

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

In the Matter of:

Electronic Investigation of Amendments to the Public	)	
Utility Regulatory Policies Act of 1798 and	)	Case No. 2022-00369
Electrification of Transportation	)	

**COMMENTS OF KENTUCKY POWER COMPANY**

**Introduction**

The Infrastructure Investment and Jobs Act of 2021 (IIJA), also known as the Bipartisan Infrastructure Law, authorizes \$1.2 trillion for infrastructure spending, with a significant amount of funding directed to energy infrastructure and programs. Beyond the funding opportunities outlined in the IIJA, the legislation also amends the Public Utility Regulatory Policies Act of 1978 (PURPA), to add two new must consider provisions, relating to (1) demand response (DR) practices; and (2) electric vehicle (EV) charging programs. The IIJA required states to commence consideration of these standards no later than November 15, 2022, and this consideration must be concluded and a determination as to whether to adopt each standard made by November 15, 2023. The Public Service Commission of Kentucky (Commission) opened this case on November 7, 2022 in order to permit the Commission to consider the IIJA amendments to PURPA related to electric vehicle charging programs and to elicit comments from interested parties.<sup>1</sup>

<sup>1</sup> Order, *In The Matter Of: Electronic Investigation Of Amendments To The Public Utility Regulatory Policies Act Of 1798 And Electrification Of Transportation*, Case No. 2022-00369 (Ky. P.S.C. November 7, 2022).

Given the potential impacts of the PURPA amendment and the review by the Commission, Kentucky Power Company (“Kentucky Power” or the “Company”) appreciates the opportunity to comment on potential standards and submits the following comments and responses to the Commission’s questions for the Commission’s consideration with respect to adopting standards to promote greater transportation electrification (IIJA Sec. 40431).

### **The Company’s General Comments on Electric Vehicle (EV) Issues**

The shift to electric transportation represents a fundamental change in our transportation system. The charging infrastructure required for this change will necessitate investment from all interested market actors, including electric distribution utilities (EDUs). As such, Kentucky Power believes that EDUs have a critical role to play in this emerging sector and appreciates the opportunity to comment.

Presently in Kentucky, a lack of regulatory clarity around EV charging presents barriers which require large capital investments from customers seeking to host EV chargers. No clear pathway currently exists for ongoing utility investment necessary to optimally support customer plug-in electric vehicle demand. This will lead to system level issues in the coming years as EVs scale across customer segments. Clear regulatory guidance concerning proposed Electric Transportation plans by EDUs will benefit customers, EV industry participants and the public interest.

The Company believes there is an important role for the Commission to play in this emerging industry. The technology and policy landscape of Electric Transportation is evolving rapidly. As regulations are developed to determine the role of the EDU in EV Charging, regulators can explore the following:

1. Collaborative approaches to speed up the regulatory process to better serve customers and keep pace with a fast-moving industry, consistent with a recent USDOE study.<sup>2</sup>
2. Willingness to approve more research and development.
3. Fast track evaluation of proposed pilots with opportunities to work collaboratively on approved pilot projects.

As discussion of EV policy and programs evolves, stakeholders should recognize and understand the varied and growing customer segments and use cases for electric transportation including:

- As EVs scale, they will touch all customer segments.
- The likely scale of EV growth in the coming decades. Many carmakers are planning to entirely phase out internal combustion engines by 2040. Some have already stopped research and development on internal combustion models. Though total transportation system turnover could be decades away, it is imperative to start adequately planning now.
- In the next few years, there will be a significant increase in the availability of medium and heavy-duty EVs available to our customers with fleet operations. These include electric transit and school buses, delivery fleets, and Class 6-8 trucks.
- Air, marine, and rail transport as well as the mining, agriculture, and construction industries are also exploring electrification.

Furthermore, some of the programs and guidance under the IIJA and subsequent federal action on EVs are still in development. However, Kentucky Power is following these programs closely. The Company's current understanding of the available federal programs for charging is briefly summarized below.

<sup>2</sup> <https://www.utilitydive.com/news/dramatic-shift-in-utility-regulations-better-pilot-designs-needed-to-pro/623780/> and attached as **Exhibit 1**.

- Most of the federal grant funding for EV charging will be spent along highway corridors. Anything farther than a mile from an interstate or a few designated highways is ineligible for the bulk of the federal funding.
- Federal funds only cover 80% of project costs, projects will need to secure the remaining 20% to be viable.
- The IIJA actively encourages utilities to financially participate in the EV charging build out enabled by IIJA which further supports the case for the State to consider the EDU role in EV policy making.
- Federal grant funds do not cover any single family residential or non-public fleet charging, which will account for the bulk of charging ports, and the bulk of the load growth associated with EV.

### **Conclusions to General Comments**

- The financial outcome resulting from these policies should be an annual net benefit for the participating customers, all customers, and the EDU (and its partners).
- Long term commitment from all parties is required to lower cost. Building scale to a meaningful level will take some time. A net cost is likely in the beginning of the process for all parties.
- As regulated entities, the EDUs must meet all evaluation, measurement, and requirements of the Commission.
- Future growth in electricity usage could be supported off peak and managed on peak through EV programs. These programs, when managed effectively to lower costs, could support new construction and economic development making Kentucky more competitive.

- Another potential enhancement for EDUs to have the ability for EV programs is through distribution grid batteries, and potential vehicle to grid (V2G) opportunities. Scale could be developed more quickly, and distribution scale batteries could provide capacity and ancillary benefits to lower costs for customers.
- With regard to cost recovery, a non-bypassable rider that includes a sharing of the benefits associated between EDUs and participating customers should be introduced and approved by the Commission.
- A recent EEI analysis found the federal funds are only projected to cover 14% of the number of fast charging ports needed in 2030, so there remains a need for regulatory support of EV deployment plans in order to adequately address future needs.<sup>3</sup>
- EDU involvement is an important component to successfully integrating EV charging through all market segments in a way that unlocks participant, customer, and societal benefits. This requires coordination on rates, charging optimization programs, distribution systems, generation sources, information and awareness campaigns, and complementary program offerings.

### **The Company's Responses to Commission's Numbered Questions**

#### **1. A report of existing measures used to promote electrification of the transportation sector by the electric utility.**

Kentucky Power has taken the following measures to promote electrification of the transportation sector:

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<sup>3</sup> Edison Electric Institute, Electric Vehicle Sales and the Charging Infrastructure Required Through 2030, page 15 (June 2022) available at <https://www.eei.org/-/media/Project/EEI/Documents/Issues-and-Policy/Electric-Transportation/EV-Forecast--Infrastructure-Report.pdf> and attached as **Exhibit 2.**

- 1) Established dedicated webpages on kentuckypower.com where residential, commercial and industrial customers can read about the benefits of electric vehicles to make a more informed decision about EVs.
  - a. <https://www.kentuckypower.com/clean-energy/electric-cars/>
  - b. <https://www.kentuckypower.com/clean-energy/electric-cars/business/>
- 2) Worked closely with interested customers as a trusted utility partner to talk through their electric vehicle charging goals and make recommendations on the charging speed and number of ports they may require. For example, the Company worked closely with the City of Pikeville while they installed two level two charging stations at one of their parking garages.
- 3) Communicated with school board superintendents and other primary contacts with the school systems about the EPA Clean School Bus Program. Carter County and Leslie County school districts were both awarded funding in October of this year.
- 4) Ongoing discussions with the Kentucky Transportation Cabinet about how the Company can assist with the National Electric Vehicle Infrastructure (NEVI) program by making customers more aware of the funding and working with respondents to their request for proposal to provide utility estimates for service extensions to the proposed charging station sites.
- 5) Hosted webinars with an EV charging company to educate customers about EVs and EV Charging.

2. **Existing rate mechanisms that:**
  - a. **promote affordable and equitable electric charging options, if any;**
  - b. **improve customer experience associated with charging, if any;**
  - c. **accelerate third-party investment, if any; and**
  - d. **appropriately recover the marginal costs of delivering electricity to electric vehicles and electric vehicle infrastructure, if any.**

Kentucky Power does not have specific existing rate mechanisms to promote transportation electrification at this time, however, the Company does look forward to the opportunity to work with the Commission on such mechanisms in the future.

Currently, the Company encourages EV customers who reach out to us to consider moving to our existing Time of Day (TOD) rates for residential, small general service, medium general service and large general service that incentivize customers to charge their electric vehicles during off-peak demand hours. This can lower costs for customers willing to charge overnight. Unlike air conditioners and other large residential loads, residential EV charging load is shapeable. When incentivized through rates or other incentives, customers are generally agreeable to moving their charging times off peak or curtailing charging speeds, as long as they receive the required charge before the morning commute.

### **3. Appropriate measures to promote greater electrification of the transportation sector.**

In response to the planned expansion of electric transportation, many utilities are filing Electric Transportation Plans to prepare for this emerging customer need. According to EEI, as of July 1, 2022, 62 utilities in 34 states have received regulatory approval for investments totaling \$3.7 billion for electric transportation programs and projects.<sup>4</sup> The most common elements in these filings are funding for EV charging, EV rates, and customer education, with the majority of the approved funds budgeted for make-ready investments.<sup>5</sup>

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<sup>4</sup> Electric Transportation Biannual State Regulatory Update, Edison Electric Institute, (July 2022) available at <https://www.eei.org/-/media/Project/EEI/Documents/Issues-and-Policy/Electric-Transportation/ET-Biannual-State-Regulatory-Update.pdf> and attached as **Exhibit 3**.

<sup>5</sup> Id.

To encourage utilities in Kentucky to prepare for the coming increase in electric transportation across all customer segments, the Commission could consider encouraging utilities to file transportation electrification plans.

Moreover, there are three principal gaps in the electric transportation market that utilities are uniquely positioned to address.

- A. Optimized incentives and price signals for EV charging to encourage EV load growth in a way that benefits, rather than burdens, the electric grid. Utilities are uniquely positioned to build programs that shape EV charging in a way that benefits, rather than burdens, the grid and all customers. No other industry in the EV value chain has this perspective and insight into grid management, therefore utilities must be proactively involved to ensure all users of the grid benefit.
- B. Upfront costs associated with charging infrastructure for all customer segments: residential, schools, commercial, and public. Utilities are well positioned to collaborate with EV charging providers and customers on infrastructure upgrades. Utilities can design programs and/or incentives to lower costs of installing and maintaining charging infrastructure. A June 2022 EEI analysis estimated that approximately 12.9 million charge ports will be needed to support the 26.4 million EVs projected to be on U.S. roads in 2030. Even taking into account all announced investments in EV charging, EEI projects a 68% shortfall in the number of DC fast charging ports needed by 2030.<sup>6</sup> The charging infrastructure required to meet the anticipated need for DC fast charging ports in 2030 will require investment from all interested market actors, including electric utilities.

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<sup>6</sup> Edison Electric Institute, Electric Vehicle Sales and the Charging Infrastructure Required Through 2030, page 15 (June 2022) available at <https://www.eei.org/-/media/Project/EEI/Documents/Issues-and-Policy/Electric-Transportation/EV-Forecast--Infrastructure-Report.pdf> and attached as **Exhibit 2**.



C. Lack of awareness about EVs, charging options, and utility programs. Car manufactures or their dealership sales teams cannot accurately and adequately educate the public about the patchwork of utility EV programs; therefore, utility customer education will be important to the overall customer satisfaction with EVs.

Kentucky Power thanks the Commission for the opportunity to provide these comments, and requests the opportunity to respond to any other comments filed in this docket.

Respectfully submitted,



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COMPANY



DEEP DIVE

# ‘Dramatic shift’ in utility regulations, better pilot designs needed to propel energy transition, DOE report finds

Innovation in regulation can greenlight a more affordable, reliable clean power system, stakeholders report

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By Herman K. Trabish  
Contributing Editor

**T**he speed of today’s power sector transition requires regulatory innovation that matches its pace, regulators, as well as utility and technology advocates, agreed in a new Department of Energy paper.

New power system technologies and operations can no longer await regulatory approval in litigated multi-year rate cases, said co-authors of the report, *The Role of Innovation in the Electric Utility Sector*, published in April by the Department of Energy’s Lawrence Berkeley National Laboratory. Such delays increase the risk that states will fail to meet the rapidly growing need for new reliable, affordable, clean and equitable electric service solutions, they added.

“Regulatory innovation is needed to meet new decarbonization mandates and goals and the accelerating pressures of climate change,” Commissioner Tremaine Phillips of the Michigan Public Service Commission agreed. In response, Michigan and other states have initiated informal collaborative proceedings “to enable utilities to keep up with today’s energy transition.”

But inertia is designed into regulatory processes to protect power sector stakeholders’ many different interests, the paper’s contributions from the National Association of State Utility Consumer Advocates, the BlueGreen Alliance, the Institute for Electric Innovation, Sunrun and Build Edison showed.

More informal and collaborative proceedings “that engage people in problem solving across different interests can be exhausting,” said Regulatory Assistance Project President and CEO, and former Vermont Department of Public Service Commissioner, Richard Sedano. But those proceedings have more time and latitude to address “the full dimension of innovative ideas and not just whether they are right or wrong” and “can drive solutions,” he added.

New approaches to regulation could, however, unjustly shift the risk of failure from utilities to ratepayers, the paper’s consumer advocates wrote. Yet answers to key questions about the costs and benefits of efforts like pilot projects to test solutions are already emerging from new regulatory initiatives, regulators and utility and technology advocates told Utility Dive.

### **The need for innovation**

Regulatory innovations can allow electric utilities to use new technologies and operations in “services, security, pricing, and market design,” according to LBNL Electricity Markets and Policy

Department Manager and Strategic Advisor Lisa Schwartz, the paper's technical editor.

New regulatory approaches are needed where state commissions have discouraged utility investments to improve reliability and affordability and accelerate decarbonization, Schwartz added. Nationally, utilities invest only an estimated 3% of profits in research and development while more competitive industries invest 40% or more, Schwartz reported from a 2020 McKinsey study.

Innovation must meet “the climate challenge” as well as “the challenges of racial and economic equity, fairness for workers, community agency, and environmental health,” BlueGreen Alliance State Policy Director Kevin Lee wrote. Traditional cost-based regulation’s “unrelenting pressure” on utilities has produced short-term cost savings at the sacrifice of “a longer-term view,” he added.

New regulatory approaches are needed, wrote Institute for Electric Innovation, or IEI, Senior Director of Research and Strategy Adam Cooper and other IEI members. Traditional practices are too slow to support investor-owned utility work to meet the “evolving needs and expectations” of their customers, they added.

But the needed “dramatic shift” in regulation should be “market-based” and provide “a strong role for third-party providers willing to risk capital and compete” for part of the expected trillion-dollar energy market, wrote report authors from Sunrun, including former Maryland utility commissioner Anne Hoskins, now the company’s chief policy officer.

However, private sector parties, like Sunrun, do not have utilities’ capabilities and reach for “identifying, deploying, and scaling” solutions, wrote Kristin Barbato, CEO and founder of

clean technology consulting firm Build Edison, and other report authors. It is regulators' responsibility to support cost-effective utility solutions and ensure utilities are not "trapped in pilot after pilot with no clear path to scaled deployment," Build Edison wrote.

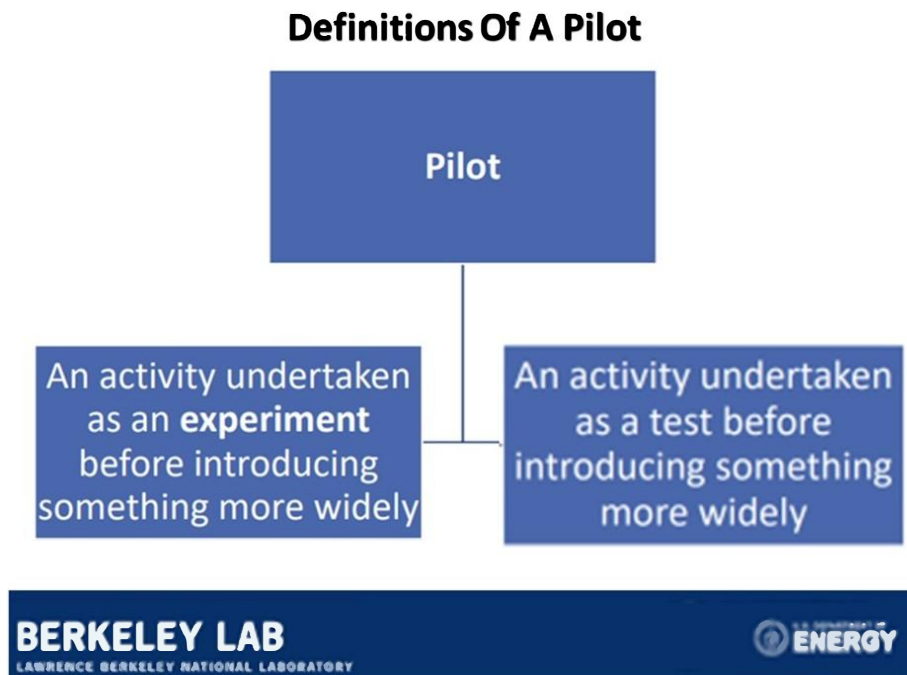
Rhode Island Public Utilities Commissioner Abigail Anthony and Indiana Utility Regulatory Commissioner Sarah Freeman supported the paper's call for innovation in regulation. But reforms that align utilities' risks and rewards should guide utilities to find their own solutions, Anthony noted.

Modernization "is likely inevitable" and will change the power system, acknowledged the National Association of State Utility Consumer Advocates members' essay. But that will offer both "opportunities and challenges," they added.

The question for consumer advocates is how to "minimize consumer impacts and protect equity," the association's executive director David Springe told Utility Dive. Regulation allows "due process through legal proceedings but making regulatory processes too easy and too fast may limit due process rights and prevent meeting policy goals in ways that protect vulnerable consumers."

Regulatory reform that "shapes the policy and technology landscape" must come from "a collaborative, industry-wide approach involving all parties," Southern California Edison spokesperson Jeffrey Monford agreed.

The DOE paper contributors' many different perspectives on innovation in regulatory processes are clear in their approaches to pilot projects.



*Permission granted by LBNL*

### **Pilots in generic dockets**

Collaborative “generic” non-rate case dockets that focus on broad topics and bring stakeholders together for non-litigated consideration of potential reforms have begun to include work on pilots.

Utilities and other frequent docket participants like consumer advocates are prepared for litigated proceedings, but “technology providers may come with data and not understand why it is questioned,” the Regulatory Assistance Project’s Sedano said. In generic dockets, like New York’s years-long Reforming the Energy Vision, or REV, regulators have helped participants “find shared interests” and “changed the way utilities work with stakeholders,” he recalled.

Generic dockets can establish “foundational policies with guardrails” for proposals like pilot projects “that allow

implementation in each utility's unique way," Sedano added.

Collaboration with other stakeholders is "the right thing" for electric utilities, the IEI authors wrote. It allows regulators to structure pilots and programs that are "win-win-win" for technology providers, customers and utilities, IEI's Cooper added.

Traditional regulatory processes like rate cases were not meant to be "innovation labs," Michigan Commissioner Phillips said. "They regulate utilities' use of ratepayer funds."

Michigan Gov. Gretchen Whitmer's, D, generic 2019 MI Power Grid initiative was a "proactive response to the demands climate change and decarbonization are imposing," he said. It included extensive work on energy programs and technology pilots, he added.

The overall initiative was "to facilitate the energy transition instead of waiting to address it in rate cases and rulemakings" and "missing the opportunity to see it more holistically," Phillips added. Stakeholders identified important areas the commission and utilities had not considered, including Michigan automakers' call for transportation electrification pilots, he said.

Hundreds of pilots have been proposed in multiple Michigan proceedings, but the generic docket gave the commission a "more effective, efficient, and timely" approach to them, he said.

For pilot proposals requesting funding through rate recovery, there should be a "streamlined pilot review process" that evaluates pilots with "objective criteria," according to the September 2020 Michigan Public Service Commission Staff's Utility Pilot Best Practices and Future Pilot areas report resulting from the initiative.

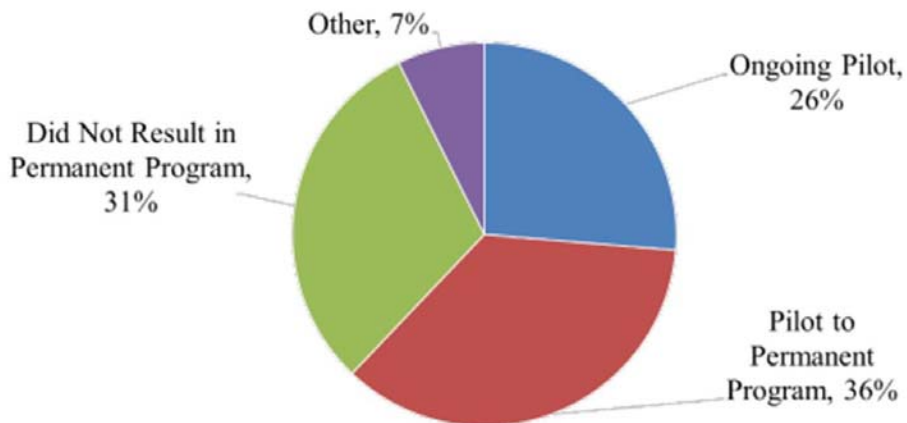
Pilot proposals should detail the need, design, evaluation metrics, goals, costs, timeline and stakeholder engagement plan, the report said. And its recommended Michigan Pilot Directory database to catalog all proposals and their outcomes, now in development, “may be the first in the nation,” Commissioner Phillips said.

Commission-required pilot criteria can be easily uploaded to the database, allowing regulators, utilities and the public “to determine if a pilot proposal will add new information or is ready to be scaled,” he added.

“Both MI Power Grid and the NY REV showed the value of generic processes in driving change,” Sedano said. “The problem with pilots is that people are fed up with dead-end pilots that don’t have scaling plans built into them, but we shouldn’t be fed up with pilots, we should get better at designing them,” he said.

A lot of power system stakeholders are thinking about better pilot designs.

#### Michigan Utility Survey – Pilot Movement to Permanent Program



*from the December 2020 MPSC Staff Utility Pilots Best Practices report*

*Retrieved from The Michigan Public Service Commission on May 14, 2022*

### **Better pilot design**



The priority of a utility pilot design is typically to obtain approval and cost recovery through rates, Sunrun's Hoskins said. But regulators can also support pilot designs that plan for scaling new technologies or new rate structures that reduce customer costs, she said.

Traditional regulation requires investments to prudently balance the needs of utility shareholders and customers, but it is not keeping the power system reliable and affordable, agreed Build Edison's Barbato. "Regulators need to recognize that early-stage pilots can scale more effectively in steps, with lessons learned from real-world challenges as each step's core benefit."

If new pilot designs include "a specific initial strategy, evaluation metrics, and cost recovery mechanisms for each step, failing early could be compensated and lead to failing smaller," Barbato said. That would mean "faster learning and faster scaling," she added.

Early small-scale energy storage projects in California showed that resilience, though difficult to quantify, "can change overall system risk in a tangible economic way," she said. "Now utilities and their regulators are deploying energy storage at scale for that resilience value."

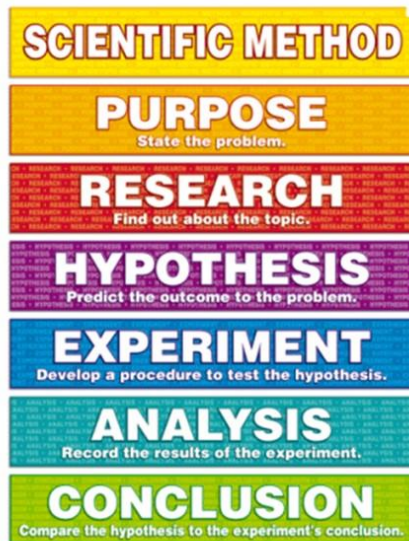
Collaborative workshops in Oregon's planning process led to the 2019 Portland General Electric multi-pilot Smart Grid Test Bed to test distributed resources for reliability, Commissioner Mark Thompson of the Oregon Public Utility Commission told Utility Dive. Requirements for the pilots' designs incorporated best practices developed by LBNL that recognized "failures can allow quick learning and contain costs," he said.

Oregon's Smart Grid Test Bed is "a success story for regulators supporting innovation," agreed PGE Senior Director of Resource and Regulatory Strategy and External Engagement Nidhi Thakar, a

former DOE and California Public Utilities Commission staffer. It shows “the important role regulators play.”

But even the best-designed pilots must be proven before being scaled and too many await that next step, the DOE paper’s authors said.

### The Basic Formula For A Successful Pilot



*Permission granted by LBNL*

### The pilot sandbox

The Connecticut Public Utilities Regulatory Authority’s “regulatory sandbox” would allow pilots to rapidly scale solutions in ways “that might not be possible under traditional regulatory frameworks,” a PURA statement said.

The sandbox is built into the “innovation pilots” framework, one of 11 initiatives in PURA’s Framework for an Equitable Modern Grid generic proceeding, PURA Chair Marissa Gillett told Utility

Dive. The sandbox “fail fast mentality” limits spending by requiring projects to “either scale up or get out,” she said.

It “addresses risk” by providing cost recovery for utilities and funding for developers if proposals include predefined design elements like costs, evaluation metrics, timeframes, guardrails and intended outcomes, PURA reported.

“Utilities should not be R&D labs and pilots can be a poor use of ratepayer dollars,” Gillett said, echoing Michigan’s Phillips. Connecticut’s sandbox, based on LBNL’s September 2020 pilot design best practices handbook, only tests proposals that identify up front how successful pilots will be scaled and detail when regulators can “pull the plug” on failures, she added.

But predesigned pilots and sandboxes trouble consumer advocates, National Association of State Utility Consumer Advocates’ Springe insisted. Utilities typically “work in good faith for customers, but they are businesses that make money for shareholders,” he said. “Call it a sandbox or what you want, speeding up approvals and making pilots easier for utilities functionally removes risk from utilities and shifts risk to consumers.”

If a utility wants to test a technology or move faster, “it can move faster by using shareholder money for the pilot, prove the concept, and bring it to regulators for rate recovery,” he said. “The sandbox is an example of how utility talk about regulatory innovation really means ratepayers funding pilots.”

Regulatory innovation is often slowed by “pushback from consumer advocates,” but a new environment is changing the views of once conservative stakeholders and regulators, said former Illinois Commerce Commission Chairman and CEO Brien Sheahan, long a champion of the regulatory sandbox. “Connecticut

deserves a lot of credit for its thoughtful approach to the sandbox concept,” Sheahan said.

Regulation “protects customers and the public interest,” PGE’s Thakar said. It “is not too different” from “the utility mission to provide safe, reliable, affordable service to customers,” or “the private sector goal to provide cost-competitive technologies,” but whether they will find common ground to support regulatory innovation “depends on the leadership and culture of the commission,” she said.

There is, though, “a new attitude toward innovation” in today’s regulators, utility executives and other proceeding stakeholders, Thakar said. “We come to our roles with a shared interest to combat the scientific predictions about climate change and the recognition that we all have to be committed to working in concert and we can’t do that without innovation.”



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# Electric Vehicle Sales and the Charging Infrastructure Required Through 2030

June 2022





# Electric Vehicle Sales and the Charging Infrastructure Required Through 2030

Prepared by:

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# EXECUTIVE SUMMARY

Since the Edison Electric Institute's (EEI's) last electric vehicle (EV) forecast in 2018, the EV market has accelerated rapidly. The first major milestone of one million cumulative EV sales was achieved in 2018, more than eight years after the introduction of the first mass market EVs in late 2010. Fewer than three years later, the next milestone of two million in cumulative sales was achieved in mid-2021.

Customers continue to purchase EVs in record numbers, and electric companies are working with stakeholders to make the transition to EVs a seamless one for all drivers. Automakers are continuing to respond to customer demand by developing more EV models, including both plug-in hybrid electric vehicles (PHEVs) and battery electric vehicles (BEVs), that are increasingly cost-competitive with their internal combustion engine (ICE) counterparts.

The Infrastructure Investment and Jobs Act (IIJA) is critical to the continued acceleration of EVs. IIJA is the largest investment in infrastructure since the New Deal, and it contains several provisions for electric transportation including up to \$7.5 billion in funding for EV charging infrastructure, \$5 billion for electric school buses, and \$5.6 billion for electric transit buses. The lack of charging infrastructure often is cited as a primary barrier to increased adoption of EVs and the funding from IIJA will represent unprecedented EV charging investment in many areas of the country, which is fundamental to the growth of the market.

Unlike conventional vehicles, which typically refuel only at gas stations, EVs may charge at many different locations, such as while parked at home, at work, or in public spaces, using various types of charging equipment, which often is referred to as a charging station or a charging port.

For the purposes of this paper, a charging station refers to either a wall-mounted or free-standing charging cabinet and a charging port is a plug on that station that sends electricity into a vehicle battery. A charging station may have more than one port, and charging equipment comes in a variety of types and configurations, but generally is categorized by power level.

The data provided in this paper is forecasted through 2030 and details new insights into the coming wave of EV sales and the infrastructure needed to support the projected EV growth.

This consensus forecast is based on four independent forecasts and concludes that:

- The **stock of EVs** (i.e., the number of EVs on U.S. roads) is projected to reach **26.4 million in 2030**, up from 2.4 million at the end of 2021 (see Figure 1). This is more than 10 percent of the 259 million vehicles (cars and light trucks) expected to be on U.S. roads in 2030.
- It took eight years to sell one million EVs and fewer than three years to sell the next million. We project **the next one million EVs** will be sold in roughly one year, before the end of 2022.
- **Annual sales of EVs will be nearly 5.6 million in 2030**, reaching nearly 32 percent of annual light-duty vehicle sales in 2030 (see Figure 2). Compared to our 2018 forecast, this is an increase of more than 1.8 million in annual sales in 2030.

The availability of EV charging infrastructure also is fundamental to the growth of EVs.

Based on the EEI forecast, we estimate that:

- **12.9 million charge ports will be needed** to support the projected 26.4 million EVs that will be on U.S. roads in 2030.

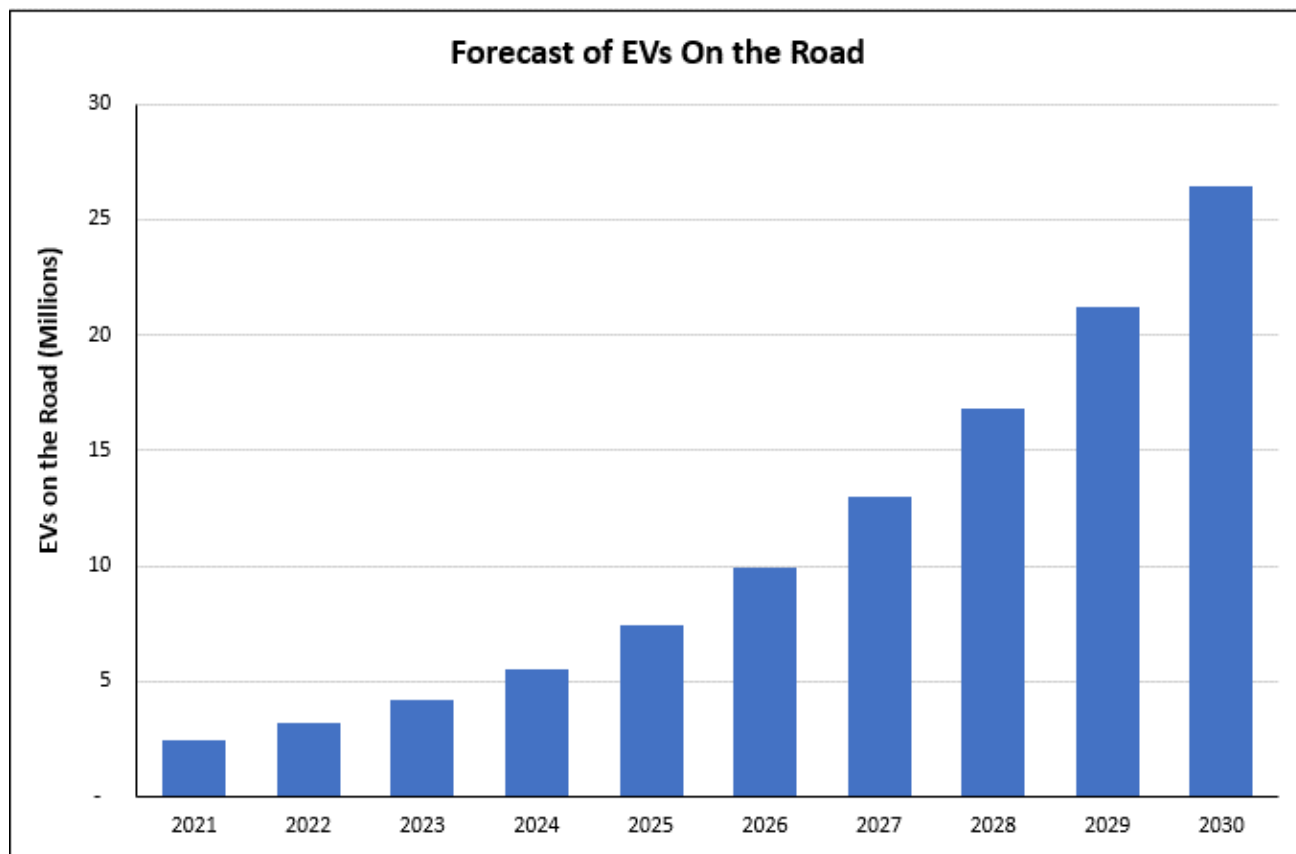


- Approximately **140,000 DC fast charging (DCFC) ports will be needed** to support the level of EVs we expect to be on the road in 2030.

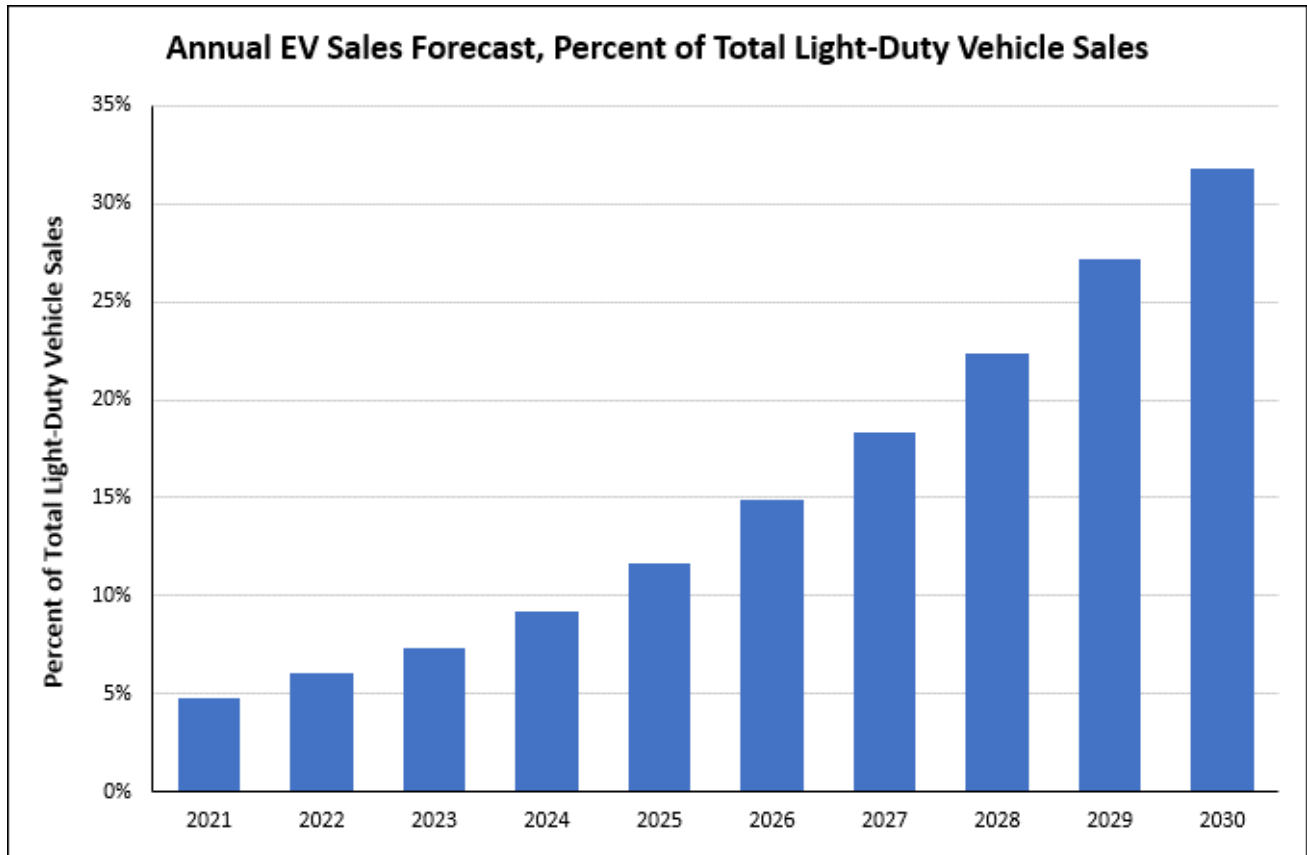
DCFC stations are key to enabling long distance EV travel, reducing range anxiety, and to providing fast, convenient charging for individuals who lack access to dedicated parking. America’s electric companies are making significant investments to expand access to EV charging, including investing more than \$3.4 billion dedicated to charging infrastructure and other EV programs.

Additionally, in late 2021, EEI announced the launch of the National Electric Highway Coalition (NEHC), a collaboration among electric companies that share the common goal of deploying EV fast charging infrastructure along major U.S. travel corridors. Members of the NEHC are working together to efficiently and expediently deploy fast charging infrastructure that supports the growing number of EVs and that helps ensure that the transition to EVs is seamless for drivers. Members of the NEHC are committed to supporting more than 4,500 DCFC ports.

**Figure 1. EEI Forecast of EV Stock: 26.4 Million EVs on U.S. Roads in 2030**



**Figure 2. EEI Annual EV Sales Forecast: Nearly 32 Percent of Total Light-Duty Vehicle Sales in 2030**



# Electric Vehicle Forecast

## Approach

EEI developed a consensus forecast of EV sales projections from 2021 to 2030 based on four independent forecasts:

- Guidehouse – Guidehouse Insights: PEV Sales by Region, World Markets (Q4 2021).<sup>1</sup>
- Boston Consulting Group (BCG) – Electric Cars Are Finding Their Next Gear (June 2022).<sup>2</sup>
- Deloitte – Electric Vehicles: Setting a Course for 2030 (July 2020).<sup>3</sup>
- Wood Mackenzie – Electric Vehicle Outlook to 2040 (2020).<sup>4</sup>

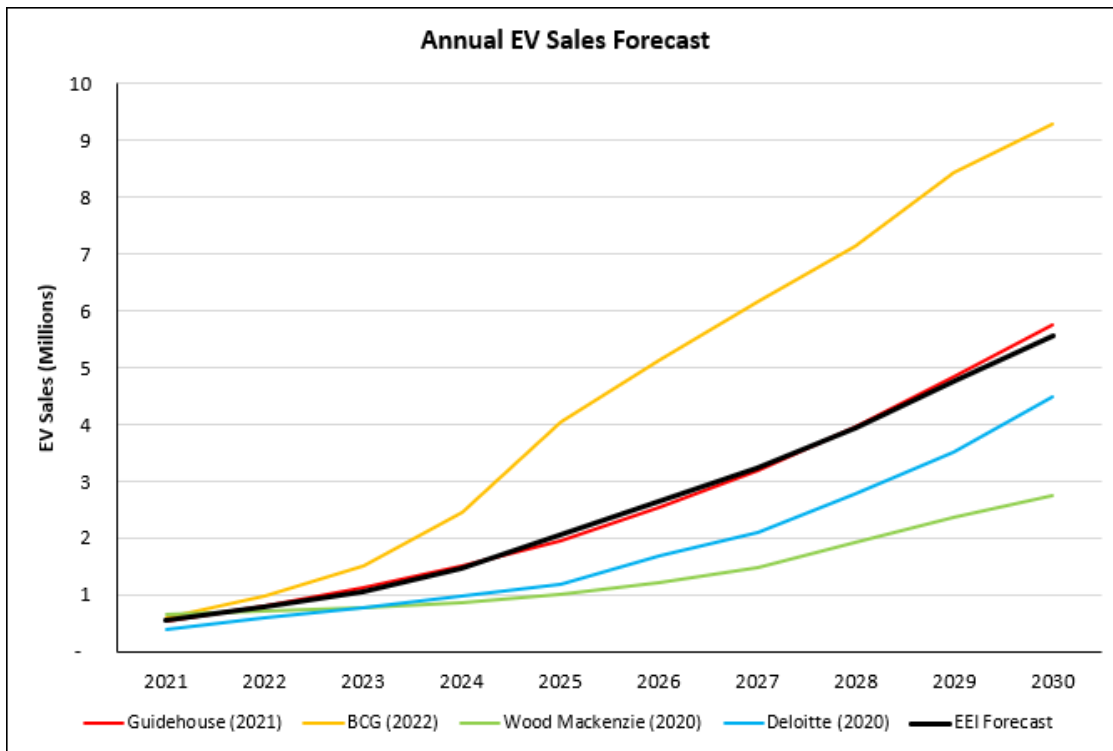
These forecasts were selected because they include three key factors: customer preference models that determine interest in EVs; declining battery costs that influence EV cost competitiveness with ICE vehicles and manufacturer profitability; and fuel efficiency standards and environmental regulations. In cases where forecasts reported EV sales in terms of percent of total U.S. auto sales, EEI applied that percentage to estimated total auto sales for that year to determine an EV sales figure. The 2022 forecast from BCG did not report sales figures for all years and missing data was estimated based on the relative increase in sales from previous BCG forecasts.

Some of these forecasts were published prior to several major federal and state policy announcements including the passage of the Infrastructure Investment and Jobs Act (IIJA) and may not reflect the current policy landscape. The potential impact of policy on the EV market is discussed further below.

EEI forecasts 5.6 million annual EV sales in 2030 which results in more than 26 million total EVs on the road in the United States in 2030 (see Figure 3 for annual EV sales).

1. Guidehouse. Market Data: EV Geographic Forecast – North America. <https://guidehouseinsights.com/reports/market-data-ev-geographic-forecast-north-america>.
2. Boston Consulting Group. Electric Cars are Finding Their Next Gear. <https://www.bcg.com/publications/2022/electric-cars-finding-next-gear>
3. Deloitte. Electric Vehicles: Setting a Course for 2030. <https://www2.deloitte.com/us/en/insights/focus/future-of-mobility/electric-vehicle-trends-2030.html>.
4. Wood Mackenzie. Electric Vehicle Outlook to 2040. <https://www.woodmac.com/our-expertise/capabilities/electric-vehicles/>.

**Figure 3. EEI Annual EV Sales Forecast Compared to Selected Forecasts: 5.6 Million in Annual Sales in 2030**



**Comparison to Automaker Announcements**

Comparing the forecasted EV sales to automaker announcements is a useful reality check. Following the Executive Order from the Biden Administration setting a goal for half of all vehicle sales to be zero emission in 2030, many major automakers announced ambitious goals for zero emission vehicle sales.<sup>5</sup> Based on these announcements, potential EV sales in 2030 could be more than 8.3 million, well exceeding the consensus forecast of 5.6 million.<sup>6</sup>

Table 1 shows an estimate of total light-duty vehicle sales by automaker in 2030, the percent of EV sales expected in 2030 based on automaker announcements, and the likely number of EV sales in 2030 based on those announcements. Figure 4 shows the automaker estimate in relation to EEI’s consensus forecast. EEI estimated overall vehicle sales to be 17.5 million in 2030 based on an approximately 17 percent growth over 2021 sales. This figure accounts for a gradual recovery in auto sales from the COVID pandemic while also attributing an approximate two percent annual increase in sales from the pre-pandemic period, consistent with similar increases seen in total average auto sales over the prior decade. The market share of each automaker was kept constant based on 2021 sales, except for Tesla whose market share was increased from two to five percent to account for the introduction of new models in different market segments while other market shares were reduced proportionately. The fraction of EV sales is based on public automaker announcements, which then were applied to overall sales numbers from 2030. This estimate does not account or the emergence of new market entrants such as Rivian and Lucid, though those automakers are not expected to account for significant portion of auto sales in the near future.

5. Executive Order on Strengthening American Leadership in Clean Cars and Trucks, <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/08/05/executive-order-on-strengthening-american-leadership-in-clean-cars-and-trucks/>.  
 6. Individual automaker data was gathered from automaker websites, trade press articles, and public announcements.

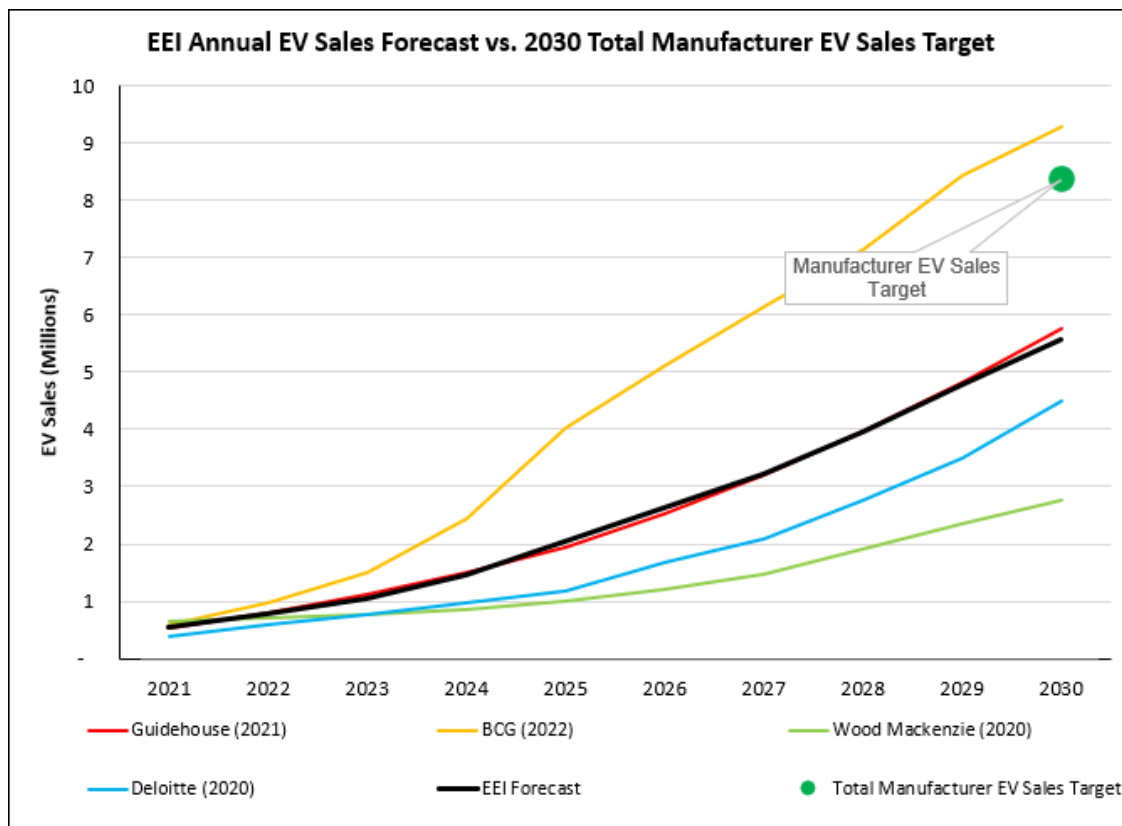
**Table 1. EEI Analysis of Projected EV Sales in 2030 by Vehicle Manufacturer**

Manufacturer	EEI estimated light-duty vehicle sales in U.S. in 2030	Manufacturer announced EV sales targets in 2030*	Estimated EV sales in 2030
BMW	420,000	50%	210,000
Ford	2,150,000	40%	860,000
General Motors	2,580,000	50%	1,290,000
Honda	1,660,000	40%	664,000
Hyundai-Kia	1,650,000	50%	825,000
Jaguar Land Rover	120,000	100%	120,000
Mazda	370,000	25%	92,500
Mercedes	370,000	100%	370,000
Nissan	1,230,000	40%	492,000
Stellantis	2,010,000	50%	1,005,000
Subaru	680,000	40%	272,000
Tesla	880,000	100%	880,000
Toyota	2,540,000	30%**	762,000
Volkswagen	720,000	55%	396,000
Volvo	140,000	100%	140,000
<b>Total</b>	<b>17,520,000</b>	<b>48%</b>	<b>8,378,500</b>

\*Percentages are based on most recently announced sales targets for EVs.

\*\*Estimated based on announced global EV sales target of 3.5 million in 2030.

**Figure 4. EEI EV Sales Forecast Compared to 2030 Auto Manufacturer Sales Target**



## Policy and Technology Factors to Consider

Two of the key considerations for the development of the EV market is the evolving policy landscape in the United States and continued technological advancement. Since EEI's forecast in 2018, there have been significant new developments in both federal and state policy aimed at advancing transportation electrification. In terms of technological advancement, the development of more energy dense and less expensive batteries has continued on a similar trajectory seen over the prior decade, while new investments in emerging technologies such as solid state batteries suggest continued progress.

### Federal Policy Issues

Policy developments at the federal level that could impact the U.S. EV market between now and 2030 include:

- **Vehicle Fuel Economy Standards:** In April 2022, the U.S. Department of Transportation (DOT) announced new Corporate Average Fuel Economy (CAFE) standards for light-duty vehicles for model years 2024-2026 that require an industry-wide fleet average of 49 miles per gallon in model year 2026.<sup>7</sup> Previously, the standards had been frozen for model years 2021-2026 at model year 2020 levels of 37 miles per gallon, rather than increasing in stringency through 2025.
- **Greenhouse Gas Standards:** The U.S. Environmental Protection Agency (EPA) finalized its companion greenhouse gas regulation in December 2021. These standards contain flexibilities that encourage automakers to increase production of EVs. Additionally, in March 2022, EPA reinstated California's waiver under the Clean Air Act to set its own vehicle standards, including the Zero Emission Vehicle (ZEV) program that requires an increasing number of ZEV sales—primarily EVs—through 2025.
- **Qualified Plug-In Electric Drive Motor Vehicle Credit (Internal Revenue Code 30D):** This credit, enacted in 2008, reduces the effective purchase price of EVs. The credit is structured to phase out for an individual automaker when it sells 200,000 qualifying vehicles. Tesla and General Motors have exceeded the cap, and Toyota is expected to cross the threshold in the first quarter of 2022. The proposed Build Back Better Act included an expansion and extension of the 30D tax credit from \$7,500 to as much as \$12,500, as well as an additional tax credit of up to \$4,000 for the purchase of pre-owned EVs. The outcome of legislation to expand the EV tax credit has not been determined as of this writing.
- **Infrastructure Investment and Jobs Act:** Passed in November 2021, the IIJA is the largest investment in infrastructure since the New Deal. The package contains several provisions for electric transportation including up to \$7.5 billion in funding for EV charging infrastructure, \$5 billion for electric school buses, and \$5.6 billion for electric transit buses. The lack of charging infrastructure often is cited as a primary barrier to increased adoption of EVs and the funding from IIJA will represent unprecedented EV charging investment in many areas of the country.
- **Federal Fleet Electrification:** The Federal government fleet is the largest in the United States, comprised of more than 650,000 vehicles. The Biden Administration announced, via executive order, a goal to make all light-duty vehicles purchased for the federal fleet electric by 2027 with all vehicle purchases electric by 2035.<sup>8</sup>

7. See <https://www.nhtsa.gov/press-releases/usdot-announces-new-vehicle-fuel-economy-standards-model-year-2024-2026>.

8. See <https://www.whitehouse.gov/briefing-room/statements-releases/2021/12/08/fact-sheet-president-biden-signs-executive-order-catalyzing-americas-clean-energy-economy-through-federal-sustainability/>.

The EEI forecast is not driven exclusively by these policies. Customer demand and other market conditions that are driving EV sales will be present even if these policies are weakened, however, the policies stated above will have a positive impact on the EV market.

### **Battery Costs Trending Down**

Declining battery costs and growing customer demand for EVs act as an accelerant to EV sales. Cost reductions in battery packs enable longer-range EVs, increase cost-competitiveness with ICE vehicles, and result in automobile manufacturers producing a wider variety of EVs across more vehicle segments to better meet customer demand.

- Between 2010 and 2021, battery pack costs declined by nearly 90 percent in real terms. Bloomberg New Energy Finance estimated average battery pack costs in 2021 at \$132 per kilowatt-hour (kWh).<sup>9</sup>

Recent supply chain issues potentially have reversed the downward trend in battery prices in the near term, but the long-term projections of continued decreases in battery cost have not changed.

### **Battery Technology Advancements**

In addition to continued refinements in existing battery technology, which have driven down costs dramatically over the previous decade, several new companies have emerged recently that are demonstrating entirely new battery technologies capable of significant increases in energy density and reduced cost. In particular, solid state battery technology could result in EV batteries that are more stable, lighter, longer lasting, and capable of faster charging compared to current EV batteries.<sup>10</sup>

- Volkswagen,<sup>11</sup> Ford,<sup>12</sup> GM,<sup>13</sup> and Nissan<sup>14</sup> all have announced significant investments or partnerships with solid state battery companies, with Nissan planning on launching its first solid-state battery EVs by 2028.

9. See <https://about.bnef.com/blog/battery-pack-prices-fall-to-an-average-of-132-kwh-but-rising-commodity-prices-start-to-bite/>.

10. See <https://www.asme.org/topics-resources/content/solid-state-batteries-drive-the-future-of-the-ev-market>.

11. See <https://www.autoevolution.com/news/quantumscape-will-now-sell-its-solid-state-batteries-to-a-fourth-carmaker-182980.html>.

12. See <https://media.ford.com/content/fordmedia/fna/us/en/news/2021/05/03/ford-boosts-investment-in-solid-power.html>.

13. See <https://techcrunch.com/2021/03/11/gm-partners-with-startup-solidenergy-systems-to-pack-more-energy-in-its-batteries/>.

14. See <https://www.engadget.com/nissan-solid-state-battery-ev-release-date-182025167.html>.

# Charging Infrastructure Needed to Support EV Market

The availability of EV charging infrastructure also is fundamental to the growth of EVs. Unlike conventional vehicles, which typically refuel only at gas stations, EVs may charge at many different locations, such as while parked at home, at work, or in public spaces.

Charging equipment is needed to deliver electricity from the energy grid to an EV and comes in a variety of types and configurations, and generally is categorized by power level:

- **Level 1:** 120-volt, alternating current (AC) power. Level 1 charging refers to charging stations and conventional electric outlets that a driver may plug into via a charging cord set that typically is included with an EV. Level 1 charging adds approximately 3 to 4 miles of electric range per hour of charging.

For this analysis, we assume that half of all EVs with access to home charging – including both single-family homes and multi-family dwellings (MFDs) – will use Level 1 charging, while the other half will use Level 2. Level 1 charging also may be available at workplaces and public locations, but that is not considered in this analysis.

- **Level 2:** 240-volt, AC power. Level 2 charging stations typically are mounted on a wall or on a pedestal. Level 2 charging at home typically requires the installation of a 240-volt circuit, the same as would be used for a household clothes dryer. Level 2 charging adds approximately 10 to 20 miles of electric range per hour of charging.

For this analysis, we assume that all workplace and public locations use Level 2 charging.

- **DC Fast Charging:** Converts AC electricity to direct current (DC) and delivers charge to the vehicle at high power, typically anywhere from 50 to 350 kilowatts (kW). DCFC is intended to add a substantial charge to an EV in a short amount of time (e.g., charge a battery to 80 percent capacity in 15-45 minutes, depending on battery size and charger power level).

For this analysis, we assume DCFC is used only at public DCFC locations at power levels of 50 to 150 kW and is only available for use by BEVs.

An important additional distinction for charging infrastructure is how it is tabulated. In general, there are three ways in which locations that provide EV charging are referred to in this report:

- **Charging Site:** A charging site is a location that hosts charging equipment for use by the public. A charging site is similar to a gas station in that it refers to the piece of land or business where charging equipment is located. Charging sites often have multiple charging stations available for use.
- **Charging Station:** For the purposes of this report, a charging station is either a wall-mounted or free-standing charging cabinet which has the capability to charge one or more EVs.
- **Charging Port:** A charging port is a plug on a charging station that sends electricity into a vehicle battery. A charging station may have more than one port.

Table 2 summarizes the EV charging infrastructure locations, charging equipment type, and available charging time considered in this analysis. This analysis limits consideration to these major categories for simplicity.



**Table 2. EV Charging Equipment by Location**

<b>Location</b>	<b>Charging Type Considered</b>	<b>Time Available to Charge</b>
Home (single-family homes and multi-family dwellings)	Level 1, Level 2	Overnight (approx. 12 hours)
Workplaces	Level 2	Work day (approx. 8 hours)
Public Level 2	Level 2	Approx. 2+ hours
Public DC Fast Charging	DCFC	Approx. 15-45 minutes

Home EV charging generally is the most convenient for those who have access to a dedicated parking space with proximity to power. However, having charging infrastructure at workplaces or in public settings allows EV owners to drive more miles on electric, enables longer trips, and increases driver confidence. In addition, public charging infrastructure is important for EV owners who do not have dedicated home charging, such as in multi-family dwellings (e.g., apartment buildings) or those with street parking.

### **Modeling the Charging Infrastructure Needed to Support EV Growth**

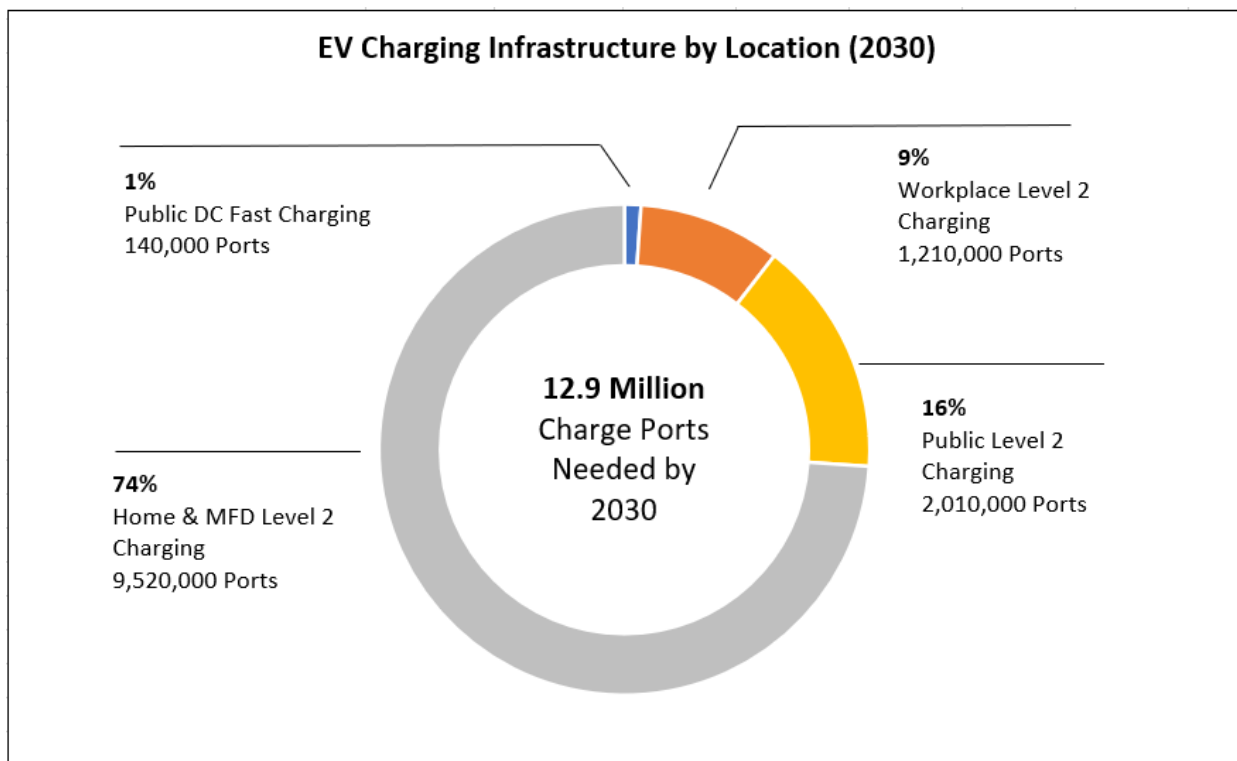
EEI estimated the EV charging infrastructure needed to support the more than 26 million EVs projected to be on U.S. roads in 2030 using the Department of Energy’s Electric Vehicle Infrastructure Projection (EVI-Pro) Lite tool as well as a charging infrastructure assessment from the California Energy Commission (CEC).<sup>15,16</sup> The EVI-Pro Lite tool is a simplified, publicly accessible version of a model developed by the National Renewable Energy Lab (NREL) to estimate the demand for EV charging infrastructure. The tool estimates the number of charging ports needed within a city or state to support a given EV population based on vehicle travel patterns as well as EV and charging station characteristics. The tool allows users to adjust key assumptions, such as the mix of BEVs versus PHEVs and the amount of charging done at home.

Based on the EEI forecast, we estimate that approximately 12.9 million charge ports will be needed to support the 26.4 million EVs projected to be on U.S. roads in 2030. The mix of charge ports by location is shown in Figure 5.

15. See <https://www.afdc.energy.gov/evi-pro-lite> (accessed May 2022).

16. See Commission Report Assembly Bill 2127 Electric Vehicle Charging Infrastructure Assessment: Analyzing Charging Needs to Support Zero-Emission Vehicles in 2030. Available at <https://www.energy.ca.gov/programs-and-topics/programs/electric-vehicle-charging-infrastructure-assessment-ab-2127>.

**Figure 5. EV Charging Infrastructure in 2030 Based on EEI Forecast**



The basis for the analysis in this report comes from two sources, the EVI-Pro Lite tool and the CEC report “Assembly Bill 2127 Electric Vehicle Charging Infrastructure Assessment: Analyzing Charging Needs to Support Zero-Emission Vehicles in 2030.” The CEC report relies on EVI-Pro 2 for its analysis, an updated version of EVI-Pro Lite that is unreleased as of the publication of this report. To take advantage of the updated analysis from the CEC, EEI determined a scaling factor for EVI-Pro 2 by recreating the conditions of the CEC analysis in EVI-Pro Lite and comparing the output between the two tools. This scaling factor was then applied to the EVI-Pro Lite results from each state to arrive at the updated EV charging infrastructure forecast in this report.

The CEC report is the only public report which utilizes EVI-Pro 2 as of the publication of this forecast. To make use of the updated methodology in EVI-Pro 2, EEI adopted several of the assumptions of that report to maintain consistency across forecasts. The assumptions in the CEC report are determined primarily for the market in California and may not be reflective of other states. These assumptions include:

- **EV Population:** The EVI-Pro Lite tool does not provide a national calculation option, so the results shown are the sum of the outputs for individual analyses of all 50 states and the District of Columbia. The 26.4 million EVs were allocated by applying a uniform sales growth rate to each state. Since the tool limits the EV population to no more than 10 percent of all registered vehicles, states that exceeded this market share were capped at 10 percent and the excess vehicles were allocated to the remaining states based on their EV market share. This effectively shifts the EV distribution among the states closer to that of the conventional vehicle population, which is reasonable as EVs become more mainstream.
- **Vehicle Mix:** The EVI-Pro Lite tool simplifies EV models to four types – PHEVs with electric ranges of 20 and 50 miles and BEVs with electric ranges of 100 and 250 miles. Following the CEC

report and consistent with total EV sales figures, this analysis assumed a split of 30 percent 50-mile PHEVs and 70 percent 250-mile BEVs.

- **Support for PHEVs:** The EVI-Pro Lite tool allows users to select “partial” or “full” support for PHEV drivers. The full support option adds Level 2 chargers at workplaces and public locations, such that most PHEV trips can be completed on the electric range only, while the partial support option assumes more PHEV trips will be completed using the gasoline range once the electric range is depleted. This analysis chose the partial support option, consistent with research on the number of electric miles driven by PHEVs.<sup>17</sup> This assumption effectively decreases the number of Level 2 ports compared to the “full support” option.
- **Home Charging:** The EVI-Pro Lite tool allows users to set the percentage of EV drivers who have access to overnight charging at home and begin each day with a full charge. To maintain consistency with the CEC report, this figure was set at 72 percent. While studies suggest this figure may be higher with changes in parking behavior, customer education, and increased investment in electrical access, the 72 percent figure is reflective of the market in California.<sup>18</sup> Increased access to home charging would decrease the number of charging ports needed in other locations. Additionally, this analysis assigned a home Level 2 charging station to half of these EVs with home charging (36 percent of the forecasted EV population), with the assumption that Level 1 charging at home will be available and sufficient for the remaining EVs with home charging.

## Approaches to Deploying EV Charging Infrastructure

The EV market is driven by a myriad of dynamics, including customer awareness and acceptance, the types of EVs available and their affordability, and the availability of charging infrastructure. It is well established that the lack of EV charging infrastructure is a primary barrier to EV adoption.<sup>19</sup> The analysis using the EVI-Pro Lite tool in this report estimates the charging infrastructure needed to support a certain level of EVs. In this section, we discuss approaches for deploying EV charging infrastructure.

Today, approximately 95,000 public Level 2 charging ports and 24,000 DCFC ports are available in the United States, including those dedicated to Tesla vehicles.<sup>20</sup> The precise number of workplace Level 2 charging ports is unknown. Based on the EVI-Pro Lite tool results, as shown in Figure 5, more than 2.6 million charge ports in workplaces and public locations will be needed by 2030. The significant difference between the current availability of charging infrastructure and the expected charging infrastructure needed suggests a growing “infrastructure gap” that must be addressed.

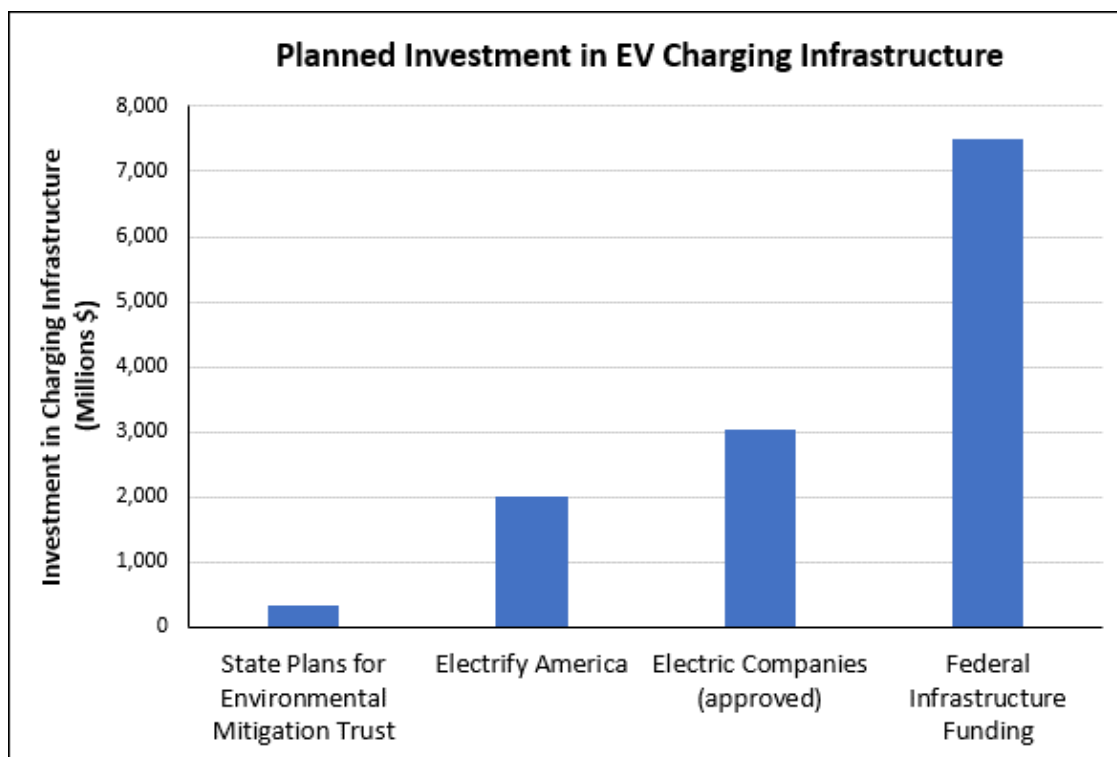
One of the impediments to widespread charging infrastructure availability is the cost. The costs associated with EV charging infrastructure include the equipment itself, ongoing operation and maintenance costs, and the installation costs needed to get power to the charging station site. These costs can vary widely, from a few hundred dollars to install a Level 2 charger at home to tens or hundreds of thousands of dollars to install

17. Plotz, Patrick, et al., *Real World Usage of Plug-In Hybrid Electric Vehicles*, ICCT, <https://theicct.org/wp-content/uploads/2021/06/PHEV-white-paper-sept2020-0.pdf>.
18. Ge, Yanbo, et al., *There’s No Place Like Home: Residential Parking, Electrical Access, and Implications for the Future of Electric Vehicle Charging Infrastructure*, <https://www.nrel.gov/docs/fy22osti/81065.pdf>.
19. NREL, *Consumer Convenience and the Availability of Retail Stations as a Market Barrier for Alternative Fuel Vehicles*, <https://www.afdc.energy.gov/uploads/publication/56898.pdf>.
20. U.S. Department of Energy, Alternative Fuels Data Center. [http://www.afdc.energy.gov/fuels/stations\\_counts.html](http://www.afdc.energy.gov/fuels/stations_counts.html) (Accessed June 2022).

a DCFC depending on power level.<sup>21</sup> Much of the EV charging infrastructure to date has been paid for by the customer or entity that hosts the charging equipment (the “site host”), whether that is a homeowner, a commercial property owner, or a public entity.

The EV charging marketplace is evolving, and different approaches to providing the charging infrastructure for the EV market are being deployed. Some of the entities that are investing in charging infrastructure are listed below and are summarized in Figure 6.

**Figure 6. Planned Investment in EV Charging Infrastructure**



- **State Governments:** Twenty-four states have some type of incentive (e.g., grant or tax credit) to support the deployment of EV charging stations.<sup>22</sup> The Environmental Mitigation Trust, established in October 2017 under the Volkswagen diesel emissions settlement, provides states and Native American tribes with \$2.925 billion to mitigate emissions of nitrogen oxides (NOx). States may use up to 15 percent of their funds to deploy EV charging infrastructure. So far, 46 states have allocated at least some of their funds to EV charging infrastructure, representing more than \$319 million in potential investment.<sup>23</sup>
- **Federal Government:** In November 2021, the IIJA was signed into law and includes significant funding for transportation electrification. The most significant portion of the bill related to charging infrastructure is the National Electric Vehicle Infrastructure (NEVI) formula program which

21. U.S. Department of Energy, *Costs Associated With Non-Residential Electric Vehicle Supply Equipment*, [https://www.afdc.energy.gov/uploads/publication/evse\\_cost\\_report\\_2015.pdf](https://www.afdc.energy.gov/uploads/publication/evse_cost_report_2015.pdf).

22. U.S. Department of Energy Alternative Fuels Data Center, *State Laws and Incentives*, <https://afdc.energy.gov/laws/state>.

23. Atlas EV Hub, <https://www.atlasevhub.com/materials/vw-environmental-mitigation-fund-tracking/state-tracking-dashboard/>.

designates \$5 billion for EV charging infrastructure along designated alternative fuel corridors.<sup>24</sup> EEI estimates the NEVI program will support approximately 20,000 DCFC ports at 5,000 sites, assuming a cost of \$1 million per site and four DCFC ports per site.<sup>25</sup> The bill also includes up to \$2.5 billion in funding for the deployment of charging infrastructure in communities and corridors. The United States Department of Transportation will distribute these funds to states and local governments with federal oversight and advisory input from the newly formed Joint Office of Energy and Transportation.

- **Automakers:** Tesla has built a “Supercharger” network of approximately 14,000 DCFC ports at 1,400 locations in the United States dedicated to its vehicles.<sup>26</sup> Other automakers including BMW, Nissan, and Volkswagen also have invested in public charging stations in targeted locations, with partners such as ChargePoint and EVgo managing the stations.<sup>27</sup> General Motors and EVgo announced in November 2021 a plan to build 3,250 DC fast charging ports across the U.S.<sup>28</sup> Electrify America, a subsidiary of Volkswagen established as part of the diesel emissions settlement, is required to spend \$2 billion over 10 years (2017-2027) to deploy charging infrastructure and related activities to support the EV market.<sup>29</sup> In July 2021, Electrify America announced plans to significantly expand, more than doubling the size of its EV charging network to 10,000 DC fast charging ports and investing additional funds beyond the required \$2 billion.<sup>30</sup>
- **Electric Companies:** Electric companies across the country increasingly are gaining state regulatory approval to invest in electric transportation. These investments are primarily in EV charging infrastructure deployment, which may include charging infrastructure for other applications (such as medium- and heavy-duty trucks and buses), as well as other market support activities such as customer education and outreach. As of June 2022, approved investments totaled more than \$3.4 billion including more than \$3 billion dedicated to charging infrastructure.
- **National Electric Highway Coalition:** In December 2021, EEI announced the formation of the NEHC, a collaboration among electric companies that share the common goal of deploying EV fast charging infrastructure along major U.S. travel corridors. Members of the NEHC are working together to efficiently and expediently deploy fast charging infrastructure that supports the growing number of EVs and helps ensure that the transition to EVs is seamless for drivers. Members of the NEHC are committed to supporting more than 4,500 DC fast charging ports through a variety of mechanisms, as discussed in the Electric Company Role below.

24. U.S. Department of Transportation, Federal Highway Administration, *National Electric Vehicle Infrastructure Formula Program*, [https://www.fhwa.dot.gov/bipartisan-infrastructure-law/nevi\\_formula\\_program.cfm](https://www.fhwa.dot.gov/bipartisan-infrastructure-law/nevi_formula_program.cfm).

25. Estimate based upon conversations with state DOT officials and electric company representatives

26. U.S. Department of Energy Alternative Fuels Data Center, *Alternative Fueling Station Locator*, <http://www.AFDC.energy.gov/stations>.

27. See <http://www.autonews.com/article/20180723/MOBILITY/180729957/ev-charging-network-us>.

28. See <https://investors.evgo.com/news/news-details/2021/General-Motors-and-EVgo-Boost-Build-Plan-for-High-Power-Fast-Chargers-Across-the-US/default.aspx>.

29. See <https://www.electrifyamerica.com/our-plan>.

30. See <https://media.electrifyamerica.com/en-us/releases/149>.

## DC Fast Charging Infrastructure Gap

Investment in all kinds of charging infrastructure, from home charging to high-powered DCFC stations, is necessary to support the number of EVs projected to be on the road in 2030. While DCFC ports make up only approximately one percent of the EV charging infrastructure needed to support the projected number of EVs on U.S. roads in 2030, DCFC infrastructure is of particular focus for policy makers, third-party charging providers, and electric companies. These charging stations are critical parts of the electric transportation ecosystem that allow vehicles to recharge rapidly, reaching 80 percent capacity in as few as 15 minutes depending on the power level of charging station and size of the EV battery. However, these stations also are significantly more expensive than lower-powered Level 2 stations, often costing hundreds of thousands of dollars per station.

DCFC stations are key to enabling long distance EV travel, to increasing driver confidence, and to providing fast, convenient charging for individuals who lack access to dedicated parking. To adequately serve the coming wave of EVs, there will need to be substantial and sustained investment in the buildout of DCFC infrastructure. Despite the significant investments detailed in the section above, EEI projects a shortfall of nearly 70 percent in the number of DCFC ports needed in 2030 given currently announced levels of funding.

Figure 7 details the number of DCFC ports supported by the planned investment sources listed above. The number of DCFC ports needed in 2030 to meet demand is more than double the planned DCFC ports.

**Figure 7. Planned Ports and EEI Projection of DC Fast Charging Port Shortfall by 2030**

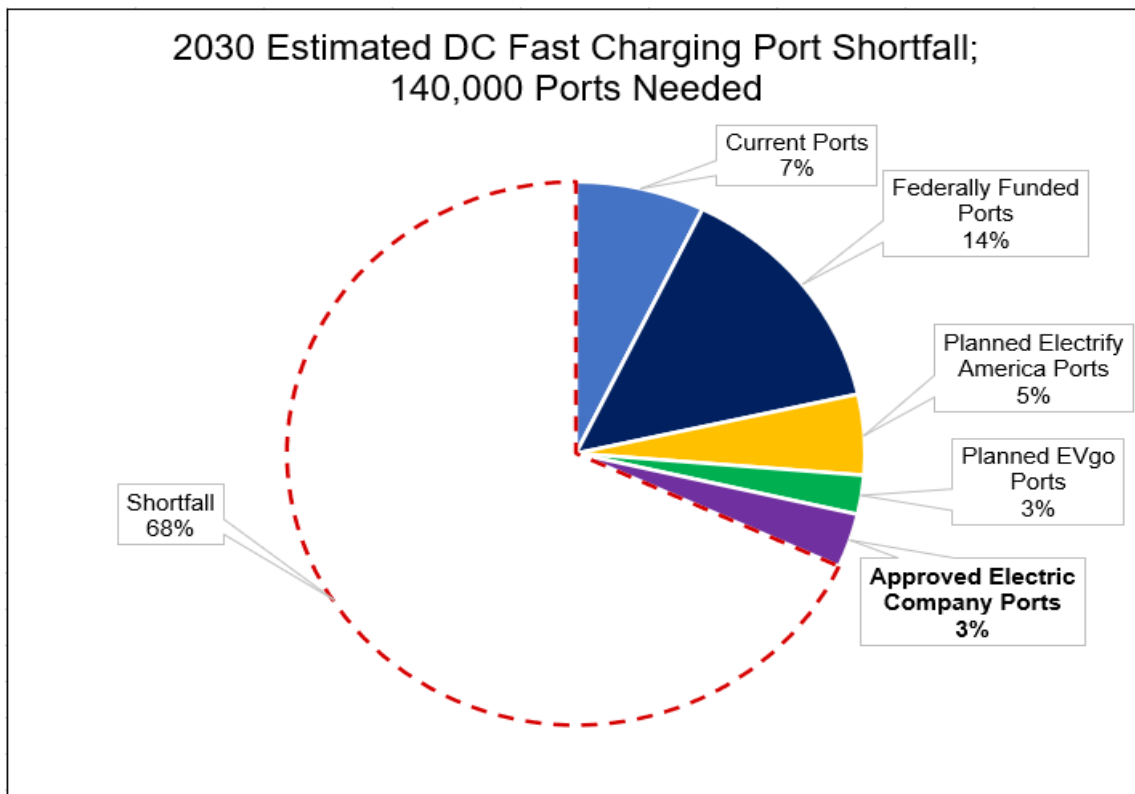


Figure 7 includes 10,100 current publicly available non-Tesla charging ports, 20,000 federally funded ports, 6,700 Electrify America ports, 3,250 EVgo ports, and 4,500 electric company supported ports.

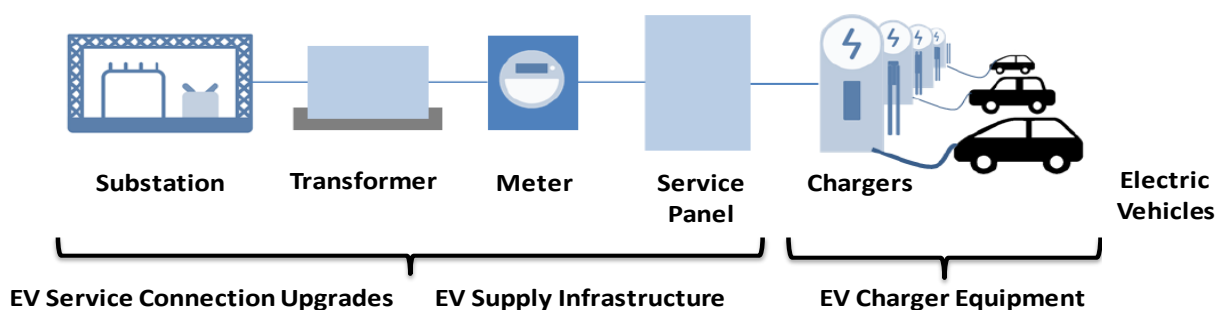
## Electric Company Role

Electric companies are well-positioned to deploy EV charging infrastructure. Electric company investment in charging infrastructure may take many different forms, including:

- Developing “make-ready” infrastructure, which includes service connection upgrades and new supply infrastructure to bring power to the charging equipment (see Figure 7); the site host is responsible for procuring the charging equipment.
- Installing and owning all infrastructure up to, and including, the charging equipment itself; either the electric company, the site host, or a third-party may operate and maintain charging equipment.
- Offering incentives, typically in the form of rebates, to defray some or all of the cost of the charging equipment and/or the installation costs.

Members of the NEHC are utilizing each of these forms and others to support more than 4,500 DCFC ports.

**Figure 8. Illustration of EV Charging Infrastructure**



In addition, electric company investments can support the smart integration of EV charging load into the distribution system in different ways, including:

- Offering electric rates that encourage EV charging at specific times of the day (e.g., at off-peak times).
- Requiring charging equipment associated with these programs to be ready for managed charging, such as being capable of receiving demand response signals.
- Helping to educate EV drivers and site hosts to choose the appropriate rates and connect them with charging equipment providers.

Increased adoption of EVs, when efficiently added to the energy grid, can provide benefits to all customers. The additional electricity demand from EVs added to the energy grid in a way that more fully utilizes existing infrastructure puts downward pressure on rates for all customers, providing benefits to drivers and non-drivers alike.<sup>31</sup>

31. See Synapse Energy, “Electric Vehicles Are Driving Electric Rates Down: June 2019 Update,” <https://www.synapse-energy.com/sites/default/files/EV-Impacts-June-2019-18-122.pdf> ; See also Energy and Environmental Economics, “Cost-Benefit Analysis of Plug-in Electric Vehicle Adoption in the AEP Ohio Service Territory,” [https://www.ethree.com/wp-content/uploads/2017/10/E3-AEP-EV-Final-Report-4\\_28.pdf](https://www.ethree.com/wp-content/uploads/2017/10/E3-AEP-EV-Final-Report-4_28.pdf).

# Conclusion

With more than 26 million EVs anticipated to be on U.S. roads in 2030, the future of transportation increasingly looks to be electric. Customer demand for EVs has continued to outpace the expectations from industry analysts, causing nearly every forecast to be revised upwards. Commitments from policymakers and the largest automakers signal a much higher ceiling for transportation electrification this decade than was expected only a few short years ago.

The continued expansion of the U.S. EV market will make coordinated collaboration among all EV charging stakeholders, including policymakers, charging service providers, automakers, and electric companies, critical for ensuring a rapid, efficient buildout of necessary charging infrastructure. In particular, the gap in fast charging must be addressed with announced public and private investment accounting for less than 35 percent of the projected need.

Electric company participation in the development of EV charging infrastructure supports state-level clean energy and transportation goals, expands customer choice, and helps to ensure that EV owners will be able to charge their cars at home, on the street, at the office, at shopping locations, or along major travel corridors.

Electric transportation is a win-win-win that not only meets customer needs, but also provides economic and environmental benefits for all Americans.



The **Edison Electric Institute** (EEI) is the association that represents all U.S. investor-owned electric companies. Our members provide electricity for 235 million Americans, and operate in all 50 states and the District of Columbia. As a whole, the electric power industry supports more than 7 million jobs in communities across the United States. In addition to our U.S. members, EEI has more than 65 international electric companies with operations in more than 90 countries, as International Members, and hundreds of industry suppliers and related organizations as Associate Members.

Organized in 1933, EEI provides public policy leadership, strategic business intelligence, and essential conferences and forums.

For more information, visit our Web site at [www.eei.org](http://www.eei.org).

# Electric Transportation Biannual State Regulatory Update

July 2022

## HIGHLIGHTS

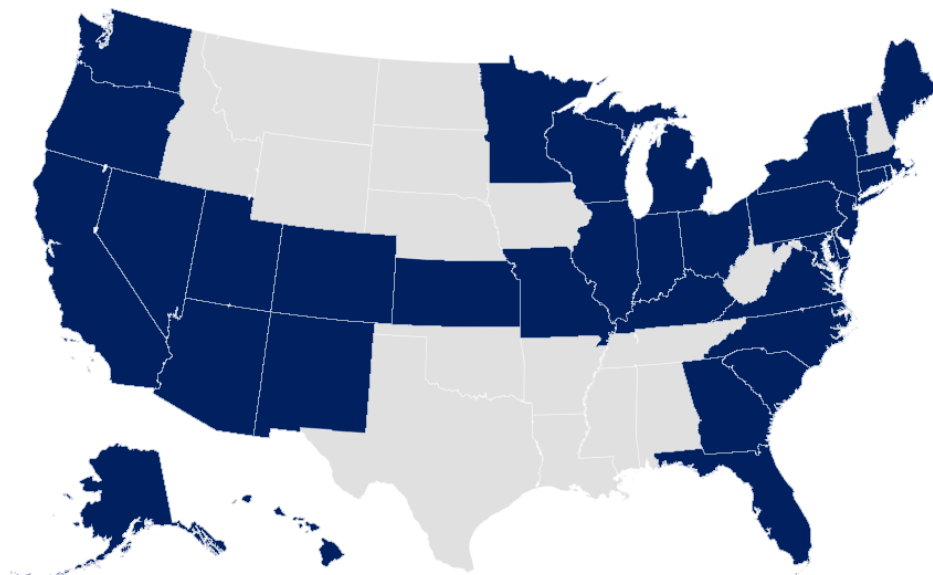
Electric companies increasingly are engaged in many different facets of transportation electrification (ET), and this document highlights recent regulatory activities related to ET. As of July 1, 2022:

- 62 electric companies in 34 states and Washington, DC, have received regulatory approval for ET filings (see Figure 1 and Appendix details).
- Electric company approved ET filings totaled nearly \$3.7 billion. This is an increase of roughly \$300 million from our previous update in November 2021. The majority of approved funds are for make-ready investments.

Further details on approved filings are in the appendix table.

For any questions, please contact Charles Satterfield at [csatterfield@eei.org](mailto:csatterfield@eei.org)

**Figure 1. Approved EEI Member Company Regulatory Filings Related to Electric Transportation**



## APPENDIX: FILING DETAILS

Tables 1 provides electric company-specific details of approved electric transportation filings.

**Table 1. Summary of Approved EEI Member Company ET Filings (in order by Decided Date)**

Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
<b>Hawaiian Electric Company</b>	HI, 2013-0000	10/26/2012, 07/01/2013	Electric vehicle (EV) rate pilot for residential and commercial customers and installation of 25 DC Fast Charging (DCFC) stations and 80 Level 2 charging stations. In June 2017, extension of the project was approved under Docket No. 2016-0168.	\$2 million
<b>Puget Sound Energy</b>	WA, UE-131585	08/28/2013, 04/30/2014	Incentive of \$500 for residential customers who purchase an EV and install a charger at home with a program cap of 5,000 customers. The company is required to collect data and submit a plan to assess the impact of EVs on the energy grid.	\$2.5 million
<b>Madison Gas and Electric Company</b>	WI, 3270-UR-120	06/02/2014, 12/23/2014	Provide company-owned chargers to a limited number of residential customers who charge at home. A public charging rate provides a discount to participants who charge at the company's 26 public chargers in exchange for charging data.	N/A
<b>Indianapolis Power &amp; Light Company</b>	IN, 44478	04/09/2014, 02/11/2015	Modification to line extension policy to upgrade distribution system and extend service to charging stations.	\$3.7 million
<b>Minnesota Power; Otter Tail Power Company; Xcel Energy</b>	MN, 15-111	01/30/2015, 06/22/2015	Approval of EV time-of-use tariffs.	N/A
<b>San Diego Gas &amp; Electric</b>	CA, A1404014	04/11/2014, 01/28/2016	Three-year vehicle-to-grid integration pilot program to support the installation of up to 3,500 charging stations at 350 sites. At least 10 percent of the stations will be installed in disadvantaged communities.	\$45 million
<b>Louisville Gas &amp; Electric Co. and Kentucky Utilities Co.</b>	KY, 2015-00355	11/13/2015, 04/11/2016	Install up to 10 electric company-owned Level 2 charging stations in each service territory. The stations will charge an hourly rate prorated to the actual time spent plugged in. Non-residential customers may host chargers for a monthly fee to offset the expected amount of electricity to be used at the station.	\$0.5 million

Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
<b>Pacific Gas &amp; Electric Company</b>	CA, A1502009	02/09/2015, 12/15/2016	Make-ready EV infrastructure to support 7,500 charging ports in multi-unit dwellings, disadvantaged communities, and workplaces; ownership of 35 percent of EV infrastructure in multi-unit dwellings; and rebates for charging stations and infrastructure to cover 25 percent of costs for workplaces, 50 percent of costs for multi-unit dwellings, and 100 percent of costs in disadvantaged communities.	\$130 million
<b>Consolidated Edison Company</b>	NY, 16-E-0060-263	01/29/2016, 01/25/2017	Establishes a new residential EV time-of-use tariff and provides incentives to customers who charge during off-peak periods. An expansion of already-existing light-duty time-of-use tariff to incentivize off-peak charging for medium- and heavy-duty vehicles was approved in September 2018.	\$6 million
<b>Tampa Electric Company</b>	FL, 20170015	01/10/2017, 05/24/2017	Developed a curriculum to educate high school students about the operation, maintenance, and ownership of EVs. The curriculum includes proper driving skills to maximize the efficiency of driving an EV; different types of charging technologies; and information about how electric rates are set and when charging is the least expensive.	\$0.4 million
<b>Rocky Mountain Power</b>	UT, 16-035-36 Phase Three	9/12/2016, 6/28/2019	Five-year pilot includes incentives of up to \$7,000 for multi-port Level 2 charging stations and \$63,000 for multi-port DCFC stations to be deployed at non-residential and multi-unit dwellings; custom grant-based projects for non-residential customers and multi-unit dwellings; a time-of-use pilot and a load research study; and a customer outreach and education campaign.	\$10 million
<b>Madison Gas and Electric Company</b>	WI, 3270-TE-2017	08/01/2017, 08/24/2017	Expansion of already-existing EV pilot from 30 to 100 participants, which provides a company-owned charger to residential customers.	N/A
<b>Alaska Electric Light and Power Company</b>	AK, U-17-002	11/28/2016, 10/04/2017	Rate that incentivizes off-peaking charging with the option for residential and small commercial customers to rent electric vehicle infrastructure from the company for \$121.56 per year.	N/A
<b>Duke Energy</b>	FL, 20170183-EI	08/29/2017, 11/20/2017	Five-year program to purchase, install, own, and support 530 charging ports with a minimum of 10 percent installed in disadvantaged communities.	\$8 million
<b>Eversource</b>	MA, 17-05	01/17/2017, 11/30/2017	Install and own make-ready infrastructure for nearly 4,000 Level 2 charging stations at long-dwell locations and 72 DCFC stations at travel locations.	\$45 million
<b>San Diego Gas &amp; Electric</b>	CA, A1701020	01/20/2017, 01/11/2018	Authority for implementation of six priority review projects, including a Port Electrification Project; Airport Ground Support Equipment Project; Electrify Local Highway Project; Fleet Delivery	\$18.6 million

Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
			Project; Green Shuttle Project; and a Dealership Incentive Project.	
<b>Avista Utilities</b>	WA, UE-160082	02/14/2017, 02/08/2018	Installation of EV chargers owned and operated by the electric company on a customer's side of the meter. Installation and management of 475 Level 2 ports at 240 homes, 175 workplace, fleet, multi-unit dwellings, and 60 public locations, plus seven DCFC station sites. Other components include non-time-of-use demand response experimentation; education and outreach; auto dealer incentives; and community/low-income focus. Premise wiring reimbursement of 50 percent up to \$1,000 for residential customers and \$2,000 for non-residential customers.	\$3.1 million
<b>Pacific Power</b>	OR, UM-1810	12/27/2016, 02/27/2018	The pilot program includes communicating with customers through advertising and newsletters; development of self-service resources that will allow customers to locate tailored information about EVs easily; coordinating and promoting community events including ride-and-drives; and providing technical assistance to non-residential customers interested in installing EV charging infrastructure by performing on-site charging feasibility assessments. Throughout the duration of the pilot, Pacific Power will collect and analyze program data and metrics to help inform future programs.	\$4.6 million
<b>National Grid</b>	NY, 17-E-0238	04/28/2017, 03/15/2018	Approved plan includes: 280 Level 2 ports and 16 DCFC ports at various locations; an education program; capital upgrades to accommodate future EV charging stations at commercial customer sites; and incentives to encourage installation of charging stations.	\$5 million
<b>Consolidated Edison Company</b>	NY, 17-E-0814	12/28/2017, 04/24/2018	A business incentive rate for publicly accessible DCFC stations that reduces energy delivery costs between 34 percent and 39 percent.	N/A
<b>AEP Ohio</b>	OH, 16-1852-EL-SSO	11/23/2016, 04/25/2018	EV charging rebate program allows the company to offset equipment and installation costs for up to 300 Level 2 charging stations at public locations, workplaces, and multi-unit dwellings, and 75 DCFC stations at public locations. The program is funded through a new "Smart City Rider."	\$10 million
<b>Xcel Energy</b>	MN, 17-817	11/17/2017, 05/09/2018	A two-year pilot program to test wireless-capable electric vehicle supply equipment (EVSE) and address upfront cost barriers. Xcel will purchase and install the equipment for up to 100 program participants, who will have the option to pay for the EVSE over time through a fixed monthly	N/A

Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
			charge. To encourage auto dealers to promote the pilot program, Xcel Energy is providing a \$100 payment to auto dealers for each customer who participates in the pilot.	
<b>Pacific Gas &amp; Electric Company</b>	CA, A1701022	01/20/2017, 05/31/2018	The EV Fast Charge program will install make-ready infrastructure for approximately 234 DCFC stations at 52 publicly accessible sites with at least 25 percent of the sites located in disadvantaged communities. In addition, disadvantaged community sites are eligible for a \$25,000 rebate. The EV Fleets program will deploy make-ready infrastructure at a minimum of 700 sites, supporting the electrification of at least 6,500 medium- and heavy-duty fleet vehicles. A minimum of 15 percent of the budget must serve transit agencies, while a maximum of 10 percent of the budget may serve forklifts. Fleet electrification sites located in disadvantaged communities (minimum of 25 percent) or those that support public transit/school buses are eligible to have up to 50 percent of charging station costs covered.	\$269 million
<b>Southern California Edison</b>	CA, A1701021	01/20/2017, 05/31/2018	Make-ready installations for a minimum of 870 sites to support electrification of at least 8,490 medium- and heavy-duty fleet vehicles. A minimum of 15 percent of the budget must serve transit agencies, 25 percent of the budget may go toward vehicles operating at ports and warehouses, and a maximum of 10 percent to serve forklifts. Sites located in disadvantaged communities or those that support public transit/school buses are eligible to have up to 50 percent of costs covered.	\$356 million
<b>National Grid</b>	RI, 4780	11/28/2017, 06/06/2018	The three-year pilot includes an off-peak charging rebate; make-ready infrastructure with the goal of deploying 320 Level 2 ports at 38 sites and 46 DCFC ports at 12 sites; a demand charge discount to DCFC accounts; and fleet advisory services for 12 fleet operators in the state with 25 percent of funds allotted for government and public transit customers.	\$9 million
<b>Consolidated Edison Company</b>	NY, 14-M-0101	06/08/2018, 06/20/2018	Electric school bus pilot with White Plains school district. Five buses will be used by the district during the school year. During the summer months, ConEdison will charge the batteries at times when demand is low and discharge the batteries during high demand times.	\$1.1 million
<b>NV Energy</b>	NV, 18-02002	02/01/2018, 06/27/2018	The Electric Vehicle Infrastructure Demonstration (EVID) program includes incentives for a custom	\$15 million

Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
			EV grant program; EV charging at multi-family dwellings, workplaces, and fleets; and incentives for Level 2 and DCFC stations in support of the Nevada Electric Highway initiative.	
<b>National Grid</b>	MA, 17-13	01/20/2017, 09/10/2018	The three-year program will provide customers with incentives to install up to 1,200 Level 2 charging ports and 80 DCFC ports at public locations, workplaces, and multi-family dwellings. In addition, incentives will be provided to EV charging site hosts.	\$21 million
<b>Liberty Utilities</b>	CA, A1706033	06/30/2017, 09/27/2018	Supports the installation of up to nine DCFC stations around the Lake Tahoe region; provides rebates of \$1,500 to the first 1,000 residential customers and \$2,500 to 100 small business customers who install charging stations; customer education and outreach includes a focus group of small businesses to gather information on financial, business-related and implementation barriers; and supports the Tahoe Transportation District's procurement of EV buses within the next three to four years by fully covering the costs to install, operate, and maintain two charging stations.	\$6.6 million
<b>Pacific Power</b>	CA, A1706031	06/30/2017, 10/05/2018	The pilot program includes communicating with customers through advertising and newsletters; development of self-service resources that will allow customers to locate tailored information about EVs easily; coordinating and promoting community events including ride-and-drives; and providing technical assistance to non-residential customers interested in installing EV charging infrastructure by performing on-site charging feasibility assessments. Throughout the duration of the pilot, Pacific Power will collect and analyze program data and metrics to help inform future programs.	\$0.4 million
<b>Pacific Power</b>	WA, UE-180757	09/06/2018, 10/11/2018	The pilot program includes communicating with customers through advertising and newsletters; development of self-service resources that will allow customers to locate tailored information about EVs easily; coordinating and promoting community events including ride-and-drives; and providing technical assistance to non-residential customers interested in installing EV charging infrastructure by performing on-site charging feasibility assessments. Throughout the duration of the pilot, Pacific Power will collect and analyze program data and metrics to help inform future programs.	\$1.6 million



Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
<b>Evergy (formerly KCP&amp;L)</b>	MO, ER-2018-0145	01/30/2018, 10/31/2018	Allows for rate base treatment of previously installed charging stations; however, the company agrees not to expand the network without further approval. Establishes a new customer class for EV charging stations.	\$3.5 million
<b>Evergy (formerly KCP&amp;L GMO)</b>	MO, ER-2018-0146	01/30/2018, 10/31/2018	Allows for rate base treatment of previously installed charging stations; however, the company agrees not to expand the network without further approval. Establishes a new customer class for EV charging stations.	\$2.6 million
<b>Indiana Michigan Power Company</b>	MI, U-20282	08/09/2018, 11/08/2018	Revised residential EV rate, "Tariff RS-PEV," allows EV electricity usage to be charged at a time-of-use rate. A customer's full residential usage is billed at the standard residential rate. The EV meter data will be used to increase or decrease the customer's bill based on the on-peak/off-peak price differentials specific to the EV usage.	N/A
<b>Portland General Electric</b>	OR, ADV 831	9/21/2018, 11/20/2018	Rates for the use of PGE's EV charging stations by all users. Pricing for DCFC: \$5 flat fee per session and an additional \$0.19/kWh if charging during on-peak hours. Pricing for Level 2: \$3 flat fee per session and an additional \$0.19/kWh if charging during on-peak hours. Additionally, customers can purchase a single monthly membership (\$25 per month) or 50 or more monthly memberships (\$20 per month). The on-peak charging rate will apply. These rates will be reviewed annually.	N/A
<b>Puget Sound Energy</b>	WA, UE-180877	10/26/2018, 12/13/2018	Approved pilot includes education and outreach; installation and ownership of 225 Level 2 charging stations in workplaces and multi-unit dwellings; four DCFC and two Level 2 charging stations in public locations; and development of electric mobility program for disadvantaged communities. The pilot also contains a five-year residential charging component where the company will install and own 500 Level 2 charging stations with the intention of identifying methods to encourage off-peak charging.	\$13 million
<b>Evergy (formerly KCP&amp;L)</b>	KS, 18-KCPE-480-RTS	05/01/2018, 12/13/2018	New tariff establishes a flat rate of \$0.20/kWh for Level 2 and \$0.25/kWh for Level 3 charging stations with a maximum of 350 charging stations eligible to participate. Inclusion or exclusion of infrastructure investment in rate base was not specified, except for the Tariff rate.	\$5.6 million
<b>Madison Gas and Electric Company</b>	WI, 3270-UR-122	07/17/2018, 12/20/2018	Low load factor rate provision revision that will reduce on-peak demand charges by 50 percent for qualifying customers.	N/A



Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
<b>PECO Energy Company</b>	PA, R-2018-3000164	03/29/2018, 12/20/2018	The five-year EV DCFC Pilot Rider (EV-FC) was effective July 1, 2019, and available to eligible commercial and industrial customers that own at least one publicly available DCFC station. The pilot will provide a demand credit to a customer's billed distribution demand, which will be equal to 50 percent of the combined maximum nameplate capacity rating for all DCFCs connected to the service. Eligible customers will receive the credit for up to 36 months or until the pilot ends, whichever comes first.	N/A
<b>Duquesne Light Company</b>	PA, R-2018-3000124	03/28/2018, 12/20/2018	Approval of make-ready infrastructure rebate for Level 2 public charging stations and ownership of make-ready infrastructure and DCFC stations solely used for company-owned vehicles and for the Port Authority of Allegheny County electric bus evaluation. Additional program components include a \$60 credit (with a \$70,000 annual max) to customers who register their EVs with Duquesne and funding for education and outreach.	\$1.5 million
<b>Southern California Edison</b>	CA, A1410014	07/09/2015, 01/25/2016	Install make-ready infrastructure for up to 1,500 Level 2 charging stations; provides rebates for charging stations at various levels including 25 percent of costs for workplaces, 50 percent for multi-unit dwellings, and 100 percent for disadvantaged communities; and implement a market education program.	\$22 million
	D1812006	3/05/2018, 12/13/2018	In addition to the \$22 million approved in A1410014, SCE received \$22 million to continue implementing its make-ready infrastructure installations until the Commission decides on SCE's pending make-ready expansion program ("Charge Ready 2").	\$22 million
<b>Consumers Energy</b>	MI, U-20134	05/01/2018, 01/09/2019	The approved three-year "PowerMIDrive" pilot program includes: a \$500 rebate for customers who purchase an eligible charger and enroll in the Nighttime Savers Rate; \$5,000 rebates for the installation of approximately 200 Level 2 charging stations at multi-unit dwellings, workplaces, and other publicly accessible chargers; and up to \$70,000 in rebates for the installation of 24 DCFC stations. A separate order was issued approving regulatory asset treatment of the pilot program costs.	\$10 million

Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
<b>Baltimore Gas &amp; Electric Delmarva Power Potomac Edison Pepco</b>	MD, 9478	01/19/2018, 01/14/2019	In response to PC 44, the five-year modified pilot program includes: a \$300 rebate to residential customers who install Level 2 charging stations; installation of 5,000 charging stations at various locations, including public spaces, multi-unit dwellings, and workplaces; and the development of a residential EV-only time-of-use rate. In addition, up to five percent of program costs can be allocated to education and outreach.	\$50.1 million
<b>Tucson Electric Power</b>	AZ, E-01933A-17-0250	12/22/2017, 02/06/2019	Smart City EV Buildout pilot includes investment in charging infrastructure at workplaces, multi-unit dwellings, neighborhoods, and educational campuses; support for the electrification of commercial fleets; \$500 rebate to residential customers who install EV chargers up to 50 percent of total costs; \$100 incentive to home builders who pre-wire new homes for EV infrastructure; and a new residential EV tariff. The company also requested approval to engage in the Regional Electric Vehicle Plan, which supports development of EV infrastructure along highways.	~\$2.2 million
<b>Central Hudson Gas &amp; Electric Corporation, Consolidated Edison Company, New York State Electric &amp; Gas, Orange &amp; Rockland Utilities, Rochester Gas and Electric, National Grid</b>	NY, 18-E-0138	11/21/2018, 02/07/2019	A per-plug incentive for publicly available DCFC stations. The purpose of the incentive payment is to support the deployment of DCFC stations while utilization is relatively low by offsetting electric delivery cost. The incentives are available for plugs rated at 75 kilowatts (kW) or greater and decline over a set period. Maximum incentive payments are set for each operating company.	\$31.6 million
<b>Metropolitan Edison Company, Pennsylvania Electric Company, Pennsylvania Power Company, West Penn</b>	PA, R-2019-3007069	01/11/2019, 02/28/2019	Adds language to tariff supplements regarding the following: the sale of electricity from a third party-owned EV charging station is not considered a sale for resale; the definition of an EV and an EV charging station; types of EVs permitted; and EV charging station policies related to construction and installation.	N/A

Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
<b>Power Company</b>				
<b>Hawaiian Electric Company</b>	HI, Transmittal No 18-06	12/18/2018, 03/20/2019	A five-year pilot electric bus tariff based on commercial time-of-use rates to support the adoption of electric buses into commercial and public transit fleets.	N/A
<b>Pepco</b>	DC, FC1130/FC1155	09/07/2018, 04/12/2019	Deployment of make-ready infrastructure for 55 Level 2 and DC Fast Charging (DCFC) public stations; 12 Level 2 and DCFC charging stations to support taxis and rideshare services; and six charging stations to support electric buses. Additionally, a residential whole-house time-of-use rate was approved.	\$4.8 million
<b>DTE Energy Company</b>	MI, U-20162	07/06/2018, 05/02/2019	Three-year Charging Forward pilot will provide \$500 rebates to approximately 2,800 residential customers; make-ready infrastructure to support the deployment of DCFC stations with a rebate of \$20,000 per charger and Level 2 charging stations at workplaces and multi-family dwellings with a rebate of \$2,500 per port. Additionally, make-ready infrastructure will support fleets including delivery, public transit, school buses, and shared mobility. Also includes a customer education and awareness component.	\$13.1 million
<b>Delmarva Power</b>	DE, 17-1094	10/19/2017, 6/4/2019	Approved program offerings include: a mandatory EV-only time-of-use rate for residential customers who install second meters, install and own two Level 2 charging stations in selected neighborhoods and two DCFC stations along main transportation corridors. And establish a working group to evaluate data from the pilot, examine EV issues, market conditions, and new offerings for future programs.	\$0.5 million
<b>Rocky Mountain Power</b>	UT, 16-035-36 Phase Five	3/8/2019, 6/28/2019	In partnership with Utah State University's Sustainable Electrified Transportation Center and the Utah Transit Authority (UTA), Rocky Mountain Power will develop a power balance and response system for UTA's multi-modal transportation hub with EV charging that has high peak power demand and includes chargers with outputs up to 400 kW. The project combines the diversity of electric charging needs (light rail, bus, passenger, truck, and ride hailing services) at an intermodal transit center to create a multi-megawatt, co-located, coordinated, and managed charging system. The combination of diverse loads allows the opportunity to share infrastructure costs and actively manage energy grid impacts.	\$2 million

Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
<b>Xcel Energy</b>	MN, 18-643	10/12/2018, 07/17/2019	Multi-element electric transportation pilot program, which includes an EV fleet service pilot and public charging pilots. The fleet pilot will provide advisory services and make-ready infrastructure to support its customers, including Metro Transit, in its procurement of eight 60-foot electric buses and the Minnesota Department of Administration and the City of Minneapolis in its goals to electrify its fleets through the deployment of 290 ports. The public charging pilots will include a corridor pilot providing make-ready infrastructure for DCFC stations and a community infrastructure pilot, where Xcel will partner with Saint Paul and Minneapolis to build a network of community mobility hubs that will help expand a non-profit car sharing service that is intended to increase access to EVs and mobility services for low-income customers.	\$23.6 million
<b>San Diego Gas &amp; Electric</b>	CA, A1801012	1/22/2018, 8/15/2019	The approved proposal included one program and one pilot. The program focuses on deploying make-ready infrastructure to support at least 3,000 medium- and heavy-duty and off-road vehicles. The pilot focuses on electric school buses as a bi-directional asset similar to a stationary storage device. The bus pilot will provide 10 electric school buses that will serve dual purposes; provide transportation to students in a participating school district; and, when the buses are not being driven, use them as distributed energy resources that will be bid into the CAISO market through a vehicle-to-grid pilot.	\$109.1 million
<b>Southern California Edison</b>	CA, Advice Letter 3982-E	4/2/2019, 9/16/2019	Southern California Edison is the interim administrator of the Clean Fuel Reward (CFR) point-of-purchase rebate program for EVs. The CFR rebate is funded by Low Carbon Fuel Standard (LCFS) credits generated by electric companies in the state on behalf of their residential customers who drive EVs. The rebate is available to anyone who resides in California and purchases or leases a new eligible EV from a participating retailer. The current reward amount is up to \$1,500 per EV, depending on battery size.	N/A
<b>Minnesota Power</b>	MN, 19-337	5/16/2019, 9/5/2019	Three-year rate pilot for commercial and industrial customers with a 30-percent cap to ease high demand charges associated with EV charging, particularly in fleet and public charging applications. Customers who charge during off-peak and super-off-peak hours are not subject to demand charges.	N/A

Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
<b>Pacific Gas &amp; Electric Company</b>	CA, A1807021	7/30/2018, 9/10/2019	Low- to moderate-income EV charger installation incentive and education program (Empower EV) will provide approximately 1,200 point-of-sale incentives for Level 2 charging stations and will cover costs of approximately 800 panel upgrades. Participants will be defaulted to a TOU rate and will receive assistance from PG&E to determine an optimal rate for the customer's energy usage.	\$4.1 million
<b>Appalachian Power Company</b>	VA, PUR-2019-00067	4/23/2019, 9/12/2019	A time-varying rate for residential customers that offers reduced cost off-peak electricity for EV charging. This rate allows EV charging activity to be billed separately and specifically using a dedicated meter within the existing premise service. The rate is experimental and will close after four years, unless an extension is requested.	N/A
<b>Xcel Energy</b>	CO, 18A-0606EG	8/22/2019, 9/23/2019	The Charging Perks Pilot will test smart charging technology with residential customers. Xcel Energy plans to work with automakers to pass demand management instructions through the automaker to the vehicle. In contrast to traditional event-based demand response, the pilot will evaluate shifting the customer's EV charging every day to reduce peak demand, shift charging into the cheapest hours of electricity production, and initiate charging during hours of renewable curtailment.	\$0.8 million
<b>National Grid</b>	MA, 18-150	11/15/2018, 9/30/2019	Approval of a residential off-peak charging rebate, fleet advisory services, and a research and development plan that will look at the economic, environmental, grid, and customer benefits of co-locating DCFC charging stations with third-party deployed storage and solar to help mitigate grid impacts of DCFC. For the fleet advisory services, public transit (including school buses) and government fleets will be eligible to receive assistance to make informed decisions about electrifying their fleets, including studying environmental impacts, total cost of ownership, and the number of vehicles and charging ports needed.	\$9 million
<b>Xcel Energy</b>	MN, 19-186	2/22/2019, 10/7/2019	Residential EV Subscription Pilot that provides a monthly subscription fee, ranging from \$33.22 to \$46.15 depending on the plan selected, for unlimited EV charging during off-peak hours. Customers may choose their preferred charging equipment and pay for it either upfront or through a bundled customer charge. A second meter is not required as the customer's EV charging	N/A

Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
			station and WiFi will be used to monitor electricity consumption. Customers also have the option to have 100 percent of EV charging electricity from renewable resources. There is also a small budget for customer education and marketing.	
<b>Ameren Missouri</b>	MO, ET-2018-0132	2/22/2018, 2/6/2019	Approval of only the Corridor Charging Sub-Program, part of the Charge Ahead-Electric Vehicles program, which, through an RFP process, will provide incentives up to \$360,000 per site for development and long-term ownership and operation DCFC stations at approximately 11 pre-determined locations along major highway corridors in Ameren Missouri territory.	\$4.4 million
		8/8/2019, 10/17/2019	Approval of the Charge Ahead – Local Incentives program that will provide financial incentives for multi-family, public around-town, and workplace/fleet charging stations. This program initially was denied by the Commission in early 2019. The program will provide incentives of \$5,000 per Level 2 port and \$20,000 per DCFC port (max 50 kW). Incentives cannot exceed 50 percent of total project cost and limits to number of charging ports incentivized apply.	\$6.6 million
<b>Pacific Gas &amp; Electric Company</b>	CA, A1811003	11/5/2018, 10/28/2019	Commercial Electric Vehicle Rate creates a new rate class for commercial EV charging customers like workplaces, public fast charging, and medium- and heavy-duty fleets. The new rate aims to provide a more affordable and simple structure for EV charging with a new “subscription” charge based on connected charging capacity, plus a time-of-use volumetric rate that encourages charging overnight and during mid-day hours. Pacific Gas and Electric Company must not collect any non-marginal distribution costs through the new rates. The company is required to file an application for a real-time electric vehicle commercial rate within the next 12 months.	N/A
<b>Southern California Edison</b>	CA, A1807022	7/30/2018, 11/7/2019	Two two-year pilots to install charging stations (with option for electric company to own and operate) at K-12 schools, state parks, and state beaches with a focus on disadvantaged communities. The company proposes to support 250 Level 1 or Level 2 ports at approximately 40 K-12 educational facilities; and support Level 2 and DCFC ports at approximately 27 state parks/beaches. Non-grid connected solar + energy storage + EV charging units will also be	\$19.7 million



Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
			<p>deployed at select park and beach locations. Rebates covering the charging station and some O&amp;M costs will be provided if the site owner chooses to own charging stations. Each pilot will have promotional and educational campaigns targeted at site users, advocates, and employees. School locations also will support grade-level-specific material; faculty education; and an EV economics program.</p>	
<p><b>Liberty Utilities</b></p>	<p>CA, A1807025</p>	<p>7/30/2018, 11/7/2019</p>	<p>Approval for two separate pilots, one focused on deploying charging stations at schools and the other focused on parks. In both pilots, Liberty will own and install two DCFC with the remainder being Level 2 charging stations at 17 schools and three parks. The stations would be for public, fleet vehicles, and electric school buses, in addition to five dual pedestal charging stations at three parks. The pilots also include an education and outreach component, in which the company would provide information on the new EV charging equipment, EV facts, electric rates, and program information.</p>	<p>\$4.7 million</p>
<p><b>Pacific Gas &amp; Electric Company</b></p>	<p>CA, A1807020</p>	<p>7/30/2018, 11/7/2019</p>	<p>Proposed EV Parks pilot includes 36 Level 2 ports and two DCFC ports across 10 different locations for fleet vehicles and park visitors. In addition, the EV Park pilot includes five locations with off-grid charging. For the EV Schools pilot, the company would install 90-130 Level 2 ports at approximately 22 campuses over two years. If a campus decides to own the chargers, a rebate will be provided.</p>	<p>\$11.3 million</p>
<p><b>San Diego Gas &amp; Electric</b></p>	<p>CA, A1807023</p>	<p>7/30/2018, 11/7/2019</p>	<p>Proposes to install, own, and operate 120 Level 2 and 20 DCFC stations at 12 state parks/beaches and 10 city/county parks. Additionally, 184 Level 2 and 12 DCFC stations will be installed at 30 schools and educational institutions. The company's existing EV time-of-use rate will be utilized.</p>	<p>\$18.7 million</p>
<p><b>Portland General Electric</b></p>	<p>OR, UM-1811</p>	<p>12/27/2016, 02/16/2018 2/15/2019, 11/7/2019</p>	<p>Approval for a pilot with the local transit agency, TriMet, and deployment of additional charging stations on the Electric Avenue Network. For the TriMet pilot, PGE will install own and operate all charging infrastructure including the stations. Additionally, PGE will deploy an additional six Electric Avenue Charging sites. The approval also includes investment in education and outreach through technical assistance, builder outreach, ride &amp; drives, and regional market transformation. A subsequent settlement</p>	<p>\$6.9 million</p>

Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
			amended some of the terms of the pilot in Order 19-385.	
<b>Georgia Power Company</b>	GA, 42516	6/28/2019, 12/31/2019	Approval for recovery of capital investments in EV charging programs that have been made since 2014. Georgia Power's Electric Transportation Initiative includes five elements: an education and awareness campaign; \$250 to residential customers who install Level 2 chargers; a \$100 incentive to builders who install 240v circuits in EV-ready new homes; and \$500 available to commercial customers that install Level 2 chargers at their facilities. Georgia Power will install, own, and operate charging islands of Level 2 and DC Fast Charging (DCFC) stations at 11 company-owned facilities and 25 charging islands at strategically selected public areas in order to collect data on charging behavior. Additionally, the company will be allowed to recover an additional \$6 million annually to support upgrades to wires and transformers for customer-sited charging stations.	\$11 million
<b>Maui Electric Company</b>	HI, 2018-0422	12/21/2018, 1/10/2020	Establishes a public charging TOU rate (Schedule EV-MAUI) for charging stations on the Evohana network and transitions ownership and operation of up to 4 DCFC station locations to Maui Electric for replacement.	\$0.3 million
<b>Consolidated Edison Company</b>	NY, 19-E-0065	1/31/2019, 1/16/2020	Approval to continue the existing SmartCharge NY Program and earn off-the-bill incentives. However, the company will implement new incentives for residential customers on the time of use rate (SC 1 Rate III) and for medium- and heavy-duty vehicles including buses. The company will also implement two make-ready infrastructure programs: the first will be for publicly accessible DCFC and the second for fleet DCFC. Additionally, the Company is required to develop network and non-network maps for purposes of identifying interconnection costs; identify an EV point of contact in the Energy Services Dept.; develop an EV request form to streamline EV application process; enhance customer service representative training on EVs; enhance the Company's EV communication channels; and provide a presentation on V2G integration.	\$39 million
<b>Indiana Michigan Power Company</b>	MI, U-20359	6/24/2019, 1/23/2020	The "IM Plugged in Pilot Program" includes a \$500 per port incentive for residential and small commercial customers in conjunction with EV-only tariffs; up to \$2,500 for workplace, multi-unit dwellings, and fleet incentives and waived	\$0.7 million



Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
			contribution in aid of construction (CIAC) for new service; up to \$20,000 per port for interstate corridor DCFC at approved locations along with waived CIAC, and a customer education and outreach component.	
<b>Baltimore Gas and Electric, Delmarva Power, Pepco</b>	MD, 9478	11/18/2019, 2/5/2020	A multi-vehicle (MV) Charging Rate, available to customers with five or more EVs, which is equal to 75 percent of the DCFC station standard rate. This rate is only available at electric company-owned EV charging stations.	N/A
<b>Portland General Electric</b>	OR, UM2033	9/30/2019, 2/13/2020	A transportation electrification plan that includes an overview of the current EV market, what EV programs the company currently offers, and potential future programs. Of possible future programs, the company may consider some of the following: new residential EV rates, on-bill payments/subscriptions, smart charging rebates for residential and commercial customers, make-ready infrastructure deployment for public charging and fleets, and charging as a service for fleets.	N/A
<b>Central Maine Power</b>	ME, 2019-00217	11/19/2019, 02/25/2020	The Public Utilities Commission conducted an RFP for pilot programs to support electric transportation and approved two proposals from Central Maine Power. Central Maine Power's Make Ready Pilot Program will perform make-ready work for 60 Level 2 charger plugs at a cost of no more than \$4,000 per plug. Additionally, a Rate Design Pilot Program is intended to reduce operating costs for DC fast charging station operators by offering a two-part demand rate that bills distribution related costs on a monthly non-coincident peak basis and transmission related costs on a monthly coincident peak basis.	\$0.2 million
<b>Portland General Electric</b>	OR, ADV1081	1/14/2020, 2/25/2020	A demonstration project that aims to evaluate the viability and effectiveness of installing Level 2 EV chargers on PGE-owned distribution poles at two locations. Specific learnings include: operational considerations for deploying charging on poles; city operational considerations such as permitting requirements, right-of-way constraints, and parking designations; customer awareness by surveying customers in the area on their awareness of the stations and the chargers' impact on their willingness to consider an EV; and evaluation of economics and potential program models.	N/A

Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
<b>Indiana Michigan Power</b>	IN, 45235	5/14/2019, 3/11/2020	The "IM Plugged in Pilot Program" includes a \$500 per port incentive, capped at 1,000 ports annually, for residential and small commercial customers in conjunction with EV-only tariffs; \$250 per port incentive, capped at 800 ports annually, for multi-unit dwellings, fleet, and workplace charging stations and the option to choose an extended 5-year revenue credit period for new service; and a customer education and outreach component.	\$2.1 million
<b>Ameren Missouri</b>	MO, ER-2019-0335	7/3/2019, 3/18/2020	Optional residential EV Time of Use rate (EV Savers) to encourage overnight charging. Applies to the whole house.	N/A
<b>Dominion Energy Virginia</b>	VA, PUR-2019-00154	9/30/19, 3/26/20	Smart Charging Infrastructure Pilot will provide rebates for the infrastructure and upgrades (make-ready) to enable EV charging and rebates for smart charging equipment. The pilot will focus on deploying up to 25 Level 2 charging stations at multi-family sites, 400 Level 2 charging stations at workplaces, 30 DCFC at public locations, and 60 DCFC to transit agencies. One eligibility requirement is that participants must agree to provide charging data to the company. Dominion also will own up to four charging stations to support the electrification of the rideshare market segment in strategic locations.	\$22 million
<b>Idaho Power</b>	OR, UM-2035	11/1/2019, 5/5/2020	An electric transportation framework which provides an overview of the current EV market, what EV programs the company currently offers, and potential future programs. Possible future programs, include: providing incentives to residential customers for the installation of EV charging infrastructure, rest stop and truck stop infrastructure deployment, and charging station deployment in areas where EV educational events are held (i.e., local colleges).	N/A
<b>NV Energy; Sierra Pacific Power</b>	NV, 20-01040	1/31/2020, 6/10/2020	The 2020-2021 Annual Plan for the EV Infrastructure Demonstration (EVID) program continues to offer incentives for the installation of Level 2 workplace and public charging stations at up to \$3,000 per port and increases the incentives for the installation of Level 2 chargers at multi-unit dwellings and fleet customers to \$5,000 per port (previously \$3,000 per port). Public, multi-family, workplace, and fleet customers may also apply for DCFC incentives of \$400 per installed kW (with a cap of \$40,000 or 50 percent of installed costs) per charger. New incentives are added for governmental and low-income multi-unit dwelling customers for the	\$8 million

Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
			installation of Level 2 chargers at up to \$10,000 per port in partnership with the Nevada Governor's Office of Energy to cover 100 percent of total project costs. A Custom Grant program provides financial support for EV infrastructure deployment projects not eligible for other incentive programs. Up to \$500,000 per site is available under the Nevada Electric Highway program. An electric school bus component covers up to 75 percent of total project costs, including the electric school bus.	
<b>Pacific Power</b>	OR, UM-2056	2/3/2020, 6/18/2020	The Oregon Transportation Electrification (TE) Plan integrates Pacific Power's TE actions into one document, identifies a portfolio of programs the company is considering to address market barriers in the company's service territory, and provides an overview of the current EV market. The possible future programs include new rate designs, the development of a market study, expanding the company's own EV fleet, updating commercial line extension allowance for transportation electrification, developing incentive programs for residential and commercial infrastructure, developing a fleet make-ready incentive program, and increasing awareness and education.	N/A
<b>Consolidated Edison Company, Central Hudson Gas &amp; Electric, National Grid, New York State Electric &amp; Gas, Orange and Rockland Utilities, Rochester Gas and Electric</b>	NY, 18-E-0138	04/24/2018, 07/16/2020	A Make-Ready Program allows all investor-owned electric companies in the state to implement programs to support EV charging infrastructure. Incentives are designed to offset costs associated with electric company-side infrastructure and customer-side make-ready infrastructure for DCFC and Level 2 sites. Incentives will cover up to 100, 90, or 50 percent of these costs depending on criteria such as proximity to low-income and environmental justice communities. The program targets more than 35,000 Level 2 ports at workplaces, 18,500 Level 2 ports at public locations, and 1,500 DCFC ports, with specific budgets and port targets for each operating company. In addition, electric companies will establish managed charging programs, Fleet Assessment Services, Medium- and Heavy-Duty Fleet Make-Ready Pilot programs, and Transit Authority Make-Ready Support programs. The New York State Energy Research & Development Authority (NYSERDA) will lead environmental justice-focused programs.	\$701 million

Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
<b>Xcel Energy</b>	WI, 4220-TE-104	11/20/2019, 7/16/2020	The “Residential EV Home Service Program” allows the customer’s house load to remain on a standard rate, while the customer’s EV load is subject to a three-period rate structure. The residential “Voluntary EV Charger Service Program” is available to residential customers on Xcel’s time-of-day rate for the whole house, including the EV load. Under both programs, Xcel owns and maintains the charging equipment, and customers may choose to pay for the equipment and installation up front or through a bundled customer charge. The “Commercial EV Service Program” allows Xcel to study a modification to Wisconsin’s line extension policies by providing eligible medium and large EV customers with a revenue-based allowance. Xcel also provides make-ready infrastructure for commercial customers. Customers have the option for Xcel to install, own, and operate the charging equipment for a monthly fee.	N/A
<b>Green Mountain Power</b>	VT, 19-3586-TF	9/20/2019, 7/20/2020	Two new EV charging rates for residential customers offer a reduced rate for EV charging and use the metering capability of the charging equipment to disaggregate EV load from the house. The “Managed Charging” rate allows Green Mountain Power to limit customer charging during Peak Events; if the customer overrides and charges during the Peak Event, they will pay an increased rate for energy used during the peak event window. The “TOU” rate includes an eight-hour block of Peak Hours with an increased rate.	N/A
<b>Dominion Energy Virginia</b>	VA, PUR-2019-00201	12/3/2019, 7/30/2020	The 2019 demand-side management programs include two new residential EV programs. The Energy Efficiency/Demand Response program provides an incentive for EV customers to purchase a qualifying EV charger. Customers are automatically enrolled in a demand response program that, during times of peak system demand, would activate the chargers to temporarily reduce load. The Peak Shaving program provides an annual incentive to customers who already have a qualifying EV charger in exchange for allowing the company to reduce the operating cycle of their charger during periods of high demand.	\$4.8 million
<b>Southern California Edison</b>	CA, A1806015	6/26/2018, 8/27/2020	The Charge Ready 2 program is a continuation of Southern California Edison’s Charge Ready pilot. The program includes a \$417.5 million for	\$436 million

Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
			<p>charging infrastructure, \$14.5 million for marketing, education, and outreach, and \$4.3 million for evaluation. The company expands its ability to provide make-ready infrastructure to support 22,200 Level 1/Level 2 charging ports. SCE will own and operate up to 2,500 charging ports at multi-unit dwellings within disadvantaged communities to make it easier for customers to participate by providing a turnkey solution. New Construction Rebates for approximately 15,400 ports provide up to \$3,500 per port for new construction multi-unity dwellings to install charging stations. Make-ready infrastructure and rebates for 205 DC fast charging ports is also available. SCE will target 50 percent of the make-ready investment in disadvantaged communities and 30 percent in multi-unit buildings. Participating customers must take part in a demand response program and accept time of use pricing.</p>	
<b>Xcel Energy</b>	MN, 19-559	8/30/2019, 10/6/2020	<p>An expansion of Xcel Energy’s Residential Electric Vehicle Service Pilot into a full-time, permanent offering for all qualifying customers called “Electric Vehicle Home Service.” Customers may choose to pay for their charging equipment and installation in a bundled customer charge or pay the full cost of their charging equipment and installation. In both cases, EV charging is billed via the charging equipment’s metering on a three-tier TOU rate. A new Voluntary Electric Vehicle Charger service provides similar payment options as the EV Home Service for customers taking service under the Residential Time of Day tariff.</p>	N/A
<b>Duke Energy Carolinas, Duke Energy Progress</b>	SC, 2018-321-E and 2018-322-E	10/10/2018, 10/7/2020	<p>The three-year Electric Transportation Pilot allows Duke Energy to install, own, and operate 60 DC fast charging stations across its service territory (40 in Duke Energy Carolinas and 20 in Duke Energy Progress). The stations will be located on highway corridor locations to enable intra- and inter-state travel. A residential EV charging program provides up to \$1,000 for up to 400 Duke Energy Carolinas customers who install a Level 2 charging station, provide access to charging data, and shift charging to observe off-peak periods. This pilot program is the first in the Carolinas.</p>	\$8.8 million

Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
<b>Portland General Electric</b>	OR, ADV 1151	7/15/2020, 10/20/2020	A three-year Residential EV Charging Pilot offers rebates for the purchase of a Level 2 charging station and helps manage the load of EV charging. Portland General Electric will provide rebates for up to 5,000 customers (\$500 standard rebate and \$1,000 rebate for low-income customers). Customers will be automatically enrolled in a Smart Charging Program and receive up to \$50 for successful participation.	\$17 million
<b>Otter Tail Power Company</b>	MN, 20-181	1/31/2020, 10/27/2021	The three-year pilot program (2021-2023) allows Otter Tail to install, own, and operate 11 DCFC stations throughout its service territory. Otter Tail also will install 10 Level 2 charging stations that will be maintained by site hosts. Time-of-day rates will incentivize charging during off-peak periods.	\$2.1 million
<b>San Diego Gas &amp; Electric</b>	CA, A1907006	7/3/2019, 12/21/2020	An optional EV High Power (EV-HP) rate for separately metered EV charging greater than 20 kilowatts (kW), including DCFC stations and medium- and heavy-duty EV charging. The rate replaces demand charges with a fixed monthly subscription charge based on the power level the customer chooses. Energy charges are based on a TOU rate.	N/A
<b>Duke Energy Carolinas, Duke Energy Progress</b>	NC, E-2 Sub 1197 and E-7 Sub 1195	3/29/2019, 11/24/2020	The three-year Electric Transportation Pilot includes four major components. An EV School Bus Charging program provides up to \$215,000 per bus for 15 buses in each of the Duke Energy Carolinas (DEC) and Duke Energy Progress (DEP) territories. Participating customers will share charging data and test load management and bidirectional charging capabilities. Duke will install, own, and operate Level 2 charging stations to provide charging access for residential customers in multifamily dwellings (50 charging stations in DEC territory and 30 in DEP territory). Duke will install, own, and operate Level 2 charging stations at public destinations (100 charging stations in DEC territory and 60 in DEP territory). Duke also will install, own, and operate up to 24 DCFC in 12 locations in its DEC territory and up to 16 DCFC in 8 locations in its DEP territory.	~\$25 million
<b>Portland General Electric</b>	OR, ADV 1155	7/17/2020, 12/15/2020	A three-year Business EV Charging Rebate Pilot will provide rebates for approximately 1,000 charging ports at workplaces, multifamily dwellings, destination centers, and light-duty EV fleets. The standard rebate amount is \$500 per	\$1 million



Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
			port, while income eligible multifamily participants may receive \$2,300 per port.	
<b>Consumers Energy</b>	MI, U-20697	2/27/2020, 12/17/2020	A three-year PowerMIFleet pilot allows Consumers Energy to pay for the full cost of the service connection and provides rebates for the installation of charging stations for participating commercial fleets and workplaces. Level 2 charging station rebates are up to \$5,000 per dual port charger, and DCFC station rebates are up to \$70,000 for public use and \$35,000 for non-public chargers per 125 kW of charging capacity. Commercial customers receiving rebates may participate in a demand response program. Consumers Energy also will test bidirectional charging, including vehicle-to-building (“V2B”) and potentially vehicle-to-grid (“V2G”) functions, for demand response and emergency backup power. An education and outreach component includes providing support to fleet customers through a fleet electrification concierge service resulting in published case studies.	\$12.2 million
<b>Florida Power &amp; Light</b>	FL, 20200170-EI	6/19/2020, 12/21/2020	Three five-year pilot tariffs for the purpose of studying and supporting the development of public DCFC stations. The first tariff, Rate Schedule UEV, allows FPL to sell public charging services directly to EV drivers from certain FPL-owned DCFC stations at a rate of \$0.30 per kilowatt-hour. The other two tariffs, Electric Vehicle Charging Infrastructure Riders (Rate Schedules GSD-1EV and GSLD-1EV) are available to third party DCFC station operators and limit the amount of demand billed to these customers during billing periods with low charging station utilization.	N/A
<b>Pacific Power, Portland General Electric</b>	OR, UM 1826	9/25/2020, 12/29/2020	Pacific Power and Portland General Electric file annual program plans outlining how revenue from the Oregon Clean Fuels Program (CFP) will be spent. *Electric companies fund the program by generating CFP credits on behalf of their residential customers who drive EVs.  Pacific Power’s plan supports statewide education and outreach efforts and the Electric Mobility grant that funds innovative community projects. In 2021, Pacific Power’s plan also will support an additional location for Pacific Power’s fast charging network. Each location consists of four DCFC and one dual port Level 2 (L2) charger.	\$1.6 million*

Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
			Portland General Electric's plan supports a competitive grant program that prioritizes transportation electrification projects in underserved communities. The 2021 plan also includes funding for public charging infrastructure, an education and outreach campaign, and emerging technology pilots.	\$6.5 million*
<b>Xcel Energy</b>	CO, 20A-0204E	5/15/2020, 1/11/2021	A three-year Transportation Electrification Plan includes five portfolios. Residential customers receive a \$500 rebate for installation costs when they provide their own charging equipment; or they may choose to have Xcel provide them one and pay a bundled service charge. The customer must enroll in a time-based rate and/or a charging optimization program. For multi-unit dwellings (MUDs), Xcel will install, own, and maintain make-ready infrastructure for multi-unit dwellings, with additional options depending on whether parking is shared or assigned. New Construction Rebates incentivize MUD building developers to install charging equipment. For commercial customers, Xcel will provide make-ready infrastructure and the customer will provide their own charging equipment or have Xcel own and maintain the charging equipment. Xcel will partner with cities to develop community charging hubs to support electric shared mobility services and own and operate a limited number of public DCFC stations. A Research, Innovation, and Partnerships program allows Xcel to create customer projects to evaluate new EV-related technologies. Advisory Services are targeted for residential customers, fleets, and community planning. An Equity Rebate program will provide an EV purchase incentive for income-qualified customers (\$5,500 for a new EV, \$3,000 for a used EV).	\$108.7 million
<b>Duquesne Light Company</b>	PA, P-2020-3019522	4/20/2020, 1/14/2021	An optional Electric Vehicle Time of Use Rate (EV-TOU) is available to Residential, Small Commercial & Industrial (C&I) and Medium C&I customers with demand less than 200 kW who own or lease an EV or who operate EV charging infrastructure at the service location. The TOU supply rate applies to all the customers' usage.	N/A
<b>Public Service Electric and Gas Company</b>	NJ, EO181011 11	9/26/2018, 1/27/2021	The Clean Energy Future – Electric Vehicle program will provide incentives to offset the cost of make-ready infrastructure for EV charging, with separate incentive amounts for customer-side and electric company-side infrastructure. Up	\$205.2 million



Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
			to 40,000 residential customers may apply for an incentive up to \$1,500 for customer-side costs. Residential customers also are offered a time of use distribution-only rate provision for EV charging. Mixed Use Commercial customers (multi-unit dwellings, public locations, and government) may apply for up to \$7,500 per Level 2 charging port for customer-side costs. Incentives also are available for up to 300 new DCFC sites. New and existing DCFC sites may apply for a rebate toward a fraction of distribution electricity costs.	
<b>Atlantic City Electric</b>	NJ, EO180201 90	12/19/2019, 02/17/2021	Atlantic City Electric (ACE) was approved for an EV program with 8 offerings. Residential customer offerings include: (1) a TOU rate that includes incentives for charging during off-peak hours available to EV owners that have an approved L2 charger and (2) a 50 percent rebate on smart L2 make-ready up to \$1,000 of qualified smart charging equipment to enable sharing of charging data with ACE. Commercial customer offerings include: (3) incentives to cover 75 percent of make ready costs up to \$5,000 per smart charging port for multi-unit dwellings, (4) incentives to cover 50 percent of make ready costs up to \$4,500 per smart charging port at workplaces, (5) incentives to cover 50 percent of make ready costs up to \$2,500 per smart charging port for fleets, (6) incentives to cover 90 percent of make ready costs up to \$60,000 per smart charging port for public DCFC, and (7) incentives to cover 50 percent of make ready costs up to \$4,500 per smart charging port for public L2 chargers. ACE also will offer (8) a Demand Charge Solution for DCFC offering an ACE-calculated rate of \$0.109/kWh while also committing to a cost-of-service study to determine appropriate rate design for the future. The above programs will provide incentives for 3,250 charging stations, including 100 public DC fast chargers.	\$20.7 million
<b>DTE Energy Company</b>	MI, U-20935	12/03/2020, 03/19/2021	The commission approved DTE's Charging Forward Electric Fleets (eFleets) Pilot program. Approval was granted for the creation of a regulatory asset not to exceed \$10.3 million in value, which will be subject to a future rate review. DTE will be required to file a comprehensive pilot plan (including the capital portion of eFleets, totaling \$3.1 million) as part of	\$10.3 million

Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
			<p>its next general rate review. In the interim, DTE has approval to proceed with eFleets which will include three primary components: Customer Education and Outreach; Fleet Advisory Services; and Charging Infrastructure Enablement. Charging Infrastructure includes plans to deploy approximately 634 charging ports, 100 DCFC, and 534 Level 2. Education and Outreach will focus on Commercial and Industrial customers and target the education of fleet operators on the benefits of fleet electrification.</p>	
<p><b>San Diego Gas &amp; Electric</b></p>	<p>CA, A1910012</p>	<p>10/28/2019, 04/15/2021</p>	<p>San Diego Gas &amp; Electric (SDG&amp;E) was approved for a two-year extension and modification of the Power Your Drive pilot program that will seek to install an additional 2,000 L2 ports at 200 sites. The approval requires that 50 percent of sites be located in underserved communities. For workplaces in an underserved community, SDG&amp;E can pay for, construct, own, and maintain make-ready charging infrastructure OR customers can own customer-side infrastructure (behind the meter) with 100 percent rebate for customer-side infrastructure. Customers will own and maintain the charging station but would be eligible for a charger rebate for 100 percent of EVSE cost up to \$2,000. For workplaces outside an underserved community, customers would be eligible for charger rebates for 50 percent of EVSE cost up to \$2,000. For MUDs in an underserved community, SDG&amp;E can pay for, construct, own, and maintain all infrastructure, including the charging stations. For MUDs outside an underserved community, SDG&amp;E can pay for, construct, own and maintain make-ready charging infrastructure OR customers can own customer-side infrastructure (behind the meter) with 100 percent rebate for customer-side infrastructure. Customers will own and maintain the charging station but would be eligible for charger rebates up to \$3,000 for single port chargers and up to \$7,000 for dual port chargers. Also available, are a one-time payment for Network Service up to \$3,000 and Maintenance Fee up to \$5,000. Customers must enroll in the VGI, EV-HP, or TOU-M rate.</p>	<p>\$43.5 million</p>

Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
<b>Tampa Electric Company</b>	FL, 20200220-EI	09/25/2020, 04/21/2021	Tampa Electric Company (TECO) will purchase, install, own, and maintain approximately 200 EV charging ports within its service territory at commercial/industrial customer locations. Four of the ports will be DCFC and the rest of the ports will be Level 2.	\$2.3 million
<b>Minnesota Power</b>	MN, 20-638	07/31/2020, 04/21/2021	Three -year pilot program containing three elements: the Charging Rewards Pilot, the EV Charging Rebate Pilot, and Outreach and Program Development. In the Charging Rewards Pilot, customers receive a device to plug into their vehicles that tracks when they are charging and provide monetary rewards for avoiding off-peak charging. In the Rebate Program Pilot, customers receive a rebate for the installation of a second service or Level 2 EV charging device up to a combined total of \$1,000.	\$1.3 million
<b>Duke Energy</b>	FL, 20210016-EI	01/14/2021, 06/04/2021	Duke Energy received approval for three new EV programs. (1) A residential EV credit program where customers that charge EVs during off-peak hours receive a \$10 bill credit each month. (2) A commercial and industrial customer charging station rebate program where recipients receive a rebate (amount varies depending on segment) and must enroll in Duke's non-demand TOU rate. (3) An electric company-owned DCFC program that offers a new tariff ("FCF-1" or Fast Charge Fee) for EV drivers who charge at the electric company-owned stations. The program allows for Duke to own and operate 50 DCFC.	\$62.9 million
<b>Hawaiian Electric Company</b>	HI, 2020-0098	07/10/2020, 05/07/2021	Hawaiian Electric received approval for their proposed eBus pilot project, for which the company will install, own, and maintain make-ready infrastructure for up to 20 eBus charging stations at five to 10 customer sites. Eligible eBus customers include public, private, and school bus fleets on Oahu, Maui, and Hawaii islands. HECO expects to spend about \$4.25 million in project costs to which will be deferred, O&M expensed, and recovered through the RBA Rate Adjustment.	\$4.3 million
<b>Wisconsin Public Service</b>	WI, 6690-TE-111	10/07/2020, 06/10/2021	Wisconsin Public Service's (WPS) application includes two pilot residential EV programs and one pilot commercial EV program. The residential EV programs combine EV charging equipment with a TOU rate design and help	N/A

Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
			address the upfront charging infrastructure cost barrier to EV adoption. The first residential program, the Charger Only EV Program – Residential (COEV-R), allows customers to contract with the WPS to install an EV charger. The second residential program, the Whole House EV Program –Residential (WHEV-R), is for residential customers who want to contract with WPS for an EV charger, and who also wish to keep their household energy use metered on the applicant’s existing TOU rate. The EV Program - Commercial (EV-C), would allow WPS to own and maintain make-ready infrastructure for commercial EV charging equipment and be an alternative option to exist line extension services along with rebates for any make-ready that is necessary for a customer to have installed on their side of the meter.	
<b>We Energies</b>	WI, 6630-TE-106	10/07/2020, 06/10/2021	We Energy's application includes two pilot residential EV programs and one pilot commercial EV program. The residential EV programs combine EV charging equipment with a TOU rate design and help address the upfront charging infrastructure cost barrier to EV adoption. The first residential program, the Charger Only EV Program –Residential (COEV-R), allows customers to contract with the applicant to install an EV charger. The second residential program, the Whole House EV Program –Residential (WHEV-R), is for residential customers who want to contract with WE for an EV charger, and who also wish to keep their household energy use metered on the applicant’s existing TOU rate. The EV Program - Commercial (EV-C), would allow WE to own and maintain make-ready infrastructure for commercial EV charging equipment and be an alternative option to exist line extension services along with rebates for any make-ready that is necessary for a customer to have installed on their side of the meter.	N/A
<b>Ameren Illinois</b>	IL, 20-0710	08/19/2020, 07/08/2021	Ameren Illinois is offering an optional EV charging tariff, the Rider Electric Vehicle Charging Program (Rider EVCP). This tariff includes time-of-use rate options for residential and non-residential customers, with bill credits for charging during preferred times, rate limiter provisions for fast DC travel corridor charging,	\$5.9 million

Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
			and supplemental line extension allowances for charging stations that meet the program qualifications.	
<b>Eversource</b>	CT, 17-12-03RE04	10/04/2019, 07/14/2021	<p>The Public Utilities Regulatory Authority of Connecticut established a nine-year statewide electric vehicle program to be administered by Eversource and United Illuminating (UI) Company in their respective service territories with both companies including the same program offerings. The combined programs target the deployment of at least 50,000 residential L2 chargers, 1,213 multi-unit dwelling L2 chargers, 4,868 public L2 chargers, 7,356 workplace L2 chargers, and 550 public DC fast chargers. Eversource and UI will offer the following EVSE and make-ready incentives: For single-family dwellings, up to \$500 EVSE rebate and a portion of necessary electrical upgrades to be determined by the electric distribution company (EDC); for multi-unit dwellings and public chargers, Up to 50 percent of EVSE cost and up to 100 percent of make-ready installation cost (≥ 2 ports); for workplace and light-duty fleets chargers, up to 50 percent of EVSE cost and up to 100 percent make-ready installation (≥ 4 ports); for public DCFC, up to 50 percent of EVSE cost and up to 100 percent make-ready installation (≥ 2 ports). The maximum incentive for multi-unit dwelling, public, workplace and fleet L2 sites is \$20,000 for baseline sites and \$40,000 for sites in underserved communities. The maximum incentive for public DCFC sites will be \$150,000 for baseline sites and \$250,000 for sites in underserved communities. Single-family residences and light-duty fleets receiving an incentive for a non-public L2 of DC fast charger will be required to enroll in a managed charging program. Multi-unit dwelling site hosts will have the option to lease EDC-owned L2 chargers. EDCs will offer EV Rate Riders to address demand charges in the near term before implementing a longer-term demand charge mitigation solution that scales volumetric charges down and demand charges up as charging station utilization increases. The programs will begin on January 1, 2022.</p>	\$73.7 million

Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
<b>Black Hills Energy</b>	CO, 20A-0195E	05/08/2020, 08/10/2021	Transportation Electrification (Ready EV) Plan includes: EV charging rates, rebates to support the deployment of infrastructure, fleet electrification, low-income programs, income-qualified EV purchase rebates, customer communication and education, dealership engagement, and employee engagement. The EV charging rates will be a time-of-day rate available to residential (RS-EV), small general service (SGS-EV), and large general service customers (LGS-EV). Black Hills Energy (BHE) will provide rebates to support deployment of Level 2 chargers for residential (up to \$500 per port); low-income (up to \$1,300 per port); business/multi-unit dwellings (up to \$2,000 per port); and government/non-profit (up to \$3,000 per port) customers. Additionally, rebates up to \$35,000 per port will support the deployment of DCFC. Income qualified rebates for purchasing EVs of \$5,500 rebate for new and \$3,000 for used vehicles will also be offered under the Equity EV Purchase Rebate program. BHE will explore the development of EV fleet pilots to be proposed during a later TEP. BHE will reserve 15 percent of the TEP's annual budget for low-income customer programs. BHE will also focus on education and awareness for customers, dealerships, and employees.	\$1.3 million
<b>Xcel Energy (Southwestern Public Service)</b>	NM, 20-00150-UT	07/21/2020, 09/22/2021	Southwestern Public Service (SPS) proposed a transportation electrification portfolio (TEP) with a portfolio consisting of three elements: residential charging, public fast charging, and advisory services. The residential charging portfolio includes a home wiring rebate of up to \$500 per household for residents that enroll in a residential time of use rate or EV Optimization program, a low-income charging rebate of up to \$1,300 for any home electrical upgrades, a home charging service where SPS would provide customers with Level 2 charging equipment at a monthly rate, and an EV Optimization program that encourages customers to charge during off-peak hours. The Public Fast Charge program includes a make-ready service where SPS will provide electric infrastructure up to the charging station for selected site hosts, and a SPS-owned public fast charger component where SPS will install, own, and operate fast chargers in areas the competitive market may not serve. In the	\$3.2 million



Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
			Advisory Services program, SPS will provide information to customers about the benefits of EVs and support planning efforts and increase awareness of the EV-related offerings in the TEP.	
<b>Minnesota Power</b>	MN, 21-257	04/08/2021, 10/22/2021	Minnesota Power will own and operate 16 DCFC stations across its territory. Target locations were chosen based on proximity to existing DCFC, population density and travel corridors. Additionally, DCFC stations will be located in areas of concern for environmental justice where possible. Chargers will range in size from 50 kW to 350 kW.	\$4.9 million
<b>Florida Power and Light</b>	FL, 20210015-EI	08/10/2021, 10/26/2021	As part of a petition for a base rate increase and rate unification, Florida Power and Light (FPL) was approved to recover costs on several EV programs over the four-year period 2022-2025. These include 6 separate elements: (1) the EVolution program, a \$30 million pilot program through 2022 that focuses on infrastructure build-out to support the growth of electric transportation in Florida. (2) The Public Fast Charging Program, a \$100 million dollar pilot program to expand access to public fast charging, including in underserved areas and evacuation routes, via the installation of electric company-owned charging stations. (3) A Residential EV Charging Services Pilot, a voluntary tariff for residential customers who desire EV charging service, for a fixed rate, through the installation of a level 2 EV charger, owned, operated, and maintained by FPL. The subscription utilizes FPL's Time-of-Use ("TOU") rate and includes unlimited off-peak charging and flexibility to charge during on-peak periods if needed, at an on-peak TOU rate. FPL expects to invest \$25 million in the pilot. (4) The Commercial EV Charging Services Pilot, a voluntary tariff for Commercial customers who desire EV charging services for fleet vehicles through the installation of FPL owned, operated, and maintained electric vehicle supply equipment on a customer's premise. Under the tariff, customers will pay a fixed monthly charge, established via a formula-based rate to allow for individual customer pricing designed to recover all costs and expenses over the life of the assets. FPL expects to invest \$25 million in the pilot. (5)	\$205 million

Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
			<p>New Technologies and Software, a set of limited pilot initiatives designed to evaluate emerging EV technologies and enhance service and resiliency for customers. In addition, FPL will implement software upgrades, including the FPL Evolution App and systems enhancements, to provide a streamlined customer experience in support of the EV programs. FPL expects to invest \$20 million. (6) Education and Awareness, in which FPL will complement its EV programs by adding components that increase awareness and educate customers about the choice to go electric. FPL plans to invest \$5 million in education and awareness efforts.</p>	
<b>PECO Energy Company</b>	PA, R-2021-3024601	03/30/2021, 11/18/2021	<p>As part of a general rate case application, PECO was approved for a pilot EV charging incentive program. The program includes three components: a Transit Charging Program, a Commercial and Industrial (C&amp;I) Level 2 Charging Program, and an EV Education and Outreach Program. Under the Transit Charging Program, transit authorities receive an incentive to offset the installation cost of high-capacity chargers in exchange for providing PECO with EV charging information. Under the L2 Charging Program, C&amp;I customers receive an incentive of \$2,000 or 50 percent of make-ready costs for L2 charger installation in exchange for providing charging information. Sites in environmental justice areas qualify for higher incentives at \$3,000 or 75 percent of make-ready costs. Incentives will be provided for 200-250 non-residential charging stations such as multi-unit dwellings, workplaces, and other public locations. PECO's EV Education and Outreach Program educates customers about the company's EV offerings, including the incentives above.</p>	\$1.6 million
<b>NV Energy</b>	NV, 21-09004	09/01/2021, 11/30/2021	<p>A three-year plan (2022-2024) consisting of five individual programs: (1) Interstate Corridor Charging Depot Program; (2) Urban Charging Depot Program; (3) Public Agency Electric Vehicle Charging Program; (4) Transit, School Bus, and Transportation Electrification Custom Program; (5) Outdoor Recreation and Tourism Program. The plan will implement 1,822 chargers across 120 sites with a total budget of \$99.8 million, 51 percent of which is dedicated to investment in underserved communities. Applicants can choose to have NV Energy own and operate charging infrastructure, in which</p>	\$99.8 million



Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
			case NV Energy will cover the full cost of installation, or they can elect to use a third party, in which case NV Energy will provide an upfront incentive which covers 100 percent of the cost with an uptime performance requirement.	
<b>Public Service Electric and Gas Company Long Island</b>	NY, 14-01299	07/01/2021, 12/01/2021	As an update to its Utility 2.0 Long Range Plan, PSEG Long Island received approval for several EV programs including an EV Make Ready Program which pays for eligible make-ready costs and, for large DCFC projects, lease any portion of make-ready infrastructure not covered by incentives back to customers over a ten-year period. For smaller L2 projects, the EV Make Ready Program provides simple cash rebates for make-ready work. Also included in the EV Make Ready Program is funding for one year of fleet advisory services and marketing and outreach. The approval also included funding for a pilot program to electrify buses in Suffolk county.	\$87.5 million
<b>Liberty Utilities</b>	MO, ET-2020-0390	06/02/2020, 12/03/2021	Transportation electrification five-year pilot programs designed to accelerate technology adoption and provide customer, energy grid, and societal benefits. 1) The Residential Smart Charge Pilot Program is a subscription electric vehicle charging service for qualifying residential customers. The pilot program equips a customer's residence with a dedicated smart electric vehicle charging station. 2) The Ready Charge Pilot Program deploys Liberty owned and operated EV fast charging infrastructure at publicly accessible commercial customer sites (hosted by businesses, public, or not-for-profit organizations) for shared public use to charge EVs. 3) The Commercial Electrification Pilot Program is similar to the Ready Charge Pilot Program, but deploys Liberty owned and operated EV charging infrastructure for the use of employees of the participant, rather than the general public. 4) The Electric School Bus Pilot Program provides Liberty owned charging infrastructure and Time-of-Use electricity consumption price schedules to support the operation of electric school buses at public school districts. 5) The Non-Road Electrification Pilot Program provides rebates to encourage adoption of qualifying electric technologies that would otherwise be powered by gasoline or diesel. Qualifying electric technologies include electric forklifts of qualifying tonnage, electric-standby truck refrigeration units, and truck stop	\$8.1 million

Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
			electrification equipment to power driver cabin appliances.	
<b>Evergy</b>	KS, 21-EKME-320-TAR	02/24/2021, 12/06/2021	Evergy Kansas Metro and Evergy Kansas Central received approval of a transportation electrification portfolio that includes rebates for charging infrastructure for residential customers, a rebate program to encourage installation of commercially operated chargers, and new EV charging rates for electric transit service and commercial EV charging. The Residential Customer EV Outlet rebate provides a rebate of \$250, or \$500 if enrolled in Evergy's TOU rate for the installation of a L2 home charger or 240-volt outlet. The Commercial EV Charging rebate will provide rebates ranging from \$25,000 to \$65,000 per site for the installation of L2 and DCFC chargers (rebate level is based on the use case). The Electric Transit Service rate is a two-period time-of-use rate with most demand charge elements removed. The Business EV Charging Service rate is a three-period TOU rate that likewise removes most demand charge components.	\$13.9 million
<b>PNM</b>	NM, 20-00237-UT	12/08/2020, 12/08/2021	PNM's Transportation Electrification Program (TEP) includes four main components: rebates for residential charging infrastructure, low-income charging infrastructure, and non-residential charging infrastructure; and marketing, education, and outreach. For residential charging rebates PNM will provide up to \$500 rebates to up to 3,900 customers for installations of eligible L2 chargers with an additional \$2,000 in rebates for 150 low-to-moderate income (LMI) customers. To be eligible to receive the rebates, customers must enroll in PNM's pilot Whole House EV TOU rate (WHEV). For non-residential charging rebates, PNM will offer rebates for make-ready infrastructure of up to \$25,000 for 70 public DC fast chargers, up to \$5,000 per station for 90 public Level 2 chargers, 90 workplace or fleet Level 2 chargers, and 40 Level 2 chargers at multi-family residences. PNM also will provide rebates of up to \$10,000 per station for 20 Level 2 stations at multifamily housing units in LMI communities. PNM also will offer rebates to help cover the cost for depot and/or en-route charging infrastructure for mass transit agencies that serve LMI communities. To receive the DC fast	\$8.7 million

Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
			charger rebate, customers must enroll in the pilot non-residential TOU EV rate.	
<b>Rocky Mountain Power</b>	UT, 20-035-34	08/23/2021, 12/20/2021	Rocky Mountain Power's (RMP) Electric Vehicle Infrastructure Program includes four primary elements: 1) the deployment of electric company-owned and operated charging stations throughout RMP's service territory 2) funding for rebates for customers to cover a portion of the cost of charging equipment 3) funding for customers for make-ready infrastructure related to EV charging infrastructure and 4) funding for participation in innovative projects and partnerships related to EV research and technology. The approval also extends RMP's pilot EV Time of Use tariff.	\$50 million
<b>Consumers Energy</b>	MI, U-20963	03/01/2021, 12/22/2021	Consumers Energy received approval for revisions to their PowerMIDrive and PowerMIFleet pilot programs as well as a demand response program. The PowerMIDrive pilot was extended for up to an additional two years and with additional budget of \$17.03 million for the continued deployment of public charging infrastructure at strategic locations. The PowerMIFleet program received approval for increased rebates for Level 2 charger installation for nonprofits and public agencies at an additional budget of \$1.8 million.	\$18.8 million
<b>Baltimore Gas &amp; Electric Delmarva Power Potomac Edison Pepco</b>	MD, 9478	01/19/2018, 01/11/2022	In an interim review of the 2018 multi-year program that was approved for Baltimore Gas & Electric (BGE), Delmarva Power, Potomac Edison, and Potomac Electric Power (Pepco), several revisions and additions to existing programs were approved. For the Joint Exelon Utilities, the Maryland PUC approved the implementation of a Time of Use Rate, a \$50 credit for customers who participate in EV programs, 60 electric company-owned stations at multifamily properties, 25 charging station rebates at eligible workplaces and fleets, and the creation of a fleet total cost of ownership calculator tool.	\$3.8 million
<b>Evergy</b>	MO, ET-2021-0151	02/24/2021, 01/12/2022	Evergy Missouri Metro and Evergy Missouri West received approval for their Residential Customer EV Outlet rebate which provides a rebate of up to \$500 for the installation of a home L2 charger or 240-volt outlet, and a Residential Developer EV Outlet rebate which provides a rebate of \$250 to developers for every new home that is wired for L2 charging. In order to receive the Residential	\$1.1 million

Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
			Customer EV Outlet rebate, residential customers must enroll in Evergy's TOU rate. Also approved was Evergy's new Electric Transit Service rate, a two-period time-of-use rate with most demand charge elements removed.	
<b>Hawaiian Electric Company</b>	HI, 2020-0202	12/04/2020, 01/24/2022	HECO's Charge Ready Hawai'i Pilot Project provides 100 percent of make-ready costs for the installation of 180 L2 charging stations at multi-unit dwellings, workplaces, businesses, and fleets. The pilot will last three years and will provide make-ready infrastructure for 30 sites across the islands of Oahu (14 sites), Hawaii (8 sites), and Maui (8 sites). Participants will provide charging data to HECO for the duration of the program.	\$5.0 million
<b>Xcel Energy</b>	MN, 20-745	09/25/2020, 04/27/2022	Xcel will install, own, and operate 21 DC fast chargers throughout Minnesota. As part of this pilot program to spur adoption of EVs and efficiently integrate them into the grid, Xcel will offer a new time-of-day rate schedule for DC fast chargers.	\$5.0 million
<b>Duke Energy Indiana</b>	IN, 45616	09/23/2021, 06/01/2022	Duke's two-year electric transportation program includes four components: a residential EV charging incentive program, a commercial and industrial charging incentive program, an electric school bus program, and a fleet advisory program with an education and outreach component to support engaging customers. For 500 customers, the residential program will assign customers to a baseline charging, an off-peak charging, or a peak avoidance group in order to gather data on how different incentives impact charging behavior. The \$400 credit will be paid quarterly over the term of the program. The commercial incentive will provide 1,200 rebates of \$500 for the installation of Level 2 EV charging equipment. The electric school bus program will provide incentives of up to \$197,000 per bus for six school buses and will include an investigation of vehicle-to-grid capabilities. The fleet advisory program will provide comprehensive analysis on fleet electrification for 45 fleets. These programs are available on a first come, first serve basis. Duke Energy Indiana also received approval for an EV Charger lease program called EVSE Tariff that is similar to outdoor lighting in that the program offers regulated customers an opportunity to select from a variety of charging stations and networks that Duke Energy will install, own, and maintain over the contract term.	\$4.3 million

Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
			The Customer will be responsible for any premise wiring, or “make-ready” upgrades to the point where the charging station is installed by Duke Energy. Duke will offer this program for both Residential and Commercial customers, including DC Fast Charging. The customer pays for this lease each month on their regular electric bill.	
<b>Jersey Central Power &amp; Light</b>	NJ, EO210306 30	03/01/2021, 06/08/2022	JCP&L's EV Driven program includes three elements: 1) Residential Customer which provides incentives of up to \$5,500 for electric company-side make-ready infrastructure and up to \$1,500 for customer side make-ready infrastructure to residential customers who install L2 chargers at their residences, as well as an off-peak charging credit for customers with qualifying chargers; 2) Mixed-Use Residential Customer which provides make-ready incentives of up to \$6,700 per L2 port for public charging infrastructure at commercial locations and multi-family dwellings and incentives of up to \$5,000 per port for workplace L2 chargers. Multi-family dwellings located in overburdened communities are eligible for increased incentives up to \$8,375 as well as the off-peak charging credit. 50 percent of the budget for multi-family dwelling incentives is dedicated to overburdened communities. 3) DCFC Public Charging which provides up to \$50,500 in incentives per site for electric company make-ready work and up to \$25,000 in incentives per port for customer make-ready work. JCP&L will also offer a demand charge credit for participants in its DCFC Public Charging subprogram. The demand charge discounts will be offered over four years and will decrease over time as follows: 50 percent discount for Program years one and two, 25 percent discount for Program year three, and no discount for program year four.	\$39.9 million
<b>Duke Energy Carolinas &amp; Duke Energy Progress</b>	NC, E-7, Sub 1266 and E-2, Sub 1291	02/07/2022, 06/24/2022	Duke Energy Carolinas and Duke Energy Progress recently received approval from the North Carolina Utilities Commission to pilot a new way to manage residential EV charging load and bill customers for electricity consumption directly related to EV charging. Customers will be billed a flat, monthly fee (\$19.99 in DEC and \$24.99 in DEP) for nearly unlimited charging, and in exchange the electric company can pause the EV from charging up to 12 hours a month to reduce system load conditions. Additionally,	\$0.6 million

Electric Company	State, Docket No.	Filed Date, Decided Date	Description	Budget
			<p>customers will indicate a preferred time they need their vehicle charged by so normal charging needs can be met during non-peak hours. Duke Energy has partnered with Ford Motor Company, General Motors, and BMW to test their Open Vehicle Grid Integration Platform (OVGIP) telematics solution, which gives the ability to ensure the vehicle is charging in non-peak hours, pause the vehicle from charging when needed, and can track the total energy consumed in charging sessions, replacing the need for a second meter. The pilot is limited to 200 customers with eligible vehicles. It is expected to begin in early 2023 and results should be available in the second half of 2024.</p>	
			<b>Total</b>	<b>\$3.69 billion</b>