate, and the Commission Staff filed a settlement agreement in January 2019, agreeing to all aspects of the program. Notably, the settlement agreement states that the Gabel Report forms no basis for the resolution of this proceeding.</p>	<p>Docket No. 17-1094</p> <p>Gabel Report</p>

FL	EV Charging	In October 2018, Duke Energy Florida announced the launch of its three-year Charge Florida study. The study will collect information on EV charging patterns (location, time frame and length of charging, battery state of charge) from 200 customer volunteers who drive EVs.	Press Release
HI	Transportation Electrification	A June 2017 order from the Public Utilities Commission required the HECO companies to develop an Electrification of Transportation Strategic Roadmap. HECO submitted its roadmap in March 2018, which describes a number of activities that could accelerate the adoption of EVs, including: (1) lowering costs and educating customers, (2) accelerating the buildout of EV charging infrastructure, (3) supporting the electrification of buses and other heavy equipment, (4) incentivizing EV charging, and (5) coordinate with ongoing grid modernization planning efforts. The Commission opened a new proceeding (2018-0135) in June 2018 to serve as a repository for the Roadmap. In November 2018, HECO filed an addendum to its Strategic Roadmap. The original roadmap provided economic analysis of electrification of transportation in its service territories using light-duty vehicles on Oahu as an initial case study. The addendum provides economic analysis on additional islands.	Docket No. 2018-0135 Docket No. 2016-0168 Electrification of Transportation Strategic Roadmap Roadmap Addendum
IA	Transportation Funding	In April 2018, Iowa's governor signed H.F. 2256 into law, which required the state's department of transportation to conduct a study on the impact of increased usage of electric, hybrid, and other high-efficiency motor vehicles on the state's Road Use Tax Fund, which is funded by fuel excise taxes. The study was released on December 31, 2018. The study found that current and near-future revenue reductions are relatively small (less than \$1 million in all scenarios during 2020), but revenue reductions could exceed \$100 million by 2040. The study made three recommendations to mitigate this revenue loss: (1) add a \$0.026 per-kWh charging fee at non-residential EV charging stations, (2) begin collecting a supplemental annual registration fee of \$130 for battery electric vehicles, \$65 for plug-in hybrid electric vehicles, and \$9 for electric motorcycles in 2020, and (3) begin collecting a \$0.65 per diesel gallon equivalent excise tax on hydrogen fuels in 2020.	2018 Report on the Impact of Electric Vehicles to the Road Use Tax Fund H.F. 2256 (2018)
IL	EV Charging Infrastructure	H.B. 5216 and S.B. 3014 require the Illinois Commerce Commission to study and conduct public outreach to determine whether construction of EVSE would encourage EV adoption. The bills specify that the Commission shall conduct at least one workshop and issue a report on how the development,	H.B. 5216 (D) S.B. 3014 (D)

	<p>construction, and installation of new public EVSE would increase utilization of EVs in Illinois. The bills did not advance during the legislative session.</p>	
<p>Grid Modernization</p>	<p>In March 2017, the Illinois Commerce Commission opened the "NextGrid" proceeding following the passage of legislation in December 2016 that makes comprehensive changes to various aspects of Illinois energy policy. This will be a collaborative process with seven working groups: 1) New Technology and Grid Integration, 2) Electricity Markets, 3) Customer and Community Participation, 4) Regulatory, Environmental, and Policy Issues, 5) Metering, Communications, and Data, 6) Reliability, Resiliency, and Cyber Security, and 7) Ratemaking. EVs are explicitly noted as a topic for consideration within the New Technology Deployment and Grid Integration working group, and are likely to be considered within other working groups as well. The NextGrid process officially began in September 2017, with a kickoff conference held in Chicago. Working Group 1 held several meetings in late 2017 and early 2018, during which presentations on EV infrastructure needs were given and discussions were held on electrification policy issues, including determining costs and benefits, inclusion of low-income communities, and grid management.</p> <p>All working groups released draft reports during the third quarter of 2018. Working Group 1's report discussed the need to take transportation electrification into account in distribution system planning. Working Group 2's report discussed how metering issues can inhibit participation in EV programs. Working Group 4's reports contained a number of recommendations from stakeholders on transportation electrification, including developing pilot time-of-use rates specifically for EV charging, developing pilot "smart charging" programs, investigating workplace and streetlight-based charging, investigating issues with EV charging at multiple-tenant properties, and supporting electrification of public bus fleets; this working group also discussed whether public funding for EV charging infrastructure would be necessary. Working Group 6 discussed the potential for EVs to provide environmental and grid benefits and the potential equity issues of EV infrastructure funding options. Working Group 7 discussed how time-of-use pricing can help incentivize EV usage. A draft final report was published in December 2018, with comments accepted until January 10, 2019; a revised final report will be issued in early 2019.</p>	<p>Docket No. 17-0142</p> <p>NextGrid Website</p> <p>Draft Final Report</p>

	Transportation Electrification	The Illinois Corporation Commission held policy sessions in April and September 2018 to discuss transportation electrification. On September 24, 2018, the Illinois Corporations Commission issued a notice of inquiry to gather further information and opinions from stakeholders on the technical, financial, and policy implications of electric vehicles. The notice of inquiry proceeding is not a rulemaking, although information gathered may inform future rulemakings. Initial comments were filed in late October 2018, and reply comments were filed in mid-November 2018. In January 2019, the Commission released a summary report for the notice of inquiry, summarizing all of the comments received.	Notice of Inquiry
LA	Electric Vehicles	In April 2018, the New Orleans City Council approved a resolution establishing a new docket to consider issues related to EVs and EV charging. In July 2018, the Utility Advisors filed a report on a proposed process for gathering information in this proceeding. The City Council established a procedural schedule in December 2018 and merged the proceeding with the Smart Cities docket (No. UD-18-01). Parties are to file a list of proposed relevant issues by the end of February 2019, and a technical conference is scheduled for July 5, 2019. The Advisors are to file their recommendations by August 15, 2019. The City Council merged this proceeding with the Smart Cities proceeding (Docket No. 18-01) in December 2018 and established a procedural schedule.	Docket No. UD-18-02 Resolution R-18-100 Resolution No. R-18-536 Resolution No. R-18-537
MA	Electric Vehicles	S.B. 1880 directs the Department of Transportation to conduct a feasibility study on allowing ZEVs to travel in HOV lanes by December 1, 2018. The bill also directs the Secretary of Transportation to conduct a feasibility study on installing EV charging stations at rest stops along interstate highway route 90 by December 31, 2018. The proposed legislation also directs the Secretary of Transportation to conduct a study by April 1, 2019 examining both the advisability and feasibility of assessing additional fees on ZEVs to offset projected gasoline tax revenue losses attributable to these vehicles. Finally, the bill directs the Department of Energy Resources to conduct a study by September 2019 examining opportunities to electrify the state fleet. The bill did not advance during the 2017-2018 legislative session.	S. 1880 (D)
	EV Use of HOV Lanes	S. 2564 directs the Department of Transportation to conduct a feasibility study on allowing EVs to travel in HOV lanes. The bill died at the end of the 2017-2018 legislative session.	S. 2564 (D)

MN	Electric Vehicles	<p>In December 2017, the Minnesota Public Utilities Commission opened a Commission inquiry into EV charging and infrastructure. The purpose of the proceeding is to gather information on three primary topics: (1) the possible impacts and benefits of EVs on the electric system, utilities, and ratepayers; (2) the degree to which utilities and regulatory policy can impact EV adoption in the state; and (3) EV tariff options that could facilitate wider availability of charging infrastructure. A workshop was held in March 2018. The Commission received initial comments in July 2018, and reply comments in August 2018. In December 2018, Commissioner Lipschultz filed suggested findings and several decision options for the Commission to consider. One of the decision options is to require all three IOUs to file EV promotional cost recovery mechanisms as part of their annual EV reports. Another decision option is to require the IOUs to file Transportation Electrification Plans to identify what EV-related initiatives the utility has planned for the next two years. An additional decision option requires the IOUs to file proposals, which may be pilots, to enhance the availability of charging infrastructure.</p>	<p>Docket No. 17-879</p>
MO	Distributed Energy Resources	<p>In March 2017, the Missouri Public Service Commission (PSC) opened a proceeding to gather information on issues including AMI installation, PACE financing programs, alternative rate design proposals, and the PSC's role in promoting a competitive market for PEVs. A workshop was held in May 2017, where these issues were discussed, and in July 2017, the Commission staff filed a report with recommended next steps. The report noted that the issues of EV rate design and resale of electricity from EV charging infrastructure came up in various stakeholders' comments. The staff did not recommend any additional workshops on EV charging, but did recommend that EV issues be included in further discussion on modified rate design. EV charging needs were addressed during presentations at a February 2018 workshop considering rate design issues. EVs were considered to be a DER in the PSC Staff's April 2018 report on DERs, which recommends allowing DERs to be used as part of demand-side management programs. In May 2018, the PSC Staff released a draft rule for comment, and in late May a workshop was held to discuss the proposed rule. In late June 2018, the PSC Staff released an updated version of the draft rule for comment. The current version of the rule requires utilities to maintain a database on current DERs (including EVs) on their grids, assess the market potential for DERs as part of their</p>	<p>Docket No. EW-2017-0245</p> <p>April 2018 Staff Report</p> <p>Draft Rule</p>

		<p>triennial compliance filings, and evaluate DERs as part of the resource planning process, including their integration with the transmission and distribution system. Several parties filed comments on the draft rule in July 2018. The Office of the Public Counsel argued against the need for the new rules, stating that current rules are sufficient and arguing that the database would be created too late to help inform current policy deliberations. The Division of Energy from the Missouri Department of Economic Development and Renew Missouri generally supported the draft rules, and made suggestions to include additional elements in the required analyses. The comments jointly submitted by utility parties suggested using a different definition for cost-effectiveness (the draft rules use a definition from the National Efficiency Screening Project, while the utilities suggest using the definition from the Missouri Energy Efficiency Investment Act of 2009) and suggest providing information on current DERs on the grid through annual filings rather than an online database. Action in this docket during the third quarter of 2018 focused on standard offer rules under PURPA; no further action was taken on the DER or AMI issues.</p>	
MT	Grid Modernization	<p>In April 2018, NorthWestern Energy held the first meeting of its Customer Vision stakeholder group. The group will address potential products and services customers would be interested in, pricing models that align utility and customer needs, and the future of the power grid. Among the wide array of topics proposed to be addressed are DER policy and rate issues, as well as EV fueling infrastructure. The group met in May, June, July, and September 2018, with presentations about Minnesota's e21 Initiative, the Illinois NextGrid process, and Green Mountain Power's Vermont programs. The group also met in October 2018, with a presentation about electricity pricing and rate design in Ontario. NorthWestern Energy also gave a presentation on its planned infrastructure initiative. A meeting was held on November 30th, where a decoupling proposal and force-field analysis were discussed. The next meeting is scheduled for February 1, 2019, with presentations on decoupling, energy efficiency opportunities, providing a true customer experience, and keeping customer focus in technology projects.</p>	<p>Customer Vision Stakeholder Group</p>
NE	Electric Vehicles	<p>In July 2018, Lincoln Electric System announced that it would be conducting a two-year study of EV charging and its impact on electric demand. Participants will receive a \$25 bill credit upon enrollment and an additional \$25 when the FleetCarma device used to collect the charging data</p>	<p>News Release</p> <p>November 2018 Board Meeting Minutes</p>

		is returned at the end of the study. A presentation on the study was given at the November 2018 Board meeting. The utility announced that it had enrolled 90 customers with 15 different vehicle models and that data collection began on November 1, 2018.	
NJ	Clean Transportation, Grid Modernization	In May 2018, New Jersey's Governor directed the Board of Public Utilities to develop the 2019 Energy Master Plan. As part of this process, a stakeholder meeting on Clean and Reliable Transportation was held in September 2018. Discussion points related to state policy, technological advancements, infrastructure investment, reliability and security, economic growth and workforce development, and environmental justice. Additional stakeholder meetings were held on Clean and Renewable Power, Sustainable and Resilient Infrastructure, Reducing Energy Consumption, and Building a Modern Grid. The final plan is expected to be completed in June 2019.	Executive Order No. 28 Press Release Energy Master Plan Website
	Electric Vehicles	A.B. 2850 and S.B. 877 establish and modify clean energy and energy efficiency programs, establish a zero emission certificate program, and modify the state's solar renewable energy portfolio standards. The bill covers many topics related to renewable energy; it would require study of the impacts of EVs as part of a proposed statewide zero emission certificate program.	A.B. 2850 (I) S.B. 877 (I)
	Electric Vehicles	A.B. 4634, introduced in October 2018, directs the Department of Environmental Protection to prepare a study assessing the current state of the state's EV market, measuring the progress toward the goals established by this bill, identifying barriers to achieving the goals, and making policy recommendations to address the barriers. The bill also establishes an EV Working Group to develop a statewide vehicle charging infrastructure plan.	A.B. 4634 (I)
NY	Electric Vehicles	In April 2018, several New York state agencies filed a petition with the Public Service Commission (PSC) requesting that utilities be required to allow Direct Current Fast Charging (DCFC) stations to operate under non-demand charge-based rates, and for the PSC to open a docket examining rate design for EV infrastructure more generally. Later in April 2018, the PSC opened a proceeding on support for EVs and EV equipment, and ordered that a technical conference be held to solicit stakeholder support. The technical conference was held in July 2018. Following the technical conference, a working group meeting was held in September 2018. At the working group meeting, Consolidated Edison and PSEG Long Island gave presentations about their proposed	Docket No. 18-00561/18-E-0138

		<p>EV charging incentives, and the New York Power Authority gave a presentation emphasizing the importance of offsetting demand charges for EV chargers during the early stages of EV adoption. In November 2018, the utilities and several state offices released a proposal for incentive programs to encourage DCFC installation. The proposed programs would offer an annual declining per-plug incentive, require DCFC operators to use a demand-based rate, and would pay a larger incentive for plugs with charging capabilities at or above 75 kW. The incentive amounts would vary by utility, with amounts ranging from \$2,400 to \$17,000 per plug. The Alliance for Transportation Electrification filed a comment in support of the proposal in December 2018.</p>	
	Rate Design	<p>S.B. 7883 requires the Public Service Commission to conduct a study on the TOU rate plans offered by gas and electric utilities. The study would include recommendations regarding the effects of increased EV charging during off-peak time periods. The bill did not advance during the 2018 legislative session.</p>	<p>S.B. 7883 (D)</p>
OH	EV Infrastructure	<p>H.B. 746, introduced in October 2018, establishes an Electric Vehicle Infrastructure Study Committee. It establishes the membership of the committee and authorizes the committee to oversee a study into existing local and state government efforts to support the construction of EV infrastructure, possible funding sources for that, and to develop recommendations to changes in state and local laws to promote the use of EVs. The study is to be completed by May 2019. The bill did not advance or carry over to 2019.</p>	<p>H.B. 746 (D)</p>
	Grid Modernization	<p>The Public Utilities Commission of Ohio opened three new dockets in October 2018 to build upon its PowerForward investigation. Two of the dockets are examining issues unrelated to EVs, but the Collaborative docket is a broader group led by the staff that will function as an interactive forum tasked with monitoring, facilitating, and accommodating the evolution of a marketplace that promotes innovation consistent with the PowerForward Roadmap. The Roadmap identified some initial areas that the Collaborative should provide attention to on the topic of EVs, including, but not limited to: broadly monitoring EV manufacturing and the marketplace; studying impacts of EVs on the distribution system; rate design to incent EV charging during off-peak periods; EV corridor deployment; and the development of the marketplace for EV charging stations. As a first step, in November 2018, the Attorney Examiner requested each electric</p>	<p>Docket No. 18-1595-EL-GRD</p> <p>PowerForward Website</p> <p>PowerForward Roadmap</p>

		<p>distribution company to file its most recent update of where it stands with its grid architecture. Additionally, parties are to provide comments on the proposed grid architecture status reporting and the proposed filing date of April 1, 2019. The Collaborate held its first meeting on December 6, 2018, which featured several speakers presenting on EVs. The next meeting is scheduled for February 14, 2019; the agenda includes presentations and discussion on EV charging and demand-side management, managed charging best practices, and metering requirements for EV rates.</p>	
VT	Electric Vehicles	<p>In June 2018, following the enactment of H.B. 917, which requires the Public Utility Commission (PUC) to investigate a number of issues related to EVs and EV charging, the Department of Public Service filed a request for the PUC to conduct such an investigation. In July 2018, the Commission issued an order closing the docket in which the Department's request was made and opening a new docket (Docket No. 18-2660-INV) to investigate the promotion of the ownership and use of EVs in Vermont. A workshop was held in early October, addressing the current state of technology, changes to existing technology expected in the coming year, barriers to widespread EV charging station deployment, barriers to widespread ownership and use of EVs in the state, strategies to remove barriers, and the appropriate scope of the Commission or other state agencies over EV charging stations (both utility and non-utility owned and operated). The Commission noted that reaching clarity on the jurisdictional issues related to EV charging stations is a priority. A second workshop was held on November 30th. In December 2018, the PUC issued a request for comments on options for funding the maintenance of Vermont's transportation infrastructure as EV usage increases in the state. Comments were due by January 9, 2019. On January 23, 2019, the PUC sent a letter to the Chairs of the Senate Committees on Finance, Natural Resources and Energy, and Transportation and the House Committees on Energy and Technology and Transportation. The letter includes legislative recommendations that would clarify that the PUC and Department of Public Service do not have authority to regulate EV charging stations.</p>	<p>Docket No. 18-1762-PET</p> <p>Docket No. 18-2660-INV</p>
	Grid Modernization	<p>In June 2017, the Vermont Public Utility Commission opened a broad grid modernization proceeding to examine emerging trends in the utility sector and existing forms of regulation in light of these trends. Among the topics to be considered is the emergence of EVs. Thus far, the proceeding has focused on</p>	<p>Docket No. 17-3142-PET</p>

alternative utility business models. The Commission published an order on principles and considerations for alternative regulation in July 2018.

Legislative Status Key: I = Introduced, P1 = Passed One Chamber, P2 = Passed Both Chambers, E = Enacted, D = Dead. Bill statuses are up to date as of early February 2019.

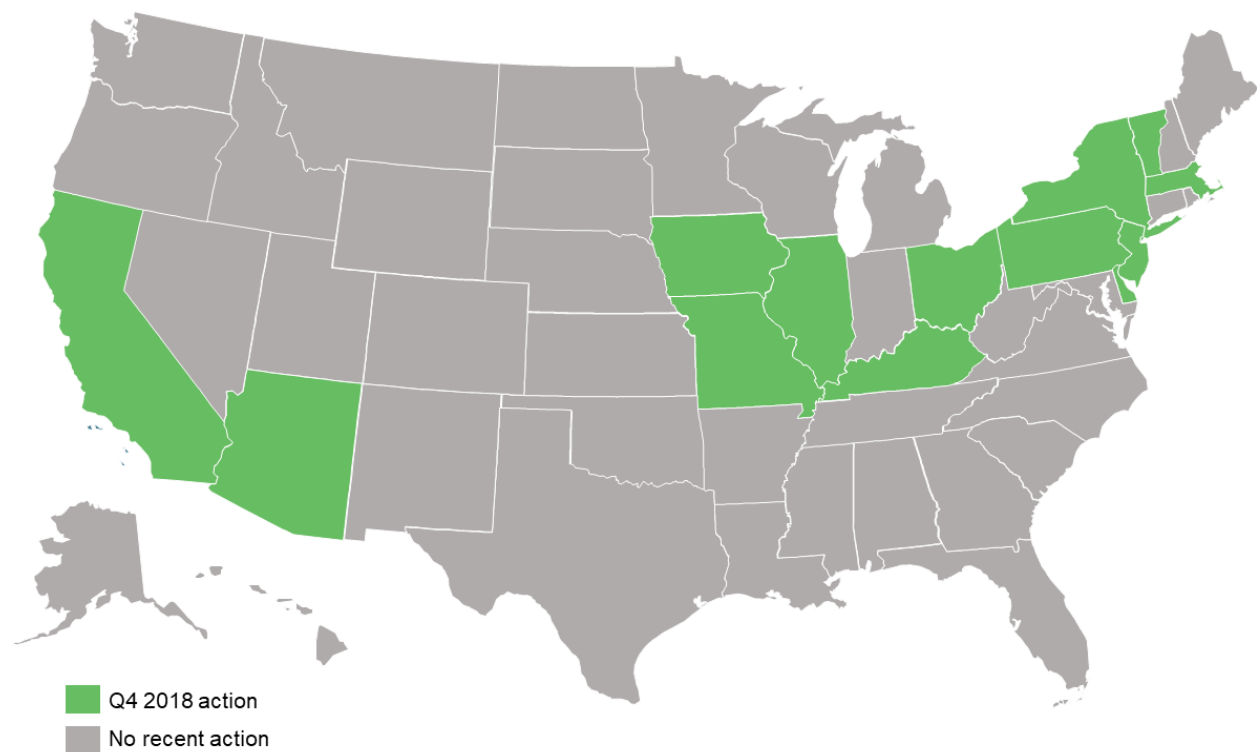
ELECTRIC VEHICLE REGULATION

Key Takeaways:

- In Q4 2018, 13 states considered a total of 30 changes to electric vehicle rules and regulations.
- The Pennsylvania Public Utility Commission adopted a policy statement that third-party electric vehicle charging does not constitute a resale of electricity.
- The Arizona Corporation Commission considered an electric vehicle policy statement, addressing issues such as consumer protection standards and utility cost recovery.

In Q4 2018, 13 states took 30 actions to regulate or address regulatory issues related electric vehicles. The most commonly addressed issues were: (1) regulation of electric bicycles, (2) public utility regulation of charging infrastructure, and (3) homeowner association rules restricting charging infrastructure development.

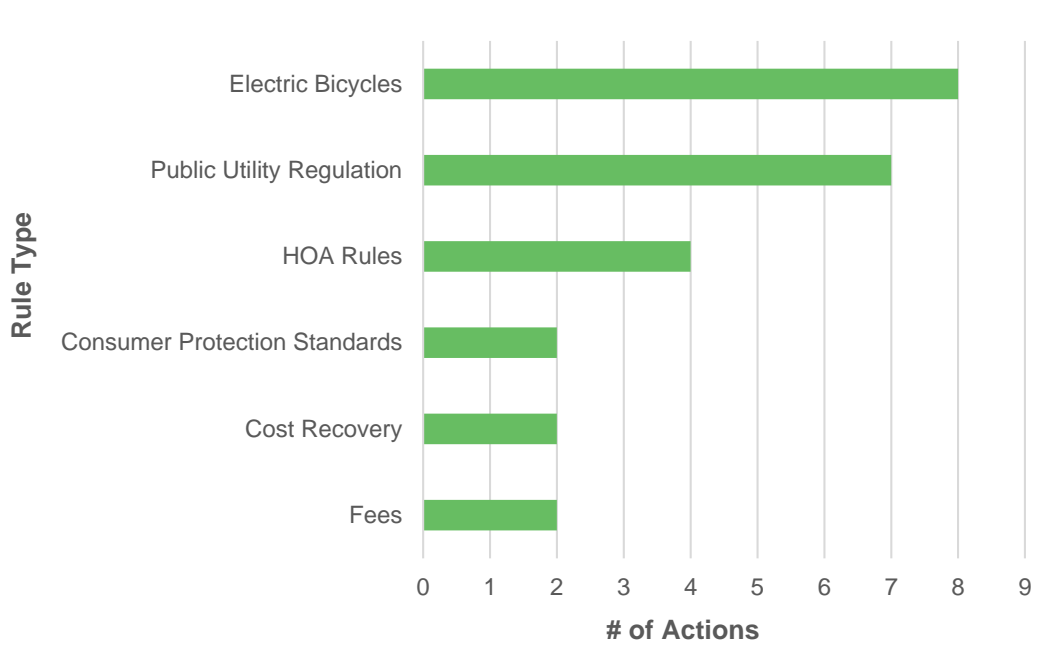
Figure 26. State Action on Electric Vehicle Regulation (Q4 2018)



States continued to address regulatory oversight of electric vehicle charging stations during Q4 2018. The Pennsylvania Public Utility Commission adopted a policy statement that third-party electric vehicle charging does not constitute a resale of electricity, and the Kentucky Public Service Commission opened a docket to consider if the Commission has jurisdiction over

electric vehicle charging stations. The Iowa Utilities Board also continued to consider this issue during the quarter.

Figure 27. Most Common Types of Electric Vehicle Regulation Actions (Q4 2018)



The Arizona Corporation Commission Staff filed a proposed electric vehicle policy statement in December 2018, touching on a multitude of issues related to electric vehicles but explicitly stating that the Staff does not believe it is necessary to address the issue of Commission regulation of charging stations at this time. The policy statement does, however, address consumer protection standards and utility cost recovery of charging infrastructure. A new proceeding opened in California in Q4 2018 also will consider cost recovery standards for utility transportation electrification programs, including the appropriate cost recovery mechanisms.

Table 9. Updates on Electric Vehicle Regulation (Q4 2018)

State	Sub-Topic	Description	Source
AZ	Consumer Protection Standards, Cost Recovery, Public Utility Regulation	In August 2018, the Arizona Corporation Commission (ACC) opened a rulemaking docket to evaluate proposed modifications to many of the state's energy rules. Among the rules to be addressed are those pertaining to EVs. In December 2018, the ACC Staff filed a draft policy statement on EVs, which directs utilities and stakeholders to develop best practices, including consumer protection provisions. The policy statement also directs utilities consider EVs in integrated resource plans and permits utilities to recover costs of deploying EV infrastructure in low utilization areas in the rate base. The ACC Staff's memo also discusses Commission regulation of EV charging stations and the unanswered question of whether these stations are engaged in furnishing electricity for fuel or power to the public. The Staff noted that it does not believe it is necessary to answer the question yet, and the issue is not included in the policy statement. Later in December, the ACC Staff filed an amendment to its proposed policy statement, specifying that only prudent costs for EV charging stations may be included in the rate base. The ACC adopted the Staff's EV policy statement in January 2019.	Docket No. RU-00000A-18-0284 Draft Electric Vehicle Policy Statement Decision No. 77044
CA	Consumer Protection Standards	H.R. 117, introduced in June 2018, establishes the Plug-In Electric Vehicle Bill of Rights. It includes rights concerning the purchase of vehicles, access to charging stations, and the monetary transaction at charging stations. The bill did not advance during the 2018 legislative session.	H.R. 117 (D)
	Equipment Standards	Existing California law establishes certain requirements for EV charging equipment. A.B. 3156, introduced in February 2018, clarifies that the definition of EV charging equipment includes equipment that can transfer electricity without being tethered to the battery. The bill did not advance during the 2018 legislative session.	A.B. 3156 (D)
	Wholesale Market Participation	While the CPUC explored SDG&E's Transportation Electrification Standard Review proposal in Docket No. A. 17-01-020, SDG&E filed a new application in January 2018 for two additional Standard Review projects, totaling \$152.3 million. The proposed Medium-Duty/Heavy-Duty EV Charging Infrastructure Program would target charging equipment for approximately 3,100 for Class 2-8 electric vehicles such as forklifts and transport refrigeration units. The Vehicle to Grid pilot program would utilize ten electric school buses as distributed energy resources. The vehicles will charge during the day and discharge to bid into the CAISO market when called upon in the late afternoon and evenings to provide system level grid services. Data would be collected for one year to examine the costs, benefits, and scalability of vehicle to grid. Several parties protested the application, arguing that the	Docket No. A. 18-01-012 Settlement Agreement

		<p>CPUC should delay the review of this application until the projects from Docket No. A. 17-01-020 are complete and have been assessed. A Scoping Memo and Ruling filed in March 2018 denied the protests and agreed to hear this application on its own merits. Testimony was scheduled for August and September 2018. SDG&E filed a motion to suspend the procedural schedule in September 2018. In its motion, SDG&E explained that it has reached an agreement in principle on terms for a settlement with many of the active parties. The developing settlement includes a revised proposal, so SDG&E argues that it would be unproductive to prepare testimony for a proposal that will soon be substantially revised. In a September ruling, the Commission granted SDG&E's request to suspend the procedural schedule. A settlement agreement was filed in November 2018. The settlement features some significant changes to the Medium-Duty/Heavy-Duty Program. Notably, the settling parties agree that SDG&E will only own and operate the make-ready infrastructure on the utility's side of the meter, rather than the actual charging equipment. The budget for the program was also reduced from \$150.1 million to \$107.4 million. The settlement agreement does not make any significant changes to the Vehicle to Grid program. Comments on the settlement agreement were filed in early December 2018.</p>	
	<p>Cost Recovery, EVSE Ownership</p>	<p>In December 2018, the California Public Utilities Commission opened a broad rulemaking proceeding related to transportation electrification. Among the issues to be addressed in the proceeding are cost recovery of transportation electrification investments (including the appropriate cost recovery mechanism) and appropriate ownership models for different types of transportation electrification investments. The On January 24, 2019, an order was issued setting a prehearing conference for March 1, 2019.</p>	<p>Docket No. R-18-12-006</p>
DE	<p>Public Utility Regulation</p>	<p>The Delaware Public Service Commission is considering a proposal from Delmarva Power & Light (DPL) to implement a new \$1.74 million plug-in vehicle program. The program would include utility ownership of EV charging equipment. Multiple parties to the proceeding have questioned the regulatory oversight of EV charging stations. In June 2018, DPL informed the parties that its parent company, Exelon, had engaged a consultant earlier in the year to study issues related to electric vehicles in its various jurisdictions, and requested to have the study (The Gabel Report) entered into the record, and to have evidentiary hearings postponed to give all parties the opportunity to review the study. In July 2018, the Division of the Public Advocate and the Commission Staff filed a joint motion to stay Delmarva's application until the earlier of June 30, 2019 or the date that a statute deregulating EV charging stations becomes effective. After some back and forth, the Commission voted in August 2018 to deny the</p>	<p>Docket No. 17-1094</p> <p>Settlement Agreement</p>

		<p>motion to stay, and a September order asked parties to agree upon a new procedural schedule to provide for discovery upon the Gabel Report. Delmarva, the Public Advocate, and the Commission Staff filed a settlement agreement in January 2019, agreeing to all aspects of the program.</p>	
IA	Public Utility Regulation	<p>In July 2018, Iowa 80 Truckstop and Truckstops of Iowa filed a request for a declaratory order clarifying that electricity sold for EV charging at commercial and public charging stations is not considered a resale of electricity and that fuel retailers may charge for charging service by the kWh. The Iowa Utilities Board (IUB) issued an order declining to issue a declaratory order in August 2018. Instead, the IUB opened a rulemaking proceeding to address this issue and receive stakeholder input. A workshop featuring presentations by the Office of Consumer Advocate, potential EV infrastructure vendors, electric utilities, and environmental groups was held on October 17, 2018.</p>	<p>Docket No. TF-2017-0305</p> <p>Docket No. RMU-2018-0100</p>
IL	EVSE Rules	<p>H.B. 5554, introduced in February 2018, updates the Toll Highway Act to remove language which requires the construction and operation of at least one EV charging station at any location where the Toll Highway Authority offers fueling services, stores, or restaurants. The bill also amends the Act to remove requirements for the Toll Authority to adopt rules regarding EVSE construction, fees, and maintenance. The bill did not advance during the 2017-2018 legislative session.</p>	<p>H.B. 5554 (D)</p>
	Fees	<p>H.B. 661 provides that EVs be charged the same registration fee as non-EVs, rather than the current \$35 fee for a two-year registration. The bill did not advance during the 2017-2018 legislative session.</p>	<p>H.B. 661 (D)</p>
	Fees	<p>H.B. 662 increases the registration fee for EVs from \$35 for a two-year registration to \$216 for an annual registration. The fee for hybrid vehicles would be \$158.50. The bill did not advance during the 2017-2018 legislative session.</p>	<p>H.B. 662 (D)</p>
KY	Public Utility Regulation	<p>In late November 2018, the Kentucky Public Service Commission opened a proceeding to conduct a review of its jurisdiction over EV charging stations. Specifically, the question being considered is whether EV charging stations count as "electric utilities" as defined under Kentucky law, which would make them subject to the Commission's jurisdiction. Initial comments are due by March 1, 2019, and reply comments by March 15, 2019.</p>	<p>Docket No. 2018-00372</p>
MA	Aeropods	<p>S. 1975 "An Act enabling innovation in the automotive industry to create the highly efficient vehicles of tomorrow" amends the code to define aeropods as three-wheeled alternative fuel vehicles with enclosed passenger spaces</p>	<p>S. 1975 (D)</p>

		and sets forth other regulations in their design. The bill did not advance during the 2017-2018 legislative session.	
	Autonomous Vehicles	H. 3417 would require autonomous vehicles operated in the state to be ZEVs. The proposed legislation defines a ZEV as either a battery EV, a PHEV or a fuel cell vehicle. The bill did not advance during the 2017-2018 legislative session.	H. 3417 (D)
	Autonomous Vehicles	S. 1945 was introduced in January 2017 and referred to the Joint Committee on Transportation. The bill sets forth safety requirements for autonomous vehicles and indicates that all autonomous vehicles must be zero-emission vehicles. The bill did not advance during the 2017-2018 legislative session.	S. 1945 (D)
	HOA Rules	H. 4069 specifies that homeowner associations cannot prevent owners from installing EV charging stations. It also sets rules and regulations for the installation and operation of such stations. The Governor signed the bill into law in January 2019.	H. 4069 (E)
MO	Public Utility Regulation	In January 2018, as part of a general rate case, Kansas City Power & Light requested cost recovery for an EV charging network (Clean Charge Network) and approval of the proposed tariff for that network. The Missouri Public Service Commission (PSC) had previously ruled that EV charging stations are not electric plants under Missouri law, meaning that the Commission lacks statutory authority to allow cost recovery for EV charging stations. In August 2018, the Missouri Court of Appeals ruled that the PSC does have jurisdiction over EV charging stations, overruling the PSC's earlier decision. In September 2018, several parties, including the utilities, Missouri PSC Staff, the Missouri Division of Energy, and customer and renewable energy groups filed a non-unanimous settlement agreement, which includes cost recovery for the Clean Charge Network. The settlement agreement was approved in October 2018.	Docket No. ER-2018-0145 Court of Appeals Decision Settlement Agreement Order Approving Settlement Agreement
NJ	Electric Bicycles	Companion bills A.B. 1810 and S.B. 731 allow operation of low-speed electric bicycles on streets, highways, sidewalks, and bicycle paths. The bills also specify that an operator of a low-speed electric bicycle is not required to register the low-speed electric bicycle, furnish proof of insurance, or have a driver's license. S.B. 731 passed the Senate in early July 2018. A floor amendment passed in late January 2019, removing provisions that a prohibition on operating electric bicycles on sidewalks is the default position. The amendment also treats electric bicycles with a potential speed over 20 miles per hour and up to 28 miles per hour as motorized bicycles (mopeds).	A.B. 1810 (I) S.B. 731 (P1)
	EVSE Fees, HOA Rules,	A.B. 1376 allows utilities to operate public EV charging stations as a regulated service in underserved markets.	A.B. 1376 (I)

	Public Utility Regulation, Utility Operation	The bill also provides that the Board of Public Utilities cannot regulate the rates and fees charged by non-utility operators of public EV charging stations. Furthermore, the bill deems EV charging a service rather than a sale of electricity, and notes that a person owning, controlling, operating, or managing an EV charging station will not be deemed a public utility due to these services. Additionally, the bill disallows public EV charging station operators from charging membership or subscription fees for station use. Charging station owners and operators are directed to develop payment methods that allow access to the general public. Finally, the bill directs the Department of Community Affairs, upon request, to determine on a case-by-case basis whether or not a planned real estate development has placed an unreasonable restriction on location or operation of EV charging equipment in the development. Unreasonable restrictions are prohibited.	
	HOA Rules, Multi-Unit EVSE Rules	A.B. 1030 and S.B. 2421 remove potential obstacles to and promotes the installation of EVSE by prohibiting community associations from adopting or enforcing rules to ban EV charging stations. The bill disallows community associations, such as homeowner associations and condominiums, from unreasonably restricting the installation of EV charging equipment, and these associations could be liable for a civil penalty for doing so. The bill outlines guidelines for managing issues related to cost and access to charging stations as a "common element" for all members of the association.	A.B. 1030 (I) S.B. 2421 (I)
NY	Electric Bicycles	A.B. 1018 and S.B. 2888 define an electric-assisted bicycle, establishes age requirements for operation, helmet requirements, and penalties for non-compliance. The bills died at the end of the 2017-2018 legislative session.	A.B. 1018 (D) S.B. 2888 (D)
	Electric Bicycles	A.B. 6898 and S.B. 5286 define electric-assisted bicycles, establish power output and speed restrictions, and set a minimum operator weight. The bills also create registration and fee requirements, as well as consequences for violation of these rules. The bills died at the end of the 2017-2018 legislative session.	A.B. 6898 (D) S.B. 5286 (D)
	Electric Bicycles	A.B. 6960 and S.B. 5482 require sellers of electric-assisted bicycles to provide notification to the buyer of rules regarding areas of operation and establishes a penalty for violation. The Assembly passed A.B. 6960 in June 2018. The bills died at the end of the 2017-2018 legislative session.	A.B. 6960 (D) S.B. 5482 (D)
	Electric Bicycles	A.B. 7059 and S.B. 2282 to define electric-assisted bicycle and set forth requirements for operation. The bills also establish areas of use and include provisions on taxes and fees. The bills died at the end of the 2017-2018 legislative session.	A.B. 7059 (D) S.B. 2282 (D)

	Electric Bicycles	A.B. 7791 and S.B. 6029 define electric-assisted bicycle, set forth application of motor vehicle and traffic laws, and establish areas of operation. The bills also include manufacturing and equipment requirements, age and helmet requirements, penalties for violation, incident protocol, and allowance for further regulation. The bills died at the end of the 2017-2018 legislative session.	A.B. 7791 (D) S.B. 6029 (D)
	Electric Bicycles	A.B. 8206 and S.B. 5977 define electric bicycle and set forth the rights and duties associated with electric bicycles. The bills also establish areas of operation and penalties for violations. The bills died at the end of the 2017-2018 legislative session.	A.B. 8206 (D) S.B. 5977 (D)
	EV Parking Enforcement, HOA Rules	S.B. 969 makes it a violation to park a non-electric vehicle in an EV charging station. Owners or operators of these facilities may remove non-electric vehicles from these spaces after notifying the local police. The bill also disallows community associations from prohibiting the installation of EV charging stations. The bills died at the end of the 2017-2018 legislative session.	S.B. 969 (D)
	Repair Services	A.B. 8248 requires vehicle sales entities that manufacture or assemble ZEVs to offer a repair service for these vehicles. The bills died at the end of the 2017-2018 legislative session.	A.B. 8248 (D)
OH	Electric Bicycles	H.B. 250 defines an electric bicycle and specifically notes that they are not motor vehicles, mopeds, or motor bicycles. The Governor signed the bill into law in January 2019.	H.B. 250 (E)
PA	Public Utility Regulation	Upon a motion by the Public Utility Commission (PUC) chair, the Commission issued a secretarial letter in June 2017, requesting comments regarding distribution utility tariff provisions about the resale of electricity to third parties. The Commission requested comments on several specific issues, including the restrictions these provisions place on third-party EV charging, the advantages and disadvantages of provisions that would allow unrestricted resale of electricity for third-party EV charging, and other tariff provision designs and regulatory options could provide clear rules for third-party EV charging. In March 2018, the PUC voted to advance a policy statement clarifying that third-party EV charging does not constitute a resale of electricity. The proposed policy statement was published in May 2018 and also requires that electric distribution companies expressly address EV charging in their tariffs. Comments on the policy statement were filed during July 2018, and the Commission adopted the policy statement in November.	Docket No. M-2017-2604382 Press Release
VT	Public Utility Regulation	In July 2018, the Commission opened a new docket to investigate the promotion of the ownership and use of EVs in Vermont, pursuant to H.B. 917 (enacted in June 2018).	Docket No. 18-1762-PET

The Commission noted that reaching clarity on the jurisdictional issues related to EV charging stations is a priority. On January 23, 2019, the PUC sent a letter to the Chairs of the Senate Committees on Finance, Natural Resources and Energy, and Transportation and the House Committees on Energy and Technology and Transportation. The letter includes legislative recommendations that would clarify that the PUC and Department of Public Service do not have authority to regulate EV charging stations.

[Docket No. 18-2660-INV](#)

Legislative Status Key: I = Introduced, P1 = Passed One Chamber, P2 = Passed Both Chambers, E = Enacted, D = Dead. Bill statuses are up to date as of early February 2019.

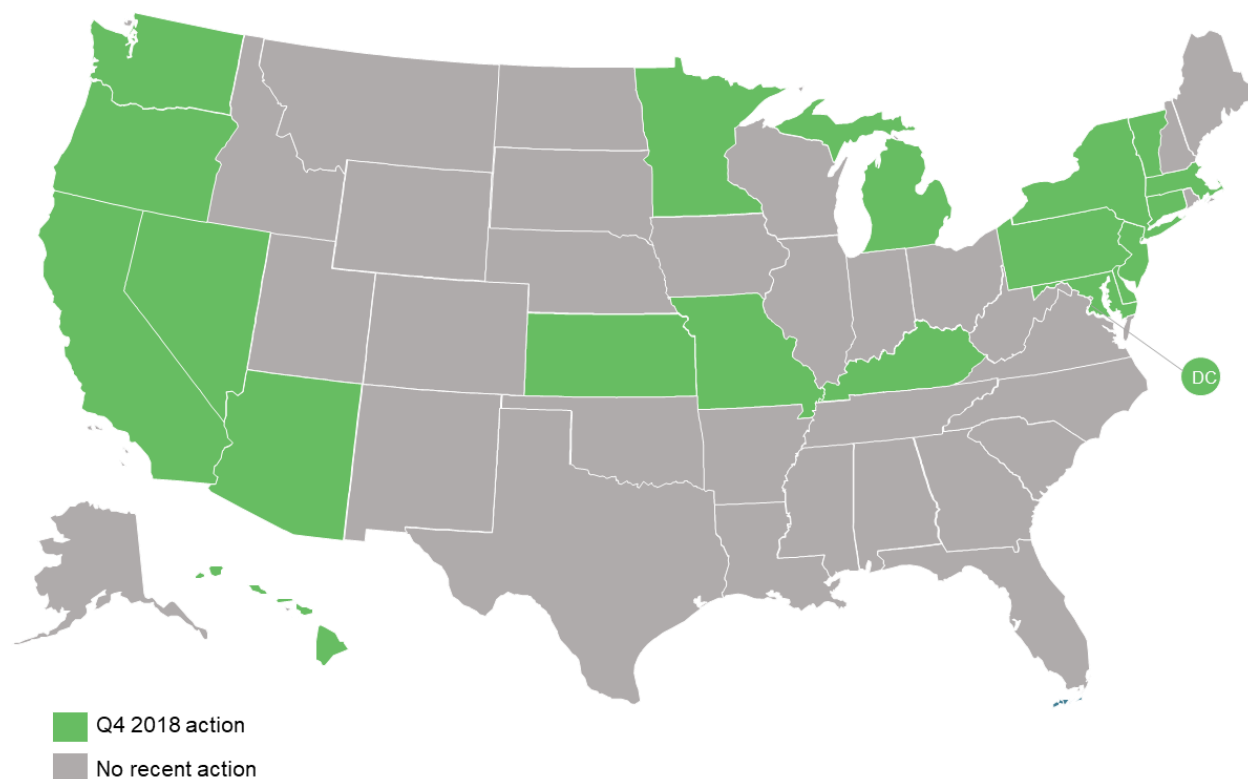
ELECTRIC VEHICLE RATE DESIGN

Key Takeaways:

- In Q4 2018, 19 states plus DC took 31 actions related to rate design for electric vehicle charging.
- Utilities in seven states – Arizona, California, Hawaii, Massachusetts, Minnesota, Vermont, and Washington – proposed new electric vehicle charging tariffs in Q4 2018.
- Three utilities proposed subscription rates for residential or commercial electric vehicle charging.

In Q4 2018, 19 states and DC considered rate design for electric vehicle charging, with seven utilities proposing new electric vehicle charging tariffs during the quarter. Of these new proposals, three are for residential rates, two are for utility-owned charging stations, and two are for fast charging stations operated by commercial customers.

Figure 28. Action on Electric Vehicle Rate Design (Q4 2018)



Three new residential electric vehicle tariffs were proposed in Q4 2018: a time-of-use rate for customers with electric vehicles and distributed generation systems (Salt River Project) and two residential off-peak charging subscription rates (Xcel Energy – Minnesota and Green Mountain Power). The subscription rate concept is an emerging approach in rate design, where customers would pay a fixed monthly fee for unlimited off-peak charging. Xcel Energy

introduced its planned subscription rate in October 2018, but has not yet officially filed for approval. Green Mountain Power filed its subscription rate proposal in December 2018, but subsequently withdrew the request, noting that the utility would refile at a later date.

Pacific Gas & Electric (PG&E) also proposed a new subscription rate for electric vehicle charging during Q4 2018, but PG&E's rate is focused on commercial customers, rather than residential. PG&E's proposed rate features time-of-use energy rates plus a subscription charge and does not include the demand charges that are typically a part of commercial customer tariffs. National Grid also filed a rate proposal in Massachusetts for fast charging station operators, which would provide a full demand charge discount for three years and a partial demand charge discount over the following two years.

Michigan regulators approved two electric vehicle charging rates in Q4 2018: a "Residential Nighttime Savers Rate" for Consumers Energy and a residential charging tariff featuring sub-metering for Indiana Michigan Power. The Pennsylvania Public Utility Commission approved PECO's new fast charging tariff including a demand credit, and regulators in Kansas and Missouri approved tariffs for Kansas City Power & Light's utility-owned charging network.

Table 10. Updates on Electric Vehicle Rate Design (Q4 2018)

State	Utility	Description	Source
AZ	All IOUs	In August 2018, the Arizona Corporation Commission (ACC) opened a rulemaking docket to evaluate proposed modifications to many of the state's energy rules. Among the rules to be addressed are those pertaining to EVs. In December 2018, the ACC Staff filed the draft policy statement, which directs utilities to propose optional rate tariffs and encourages utilities to adopt pilot programs to obtain data on infrastructure deployment, charging patterns, and the need for rate designs and incentives. The ACC adopted the Staff's EV policy statement in January 2019.	Docket No. RU-00000A-18-0284 Draft Electric Vehicle Policy Statement Decision No. 77044
	Salt River Project	In December 2018, Salt River Project (SRP) proposed multiple new rate options, including a rate designed for customers with distributed generation and an EV. The proposed rate includes time-of-use rate and no demand charge. Energy exported to the grid by the distributed generator would be credited at an export rate equal to the recent cost of new utility-scale solar generation, plus an increase for line and system losses. The rate includes on-peak hours (2 to 8 pm from May to October and 5 to 9 am and 5 to 9 pm from November to April), super off-peak hours (11 pm to 5 am year-round), and off-peak hours (all other hours). SRP currently has a residential EV time-of-use rate for customers without distributed generation.	SRP Website Rate Proposal
CA	All IOUs	S.B. 1434, introduced in February 2018, requires the California Public Utilities Commission to direct utilities with more than 100,000 customers to file a rate design application specific to transit agencies as commercial customers, which would accelerate the deployment of zero-emission transit buses. The Senate passed the bill in May 2018, but died in the Assembly at the end of the legislative session.	S.B. 1434 (D)
	All IOUs	In December 2018, the California Public Utilities Commission opened a rulemaking proceeding to continue the development of rates and infrastructure for vehicle electrification. On January 24, 2019, an order was issued setting a prehearing conference for March 1, 2019.	Docket No. R-18-12-006
	Pacific Gas & Electric	In November 2018, Pacific Gas & Electric (PG&E) filed an application for approval of new commercial EV rates. PG&E proposed a new small commercial EV rate for EV charging site with a maximum load up to 100 kW, which includes a subscription rate and TOU energy rates. PG&E also proposed a new large commercial EV charging rate with a subscription rate and TOU energy rates. The proposed rates do not	Docket No. A-18-11-003

		include demand charges. A prehearing conference is scheduled for January 22, 2019.	
CT	Connecticut Light and Power Company d/b/a Eversource	In November 2017, Eversource filed a general rate case, which includes a continuation and expansion of its EV Rate Rider Pilot Program. Eversource proposed making the rider a permanent rate option and opening participation to customers owning and operating separately metered fast charging stations (the rate is currently only available to fast charging stations owned or operated by the State of Connecticut). Eversource also proposed that the rate be based on the per-kWh equivalent of the general service demand charge. The Public Utilities Regulatory Authority (PURA) issued a final order in April 2018, approving the expansion of the tariff to both publicly and privately owned charging stations that are publicly accessible. The PURA also directed Eversource to refile the tariff with a provision requiring stations to allow any EV to charge under the same terms, conditions, and pricing structure in order to be eligible for the tariff. The Department of Energy and Environmental Protection (DEEP) proposed expanding the rider to all separately-metered charging stations, including those that are not publicly accessible, such as those for private fleets. The PURA did not approve the DEEP's recommendation because it was first raised in the DEEP's brief. The PURA did note that it would review requests to expand eligibility beyond publicly accessible charging stations if a party files a motion to reopen Docket No. 13-12-11 (Request for CL&P for Approval of EV Rate Rider Pilot). In early October 2018, the PURA reopened the proceeding to consider modification of its April 2018 decision as it relates to the EV rate rider. The PURA is considering eliminating the requirement for public charging stations to charge under the same pricing structure to be eligible for the EV rate rider. A draft decision was published in early February 2019, which would approve the Expanded EV Rate Rider proposed by Eversource for three years without the provisions requiring EVs to charge under the same terms, conditions, and pricing structure.	Docket No. 17-10-46
DC	Pepco	In April 2017, Pepco filed a proposal to implement a new plug-in vehicle program. Part of this program would include a new rate option for residential customers with EVs. The proposed program is limited to 100 customers with existing EVs and charging infrastructure, and will require installation of a second meter. Participants may also elect an adder of 3.64 cents per kWh to receive electricity from 100% renewable sources. Pepco also proposed a new whole-house time-varying rate for residential EV	Formal Case No. 1130 Formal Case No. 1143 Transportation Electrification Program

		<p>owners, which would not require the installation of a second meter. This option would not be available to net metering customers.</p> <p>The matters under consideration in this case were moved into Formal Case No. 1130 in October 2017. Pepco hosted EV workshops in April, May, and June 2018. Pepco used the workshops to present a revised EV program proposal and to receive input from stakeholders on several issues including: operational and policy considerations, outreach and education, increasing EV penetration for broader and more diverse populations, and addressing barriers to EV penetration in all quadrants of DC. In September 2018, Pepco filed an application for approval of its Transportation Electrification Program. The program consists of 13 offerings, including a residential whole-house TOU rate for plug-in vehicle owners. The Commission accepted comments on the proposal through December 12, 2018.</p>	
DE	Delmarva Power and Light	<p>In October 2017, Delmarva Power & Light filed a proposal to implement a new plug-in vehicle program. Part of this program would include a new whole-house time-varying rate option for residential EV owners. This rate option would not be available to net metering customers. Delmarva also proposed a new adder for customers on a plug-in vehicle rate, which would allow customers to opt to receive electricity from 100% renewable sources. The proposed adder is 0.72 cents per kWh. Multiple parties to the proceeding have questioned the Commission's regulatory oversight of EV charging stations.</p> <p>In June 2018, Delmarva informed the parties that its parent company, Exelon, had engaged a consultant earlier in the year to study issues related to electric vehicles in its various jurisdictions, and requested to have the study (The Gabel Report) entered into the record, and to have the evidentiary hearings postposed to give all parties the opportunity to review the study. In July 2018, the Division of the Public Advocate and the Commission Staff filed a joint motion to stay Delmarva's application until the earlier of June 30, 2019 or the date that a statute deregulating EV charging stations becomes effective. After some back and forth, the Commission voted in August 2018 to deny the motion to stay, and a September order asked parties to agree upon a new procedural schedule to provide for discovery upon the Gabel Report. Delmarva, the Public Advocate, and the Commission Staff filed a settlement agreement in January 2019, agreeing to all aspects of the program.</p>	<p>Docket No. 17-1094</p> <p>Gabel Report</p> <p>Settlement Agreement</p>

HI	Hawaiian Electric Companies	<p>A June 2017 Public Utilities Commission order required the HECO companies to develop an Electrification of Transportation Strategic Roadmap. HECO submitted its roadmap in March 2018, which describes a number of activities that could accelerate the adoption of EVs, including: (1) lowering costs and educating customers, (2) accelerating the buildout of EV charging infrastructure, (3) supporting the electrification of buses and other heavy equipment, (4) incentivizing EV charging, and (5) coordinate with ongoing grid modernization planning efforts. The Commission opened a new proceeding (2018-0135) in June 2018 to serve as a repository for the Roadmap and accepted comments on the Roadmap. In November 2018, HECO filed an addendum to its Strategic Roadmap. The original roadmap provided economic analysis of electrification of transportation in its service territories using light-duty vehicles on Oahu as an initial case study. The addendum provides economic analysis on additional islands.</p>	<p>Docket No. 2018-0135</p> <p>Docket No. 2016-0168</p> <p>Electrification of Transportation Strategic Roadmap</p> <p>Roadmap Addendum</p>
	Maui Electric Company	<p>In December 2018, Maui Electric Company filed an application for approval of a new EV fast charging tariff. The utility is also proposing to assume ownership and operation of the Maui Economic Development Board's (MEDB) public DC fast charging network. The network is currently operated and maintained under an agreement between MEDB and a third party, but this agreement will not be renewed after it expires at the end of March 2019, and MEDB offered to transfer the assets at no cost to Maui Electric. The utility is requesting approval to defer the O&M expenses associated with this. The EV fast charging tariff will apply to use of these fast charging stations that are currently a part of MEDB's network. The tariff includes a 62 cent per kWh on-peak charge, a 49 cent per kWh mid-day charge, and a 60 cent per kWh off-peak charge. The Commission adopted a procedural schedule in January 2019, and a technical conference was held on January 23, 2019.</p>	<p>Docket No. 2018-0422</p>
KS	Kansas City Power & Light	<p>In May 2018, as part of a general rate case, Kansas City Power & Light (KCP&L) requested cost recovery for an EV charging network (Clean Charge Network) and approval of proposed tariff changes for the network. The tariff changes are intended to make the rates more consistent with those proposed for the portion of the network in Missouri. Currently, the tariff includes a base energy rate, plus several riders. KCP&L proposed combining the base energy rate and riders into one rate to reduce complexity. KCP&L proposed a rate of \$0.20 per kWh for use of Level 2 stations and \$0.25 per kWh for use of DC fast charging stations. Parties introduced a settlement agreement in October 2018, which includes the tariffs</p>	<p>Docket No. 18-KCPE-480-RTS</p> <p>Order</p>

		for the charging network, but does not provide for cost recovery for the network, except through the associated tariffs. The Commission approved the settlement agreement in November 2018.	
KY	Kentucky Utilities	In September 2018, as part of a general rate case, Kentucky Utilities proposed a change to its Electric Vehicle Charging Service rate. The proposed change would make the rate for the first two hours of charging (\$0.75 per hour) lower than the rate for subsequent hours (\$1.00 per hour). The proposal would also lower the EV charging rate so as to make the cost approximately equal to an equivalent amount of gasoline (the new rate would be equivalent to \$2.13 per gallon of gasoline, while the current rate is equivalent to \$6.91-\$6.96 per gallon of gasoline)	Docket No. 2018-00294
	Louisville Gas & Electric	In September 2018, as part of a general rate case, Louisville Gas & Electric proposed a change to its Electric Vehicle Charging Service rate. The proposed change would make the rate for the first two hours of charging (\$0.75 per hour) lower than the rate for subsequent hours (\$1.00 per hour). The proposal would also lower the EV charging rate so as to make the cost approximately equal to an equivalent amount of gasoline (the new rate would be equivalent to \$2.13 per gallon of gasoline, while the current rate is equivalent to \$6.91-\$6.96 per gallon of gasoline)	Docket No. 2018-00295
MA	All IOUs	H. 4578 directs the state's distribution utilities to file pilot commercial rate tariffs with alternative rate structures to traditional demand charges to encourage faster charging for light and heavy duty vehicles. The utilities are to evaluate the relative costs, benefits, and ancillary benefits associated with different rate designs aimed at encouraging faster charging. The bill died at the end of the 2017-2018 legislative session.	H. 4578 (D)
	National Grid	In November 2018, National Grid filed a general rate case, which includes a proposed Phase II Electric Vehicle Market Development Program. The program includes three offerings - Level 2 Residential, Level 2 Non-Residential, and DCFC sites. The residential offering includes an off-peak charging rebate of 5 cents per kWh during summer months and 3 cents per kWh during all other months. National Grid is also proposing a limited-time DCFC Demand Charge Discount, which will be a per-kW credit set at the same rate as the applicable distribution demand charge. The full discount will be available for three years, then decline to 67% of the demand charge in year 4, and 33% of the charge in year 5. The maximum annual budget for the discount will be \$1.2 million (estimated \$3.4 million for the life of the	Docket No. 18-150

		<p>program), and the estimated budget for the other DCFC offerings is \$14.6 million. Testimony is due by March 22, 2019, and evidentiary hearings are scheduled for April 29, 2019 to May 24, 2019.</p>	
MD	All IOUs	<p>In January 2018, the EV working group filed a proposal for the Public Service Commission (PSC) to open a new proceeding to consider a statewide electric vehicle portfolio. The proposed portfolio would include residential, non-residential, public, innovation, and technology sub-portfolios for each service territory. The residential sub-portfolio includes EV whole-house TOU rates for all utilities except Potomac Edison, and Delmarva and Pepco proposed smart level 2 charging station rebates with EV-only rate design components. Delmarva and Pepco also proposed non-rate incentives for off-peak charging. Baltimore Gas & Electric proposed a managed charging demonstration program that would be part of its public sub-portfolio.</p> <p>The Office of the People's Counsel (OPC) filed a letter later in January, requesting that the PSC go through the full evidentiary process to investigate this proposal. In February 2018, the PSC opened a new proceeding (Case No. 9478). The PSC held an initial legislative-style hearing in May 2018. The hearing addressed the current state of EVs in the state, the potential growth of EVs in the state, the potential benefits and costs of increasing Maryland's ability to integrate more EVs, how the working group's proposal fits into the current and potential growth of EVs in the state, and the proper role of utility investment in EV infrastructure. The PSC held another legislative-style hearing in September 2018. In January 2019, the PSC published a comprehensive order to implement a statewide EV portfolio with EV tariff offerings, allowing utility infrastructure investment in EV charging, and offering customer assistance regarding EV usage for residential, non-residential, public, innovation, and technology categories. The order also includes a provision for cost recovery, customer outreach, and EM&V.</p>	<p>Case No. 9478</p> <p>Public Conference No. 44</p>
MI	Consumers Energy	<p>In May 2018, as part of a general rate case, Consumers Energy proposed a new "Residential Nighttime Savers Rate" which includes a \$7.50 monthly credit for customers with a separately metered electric vehicle. This would have the effect of compensating for the proposed \$7.50 (currently \$7.00) system access charge currently charged to customers with EVs for those EV customers who chose to go on the Nighttime Savers Rate. A hearing took place in October 2018. A settlement agreement was filed in December 2018, which would approve the</p>	<p>Docket No. U-20134</p> <p>Order Approving Settlement Agreement</p> <p>Order Approving Regulatory Asset</p>

		<p>proposed programs, but would not resolve the question of whether Consumers Energy may recover costs for the EV program through deferred accounting. In January 2019, the Commission approved the settlement agreement and issued an order allowing Consumers Energy to recover costs for the EV program as a regulatory asset.</p>	
	<p>Indiana Michigan Power</p>	<p>In August 2018, Indiana Michigan Power (IMP) filed an application for approval of a new tariff for residential plug-in EVs. The new tariff would allow the utility to separately meter energy consumption for EV charging. Currently, IMP offers whole-house and EV-only rate options, but the EV-only option requires the customer to have two separate accounts. Under the newly proposed sub-metering option, all household usage will be billed under the standard residential tariff, but the customer will be charged a small premium for on-peak charging and credited for off-peak charging, based on the difference between the standard residential rate and TOU rates. The Commission approved the tariff in November 2018.</p>	<p>Docket No. U-20282</p> <p>Order Approving Tariff</p>
<p>MN</p>	<p>Northern States Power Company d/b/a Xcel Energy</p>	<p>In October 2018, Xcel Energy filed a petition for approval of two EV pilot programs. The filing also discusses five forthcoming EV initiatives. Both pilots involve Xcel Energy installing and maintaining EV charging infrastructure, and feature customers paying TOU rates. The planned initiatives that will be proposed in the coming months include a residential EV subscription service pilot, a residential smart charging pilot, a workplace smart charging pilot, and a vehicle-to-grid demonstration with school buses. The residential EV subscription service pilot features a flat monthly subscription fee for dedicated EV charging service during off-peak hours, with additional charges for on-peak charging. The workplace smart charging pilot will also feature a new rate design that is yet to be determined. The Commission opened a comment period in late October 2018, later extending the deadline for initial comments to January 18, 2019. A further extension was requested on January 11, 2019, which would move the deadline for initial comments to February 1, 2019.</p>	<p>Docket No. 18-643</p>
<p>MO</p>	<p>Kansas City Power and Light, Kansas City Power and Light Greater Missouri Operations</p>	<p>In January 2018, as part of general rate cases filed by Kansas City Power & Light and Kansas City Power & Light Greater Missouri Operations, the utilities requested approval of a proposed rate tariff a utility-owned EV charging network (Clean Charge Network) already deployed. The tariff includes a flat rate of \$0.20 per kWh for Level 2 stations and \$0.25 per kWh for fast charging stations. The tariff also includes a session overstay fee. The Missouri Public Service Commission previously ruled that EV charging</p>	<p>Docket No. ER-2018-0145</p> <p>Docket No. ER-2018-0146</p> <p>Court of Appeals Decision</p>

		<p>stations are not electric plants under Missouri law, meaning that the Commission lacks statutory authority to allow cost recovery for EV charging stations. In August 2018, the Missouri Court of Appeals ruled that the PSC does have jurisdiction over EV charging stations, overruling the PSC's earlier decision. In September 2018, several parties, including the utilities, Missouri PSC Staff, the Missouri Division of Energy, and several customer and renewable energy groups filed a non-unanimous settlement agreement which includes cost recovery for the Clean Charge Network. The PSC approved the settlement in October 2018.</p>	<p>Settlement Agreement</p> <p>Order Approving Settlement Agreement</p>
NJ	Atlantic City Electric	<p>In February 2018, Atlantic City Electric filed an application for five-year, \$14.9 million Plug-In Vehicle Charging Program. The program includes a new residential whole-house TOU rate for plug-in vehicle owners. The rate would save participants \$0.04 per kWh for off-peak charging. The utility is also proposing a new rate for customers with existing Level 2 chargers. A second meter would be installed, at no charge to the customer, and would also save participants \$0.04 per kWh for off-peak charging. The utility plans to collect charging data from participants in the second option to better understand infrastructure needs.</p>	<p>Atlantic City Electric Filing (Docket No. E018020190)</p>
NV	Nevada Power, Sierra Pacific Power	<p>NV Energy filed its annual plan for its incentive programs, including new incentives for the EV Infrastructure Demonstration program in February 2018. NV Energy detailed the incentive rates and structure for the EVID program in a stipulation filed in May 2018, which the Commission accepted in a June order. According to the terms of the stipulation, within 90 days of the order, NV Energy would file a proposed tariff that will address the use of a transitional demand charge applied to customers with DC fast charging equipment. NV Energy intends for the tariff to include a TOU rate with a 10-year transitional demand charge. The service would be separately metered and only for EV fast charging.</p> <p>Nevada Power and Sierra Pacific Power both filed applications for the approval of electric vehicle tariffs with the Commission in September 2018. Nevada Power's optional Large General Service Electric Vehicle Commercial Charging Rider and Sierra Pacific Power's optional Electric Vehicle Commercial Charging Rider provide a discount to the standard General Service schedule time-of-use demand charges during a ten-year transition period. The discount will reduce over the ten-year period. All of the parties in the proceeding filed a stipulation in January 2019, which recommends approval of NV</p>	<p>Docket No. 18-09017 (Nevada Power Tariff)</p> <p>Docket No. 18-09018 (Sierra Pacific Power Tariff)</p> <p>Stipulation</p> <p>Draft Order</p>

		Energy's proposed tariff. The stipulation only changes the term "demand charge discount" to "demand charge reduction" and specifies that the 10-year demand rate reduction transition period will begin on April 1, 2019 and end on April 1, 2029.	
NY	All IOUs	This docket was opened in March 2018 for utilities to file tariffs complying with state law requiring that each utility file a residential electric vehicle charging tariff by April 1, 2018. All utilities have filed their proposed tariffs. In September 2018, Central Hudson, NYSEG, and Rochester Gas & Electric agreed to postpone their tariffs' effective dates until December 1, 2018, in order to allow additional time for review. The tariffs for these utilities had originally been scheduled to go into effect on September 15, 2018, for NYSEG and Rochester Gas & Electric, and on October 1, 2018 for Central Hudson. In November 2018, the Public Service Commission issued an order directing the utilities that had filed new tariffs (Central Hudson, NYSEG, and Rochester Gas & Electric) to cancel their filed tariffs, and directing all of the utilities to file new EV tariffs with TOU rates that do not charge EV customers higher customer or metering charges than those charged to typical residential customers.	Docket No. 18-00860/18-E-0206 PSL Section 66-O
	National Grid	In September 2018, Niagara Mohawk Power Corporation d/b/a National Grid filed a voluntary residential beneficial electrification rate structure, pursuant to the settlement approved in the utility's rate case earlier in 2018. The Beneficial Electrification rate includes two demand charges, a customer charge, time-varying volumetric energy supply costs, and volumetric capacity supply costs assessed during critical peak pricing events. One of the demand charges (\$7.18 per kW) is based on a customer's non-coincident peak demand, while the second demand charge (\$6.81 per kW) is based on a customer's maximum demand during the delivery system's peak summer hours.	Docket No. 17-00887 / 17-E-0238
	Orange and Rockland Utilities	As part of Orange and Rockland's general rate case, filed in January 2018, the utility proposed changes to its existing EV tariff. The utility proposed allowing customers to switch to the tariff for their entire usage with a one-year price guarantee, so the customer would receive a credit at the end of the year for the difference (if any) between what they paid on the TOU rate and what they would have paid on the standard residential tariff. The utility would recover this price guarantee through its Energy Cost Adjustment. Orange and Rockland also proposed offering customers the option to register their PEV with the utility and establishing a separate account for the charger. The utility also proposed allowing	Docket No. 18-00253/18-E-0067

		<p>demand-billed customers with publicly accessible quick charging stations to participate in its Economic Development Rider, which would provide a 20% discount on delivery rates. Orange and Rockland has proposed allowing 3 MW of charging load to be eligible for the rider, and the discount would be available for seven years. A joint proposal was filed in early November 2018, which includes the price guarantee and PEV charger account measures. Parties filed reply statements arguing for and against the joint proposal in early December 2018, and an evidentiary hearing was also held in December. The proceeding has been extended to March 25, 2019.</p>	
	PSEG Long Island	<p>In June 2018, PSEG Long Island filed an annual update of its 2014 Utility 2.0 Long Range Plan. The update lays out plans for full advanced metering infrastructure deployment in PSEG's service territory to take place from 2019-2022. The plan also includes an 80% (up to \$500) rebate for installation of an EV charger as well as a time-of-use rate available for electric car owners that incentivizes charging at night. Parties including the New York Power Authority, the New York Battery and Energy Storage Technology Consortium (NY-BEST), and a coalition of environmental groups submitted comments on the plan during Q3 2018; comments were generally supportive. The Department of Public Service filed recommendations in early November regarding the plan, which included support for the rebate and a recommendation that the incentive for charging at night be increased.</p>	<p>Case No. 14-01299</p>
OR	Portland General Electric	<p>In September 2018, Portland General Electric filed an application for approval of a new tariff for company operated EV charging stations. During off-peak times, users pay a flat per session fee of \$5.00 for DCFC or \$3.00 for Level 2. Charges during on-peak times include the flat fee plus \$0.19/kWh. Customers may also pay \$25 for a monthly membership to cover all flat fees during the month. The Commission Staff filed a report in November 2018, recommending approval of the tariff.</p>	<p>Docket No. ADV 831</p>
PA	PECO Energy	<p>As part of a general rate case filed in February 2018, PECO proposed a new EV pilot rider for DC fast charging stations. Stations installed on or after July 1, 2019 would be eligible, and the pilot would last for five years. The rider includes a demand credit initially equal to 50% of a DC fast charging station's nameplate capacity rating. The rider is intended to support the buildout of publicly available charging stations by reducing the impact of demand charges on station owners. A proposed settlement agreement would approve the program, but require PECO to</p>	<p>Docket No. R-2018-3000164</p>

		provide the demand credit for 3 years or until the pilot concludes and remove the restriction on use of proprietary technology. All participants would be required to share data for DC fast chargers connected to the grid to allow the utility to develop future DC fast charging rates. The ALJ filed a recommended decision in October 2018, which would approve the settlement. The Commission issued a final order in December 2018, approving the fast charging rider as included in the settlement agreement.	
VT	Green Mountain Power	In December 2018, Green Mountain Power filed for approval of a new EV off-peak charging fixed rate offering. The new tariff would allow for unlimited off-peak EV charging at home for \$44.95 per month per vehicle. Off peak hours are defined as any hours outside of "peak events," which occur about 5-10 times per month for 2-6 hours at a time. Customers are notified of peak events via a smart phone app or other electronic method 4-24 hours in advance. Participants must have a Level 2 charger installed, and Green Mountain Power will have the ability to remotely adjust the rate of charging or turn it on and off. In late January 2019, Green Mountain Power withdrew its filing for the rate.	Docket No. 18-4266-TF
WA	Pacific Power	Pacific Power filed a new optional "make-ready" tariff (Schedule 45) for publically-available DC fast charging stations hosted by commercial customers in September 2018. The tariff will be available to up to 20 commercial customers. Instead of kilowatt demand charges, Schedule 45 starts in the first two years with kilowatt-hour TOU rates that gradually transition to demand charges in years three through twelve. The company proposes two winter peak times of 6 a.m. to noon and 5-9 p.m. on weekdays. These will apply from November through March. The remainder of the year will use the summer peak time from 1-8 p.m. on weekdays. The Commission took no action, thereby allowing the new Schedule 45 to take effect in October 2018.	Docket No. UE-180757
	Puget Sound Energy	In October 2018, Puget Sound Energy filed an application for new EV services. The proposed portfolio of EV programs includes a public charging program and a tariff for the use of company-owned public charging stations. Users would be charged \$2.50 per hour of Level 2 charger use and \$7.50 per half hour of fast charger use. In a December 2018 memo, the Commission Staff recommended that the Commission take no action, allowing the proposed programs to go into effect by operation of law.	Docket No. UE-180877

Legislative Status Key: I = Introduced, P1 = Passed One Chamber, P2 = Passed Both Chambers, E = Enacted, D = Dead. Bill statuses are up to date as of early February 2019.

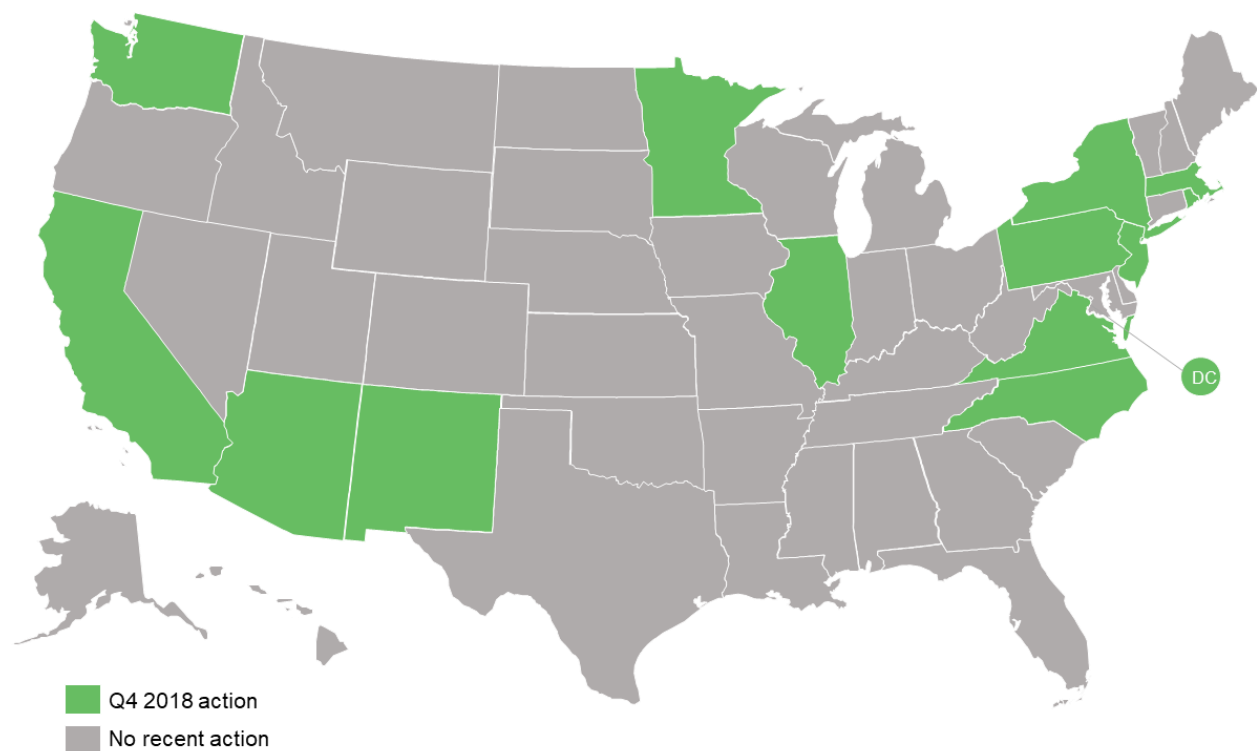
ELECTRIC VEHICLE MARKET DEVELOPMENT

Key Takeaways:

- In Q4 2018, 13 states plus DC took 34 policy actions to encourage the development of electric vehicles and charging infrastructure.
- The majority of electric vehicle market development actions related to electric vehicle planning and procurement.
- The Governor of North Carolina issued an executive order establishing a goal of having 80,000 registered zero-emission vehicles in the state by 2025.

In Q4 2018, 13 states plus DC took 34 policy actions related to developing state electric vehicle markets. The most common types of market development actions related to: electric vehicle procurement, state and local planning, electric vehicle advisory groups, designated electric vehicle parking, and high-occupancy vehicle lane access.

Figure 29. Action on Electric Vehicle Market Development (Q4 2018)



The majority of market development actions occurred in New Jersey, with 12 bills (plus companion bills) under consideration. These bills have all been carried over to 2019 and cover a variety of topics, including the creation of electric vehicle advisory groups, infrastructure planning efforts, dedicated electric vehicle parking requirements, and vehicle procurement goals. Bills were also under consideration in California, Illinois, Massachusetts, New York, and Pennsylvania, but these died at the end of the states' legislative sessions in Q4 2018.

Gubernatorial leadership continues to guide action related to electric vehicles in some states. In North Carolina, Governor Cooper signed Executive Order 80 in October 2018, setting a goal of having 80,000 zero-emission vehicles registered in the state by 2025. It also requires the development of a Motor Fleet Zero-Emission Vehicle Plan from the Department of Administration, a Zero-Emission Vehicle Plan from the Department of Transportation, and Clean Energy Plan from the Department of Environmental Quality. The Governor of Virginia also addressed electric vehicles during Q4 2018, recommending the adoption of a charging infrastructure goal and comprehensive transportation electrification plan as part of the 2018 Virginia Energy Plan.

Box 5. About the Volkswagen Settlement

In recent years, Volkswagen (VW) agreed to a complex series of legal settlements with the U.S. Environmental Protection Agency, states, and private parties after admitting installation of devices on its diesel engines intended to manipulate tailpipe emissions monitoring equipment, a violation of the Clean Air Act. The 2016 Consent Decree included three components – a recall or buyback for VW vehicle owners, a \$2 billion payout for zero emissions vehicle infrastructure, and a \$2.7 billion payout for environmental mitigation to be directed to states.

For the mitigation fund, eligible mitigation actions include projects to reduce NO_x emissions from heavy-duty diesel sources, such as large trucks, buses, and freight switching railroad locomotives. Eligible mitigation actions may also include charging infrastructure for light-duty zero-emission passenger vehicles (limited to 15% of the fund total.)

Each state is to determine how its share of the \$2.7 billion settlement fund is to be distributed, and in 2017 most states sought public input and worked to design their plans. States published draft and final plans throughout 2018.

Figure 30. Most Common Market Development Actions (Q4 2018)

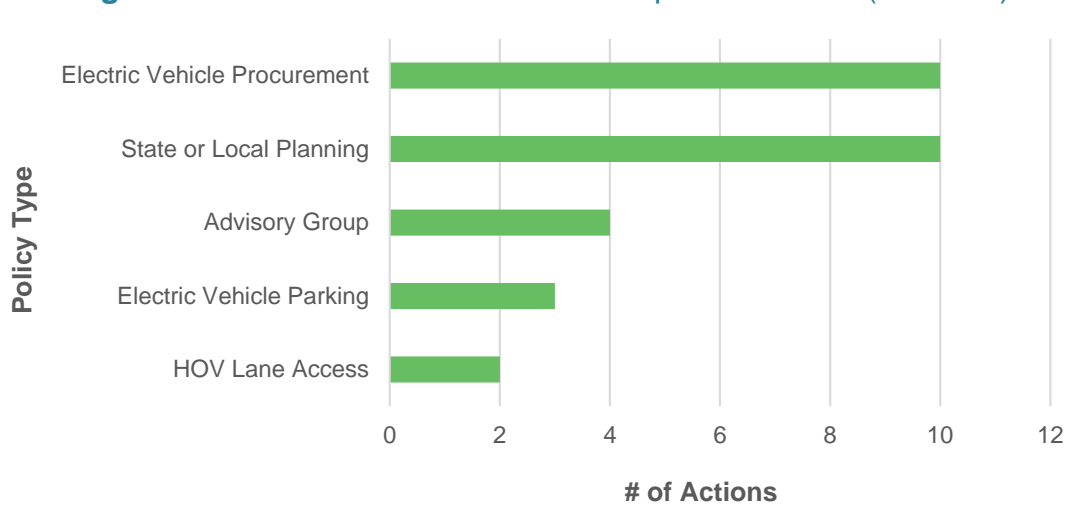


Table 11. Updates on Electric Vehicle Market Development (Q4 2018)

State	Sub-Type	Description	Source
AZ	General Market Development	In August 2018, the Arizona Corporation Commission (ACC) opened a rulemaking docket to evaluate proposed modifications to many of the state's energy rules. Among the rules to be addressed are those pertaining to EVs. In December 2018, the ACC Staff filed the draft policy statement, which encourages regulated utilities to invest in infrastructure and develop programs to support EV charging and transportation electrification. Specifically, the policy statement encourages utilities to develop educational and outreach programs directs utilities and stakeholders develop best practices, encourages utilities to consider deploying charging infrastructure in low utilization areas (such as rural and low-income areas, multi-unit dwellings, interstate corridors and highways), directs utilities to work with non-regulated entities to identify locations where joint investment and ownership in charging infrastructure may be appropriate, directs the Commission to work with other state agencies and bodies to promote EVs, and directs the ACC Staff to continue stakeholder engagement efforts related to EVs. The ACC adopted the Staff's EV policy statement in January 2019.	Docket No. RU-00000A-18-0284 Draft Electric Vehicle Policy Statement Decision No. 77044
CA	EV Procurement	A.B. 1745, introduced in January 2018, requires all passenger vehicles to be ZEVs by 2040. The bill exempts commercial vehicles over 10,000 pounds. The bill did not advance during the 2018 legislative session.	A.B. 1745 (D)
	EV Procurement, Planning	A.B. 40 requires the State Air Resources Board to develop a comprehensive strategy by January 1, 2021 to ensure that all new motor vehicle and light-duty truck sales are ZEVs by 2040.	A.B. 40 (I)
	Fuel Standard; General Market Development	In December 2018, the California Public Utilities Commission opened a broad rulemaking proceeding related to transportation electrification. Among the issues to be addressed in the proceeding are policies, guidelines, and implementation strategies to accelerate transportation electrification; the Low Carbon Fuel Standard; consumer education on ZEVs; improving access to transportation electrification for low-income and disadvantaged communities; encouraging the development and adoption of vehicle-grid policy and technologies; and ridesharing fleet electrification. The On	Docket No. R-18-12-006

		January 24, 2019, an order was issued setting a prehearing conference for March 1, 2019.	
DC	Planning	As introduced, this bill establishes the Distributed Energy Resources Authority, an independent authority that has a separate legal existence within the District government. The Authority's duties would include the following: identify policies that may reduce monthly utility bills for consumers, increase the efficiency and reliability of the distribution system through an independent stakeholder driven planning process; improve distribution system planning for underserved communities; and grow the local energy economy by deploying competitively procured non-wires alternatives solutions to meet the energy needs of the District. The bill's definition of Distributed Energy Resource includes EVs. The bill was introduced in April 2018.	B22-0779 (I)
IL	Advisory Group	S.B. 3186, among other provisions, repeals the Electric Vehicle Act, a 2011 law that required the appointment of an Electric Vehicle Coordinator and an advisory council for EVs, and required that installation, maintenance, and repair of charging stations be done in accordance with worker certification standards applicable to public utilities. This bill passed the Senate in April 2018, but died at the end of the legislative session.	S.B. 3186 (D)
	Advisory Group, Volkswagen Settlement	S.B. 3101 sets requirements for the handling of Illinois' award from the legal settlement with Volkswagen regarding emissions violations. This bill requires that money from the settlement be spent on certain project categories, including light duty ZEV supply equipment, and would set up a task force for managing the settlement fund, which would include a member from the EV charging industry. This bill passed the Senate in April 2018, but died at the end of the legislative session.	S.B. 3101 (D)
MA	EV Procurement	S. 1880 requires that 25% of motor vehicles purchased by the state each year are ZEVs by 2025. The bill did not advance before the end of the 2017-2018 legislative session.	S. 1880 (D)
	EV Procurement, Planning	S. 2564 increases the share of motor vehicles owned or leased by the state that must be ZEVs to 50% by June 30, 2025. Beginning in fiscal year 2026, 100% of new motor vehicles purchased or leased by the state must be ZEVs. The new bill also directs the Department of	S. 2564 (D)

		<p>Transportation to develop a program to promote private EV ownership with the goal of having 25% of motor vehicles owned or leased in the state be EVs by December 31, 2028. The bill also directs the Secretary of Transportation and Massachusetts Bay Transportation Authority control board to develop a detailed plan for the full electrification of the Authority's passenger vehicles by December 31, 2030. The Senate passed S. 2564 in June 2018. The bill died at the end of the 2017-2018 legislative session.</p>	
	HOV Lane Access	<p>H. 1815 permits battery EVs to travel in HOV lanes. The bill did not advance before the end of the 2017-2018 legislative session.</p>	<p>H. 1815 (D)</p>
MN	Outreach & Education	<p>In October 2018, Xcel Energy filed a petition for approval of two EV pilot programs. The filing also discusses five forthcoming EV initiatives, including the development of a Residential EV Advisor Online Tool. The EV Advisor tool would provide general and customer-specific (based on interested customers' response to a series of questions) information about EVs. The tool would be available in all of Xcel's service territories. The Commission opened a comment period in late October 2018, later extending the deadline for initial comments to January 18, 2019. A further extension was requested on January 11, 2019, which would move the deadline for initial comments to February 1, 2019. Parties filed comments on January 18, 2019.</p>	<p>Docket No. 18-643</p>
NC	EV Procurement, Planning	<p>In October 2018, Governor Cooper issued Executive Order No. 80, which establishes a goal of having 80,000 registered ZEVs in the state by 2025. The order directs the Department of Transportation, in coordination with the Department of Environmental Quality, to develop a ZEV Plan to achieve the ZEV registration goal established by the order. The plan is to help establish interstate and intrastate ZEV corridors, coordinate and increase ZEV infrastructure, and incorporate best practices for increasing ZEV adoption. The plan is to be completed by October 1, 2019. The order also directs cabinet agencies to prioritize ZEVs when purchasing or leasing new vehicles and to prioritize low-emission alternatives when ZEV use is not feasible. The Department of Administration is to develop a Motor Fleet ZEV Plan to aid in accomplishing this directive.</p>	<p>Executive Order No. 80</p>

NJ	Advisory Group	A.B. 1223 and S.B. 1793 establish a Clean Vehicles Task Force and clarify state law to require New Jersey to continue implementing the California Low Emission Vehicle Program and the California ZEV requirements. Members representing EV and EVSE manufacturing and the electric transportation industry would have seats on the 13-member Task Force. S.B. 1793 passed the Senate in March 2018.	A.B. 1223 (I) S.B. 1793 (P1)
	Advisory Group	A.B. 2717 establishes the Renewable Energy Infrastructure and Advanced Technology Vehicle Task Force. The bill designates the seven members, allows the state agencies to hire clerical support staff to advance the task force activities, and would pursue funding for advanced vehicles and infrastructure deployment.	A.B. 2717 (I)
	EV Charging Goal, EV Parking, EV Procurement, Planning	A.B. 4634 establishes state goals for plug-in EV deployment. The goals are 330,000 registered light duty plug-in EVs by December 31, 2025, 2 million registered light duty plug-in EVs by December 31, 2035, and 90% of all new light duty vehicles sold in the state are plug-in EVs by December 31, 2040. The bill also establishes EV charging deployment goals of 600 fast chargers at 300 charging locations by December 31, 2021 and 1,000 Level 2 charging stations available for public use by December 31, 2021. Another goal in the bill is that by December 31, 2025, 25% of all multi-family residential properties and overnight lodging establishments will have EVSE and 50% by December 31, 2030. The bill also sets a goal of 25% of all places of employment having at least two EV parking spaces by December 31, 2025 and 50% of these properties by December 31, 2030. Another goal is that 40% of state-owned non-emergency light duty vehicles will be plug-in EVs by December 31, 2025 and 100% by December 31, 2035. The bill also sets a goal of at least 5% of new bus purchases made by the New Jersey Transit Corporation being plug-in EVs by the end of 2019, increasing to 10% in 2020, 20% in 2021, 40% in 2022, 60% in 2023, 80% in 2024, and 100% in 2025 and thereafter. The bill also establishes an EV Working Group to develop a statewide vehicle charging infrastructure plan. Furthermore, the bill directs public utilities to submit plans for construction and operation of the essential public charging network and to implement the plan upon approval from the Board of Public Utilities. Utilities are to engage	A.B. 4634 (I)

	third-party providers and use a competitive process when feasible.	
EV Parking	A.B. 2166 establishes special parking for hybrid, electric, and alternative fuel vehicles. The bill requires that any parking area with 100 or more parking spaces include 5% of spaces as designated parking spaces for alternative fuel vehicles, including hybrid and electric. These spaces would be the most accessible spots, after spaces for handicapped persons. The spaces would be designated by green paint and identified with a sign that says "Hybrid and Alternatives Parking Only." Eligible vehicles would receive a sticker for the windshield, and violators could be fined \$250.	A.B. 2166 (I)
EV Procurement	A.B. 1802, introduced in January 2018, requires local community colleges, boards of education, and local contracting units to only purchase hybrid EVs or EVs. An allowed exemption is when hybrids or EVs are not commonly available for the vehicle class.	A.B. 1802 (I)
EV Procurement	A.B. 3688 and S.B. 1975 establish ambitious statewide goals for adoption of PEVs and EV charging infrastructure. The bills direct the Department of Environmental Protection and various other state agencies to develop programs to achieve these goals. These actions include implementing a marketing and consumer awareness program and requiring a report that assesses the state of the market every five years. While many of the goals have mid-term benchmarks, some of the end goals include having two million registered PEVs by 2035, having 90% of all vehicles sold be PEVs in 2040, having 500 public Level 2 charging stations by 2020, and requiring that 100% of a state-owned light-duty vehicles purchased after 2035 be PEVs.	A.B. 3688 (I) S.B. 1975 (I)
EV Procurement	A.B. 3980, introduced in May 2018, requires that each new vehicle purchased by the state be a hybrid EV, an EV, or a vehicle powered by a fuel other than conventional fuel such as compressed natural gas, fuel cells, biodiesel, ultra-low sulfur fuel, or any other motor vehicle fuel approved by the United States Environmental Protection Agency, unless no such mass produced vehicle exists in the vehicle class being purchased.	A.B. 3980 (I)
Local Bonding	A.B. 4424 and S.B. 3025 allow counties and municipalities to issue bonds to acquire EVs and passenger cars and station wagons that are	A.B. 4424 (I) S.B. 3025 (I)

		solely fueled by a renewable power source. A.B. 4424 was introduced in September 2018, and S.B. 3025 was introduced in October.	
	Planning	A.B. 1371 and S.B. 606 are intended to encourage local municipalities to consider planning for EV charging stations at appropriate locations. The bill provides several opportunities and mechanisms. For example, the bills encourage municipalities to consider EV charging infrastructure each time the municipality reexamines its master plan. This bill suggests that a municipality's master plan should include the site of existing, future, and planned EVSE. By adding EVSE into a master plan, communities could and should address EVs in zoning ordinances. Also, the bill requires consideration of charging infrastructure locations in local redevelopment plans.	A.B. 1371 (I) S.B. 606 (P1)
	Planning	Companion bills A.B. 3075 and S.B. 597 encourage municipalities to plan for and identify financing mechanisms for EVSE through local redevelopment planning processes. Specifically, the bills direct and authorize municipalities to consider planning for public EV charging stations in redevelopment plans. The proposed legislation also authorizes municipalities to develop EVSE using revenue streams available for redevelopment projects. A.B. 3075 was amended in October 2018 to encourage redevelopment projects for all types of ZEVs, not just EVs. A.B. 3075 passed the Assembly in late January 2019.	A.B. 3075 (P1) S.B. 597 (I)
	Use of Public Funds	A.C.R. 166 and S.C.R. 40 are concurrent resolutions that would amend the State Constitution in order to direct revenue from New Jersey's participation in the Regional Greenhouse Gas Initiative to EV, clean energy, and greenhouse gas reduction programs. The first \$300 million in revenue would be used to fund programs for EVs and EVSE.	A.C.R. 166 (I) S.C.R. 40 (I)
	Width Exceedance	A.B. 1751, S.B. 721, and S.B. 723 allow all-electric school buses to operate on state roads with a maximum width of 102 inches. All other school buses are restricted to a maximum width of 96 inches.	A.B. 1751 (I) S.B. 721 (P1) S.B. 723 (I)
NM	Clean Energy Standard	In August 2017, Western Resource Advocates, the New Mexico Attorney General, and Property WORKS filed a petition for rulemaking with the New Mexico Public Regulation Commission. The petitioners proposed a technology-neutral Clean	Docket No. 17-00211-UT

		Energy Standard, aiming to reduce CO2 emissions by 4% per year. The proposed standard would provide utilities with additional credit for each electric vehicle registered in its service territory. The Commission held workshops on the proposed standard in January, March, April, and June 2018. No action occurred during Q3 or Q4 2018.	
NY	Charging Access	A.B. 2522 requires that gas stations along the New York State Thruway include an alternative fuel facility for public use. Alternative fuels may include electricity for EV charging. The bill requires that each alternative fuel recommended by the New York State Energy Research and Development Authority be available at least every 120 miles along each side of the Thruway. These requirements would be effective November 1, 2018. The bills did not advance during the 2017-2018 legislative session.	A.B. 2522 (D) S.B. 2239 (D)
	Charging Access	S.B. 8099, introduced in March 2018, directs the New York State Energy Research and Development Authority to develop and maintain a mobile app and website that determines the distance, driving directions, and location of the nearest EV charging station. The app is to be updated at least every six months and shall be free to use. The bill did not advance during the 2017-2018 legislative session.	S.B. 8099 (D)
	EV Parking	Companion bills A.B. 87 and S.B. 5909 require parking facilities owned and operated by a state entity to install EV charging stations for 10% of the parking spaces offered. The state would be responsible to make these installations and their maintenance. The bills did not advance during the 2017-2018 legislative session.	A.B. 87 (D) S.B. 5909 (D)
	EV Procurement	A.B. 83 requires that all light-duty vehicles purchased by state agencies be alternative fuel vehicles, with the exception of specialty, police, and emergency vehicles. Alternative fuel vehicles include EVs as well as natural gas, liquefied petroleum gas, hydrogen, or 85% ethanol vehicles. The bill did not advance during the 2017-2018 legislative session.	A.B. 83 (D)
	HOV Lane Access	A.B. 4139 would allow drivers of alternative fuel vehicles and PHEVs to use HOV lanes, regardless of the number of occupants in the vehicle. The bill did not advance during the 2017-2018 legislative session.	A.B. 4139 (D)

PA	Planning	H.B. 1446 calls for substantial planning efforts and requires the establishment of statewide goals for fueling infrastructure development. It would require the Governor to create statewide goals for the expansion of EV infrastructure and establish a framework for regional planning (including data collection on vehicle ownership and usage.) Regional plans would be submitted by regional electric distribution companies. Notably, the bill would allow electric companies to recover many costs related to the EV infrastructure. Additionally, the bill would require the Department of Transportation to provide at least two high-speed EV charging stations and a natural gas fueling station at each interstate highway rest area and welcome center. The bill did not advance during the legislative session.	H.B. 1446 (D)
RI	Planning	In October 2018, National Grid filed its 2019 System Reliability Procurement Report. As part of the report, National Grid proposed an effort to identify locations where EV charging stations could be installed and areas where large non-EV public transportation fleets are located. A hearing was held on December 10th.	Docket No. 4889 2019 System Reliability Procurement Report
VA	Emissions Standards, EV Procurement, Planning	The 2018 Virginia Energy Plan includes three specific recommendations for expanding the market for EVs. First, the report recommends that the Commonwealth adopting the Advanced Clean Cars (ACC) Program. The ACC Program includes both low-emission vehicle standards and a zero-emission vehicles program. Second, the report recommends the development of a comprehensive Virginia Transportation Electrification Action Plan which includes a goal for new EV charging infrastructure by the end of 2021. Lastly, the report recommends the establishment of a Green Fleet Program and clean vehicle purchasing standards for state agencies.	2018 Virginia Energy Plan
WA	General Market Development	In December 2018, Governor Inslee released a clean energy proposal, which includes a \$1 million EV promotion campaign, in addition to investments in EV charging infrastructure.	Proposal

Legislative Status Key: I = Introduced, P1 = Passed One Chamber, P2 = Passed Both Chambers, E = Enacted, D = Dead. Bill statuses are up to date as of early February 2019.

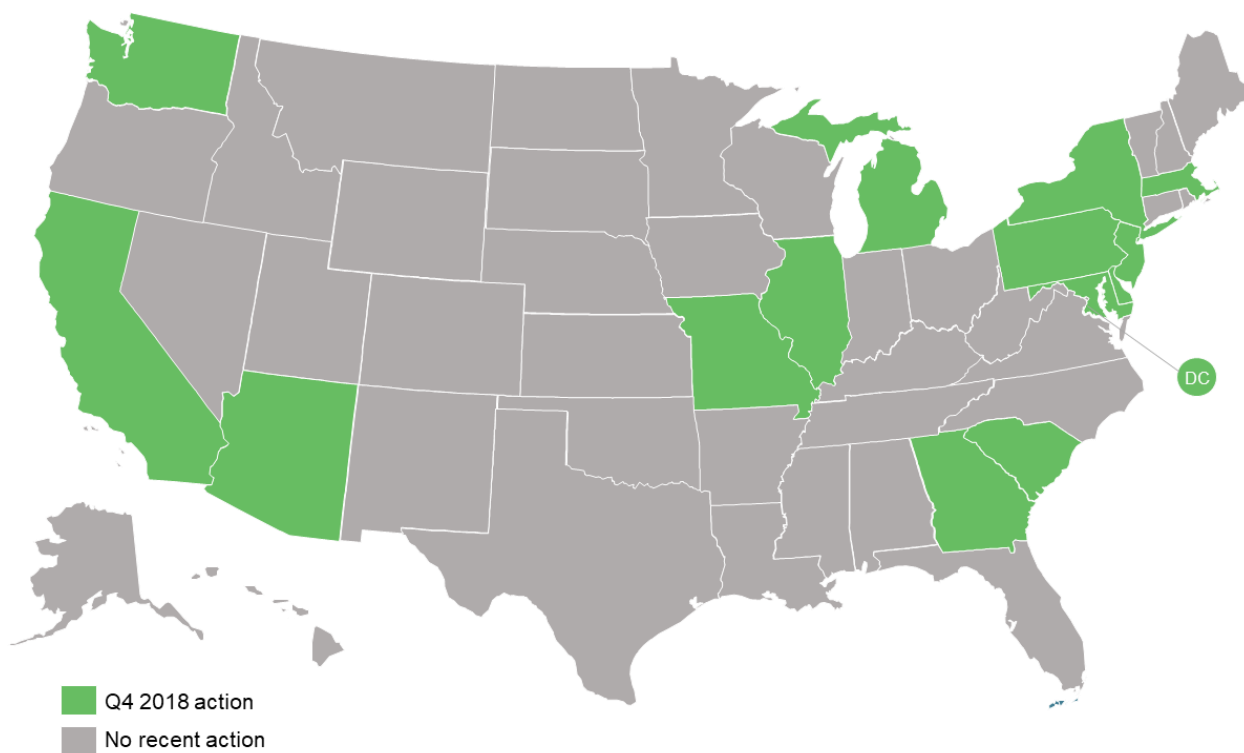
FINANCIAL INCENTIVES

Key Takeaways:

- In Q4 2018, there were 55 actions ongoing or under consideration in 14 states plus DC related to incentives for electric vehicles.
- Of these, 28 were rebate programs, 10 were sales or use tax incentives, 9 were grant programs, and 5 were state tax credits.
- Twenty-seven actions relate to incentives for electric vehicles, 25 relate to incentives for charging infrastructure, and 3 relate to both vehicles and infrastructure.

In Q4 2018, there were 55 actions ongoing or under consideration in 14 states and DC related to financial incentives for electric vehicles and charging infrastructure. The types of incentives under consideration include rebate programs, sales tax exemptions, grant programs, tax credits, property tax exemptions, and loan programs.

Figure 31. Action on Financial Incentives (Q4 2018)



National Grid filed its Phase II Electric Vehicle Market Development Program proposal with the Massachusetts Department of Public Utilities in Q4 2018. The program includes rebates for both Level 2 and DC fast charging equipment. Duke Energy Carolinas and Duke Energy Progress in South Carolina also proposed a new rebate program for charging infrastructure during the quarter. Duke Energy Carolinas' program would offer rebates for residential Level 2 charging

stations, and both Duke Energy Carolinas' and Duke Energy Progress' programs would offer rebates for electric bus charging infrastructure.

The California Public Utilities Commission approved Southern California Edison's request to extend its Charge Ready Pilot Program, which provides charging station rebates, until a decision is issued on its proposed Charge Ready II Program. Pennsylvania regulators approved a settlement agreement in Duquesne Light Company's general rate case, which creates a bill credit for customers registering their electric vehicles with the utility, as well as rebates for Level 2 charging stations available for public use.

Box 6. Tax Incentives, Grants, Rebates, and Financing Programs

The term **tax incentives** covers a broad spectrum of incentives, including income **tax credits** and **deductions**; **property tax exemptions**, exclusions, abatements, and credits; and **sales and use tax exemptions** and refunds. **Grant programs** are one-time monetary payments, typically awarded through a competitive process, while **rebate programs** provide cash incentives for equipment installations meeting program specifications. Finally, **loan programs** provide financing for the purchase of electric vehicles or charging infrastructure and **Property Assessed Clean Energy (PACE) financing** programs allow property owners to borrow money to pay for certain clean energy improvements and repay the amount via a special assessment on the property. Find incentives for renewable energy and energy efficiency technologies with the [Database of State Incentives for Renewables and Efficiency](#).

Of the 55 actions taken in Q4 2018, 27 pertain to incentives for electric vehicles only, while 25 pertain to charging infrastructure, and 3 involve both charging infrastructure and vehicles. The most common type of incentive under consideration was rebate programs, which are frequently being proposed by electric utilities.

Figure 32. Action on Incentives by Incentive Type

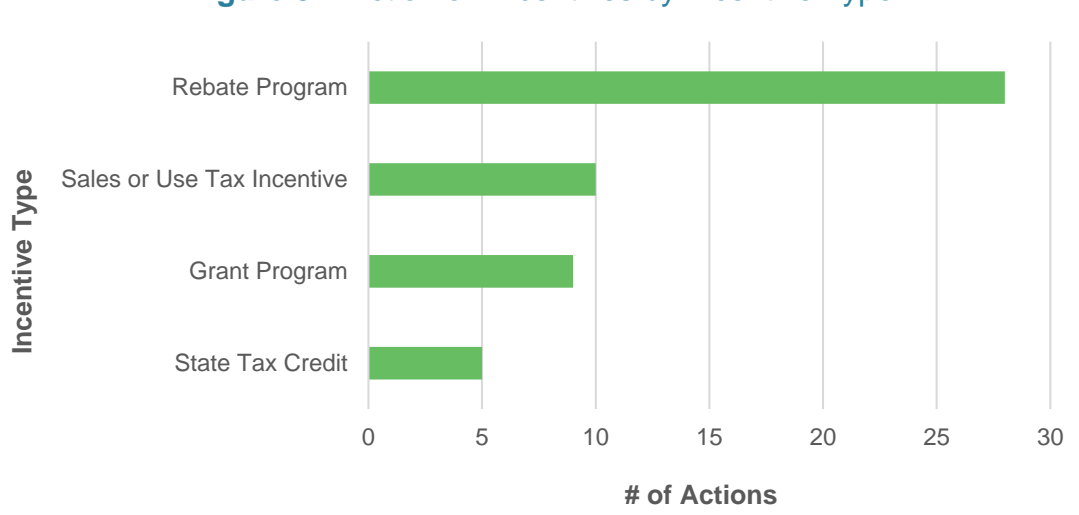


Table 12. Updates on Financial Incentives (Q4 2018)

State	Incentive Type	Description	Source
AZ	Rebate Program	As part of Arizona Public Service's (APS) 2018 Demand-Side Management Plan, filed in September 2017, the utility proposed the addition of a new pilot incentive for EV pre-wiring to its existing Residential New Construction Program. The incentive would be equal to \$100 per home, and provided to homebuilders installing EV pre-wiring in garages. In early July 2018, Commissioner Olson requested that APS submit the Ratepayer Impact Measure and savings during peak for each program.	Docket No. E-01345A-17-0134
CA	Grant Program	A.B. 2877, introduced in February 2018, creates a grant program to fund the purchase of ZEVs to provide transportation services for seniors and the disabled in rural counties. The bill did not advance during the 2018 legislative session.	A.B. 2877 (D)
	Rebate Program	A.B. 3201 amends the existing Clean Truck, Bus, and Off-Road Vehicle and Equipment Technology Program by making large-scale deployments of transit buses eligible for the program. The bill did not advance during the 2018 legislative session.	A.B. 3201 (D)
	Rebate Program	Southern California Edison's (SCE) Charge Ready Pilot Program, which commenced in 2016, includes a mix of direct deployment of infrastructure and rebates to support the deployment of EV charging stations for light-duty vehicles. The utility filed a Petition for Modification of a prior decision to request an additional \$22 million for the pilot program to serve as bridge funding while the utility seeks approval for its full phase two program (see below). In June 2018, the ALJ issued a ruling requesting additional information from Southern California Edison. Specifically, the ALJ asked for a detailed timeline and budget for the requested bridge funding. SCE responded to the ALJ's questions in July, indicating that the bridge funding is expected to keep the program going for an additional 18 months. The Office of Ratepayer Advocates took issue with SCE's response, but laid out some conditions under which it would support SCE's proposal. A proposed decision was filed in November 2018, which grants the petition for modification. The Commission issued a decision in December 2018, granting the petition for modification.	Docket No. A.14-10-014 Decision
	Rebate Program	Following its Charge Ready Pilot Program in 2016, Southern California Edison (SCE) applied for approval of its Charge Ready 2 Program in June 2018. The four-year \$760 million program includes a mix of direct deployment of infrastructure and	Docket No. A18-06-15 Application

		rebates to support a total of 48,000 EV charging stations for light-duty vehicles. The utility plans to offer rebates in two of the component programs, the Make-Ready Infrastructure Expansion and the New Construction Rebate Program. The Make-Ready Infrastructure Expansion program also features direct deployments without rebates, and will target workplaces, multi-unit dwellings, destination centers, governmental locations, and fleets and will provide rebates of up to \$2,000 per port for Level 2 charging stations, and up to \$27,000 for DCFC stations. The Own and Operate program will target multi-unit dwellings, providing rebates of up to \$4,000 per port for the completed installation of Level 1 or Level 2 charging stations. SCE's application also includes a proposed schedule, ending with a final decision in June 2019. The Commission hosted a prehearing conference in September 2018.	Program Description (Chapter III)
	Rebate Program	In July 2018, Pacific Gas & Electric filed an application for approval of its Empower Electric Vehicle Charger Incentive and Education Program. The proposed program would provide point-of-sale incentives for residential EV chargers for approximately 2,000 low to moderate income customers, while reserving additional funds for panel upgrades for up to 800 low-income customers. In its filing, the utility requested a decision by December 13, 2018. A prehearing conference was held in October 2018. The Assigned Commissioner issued a scoping ruling in December 2018, listing the scope of issues and establishing the initial schedule with a proposed decision slated for Q2 2019.	Docket No. A18-07-021
DC	Rebate Program	In April 2017, Pepco filed a proposal to implement a new PEV program. Part of this program would include an option for residential customers to have a smart level 2 charging station installed for 50% of the station and installation costs. This program is limited to 50 customers, and requires installation of a second meter. Pepco may remotely manage these chargers. The proposed program would also install up to ten smart level 2 charging stations at multi-family buildings at 50% of the cost. In October 2017, this docket was merged into Formal Case No. 1130. PEPCO hosted EV workshops in April, May, and June 2018. PEPCO used the workshops to present a revised EV program proposal and to receive input from stakeholders on several issues, including: operational and policy considerations, outreach and education, increasing EV penetration for broader and more diverse populations, and addressing barriers to EV penetration in all quadrants of DC. In September 2018, PEPCO filed an application for approval of its Transportation Electrification Program. The program	Formal Case No. 1143 Formal Case No. 1130 Transportation Electrification Program

		<p>consists of 13 offerings, including financial incentives for the deployment of charging infrastructure at homes, multifamily residential buildings, workplaces, and neighborhoods. The incentives include a 50% discount on the cost of new residential Smart Level 2 EVSE for 50 customers, \$500 rebates for Smart Level 2 EVSE for 500 residential customers, and discounts on the cost of new Smart Level 2 EVSE for multi-dwelling buildings. The Commission accepted comments through December 12, 2018.</p>	
DE	Credit Program, Loan Program, Rebate Program	<p>In October 2017, Delmarva Power & Light (DPL) filed a proposal to implement a new PEV program. Part of this program would include an option for residential customers with existing plug-in vehicles and charging infrastructure to use a "FleetCarma" device, which will provide information on usage location, time, and amount of charge to both the customer and the utility. Participating customers will receive an upfront credit of \$50, a \$5 monthly credit, and additional credit for off-peak charging. This program is limited to 50 customers. Another part of this program would include an option for residential customers to have a smart level 2 charging station installed for 50% of the station and installation costs. Twelve-month interest-free financing would also be offered to these customers. This program is limited to 50 customers, and a second meter will be installed to sub-meter the charging station. Delmarva proposes to also install up to ten smart level 2 charging stations at multi-family buildings at 50% of the cost. In February 2018, Delmarva filed an amended application, based on feedback from public comment sessions, which adds an electric bus component to the utility's proposal. The electric bus program would provide up to \$400,000 to schools and community centers to fund the difference between traditional diesel school buses and new electric vehicle-to-grid-ready school buses. Multiple parties to the proceeding have questioned the Commission's regulatory oversight of EV charging stations. In July 2018, the Division of the Public Advocate and the Commission Staff filed a joint motion to stay Delmarva's application until the earlier of June 30, 2019 or the date that a statute deregulating electric charging stations becomes effective. In June 2018, DPL informed the parties that its parent company, Exelon, had engaged a consultant earlier in the year to study issues related to electric vehicles in its various jurisdictions, and requested to have the study (The Gabel Report) entered into the record, and to have the evidentiary hearings postponed to give all parties the opportunity to review the study. A September order asked parties to agree upon a new procedural schedule to provide for discovery upon the Gabel Report. Delmarva, the</p>	<p>Docket No. 17-1094</p> <p>Gabel Report</p> <p>Settlement Agreement</p>

		Public Advocate, and the Commission Staff filed a settlement agreement in January 2019, agreeing to all aspects of the program.	
GA	Rideshare Driver Incentive	In October 2018, Georgia Power announced a new pilot program in partnership with ride-sharing company Lyft to promote electric transportation. The program will provide qualified EV drivers with a \$500 bonus for signing up as a Lyft driver. The incentive was available for drivers signing up between October 22, 2018 and November 21, 2018, and drivers were required to complete 30 rides within 30 days of signing up to receive the bonus.	Press Release
IL	Rebate Program	H.B. 4734, introduced in February 2018, directs the Department of Revenue to establish a rebate program for the purchase of emissions-free electric motorcycles in an amount of up to \$900 per motorcycle. The bill did not advance during the 2017-2018 legislative session.	H.B. 4734 (D)
MA	Excise Tax Credit	H. 2585 creates an excise tax credit of \$12,000 for the purchase of an alternative fuel medium-duty vehicle and \$20,000 for the purchase of an alternative fuel heavy-duty vehicle. The bill did not advance during the 2017-2018 legislative session.	H. 2585 (D)
	Grant Program, Sales Bonus	H. 4578 establishes a competitive grant program for universities within the University of Massachusetts system to implement innovative transportation planning and fleet electrification. The funds are to be used to purchase and use EVs and charging infrastructure, including public charging stations. The bill also establishes a rebate program for car dealerships in the state that sell or lease EVs to consumers. The rebate would be equal to \$400 for each EV sold or leased, with at least \$200 going directly to the salesperson selling or leasing the vehicle. Only EVs with a manufacturer's suggested retail price of up to \$75,000 are eligible. The bill died at the end of the 2017-2018 legislative session.	H. 4578 (D)
	Rebate Program	H. 1751, H. 2709, and S. 2315 create a rebate program for customers purchasing or leasing qualified PEVs. The initial rebate amount would be up to \$2,500 for vehicles with a battery capacity of at least 10 kWh. Rebates for vehicles with a battery capacity of at least 4 kWh and less than 10 kWh would be up to \$1,500. The bills did not advance during the 2017-2018 legislative session.	H. 1751 (D) H. 2709 (D) S.2315 (D)
	Rebate Program	S. 1915 creates a rebate program for the purchase or lease of ZEVs to be funded with Regional Greenhouse Gas Initiative (RGGI) auction funds. The Department of Energy Resources (DOER) is to	S. 1915 (D)

		create program rules and establish the rebate levels. The bill authorizes DOER to appropriate RGGI funds for EV charging station rebates. These rebates are to be set at a minimum of \$2,500 or 50% of cost. The bill did not advance during the legislative session.	
	Rebate Program	In November 2018, National Grid filed a general rate case, which includes a proposed Phase II Electric Vehicle Market Development Program. The program includes three offerings - Level 2 Residential, Level 2 Non-Residential, and DCFC sites. The residential offering provides \$1,000 rebates for networked Level 2 EV charging stations at single-family homes, as well as an off-peak charging rebate of 5 cents per kWh during summer months and 3 cents per kWh during all other months. The estimated budget is \$9 million for the residential rebate program and \$5.6 million for the off-peak charging rebate. The non-residential offering will provide customers with two options for EVSE installation: purchasing and managing the charging station (customer-owned option) or having National Grid own and operate the charging station (company-owned option). Customer selecting the company-owned option will contribute toward the upfront cost and ongoing operation and maintenance costs. National Grid is aiming for 10% of charging sites developed to be in disadvantaged communities and will cover up to 100% of the cost for these participants. The estimated budget for the non-residential program is \$110 million. Finally, the DCFC offering will involve the utility deploying charging infrastructure and providing rebates for charging equipment, with a focus on highway and retail locations, public transit sites, and school bus sites. Testimony is due by March 22, 2019, and evidentiary hearings are scheduled for April 29, 2019 to May 24, 2019.	Docket No. 18-150
MD	Rebate Program	In January 2018, the EV working group filed a proposal for the Public Service Commission (PSC) to open a new proceeding to consider a statewide electric vehicle portfolio. The proposed portfolio would include residential, non-residential, public, innovation, and technology sub-portfolios for each service territory. The residential sub-portfolio includes smart level 2 charging station rebates, (all utilities), EV whole-house TOU rates (all utilities except Potomac Edison), smart level 2 charging station rebates with EV-only rate design components (Delmarva and Pepco), and FleetCarma non-rate incentives for off-peak charging (Delmarva and Pepco). The non-residential sub-portfolio includes incentives for multifamily/multi-unit dwellings (all utilities), incentives for workplace charging (all utilities), incentives for fleets (all utilities except	Case No. 9478 Public Conference No. 44

		<p>Potomac Edison), and incentives for public-facing commercial and industrial locations (Baltimore Gas & Electric and Potomac Edison). The public sub-portfolio includes incentives for public level 2 smart chargers (all utilities) and incentives for public DC fast charging (all utilities). The innovation sub-portfolio includes grants for innovative ideas to serve multiple users and/or multiple tenant applications (all utilities except Potomac Edison). The technology demonstration sub-portfolio includes a demonstration project pairing a cluster of DC fast chargers with an energy storage device (Delmarva and Pepco). One of Potomac Edison's DC fast charging public locations will include an energy storage system; this will be a part of the utility's public sub-portfolio, rather than a separate technology sub-portfolio. Baltimore Gas & Electric proposed a managed charging demonstration program that would be part of its public sub-portfolio.</p> <p>The Office of the People's Counsel (OPC) filed a letter later in January, requesting that the PSC go through the full evidentiary process to investigate this proposal. In February 2018, the PSC opened a new proceeding (Case No. 9478). The PSC held an initial legislative-style hearing in May 2018. The hearing addressed the current state of EVs in the state, the potential growth of EVs in the state, the potential benefits and costs of increasing Maryland's ability to integrate more EVs, how the working group's proposal fits into the current and potential growth of EVs in the state, and the proper role of utility investment in EV infrastructure. The PSC held another legislative-style hearing in September 2018. In January 2019, the PSC published a comprehensive order to implement a statewide EV portfolio with EV tariff offerings, allowing utility infrastructure investment in EV charging, and offering customer assistance regarding EV usage for residential, non-residential, public, innovation, and technology categories. The order also includes a provision for cost recovery, customer outreach, and EM&V.</p>	
MI	Rebate Program	<p>In May 2018, as part of a rate case, Consumers Energy proposed a new "Foundational Infrastructure Plan" which would provide rebates to customers who install EV charging infrastructure. The rebate would provide \$500 to residential customers who install an EV charger, which is estimated to cover 25% of the cost for the average customer. The program would also provide larger rebates for commercial customers installing multiple chargers or direct current fast charging stations. A settlement agreement was filed in December 2018, which would approve the</p>	<p>Docket No. U-20134</p>

		<p>proposed programs, but would not resolve the question of whether Consumers Energy may recover costs for the EV program through deferred accounting. On January 9, 2019, the Commission approved the settlement agreement and issued an order allowing Consumers to recover costs for the EV program as a regulatory asset.</p>	
	Rebate Program	<p>In its most recent rate case, filed in July 2018, DTE requested cost recovery for a new electric vehicle program, Charging Forward. The three primary components of the Charging Forward program include customer education and outreach, residential smart charger support, and charging infrastructure enablement. The program would be implemented over three years at a cost of \$13 million. The residential smart charger support component of the program would provide a rebate of up to \$500 to ~2,800 residential customers who own an EV and install a qualified “smart” Level 2 charger. The charging infrastructure enablement component of the program would involve the utility contributing the costs for make-ready equipment up to the meter, and provide a fixed rebate to customers for the installation of EV supply equipment (after-the-meter, including panel, conduit, and wiring). Site hosts will be responsible for the purchase, operation, and maintenance of the EV charging station. A prehearing conference was held in July 2018. Cross-examination hearings were held in December 2018. Initial briefs were filed in January 2019, and a proposed decision is scheduled for March 2019.</p>	<p>Docket No. U-20162</p>
	Sales or Use Tax Incentive	<p>H.B. 6083 provides a partial sales tax exemption for alternative fuel vehicles, including EVs, based on vehicle weight. Vehicles up to 6,000 pounds would qualify for a \$1,000 exemption. The bill did not advance during the 2018 legislative session.</p>	<p>H.B. 6083 (D)</p>
	Sales or Use Tax Incentive	<p>H.B. 6084 provides a partial use tax exemption (mirroring the sales tax exemption in H.B. 6083) for alternative fuel vehicles, including EVs. The bill did not advance during the 2018 legislative session.</p>	<p>H.B. 6084 (D)</p>
MO	Rebate Program	<p>In February 2018, Ameren proposed an incentive program for EV charging infrastructure; the program would provide incentives for third parties to install EV charging stations rather than have the utility own the charging stations. The Missouri Public Service Commission previously ruled that it lacks jurisdiction over EV charging stations, disallowing cost recovery for utility investments in such infrastructure. The Missouri Office of Public Counsel has filed a motion to dismiss this proceeding with the previous ruling as a basis. In May 2018, the Commission rejected the</p>	<p>Docket No. ET-2018-0132</p> <p>Court of Appeals Decision</p>

		<p>motion to dismiss, and ordered the parties to propose a procedural schedule. In August 2018, the Missouri Court of Appeals issued a decision overruling the Commission's previous ruling and finding that the Commission does have jurisdiction over EV charging stations. In early October 2018, the Commission Staff released a report assessing the costs and benefits of Ameren's proposed incentive program; Staff recommended that incentives be limited to relatively low charging speed applications in publicly accessible areas. In October 2018, the parties filed a settlement agreement, which would approve Ameren's proposed program. In a position statement filed in late November 2018, Commission Staff recommended rejection of the program, arguing that there is a lack of necessity for the program. A hearing was held in early December 2018, and parties filed post-hearing briefs in January.</p>	
NJ	Credit Program	<p>S.B. 594 and A.B. 4005 provide a 50% credit against the Societal Benefits Charge (SBC) for utility customers who install and manage publically available EV charging stations. The SBC is a charge imposed on all customers of New Jersey's investor-owned utilities for reducing energy use and promoting renewable energy. Under the bills, the electric or gas customer would receive a credit of 50% of what they would typically owe for the SBC each calendar year.</p>	<p>A.B. 4005 (I) S.B. 594 (I)</p>
	Grant Program	<p>A.B. 3830 and S.B. 2436, introduced in April 2018, create a three-year "Electric School Bus Pilot Program" to determine the reliability and cost-effectiveness of using electric school buses for transporting students. The bill requires the Board of Public Utilities to select at least three school districts and award up to a total of \$10 million. Funding would come from revenues of the state's societal benefits charge. Funding may be used for the purchase electric school buses and to purchase and install EVSE for the buses.</p>	<p>A.B. 3830 (I) S.B. 2436 (I)</p>
	Grant Program, Loan Program, Rebate Program	<p>A.B. 3734 and S.B. 612 amend state law to dedicate the first \$300 million from state's participation in the Regional Greenhouse Gas Initiative to EV and EV infrastructure programs. Specifically, the bill recommends the creation of rebates for EV purchasers, loans or grants for EVSE, and funding for local government planning for public EVSE. The Department of Environmental Protection would adopt guidelines and ranking systems for allocating funds to eligible projects.</p>	<p>A.B. 3734 (I) S.B. 612 (I)</p>

<p>Grant Program, Rebate Program</p>	<p>In February 2018, Atlantic City Electric filed an application for its five-year, \$14.9 million Plug-In Vehicle Program. The proposed program includes discounted installation (50% discount on EVSE cost and 50% discount on installation) of up to 300 Smart Level 2 charging stations for residential customers (total cost of \$1.55 million). PSE&G also plans to offer discounted installation (50% discount on EVSE cost and 100% discount on installation) of up to 50 Smart Level 2 charging stations at multi-family buildings (total cost of \$607,500). PSE&G also plans to offer discounted installation (50% discount on EVSE cost) of up to 100 Smart Level 2 charging stations at workplaces (total cost of \$465,000). Additionally, PSE&G's program includes a \$2 million innovation fund through which the utility will provide grant funding for various types of innovative transportation electrification projects.</p>	<p>Atlantic City Electric Filing (Docket No. E018020190)</p>
<p>Grant Program, Rebate Program</p>	<p>In September 2018, PSE&G New Jersey filed its proposed Clean Energy Future plan, including investments in energy efficiency, electric vehicles, energy storage, and AMI. The Board of Public Utilities directed PSE&G to make separate filings for each of its proposed Clean Energy Future programs, which the utility filed in October 2018. The Clean Energy Future - Electric Vehicle and Energy Storage program includes rebates for networked residential EV charging stations (Level 2), rebates for Level 2 mixed use charging, and incentives for electric school buses and charging infrastructure. PSE&G will also either own or provide incentives for public DC fast charging stations. The total proposed budget for the Clean Energy Future EV programs is \$261 million, with \$93 million being for residential smart charging rebates, \$39 million for mixed use charging, and \$45 million for electric school bus incentives and other innovative projects. Rebates for the residential smart charging program will be up to \$2,000 per installation, and PSE&G also proposed a rebate of 2 cents per kWh for all participant charging that occurs off-peak. As part of the Residential Smart Charging subprogram, PSE&G also proposed a technical trial to collect data from 500 participating vehicles. Participation in the trial will be voluntary. Rebates for the Level 2 Mixed-Use Charging subprogram will be tiered by participant type: multifamily - 80%, local government - 60%, other public entities - 40%, and other private entities - 20%. Proposed incentives for electric buses are \$300,000 per bus, for up to 102 buses, and PSE&G plans to test vehicle-to-grid or vehicle-to-building technology with a portion of these buses. DC fast charging rebates will be tiered as follows: public entities - 80% and non-public entities - 40%. PSE&G also proposed monthly rebates for DC</p>	<p>PSE&G Regulatory Filings (Docket No. EO18101111)</p>

	<p>fast charging station owners (for five years) to help overcome high demand charges associated with these projects. The rebate will cover the difference between the effective cost per kWh for monthly fast charging usage and the subprogram "target rate," which is to be determined. PSE&G proposed a new rider (Technology Innovation Charge) to recover costs associated with the Clean Energy Future Electric Vehicle and Energy Storage programs.</p>	
Property Tax Incentive	<p>A.B. 1396 and S.B. 1994 exempt EV charging systems from property taxes. The bill outlines a process for applying for appropriate certificates and deducting the value of EVSE from property value for tax purposes.</p>	<p>A.B. 1396 (I) S.B. 1994 (I)</p>
Rebate Program	<p>A.B. 1363 creates a rebate program for the purchase of alternative fuel vehicles through the Department of Environmental Protection. EVs and PHEVs are included within the definition of "qualified alternative fuel vehicles" that would receive rebates through the program. Eligible purchases or vehicle leases could receive up to \$5,000 per vehicle. An additional \$1,500 rebate would be provided to purchasers with incomes less than 300% below the federal poverty level.</p>	<p>A.B. 1363 (I)</p>
Rebate Program	<p>A.B. 4634 establishes an EV rebate program offering rebates equal to \$25 per mile of electric power range, up to \$5,000.</p>	<p>A.B. 4634 (I)</p>
Rebate Program	<p>In September 2018, PSE&G New Jersey filed its proposed Clean Energy Future plan, including investments in energy efficiency, electric vehicles, energy storage, and AMI. The Board of Public Utilities directed PSE&G to make separate filings for each of its proposed Clean Energy Future programs, which the utility filed in October 2018. The Clean Energy Future - Energy Efficiency Program includes a variety of customer-focused programs, including a Smart Homes Pilot Program focused on providing comprehensive energy solutions to participants. The program covers a wide variety of technologies, including traditional energy efficiency and smart appliances, as well as battery storage, water heaters, connected PV inverters, and electric vehicles. Rebate levels for platforms or individual devices will be set prior to the subprogram launch. The total proposed budget for the Smart Homes Pilot Program is about \$26.3 million.</p>	<p>PSE&G Regulatory Filings (Docket No. EO18101113)</p>
Rebate Program, Sales or Use Tax Incentive	<p>A.B. 3847 and S.B. 2382 create a rebate program for the purchase or lease of light-duty PEVs. The bills also establish rebates for low-income vehicle owners who scrap old vehicles at the time of EV purchase.</p>	<p>A.B. 3847 (I) S.B. 2382 (I)</p>

		The bills establish other incentives, including updates to ZEV sales tax exemptions. The PEV rebate would start at \$5,000 per vehicle. The "Plug-in Electric Vehicles Rebate and Incentive Fund" would be established with a total budget of \$100 million per year for 3 years (\$300 million total).	
	Sales or Use Tax Incentive	A.B. 1032 extends the state's sales and use tax exemption to include PHEVs. Under current law, a vehicle may be exempt from the State sales and use tax if it qualifies as a "zero emission vehicle." This bill would extend the sales tax exemption to include PHEV. In late March 2018, the New Jersey Legislature's Sales Tax Review Commission reviewed the bill and recommended "to not enact."	A.B. 1032 (I)
	Sales or Use Tax Incentive	S.B. 148 creates a sales tax exemption for vehicles with an average fuel economy of over 40 mpg. The sales tax exemption applies for two years after purchase and applies to up to \$40,000 of the vehicle purchase price.	S.B. 148 (I)
	Tax Credit	A.B. 114 creates a state tax credit for the purchase and installation of EV charging stations by businesses and individuals. The tax credits would require an application and would be available for tax periods from 2014 to 2016.	A.B. 114 (I) S.B. 2255 (I)
	Tax Credit	A.B. 1364 creates a state tax credit for individuals who purchase or lease alternative fuel vehicles. The bill outlines requirements for having the vehicle purchase or lease certified by the Department of Environmental Protection. The tax credit of up to \$5,000 is available for the purchase or lease of "qualified alternative fuel vehicles" for personal use. EVs and PHEVs would qualify as eligible vehicles. An additional \$1,500 tax credit would be provided to purchasers with incomes less than 300% below the federal poverty level.	A.B. 1364 (I)
	Tax Credit, Tax Deduction	A.B. 1455 and S.B. 711 establish business tax credits and income tax deductions for the purchase of installation of EV charging stations. These credits would be established for three years following enactment of the bill. For the business tax credit, an amount of up to \$500 or 25% of the cost of EVSE would be allowed; the total credit allowed in the second year is \$300 or 15% of cost, and credit allowed in the third year is \$150 or 8% of cost. The income tax deduction would be enacted with the same structure with deductions ranging from \$500 in the first year to \$150 in the third year of the program.	A.B. 1455 (I) S.B. 711 (I)
NY	Grant Program, Tax Credit	S.B. 4356 creates a state alternative fuel incentive fund, which would be supplied by gasoline and diesel	S.B. 4356 (D)

	<p>tax revenue and be used to provide income tax credits for installation of fueling/charging stations, grants for research and development projects for alternative fuel vehicles, and installation of alternative fuel stations at state-owned travel plazas. The bill did not advance during the 2017-2018 legislative session.</p>	
<p>Meter Fee Exemption; Registration Fee Exemption; Toll Discount; Sales or Use Tax Incentive</p>	<p>A.B. 4139 includes several different types of incentives for EVs. EZ pass account holders with EVs or ZEVs that have a highway fuel efficiency of 35 miles per gallon or higher would receive a 25% discount on tolls. EV and ZEV owners would also receive an exemption from the first year of registration fees, and EVs and ZEVs would be exempt from state sales and use tax. The difference between the purchase price of a PHEV and the average price of a comparable non-hybrid or non-alternative fuel vehicle would also be exempt from state sales and use tax. Finally, the bill authorizes municipalities to designate parking meters as free of charge for PHEV, EV, and ZEV owners. The bill did not advance during the legislative session.</p>	<p>A.B. 4139 (D)</p>
<p>Rebate Program</p>	<p>In June 2018, PSEG Long Island filed an annual update of its 2014 Utility 2.0 Long Range Plan. The plan includes an 80% (up to \$500) rebate for installation of an EV charger. The plan also includes an incentive for public fast charging stations based on a "set point" approach; a set point for the cost of EV charging based on the cost of fueling with gasoline would be established, and public EV chargers would be reimbursed for the difference between the cost they pay for electricity under their retail rate and the set point. Parties including the New York Power Authority, the New York Battery and Energy Storage Technology Consortium (NY-BEST), and a coalition of environmental groups submitted comments on the plan during Q3 2018; comments were generally supportive; NY-BEST and the environmental groups emphasized that the "set point" approach used to offset demand charges for public DC fast chargers (DCFC) needed to be set low enough to allow rates to be attractive to drivers. The Department of Public Service filed recommendations in early November regarding the plan, which included support for the rebate.</p>	<p>Docket No. 14-01299</p>
<p>Rebate Program</p>	<p>As part of Orange and Rockland's general rate case, filed in January 2018, the utility proposed a new program to offer rebates for Level 2 EV chargers to prospective residential PEV buyers. The company has also proposed an education and outreach program to accompany the rebate program. The proposed budget is \$375,000 over three years. A</p>	<p>Docket No. 18-00253/18-E-0067</p>

	joint proposal was filed in early November 2018, which includes the rebate program. Parties filed reply statements arguing for and against the joint proposal in early December 2018, and an evidentiary hearing also took place in December. The proceeding has been extended to March 25, 2019.	
Registration Fee Exemption	A.B. 6854 and S.B. 2932 exempt new EVs and clean fuel vehicles from the first year of registration fees. This incentive would expire January 1, 2022. The Senate passed S.B. 2932 in June 2018, but both bills died at the end of the 2017-2018 legislative session.	A.B. 6854 (D) S.B. 2932 (D)
Sales or Use Tax Incentive	A.B. 1790 exempts low-emission and energy efficient vehicles from state sales and use tax until December 31, 2020. The bill did not advance during the 2017-2018 legislative session.	A.B. 1790 (D)
Sales or Use Tax Incentive	A.B. 6269 exempts the sales of new and used hybrid and high-efficiency vehicles from state sales and use tax. The bill also authorizes local governments to exempt hybrid and high-efficiency vehicles from local sales tax. The bill did not advance during the 2017-2018 legislative session.	A.B. 6269 (D)
Sales or Use Tax Incentive	A.B. 9931 exempts the first \$35,000 of the retail sale of a new battery, electric, or plug-in hybrid electric vehicle from state sales and use taxes. The bill did not advance during the legislative session.	A.B. 9931 (D)
Sales or Use Tax Incentive	S.B. 952 exempts sales for PHEVs from state sales and use tax, and authorizes local governments to also exempt PHEVs from local sales tax. The bills did not advance during the 2017-2018 legislative session.	A.B. 9587 (D) S.B. 952 (D)
Sales or Use Tax Incentive	S.B. 2705 exempts low-emission and energy efficient vehicles from state sales and use tax until December 31, 2021. The bill did not advance during the 2017-2018 legislative session.	S.B. 2705 (D)
Tax Credit	A.B. 2706 creates a state income tax credit for installing EV charging electrical outlets at condos and cooperative housing. The credit would be equal to 55% of costs, up to \$5,000. The credit is to be available beginning January 1, 2018 and ending December 31, 2022. The bill did not advance during the 2017-2018 legislative session.	A.B. 2706 (D)
Toll Discount	A.B. 10019 provides a discount on tolls, fares, fees, and other charges intended to fund public transit systems for certain vehicles of transportation network companies. For EVs and hydrogen fuel cell vehicles, the discount is 50%, and for hybrid EVs the discount	A.B. 10019 (D)

		is 25%. The bill did not advance during the 2017-2018 legislative session.	
	Toll Discount	A.B. 10134 exempts EVs from congestion pricing fees that may be introduced. The bill did not advance during the 2017-2018 legislative session.	A.B. 10314 (D)
PA	Grant Program	H.B. 1661 provides guidelines for the "equitable distribution" of funds allocated to Pennsylvania through the Volkswagen Environmental Mitigation Trust. The bill would require that (1) the majority of funds be used to deploy vehicles certified to CARB low-NOx standards, (2) grants to non-governmental fleet vehicles provide 25% of total vehicle cost (up to \$50,000 per vehicle), (3) grants to government fleets may not exceed 10% of funds, (4) funds granted to government fleets should prioritize mass transit, para transit, or waste disposal fleets, and (5) funds must be prioritized to leverage matching funds. The bill did not advance during the 2017-2018 legislative session.	H.B. 1661 (D)
	Grant Program	S.B. 722 provides guidelines for the "equitable distribution" of funds allocated to Pennsylvania through the Volkswagen Environmental Mitigation Trust. The bill would require that (1) the majority of funds be used to deploy vehicles certified to CARB low-NOx standards, (2) grants to non-governmental fleet vehicles provide 25% of total vehicle cost (up to \$50,000 per vehicle), (3) grants to government fleets may not exceed 20% of funds, (4) funds granted to government fleets should prioritize mass transit, para transit, or waste disposal fleets, and (5) funds must be prioritized to leverage matching funds. The bill did not advance during the 2017-2018 legislative session.	S.B. 722 (D)
	Rebate Program	As part of Duquesne Light Company's most recent rate case, filed in April 2018, the utility proposed a new EV pilot program called EV ChargeUp. The program includes a one-time \$60 bill credit for customers registering their existing or new EVs with the utility. Approximately \$225,000 from 2018-2019 and \$110,000 per year from 2020-2022 is expected to be provided in bill credits. A settlement agreement was filed in September 2018, which reduces the EV registration incentive budget to \$70,000 per year. The settlement also includes \$650,000 for rebates for customers installing Level 2 charging stations that are open for public use. The ALJ issued a recommended decision in October 2018, which approves the settlement's EV program provisions.	Docket No. R-2018-3000124 Settlement Recommended Decision
SC	Rebate Program	In October 2018, Duke Energy Carolinas filed an application for a \$7.1 million, three-year electric	Docket No. 2018-321-E

		<p>transportation pilot program. The proposed pilot includes four programs: (1) a residential EV charging program, (2) an EV school bus charging program, (3) an EV transit bus charging program, and (4) a DC fast charging station program. The residential EV charging program will provide rebates for the installation of networked Level 2 EVSE. The two EV bus charging programs will also provide rebates, and the school bus program will test vehicle-to-grid capabilities. The DC fast charging program would involve Duke Energy owning and operating up to 20 DC fast charging stations. In December 2018, the Office of Regulatory Staff requested that the Commission hold the comment period and further action in abeyance to allow the opportunity for a stakeholder process, with a report being filed by March 1, 2019.</p>	
SC	Rebate Program	<p>In October 2018, Duke Energy Progress filed an application for a \$3.3 million, three-year electric transportation pilot program. The proposed pilot includes three programs: (1) an EV school bus charging program, (2) an EV transit bus charging program, and (3) a DC fast charging station program. The two EV bus charging programs will also provide rebates, and the school bus program will test vehicle-to-grid capabilities. The DC fast charging program would involve Duke Energy owning and operating up to 10 DC fast charging stations. In December 2018, the Office of Regulatory Staff requested that the Commission hold the comment period and further action in abeyance to allow the opportunity for a stakeholder process, with a report being filed by March 1, 2019.</p>	<p>Docket No. 2018-322-E</p>
WA	Rebate Program	<p>In October 2018, Puget Sound Energy (PSE) filed an application for new EV services. The proposed portfolio of EV programs includes education and outreach, single-family residential charging and off-peak charging, multi-family residential charging, workplace/fleet charging, public charging, and direct access to low-income customers. Specifically, the program includes providing 500 free Level 2 smart chargers to residential customers and covering 75% of the installation cost. PSE notes that it will test different incentives for off-peak charging. The proposed programs have a combined budget of \$6.947 million. In a December 2018 memo, the Commission Staff recommended that the Commission take no action, allowing the proposed programs to go into effect by operation of law.</p>	<p>Docket No. UE-180877</p>

Legislative Status Key: I = Introduced, P1 = Passed One Chamber, P2 = Passed Both Chambers, E = Enacted, D = Dead. Bill statuses are up to date as of early February 2019.

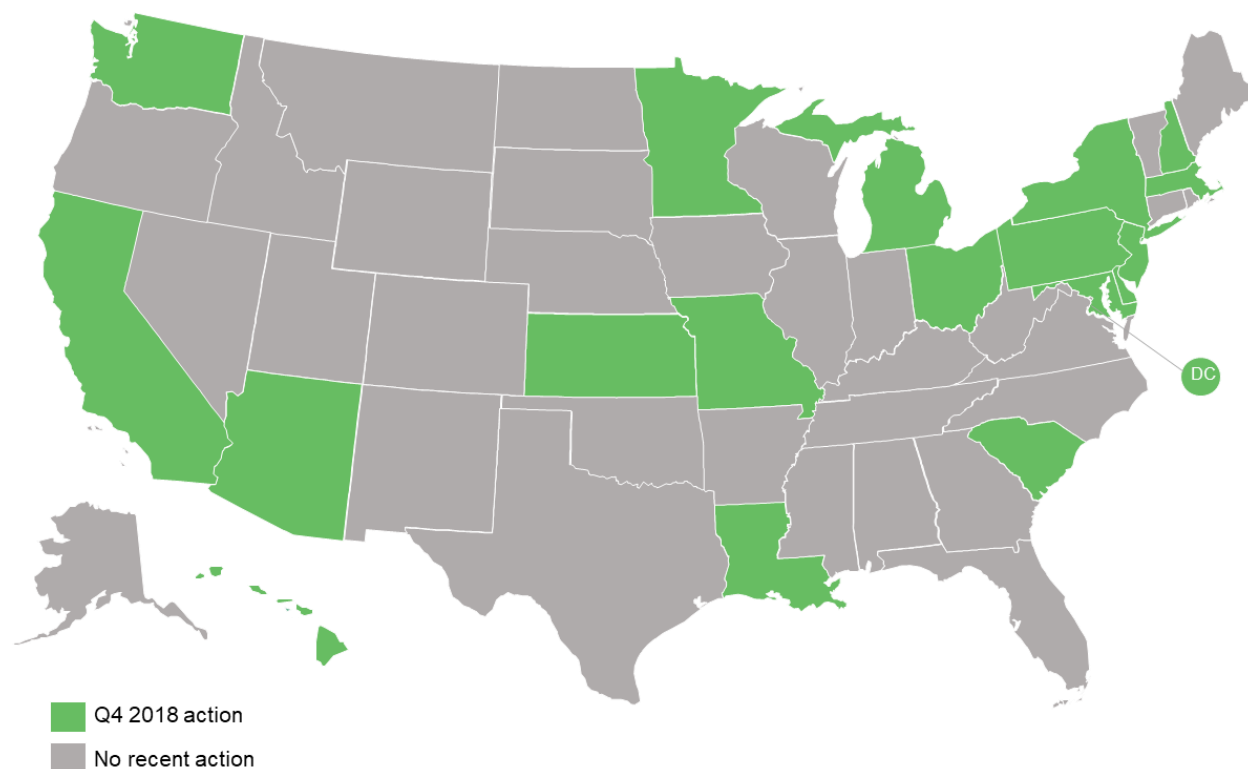
STATE AND UTILITY DEPLOYMENT

Key Takeaways:

- In Q4 2018, there were 37 pending or decided proposals from state legislators or utilities across 18 states plus DC to deploy electric vehicles or charging infrastructure.
- Six utilities in five states – Massachusetts, Minnesota, Ohio, South Carolina, and Washington – filed applications for new charging infrastructure projects.
- A total of approximately \$1.44 billion in utility investment in electric vehicle charging infrastructure was under consideration in Q4 2018.

The continued growth of the electric vehicle market both depends upon and necessitates increased access to charging infrastructure. Policymakers and regulators in several states are finding a role for utilities and state government entities to deploy charging infrastructure accelerate transportation electrification. During Q4 2018, 18 states plus DC were considered the deployment of charging infrastructure. The proposed deployment plans are varied, targeting different market sectors with an array of solutions.

Figure 33. State and Utility Deployment Action (Q4 2018)



Utilities in 13 states plus DC had specific deployment plans before their respective regulators during Q4 2018, totaling over to \$1.4 billion in investment. Nearly \$1 billion of this total was proposed in California. While Southern California Edison continues seeking

approval for Phase II of its Charge Ready Program, it received approval to inject its existing Charge Ready Pilot Program with an additional \$22 million. Duquesne Light Company also received approval for its proposal during Q4 2018. It will use \$1.3 million to deploy 65 Level 2 charging stations, plus an additional \$500,000 for fast charging station make-ready infrastructure at the utility's facilities and the Port Authority of Allegheny County.

Table 13. Utility Requests for EV Charging Investments

State	Utility	Proposed Budget	Approved Budget
Arizona	Arizona Public Service	\$3.58 Million	Pending
California	Liberty Utilities (A.B. 1082 and 1083 Proposal)	\$4.687 Million	Pending
	Pacific Gas & Electric (A.B. 1082 and 1083 Proposal)	\$11.3 Million	Pending
	San Diego Gas & Electric (A.B. 1082 and 1083 Proposal)	\$18.8 Million	Pending
	San Diego Gas & Electric (Medium- & Heavy-Duty Program)	\$152.3 Million	Pending
	Southern California Edison (A.B. 1082 and 1083 Proposal)	\$19.77 Million	Pending
	Southern California Edison (Charge Ready Pilot Extension)	\$22 Million	\$22 Million
	Southern California Edison (Charge Ready 2)	\$760 Million	Pending
Delaware	Delmarva Power & Light	\$1.74 Million	Pending
DC	Pepco	\$8.933 Million	Pending
Louisiana	Entergy New Orleans	\$500,000	Pending
Maryland	Baltimore Gas & Electric	\$48.1 Million	Pending
	Delmarva Power & Light	\$12 Million	Pending
	Pepco	\$32.2 Million	Pending
	Potomac Edison	\$12.4 Million	Pending
Massachusetts	National Grid	\$166.5 Million	Pending
Michigan	DTE Energy	\$7.73 Million	Pending
Minnesota	Xcel Energy	\$23.6 Million	Pending
New Jersey	Atlantic City Electric	\$5.85 Million	Pending
	PSE&G New Jersey	\$101 Million	Pending
New York	Orange & Rockland	\$1 Million	Pending
Ohio	Dayton Power & Light	\$7.2 Million	Pending
Pennsylvania	Duquesne Light Company	\$2.9 Million	\$1.8 Million
South Carolina	Duke Energy Carolinas	\$7.1 Million	Pending
	Duke Energy Progress	\$3.3 Million	Pending
Washington	Puget Sound Energy	\$6.17 Million	Pending
TOTAL		\$1.44 Billion	\$23.6 Million

Six utilities filed new proposals for infrastructure deployment plans during Q4 2018. National Grid in Massachusetts proposed a \$166.5 million Phase II Electric Vehicle Market Development Program. The program consists of three offerings: Level 2 residential; Level 2 non-residential; and DC fast charging infrastructure at highway and retail locations, public transit sites, and school bus sites. Xcel Energy in Minnesota proposed two electric vehicle pilots: a \$14.4 million fleet service program, and a \$9.2 million public charging program.

Dayton Power and Light in Ohio sought approval to install, own and operate 40 to 50 Level 2 and DC fast charging stations, and Puget Sound Energy in Washington filed a plan to install Level 2 charging stations at workplaces and multi-family properties, as well as Level 2 and fast charging stations at locations for public use. Lastly, Duke Energy Carolinas and Duke Energy Progress filed for approval in South Carolina to own and operate a combined 30 DC fast charging stations.

Table 14. Updates on State and Utility Deployment (Q4 2018)

State	Utility	Technology	Description	Source
AZ	Arizona Public Service	Charging Infrastructure (Bus Charging, Level 2), Electric Buses	<p>As part of Arizona Public Service's (APS) 2018 Demand-Side Management Plan, filed in September 2017, the utility proposed a new Managed EV Charging Pilot Program. APS would own and manage charging stations deployed through this program at fleets, workplaces, and multi-family housing communities. APS would be able to schedule the charging of EVs at these stations in a way that avoided peak hours. The proposed budget for the pilot program is \$1.33 million. Participating customers would repay funds used to purchase the charging stations over ten years, less a \$750 incentive.</p> <p>The utility also proposed a new School Bus EV Pilot Program. Under the program, APS would provide a limited number of Electric buses and charging infrastructure for free to participating school districts, selected through a lottery. The proposed budget for the program is \$2.25 million. APS will work with participating schools to manage charging.</p> <p>In early July 2018, Commissioner Olson requested that APS submit the Ratepayer Impact Measure and savings during peak for each program.</p>	Docket No. E-01345A-17-0134
	All IOUs	Charging Infrastructure (Level 2 or 3)	<p>In August 2016, Arizona Corporation Commission Chairman Little opened a docket to review, modernize, and expand Arizona's Renewable Energy Standard and Tariff. In late January 2018, Commissioner Tobin filed his proposed Energy Modernization Plan. The plan would rename the state's Renewable Energy Standard and Tariff to the Clean Resource Energy Standard and Tariff and require that 80% of the state's electricity generating portfolio be comprised of clean resources by 2050, in addition to other changes. The proposed plan would require utilities to include EV charging infrastructure deployment as part of their CREST implementation plans. In February 2018, the Commission Staff issued a Notice of Inquiry, soliciting comments on many specific questions related to</p>	Docket No. E-00000Q-16-0289 Proposed Energy Modernization Plan Notice of Inquiry Draft Rules

		<p>Commissioner Tobin's proposal. In early July 2018, Commissioner Tobin filed a formal set of draft rules implementing his proposed Energy Modernization Plan. Later in July, several Commissioners expressed support for opening a new rulemaking docket to consider changes to the state's Renewable Energy Standard and Commissioner Tobin's Energy Modernization Plan. In August 2018, the Commission opened a rulemaking docket to evaluate modification to several different energy rules (see Docket No. RU-00000A-18-0284).</p>	
All IOUs	Charging Infrastructure (Level 2 & 3)	<p>In August 2018, the Arizona Corporation Commission (ACC) opened a rulemaking docket to evaluate proposed modifications to many of the state's energy rules. Among the rules to be addressed are those pertaining to EVs. In December 2018, the ACC Staff filed the draft policy statement, which encourages regulated utilities to invest in infrastructure and develop programs to support EV charging and transportation electrification. Specifically, the policy statement encourages utilities to consider deploying charging infrastructure in low utilization areas (such as rural and low-income areas, multi-unit dwellings, interstate corridors and highways) and permits these investments in their rate base; encourages utilities to adopt pilot programs to obtain data on infrastructure deployment, charging patterns, and the need for rate designs and incentives; directs utilities to include EV considerations in integrated resource plans; encourages utilities to redeploy used EV batteries for a secondary use; directs utilities to work with non-regulated entities to identify locations where joint investment and ownership in charging infrastructure may be appropriate; and directs the ACC Staff to continue stakeholder engagement efforts related to EVs. Later in December, the ACC Staff filed an amendment to its proposed policy statement, specifying that only prudent costs for EV charging stations may be included in the rate base. The ACC adopted the Staff's EV policy statement in January 2019.</p>	<p>Docket No. RU-00000A-18-0284</p> <p>Draft Electric Vehicle Policy Statement</p> <p>Decision No. 77044</p>

CA	All IOUs	Charging Infrastructure (Level 2 & 3)	<p>In December 2018, the California Public Utilities Commission opened a broad rulemaking proceeding related to transportation electrification. Among the issues to be addressed in the proceeding are a common transportation electrification framework to review utility programs and investments, cost recovery of transportation electrification investments, appropriate ownership models for different types of transportation electrification investments, expanding access to transportation electrification to disadvantaged and low-income communities, development and adoption of vehicle-grid integration policies and technologies, and safety and cybersecurity concerns. The On January 24, 2019, an order was issued setting a prehearing conference for March 1, 2019.</p>	Docket No. R-18-12-006
	Liberty Utilities	Charging Infrastructure (Level 2 & 3)	<p>A.B. 1082 and A.B. 1083, both enacted in 2017, authorize the state's IOUs to file applications with the California Public Utilities Commission (CPUC) for pilot programs to support the installation of EV charging infrastructure at schools and other educational facilities (A.B. 1082) and state parks and beaches (A.B. 1083). Liberty Utilities filed an application in July 2018 for a \$4.687 million pilot, which includes the installation of 56 Level 2 chargers and 2 DC fast chargers at 17 school facilities, and 10 Level 2 chargers at 3 state parks and beaches, plus additional chargers at 10 city and county parks. The CPUC hosted a prehearing conference in early October 2018. The CPUC issued a scoping ruling in December 2018, and a proposed decision is expected in Q1 2019.</p>	Docket No. A18-07-025
	Pacific Gas & Electric	Charging Infrastructure (Level 2 & 3)	<p>A.B. 1082 and A.B. 1083, both enacted in 2017, authorize the state's IOUs to file applications with the California Public Utilities Commission (CPUC) for pilot programs to support the installation of EV charging infrastructure at schools and other educational facilities (A.B. 1082) and state parks and beaches (A.B. 1083). PG&E filed an application in July 2018 for an \$11.3 million pilot. The CPUC hosted a prehearing conference in early October 2018. The CPUC issued a scoping ruling</p>	Docket No. A18-07-020

		in December 2018, and a proposed decision is expected in Q1 2019.	
San Diego Gas & Electric	Charging Infrastructure (Level 2 & 3)	A.B. 1082 and A.B. 1083, both enacted in 2017, authorize the state's IOUs to file applications with the California Public Utilities Commission (CPUC) for pilot programs to support the installation of EV charging infrastructure at schools and other educational facilities (A.B. 1082) and state parks and beaches (A.B. 1083). SDG&E filed an application in July 2018 for a \$18.8 million pilot, which includes the installation of 184 Level 2 chargers and 12 DC fast chargers at 30 school facilities, and 74 chargers at 12 state parks and beaches, plus additional chargers at 10 city and county parks. The CPUC hosted a prehearing conference in early October 2018. The CPUC issued a scoping ruling in December 2018, and a proposed decision is expected in Q1 2019.	Docket No. A18-07-023
San Diego Gas & Electric	Charging Infrastructure (Level 2 & 3), Medium Duty, Heavy Duty	While the California Public Utilities Commission (CPUC) explored San Diego Gas & Electric's (SDG&E) Transportation Electrification Standard Review proposal in Docket No. A. 17-01-020, SDG&E filed a new application in January 2018 for two additional Standard Review projects, totaling \$152.3 million. The proposed Medium-Duty/Heavy-Duty EV Charging Infrastructure Program would target charging equipment for approximately 3,100 for Class 2-8 EVs, such as forklifts and transport refrigeration units. The Vehicle-to-Grid pilot program would utilize ten electric school buses as distributed energy resources. The vehicles will charge during the day and discharge to bid into the CAISO market when called upon in the late afternoon and evenings to provide system level grid services. Data would be collected for one year to examine the costs, benefits, and scalability of vehicle-to-grid. Several parties protested the application, arguing that the CPUC should delay the review of this application until the projects from Docket No. A. 17-01-020 are complete and have been assessed. A scoping memo and ruling filed in March 2018 denied the protests and agreed to hear this application on its own merits. SDG&E filed a motion to suspend the procedural	Docket No. A. 18-01-012

		<p>schedule in September 2018. In its motion, SDG&E explained that it reached an agreement in principle on terms for a settlement with many of the active parties. The developing settlement includes a revised proposal, so SDG&E argues that it would be unproductive to prepare testimony for a proposal that will soon be substantially revised. In a September ruling, the Commission granted SDG&E's request to suspend the procedural schedule. A settlement agreement was filed in November 2018. The settlement agreement features some significant changes to the Medium-Duty/Heavy-Duty Program. Notably, the settling parties agree that SDG&E will only own and operate the make-ready infrastructure on the utility's side of the meter, rather than the actual charging equipment. The budget for the program was also reduced from \$150.1 million to \$107.4 million. The settlement agreement does not make any significant changes to the Vehicle to Grid program. Comments on the settlement agreement were filed in early December 2018.</p>	
<p>Southern California Edison</p>	<p>Charging Infrastructure (Level 2 & 3)</p>	<p>Southern California Edison's Charge Ready Pilot Program, which commenced in 2016, includes a mix of direct deployment of infrastructure and rebates to support the deployment of EV charging stations for light-duty vehicles. The utility filed a Petition for Modification of a prior decision to request an additional \$22 million for the pilot program to serve as bridge funding while the utility seeks approval for its full phase two program (see below). Various parties filed responses to the Petition for Modification, and in June 2018, the Administrative Law Judge (ALJ) issued a ruling requesting additional information from Southern California Edison. Specifically, the ALJ asked for a detailed timeline and budget for the requested bridge funding. SCE responded to the ALJ's questions in July, indicating that the bridge funding is expected to keep the program going for an additional 18 months. The Office of Ratepayer Advocates took issue SCE's response, but laid out some conditions under which it would support SCE's proposal. A proposed decision was filed in</p>	<p>Docket No. A. 14-10-014 Decision</p>

		<p>November 2018, which grants the petition for modification. The Commission issued a decision in December 2018, granting the petition for modification.</p>	
<p>Southern California Edison</p>	<p>Charging Infrastructure (Level 2 & 3)</p>	<p>Following its Charge Ready Pilot Program in 2016, Southern California Edison (SCE) applied for approval of its Charge Ready 2 Program in June 2018. The four-year \$760 million program includes a mix of direct deployment of infrastructure and rebates to support a total of 48,000 EV charging stations for light-duty vehicles. The utility plans to deploy equipment in two of the component programs, Make-Ready Infrastructure Expansion, and SCE Own and Operate. The Make-Ready Infrastructure Expansion program also includes rebates for customers who purchase the equipment, and will target workplaces, multi-unit dwellings, destination centers, governmental locations and fleets. The Own and Operate program will target just multi-unit dwellings and governmental locations. SCE's application also includes a proposed schedule, ending with a final decision in June 2019. The California Public Utilities Commission hosted a prehearing conference in September 2018.</p>	<p>Docket No. A.18-06-15 Application</p>
<p>Southern California Edison</p>	<p>Charging Infrastructure (Level 2 & 3)</p>	<p>A.B. 1082 and A.B. 1083, both enacted in 2017, authorize the state's IOUs to file applications with the California Public Utilities Commission (CPUC) for pilot programs to support the installation of EV charging infrastructure at schools and other educational facilities (A.B. 1082) and state parks and beaches (A.B. 1083). SCE filed an application in July 2018 for a two-year \$19.77 million pilot, which includes the deployment of infrastructure and rebates to support approximately 250 ports at Level 1 and Level 2 charging stations located at 40 K-12 schools and approximately 120 Level 2 charging ports, 10 DCFC ports and 15 mobile EV charging stations at 27 state parks and beaches. The CPUC hosted a prehearing conference in early October 2018. The CPUC issued a scoping ruling in December 2018, and a proposed decision is expected in Q1 2019.</p>	<p>Docket No. A18-07-022</p>

DC	Pepco	Charging Infrastructure (Bus Charging, Level 2, Level 3)	<p>In April 2017, Pepco filed a proposal to implement a new plug-in vehicle program. Part of this program would include deployment of up to four public direct current fast chargers, owned by Pepco. Users would pay per kWh and could potentially pay an adder to receive 100% renewable energy. In October 2017, the Public Service Commission issued an order, moving the proceeding into the existing Modernizing the Distribution Energy System for Increased Sustainability (MEDSIS) docket (Formal Case 1130). PEPCO hosted EV workshops in April, May, and June 2018. PEPCO used the workshops to present a revised EV program proposal and to receive input from stakeholders on several issues including: operational and policy considerations, outreach and education, increasing EV penetration for broader and more diverse populations, and addressing barriers to EV penetration in all quadrants of DC. In September 2018, PEPCO filed an application for approval of its Transportation Electrification Program. The program consists of 13 offerings, including a mix of incentives, rates and direct deployment of charging infrastructure. Specifically, the proposal includes the company installing up to 35 public smart Level 2 charging stations throughout the District, 20 public DC fast chargers throughout the District, up to 10 Level 2 chargers in each location to serve fleet vehicles in at least two locations, up to 10 Level 2 chargers and two DCFCs at least two customer-determined locations for the benefit taxi/rideshare services, and five bus depot chargers and one on-route bus charger for city buses. The Commission is accepted comments on the proposal in early November 2018.</p>	<p>Formal Case No. 1143</p> <p>Formal Case No. 1130</p> <p>Transportation Electrification Program</p>
DE	Delmarva Power and Light	Charging Infrastructure (Level 2 & 3)	<p>In October 2017, Delmarva Power & Light filed a proposal to implement a new \$1.74 million plug-in vehicle program. Part of this program would include deployment of two public direct current fast chargers, owned by Delmarva, along main transportation corridors. The program would also include deployment of two public level 2 charging stations in neighborhoods within Delmarva's service territory. These level 2 charging stations would also be owned by</p>	<p>Docket No. 17-1094</p> <p>Gabel Report</p>

			<p>Delmarva and would provide electricity from renewable energy sources. In June 2018, Delmarva informed the parties that its parent company, Exelon, had engaged a consultant earlier in the year to study issues related to EVs in its various jurisdictions, and requested to have the study (The Gabel Report) entered into the record, and to have the evidentiary hearings postponed to give all parties the opportunity to review the study. In July 2018, the Division of the Public Advocate and the Commission Staff filed a joint motion to stay Delmarva's application until the earlier of June 30, 2019 or the date that a statute deregulating EV charging stations becomes effective. After some back and forth, the Commission voted in August 2018 to deny the motion to stay, and a September order asked parties to agree upon a new procedural schedule to provide for discovery upon the Gabel Report. Delmarva, the Public Advocate, and the Commission Staff filed a settlement agreement in January 2019, agreeing to all aspects of the program.</p>	
HI	Hawaiian Electric Companies	Charging Infrastructure (Level 2 & 3), Fleet Vehicles	<p>A June 2017 Public Utilities Commission order required the HECO companies to develop an Electrification of Transportation Strategic Roadmap. HECO submitted its roadmap in March 2018, which describes a number of activities that could accelerate the adoption of EVs, including: (1) lowering costs and educating customers, (2) accelerating the buildout of EV charging infrastructure, (3) supporting the electrification of buses and other heavy equipment, (4) incentivizing EV charging, and (5) coordinate with ongoing grid modernization planning efforts. The Commission opened a new proceeding (2018-0135) in June 2018 to serve as a repository for the Roadmap and accepted comments on the Roadmap during Q3 2018. In November 2018, HECO filed an addendum to its Strategic Roadmap. The original roadmap provided economic analysis of electrification of transportation in its service territories using light-duty vehicles on Oahu as an initial case study. The addendum provides economic analysis on additional islands.</p>	<p>Docket No. 2018-0135</p> <p>Docket No. 2016-0168</p> <p>Electrification of Transportation Strategic Roadmap</p> <p>Roadmap Addendum</p>

KS	Kansas City Power & Light	Charging Infrastructure (Level 2 & 3)	<p>In May 2018, as part of a general rate case, Kansas City Power & Light (KCP&L) requested cost recovery for an EV charging network (Clean Charge Network) and approval of proposed tariff changes for the network. The network includes 1,000 EV charging stations owned and operated by the utility. The Commission had previously ruled that the utility did not justify cost recovery of its investment in the charging infrastructure, so the costs to date have been borne by shareholders. KCP&L is now requesting to recover the costs (\$5.6 million plus \$320,000 annual for O&M) through rates. A July Order from the Commission established the procedural schedule for the proceeding. A settlement agreement was introduced in October 2018 which includes the tariffs for the charging network, but does not provide for cost recovery for it except through the associated tariffs. The settlement agreement was approved in November 2018.</p>	<p>Docket No. 18-KCPE-480-RTS</p> <p>Order</p>
LA	Entergy New Orleans	Charging Infrastructure (Level 2)	<p>As part of Entergy New Orleans' general rate case, filed in September 2018, the utility proposed two EV charging programs. The first program would involve Entergy installing, owning, and operating EV charging stations on non-residential customers' properties. Participating customers would pay a fixed charge each month for use of the infrastructure. The second program involves Entergy installing, owning, and operating EV charging stations for public use at a handful of public locations in the city. Entergy has proposed investing \$500,000 for this second program and does not plan to charge for use of the public charging stations for at least the first one to two years.</p>	<p>City Council Docket No. 18-07</p>
MA	National Grid	Charging Infrastructure (Level 2 & 3)	<p>In November 2018, National Grid filed a general rate case, which includes a proposed Phase II Electric Vehicle Market Development Program. The program includes three offerings - Level 2 Residential, Level 2 Non-Residential, and DCFC sites. The non-residential offering will provide customers with two options for EVSE installation: purchasing and managing the charging station (customer-owned option) or having National Grid</p>	<p>Docket No. 18-150</p>

			<p>own and operate the charging station (company-owned option). Customer selecting the company-owned option will contribute toward the upfront cost and ongoing operation and maintenance costs. National Grid is aiming for 10% of charging sites developed to be in disadvantaged communities and will cover up to 100% of the cost for these participants. The estimated budget for the non-residential program is \$110 million. Finally, the DCFC offering will involve the utility deploying charging infrastructure and providing rebates for charging equipment, with a focus on highway and retail locations, public transit sites, and school bus sites. The rate case also includes a performance-based ratemaking (PBR) plan, which would replace the capital investment recovery mechanism. National Grid proposed four performance incentive mechanisms, including electric vehicle adoption (measured by increased electric vehicle adoption in the utility's service territory above forecasted business as usual) and electric vehicle supply equipment cost containment (measured by cost-efficient delivery of charging ports in the proposed Phase II Electric Vehicle program). Testimony is due by March 22, 2019, and evidentiary hearings are scheduled for April 29, 2019 to May 24, 2019.</p>	
MD	All IOUs	Charging Infrastructure (Level 2 & 3)	<p>In January 2018, the EV working group filed a proposal for the Public Service Commission (PSC) to open a new proceeding to consider a statewide electric vehicle portfolio. The proposed portfolio would include residential, non-residential, public, innovation, and technology sub-portfolios for each service territory. The residential sub-portfolio includes smart level 2 charging station rebates, (all utilities), EV whole-house TOU rates (all utilities except Potomac Edison), smart level 2 charging station rebates with EV-only rate design components (Delmarva and Pepco), and FleetCarma non-rate incentives for off-peak charging (Delmarva and Pepco). The non-residential sub-portfolio includes incentives for multifamily/multi-unit dwellings (all utilities), incentives for workplace charging (all utilities),</p>	<p>Case No. 9478</p> <p>Public Conference No. 44</p>

incentives for fleets (all utilities except Potomac Edison), and incentives for public-facing commercial and industrial locations (Baltimore Gas & Electric and Potomac Edison). The public sub-portfolio includes incentives for public level 2 smart chargers (all utilities) and incentives for public DC fast charging (all utilities). The innovation sub-portfolio includes grants for innovative ideas to serve multiple users and/or multiple tenant applications (all utilities except Potomac Edison). The technology demonstration sub-portfolio includes a demonstration project pairing a cluster of DC fast chargers with an energy storage device (Delmarva and Pepco). One of Potomac Edison's DC fast charging public locations will include an energy storage system; this will be a part of the utility's public sub-portfolio, rather than a separate technology sub-portfolio. Baltimore Gas & Electric proposed a managed charging demonstration program that would be part of its public sub-portfolio.

The Office of the People's Counsel (OPC) filed a letter later in January, requesting that the PSC go through the full evidentiary process to investigate this proposal. In February 2018, the PSC opened a new proceeding (Case No. 9478). The PSC held an initial legislative-style hearing in May 2018. The hearing addressed the current state of EVs in the state, the potential growth of EVs in the state, the potential benefits and costs of increasing Maryland's ability to integrate more EVs, how the working group's proposal fits into the current and potential growth of EVs in the state, and the proper role of utility investment in EV infrastructure. The PSC held another legislative-style hearing in September 2018. In January 2019, the PSC published a comprehensive order to implement a statewide EV portfolio with EV tariff offerings, allowing utility infrastructure investment in EV charging, and offering customer assistance regarding EV usage for residential, non-residential, public, innovation, and technology categories. The order also includes a provision for cost recovery, customer outreach, and EM&V.

MI	DTE Energy	Charging Infrastructure (Level 2)	<p>In its most recent rate case, filed in July 2018, DTE requested cost recovery for a new electric vehicle program, Charging Forward. The three primary components of the Charging Forward program include customer education and outreach, residential smart charger support, and charging infrastructure enablement. The program would be implemented over three years at a cost of \$13 million. The residential smart charger support component of the program would provide a rebate of up to \$500 to ~2,800 residential customers who own an EV and install a qualified “smart” Level 2 charger. The charging infrastructure enablement component of the program would involve the utility contributing the costs for make-ready equipment up to the meter, and provide a fixed rebate to customers for the installation of EV supply equipment (after-the-meter, including panel, conduit, and wiring). Site hosts will be responsible for the purchase, operation, and maintenance of the EV charging station. A prehearing conference was held in July 2018, and a proposed decision is scheduled for March 2019. Cross-examination hearings were held from December 12-19, 2018. Initial briefs were filed January 11, 2019.</p>	Docket No. U-20162
MN	Northern States Power Company d/b/a Xcel Energy	Charging Infrastructure (Level 2)	<p>In October 2018, Xcel Energy filed a petition for approval of two EV pilot programs. The filing also discusses five forthcoming EV initiatives. The first EV pilot is a \$14.4 million, three-year Fleet EV Service Pilot. The second EV pilot is a \$9.2 million, three-year Public Charging Pilot. Both pilots involve Xcel Energy installing and maintaining EV charging infrastructure. The Fleet EV Service Pilot will also study charging behavior. The planned initiatives that will be proposed in the coming months include a residential EV subscription service pilot, a residential smart charging pilot, a workplace smart charging pilot, and a vehicle-to-grid demonstration with school buses. The Commission opened a comment period in late October 2018, later extending the deadline for initial comments to January 18, 2019. A further extension was requested on January 11, 2019, which would move the deadline for initial</p>	Docket No. 18-643

			comments to February 1, 2019. Parties filed comments on January 18, 2019.	
MO	Kansas City Power and Light, Kansas City Power and Light Greater Missouri Operations	Charging Infrastructure (Level 2 & 3)	In January 2018, as part of a general rate case, Kansas City Power & Light requested cost recovery for an EV charging network and approval of the proposed tariff for that network. The Missouri Public Service Commission (PSC) had previously ruled that EV charging stations are not electric plants under Missouri law, meaning that the Commission lacks statutory authority to allow cost recovery for EV charging stations. In August 2018, the Missouri Court of Appeals ruled that the PSC does have jurisdiction over EV charging stations, overruling the PSC's earlier decision. In September 2018, several parties, including the utilities, Missouri PSC Staff, the Missouri Division of Energy, and several customer and renewable energy groups filed a non-unanimous settlement agreement which includes cost recovery for the Clean Charge Network. The Commission approved the settlement agreement in October 2018.	Docket No. ER-2018-0145 Docket No. ER-2018-0146 Court of Appeals Decision
NH	N/A	Charging Infrastructure (Level 2)	H.B. 1776 appropriates approximately \$13,000 in state funds over three years for the installation and maintenance of EV charging stations at the state house campus or at a legislative parking lot. The EVSE would be available to the legislative members, state employees, and the public. The bill would allow legislative members to deduct the EV charging fees from their allocated mileage payment. The bill has been referred for interim study. The interim study report, released in late October 2018, recommending against passage.	H.B. 1776 (D)
NJ	All IOUs	Charging Infrastructure (Level 3)	A.B. 2719 and S.B. 717 direct public agencies (including the Department of Transportation, Department of Environmental Protection, New Jersey Turnpike Authority, and South Jersey Transportation Authority) to develop a pilot program and related guidelines for a level 3 EV charging pilot program. "Level 3 charging" is defined as "providing a 480 volt alternating current to plug-in electric vehicle." The pilot program would involve	A.B. 2719 (I) S.B. 717 (I)

		electric and gas public utilities and private fuel station providers; it would result in the development of level 3 charging infrastructure within 18 months of bill passage.	
Atlantic City Electric	Charging Infrastructure (Level 2 & 3)	In February 2018, Atlantic City Electric requested approval of a Plug-In Vehicle Program. The proposed program includes a combination of financial incentives, new rate structures, and direct deployment. As part of the program, Atlantic City Electric plans to deploy up to 30 DC fast charging stations at a cost of \$3.6 million. The utility plans to own and maintain the stations, which will be located along a public charging corridor. The stations will also provide electricity from 100% renewable energy resources. The utility also plans to evaluate opportunities to pair some of these stations with energy storage. Atlantic City Electric also plans to install 150 Level 2 charging stations for public charging at a cost of \$2.25 million. Like the fast charging stations, these Level 2 stations will also be owned and maintained by the utility and provide electricity from 100% renewable energy resources.	Atlantic City Electric Filing (Docket No. E018020190)
N/A	Charging Infrastructure (Level 2 or 3)	A.B. 2718 and S.B. 718 create an alternative fueling station pilot program for government-owned and privately-owned vehicles. The program is to include deployment of at least one fueling station in each of the state's three regions, with at least one being an electric vehicle charging station.	A.B. 2718 (I) S.B. 718 (I)
N/A	Charging Infrastructure (Level 3)	A.B. 1445 directs turnpike authorities in the state to install level 3 charging stations for EVs. Service areas with more than 100 parking spots would need to have EVSE installed in a minimum of 5% of spaces. The bill was introduced in January 2018. In March 2018, the Transportation Committee amended the bill to specify that installation of the EVSE should be paid for by private sources or money from the Volkswagen settlement.	A.B. 1445 (I)
N/A	Charging Infrastructure (Level 2 or 3)	A.B. 3363 and S.B. 1991 create an alternative fueling station pilot program for government-owned and privately-owned vehicles. The program is to include	A.B. 3363 (I) S.B. 1991 (I)

		deployment of at least one fueling station in each of the state's three regions, with at least one being an EV charging station.	
N/A	Charging Infrastructure (Level 2 & 3)	A.B. 3687 and S.B. 2252, introduced in March 2018, establish a statewide public PEV charging system plan for the installation of 600 public DC fast-chargers and 300 Level 2 chargers across the state by December 31, 2020. The bill dictates that a working group, including the Board of Public Utilities, the Department of Environmental Protection, the Department of Transportation, the New Jersey Transit Corporation, the New Jersey Turnpike Authorities, and the Department of Community Affairs, would develop and implement the plan.	A.B. 3687 (I) S.B. 2252 (I)
PSE&G New Jersey	Charging Infrastructure (Level 2 & 3)	In September 2018, PSE&G New Jersey filed its proposed Clean Energy Future plan, including investments in energy efficiency, electric vehicles, energy storage, and AMI. The Board of Public Utilities directed PSE&G to make separate filings for each of its proposed Clean Energy Future programs, which the utility filed in October 2018. The Clean Energy Future - Electric Vehicle and Energy Storage program includes a total investment of \$261 million in EV programs. The Level 2 Mixed-Use Charging subprogram (\$39 million) involves PSE&G deploying electrical infrastructure for multifamily residences, workplaces, fleets, municipalities, overnight lodging facilities, and others. The Public DC Fast Charging subprogram (\$62 million) involves PSE&G deploying infrastructure and either owning or providing financial incentives towards the charging equipment. At five DC fast charging sites, PSE&G will also deploy integrated energy storage in order to enable charging at sites where the level of utility service does not support the needed infrastructure and to evaluate how integrated energy storage affects the project economics.	PSE&G Regulatory Filings (Docket No. EO18101111)
NY	Orange and Rockland Utilities	Charging Infrastructure (Level 2 & 3)	As part of Orange and Rockland's general rate case, filed in January 2018, the utility proposed a new program to own, operate, and deploy both Level 2 EV chargers and DC fast chargers at non-residential
			Docket No. 18-00253/18-E-0067

			customer locations. The proposed budget is approximately \$1 million over three years (\$336,000 per year). A joint proposal was filed in early November 2018, which includes the charger deployment measures. Parties filed reply statements arguing for and against the joint proposal in early December 2018, and an evidentiary hearing was held in December as well. The proceeding has been extended to March 25, 2019.	
OH	Dayton Power & Light	Charging Infrastructure (Level 2 & 3)	In December 2018, Dayton Power & Light (DP&L) filed its Distribution Infrastructure Modernization Plan. As part of the plan, DP&L also intends to install, own, and operate 40 to 50 Level 2 and DC fast charging stations over a three-year period. DP&L is proposing to recover costs associated with the plan through its existing SmartGrid Rider with quarterly true-ups.	Docket No. 18-1875-EL-GRD
PA	Duquesne Light Company	Charging Infrastructure (Level 2 & 3)	As part of Duquesne Light Company's most recent general rate case, filed in April 2018, the utility proposed a new EV pilot program called EV ChargeUp. The program includes facilitating the deployment of approximately 65 Level 2 charging stations annually between 2018 and 2022 at long dwell-time locations (\$1.3 million by the end of 2019). For these stations, the utility will own the make-ready infrastructure, but not the charging stations. The program also includes deploying approximately 15 DC fast charging stations (\$1 million by the end of 2019) and 10 Level 2 charging stations at utility-owned facilities for employee use (\$200,000 by the end of 2019). For both the DC fast charging stations and Level 2 stations at utility facilities, the utility will own both the make-ready infrastructure and charging stations; the utility will also implement load management programs to evaluate the benefits of managed charging. For the Level 2 stations located at utility facilities, the utility will also experiment with different pricing strategies to evaluate managed charging. The utility plans to allocate at least 10% of the customer-owned Level 2 charging station and DC fast charging station investments to disadvantaged or low-income	Docket No. R-2018-3000124 Settlement Agreement Recommended Decision

		<p>communities. A total of \$442,000 per year is budgeted for operation and maintenance costs for all three programs. The proposed program also includes several customer outreach and education efforts. A settlement agreement, filed in September 2018, limits the DC Fast Charging component to make-ready infrastructure and stations to be used by the utility and the Port Authority of Allegheny County electric bus evaluation, with a total investment of \$500,000. The settlement limits the Level 2 charging component to providing make-ready infrastructure to parties with at least four charging stations available to the public. The budget for the Level 2 program will be \$1.3 million. Half of this investment will be in capital for the front-of-the-meter infrastructure and the meter itself, and the other half will be in the form of rebates for the behind-the-meter infrastructure. The settlement also directs the utility to assess the EV pilot data and develop an EV load management program plan to propose in its next rate case. The ALJ issued a recommended decision in October 2018, which approves the settlement's EV program provisions. The Commission issued a final order in December 2018 adopting the ALJ's recommendation to approve the program.</p>	
UGI Utilities	Charging Infrastructure (Level 2 & 3)	<p>As part of UGI Utilities' general rate case, filed in January 2018, the utility proposed a new EV rate. The rate will be available to non-residential customers who opt to have UGI install and maintain EV charging infrastructure at their locations. Participating customers could select a 4,000 series charging unit, 100 series unit, 250 series unit, or a unit similar to these three types. The customer would be billed a flat monthly charge based on equipment and maintenance costs, and usage would be billed at the customer's applicable rate. The customer would be responsible for installation costs. In June 2018, a partial stipulation was filed, which withdraws the proposed EV rate. The stipulation does not prevent the utility from refiling the proposal in another rate case or proceeding. The Commission approved the stipulation in late October 2018.</p>	<p>Docket No. R-2017-2640058</p> <p>Partial Stipulation</p>

SC	Duke Energy Carolinas	Charging Infrastructure (Level 3)	In October 2018, Duke Energy Carolinas filed an application for a \$7.1 million, three-year electric transportation pilot program. The proposed pilot includes a DC fast charging program, where Duke Energy would own and operate up to 20 DC fast charging stations. In December 2018, the Office of Regulatory Staff requested that the Commission hold the comment period and further action in abeyance to allow the opportunity for a stakeholder process, with a report being filed by March 1, 2019.	Docket No. 2018-321-E
	Duke Energy Progress	Charging Infrastructure (Level 3)	In October 2018, Duke Energy Progress filed an application for a \$3.3 million, three-year electric transportation pilot program. The proposed pilot includes a DC fast charging program, which would involve Duke Energy owning and operating up to 10 DC fast charging stations. In December 2018, the Office of Regulatory Staff requested that the Commission hold the comment period and further action in abeyance to allow the opportunity for a stakeholder process, with a report being filed by March 1, 2019.	Docket No. 2018-322-E
WA	N/A	Charging Infrastructure (Level 2 & 3); Electric Ferries; ZEVs	In December 2018, Governor Inslee released a clean energy proposal, which includes \$129 million in clean transportation investment. The clean transportation components include: (1) EV infrastructure bank: fast charging stations (\$2 million), (2) EV promotion campaign (\$1 million), (3) EVSE at state facilities (\$5 million), (4) new authority for ultra high-speed rail (\$3.25 million), (5) convert two ferries to electric-hybrid (\$53.2 million), (6) construct two new electric ferries (\$64.3 million), and (7) ZEVs (\$254,000). The proposal includes additional renewable energy, grid modernization, and building efficiency investments.	Proposal
	Puget Sound Energy	Charging Infrastructure (Level 2 & 3)	In October 2018, Puget Sound Energy filed an application for new EV services. The proposed portfolio of EV programs includes the deployment of up to 32 fast charging stations and 16 Level 2 charging stations for public use over two years (\$2.18 million in capital, \$4.19 million in five-year expenses). The plan also includes the deployment of 150 Level 2 charging stations at workplaces over two	Docket No. UE-180877

years (\$983,200 in capital costs, \$1.8 million in five-year expenses) and the deployment of 75 Level 2 charging stations at multi-family properties over two years (\$685,100 in capital costs, \$1.7 million in five-year expenses). The plan also includes multiple low-income pilot programs and incentives for residential off-peak charging. The entire EV program has a proposed capital budget of \$6.17 million and proposed non-capital budget of \$6.95 million over 2019 and 2020. In a December 2018 memo, the Commission Staff recommended that the Commission take no action, allowing the proposed programs to go into effect by operation of law.

Legislative Status Key: I = Introduced, P1 = Passed One Chamber, P2 = Passed Both Chambers, E = Enacted, D = Dead. Bill statuses are up to date as of early February 2019.

Q1 2019 OUTLOOK

Most state legislatures are beginning their 2019 sessions in the first quarter of the year. At least 172 bills related to electric vehicles and charging infrastructure were under consideration as of early February 2019.[†]

A number of bills have been introduced in **Hawaii**, addressing topics such as dedicated electric vehicle parking requirements and electric vehicle incentives. In **Mississippi**, several bills are under consideration that would repeal the additional electric and hybrid vehicle fees adopted in 2018.

Bills introduced in **Arizona**, **Nebraska**, **New Mexico**, **North Dakota**, and **Wyoming** would increase or adopt new fees on electric vehicles. **New Mexico** is also considering bills establishing a tax credit for electric vehicles and requiring utilities to file transportation electrification applications.

The **Wisconsin** Public Service Commission opened a proceeding in January 2019 to investigate electric vehicle policy and regulation. The **Texas** Public Utility Commission Staff also requested that a docket be opened in January 2019 to review electric vehicle issues.

The **Colorado** Public Utilities Commission released its final report on transportation electrification in January 2019, including recommended next steps. The **Arizona** Corporation Commission approved an electric vehicle policy statement, addressing a variety of issues related to electric vehicle charging and infrastructure.

In January 2019, the **Maryland** Public Service Commission approved major electric vehicle programs for the state's investor-owned utilities. Later, in February 2019, **Missouri** regulators issued a decision on Ameren's proposed electric vehicle incentive program, rejecting three program components and approving incentives for charging stations along highways.

The **Iowa** Utilities Board published a proposed rule excluding electric vehicle charging stations from regulation as public utilities. In **Minnesota**, regulators issued an order requiring utilities to file transportation electrification plans by the end of June 2019, as well as proposal for infrastructure, education, and managed charging by the end of October 2019.

In **Vermont**, the Public Utility Commission sent a letter to the Chairs of certain legislative committees in January 2019, recommending that legislation be enacted to clarify that the Commission does not have the authority to regulate charging stations. H.B. 191, introduced in February 2019, would make this clarification.

[†] For biweekly legislative and regulatory tracking, consider subscribing to NCCETC's Electric Vehicle [Single-Tech Subscription](#). Contact us to learn more or to upgrade your subscription.

ENDNOTES

¹ Rhodium Group, *Preliminary US Emissions Estimates for 2018*, January 2019, <https://rhg.com/research/preliminary-us-emissions-estimates-for-2018/>

² Inside EVs, *January 2019 U.S. Plug-In EV Sales Report Card*, February 2019, <https://insideevs.com/january-2019-u-s-plug-in-ev-sales-report-card/>

³ U.S. Plug-In Vehicle Sales for 2017 Q4 and Full Year, EV Volumes, <http://www.ev-volumes.com/country/usa/>

⁴ Auto Alliance, *Advanced Technology Vehicle Sales Dashboard*, <https://autoalliance.org/energy-environment/advanced-technology-vehicle-sales-dashboard/>

⁵ The International Council on Clean Transportation, *California's Continued Electric Vehicle Market Development*, May 2018, <https://www.theicct.org/sites/default/files/publications/CA-cityEV-Briefing-20180507.pdf>

⁶ Adam Cooper and Kellen Schefter, The Edison Foundation Institute for Electric Innovation and Edison Electric Institute, *Electric Vehicle Sales Forecast and the Charging Infrastructure Required Through 2030*, November 2018, http://www.edisonfoundation.net/iei/publications/Documents/IEI_EEI%20EV%20Forecast%20Report_Nov2018.pdf