

DRIVE ELECTRIC SURVEY REPORT FOR LIGNITE ENERGY COUNCIL

APRIL 2020

OVERVIEW & METHODOLOGY

Lignite Energy Council commissioned an online survey to evaluate North Dakota citizens' current knowledge, thoughts, and opinions of electric vehicle ownership and community charging options. The ten-question survey ran for two days and collected a baseline 250 (or more) responses for each question. Approximately one-half of the respondents that began the survey did not finish the full ten questions, resulting in a variance of answers from 523 respondents in question one to 252 respondents on question 10. The survey was answered nearly equally between men and women, the majority of which fell between the ages of 25-34.

REVIEW OF THE RESULTS

ELECTRIC VEHICLES NOT ALIGNED WITH SPECIFIC ENERGY SOURCE

North Dakotans did not align a specific energy source with electric vehicles. Coal, Wind, Solar, and Natural Gas all received approximately the same amount of responses when respondents were asked which energy sources benefitted most from electric vehicles. "All of the Above" and "None of the Above" were the most popular answers, making up approximately seventy percent, indicating that no one energy source is perceived to benefit the most from the electric vehicle movement. This baseline measurement indicates that the respondents did not harbor bias towards a specific energy source when answering the subsequent questions related to ownership, charging, and community acceptance.

PUBLIC PERCEPTION

A slight majority consider electric vehicles to be environmentally friendly, and a large percentage of respondents indicated that electric vehicle owners should make up for lost gas revenue through increased registration fees or a per mileage tax rate. About sixty-one percent of North Dakotans consider themselves open-minded about the use of electric vehicles or believe they are now a permanent part of the vehicles mix, but nearly eighty percent don't consider North Dakota an "EV-friendly" state. This correlates with the belief of forty-five percent of respondents that believe the slow adoption of electric vehicles in North Dakota is due to battery performance in cold weather. Interestingly, over twenty-five percent of respondents believe people don't know enough about electric vehicles, which illustrates there is still space for DEND to reach consumers.

CHARGING OPTIONS

The survey covered basics of electric vehicle charging, including numbers of chargers available, infrastructure development responsibility, and location of charging hubs. Availability of charging stations seems to have only a minimal impact on electric vehicle ownership, with thirty-five percent of respondents indicating it may sway their likeliness to purchase an electric

vehicle. The public is split when it comes to electric vehicle infrastructure – about half believe the free market should support and dictate availability of charging hubs, another half believes infrastructure should be a mix of public and private support, and the small remainder believes infrastructure needs government help. Over half of the survey respondents were unsure of the best locations for charging hubs, and the remainder thought a mixture of highway-centric businesses (twenty-eight percent), shopping center parking lots (eleven percent), and high-traffic downtown areas (six percent) were best suited for the hubs. This seems to be in-line with current placement of charging hubs in North Dakota, with hubs being constructed along Interstates and our major state highways. A third of North Dakotans stayed true to their free-market roots and indicated that charging hub owners should have the right to decide how to charge owners at the charging hubs, but a larger majority thought a standard approach of charging per kilowatt hour was best. This is attributable to most individuals preferring to see a standardize approach to charging consumers so that there isn't a patchwork of charging options between sites.

CONCLUSION

This survey illustrated the importance of continued communication and engagement. DEND can serve North Dakota best by educating North Dakotans on electric vehicle function and continuing to debunk specific myths surrounding the technology, like poor battery function during cold weather. It is worth considering an advocacy principle for a standardized approach to charging electric vehicle owners at the charging hub, as this would take one more piece of unfamiliar technology and make it a standard procedure for those considering a future purchase of an electric vehicle. Holding a stakeholder forum is one step to gather input from interested parties and further gauge which issues remain important and where more education is required. The data gathered from this survey may be condensed and used in legislative testimony as committees start to consider how EVE owners pay their fair share of taxes in the state.

Favorable perception of electric vehicles continues to grow as manufacturers release new models and more charging hubs are installed across the state. Amplified use of "A New Way to Drive" will raise brand awareness and integrity as information is gathered and disseminated. It is important to note that this survey was completed before the recent decrease in prices at gas pumps around the nation, so it may be useful to complete additional analysis of electric vehicle perception as traditional internal combustion engine operating costs fall to modern lows.

SURVEY RESPONDENTS

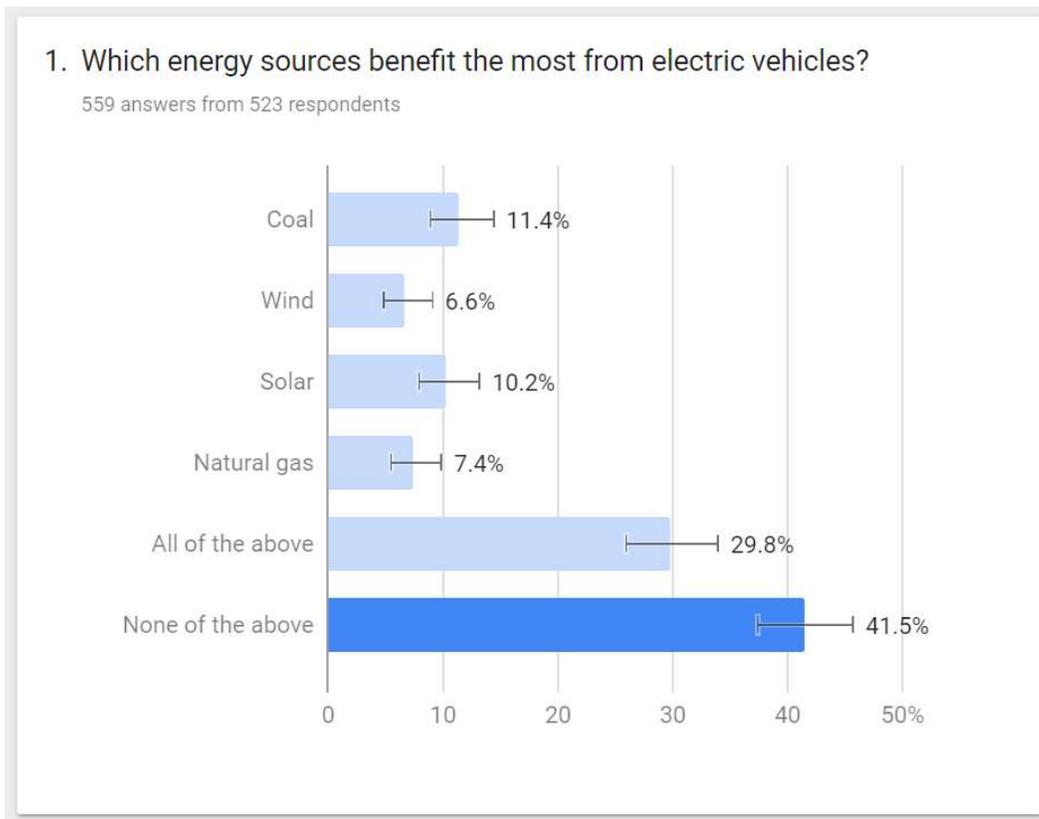
Respondents: 253 collected / 250 targeted

Location: North Dakota

Age: 18-24 – 13.4%, 25-34 – 19.3%, 35-44 – 17.4%, 45-54 – 17.0%, 55-64 – 18.1%, 65+ - 12.2%

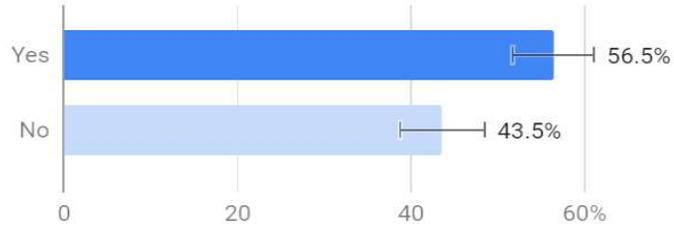
Gender: 55.7% Male, 44.3% Female

Response Rate: 44.9%



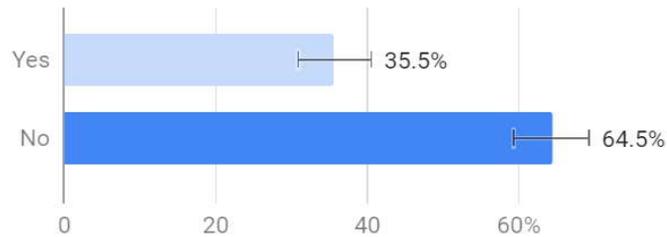
2. Do you consider electric vehicles to be environmentally friendly?

410 respondents



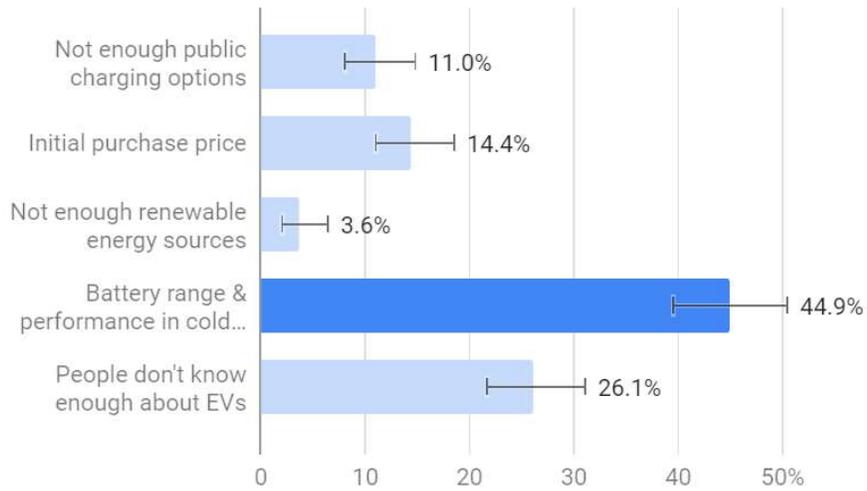
3. Would you be more likely to purchase an electric vehicle if more public charging options were available?

359 respondents



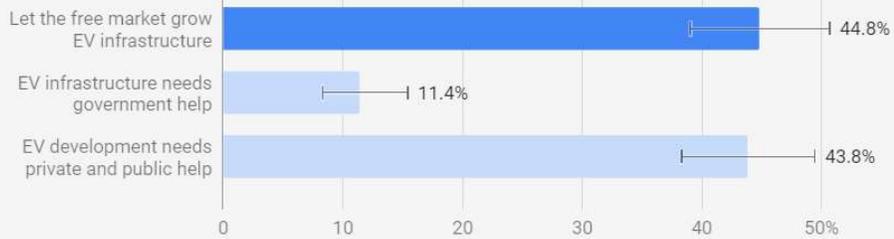
4. The slow adoption of electric vehicles in North Dakota is mainly due to:

324 respondents



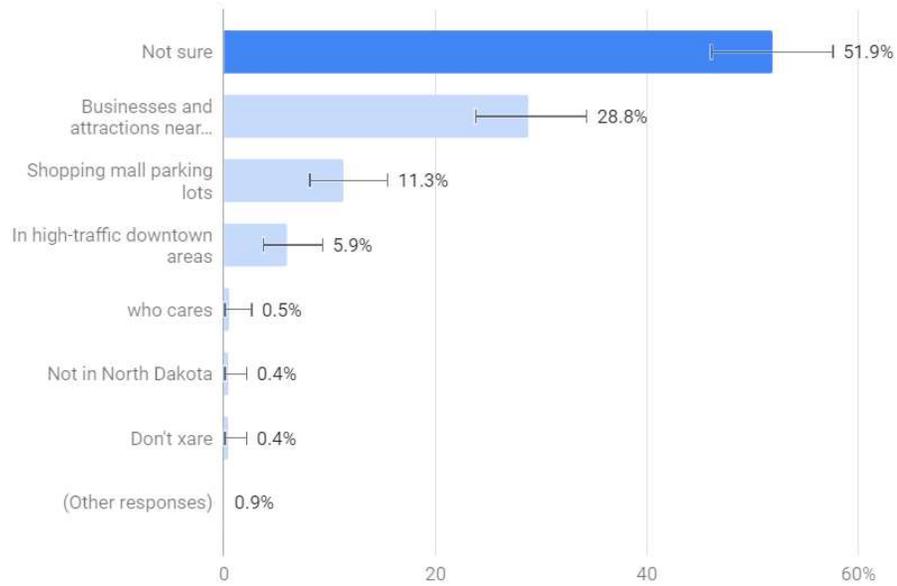
5. Which statement best reflects your feelings about electric vehicle infrastructure (charging hubs)?

292 respondents



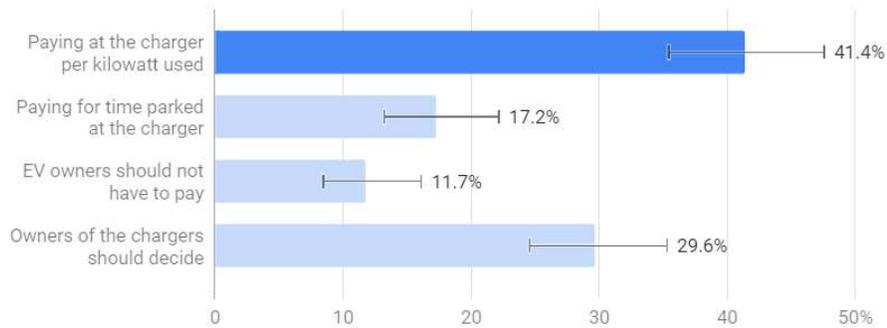
6. Where would charging hubs be best located?

284 respondents



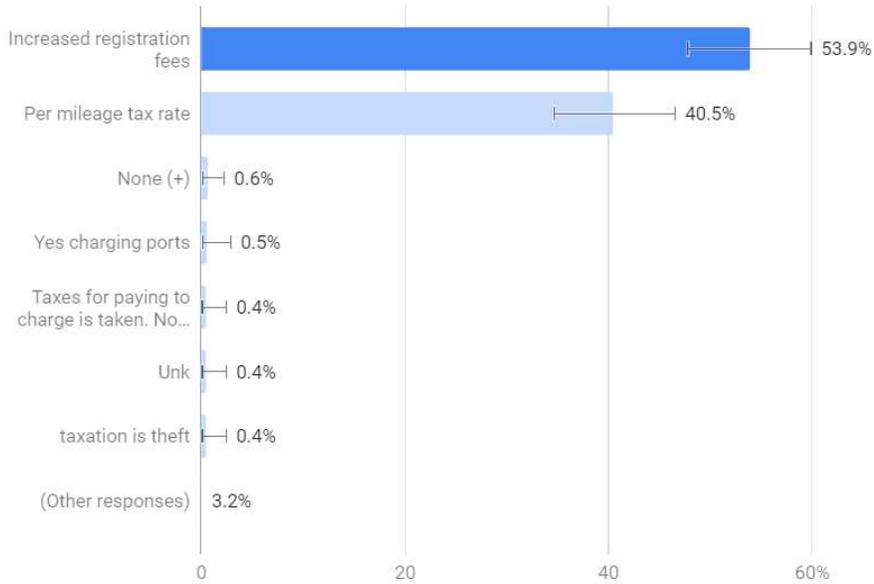
7. Electric vehicle owners should pay for using charging stations by:

266 respondents



8. Electric vehicles should pay their fair share of road/gasoline tax revenues by:

259 respondents



9. Would you consider North Dakota to be "EV-friendly?"

259 respondents

