



ELECTRIC UTILITY FILING BI-ANNUAL UPDATE

An update on U.S. investor-owned utility activity on transportation electrification

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EXECUTIVE SUMMARY

This report provides updates on transportation electrification with a focus on electric vehicle (EV)-related filings by investor-owned electric utilities. The report is based on data from the Atlas EV Hub (www.atlasevhub.com) from January 1, 2019 through June 30, 2019.¹

Since 2012, electric utilities have been approved to invest more than \$1.15 billion in transportation electrification across the United States. Pending filings as of June 30, 2019 could more than double the amount of investment in the sector. The vast majority of these funds would go towards the deployment of EV charging stations. Only \$20 million of the almost \$1.2 billion invested by electric utilities in transportation electrification is allocated for outreach and education efforts.

So far in 2019, commissions throughout the United States have approved more than \$116 million in electric utility investment in transportation electrification. Approved programs could add an additional 1,260 DC fast charging and 12,140 Level 2 charging stations. Seven programs that could bring in an additional \$118 million were either proposed or updated in 2019. Denied or withdrawn investments outweigh approved programs for the first half of 2019. Seven electric utilities were denied or withdrew investment worth more than \$186 million, with \$137 million of this accounted for by San Diego Gas and Electric (SDG&E)'s withdrawal of a residential charging program that would have supported more than 60,000 charging stations. Following the end of the second quarter in August, an SDG&E program focused on transportation electrification worth more than \$107 million was approved.

While a concentration of funds approved came from California utilities in 2018, approved investment has been more widely distributed in 2019. Only \$87 million in investment was approved outside of California in 2018, and there have not been any approved filings in California so far in 2019. The Central Atlantic and Midwest Regions accounted for 94 percent of the year's approved investment. Despite a wider geographic range for these investments, no filings were recorded in the Rocky Mountain or Northeast regions in the first half of 2019.

Utilities continue to receive approvals for programs targeting public charging network expansion. Only one program targeting public charging infrastructure has been denied so far in 2019 with a majority of the other rejections falling in the other categories. No programs seeking to invest in charging infrastructure for medium- and heavy-duty vehicles were approved in the first half of 2019, but the large program from SDG&E approved in mid-August will exclusively target electric trucks and buses. Looking ahead, electric utilities can increase the impact of their programs by pairing them with existing public funding activities. States like New Jersey that have invested significant VW Settlement funds in transportation electrification in 2019 also have significant pending utility programs that could significantly increase investment in the sector. New filings that align with public programs, such as the \$29 million filing in New York that supports the state's Reforming the Energy Vision plan, have the potential to expand the pool of resources for electrification programs.

Acknowledgement: This work was supported by the Natural Resources Defense Council.

¹ All data from this report is from the Electric Utility Filings dashboard on the Atlas EV Hub (www.atlasevhub.com).

TRANSPORTATION ELECTRIFICATION STATE OF PLAY

Passenger EV sales continue to grow in the United States, although the pace of growth has slowed between 2018 and 2019. Market growth was greater than 100 percent for the second half of 2018 compared to 2017. Growth for the first half of 2019 was only 19 percent over the first half of 2018. First quarter growth was only 11 percent over the same time in 2018, while the second quarter picked up speed with 27 percent year-over-year growth. June was the strongest month of the year, with 51 percent more sales than June 2018. The Tesla Model 3 is mostly responsible for this growth, accounting for 45 percent of the entire EV market so far in 2019.

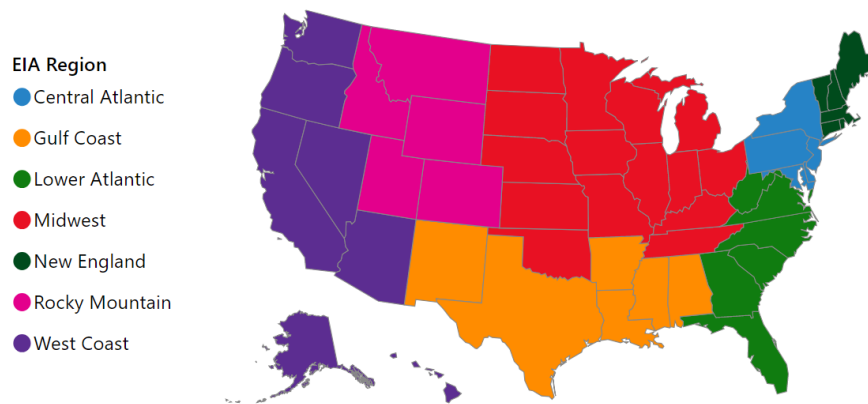
Charging station deployment is also increasing throughout the country. Since the beginning of 2018, charging ports have increased by more than 40 percent. This is a significant increase from the 26 percent year-over-year growth seen between 2017 and 2018. As of June 2019, there were 68,241 charging ports recorded throughout the country. 84 percent of these are Level 2 stations and 30 percent of all charging stations are located in California.

Public funding for medium- and heavy-duty vehicles continues to play a major role in the growth of this sector. Almost \$200 million in public funding for transportation electrification has been awarded so far in 2019. Transit buses funded through the VW settlement account for \$58 million of this investment. Medium- and heavy-duty vehicles excluding buses have received more than \$10 million in 2019. In 2018, electric transit buses received \$181 million of the total \$741 million in public funding awards invested in transportation electrification for the year.

2019 UTILITY FILINGS THROUGH JUNE 30

Utility filings for 2019 are more widely spread out across the United States compared to 2018, when they were concentrated in California. Utilities continue to prioritize programs seeking to expand public charging infrastructure. This section details utility filings by region as defined by the U.S. Energy Information Administration (EIA). Figure 1 displays states divided by their respective EIA regions. Following sections will outline utility filing activity by region using these designations.

FIGURE 1: U.S. STATES BY EIA REGION



This figure shows states categorized by U.S. EIA region.

CURRENT STATUS OF UTILITY FILINGS FROM 2012 TO PRESENT

Since 2012, electric utilities have been approved to invest more than \$1.15 billion in transportation electrification across the United States. Pending filings as of June 30, 2019 could more than double the amount of investment in the sector. Approved investment will support more than 47,000 charging stations in 21 states throughout the country. An education gap remains with only \$20 million of the almost \$1.2 billion invested by electric utilities in transportation electrification allocated for specific outreach efforts. Figure 2 shows all the filings Atlas is tracking organized by filing status.

FIGURE 2: ELECTRIC UTILITY FILINGS STATUS IN THE UNITED STATES AS OF JUNE 30, 2019

Approved	Pending/Filed	Denied/Withdrawn
21 States	21 States	15 States
62 Filings	31 Filings	25 Filings
39 Utilities	25 Utilities	20 Utilities
\$1,175,823,741 Investment	\$1,529,887,976 Investment	\$255,570,125 Investment
2,346 DC Fast Charging Stations	912 DC Fast Charging Stations	132 DC Fast Charging Stations
45,112 Level 2 Charging Stations	123,430 Level 2 Charging Stations	65,643 Level 2 Charging Stations

This chart highlights approved, pending, and denied filings through the second quarter of 2019. Pending investment could more than double the amount of total investment if approved.

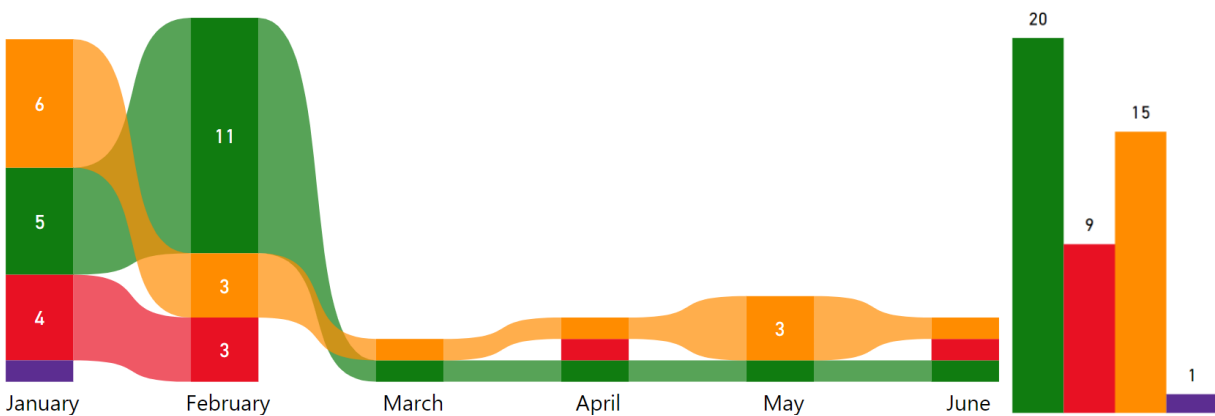
FILING ACTIVITY IN FIRST HALF OF 2019

This section provides an overview of all filing activity so far in 2019. The *Utility Transportation Electrification Programs by EIA Region* section will provide more detail on specific filing actions. So far in 2019, commissions have approved more than \$116 million in electric utility investment in transportation electrification. Approved programs could add an additional 1,260 DC fast charging and 12,140 Level 2 charging stations. Seven programs that could bring in an additional \$147 million were either proposed or updated in 2019. Figure 3 summarizes filing activity by status in 2019.

FIGURE 3: FILING CHANGES BETWEEN JANUARY 1 AND JUNE 30, 2019

Approved	Pending/Filed	Denied/Withdrawn
8 States	7 States	6 States
20 Filings	7 Filings	9 Filings
17 Utilities	8 Utilities	7 Utilities
\$116,689,767 Investment	\$118,711,066 Investment	\$186,517,656 Investment
1,261 DC Fast Charging Stations	256 DC Fast Charging Stations	30 DC Fast Charging Stations
12,140 Level 2 Charging Stations	13,940 Level 2 Charging Stations	63,076 Level 2 Charging Stations

● Approved ● Denied/Withdrawn ● Filed ● Other



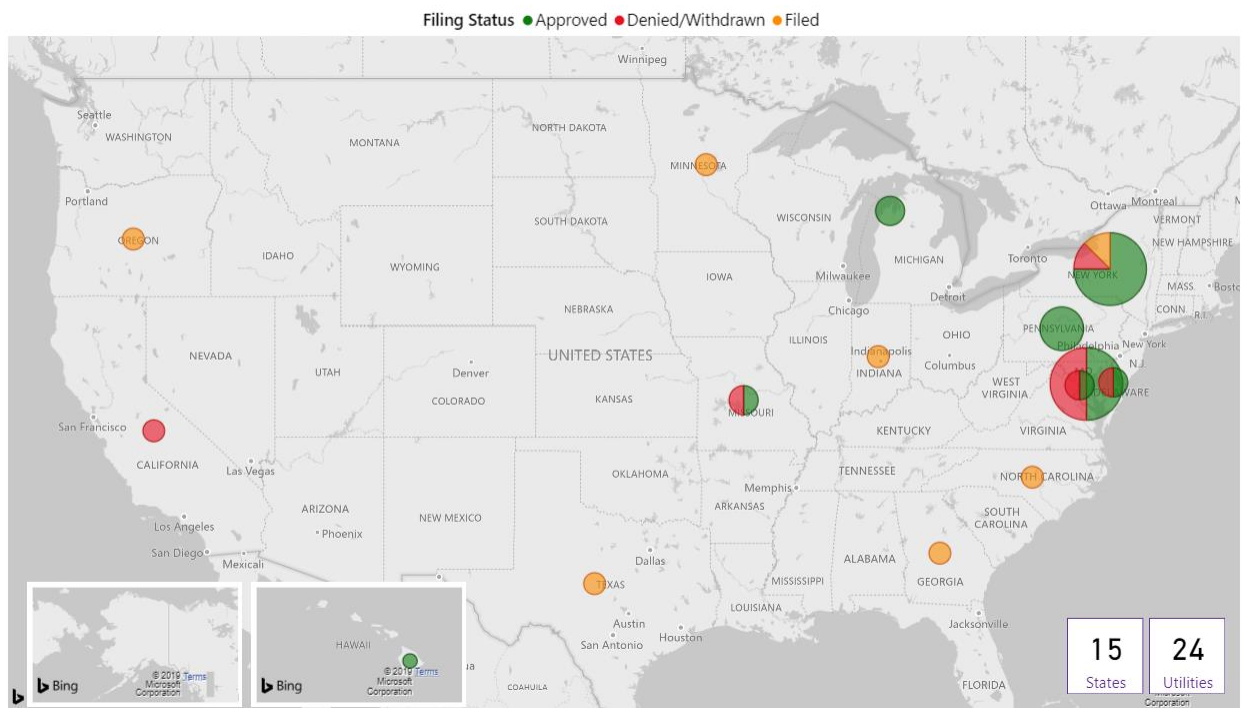
These charts present an overview of the utility filing activity so far in 2019. A majority of the filing activity was concentrated in the first quarter of 2019 with almost all of the approved investment falling in February.

Overall, filings by 17 electric utilities in eight states were approved in the first two quarters of 2019. Eight utilities in seven states either filed new programs or received some sort of modification to previously proposed programs. Of note is the seven electric utilities that were denied or withdrew investment worth more than \$186 million. The majority of denied and withdrawn funding came from the withdrawal of San Diego Gas & Electric (SDG&E)'s previously approved \$137 million residential charging program in February 2019 (see *West Coast* for more information) .

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The first quarter of 2019 between January and March was a more active time period for utility filings than the second quarter, accounting for more than \$98 million of the total \$116 million in approved investment for the year so far. The largest pending new filing for the year—a \$76 million pilot from Duke Energy in North Carolina—also occurred in the first quarter. Figure 4 shows how filings activity has been spread around the country in 2019.

FIGURE 4: 2019 FILING CHANGES BY LOCATION



This map shows the status of different filing actions in 2019 by state. Filing activity for the year is heavily concentrated in the Central Atlantic region.

Utility investment so far in 2019 falls far short of activity in the first half of 2018. The total approved investment from January through June in 2018 was valued at more than \$700 million for programs proposed by 11 electric utilities in six states. Approvals in California, however, are responsible for \$673 million of this total. Pending filings were valued at \$789 million and denied or withdrawn filings at only \$30 million. Total approved investment for all of 2018 was worth almost \$770 million.

While a concentration of funds approved came from California utilities in 2018, 2019 has so far been a strong year for electric utility investment in transportation electrification outside the golden state. Only \$87 million in investment was approved outside of California in 2018, and there have not been any approved filings in California so far in 2019.

TABLE 1: WEST COAST FILINGS BY STATUS IN 2019

Utility	State	Filing Identifier	Date	Status	Potential Investment
Hawaiian Electric Company	HI	36220	3/20/2019	Approved	\$0
Portland General Electric	OR	UM-1811	2/15/2019	Filed	\$5,400,000
San Diego Gas & Electric	CA	A1701020	2/7/2019	Denied/Withdrawn	\$136,905,000

This table shows all filing activity in the West Coast region so far in 2019. The withdrawal of SDG&E's \$137 million program was the most significant activity in the region.

Despite a slower start to 2019 than last year and the large withdrawal from SDG&E, the West Coast continues to lead investment in transportation electrification accounting for almost 80 percent of all utility investment in the sector. Equity and medium- and heavy-duty electrification continue to be focus areas of utility programs on the West Coast. Approved investments in the region could account for more than 90 percent of U.S. electric utility investment with a transportation equity and medium- and heavy-duty focus.

CENTRAL ATLANTIC

The Central Atlantic region saw the most utility filing activity in 2019 so far. Central Atlantic utilities received approval for 16 programs with one new filing and seven withdrawals or rejections this year. Table 2 shows the breakdown of these filing changes.

TABLE 2: CENTRAL ATLANTIC FILINGS BY STATUS IN 2019

Utility	State	Filing Identifier	Date	Status	Potential Investment
Baltimore Gas and Electric Company	MD	9478	1/14/2019	Approved	\$25,677,101
Baltimore Gas and Electric Company	MD	9478	1/14/2019	Denied/Withdrawn	\$7,261,788
Central Hudson Gas & Electric Corporation	NY	18-E-0138	2/7/2019	Approved	\$4,400,000
Consolidated Edison Company	NY	18-E-0138	2/7/2019	Approved	\$6,400,000

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Utility	State	Filing Identifier	Date	Status	Potential Investment
Consolidated Edison Company	NY	19-E-0065	1/31/2019	Filed	\$0
Consolidated Edison Company	NY	19-E-0065	2/6/2019	Denied/Withdrawn	\$0
Delmarva Power	DE	17-1094	6/4/2019	Approved	\$583,500
Delmarva Power	DE	17-1094	6/4/2019	Denied/Withdrawn	\$1,222,050
Delmarva Power	MD	9478	1/14/2019	Approved	\$5,339,065
Delmarva Power	MD	9478	1/14/2019	Denied/Withdrawn	\$4,807,333
Met-Ed	PA	R-2019-3007069	1/11/2019	Filed	\$0
Met-Ed	PA	R-2019-3007069	2/28/2019	Approved	\$0
National Grid	NY	18-E-0138	2/7/2019	Approved	\$9,000,000
New York State Electric & Gas Corporation	NY	18-E-0138	2/7/2019	Approved	\$5,120,000
New York State Electric & Gas Corporation	NY	19-E-0378	5/20/2019	Filed	\$29,000,000
Orange and Rockland Utilities	NY	18-E-0138	2/7/2019	Approved	\$1,664,000
Penelec	PA	R-2019-3007070	1/11/2019	Filed	\$0
Penelec	PA	R-2019-3007070	2/28/2019	Approved	\$0
Penn Power	PA	R-2019-3007071	1/11/2019	Filed	\$0
Penn Power	PA	R-2019-3007071	2/28/2019	Approved	\$0

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Utility	State	Filing Identifier	Date	Status	Potential Investment
Penn Power	PA	R-2019-3007072	1/11/2019	Filed	\$0
Penn Power	PA	R-2019-3007072	2/28/2019	Approved	\$0
Potomac Edison	MD	9478	1/14/2019	Approved	\$6,890,574
Potomac Edison	MD	9478	1/14/2019	Denied/Withdrawn	\$4,558,335
Potomac Electric Power Company	DC	FC1130	4/12/2019	Approved	\$4,822,500
Potomac Electric Power Company	DC	FC1130	4/12/2019	Denied/Withdrawn	\$5,605,150
Potomac Electric Power Company	MD	9478	1/14/2019	Approved	\$14,246,027
Potomac Electric Power Company	MD	9478	1/14/2019	Denied/Withdrawn	\$12,558,000
Rochester Gas and Electric Corporation	NY	18-E-0138	2/7/2019	Approved	\$5,032,000
Rochester Gas and Electric Corporation	NY	19-E-0378	5/20/2019	Filed	\$29,000,000

This table shows all filing activity in the Central Atlantic region so far in 2019. Maryland leads the way in terms of approved investment with more than \$50 million in new investment.

The Maryland Public Utilities Commission approved most elements of a transportation electrification program submitted by four investor-owned electric companies in January 2019. \$52 million spread among Baltimore Gas and Electric, Delmarva Power, Potomac Edison, and Potomac Electric Power Company (Pepco) was approved. This investment supports EV charging for residences, workplaces, and the public along with special rates and education efforts. The program will support more than 5,000 Level 2 charging stations and 85 DC fast charging stations throughout the state. An innovation fund and programs supporting some non-residential EV charging programs worth approximately \$29 million were denied because program did not meet the equity and public interest criteria required by the commission for approval.

The D.C. Public Services Commission partially approved Pepco's plan to invest over \$15 million in a wide variety of programs. The PSC approved Pepco's rate promotion for residential time-of-use charging, and

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approved with modification plans to invest \$4.8 million in electric transit bus charging, public DC fast charging and Level 2 charging, and rideshare and taxi charging stations. It was determined that the utility could not own or operate these charging stations, and was instead directed to invest in make-ready system upgrades to support the competitive market. A decision was postponed on Pepco’s education program and residential charging station rebates valued at over \$3.4 million. Investments worth almost \$4.2 million covering workplace charging rebates, residential smart charging rebates, fleet charging stations, and pilot demonstration programs were rejected to ensure opportunity for private investment in the charging market.

As a part of the statewide Reforming the Energy Vision initiative, New York State Electric & Gas Corporation and Rochester Gas and Electric Corporation filed a joint program to support the deployment of 2,310 Level 2 chargers, 122 DCFCs, and 28 transit bus chargers through make-ready infrastructure and own and operate 14 DCFCs in locations that may not be attractive for third-party investment. This program includes a smart charging program which will influence the time when customers charge their vehicles to ensure load optimization and improve demand response capacities. This will be supplemented by a customer engagement component. The program is worth \$29 million in total and expands investment in program areas covered in earlier filings seeking to expand the public fast charging network.

The Central Atlantic region is the second highest in terms of total electric utility investment with almost \$103 million in approved programs. Maryland accounts for more than 50 percent of the region’s investment while New York is responsible for 40 percent of the remainder.

MIDWEST

The Midwest has also experienced significant utility activity in 2019 with three approved filings two new filings, and one denial. Table 3 shows the breakdown of these filing changes.

The most significant activity in the region occurred in Michigan. On May 2, 2019, the Michigan Public Service Commission approved with modification DTE Electric Company’s Charging Forward EV pilot program. The program is worth more than \$13.1 million and includes make-ready investments for charging infrastructure and early development of an electric school bus program. It also includes make-ready investment for other fleet vehicles, DC fast charging (DCFC) programs, residential Level 2 rebates and rate promotions, and workplace charging. Education and outreach will be included in this investment. Approved investments will cover up to 2,800 Level 2 and 32 DCFC stations. In January 2019, Consumers Energy in Michigan was improved to invest \$10 million in more than 3,200 Level 2 charging and 24 DC fast charging stations throughout the state. Both programs include education and outreach components worth a combined \$2.6 million designed to recruit charging site hosts and increase customer participation through rate promotion efforts.

TABLE 3: MIDWEST FILINGS BY STATUS IN 2019

Utility	State	Filing Identifier	Date	Status	Potential Investment
Ameren Missouri	MO	ET-2018-0132	2/6/2019	Approved	\$4,400,000
Ameren Missouri	MO	ET-2018-0132	2/6/2019	Denied/Withdrawn	\$13,600,000

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Consumers Energy	MI	U-20134	1/9/2019	Approved	\$10,000,000
DTE Energy Company	MI	U-20162	5/2/2019	Approved	\$13,115,000
Indiana Michigan Power	IN	45235	5/14/2019	Filed	\$2,100,000
Xcel Energy	MN	19-186	2/22/2019	Filed	\$201,566

This table shows all filing activity in the Midwest region so far in 2019. Michigan leads the way in terms of approved investment with more than \$23 million in new investment.

Ameren Missouri was also approved to invest \$4.4 million in 22 Level 2 and 22 DC Fast Charging stations throughout the state. \$13.6 million in potential investment from this same program was denied. Programs for workplace charging, fleet charging, multi-unit dwelling charging, and other public, non-corridor charging were rejected for high administrative costs and a lack of clear cost-benefit analysis.

The Midwest follows behind the Central Atlantic region with almost \$80 million in total utility investment in transportation electrification. Despite this close gap between the two regions, the Midwest lags far behind in terms of DC fast charging station investment with only 500 stations supported compared to 1,200 in the Central Atlantic. The situation is reversed with Level 2 stations with the Midwest investing in more than 8,500 stations compared to the Central Atlantic's 5,800.

LOWER ATLANTIC

With the exception of one large filing, there has been little activity in the Lower Atlantic region so far in 2019. Only one other program was filed and none were approved or rejected. Table 4 shows the breakdown of these filing changes.

Almost all of the proposed investment in the region for 2019 comes from a Duke Energy Carolinas \$76 million Electric Transportation Pilot program filed in March. The multi-faceted plan seeks to add over 2,300 public and private charging stations and subsidies for 85 electric school buses. This filing follows the Power Forward program that was denied in 2018 on the basis that Duke Energy failed to show that the program costs qualify for deferred accounting cost recovery. The Commission also suggested that existing programs should be utilized to investigate grid modernization, which is a focus of the new filing. The program will be split between the subsidiaries Duke Energy Carolinas and Duke Energy Progress. The goal of the program is to assess best practices of vehicle-to-grid integration and the potential cost savings for the utility under increased EV and infrastructure adoption throughout North Carolina. The pilot will include rebates for charging stations: residential Level 2, public and private fleet, electric school bus, and transit bus; the utility proposes to own the stations for the school and transit buses. The utility will install and own Level 2 charging stations servicing multi-family dwellings and public areas. The utility will also install and own public DC fast charging stations. The pilot will include education and outreach elements to raise awareness of the benefits of transportation electrification.

TABLE 4: LOWER ATLANTIC FILINGS BY STATUS IN 2019

Utility	State	Filing Identifier	Date	Status	Potential Investment
Duke Energy	NC	E-2, Sub 1197	3/29/2019	Filed	\$76,009,500
Georgia Power Company	GA	42516	6/28/2019	Filed	\$6,000,000

This table shows all filing activity in the Lower Atlantic region so far in 2019. The proposal of Duke Energy's \$76 million pilot program was the most significant activity in the region.

The EV Hub has only recorded \$8 million of approved investment in the Lower Atlantic region so far and this comes from Florida. \$25 million in potential investment has been denied and almost \$100 million in pending investment could rapidly accelerate utility engagement in the region.

GULF COAST

There was only one filing action recorded in the Gulf Coast region so far in 2019. CenterPoint Energy's subsidiary Houston Electric is requesting a tariff restructuring and increased allowance to help cover costs associate with grid improvements necessary to accommodate increasing EV demand in the Houston area. This will help the company prepare for and facilitate increased expansion of the charging network in the area. This is the first filing the EV Hub has recorded for this region.

TABLE 5: GULF COAST FILINGS BY STATUS IN 2019

Utility	State	Filing Identifier	Date	Status	Potential Investment
CenterPoint Energy	TX	49421	4/5/2019	Filed	\$0

This table shows all filing activity in the Gulf Coast region so far in 2019. The EV Rate filed by CenterPoint Energy is the only activity in the region.

NEW ENGLAND

The EV hub did not record any changes or updates to filings in the New England region for 2019. New England accounts for \$66 million of the total utility investment. \$177 million in potential investment is still pending approval.

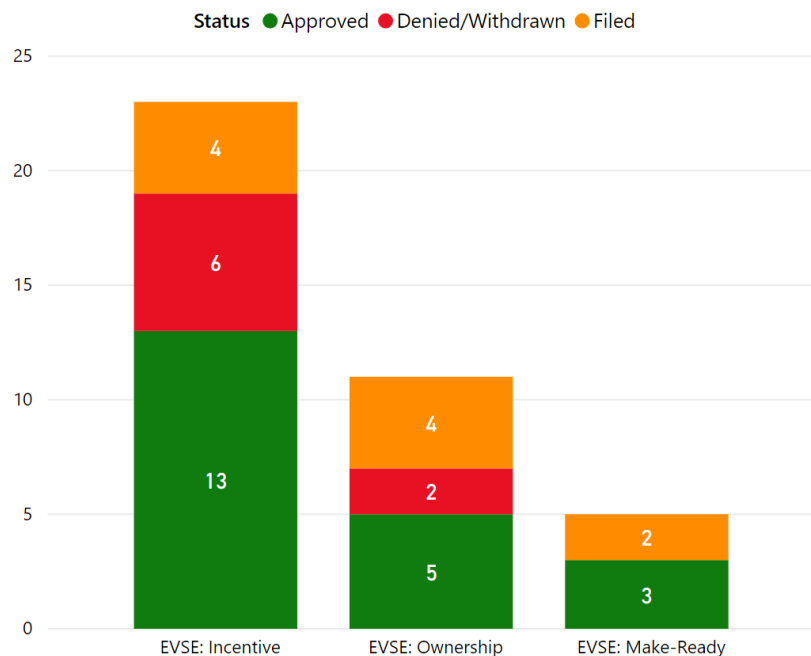
ROCKY MOUNTAIN

The EV hub has not recorded any programs from investor-owned utilities in the Rocky Mountain region so far. Some of the filings in the queue may add recent programs in Colorado.

KEY TAKEAWAYS FROM FILINGS IN 2019

Overall, states with the highest utility investment in 2019 have also implemented supportive policies and allocated public funding to help accelerate transportation electrification. Maryland utilities lead the way in terms of approved investment in 2019, accounting roughly half of the approved utility investment in 2019. Figure 6 shows filing types by their status for this year.

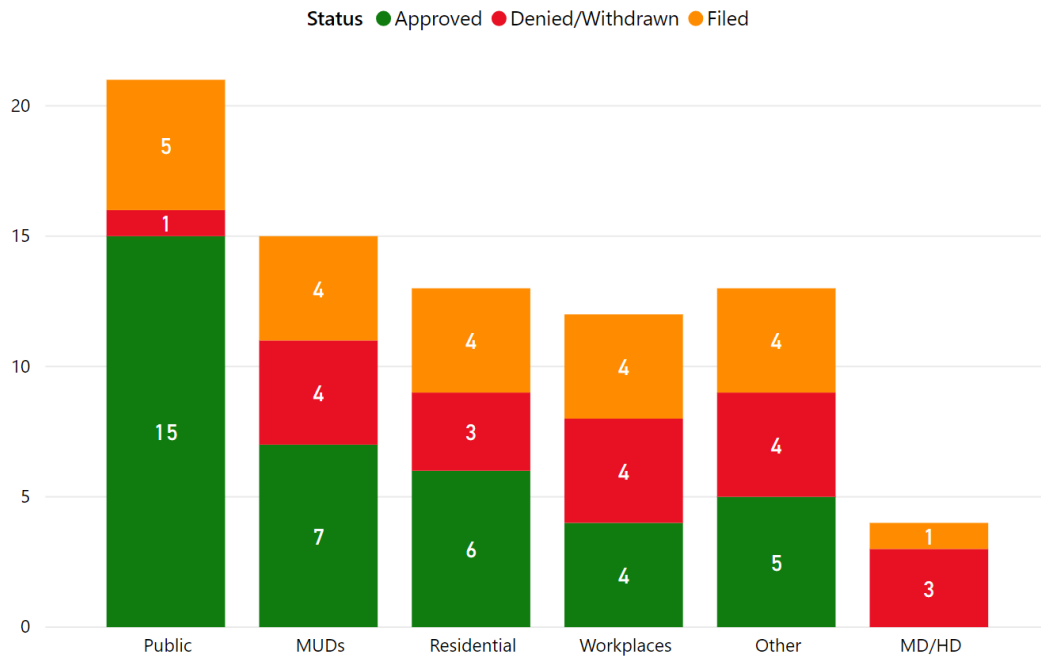
FIGURE 6: 2019 FILING ELEMENT TYPE BY STATUS



This chart shows the ratio of approvals, filings, and denials by filing element type. No denials for make-ready investments were recorded while significant denials for EVSE: Incentive programs were recorded so far this year.

Two rejections of utility proposals to own and operate charging infrastructure and six rejections for incentive programs indicate challenges for utilities pursuing these investment approaches in 2019. Conversely, no programs focused on make-ready investment have been denied in 2019. Commission restrictions on utility ownership of charging stations in the case of SDG&E in California was referenced as core reasons behind the utility's withdrawal of one of their programs. In Washington DC, the commission rejected the portions of Pepco's proposal indicating utility ownership of charging stations outright. The commission argued that utility ownership would discourage private sector investment in the sector. While this information offers some insight into what is working and what is not, Figure 7 contextualizes this with use target data.

FIGURE 7: 2019 FILING USE TARGETS BY STATUS



This chart shows the use targets for different filings separated by use target. Programs targeting public charging have been the least likely to be rejected in 2019 while there have been no MD/HD programs approved so far this year.

It is significant to note that only one program targeting public charging infrastructure has been denied so far in 2019. This offers evidence that commissions value the unique role that utilities play in closing the public charging infrastructure gaps. A majority of the other rejections have fallen in the other categories, with no medium- and heavy-duty program approvals so far in 2019 with the exception of EV rates which are not recorded in this chart.

None of the states that have invested VW Settlement funds for transportation electrification in 2019 have been approved for utility investment this year. Despite this, there is an opportunity for states to step up their activity. States like New Jersey, which is situated in the Central Atlantic region with leaders like New York and Maryland, have made significant investments of VW Settlement funds in transportation in 2019. New Jersey has contributed \$27 million of the \$78 million total VW Settlement funds invested in transportation electrification in 2019. Despite significant electrification commitments, the utilities in the state have not been approved for any programs yet. Two programs filed in 2018 from Atlantic City Electric and Public Service Gas and Electric worth \$379 million could bring 480 DC fast and almost 40,000 Level 2 charging stations to the state.

As state-level EV sales data becomes available over the next several months, connections between utility investment and EV market indicators will become clear. Utilities continue to pursue EV rates and stakeholder engagement efforts in Arizona, California, and Wisconsin are directing utilities across the respective states to develop new EV rates to encourage adoption and push these new loads to off-peak hours. If paired with an increased focus on education and outreach efforts, utilities are poised to facilitate EV market growth through the remainder of 2019.



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