2019 WINS AND LOSSES

Overview of Transportation Electrification Policy in 2019
ABOUT WINS AND LOSSES

• Wins and losses in EV regulatory environment from 2019
• Document aggregates data from EVGridX and the Atlas EV Hub

Policy “Wins” include enactment of new legislation, expanded government funding, or approved utility investment in programs supporting EV and EV charging deployment.

Policy “Losses” include enactment of punitive EV fees, rollbacks of regulations establishing emission standards, ending of public programs, or denied or withdrawn utility investment.
Federal Regulation
Trump administration continues efforts to rollback emissions regulations
Infrastructure bills proposing EV charging investment stalled in committee
Tax credit extension denied

State Policy
CO joins ZEV program with NM and MN taking early steps
States including CO, WA, and OR led new policy implementation
11 states enacted new or increased EV fees

Utility Engagement
$329m in approved investment for transportation electrification
$335m in denied or withdrawn investment
$218m filed in 2019 is still pending approval

VW Settlement Progress
Settlement awards worth $229m allocated
53% increase from 2018
57% of 2019 awards were for EVs and EV charging
FEDERAL SUPPORT WANES

2019 marked by losses led by Trump administration rollbacks and stalled legislation
July 2019: CA and 4 major automakers finalize agreement to maintain tougher standards.

September 2019: EPA blocks CA’s agreement.

October 2019: GM, Toyota, and Hyundai align with federal government urging nationwide standard.

November 2019: CA and 23 states sue U.S. DOT to maintain tougher standards.
America’s Transportation Infrastructure Act (S.2302)
- Includes $1 billion for alternative fuel infrastructure (including EV charging) on highway corridors
- 2019 status:
  - Introduced in July 2019
  - No action for remainder of the year
- 2020 prospects:
  - Stuck in committee
  - Bi-partisan support, but lack of funding mechanism

LOSS:
INACTION ON EV CHARGING BILL
Growing Renewable Energy and Efficiency Now (GREEN) Act

- Would have increased federal tax credit window from 200k to 600k vehicle sales
- 2019 Status:
  - Initial extension introduced in April
  - Revised version introduced in November as a part of larger spending bill
  - Extension not included in December deal
- 2020 Implications:
  - Tesla now phased out of federal tax credit
  - GM will follow in March
2020 OUTLOOK: FEDERAL LEADERSHIP UNLIKELY

- Additional lawsuits filed near end of 2019 will continue in 2020
- Status of vehicle greenhouse gas and fuel economy standards uncertain
- Automakers remain split on which regulations to back
- Trump administration also seeks to limit truck emission regulations
STATES TAKE THE LEAD

2019 saw new ZEV states, electrification targets, government funding, and EV fees
• January: New Mexico begins process of joining ZEV
• August: Colorado became the 11th state to formally join the ZEV program
• September: Minnesota proposes program and opens public comment period
• 16 states enacted or proposed new legislation supporting EVs in 2019
• At least 6 EV rebate bills were introduced or enacted in 2019
• **CA:** AB 1046-Passed Assembly
  • BEV/PHEV rebate
• **CO:** HB 19-1159-Enacted
  • BEV/PHEV, MD/HD rebate
• **GA:** HB 732-In House
  • BEV/PHEV, EVSE rebate
• **HI:** SB 657-Passed Senate
  • BEV/PHEV rebate extension
• **ME:** LD 614-Enacted
  • BEV rebate
• **NY:** S 1291- In Senate
  • PHEV tax exemption
WIN: COLORADO EMERGES AS AN EV LEADER

- In addition to joining the ZEV Program, Colorado led with 5 new laws:
  - Expanded State EV tax credits
  - EV charging grant program
  - Utilities required to file transportation electrification plans
- In January, Gov. Polis issued an executive order requiring all remaining VW Settlement funds to go towards EVs and EV charging
- The state awarded $16.5m for electric transit buses in 2019
Excluding the VW settlement, more than $630m was announced for EVs and EV charging in 2019

CA and NY led 2019 new funding announcements

CA: $370m total
- CEC Clean Transportation Program: $95m (light-duty charging)
- CEC School Bus Replacement Program: $90m

NY: $47m total
- NY Green New Deal: $31m (light-duty charging)
- NY Truck Voucher Incentive Program: $10m
WIN: ELECTRIC BUS FUNDING AND COMMITMENTS

- Including the VW Settlement, government funding for electric buses increased
- Electric Transit Buses
  - 2018 Funding: $182m
  - 2019 Funding: $217m
- Electric School Buses
  - 2018 Funding: $3.4m
  - 2019 Funding: $142m
• 11 states enacted new or increased EV fees in 2019:
  • AL, AR, HI, IA, IL, KS, ND, OH, UT, WA, WY
• 28 states now have active EV fees
• 8 additional states have EV fees under consideration
  • AZ, FL, NH, NM, NV, OK, PA, TX
2020 OUTLOOK: EARLY WINS AND MORE ON THE HORIZON

- NM and MN could join ZEV program
- Electric bus funding to increase nationwide with Low-No, VW, and other programs
- New York and New Jersey have both announced major statewide electrification plans in January 2020
  - **NY**: 100% ZEV transit buses by 2035, 800 DCFC by 2025
  - **NJ**: 100% ZEV transit buses purchases by 2032, 400 DCFC by 2025, $5k EV rebate
- Washington has reintroduced 2019 EV legislation in 2020 to support statewide climate goals
  - Clean fuel standard credit program
  - New funding for public EV charging targeting rideshare vehicles
ELECTRIC Utility INVESTMENT

More denied and withdrawn investment than approved in 2019
MORE INVESTMENT DENIED/WITHDRAWN THAN APPROVED IN 2019

<table>
<thead>
<tr>
<th>Approved</th>
<th>Pending/Tiled</th>
<th>Denied/Withdrawn</th>
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</thead>
<tbody>
<tr>
<td>13 States</td>
<td>10 States</td>
<td>9 States</td>
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<tr>
<td>32 Filings</td>
<td>13 Filings</td>
<td>13 Filings</td>
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<tr>
<td>25 Electric Companies</td>
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<td>$329,181,672 Investment</td>
<td>$223,223,321 Investment</td>
<td>$334,780,657 Investment</td>
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<tr>
<td>1,776 DC Fast Charging Stations</td>
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<td>302 DC Fast Charging Stations</td>
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<tr>
<td>15,688 Level 2 Charging Stations</td>
<td>19,050 Level 2 Charging Stations</td>
<td>79,436 Level 2 Charging Stations</td>
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</table>
Investment was more widely distributed outside of CA in 2019 compared to 2018
- 2018 CA proportion: 89%
- 2019 CA proportion: 51%
Utilities in states like Hawaii leveraged VW Settlement funds to enhance programs
Programs previously withdrawn or rejected in MO and MI were modified and approved
- Both utilities returned with modified budgets and program targets that clearly communicated benefits

32 elements of programs approved in 2019. Bubble size reflects number of approved elements in a state.
## SUMMARY OF THE TOP 10 APPROVED INVESTMENTS

<table>
<thead>
<tr>
<th>State</th>
<th>Utility</th>
<th>Filing Identifier</th>
<th>Investment</th>
<th>Charging Stations</th>
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</thead>
<tbody>
<tr>
<td>California</td>
<td>San Diego Gas &amp; Electric</td>
<td>A1801012</td>
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<tr>
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<tr>
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<td>Missouri</td>
<td>Ameren Missouri</td>
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<td>853</td>
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<td>Michigan</td>
<td>Consumers Energy</td>
<td>U-20134</td>
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</table>
Denied and withdrawn investment exceeded approvals in 2019

Largest denial:
- $154 million
- 17,700 charging stations
- National Grid in MA

Largest withdrawal:
- $137 million
- 60,000 charging stations
- San Diego Gas and Electric in CA

12 elements of programs denied/withdrawn in 2019. Bubble size reflects number of denied/withdrawn elements in a state.
## SUMMARY OF THE TOP 10 DENIED/WITHDRAWN INVESTMENTS

<table>
<thead>
<tr>
<th>State</th>
<th>Utility</th>
<th>Filing Identifier</th>
<th>Investment</th>
<th>Charging Stations</th>
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</thead>
<tbody>
<tr>
<td>Massachusetts</td>
<td>National Grid</td>
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<tr>
<td>Missouri</td>
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<td>Maryland</td>
<td>Potomac Edison</td>
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<tr>
<td>D.C.</td>
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<tr>
<td>Delaware</td>
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<tr>
<td>Arizona</td>
<td>Tucson Electric</td>
<td>E-01933A-17-0250</td>
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HIGHLIGHTS: PUBLIC CHARGING LEADS

• Utility filings targeting publicly accessible charging led 2019
  • 95% approval rate
  • >1,700 DCFC approved
• Utilities maintain engagement with underserved communities
  • 20% of approved investment
  • 38% of program elements include underserved community focus
- $121 million for electric trucks and buses approved in 6 states
- Transit buses lead other vehicle categories
- Electric school buses are an area of growing interest for utilities
- CA continues to dominate MD/HD investment
  - 93% of approved investment in 2019
FLUCTUATION IN YEARLY APPROVAL RATES

Status: • Approved • Approved with Modification • Denied • Postponed or Withdrawn

<table>
<thead>
<tr>
<th>Year</th>
<th>Approved</th>
<th>Approved with Modification</th>
<th>Denied</th>
<th>Postponed or Withdrawn</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>45.00%</td>
<td>15.00%</td>
<td>10.00%</td>
<td>3.00%</td>
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<tr>
<td>2018</td>
<td>44.44%</td>
<td>11.11%</td>
<td>31.48%</td>
<td>3.00%</td>
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<tr>
<td>2019</td>
<td>40.12%</td>
<td>7.41%</td>
<td>20.99%</td>
<td>3.00%</td>
</tr>
</tbody>
</table>
Utility investment likely to accelerate in states with new transportation electrification strategies
  - NY DPS has filed recent reports in support of utility-led EV charging deployment
Utilities announced major commitments to school bus electrification in 2019 that will likely materialize in 2020
  - Dominion Energy seeks to deploy 1,000 electric school buses in Virginia
Utilities will continue to explore vehicle-grid integration (VGI) programs
  - ConEd in New York exploring bidirectional power flow (V2G) with school buses
  - California VGI working group seeking to establish statewide standards and targets
Awards up 50% in 2019

VW SETTLEMENT UPDATE
Increasing numbers of states are dedicating funds to zero emission trucks & buses

WIN: FUNDING INCREASING FOR EVS AND EV CHARGING
WIN: ELECTRIC VEHICLES & CHARGING GET 57% OF 2019 AWARDS

- $229 million in VW Settlement awards in 2019
  - 17 states
  - 50% increase over 2018
- $114 million for electric buses and trucks award categories funding breakdown
  - Electric transit buses: $88 M
  - Electric school buses: $25 M
  - Electric trucks: $0.1 M
- $14 million for EV charging

Source: Atlas EV Hub (www.atlasevhub.com)
Of the 35 states that have made awards, 8 have yet to fund EVs or EV charging
  - AZ, GA, LA, KS, MO, NE, OR, SD, TX
TX issued $24.4 million in 2019 for a combination of CNG, diesel, and propane transit and school buses
Other states like TN that have funded EVs spent more on conventional vehicles

Source: Atlas EV Hub (www.atlasevhub.com)
### SUMMARY OF THE TOP 10 AWARDS

<table>
<thead>
<tr>
<th>State</th>
<th>Project</th>
<th>Fuel Type</th>
<th>Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Virginia</td>
<td>School Bus</td>
<td>Electric</td>
<td>$20m</td>
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<tr>
<td>Texas</td>
<td>School Bus</td>
<td>Diesel, Propane</td>
<td>$16m</td>
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<tr>
<td>Colorado</td>
<td>Transit Bus</td>
<td>Electric</td>
<td>$14m</td>
</tr>
<tr>
<td>New Jersey</td>
<td>Transit Bus</td>
<td>Electric</td>
<td>$14m</td>
</tr>
<tr>
<td>Washington</td>
<td>Transit Bus</td>
<td>Electric</td>
<td>$13m</td>
</tr>
<tr>
<td>Virginia</td>
<td>Transit Bus</td>
<td>Electric</td>
<td>$12m</td>
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<tr>
<td>Massachusetts</td>
<td>Transit Bus</td>
<td>Electric</td>
<td>$11m</td>
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<tr>
<td>Tennessee</td>
<td>School Bus</td>
<td>Propane, Diesel</td>
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<td>Texas</td>
<td>Transit Bus</td>
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<td>Arizona</td>
<td>School Bus</td>
<td>Diesel</td>
<td>$8.4m</td>
</tr>
</tbody>
</table>
2020 OUTLOOK: EV INVESTMENT LIKELY TO CONTINUE

States with the highest budgets for EVs including California and New York have yet to make any awards.

Public light-duty EV charging investment set to increase
- $36 million awarded
- $316 million total allocated

EV market leaders will continue to set an example
- CO, NJ, and VA have allocated nearly all awards to EVs so far

Electric trucks and school buses could see large increase in funds
- Electric truck funding is still near zero
- Electric school bus VW funding grew from less than $1 million to more than $26 million in 2019

Remaining VW Funds by Category

Funding amount includes funds remaining based on mitigation plans and existing awards.
2020 OUTLOOK: SUMMARY

• Federal vehicle greenhouse gas and fuel economy standard issues creating market uncertainty and unlikely to be resolved in 2020
• States will continue to lead EV policy and funding for MD/HD vehicles
• State rebates will become more important for consumers as federal tax credit ends for some automakers
• New and increased EV Fees likely to be enacted
• Pending utility investment worth $1.4 billion could accelerate EV charging deployment
• EV-friendly states must take bold action to ensure a majority of VW Settlement awards continue to go to EVs and EV charging