

This document has been prepared as part of the implementation project of Legal Pathways to Deep Decarbonization (Michael B. Gerrard and John C. Dernbach, eds. Environmental Law Institute [2019]) (LPDD). For background information on the project, see <https://lpdd.org>

MEMORANDUM SUPPORTING MODEL STATE STATUTE PROVIDING REBATES FOR ELECTRIC VEHICLES

"To reduce the United States' greenhouse gas emissions by at least 80% from 1990 levels by 2050 will require... deployment of approximately 300 million alternative fuel vehicles, which for the purposes of this chapter consists of electric vehicles [EVs], hybrids (electric and gas) and hydrogen vehicles [AFVs]. The goal is to shift 80%-95% of the miles driven from gasoline to lower carbon energy sources like electricity and hydrogen." LPDD, Ch. 14 at 353.

We propose that states offer rebates for purchases of battery electric vehicles ("BEVs") and plug-in hybrid electric vehicles ("PHEVs") (collectively "EVs") with a manufacturer's suggested retail price ("MSRP") of less than \$33,000, provided the BEVs have a range of at least 120 miles and the PHEVs have an electric range of at least 25 miles, in order to encourage middle and lower income people to buy non-luxury EVs. The proposed rebate is calculated at \$25 per mile of electric range, up to a maximum of \$5,000.

BEV models with an MSRP under \$33,000 generally have a maximum range of 120 to 150 miles. (See <https://www.edmunds.com/electric-car/articles/cheapest-electric-cars>) The rebate for EVs with an electric range of 120 miles would be \$3,000, and the rebate for EVs with an electric range of 150 miles would be \$3750. The \$5,000 rebate maximum is intended to encourage manufacturers to increase the EV range to 200 miles without substantially increasing their EVs' MSRP over the next decade.

PHEVs generally have an electric range of 25-30 miles. Id. Thus, the likely rebate for a PHEV would be \$750 to \$900.

While the rebate for pure EVs is provided for ten years, the rebate for PHEVs is provided for only two years. The shorter period of the PHEV rebate is consistent with the intent of reducing greenhouse gas emissions more thoroughly with electric transportation.

Moreover, the phase out of the PHEV rebate should not create an economic disincentive to the adoption of EVs generally. The average added cost to the consumer of purchasing a pure EV (with the rebate) instead of a PHEV (with the rebate) would be on the order of \$842 under the model statute. The average 2020 MSRP of the three least expensive PHEVs--Hyundai Ioniq, Toyota Prius Prime, and Kia Niro--is \$28,133. Given the limited ranges of PHEVs, their average cost after the rebate will be \$27,466. (See <https://www.edmunds.com/electric-car/articles/cheapest-electric-cars>) The average MSRP of the three least expensive pure EVs--Hyundai Ioniq, Nissan Leaf, and VW E-Golf--is \$31,650. Given their electric ranges of 125 to 150 miles, their average cost after the pure EV rebate will be \$28,308. (Id.)

Additionally, the reduced cost differential between PHEVs and Tesla's Model 3 has already diminished the sales of PHEVs in the United States from 122,800 in 2018 to 86,173 in 2019, a yearly decline of 31%, to a level that is below the 2017 sales volume of 91,100. (See, <https://insideevs.com/news/393634/us-phev-sales-compared-2019>)

Notably, sales trends indicate that consumer interest in EVs in general is also waning. After more than doubling from 2017 to 2018, sales in 2019 of pure EVs in the United States increased only 3% over sales of pure EVs in 2018, from 238,800 to 243,356. (Id.) Notably, EV sales by invested manufacturers other than TESLA generally declined substantially, despite the fact that their models are less expensive than Tesla's Model 3, which captured nearly 50% of the market. For example, sales of Nissan Leaf, the most popular EV outside Tesla's stable, dropped 16%. (See, <https://insideevs.com/news/391173/nissan-leaf-us-sales-decreased-2019>) In 2019, Tesla alone dramatically increased its sales, capturing approximately 75-80% of pure EV sales in the U.S. (See, [US-Tesla-electric-vehicle-sale-January-December-2019-1-CleanTechnica.png](#))

Thus, the rebates for EVs that cost less than \$33,000 are intended to assist in revitalizing the lagging non-luxury segment of the EV market. This proposed statute is based on New Jersey's 2020 "Light Duty Plug-in Electric Vehicle Rebate Project" legislation. However it differs significantly from the New Jersey statute in providing that eligible vehicles shall cost less than \$33,000, instead of \$55,000. This limitation is intended to preserve the limited funding for those less expensive EVs that middle and lower income people might afford with financial assistance.

Currently, California and roughly a dozen East Coast states cobble together funding to advance the electrification of transportation from a number of sources. For example, New Jersey's Act provides \$30,000,000 for rebates for EVs each year from various sources, such as a social benefits charge, that may not exist in other states. States seeking to fund such initiatives might consider earmarking a percentage of the state gasoline excise tax, because all states impose such a tax and the percentage can be adjusted as needed to fund rebates. Following the New Jersey example, the model statute calls for 6% of the gasoline tax collected to be allocated to the rebates. New Jersey estimates that in 2019 it collected \$500,700,000 in Motor Fuels Tax. (See <https://www.nj.gov/ttfa/financing/apprevenues.shtm> at page 2) Six percent of that estimated amount is \$30,042,000. Although not reflected in the model statute, states considering enactment of a rebate program can be expected to identify sources of funding other than, or in addition to the gasoline tax.