50 STATES OF ELECTRIC VEHICLES

Q2 2018 Quarterly Report

Executive Summary

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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- Q1 2018 Quarterly Report: Executive Summary
- 2017 Annual Review: Full Report | Executive Summary

In addition to *The 50 States of Electric Vehicles*, the NC Clean Energy Technology Center publishes additional quarterly reports called *The 50 States of Solar* and *The 50 States of Grid Modernization*. Previous editions of these reports are available for download at www.nccleantech.ncsu.edu/the-50-states-reports/.

ABOUT THE REPORT

PURPOSE

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

APPROACH

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

Questions Addressed

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

- How are states addressing barriers to electric vehicle and charging infrastructure deployment?
- What policy actions are states taking to 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 or pay for electric vehicles and electric vehicle charging infrastructure?

Actions Included

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

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

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

Studies and Investigations

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

Regulation

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

Utility Rate Design

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

Market Development

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

Financial Incentives

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

State and Utility Deployment

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

Actions Excluded

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.

EXECUTIVE SUMMARY

Q2 2018 ELECTRIC VEHICLE ACTION

In Q2 2018, 36 states plus DC took a total of 274 legislative and regulatory actions related to electric vehicles. Table 1 provides a summary of state and utility actions occurring during Q2 2018. Of the 274 actions catalogued, the most common were related to Regulation (72), followed by Financial Incentives (60), and Market Development (56).

Table 1. Q2 2018 Summary of Electric Vehicle Actions

Type of Action	# of Actions	% by Type	# of States
Regulation	72	26%	27
Financial Incentives	60	22%	18 + DC
Market Development	56	20%	15 + DC
Studies and Investigations	36	13%	23 + DC
Deployment	27	10%	15 + DC
Rate Design	23	8%	15 + DC
Total	**274**	**100%**	**36 States + DC**

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

TOP ELECTRIC VEHICLE ACTIONS OF Q2 2018

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

California Regulators Approve $738 Million for Electric Vehicle Infrastructure

In May 2018, the California Public Utilities Commission issued a decision on major electric vehicle charging investment proposals from Pacific Gas & Electric, San Diego Gas & Electric, and Southern California Edison. The approved projects totaled $738 million in investment and include a combination of direct utility deployment, financial incentives for deployment by customers and third parties, and rate structures to encourage off-peak charging.

New York Governor Announces Up to $250 Million for Electric Vehicle Expansion

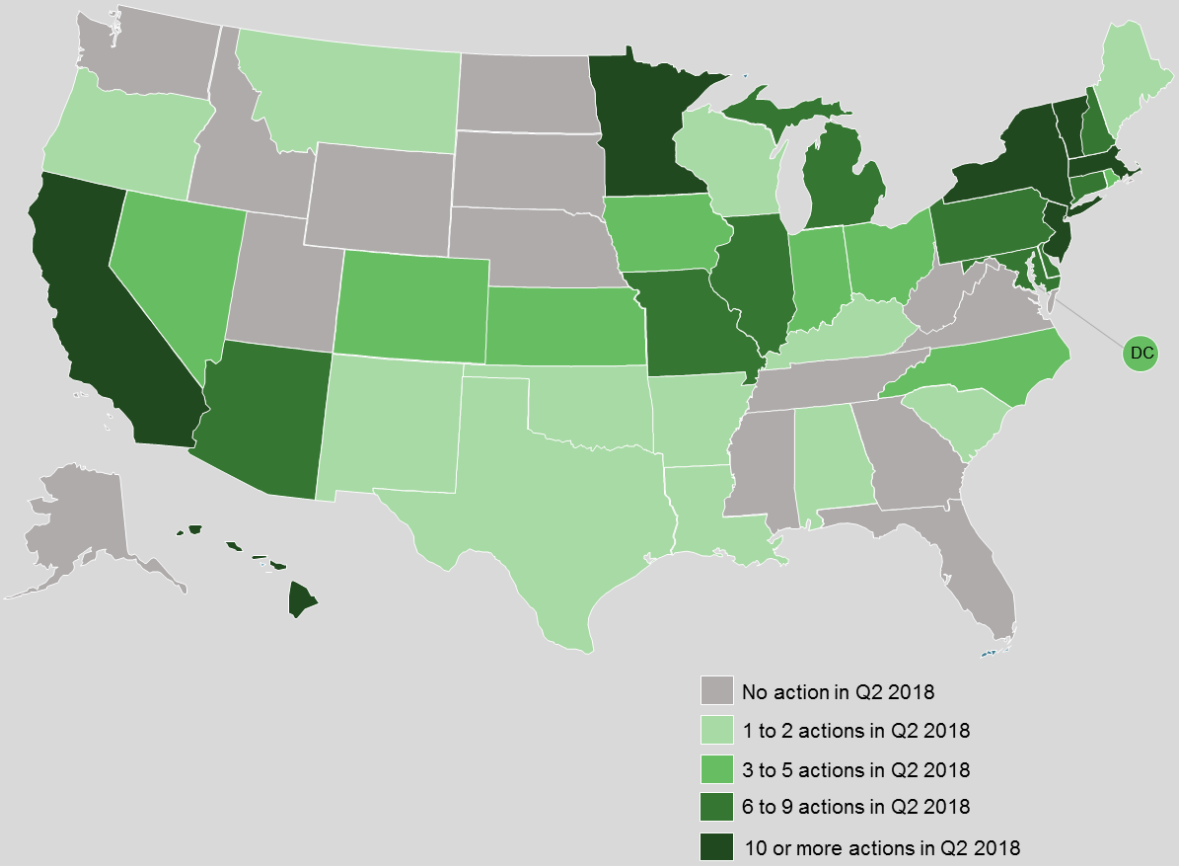
The Governor of New York announced the creation of a new program – EVolve NY – in May 2018, which aims to accelerate electric vehicle adoption in the state. The program dedicates $250 million in state revenues through 2025 to expanding the state's electric vehicle market,

with the first phase including $40 million for fast charger deployment along interstates and at airports, as well as a program to create model electric vehicle communities.

Alabama and New Orleans Regulators Address Commission Oversight of Electric Vehicle Charging Stations

Utility regulators in both the State of Alabama and the City of New Orleans declared in Q2 2018 that electric vehicle charging station owners and operators will not be classified as public utilities, subject to Commission regulation. This issue remains unaddressed in many states, with this issue also under consideration in Q2 2018 in Delaware, Indiana, Kansas, Missouri, Pennsylvania, and Vermont.

Figure 1. Q2 2018 Legislative and Regulatory Action on Electric Vehicles



Public Utilities Commission of Nevada Permits NV Energy to Own Electric Vehicle Charging Infrastructure

As part of a decision approving rules for NV Energy's Electric Vehicle Infrastructure Demonstration program, the Public Utilities Commission of Nevada ordered that NV Energy is

allowed to own, operate, and rate base electric vehicle charging infrastructure. Any investments will be reviewed in a future rate case, and the Commission will regulate rates charged for the use of utility-owned charging facilities.

Vermont Legislature Initiates Electric Vehicle and Charging Investigation

Pursuant to H.B. 917, enacted in May 2018, the Vermont Public Utility Commission opened an investigation into electric vehicles and electric vehicle charging in July 2018. The legislation includes many specific topics to be addressed in the investigation, including Commission jurisdiction over charging stations, the appropriate role of utilities, and barriers to electric vehicle charging.

Figure 2. Most Active States of Q2 2018

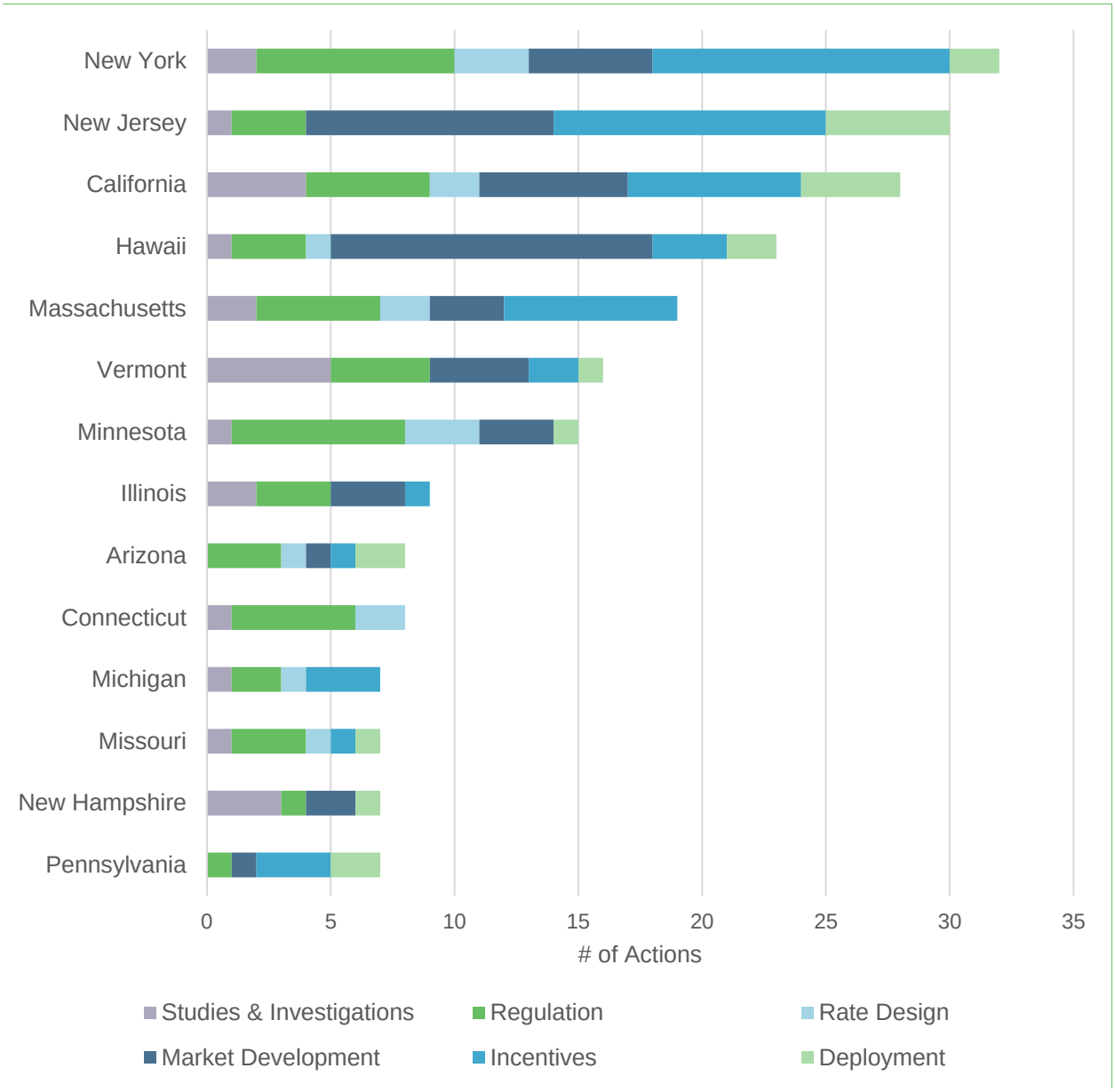
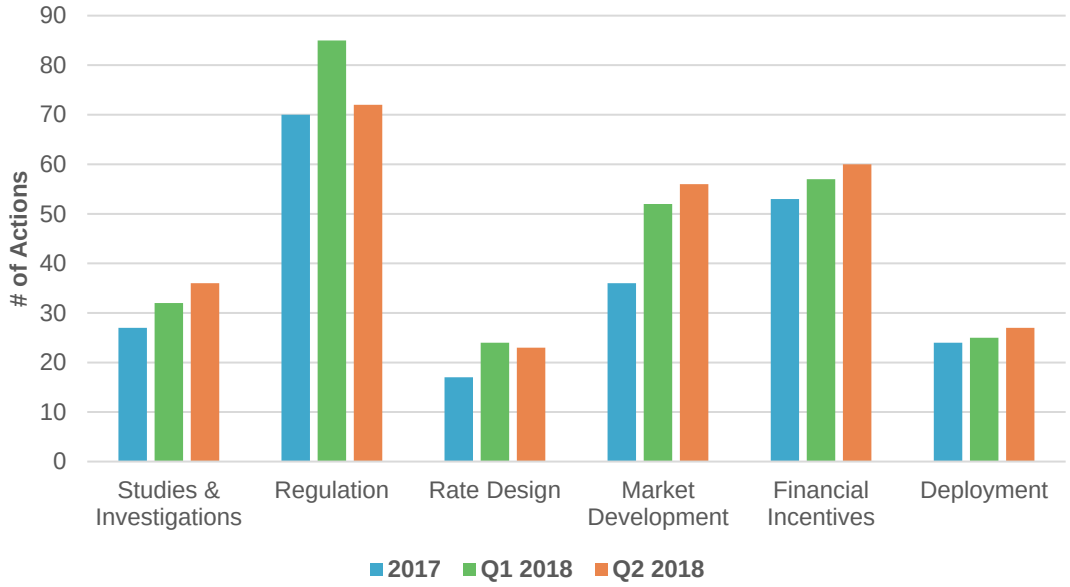


Figure 3. Action by Category, 2017 to Q2 2018



TOP ELECTRIC VEHICLE POLICY TRENDS OF Q2 2018

States Diverge on Regulatory Oversight of Electric Vehicle Charging Stations

Regulatory oversight of electric vehicle charging stations is an issue being addressed by many states across the country, with different conclusions often being reached. In Q2 2018, the Public Utilities Commission of Nevada ruled that NV Energy may own and operate electric vehicle charging stations, and that the rates charged for the use of the utility's stations will fall under Commission jurisdiction. On the other hand, the Delaware Public Service Commission denied a staff petition last year to regulate charging station operators and set rates for their customers until the state legislature addresses the issue. In Q2 2018, the Delaware Commission Staff and Public Advocate requested a stay of Delmarva Power's proposed electric vehicle charging infrastructure deployment, suggesting that if the legislature does act to deregulate charging infrastructure, Delmarva's guaranteed source of cost recovery puts it at an advantage in the market. Among the topics to be considered in an investigatory proceeding on electric vehicles in Vermont are the appropriate role of utilities in deploying and operating charging infrastructure, the scope of Commission jurisdiction over charging stations, and whether charging station operators should be free to set the rates for use of their facilities.

Expanding Electric Vehicle and Charging Access to Low-Income Communities

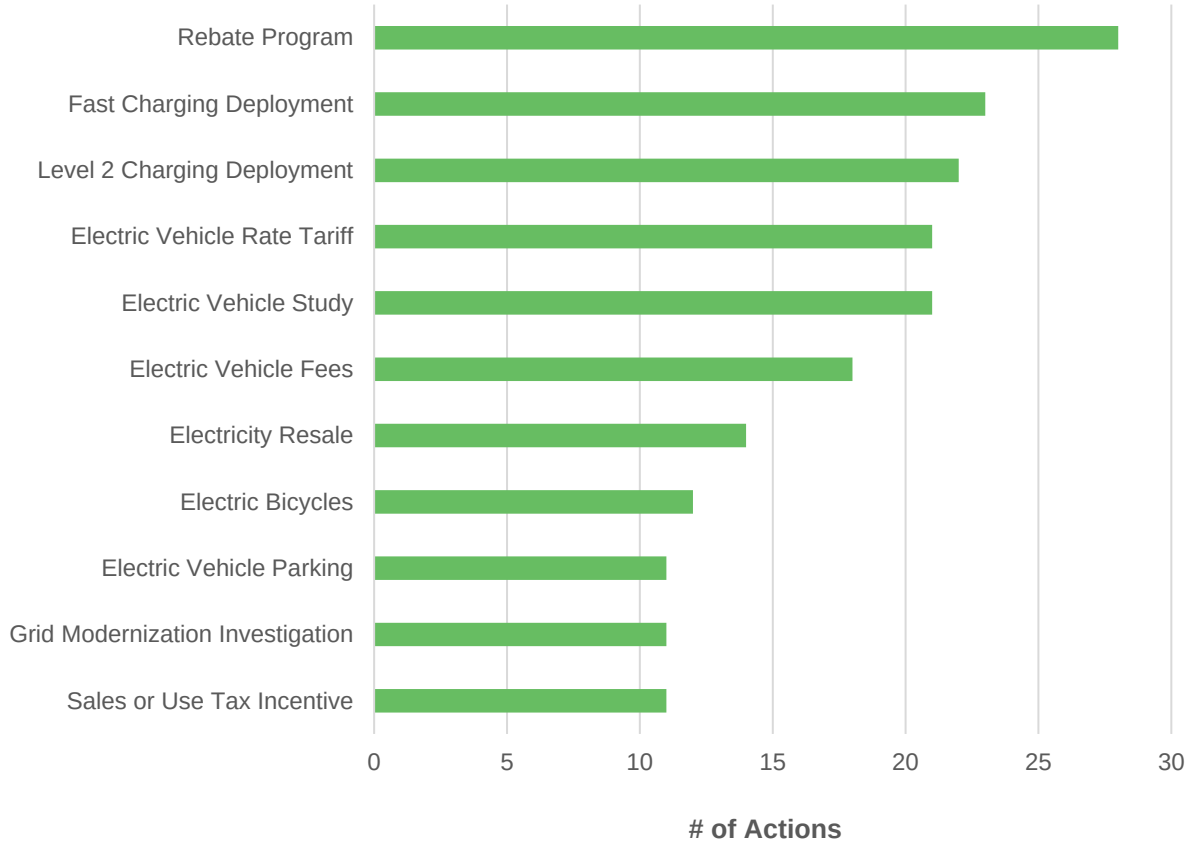
Several states and utilities planning transportation electrification projects are working to ensure that low-income and disadvantaged communities directly benefit from these efforts. In California, San Diego Gas & Electric will provide bonus incentives for installing electric vehicle charging infrastructure to customers living in disadvantaged communities, while a North

Carolina proposal would have provided support for charging station deployment at multi-unit buildings within low-income communities. Bills pending in both California and New Jersey would provide additional electric vehicle incentives and outreach to low-income customers, while another California bill would fund zero-emission vehicles to provide transportation services to seniors and the disabled in rural counties. States are also considering investments in electric buses, which can help extend the benefits of electrified transportation to those without the means to purchase an electric vehicle.

Concentration of Electric Vehicle Activity in Particular States and Regions

While over half of states took at least one action related to electric vehicles during Q2 2018, the majority of electric vehicle activity was concentrated in a relatively small number of states. Of the 274 total actions taken during Q2 2018, over half took place in only seven states – New York, New Jersey, California, Hawaii, Massachusetts, Vermont, and Minnesota. Over half of U.S. states took two or fewer actions related to electric vehicles during the quarter, while the most active state took 32 actions. Electric vehicle activity is also showing some regional concentration, with the ten states located between New Hampshire and Maryland, plus DC, taking approximately half of the total actions tracked during Q2 2018.

Figure 4. Top Electric Vehicle Actions of Q2 2018



FULL REPORT DETAILS & PRICING

FULL REPORT DETAILS

Content Included in the Full Quarterly Report:

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

WHO SHOULD PURCHASE THIS REPORT

The 50 States of Electric Vehicles allows those involved in the electric and transportation industries to easily stay on top of legislative and regulatory changes. The report provides a comprehensive quarterly review of actions, saving valuable staff time. At a cost of $500 per issue (or $1,600 annually), the 50 States of Electric Vehicles offers a significant time and financial savings. With direct links to original sources for all actions, customers may stay on top of legislative and regulatory developments between quarterly reports.

Electric Vehicle and Charging Infrastructure Companies

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

Electric Utilities

- Learn about the approaches being taken by other utilities facing similar opportunities and challenges

- Stay on top of relevant state policy developments
- Utilize an objective source of information in legislative and regulatory proceedings

Investors and Financial Analysts

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

Advocacy Organizations

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

Researchers and Consultants

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

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