



Natural Resources Canada Ressources naturelles Canada

Canadians' Awareness, Knowledge and Attitudes Related to Zero Emission Vehicles (ZEVs) – 2022

Summary

Prepared for Natural Resources Canada

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Canada 

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This research report presents the results of an online survey conducted by EKOS Research Associates Inc. on behalf of Natural Resources Canada. The research involved an online survey of 3,454 Canadians. The survey was conducted across Canada in both official languages. The field dates for the survey were September 9-October 4, 2022.

Cette publication est aussi disponible en français sous le titre : Sensibilisation, connaissances et attitudes des Canadiens par rapport aux véhicules à émission zéro (VEZ).

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SUMMARY

A. BACKGROUND AND OBJECTIVES

In 2022, the Government of Canada issued a plan for reducing emissions: *2030 Emissions Reduction Plan: Canada's Next Steps for Clean Air and a Strong Economy*. In it, the Government reinforced its commitment to fight climate change, create jobs, and ensure that Canadians are global leaders in the transition to clean industries and technologies.

On-road transportation accounts for about 20 percent of Canada's total greenhouse gas emissions. Reducing transportation emissions is critical to achieving the Government's more ambitious climate change commitments and is consistent with the global shift toward zero emission vehicles (ZEVs).

To meet that critical need, the Government has set a mandatory target for all new light-duty cars and passenger trucks sales to be ZEVs by 2035. In addition, the Government will develop a medium- and heavy-duty vehicle (MHDV) regulation to require that all MHDV sales be ZEVs by 2040 for a subset of vehicle types, based on feasibility.

The Government is investing an additional \$3 billion to ensure Canada reaches these goals. To provide certainty about the path to getting there, the Government will pursue a combination of investments and regulations to help Canadians and industry in this transition.

For the Government to achieve its ZEV targets, consumer awareness, knowledge and acceptance of new ZEV technologies has been acknowledged by all stakeholders as critical.

Although various parties in Canada have conducted sporadic consumer surveys over the past decade that seek to measure these factors in the Canadian general public, these have not been designed as a baseline to be repeated consistently over time, so comparison between years of the fast-evolving consumer perspectives on ZEVs cannot be undertaken with scientific rigour.

The first NRCan baseline survey of Canadians on awareness, knowledge and confidence in ZEVs was conducted in Summer 2021. The survey was specifically designed to be repeated on an annual or bi-annual basis to provide key performance indicators on the success of efforts to rapidly increase consumer intention and action on the purchase of ZEV technologies

NRCan commissioned EKOS Research Associates to undertake the first follow-up survey of Canadians examining their awareness, knowledge and confidence in ZEVs. Results will provide an update to the 2021 baseline survey for key performance indicators and key market data to measure and track impacts and progress resulting from government and partner investments to foster ZEV adoption.

B. METHODOLOGY

The research involved an online survey of 3,454 Canadians 18 years of age and older. The survey was conducted across Canada in both official languages. The field dates for the survey were September 9-October 4, 2022.

Appendix A contains a detailed description of the methodology used in this study.

Appendix B contains the full survey questionnaire.

C. KEY FINDINGS

Survey results reveal that Canadians hold mixed views on ZEVs and continue to have a general lack of knowledge about these vehicles. As was found in 2021, Canadians believe that ZEVs are beneficial for the environment, but also feel they are expensive and have issues related to charging (e.g., too few charging stations, can't travel far enough on a full charge). Canadians also have limited experience with ZEVs, and little understanding about a range of important issues associated with these vehicles, such as safety, vehicle charging, performance, maintenance costs, and resale value, suggesting these are areas in need of increased ZEV awareness/education initiatives.

Highlight Results

Survey results suggest that although there is some interest in ZEVs among Canadians, increased education and awareness efforts will be required to overcome some of the concerns about ZEVs (e.g., charging, reliability, costs to run and maintain), and the general lack of knowledge about these vehicles among the Canadian public. As shown by some examples of the key comparative results in the table below, tracking reveals an increase in exposure and familiarity with ZEVs, but also a slight decrease in interest in the purchase/lease of a ZEV, and, importantly for those working to advance ZEV adoption, worsening attitudes towards many aspects of ZEVs.

Table 1: Highlight results

Statement/Question	2022 % Agree	2021 % Agree	Change +/-
Have you ever driven or ridden in a zero-emission vehicle?	39%	32%	+7%
Do you know an owner of a zero-emission vehicle?	54%	46%	+8%
Have you considered purchasing or leasing an electric vehicle for your household?	52%	51%	+1%
There is an affordable ZEV that meets my lifestyle needs.	17%	28%	-11%
ZEVs can't travel far enough on a full charge	48%	44%	+5%
ZEVs perform poorly in cold weather	37%	28%	+9%
I have no interest in a zero-emission vehicle	20%	15%	+5%

These and other survey results can help the Government of Canada and all ZEV stakeholders focus the content and messaging in their awareness and education activities in the coming months and years. There are clearly a wide variety of opportunities to fill gaps in knowledge and understanding related to ZEVs, particularly where there are clear misperceptions, and where large numbers of respondents have indicated they are “unsure”.

Outlined below are key findings from this study, organized by topic area. The remainder of this report describes survey results in more detail. Please note that throughout this report only changes of 2 per cent or more between the 2022 and 2021 results should be considered significant.

Intention to Purchase/Lease a Vehicle

Respondents were first asked if they plan to purchase or lease a new or used vehicle in the next 10 years. As was found last year, two-thirds of Canadians (67 per cent) say they do intend to purchase a vehicle within the next 10 years.

When asked in what timeframe they plan to purchase a vehicle, most of these respondents indicated within the next 2-5 years (43 per cent), or within the next 2 years (32 per cent). These results are largely similar to those found in 2021.

Ownership and Intention to Lease/Purchase an Electric Vehicle

Those who indicated they had a vehicle in their household were asked if they currently lease or own an electric vehicle. Results reveal that, consistent with 2021 results, very few Canadians (six per cent) say they own or lease a vehicle that runs on electricity; the vast majority (94 per cent) do not.

Those who do not own or lease an electric vehicle were asked if they had considered purchasing or leasing an electric vehicle for their household. Results are split, with a slight majority (51 per cent) indicating that they had considered purchasing an electric vehicle, and a somewhat smaller proportion (44 per cent) indicating they had not (these results are virtually identical to those found last year).

Results further reveal that many of these respondents (53 per cent – up two percentage points since 2021) say they have thought about purchasing an electric vehicle, but have not taken any real steps to purchase/lease this type of vehicle. Three in ten (28 per cent) say they have started to gather information and make inquiries, but have not seriously considered an electric vehicle yet. Only one in six (17 per cent) say they have actually shopped for an electric vehicle (although this is up from 14 per cent in 2021).

Experience with Zero Emission Vehicles

Respondents were asked if they had ever driven or ridden in a ZEV. Results reveal that most Canadians (59 per cent) have not, while 39 per cent said they had. Tracking reveals a 7-point increase among those who indicated they had driven or ridden in a ZEV.

Those who had not driven or ridden in a ZEV were asked how interested they would be in taking a zero emission vehicle for a test drive. Most say they would be very (33 per cent) or somewhat (29 per cent) interested, although this is down 5 percentage points from 2021. Nineteen per cent (up from 15 per cent last year) said they were not at all interested.

Familiarity and Views on Zero Emission Vehicle Features

Results reveal that respondents have limited familiarity with a range of aspects of ZEVs. They are most familiar with the environmental benefits of ZEVs (56 per cent indicate they are familiar with the environmental impact of electric vehicles, although this is down from 62 per cent in 2021). Half say they are familiar with the price of ZEVs (51 per cent), the potential to charge (“fuel up”) the battery at their home (50 per cent), and how far a vehicle can go on a

fully charged battery (50 per cent). Only about one in four indicate familiarity with vehicle safety performance, vehicle maintenance costs, and the availability of all-wheel drive for these types of vehicles. Even fewer express familiarity with the warranty, resale value, towing capacity, or insurance costs of ZEVs. Across many of these aspects, familiarity, while still low, is up since 2021.

Respondents were also asked a number of attitudinal questions about ZEVs. Results reveal mixed views as well as a general lack of knowledge about these vehicles. Between 10 and 48 per cent of Canadians could not provide a response to the questions asked (although the proportion who said they were unsure is down somewhat since 2021 across many of these questions, reinforcing earlier findings that familiarity with ZEVs is up somewhat over the past year).

A clear majority of Canadians (70 per cent, up seven percentage points since 2021) believe that ZEVs are too expensive (only 5 per cent disagree with this idea). Canadians also generally believe that ZEVs are better for the environment than other types of vehicles. However, agreement that ZEVs are better for the environment is down over the past year: six in ten (61 per cent, down five percentage points since last year) agree that zero emission vehicles contribute significantly to a reduction of greenhouse gas emissions and air pollutants compared to gas or diesel-powered vehicles, and just over half (51 per cent, down seven percentage points since 2021) agree that zero emission vehicles are less damaging to the environment than gas or diesel-powered vehicles. These tracking results suggest that an increasing proportion of Canadians have a fundamental misperception of the environmental impacts of ZEVs.

Concerns are also expressed about charging ZEVs. More than half of Canadians (55 per cent) agree that there are too few, if any, publicly available charging stations where they drive (in Saskatchewan/Manitoba, 66 per cent agree). In addition, almost half express concerns that ZEVs can't travel far enough on a full charge (49 per cent, up five percentage points since last year). Fewer than half agree that they can charge a zero emission vehicle at their home or workplace (44 per cent), in spite of the fact that roughly two-thirds of Canadians live in single-family dwellings that likely provide opportunities for home charging.. In addition, many worry that if too many people purchase ZEVs it will put too much pressure on the electric grid (43 per cent, up 17 points since 2021), and that charging a zero emission vehicle at home will significantly increase their monthly electricity bill (41 per cent).

Across many of the issues examined, Canadians could not even provide a response. One in four (25 per cent) feel that the style/type of vehicle they prefer isn't available as a ZEV, but many (27 per cent) are unsure. Fewer than one in five (17 per cent) feel there is an affordable zero

emission vehicle available that meets their lifestyle needs, but again, many (29 per cent) are unsure. Four in ten (40 per cent) are unsure whether the repair and maintenance costs for a zero emission vehicle are lower than for a gas or diesel-powered vehicle, and almost half (46 per cent) are unsure whether zero emission vehicles have a poor resale value.

Results also reveal that many Canadians would only buy a zero emission vehicle if the price were about the same as an equivalent conventional vehicle (42 per cent, although this is down five percentage points since last year). About one in five (21 per cent – down 2 percentage points since 2021) would be willing to pay more for a zero emission vehicle than an equivalent conventional vehicle. Fifteen per cent (up four percentage points since last year) indicated they would only buy or lease a zero emission vehicle if the price were lower than an equivalent conventional vehicle, and 13 per cent (up four points since 2021) said they would never buy a zero emission vehicle.

Canadians were also asked to what extent a range of factors would make them more likely to consider purchasing or leasing a zero emission vehicle. Proven reliability in Canadian climates/ winter weather performance, and having access to a charging station at home were seen as the most important factors in encouraging Canadians to consider purchasing/leasing ZEVs. Equal or greater driving range than a gas or diesel vehicle, a 10-year battery warranty, and rebates/incentives to cover the price difference between ZEVs and gas or diesel-powered vehicles were also seen as effective in encouraging Canadians to consider ZEVs. Across virtually all of the issues examined, there has been a decrease in belief that these factors would make respondents more likely to consider purchasing or leasing a ZEV.

Awareness and Support for Government Rebates

Results suggest Canadians have limited awareness of government rebates for ZEVs. Similar to last year, when asked whether they have seen, read or heard about the Government of Canada's vehicle purchase rebates to encourage Canadians to buy ZEVs, a slight majority (51 per cent) indicate they have not heard of these rebates, while four in ten say they are aware of them. Among those who indicated they are aware of these Government of Canada rebates, most (59 per cent) are unsure how to apply for them, although this is down 5 percentage points since last year.

Despite limited awareness of these rebates, a clear majority of respondents (63 per cent) support the Government of Canada providing incentives to encourage Canadians to buy zero emission vehicles, although support is down 6 percentage points over the past year.

D. CONTRACT VALUE

The contract value for the POR project is \$81,314.80 (including HST).

Supplier Name: EKOS Research Associates

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Contract Award Date: August 19, 2022

For more information on this report, please contact NRCan at: nrcan.por-rop.rncan@canada.ca

E. POLITICAL NEUTRALITY CERTIFICATION

This certification is to be submitted with the final report submitted to the Project Authority.

I hereby certify as Senior Officer of EKOS Research Associates Inc. that the deliverables fully comply with the Government of Canada political neutrality requirements outlined in the Communications Policy of the Government of Canada and Procedures for Planning and Contracting Public Opinion Research.

Specifically, the deliverables do not include information on electoral voting intentions, political party preferences, standings with the electorate, or ratings of the performance of a political party or its leaders.

Signed by:



Derek Jansen (Vice President)