

## POLICY NOTE

# State data shows electric vehicle tax breaks go mostly to the rich

By Todd Myers, Director, Center for the Environment

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### Key Findings

1. Washington state ended the sales tax break for electric vehicles earlier this year.
2. In 2017, nearly three-quarters of EVs were purchased in the wealthiest 25% of zip codes in Washington state.
3. The vast majority of tax breaks went to the wealthy who were going to purchase an EV anyway, so the tax break did little to impact consumer behavior.
4. Although the goal of the tax break was to increase sales of EVs, it likely did very little to increase sales or reduce CO2 emissions.
5. Even assuming 60 percent of the cars would not have been sold without the incentive, the 95 percent of the money from the tax break was wasted and could have better used elsewhere to cut CO2 emissions.
6. Although the tax break expired, Initiative 1631, the carbon tax initiative, would allow funding for this wasteful and ineffective subsidy.
7. Assuming the subsidy encourages car sales, the subsidy creates only 7,900 metric tons of CO2 reduction annually rather than the 130,175 metric tons it could receive by using the money effectively, a waste of 94 percent of the tax subsidy.

### Introduction

The sales tax break for buying an electric vehicle (EV) in Washington state expired earlier this year. State data show that for 2017 most of the tax breaks went to those living in the wealthiest 25 percent of zip codes.

The data show subsidies were received by the rich, who were least likely to be influenced by them in their buying decisions. As a result, few of the tax breaks helped to increase sales of electric vehicles, dramatically reducing the impact of the subsidies on reducing carbon emissions.

### Tax breaks for electric vehicles

Washington state legislators adopted the break in 2009, claiming it would increase sales of electric vehicles (EVs) and reduce Washington's carbon emissions. The move provided almost no benefit for the environment. Recognizing that people who could afford to buy a Tesla were not price sensitive and were going to buy the car even without the tax break, legislators scaled back the initiative a couple years ago to cover only those cars costing less than \$42,500.<sup>1</sup>

Although the goal was to target buyers who need an incentive, an examination of purchases of model year 2017 electric vehicles shows the beneficiaries are still those who live in Washington's wealthiest communities.

### More than 70% of Leafs and Teslas purchased in 25% wealthiest zip codes

We compared state data on model year 2017 purchases to tax data from 2015 sorted by zip code to see where vehicles were being purchased. The 2015 tax data is the most recent available and is not likely to have changed in the two years since.

The data are very clear that even for the Nissan Leaf, which is less expensive than other EVs, purchases are overwhelmingly made by people living in the wealthiest communities. As a result, the tax break yielded very little carbon emissions reduction at a high cost.

The data show three findings.

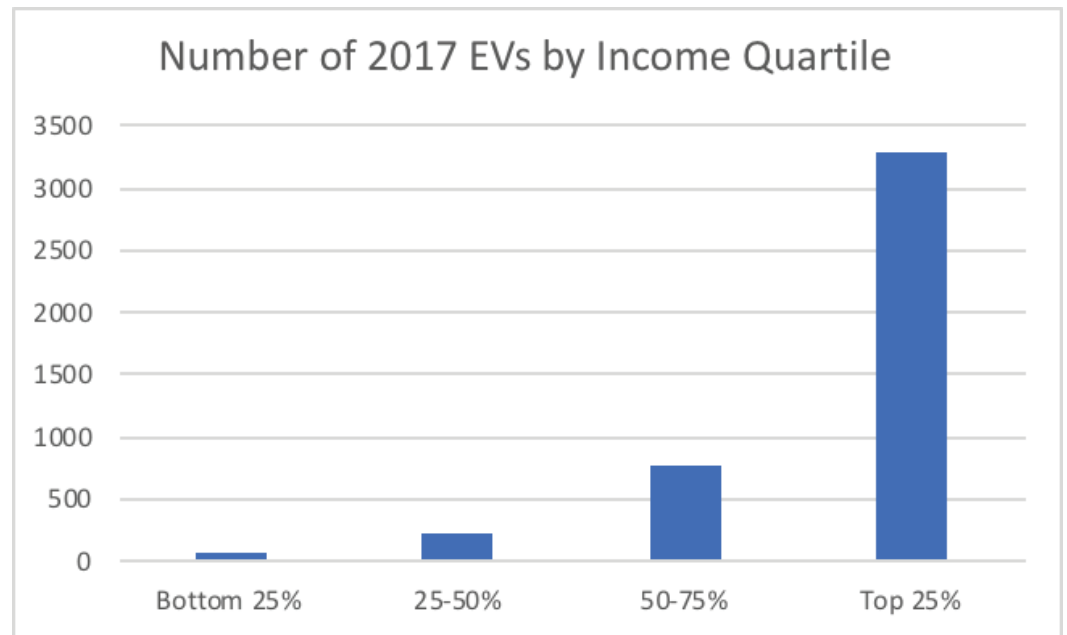
<sup>1</sup> Washington State Department of Revenue, "Incentive programs," [https://dor.wa.gov/find-taxes-rates/tax-incentives/incentive-programs#program\\_list-block-46](https://dor.wa.gov/find-taxes-rates/tax-incentives/incentive-programs#program_list-block-46) (Accessed July 6, 2018)

First, the electric vehicle tax break produced very little reduction in CO2 emissions. The average vehicle in the United States emits 9,880 pounds of CO2 per year, about 4.5 metric tons.

Using the current price to emit a metric ton of CO2 in California's cap-and-trade permit system, which is \$15.10<sup>2</sup>, that amounts to \$67.95 of CO2 per year. Over a ten-year lifespan of a car, using a three percent discount rate, that is \$628.72 of CO2 avoided by using a vehicle that runs entirely on CO2-free electricity.

By way of comparison, the sales tax break for a Nissan Leaf (using MSRP and 6.8 percent sales and vehicle tax), amounts to \$2,086, more than three times the value of the CO2 avoided. Instead of receiving more than 138 metric tons of CO2 reduction today, the state is receiving only 45 tons of reduction over ten years.

Second, that calculation assumes these cars would not have been purchased without the sales tax break. This is clearly false. Given the cost of electric vehicles, many of these vehicles would have been purchased by their wealthy buyers even without the break. For example, 42% of 2017 Nissan Leafs in Washington were purchased by people living in the top 10% wealthiest zip codes.



That is not much different than the buying pattern of the more expensive Tesla S vehicle, where the 51% of Tesla's were purchased by people living in the top 10% wealthiest zip codes. The percentage of sales of Leafs and Teslas were virtually identical in the wealthiest 25% of zip codes, with 71.9% of Nissan Leafs sold in those zip codes, and 72.6% of Teslas sold there.

How many of those living in zip codes that include Medina, Mercer Island, Bellevue, the Broadmoor neighborhood in Seattle, and other wealthy parts of the state, would change their buying decision because they had to pay full sales tax? Even assuming 60 percent of Leaf Buyers would not have purchased the car without

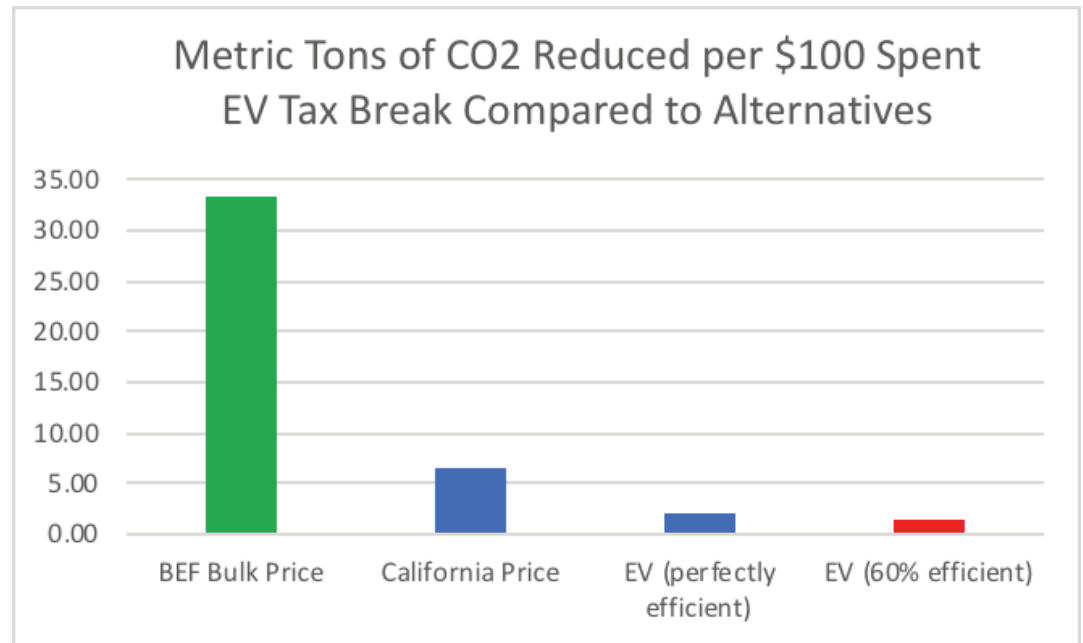
2 California Carbon Dashboard, "California Carbon Dashboard: Carbon Prices, the Latest News, and California Policy," <http://calcarbodash.org/> (Accessed July 6, 2018)

the break, the state is only avoiding 27 metric tons of CO2 instead of the 138 tons of reduction it could get using the California price.

Put another way, the EV tax break wastes more than four of every five dollars it devotes to CO2 emissions reduction.

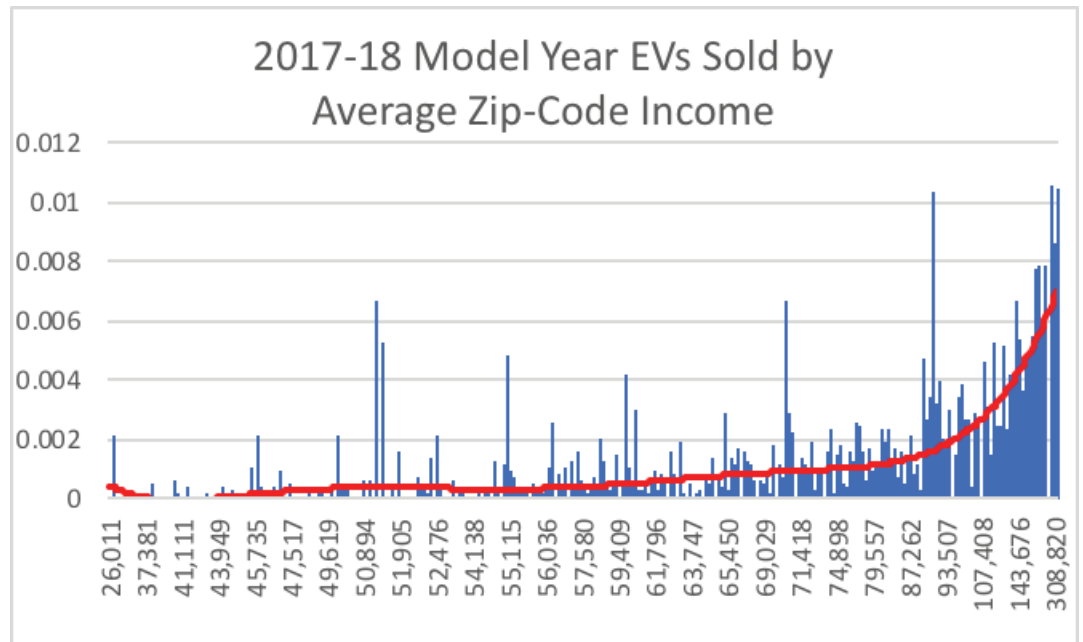
### Policy wastes about \$95 of every \$100 on CO2 reduction

Another way to consider this is to see how many metric tons of CO2 you can reduce for every \$100 spent. Assuming that no electric vehicles would be purchased in Washington without the sales tax break, Washington state policy reduces about two metric tons of CO2 for every \$100 spent on the sales tax break.



Assuming that 60 percent of cars would not have been purchased without the tax break, that goes down to just over one metric ton of CO2. Compare that to the current price in California, which indicates businesses can reduce 6.6 metric tons of CO2 for every \$100 they spend.

Finally, the Bonneville Environmental Foundation (BEF) allows people to invest in CO2 reduction projects for about three dollars a metric ton when buying in bulk, which means people can reduce more than 33 metric tons of CO2 for every \$100.



Finally, most of the electric vehicle sales tax breaks went to people living in wealthy zip codes. Two thirds of model year 2017 electric vehicles were purchased by people living in the 25 percent most wealthy zip codes. Given the distribution, it is clear this tax break is skewed strongly toward benefitting the wealthy.

Two points should be added here. First, the data are aggregated by zip code, so vehicle sales where the average income is lower may still be purchased by wealthy individuals in those zip codes.

For example, six electric vehicles were sold in 2017 in the zip code 98584, which covers Mason County. Two of those were the second-most expensive EVs available, the Tesla Model S. Although the average income in the zip code is \$51,080, it is very unlikely someone with that income level could afford at car with a base MSRP of \$68,000.

Second, while it is difficult to know what percentage of cars would have been sold without the sales tax break, it is certain that many, if not most, buyers would have purchased them anyway. For example, when the tax break was restricted and excluded Teslas, the rate of sales of Teslas actually increased.

Clearly, those EV buyers were not price sensitive. In this analysis, I have assumed that every car purchased outside the top 10 percent wealthiest zip codes would not have occurred without the sales tax break. Even with that generous assumption, the environmental benefits of the break are paltry. In the real world, however, it is likely much worse, with the benefits being negligible for the environment, but a boon to wealthy EV buyers.



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## Conclusion

We are all in favor of cutting taxes, but targeted tax cuts are little different from direct subsidies in picking winners and losers. There may be an effort to revive the sales tax break or other incentives in the next legislative session. The proposed carbon tax initiative, Initiative 1631, would also allow tax money to be used to "accelerate the deployment of zero-emission fleets and vehicles." Reviving these wasteful expenditures would ignore the years of experience and data we already have showing that they are not effective in meaningfully reducing CO2 emissions.