Electric Vehicle Survey Findings and Methodology

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Union of Concerned Scientists

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Methodology

To better understand American attitudes toward plug-in electric vehicles (PEVs), the Union of Concerned Scientists and Consumer Reports fielded a nationally representative survey to investigate the car buying intentions of U.S. adults. We also investigated the potential impacts that incentives for buying electric vehicles may have on drivers purchase decisions, as well as how they feel about federal and state policies aimed at increasing the usability and convenience of driving PEVs.

The total nationally representative sample consisted of 1,659 American adults, ages 18 and older, who are considering buying or leasing a new or used vehicle within the next two years. This survey was administered online and by phone from April 8, 2018 to April 19, 2019 to a nationally representative sample managed by NORC at the University of Chicago.

The margin of error for the cohort of 1,659 respondents is +/- 2.4 percent at a 95 percent confidence level. Findings presented in this report represent analyses of data after weighting was applied to respondent-level data to approximate Census-based estimates.

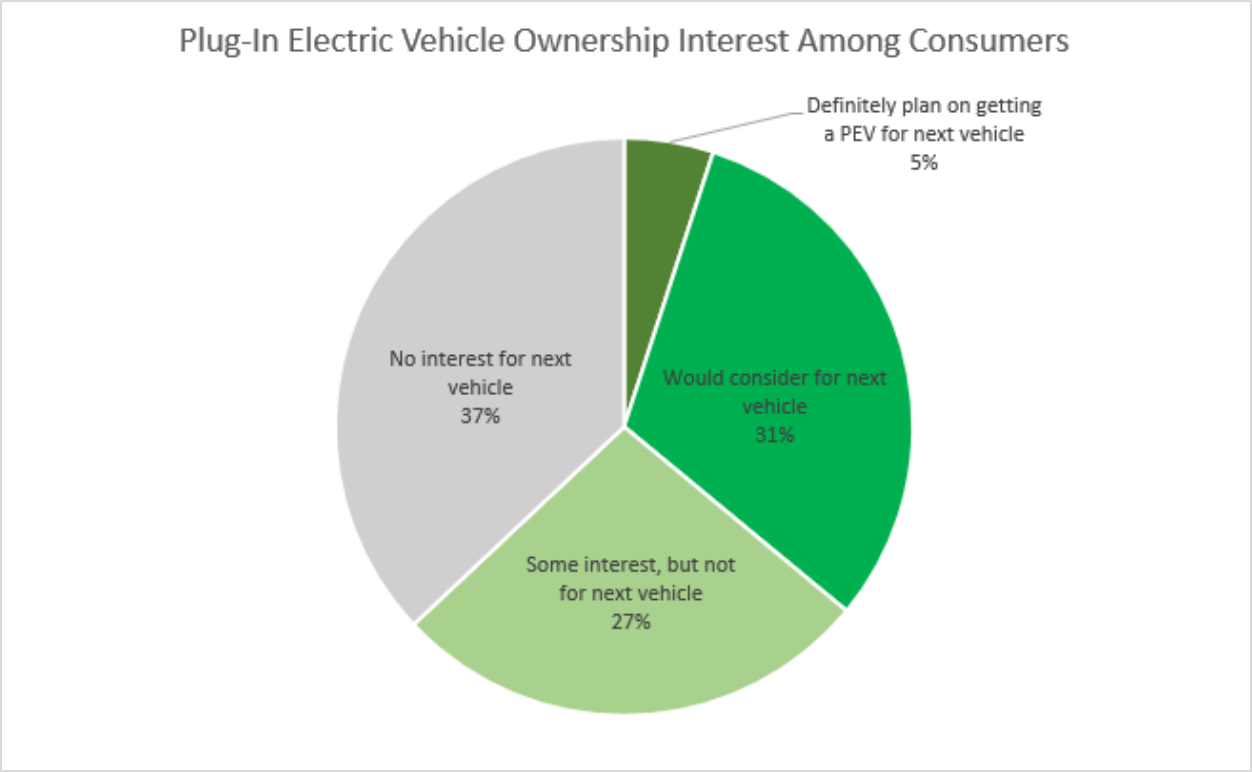
Highlights

- Over a third (36 percent) of all prospective car buyers in the U.S. would consider buying (31 percent) or definitely buy (5 percent) a PEV within the next two years.
- 75 percent of prospective car buyers believe that incentives and tax rebates for PEVs should be available to all consumers.
    - Prospective car buyers who identify as people of color are slightly more likely to agree with this statement than car buyers as a whole (78 percent vs. 74 percent).
- Almost three-quarters of prospective car buyers agree that widespread PEV use will reduce U.S. oil use (73 percent) and/or pollution (72 percent).
- More than half of all prospective car buyers agree that lower purchase prices (59 percent) and longer PEV driving ranges (51 percent) would be most effective in increasing their interest in getting a PEV.
- While three-quarters (75 percent) of prospective car buyers feel that incentives and tax rebates for PEVs should be available to all consumers and nearly two-thirds (63 percent) think that their state should make it easier for consumers to purchase PEVs, more than three-quarters (78 percent) were unaware whether their state currently offers any discounts, rebates, or credits for purchasing or leasing PEVs.
- If drivers do end up buying a PEV and need to charge it when away from home, grocery stores appear to be the most convenient place to do it. Two-thirds (66 percent) of potential car buyers would find it most expedient to charge a PEV while shopping for groceries. Around a third (32-37 percent) feel that charging while dining at restaurants, shopping at malls, and in recreational areas such as parks would also be the most convenient options.

Plug-in Electric Vehicle Purchase Intentions

Thirty-six percent of prospective car buyers in the U.S. would consider getting a PEV within the next two years, and an additional 27 percent have some interest in a PEV, but not for their next vehicle (see Figure 1). In addition, people of color are more likely to be considering a PEV for their next vehicle compared to all buyers combined (42 percent vs. 36 percent).

Figure 1: Purchase Considerations by Vehicle-Type



A key factor that influences American car buyers' interests in purchasing a PEV is the type of car Americans are considering for their next vehicle. More than half of prospective car buyers likely to buy a compact would consider getting a PEV, as would around two-fifths of those who are likely to get a sedan, small SUV, sports car, or minivan. Even about 30 percent who are in the market for larger vehicles like medium/large SUVs or even pickup trucks would at least consider getting a PEV, which is strong considering the very limited selection in this class

Plug-in Electric Vehicle Beliefs and Incentives

Prospective car buyers are generally optimistic in their assessments about the benefits PEVs can provide, from both a financial and environmental perspective (see Table 2). They are also more likely than not to be supportive of federal and state governments providing the public with incentives to promote the purchase of these vehicles and spending money on building the infrastructure that will make ownership of these vehicle more practical (see Tables 3).

Overall, 75 percent of prospective car buyers in the U.S. believe that incentives and tax rebates for PEVs should be available to all consumers. Levels of support for many of these policies hold fairly steady across income brackets (see table 4) and all regions (see table 5). Other beliefs held by almost three-quarters of prospective car buyers regarding PEVs are the feelings that widespread electric vehicle use will help reduce U.S. oil use and pollution, respectively.

There is also a strong consensus (72 percent) that automakers should make PEVs in a variety of types (e.g., SUVs and minivans), and, around half of all prospective car buyers believe that the federal government should invest money to help consumers purchase PEVs. This belief is more prevalent among prospective car buyers who are people of color than among all car buyers (62 percent vs. 53 percent).

Table 1: Plug-in Electric Vehicle Ownership Interest by Income Bracket

Plug-in Electric Vehicle Ownership Interest by Income Bracket				
Statement	**Total Support (%)**	**Less than $50,000 (%)**	**$50K to $99,999 (%)**	**$100,000 or more (%)**
Definitely plan on getting a PEV for next vehicle	5	4	5	5
Would Consider for Next Vehicle	31	28	33	34
Some interest, but not for next vehicle	27	26	25	30
No interest for next vehicle	37	42	36	31

Table 2: Recognition of Plug-in Electric Vehicle Benefits

Recognition of Plug-in Electric Vehicle Benefits	
Statement	**Total Support %**
Widespread electric vehicle use will help reduce U.S. oil use	73
Widespread electric vehicle use will help reduce pollution	72
Having an electric vehicle will help save consumers money on gasoline and maintenance	65

Table 3: Support for Plug-In Electric Vehicle Policies

Support for Plug-in Electric Vehicle Policies		
Statement	**Total Support %**	**Net Favorability Score %[1]**
Incentives and tax rebates for plug-in electric vehicles should be available to all consumers	75	+66
Automakers should make a variety of vehicle types available as plug-in electric models	72	+67
Electric utility providers should offer discounts to charge plug-in electric vehicles	67	+57
My state should support increasing the number of plug-in electric vehicle charging stations	67	+58
My state should support increasing the use of plug-in electric school buses, public transit, and fleets	64	+54
My state should make it easier for consumers to purchase and charge plug-in electric vehicles	63	+54
The federal government should invest money to increase the availability of plug-in electric vehicle charging stations	62	+47
Incentives and tax rebates for plug-in electric vehicles should be targeted towards low and moderate income consumers	59	+49
The federal government should invest money to help consumers purchase plug-in electric vehicles	53	+33

*Percent of prospective car buyers that agree with the presented statement.

[1] Between 17 and 31% of survey respondents answered "neither agree or disagree" to questions surrounding policies incentivizing EVs. To account for this we present net favorability ratings for these questions indicating the percentage of respondents who either agree or strongly agree minus the respondents who either disagree or strongly disagree. A net favorability rating of 0 would indicate a policy in which survey respondents were split 50/50 on, a positive rating indicates more support than opposition, while a negative rating indicates more opposition than support.

Table 4: Support for Plug-In Electric Vehicle Policies by Income Bracket

Support for Plug-in Electric Vehicle Policies by Income Bracket				
Statement	**Total Support %**	**Less than $50,000**	**$50K to $99,999**	**$100,000 or more**
Incentives and tax rebates for plug-in electric vehicles should be available to all consumers.	75	75	74	75
The federal government should invest money to help consumers purchase plug-in electric vehicles.	53	56	53	49
The federal government should invest money to increase the availability of plug-in electric vehicle charging stations.	62	65	58	62
My state should support increasing the number of plug-in electric vehicle charging stations.	67	69	64	66

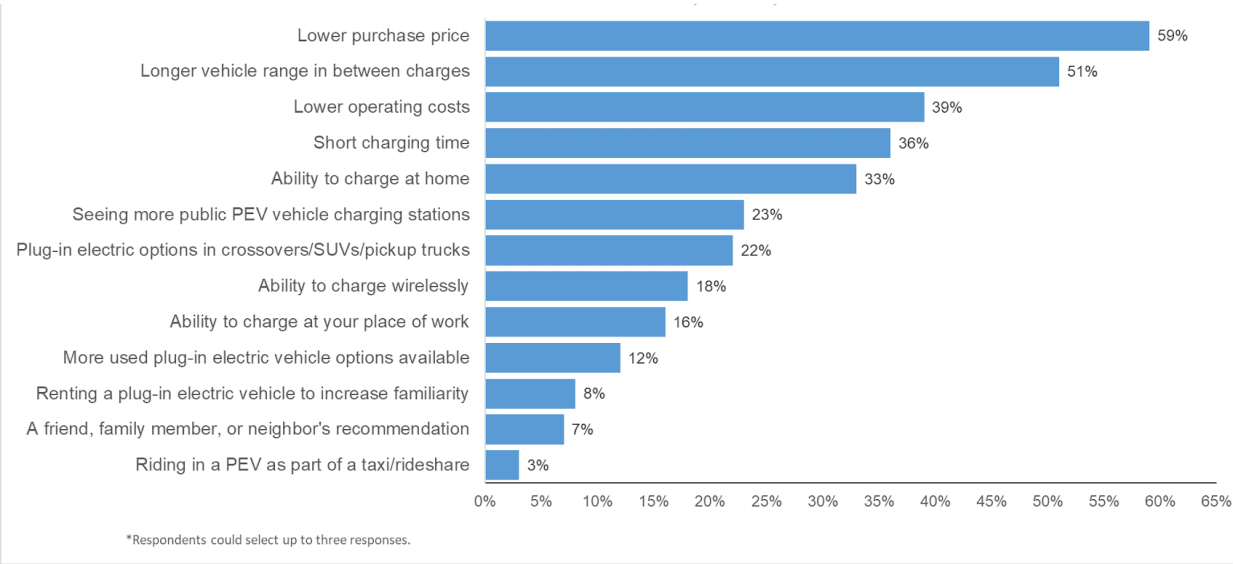
*Percent of prospective car buyers that agree with the presented statement.

Table 5: Support for Plug-in Electric Vehicle Policies by Region

Support for Plug-in Electric Vehicle Policies by Region					
Statement	**Total Support %**	**Northeast**	**Midwest**	**South**	**West**
Incentives and tax rebates for plug-in electric vehicles should be available to all consumers.	75	76	75	72	79
The federal government should invest money to help consumers purchase plug-in electric vehicles.	53	55	49	52	57
The federal government should invest money to increase the availability of plug-in electric vehicle charging stations.	62	65	56	63	65
My state should support increasing the number of plug-in electric vehicle charging stations.	67	67	64	67	68

More than half of all prospective car buyers agree that lower purchase prices and longer driving ranges would be most effective in increasing their interest in getting a PEV. Conversely, few prospective car buyers feel that renting a PEV, getting a PEV recommendation from family or friends, or riding in a PEV as part of a taxi or rideshare would increase their interest in PEVs. When it comes to efforts focused on widening the adoption of PEVs, increased familiarity therefore does not seem as important as targeting the current cost and performance limitations of these vehicles (see Figure 2).

Figure 2: Changes that would make PEV purchases more likely



The Potential Impact of State and Federal Policy on PEV Purchases

Almost half (49 percent) of prospective car buyers say that rebates at the time of purchase would be one of the things that most increases their interest in buying or leasing a PEV (see Table 6). Not too far behind, more than two-fifths say that getting discounted rates from their electric utility provider to charge PEVs would be something that would most increase their interest in getting a PEV.

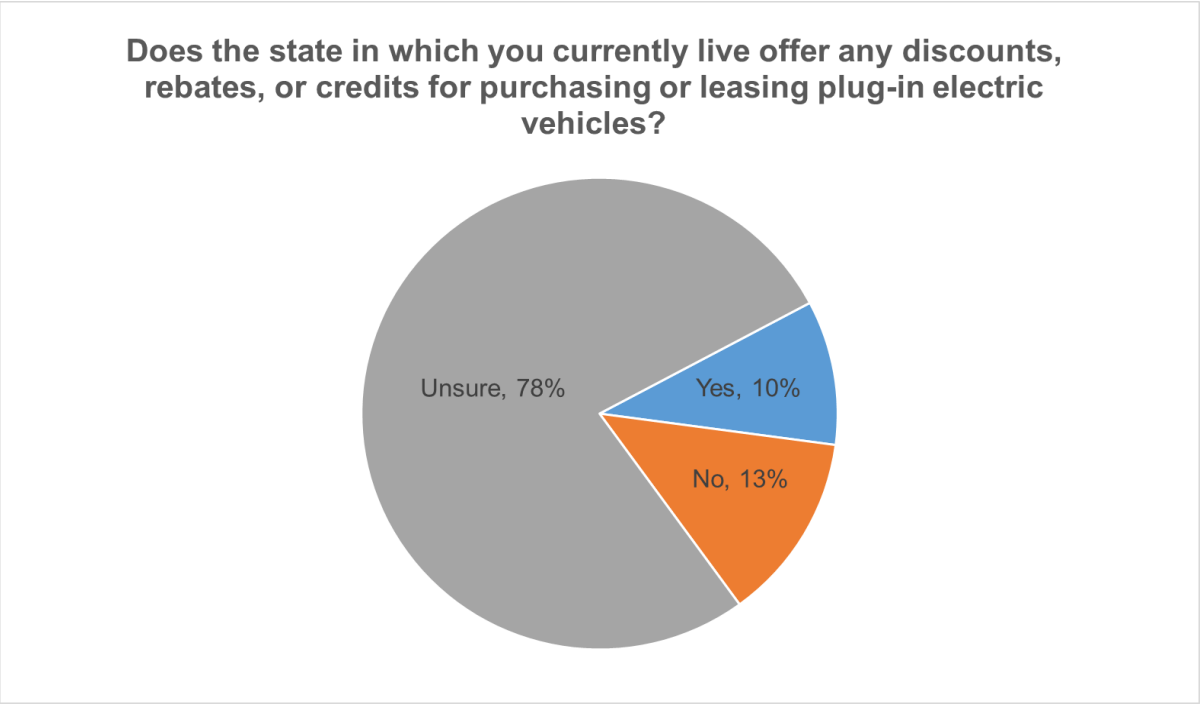
Table 6: Potential State and Federal Policies that can Increase PEV Purchases

Potential State and Federal Policies that can Increase PEV Purchases	
Potential Policy	**Percent**
Rebates at the time of purchase	49
Discounted charging rates from your electric utility provider	42
Rebates as tax credits	40
Public charging stations along highways	36
Discounts to install a home charging station	31
Access to workplace charging stations	17

Preferential parking spaces for plug-in electric vehicles	11
Charging stations or access to plug in vehicles at multi-family housing	11
Access to HOV lanes with only the driver in the vehicle	8

Figure 3: Knowledge of state level PEV incentives

While three-quarters of prospective car buyers feel that incentives and tax rebates for PEVs should be available to all consumers and nearly two-thirds think that their state should make it easier for consumers to purchase PEVs, awareness about existing incentives remains an issue. More than three-quarters are unaware whether their state currently offers any discounts, rebates, or credits for purchasing or leasing PEVs and only 10 percent say their state offers any such incentives (see Figure 3).



The Convenience of Charging Plug-in Electric Vehicles

Out of five charging options we inquired about in our survey, 72 percent say that charging a PEV overnight at home 2 times per week for a full charge would be "completely" or "very" convenient (see Table 5). The second most convenient option appears to be charging at a nearby fast charging station for 10 minutes twice a week, reported as highly convenient by 50 percent of consumers.

Table 7: Convenience of PEV Charging Options

Convenience of PEV Charging Options	
Charging Option	**Percent***
Charging overnight at home 2 times per week	72
Charging at a nearby fast charging station for 10 minutes twice a week	50
Charging at a nearby fast charging station for 30 minutes once a week	36
Charging at a shopping center or restaurant for 2 hours twice a week	22
Charging at a shopping center or restaurant for 4 hours once a week	17

*Percentages represents the proportion of respondents rating option as "completely convenient" or "very convenient."

Prospective car buyers who are people of color are more likely to find charging options outside the home to be more convenient, compared to all prospective car buyers combined. For example, 59 percent of people of color who are prospective car buyers felt that charging at a nearby fast charging station for 10 minutes twice a week would be highly convenient, compared with 50 percent of all car buyers. Similarly, 45 percent of people of color in our survey felt that charging at a nearby fast charging station for 30 minutes once a week would be highly convenient, compared with 36 of all car buyers.

If drivers must charge their vehicle outside their homes, grocery stores would be the most popular place to do it. Two-thirds of potential car buyers would find it most convenient to charge a PEV while shopping for groceries (see Table 8). Around a third also feel that charging while dining at restaurants, shopping at malls, and hanging out in recreational areas such as parks would also be particularly convenient options.

Table 8: Convenience of Potential PEV Charging Locations

Convenience of Potential PEV Charging Locations*	
Charging Location	**Percent**
Grocery stores	66
Restaurants	37
Shopping malls	36
Recreational areas (e.g., parks)	32
Major warehouse clubs (e.g., Costco, Sam's Club)	25
Entertainment locations (e.g., museums, music venues, movie theaters)	24
Pharmacy chains (e.g., Walgreens, CVS)	17
Other	17

*Respondents could select up to three responses.

END