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## Vermont Legislative Research Service

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### Electric Vehicle Charging and Incentive Funding in the United States

Our report provides a background on electric vehicles (EVs) and how legislation is being utilized by federal and state governments to incentivize them. It explains how the *Infrastructure Investment and Jobs Act* (2021) has affected EV infrastructure. We will provide a comprehensive background on current Vermont programs for EV incentives and how they have been funded, as well as how Vermont uses federal funds for charging infrastructure. With that context, we explore programs for EV incentives and charging in Connecticut, Oregon, California, Delaware, and Maine for comparison.

### Background on Electric Vehicles

#### Overview

The U.S. Department of Energy defines an EV as, “a vehicle that can be powered by an electric motor that draws electricity from a battery and is capable of being charged from an external source.”<sup>1</sup> There are different categories of EVs. All-electric vehicles can only be powered by a battery. This is the same as a “battery electric vehicle.”<sup>2</sup> Fuel cell electric vehicles are powered by hydrogen, which is stored in a tank within the vehicle and converted to electricity to power it. This type of EV and the hydrogen infrastructure used to fuel them are still in the early stages of implementation.<sup>3</sup> EVs were introduced to reduce emissions related to gasoline and diesel vehicles and provide an environmentally friendlier mode of transportation. The EV market provides a variety of models, including compact cars, sedans, SUVs, and pickup trucks.<sup>4</sup> In 2022, transportation (cars, trucks, aircraft, and railroads) accounted for the largest portion (28%) of greenhouse gas emissions in the U.S.<sup>5</sup>

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<sup>1</sup> Alternative Fuels Data Center, “Electric Vehicle (EV) Definition,” U.S. Department of Energy, accessed November 7, 2024. <https://afdc.energy.gov/laws/12660>

<sup>2</sup> Alternative Fuels Data Center, “Electric Vehicle (EV) Definition.”

<sup>3</sup> Alternative Fuels Data Center, “Fuel Cell Electric Vehicles,” U.S. Department of Energy, accessed November 7, 2024. <https://afdc.energy.gov/vehicles/fuel-cell>

<sup>4</sup> U.S. Department of Transportation, “Vehicle Types,” accessed November 7, 2024. <https://www.transportation.gov/rural/ev/toolkit/ev-basics/vehicle-types>

<sup>5</sup> United States Environmental Protection Agency, “Fast Facts on Transportation Greenhouse Gas Emissions,” accessed November 7, 2024. <https://www.epa.gov/greenvehicles/fast-facts-transportation-greenhouse-gas-emissions>

In 2021, the Biden Administration released a plan to fund EV charging. The Biden-Harris Electric Vehicle Charging Action Plan (2021) set a goal to make half of all new vehicles sold in the U.S. zero-emission by 2030. It also intends to build a network of 500,000 chargers nationwide by the same year.<sup>6</sup> In the *Infrastructure Investment and Jobs Act* (2021), the federal government provided \$7.5 billion of new funding for reliable and accessible EV charging stations around the U.S.<sup>7</sup> These are a few ways the federal government has incentivized EVs and EV charging.

## **National Electric Vehicle Infrastructure Program**

The National Electric Vehicle Infrastructure Program (NEVI) is managed by Federal Highway Administration.<sup>8</sup> The program was enacted on November 15, 2021, and was a result of the *Bipartisan Infrastructure Law* (2021) which allocated \$5 billion to this program.<sup>9</sup> Each year, NEVI provides funding to states. Prior to receiving funds, each state must submit their plans of how the funds will be used within the requesting state. The purpose of this funding goes toward creating an interconnected network of strategically placed EV charging stations. The main locations of these stations will be along Alternate Fuel Corridors (AFCs).<sup>10</sup> AFCs are determined by the Federal Highway Administration as locations where EV charging stations are required to be part of the interconnected highway system. The end goal for this program is to have a network of 500,000 EV chargers that connect the nation in an accessible way.<sup>11</sup> When this goal is met, the remaining funds can be used for other settings outside of AFC locations.<sup>12</sup>

## **Volkswagen Clean Air Act Civil Settlement**

Volkswagen was found guilty of selling approximately 590,000 vehicles that had “defeat devices.”<sup>13</sup> These devices helped the vehicles to falsely pass federal emissions tests with the largest concern was oxides of nitrogen which are considered to be a “serious health concern.”<sup>14</sup>

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<sup>6</sup> The White House, “FACT SHEET: The Biden-Harris Electric Vehicle Charging Plan,” accessed November 7, 2024. <https://www.whitehouse.gov/briefing-room/statements-releases/2021/12/13/fact-sheet-the-biden-harris-electric-vehicle-charging-action-plan/>

<sup>7</sup> U.S. Department of Transportation, “Electric Vehicles & Rural Transportation,” accessed November 7, 2024. <https://www.transportation.gov/rural/ev>

<sup>8</sup> Alternative Fuels Data Center, “National Electric Vehicle Infrastructure (NEVI) Formula Program,” U.S. Department of Energy, accessed November 5, 2024. <https://afdc.energy.gov/laws/12744>

<sup>9</sup> Federal Highway Administration, “National Electric Vehicle Infrastructure (NEVI) Program,” U.S. Department of Transportation, accessed November 5, 2024. <https://www.fhwa.dot.gov/environment/nevi/>

<sup>10</sup> Alternative Fuels Data Center, “National Electric Vehicle Infrastructure (NEVI) Formula Program,” U.S. Department of Energy, accessed November 5, 2024. <https://afdc.energy.gov/laws/12744>

<sup>11</sup> U.S. Department of Energy, “National Alternative Fuels Corridors,” Alternative Fuels Data Center, accessed November 5, 2024. <https://afdc.energy.gov/laws/11675>

<sup>12</sup> Federal Highway Administration, “National Electric Vehicle Infrastructure (NEVI) Program,” U.S. Department of Transportation, accessed November 5, 2024. <https://www.fhwa.dot.gov/environment/nevi/>

<sup>13</sup> Environmental Protection Agency, “Volkswagen Clean Air Act Civil Settlement,” accessed November 5, 2024. <https://www.epa.gov/enforcement/volkswagen-clean-air-act-civil-settlement>

<sup>14</sup> Environmental Protection Agency, “Volkswagen Clean Air Act Civil Settlement.”

Through multiple partial settlements, the Environmental Protection Agency was able to resolve the allegations against Volkswagen. There were three partial settlements:<sup>15</sup>

- The first was the “2.0-liter partial settlement” and it was approved on October 25, 2016.
- The second was the “3.0-liter partial settlement” and it was approved on May 17, 2017.
- The third was the “third partial settlement” and it was approved on April 13, 2017.

Because of the settlement, Volkswagen was required to pay up to \$14.7 billion.<sup>16</sup> Up to \$10 billion was used to compensate consumers and retrieve their defective vehicle models.<sup>17</sup> The remaining \$4.7 billion was allocated towards making investments in clean vehicle technology and to lessen the effect their cars had on the environment.<sup>18</sup> From this settlement, the Volkswagen Mitigation Trust was created. The possible beneficiaries of this trust were:<sup>19</sup>

- All 50 states
- The District of Columbia
- Puerto Rico
- Federally recognized tribes

## EV Funding in States

### Vermont

Since 2022, over \$22 million has been invested into Vermont’s EV incentive programs.<sup>20</sup> No additional funds were apportioned to the existing programs for Fiscal Year 2024.<sup>21</sup> As of October 2024, applications for all these programs have been paused as the initial funds from 2022 have run out.<sup>22</sup> According to an article from Vermont Public Radio, the state was denied funding for this program from the *Inflation Reduction Act* (2023).<sup>23</sup>

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<sup>15</sup> Environmental Protection Agency, “Volkswagen Clean Air Act Civil Settlement.”

<sup>16</sup> Office of Public Affairs, “Volkswagen to spend up to \$14.7 Billion to Settle Allegations of Cheating Emissions Tests and Deceiving Customers on 2.0 Liter Diesel Vehicles U.S.,” *Department of Justice*, accessed November 5, 2024. <https://www.justice.gov/opa/pr/volkswagen-spend-147-billion-settle-allegations-cheating-emissions-tests-and-deceiving>

<sup>17</sup> Office of Public Affairs, “Volkswagen to Spend Up to \$14.7 Billion to Settle Allegations of Cheating Emissions Tests and Deceiving Customers on 2.0 Liter Diesel Vehicles U.S.”

<sup>18</sup> Office of Public Affairs, “Volkswagen to Spend Up to \$14.7 Billion to Settle Allegations of Cheating Emissions Tests and Deceiving Customers on 2.0 Liter Diesel Vehicles U.S.”

<sup>19</sup> United States Environmental Protection Agency, “Frequently Asked Questions (FAQ) For Beneficiaries to the Volkswagen Mitigation Trust Agreements,” August 2022. <https://www.epa.gov/system/files/documents/2022-08/updated-faqs-beneficiaries-vw-mitigation-trust.pdf>

<sup>20</sup> Vermont State Legislation: ACT 184, 2022. <https://legislature.vermont.gov/Documents/2022/Docs/ACTS/ACT184/ACT184%20As%20Enacted.pdf>

<sup>21</sup> Vermont State Legislation: ACT 62, 2023. <https://legislature.vermont.gov/Documents/2024/Docs/ACTS/ACT062/ACT062%20Act%20Summary.pdf>

<sup>22</sup> Vermont Public Radio, “Vermont’s EV Incentives on Hold After State Misses Out on Federal Grant,” accessed November 7th, 2024. <https://www.vermontpublic.org/local-news/2024-10-17/vermont-ev-electric-vehicle-incentives-on-hold-after-state-misses-out-on-federal-grant>

<sup>23</sup> Vermont Public Radio, “Vermont’s EV Incentives on Hold After State Misses Out on Federal Grant.”

Vermont's incentive programs were available to consumers through a public/private partnership with Efficiency Vermont. Efficiency Vermont is regulated by the state government and operates under a Certificate of Public Good, which is granted through the Vermont Public Utility Commission.<sup>24</sup> Efficiency Vermont was the first regulated utility for energy efficiency in the U.S.<sup>25</sup> Efficiency Vermont's mission is to save both energy and money for Vermonters with services like "rebates, workforce development, financing options, strategic partnerships and technical advice."<sup>26</sup> Below are three of the programs Vermont has used in the past.

**Mileage Smart Used High Efficiency Vehicle Incentive Program:** As of November 2024, the website has announced that they are not accepting new applicants with the program having "exceeded expectations" with demand "surpassing initial projections."<sup>27</sup> Through a partnership with Capstone, a Vermont based non-profit, this program was available for low and moderate-income buyers. The program covered 25% of the upfront cost for a used high efficiency vehicle up to \$2,500. If the buyer qualified for the Supplemental Nutrition Assistance Program (SNAP) they could receive up to \$5,000 off towards the initial sales cost.<sup>28</sup> Qualifying cars included vehicles with a mileage efficiency of up to 40 miles per gallon or higher. Mileage Smart applicants could only use it on plug-in hybrids or all-electric vehicles. However, applicants that qualified for SNAP could purchase non-plug-in hybrids and still opt into the program.<sup>29</sup> The program was in place from October 2020 to October 2024. The program has now concluded, and all of the available funds have been disbursed. The state had last apportioned \$3 million to the program for fiscal year 2023.<sup>30</sup>

**Replace Your Ride (RYR):** RYR was a limited time incentive available for Vermonters who wanted an all-electric vehicle or plug-in hybrid vehicle in exchange for scrapping their internal combustion engine vehicle.<sup>31</sup> The administrator of this program was the Center for Sustainable Energy (CSE), a clean energy non-profit that handles EV incentives for states.<sup>32</sup> This program corresponded with existing programs depending on the kind of vehicle purchased. For new EVs, the benefits were available through the State of Vermont New Plug-in Vehicle Program to get the

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<sup>24</sup> State of Vermont Department of Public Service, "Electric: Vermont Electric Utilities," accessed November 7, 2024. <https://publicservice.vermont.gov/regulated-utilities/electric>

<sup>25</sup> Efficiency Vermont, "20 Year Impact Report," accessed November 7, 2024. <https://www.efficiencyvermont.com/20-year-impact-report>

<sup>26</sup> Efficiency Vermont, "About Us," accessed November 7th, 2024. <https://www.efficiencyvermont.com/about>

<sup>27</sup> MileageSmart, "Mileage Smart Program Officially Concludes," accessed November 7, 2024. <https://energycenter.org/expertise/clean-transportation>

<sup>28</sup> Drive Electric Vermont, "MileageSmart Used High Efficiency Vehicle Incentive Program," accessed November 7th, 2024. <https://www.driveelectricvt.com/incentives/vermont-state-incentives#mileagesmart>

<sup>29</sup> Drive Electric Vermont, "MileageSmart Used High Efficiency Vehicle Incentive Program/"

<sup>30</sup> Vermont State Legislation: ACT 62, 2023 <https://legislature.vermont.gov/Documents/2024/Docs/ACTS/ACT062/ACT062%20Act%20Summary.pdf>

<sup>31</sup> Drive Electric Vermont, "Replace Your Ride Program (RYR)," accessed November 7, 2024. <https://www.driveelectricvt.com/incentives/vermont-state-incentives#ryr>

<sup>32</sup> Center for Sustainable Energy, "Expertise: Clean Transportation," accessed November 7, 2024. <https://energycenter.org/expertise/clean-transportation>

RYR incentive.<sup>33</sup> For the purchase of a used plug-in electric vehicle, this program could be combined with the Mileage Smart program.<sup>34</sup> Applicants could also receive this incentive without the purchase of a new vehicle and could receive a prepaid debit card directly from CSE. The card could only be used towards eligible businesses that will reduce single occupancy emissions such as rideshare programs or bike shops.<sup>35</sup> From the program's start date in October 2022 through October 2024, a total of 373 applications had been approved and \$1.7 million worth of vouchers were approved or disbursed.<sup>36</sup> The amount of \$3 million was approved for the program for fiscal year 2023 including administrative costs to CSE. However, as of November 2024 there is only \$335,500 remaining and no more applications will be accepted.<sup>37</sup>

**The State of Vermont EV Incentives Program:** The State of Vermont incentive program for new EVs was overseen by CSE, the same organization that administers the RYR program.<sup>38</sup> Incentives would depend on the applicant's tax filing status (married couple filing jointly/separately, individual filing as single) and their Adjusted Gross Income requirements.<sup>39</sup> The incentive amounts also differ if one were to purchase a plug-in hybrid versus an all-electric vehicle, with more funds going towards all electric versus hybrids. Incentive amounts range from \$1,500 up to \$4,000.<sup>40</sup> This program only applied to the purchase of a new all-electric or plug-in hybrid vehicle.<sup>41</sup> This program had been in place since October 2019. As of November 2024, the program is not accepting any new applications.<sup>42</sup> The program received \$12 million in funds for fiscal year 2023. Between July 2022 and September 2024, 2,913 applications were approved with \$10.3 million of funding issued or approved.<sup>43</sup>

The demand for these three programs was greater than expected. Funds are expected to be apportioned for Fiscal Year 2025 according to Act 148, an Act Related to Transportation Funding enacted in 2024.<sup>44</sup> This includes \$2.6 million for the state EV incentive program, \$200,000 for Mileage Smart, and \$900,000 for RYR. There were no additional funds apportioned for Fiscal Year 2024 according to Act 62 passed in 2023.<sup>45</sup>

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<sup>33</sup> Drive Electric Vermont, "Replace Your Ride Program (RYR)," accessed November 7, 2024.

<https://www.driveelectricvt.com/incentives/vermont-state-incentives#ryr>

<sup>34</sup> Drive Electric Vermont, "Replace Your Ride Program (RYR)."

<sup>35</sup> Drive Electric Vermont, "Replace Your Ride Program (RYR)," accessed November 7, 2024.

<https://www.driveelectricvt.com/incentives/vermont-state-incentives#ryr>

<sup>36</sup> Drive Electric Vermont, "Replace Your Ride Incentive Sales Dashboard," accessed November 7, 2024.

<https://www.driveelectricvt.com/reports-resources/state-incentive-RYR-dashboard>

<sup>37</sup> Drive Electric Vermont, "Replace Your Ride Incentive Sales Dashboard."

<sup>38</sup> Drive Electric Vermont, "New Plug-In Electric Vehicle State Incentive Sales Dashboard," accessed November 7,

2024. <https://www.driveelectricvt.com/reports-resources/state-incentive-new-PEV-dashboard#viz1668705251298>

<sup>39</sup> Drive Electric Vermont, "New Plug-In Electric Vehicle State Incentive Sales Dashboard."

<sup>40</sup> Drive Electric Vermont, "New Plug-In Electric Vehicle State Incentive Sales Dashboard."

<sup>41</sup> Drive Electric Vermont, "New Plug-In Electric Vehicle State Incentive Sales Dashboard."

<sup>42</sup> Drive Electric Vermont, "New Plug-In Electric Vehicle State Incentive Sales Dashboard," accessed November 7th,

2024. <https://www.driveelectricvt.com/reports-resources/state-incentive-new-PEV-dashboard#viz1668705251298>

<sup>43</sup> Drive Electric Vermont, "New Plug-In Electric Vehicle State Incentive Sales Dashboard," accessed November 7th,

2024. <https://www.driveelectricvt.com/reports-resources/state-incentive-new-PEV-dashboard#viz1668705251298>

<sup>44</sup> Vermont State Legislation: ACT 148, 2024.

<https://legislature.vermont.gov/Documents/2024/Docs/ACTS/ACT148/ACT148%20Act%20Summary.pdf>

<sup>45</sup> Vermont State Legislation: ACT 62, 2023.

<https://legislature.vermont.gov/Documents/2024/Docs/ACTS/ACT062/ACT062%20Act%20Summary.pdf>



Vermont's Electric Vehicle Supply Equipment (EVSE) highway infrastructure is partially funded by the National Electric Vehicle Infrastructure program (NEVI).<sup>46</sup> This program was authorized by the *Bipartisan Infrastructure Law* (2021).<sup>47</sup> The funds from NEVI will be available until 2026, with \$21.2 million in total going to Vermont since 2022.<sup>48</sup> Vermont's NEVI plan was developed in partnership with Efficiency Vermont. Vermont's goals include installing level 3 EVSE charging points within three miles of every exit of Interstate Highways 89, 91, and 93.<sup>49</sup>

Community charging funds are available through Vermont's ESVE grant program.<sup>50</sup> This program was initially funded by Vermont's portion of the Volkswagen Clean Air Act violation settlement.<sup>51</sup> The legislature now allocates the funds for this program.<sup>52</sup> There has been \$1.7 million appropriated for fiscal year 2025 as a one-time appropriation.<sup>53</sup> Fees collected by the DMV office on registered plug-in hybrids and all-electric vehicles are allocated to the transportation fund for the purpose of increasing access to EVSE charging ports.<sup>54</sup>

## Connecticut

The state of Connecticut established the Connecticut Hydrogen and Electric Automobile Purchase Rebate (CHEAPR) as an incentive program.<sup>55</sup> CHEAPR was funded by three energy companies until 2019: Avangrid, Eversource Energy, and American Electric Power Service Corporation.<sup>56</sup> Now the program is funded by the *Clean Air Act* (2022) fee. This act placed a fee on the sales of new vehicles and the renewal of vehicle registration. Beginning on July 1, 2022, all of the money collected from it is put towards funding CHEAPR.<sup>57</sup> At this time, there are 30 vehicles that are eligible for this incentive.<sup>58</sup> The incentive amount depends on what type of vehicle you buy and the specific program the buyer qualifies for.<sup>59</sup> The vehicle types are plug-in

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<sup>46</sup> State of Vermont Agency of Transportation, "National Electric Vehicle Infrastructure Program," accessed November 7, 2024. <https://vtrans.vermont.gov/climate/charging/nevi>

<sup>47</sup> State of Vermont Agency of Transportation, "National Electric Vehicle Infrastructure Program."

<sup>48</sup> State of Vermont Agency of Transportation, "National Electric Vehicle Infrastructure Program,"

<sup>49</sup> Vermont Agency of Transportation, *Electric Vehicle Infrastructure Deployment Plan*, August, 2023.

[https://vtrans.vermont.gov/sites/aot/files/planning/documents/planning/Vermont%20FFY2024%20NEVI%20State%20Plan\\_FINAL.pdf](https://vtrans.vermont.gov/sites/aot/files/planning/documents/planning/Vermont%20FFY2024%20NEVI%20State%20Plan_FINAL.pdf)

<sup>50</sup> Vermont Department of Transportation, *Electric Vehicle Charging Infrastructure*, accessed November 7, 2024.

<https://vtrans.vermont.gov/climate/charging>

<sup>51</sup> Vermont Department of Transportation, *Electric Vehicle Charging Infrastructure*.

<sup>52</sup> Vermont Department of Transportation, *Electric Vehicle Charging Infrastructure*.

<sup>53</sup> Vermont State Legislation: ACT 148, 2024.

<https://legislature.vermont.gov/Documents/2024/Docs/ACTS/ACT148/ACT148%20Act%20Summary.pdf>

<sup>54</sup> Vermont State Legislation: ACT 148, 2024.

<sup>55</sup> Connecticut Department of Energy & Environmental Protection, "CHEAPR," Connecticut's Official State Website, accessed November 5, 2024. <https://portal.ct.gov/deep/air/mobile-sources/cheapr/cheapr---home>

<sup>56</sup> Connecticut Department of Energy & Environmental Protection, "CHEAPR - FAQ," Connecticut's Official State Website, accessed November 5, 2024. <https://portal.ct.gov/deep/air/mobile-sources/cheapr/cheapr---faq>

<sup>57</sup> Connecticut Department of Energy & Environmental Protection, "CHEAPR - FAQ."

<sup>58</sup> Connecticut Department of Energy & Environmental Protection, "CHEAPR," Connecticut's Official State Website, accessed November 5, 2024. <https://portal.ct.gov/deep/air/mobile-sources/cheapr/cheapr---home>

<sup>59</sup> Connecticut Department of Energy & Environmental Protection, "CHEAPR."

hybrid electric vehicles, battery electric vehicles, and fuel cell electric vehicles. The different program types are CHEAPR Standard, Rebate+ New, and Rebate+ Used.<sup>60</sup>

Connecticut has two different funding sources to fund EV charging infrastructure.<sup>61</sup> The first source is from the Volkswagen Environmental Mitigation Trust. Connecticut was awarded \$55.7 million from the settlement and the state uses a portion of it to fund the building of EV chargers.<sup>62</sup> The state uses a program called the Diesel Emissions Mitigation Program to deploy certain charging stations and the purpose of this program is to utilize the funding the Volkswagen Settlement. The second source used to fund EV charging infrastructure is through the NEVI Formula Program.<sup>63</sup> Through this program, Connecticut will receive approximately \$52 million over the next five years.<sup>64</sup>

## Oregon

The state of Oregon has a standard rebate of up to \$2,500 available for all applicants for a lease or purchase of a new all-electric or plug-in hybrid vehicle.<sup>65</sup> The other rebate the state offers is the Charge Ahead Rebate program.<sup>66</sup> The Charge Ahead Rebate is only open to low or middle-income applicants with an “income of less than 400% of the federal poverty line and based upon the applicant’s household size.”<sup>67</sup> The website provides a calculator that allows potential applicants to see if they are eligible.<sup>68</sup> Applicants are eligible for a rebate of up to \$7,500 for a new all-EV or plug-in hybrid vehicle or \$5,000 for a used all-electric or plug-in hybrid vehicle.<sup>69</sup> Both rebates were chosen by the Oregon Department of Environmental Quality to be implemented by the Center for Sustainable Energy, a third-party nonprofit organization through a private-public partnership.<sup>70</sup> The programs are funded by approximately 45% of the state’s

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<sup>60</sup> Connecticut Department of Energy & Environmental Protection, “CHEAPR - FAQ,” Connecticut’s Official State Website, accessed November 5, 2024. <https://portal.ct.gov/deep/air/mobile-sources/cheapr/cheapr---faq>

<sup>61</sup> Alternative Fuels Data Center, “Connecticut Laws and Incentives,” U.S. Department of Energy, accessed November 5, 2024.

[https://afdc.energy.gov/laws/all?state=CT#:~:text=The%20Connecticut%20Department%20of%20Energy%20and%20Environmental%20Protection%20\(DEEP\)%20allocates,reduce%20diesel%20emissions%20in%20Connecticut](https://afdc.energy.gov/laws/all?state=CT#:~:text=The%20Connecticut%20Department%20of%20Energy%20and%20Environmental%20Protection%20(DEEP)%20allocates,reduce%20diesel%20emissions%20in%20Connecticut)

<sup>62</sup> Connecticut Department of Energy & Environmental Protection, “VW Grant Information,” Connecticut’s Official State Website, accessed November 5, 2024. <https://portal.ct.gov/deep/air/mobile-sources/vw/vw-settlement---grants>

<sup>63</sup> Alternative Fuels Data Center, “Connecticut Laws and Incentives,” U.S. Department of Energy, accessed November 5, 2024.

[https://afdc.energy.gov/laws/all?state=CT#:~:text=The%20Connecticut%20Department%20of%20Energy%20and%20Environmental%20Protection%20\(DEEP\)%20allocates,reduce%20diesel%20emissions%20in%20Connecticut](https://afdc.energy.gov/laws/all?state=CT#:~:text=The%20Connecticut%20Department%20of%20Energy%20and%20Environmental%20Protection%20(DEEP)%20allocates,reduce%20diesel%20emissions%20in%20Connecticut)

<sup>64</sup> Connecticut Department of Transportation, “National Electric Vehicle Infrastructure (NEVI),” Connecticut’s Official State Website, accessed November 5, 2024. [https://portal.ct.gov/dot/programs/nevi?language=en\\_US](https://portal.ct.gov/dot/programs/nevi?language=en_US)

<sup>65</sup> Oregon Department of Environmental Quality, “How the EV Rebate Program Works,” accessed November 7, 2024. <https://www.oregon.gov/deq/aq/programs/Pages/Applying-for-EV-Rebate.aspx>

<sup>66</sup> Oregon Department of Environmental Quality, “How the EV Rebate Program Works,” accessed November 7, 2024. <https://www.oregon.gov/deq/aq/programs/Pages/Applying-for-EV-Rebate.aspx>

<sup>67</sup> Oregon Department of Environmental Quality, “How the EV Rebate Program Works.”

<sup>68</sup> Oregon Department of Environmental Quality “Charge Ahead Rebate Income Eligibility Calculator,” accessed December 2<sup>nd</sup>, 2024. <https://deqapps.oregon.gov/aq/ocvrp>

<sup>69</sup> Oregon Department of Environmental Quality, “How the EV Rebate Program Works.”

<sup>70</sup> Go Electric Oregon, “Incentives and Rebates,” accessed November 7, 2024.

<https://goelectric.oregon.gov/incentives-rebates>

Vehicle Privilege Tax, which adds up to \$12 million a year to these programs.<sup>71</sup> This tax is paid on new vehicles purchased in Oregon at of one-half of one percent (.005) sales price.<sup>72</sup> The program accepts applications for the purchase of eligible vehicles within a certain time frame until the funds run out.<sup>73</sup> In 2024, the program was open between April 3rd and June 3rd, with all vehicles purchased within that time qualifying for a waiting list for when new funds become available in early 2025.<sup>74</sup>

The state of Oregon will receive \$52 million over the next five years from NEVI to fund fast EV charging along its major interstates and highways.<sup>75</sup> In total, the Oregon Department of Transportation will install/upgrade approximately 50 public EV charging stations with this funding.<sup>76</sup> As for community charging, the Oregon Department of Transportation has a Community Charging Rebate program with an emphasis on equity, meaning a minimum of 70% of the funds must be dispersed to projects in low-income and disadvantaged communities.<sup>77</sup> Similar to the EV rebate programs, this program runs annually and accepts applications on a first come first serve basis until the funds run out.<sup>78</sup> Sites eligible for these level 1 and level 2 charging stations include multi-family housing sites, workplace sites, and publicly accessible parking sites.<sup>79</sup>

## California

Since 2016, California has led in the number of EVs and charging stations in the U.S. In 2022 the state held 37% of registered light-duty EVs and 27% of EV charging stations.<sup>80</sup> This year, the U.S. Environmental Protection Agency selected 25 states to receive grants to implement the transition to clean energy. The grants will be funded by the Climate Pollution Reduction Grants program, created in the *Inflation Reduction Act* (2021).<sup>81</sup> California was chosen as one of these states. Funded by the South Coast Air Quality Management District, the Infrastructure, Vehicles,

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<sup>71</sup> Department of Environmental Quality Newsroom, “Oregon DEQ Opens Waiting List for Clean Vehicle Rebate Program,” accessed November 7, 2024. <https://apps.oregon.gov/oregon-newsroom/OR/DEQ/Posts/Post/Oregon-DEQ-opens-waiting-list-for-Clean-Vehicle-Rebate-Program>

<sup>72</sup> Oregon Department of Revenue, “Vehicle Privilege and Use Taxes,” accessed November 7, 2024. <https://www.oregon.gov/dor/programs/businesses/Pages/Vehicle-privilege-and-use-taxes.aspx#:~:text=The%20Vehicle%20Privilege%20Tax%20is,registered%20and%20titled%20in%20Oregon>

<sup>73</sup> Department of Environmental Quality Newsroom, “Oregon DEQ Opens Waiting List for Clean Vehicle Rebate Program,” accessed November 7th, 2024. <https://apps.oregon.gov/oregon-newsroom/OR/DEQ/Posts/Post/Oregon-DEQ-opens-waiting-list-for-Clean-Vehicle-Rebate-Program>

<sup>74</sup> Department of Environmental Quality Newsroom, “Oregon DEQ Opens Waiting List for Clean Vehicle Rebate Program.”

<sup>75</sup> Oregon Department of Transportation Climate Office, “National Electric Vehicle Infrastructure Plan in Oregon,” accessed November h, 2024. <https://www.oregon.gov/odot/climate/pages/nevi.aspx>

<sup>76</sup> Oregon Department of Transportation Climate Office, “National Electric Vehicle Infrastructure Plan in Oregon.”

<sup>77</sup> Oregon Department of Transportation Climate Office, “ODOT’s Community Charging Rebates Program,” accessed November 7, 2024. <https://www.oregon.gov/odot/climate/Pages/communitychargingrebates.aspx>

<sup>78</sup> Oregon Department of Transportation Climate Office, “ODOT’s Community Charging Rebates Program.”

<sup>79</sup> Oregon Department of Transportation Climate Office, “ODOT’s Community Charging Rebates Program.”

<sup>80</sup> U.S. Energy Information Administration, “California Leads the United States in Electric Vehicles and Charging Locations,” accessed November 7, 2024. <https://www.eia.gov/todayinenergy/detail.php?id=61082>

<sup>81</sup> United States Environmental Protection Agency, “General Competition Selected Application Table”, accessed November 7, 2024. <https://www.epa.gov/inflation-reduction-act/general-competition-selected-applications-table>



and Equipment Strategy for Climate, Equity, Air Quality, and National Competitiveness project, known as INVEST CLEAN, is projected to award approximately \$500 million to support the municipal areas of Los Angeles, Long Beach-Anaheim, and Riverside-San Bernadino-Ontario.<sup>82</sup> Some goals of this project are to invest in EV charging infrastructure to meet public demands, make EVs more affordable, and require car manufacturers to offer an increasing number of EVs each year.<sup>83</sup>

California also received \$423 million from the Volkswagen (VW) Environmental Mitigation Trust, which is used to replace or repower old vehicles and engines with zero-emission technologies. Additional money comes from the California Electric Vehicle Infrastructure Project (CALeVIP), funded by the California Energy Commission's Clean Transportation Program. CALeVIP focuses on providing publicly available charging stations to advance the transition to EVs. The CALeVIP 1.0 block grant provides \$186 million in EV charging rebates. The program also acquired \$37 million in regional partner funding with the assistance of the nonprofit Center for Sustainable Energy. CALeVIP 2.0 currently has \$30 million in rebates available through the Golden State Priority Project.<sup>84</sup>

## Delaware

The state of Delaware has a program called the Delaware Clean Transportation Program that is managed by the Delaware Department of Natural Resources and Environmental Control. The program provides incentives through rebates for people who purchase EVs. Rebates can be offered for EVs and plug-in hybrid electric vehicles. The rebate amount depends on two factors. First, if the vehicle is new or pre-owned, and second, if the vehicle is an all-electric vehicle or a plug-in hybrid electric vehicle. Rebate amounts ranged from \$1,000 to \$2,500.<sup>85</sup> The Delaware Clean Transportation Program is funded through the Regional Greenhouse Gas Initiative (RGGI) and Delaware's participation with it.<sup>86</sup> The program currently has received \$2.7 million in funding from the RGGI.<sup>87</sup> RGGI is an initiative program that's goal is to "cap and reduce CO<sub>2</sub> emissions from the power sector."<sup>88</sup> There are 11 states participating with RGGI, Vermont being one of them.<sup>89</sup>

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<sup>82</sup> United States Environmental Protection Agency, "South Coast Air Quality Management District (California), accessed November 7, 2024. <https://www.epa.gov/inflation-reduction-act/south-coast-air-quality-management-district-california>

<sup>83</sup> Southern California Agency of Governments, "Priority Climate Action Plan," March 2024. <https://www.epa.gov/inflation-reduction-act/south-coast-air-quality-management-district-california>

<sup>84</sup> California Electric Vehicle Infrastructure Project, "About CALeVIP," accessed November 7, 2024. <https://calevip.org/about-calevip>

<sup>85</sup> Alternative Fuels Data Center, "Electric Vehicle (EV) and Plug-In Hybrid Electric Vehicle (PHEV) Rebates," *U.S. Department of Energy*, accessed November 5, 2024. <https://afdc.energy.gov/laws/11638>

<sup>86</sup> Delaware Municipal Electric Corporation, "Programs and Incentives," accessed November 5, 2024. [https://www.demecinc.net/sustainability/programs/#:~:text=Delaware%20Clean%20Transportation%20Incentive%20Program&text=CTIP%20programs%20are%20currently%20funded,Greenhouse%20Gas%20Initiative%20\(RGGI\)](https://www.demecinc.net/sustainability/programs/#:~:text=Delaware%20Clean%20Transportation%20Incentive%20Program&text=CTIP%20programs%20are%20currently%20funded,Greenhouse%20Gas%20Initiative%20(RGGI))

<sup>87</sup> Delaware Municipal Electric Corporation, "Programs and Incentives."

<sup>88</sup> Regional Greenhouse Gas Initiative, "Welcome," accessed November 5, 2024. <https://www.rggi.org/>

<sup>89</sup> Regional Greenhouse Gas Initiative, "Welcome."

Delaware's Department of Transportation uses NEVI to fund their state's deployment of EV charging stations. Beginning in 2022 and over the course of five year, Delaware will receive almost \$15 million from the program.<sup>90</sup> Like every state, Delaware submits a plan each year to the Federal Highway Administration. This plan outlines how the state will use the NEVI fund in the upcoming year. In Delaware's plan for their first year, 2022-2023, they got approval to use the funds to deploy EV charging stations along the major highway systems in the state.<sup>91</sup>

## Maine

Maine has an EV incentive program available through a public-private partnership of Efficiency Maine. However, starting November 16, 2024, the program will only be available to low-income eligible Mainers.<sup>92</sup> Previously all Mainers, regardless of income, could receive a \$2,000 rebate for new battery EV, and a \$1,000 rebate for new plug-in hybrid electric vehicles.<sup>93</sup> Participants in this program would either get the rebate automatically when purchasing from a participating dealer, or they could fill out a rebate claim form if the vehicle was purchased directly from the manufacturer.<sup>94</sup> With income verification, low and middle-income purchasers could qualify for a larger sum.<sup>95</sup> If filing as an individual, applicants that make up to \$70,000 qualify as moderate income. If filing as married, separated, or widowed, those that make up to \$100,000 qualify as moderate income.<sup>96</sup> Moderate income filers could qualify for up to \$3,500 in incentives for new battery EVs and up to \$2,000 for plug-in hybrid electric vehicles.<sup>97</sup>

Those that qualify for at least one or more of programs such as the Home Energy Assistance Program, The Supplemental Assistance Program, Temporary Assistance for Needy Families, or MaineCare are considered low income and can still participate in Efficiency Maine's EV incentive program, as opposed to moderate income applicants or those applicants that do not qualify as either low or moderate income.<sup>98</sup> For new battery electric vehicles, a rebate of \$7,500 is available and for plug-in hybrids a \$3,000 rebate is available.<sup>99</sup> This program is funded by a portion of Maine's allocation from the Volkswagen settlement.<sup>100</sup>

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<sup>90</sup> Delaware Department of Transportation, "Delaware's Vehicle Electrification Future," Delaware State Website, accessed November 5, 2024. <https://deldot.gov/Programs/NEVI/index.shtml>

<sup>91</sup> Delaware Department of Transportation, "Delaware's Vehicle Electrification Future."

<sup>92</sup> Efficiency Maine, "Important Changes to Efficiency Maine EV Rebates," accessed November 7, 2024. <https://www.efficiencymaine.com/important-changes-to-ev-rebates/>

<sup>93</sup> Efficiency Maine, "Electric Vehicle Incentives For-Any Income Mainers," accessed November 7, 2024. <https://www.efficiencymaine.com/electric-vehicle-incentives/>

<sup>94</sup> Efficiency Maine, "Electric Vehicle Incentives For-Any Income Mainers," accessed November 7, 2024. <https://www.efficiencymaine.com/electric-vehicle-incentives/>

<sup>95</sup> Efficiency Maine, "Electric Vehicle Incentives for Low- and Moderate-Income Mainers," accessed November 7, 2024. <https://www.efficiencymaine.com/electric-vehicle-incentives-for-low-and-moderate-income-mainers/>

<sup>96</sup> Efficiency Maine, "Electric Vehicle Incentives for Low- and Moderate-Income Mainers."

<sup>97</sup> Efficiency Maine, "Electric Vehicle Incentives for Low- and Moderate-Income Mainers."

<sup>98</sup> Efficiency Maine, "Electric Vehicle Incentives for Low- and Moderate-Income Mainers."

<sup>99</sup> Efficiency Maine, "Electric Vehicle Incentives for Low- and Moderate-Income Mainers."

<sup>100</sup> Alternative Fuels Data Center, "Maine Laws and Incentives," *US Department of Energy* accessed November 7, 2024. <https://afdc.energy.gov/laws/all?state=ME#State%20Incentives>

The Volkswagen Settlement also funds Maine’s EV Charging Station Rebate Program, also administered through Efficiency Maine.<sup>101</sup> The program includes a \$350 dollar rebate that can be used for Level 2 EV charging stations.<sup>102</sup> Government and nonprofit entities are eligible to participate in this program.<sup>103</sup> Maine was allocated \$19 million as part of the NEVI program. Maine’s Department of Transportation partnered with Efficiency Maine to develop their plan for charger installation. NEVI funds are included in this plan, as well as \$3 million from the Volkswagen Settlement, and \$2 million in funds from an additional settlement with New England Clean Energy Connect.<sup>104</sup> The settlement was a result of a dispute between New England Clean Energy Connect and the state of Maine over a transmission line that would transport Canadian hydroelectricity to the state of Massachusetts. Approximately \$15 million of the \$260 million granted to the state of Maine will go towards EV advancement and charging stations.<sup>105</sup>

## Various State Tax Credits

One form of incentive seen among multiple states is through tax credits. The amount offered through the tax credit varies from state to state. Each state has different requirements that must be met to receive the tax credit. Currently seven states and the District of Columbia offer tax credits for EV related expenses. These states and credits are:<sup>106</sup>

- Colorado offers the Electric Vehicle Tax Credit. The tax credit varies and it depends on the type of vehicle.
- Louisiana offers the AFV and Fueling Infrastructure Tax Credit. It can cover up to \$2,500 of the cost of a new vehicle.
- Montana offers the AFV Conversion Tax Credit. It can cover up to 50% of the costs of both equipment and labor regarding the conversion to electric, and other alternative fuels, vehicles.
- New York offers the Alternative Fueling Infrastructure Tax Credit. It can cover up to \$5,000 of the cost of infrastructure.
- Oklahoma offers the Alternative Fueling Infrastructure Tax Credit. It can cover up to 45% of infrastructure installation costs.
- Washington offers the Commercial Alternative Fuel Vehicle and Fueling Infrastructure Tax Credit. The tax credit is for eligible businesses, and it can cover up to 50% of a purchase of infrastructure.<sup>107</sup>

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<sup>101</sup> Alternative Fuels Data Center, “Maine Laws and Incentives.”

<sup>102</sup> Alternative Fuels Data Center, “Maine Laws and Incentives.”

<sup>103</sup> Alternative Fuels Data Center, “Maine Laws and Incentives.”

<sup>104</sup> Maine Department of Transportation, Maine’s Updated Plan for Electric Vehicle Infrastructure Deployment (Maine’s NEVI Plan), September 2024. <https://www.efficiencymaine.com/docs/2024-MAINE-NEVI-PLAN.pdf>

<sup>105</sup> Utility Dive “Maine Settlement Could Pave Way for Canadian Hydro in New England” Accessed December 3, 2024. <https://www.utilitydive.com/news/maine-settlement-could-pave-way-for-canadian-hydro-in-new-england/548921/>

<sup>106</sup> National Conference of State Legislatures, “State Policies Promoting Hybrid and Electric Vehicles,” accessed November 5, 2024. <https://www.ncsl.org/energy/state-policies-promoting-hybrid-and-electric-vehicles>

<sup>107</sup> Department of Revenue Washington State, *Clean alternative fuel commercial vehicles and vehicle infrastructure tax credits expanded*, November 6, 2019. [https://dor.wa.gov/sites/default/files/2022-02/sn\\_19\\_CleanAltFuel.pdf](https://dor.wa.gov/sites/default/files/2022-02/sn_19_CleanAltFuel.pdf)

- The District of Columbia offers the AFV conversion and Infrastructure Tax Credit. It can cover up to \$1,000 of the cost of a private infrastructure installation and up to \$10,000 of the cost of a public infrastructure installation.

## Conclusion

In this report, we provide a background on the state of EVs in the United States. Americans trading in their gas/fuel vehicles for EVs will reduce U.S. transportation emissions, which is why states are developing incentive programs. Federally, the *National Infrastructure Investment and Jobs Act* (2021) has played a major role in EV charging infrastructure through the National Electric Vehicle Infrastructure Program (NEVI). We find that the states included have developed a plan for their NEVI funds to increase charging availability. States have also utilized their 2017 Volkswagen Settlement funds for their EV incentive and charging programs. As for EV incentive programs, funds available for applicants tend to vary depending on factors like vehicle type and applicant income. It is common for these programs to be administered through public-private partnerships with nonprofits and government regulated public utility companies. Overall, limited funding coupled with high demand presents a barrier to the future success of these programs relative to state climate goals. Solutions include limiting the programs by income eligibility, the creation of additional vehicle/transportation related taxes/fees, or pursuing settlement funds through litigation.

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This report was completed on November 10, 2024, by Maggie Maury, Abigail Shea, and Erin Weidner under the supervision of VLRS Deputy Director, Dr. Jonathan “Doc” Bradley, and VLRS Director, Professor Anthony “Jack” Gierzynski, in response to a request from Representative Mollie Burke.

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