

In Reply Please Quote File Number: 2023-00199-DNRR

February 27, 2023

[REDACTED]

[REDACTED]

[REDACTED]

Re: You are entitled to part of the information you requested – 2023-00199-DNRR

Natural Resources and Renewables received your application for access to information under the *Freedom of Information and Protection of Privacy Act* on January 26, 2023.

In your application, you requested a copy of the following records:

Please provide documentation on the impact to the province's electricity system and ratepayers due to the federal government's decision to require 100% of all passenger cars and trucks sold by 2035 to be zero emission. Please be sure to include any estimates or analysis on changes necessary to power generation needs, transmission requirements, local distribution infrastructure, household upgrades and the cost to consumers. Please also provide copies of any materials provided to the federal government related to this topic and their announcement. The time frame for this request is March 1, 2021, to present. (Date Range for Record Search: From 02/28/2021 To 01/25/2023)

You are entitled to part of the records requested. However, we have removed some of the information from this record according to subsection 5(2) of the *Act*. The severed information is exempt from disclosure under the *Act* for the following reasons:

- Section 12: information which could harm intergovernmental relations or information received in confidence from another government.

12(1)(a)(i), The head of a public body may refuse to disclose information that could reasonably be expected to harm the conduct by the Government of Nova Scotia of relations between the Government of Canada or a province of Canada.

- Section 17: information the release of which would have a detrimental financial or economic impact on NS.

17(1), The head of a public body may refuse to disclose to an applicant information the disclosure of which could reasonably be expected to harm the financial or economic interests of a public body or the Government of Nova Scotia or the ability of the Government to manage the economy.

- Section 20: unreasonable invasion of personal privacy.
20(1), The head of a public body shall refuse to disclose personal information to an applicant if the disclosure would be an unreasonable invasion of a third party's personal privacy.

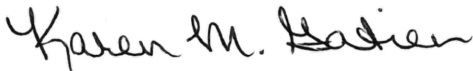
The remainder of the records are enclosed.

You have the right to ask for a review of this decision by the Information Access and Privacy Commissioner (formerly the Review Officer). You have 60 days from the date of this letter to exercise this right. If you wish to ask for a review, you may do so on Form 7, a copy of which is attached. Send the completed form to the Information Access and Privacy Commissioner, P.O. Box 181, Halifax, Nova Scotia B3J 2M4.

Please be advised that a de-identified copy of this disclosure letter and the attached response to your FOIPOP application will be made public after 14 days. The package will be posted online at <https://openinformation.novascotia.ca/>. The letter will not include your name, address or any other personal information that you have supplied while making your application under FOIPOP.

Please contact Lauren Smith at 902-424-3786 or by e-mail at lauren.smith@novascotia.ca, if you need further assistance regarding this application.

Yours truly,



Karen M. Gatien
Deputy Minister

Attachment

From: [Scott Skinner](#)
To: [Holleth, Jason](#); [MacEachern, Lora A](#); [Gatien, Karen M](#); [Collins, Keith E](#)
Subject: Clean Foundation Submission - Achieving a Zero-Emission Future for Light-duty Vehicles
Date: January 18, 2022 4:58:29 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[ZEV Mandate Consultation - Clean Foundation Submission.pdf](#)

**** EXTERNAL EMAIL / COURRIEL EXTERNE ****

Exercise caution when opening attachments or clicking on links / Faites preuve de prudence si vous ouvrez une pièce jointe ou cliquez sur un lien

Hi all,

We just submitted this to the Federal Consultation on ZEV mandate for light-duty vehicles and I thought I'd pass it along in case you are interested. As always, we are happy to chat further if there are questions.

All the best!

Scott



Scott Skinner (he/him)
President & CEO
(E): [20\(1\)@cleanfoundation.ca](mailto:20(1)@cleanfoundation.ca) | (P): 902 880 3693
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Clean Foundation provides the knowledge, tools and inspiration needed to encourage the actions that lead to positive environmental change. Clean works in the traditional lands of the Mi'kmaq and Wolastoqiyik.

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Please consider the environment before printing this email



January 19, 2022

Re: Input on Achieving a Zero-Emission Future for Light-duty Vehicles

Thank you for this opportunity to provide input on this important issue. Clean Foundation is a Nova Scotia-based independent, environmental charity that began in 1988. We promote green solutions for today and support the environmental leaders of tomorrow. Our passion is providing the knowledge, tools and inspiration needed to encourage the actions that lead to positive environmental change. Clean Foundation works in the ancestral and unceded territories of the Mi'kmaq and Wolastoqiyik.

One of our core program areas is supporting the decarbonization of transportation in Nova Scotia, and we have a particular expertise in electric mobility. Since 2019, Clean Foundation has delivered the Next Ride program with funding from the Province of Nova Scotia. Next Ride is a mobile EV showcase that provides Nova Scotians with resources to learn about EVs and experience them first-hand. We partner with EV dealerships to bring EVs to communities throughout the province to allow residents to test drive an EV and ask questions of our EV Specialists. We also host the website EVAssist.ca, which serves as a one-stop shop for EV information.

We administer the Electrify EV and e-bike incentive program on behalf of the Province of Nova Scotia. We have worked with Nova Scotia municipalities to conduct assessments of their ICE fleets and provide recommendations and cost savings estimates for conversion to EVs. We are also one of the recipients of funding from Natural Resources Canada's ZEVIP Delivery Organization funding stream, which will enable the installation of up to 250 level 2 charging stations in Nova Scotia.

What should be the approach to achieving 100% in 2035, including ZEV sales of at least 50% in 2030?

We strongly support the implementation of a ZEV mandate. Nova Scotia's current EV adoption target is 30% of new vehicle sales being EVs by 2030, and we anticipate the province will be increasing its ambition to match the federal target. A June 2020 [study](#) prepared by Dunsky Energy Consulting for the Ecology Action Centre investigated the policy measures needed to achieve the 30% adoption target, and concluded that a combination of provincial and federal incentives and a supply-side mandate were essential.

Since the introduction of the provincial EV incentives in February 2021, we have seen first-hand that incentives alone do not help to secure sufficient EV supply to meet demand. Nova Scotians regularly tell us that they are on waitlists of many months or even over a year for some in-demand models, and some have given up on purchasing an EV altogether because the wait times are too long. Other models, such as the 2022 Mazda MX-30 and Volkswagen ID.4 are not even being made available for order here.



Our own recent experience purchasing a Kia Niro EV for our fleet is illustrative. It took us three months and a great deal of persistence with repeated phone calls and emails to a dealership to secure the vehicle. There were none in the Maritimes at any point, and the first three models that the dealership hoped to bring into the province did not even make it to Nova Scotia. Had we not been a motivated organization with a mandate to reduce fleet emissions and a budget that meant we could accept whichever trim was finally made available to us; it is easy to imagine that we would have given up before completing the purchase.

In addition to ZEV sales targets of at least 50% by 2030 and 100% by 2035, are additional interim targets needed to allow Canada to succeed? What should those targets be?

We support the setting of interim targets to provide certainty and to allow regular benchmarking of progress against the 2030 and 2035 targets. Interim targets will also support provinces and territories in implementing complementary measures to support adoption, such as expanding public charging infrastructure. Interim adoption targets allow for planning to ensure sufficient infrastructure is in place for the number of EVs projected to be on the road.

We do not have numbers that we would propose as interim targets, but trust that other stakeholders who have researched this question will provide reasonable figures.

The Government of Canada will be mandating the sale of ZEVs. How should this be designed and what should be considered to ensure its success?

It is essential that there be equitable regional allocation of vehicle supply to smaller provinces. We especially need to see larger SUVs and electric trucks available in Atlantic Canada. One barrier we hear regularly from people is that they need larger vehicles to meet the needs of work and family, and the models available here are not a good fit for many of these would-be adopters. Our rural residents and resource sector workers also need vehicles with towing and hauling capacity and long-range batteries if they are to be able to make the transition to electric.

We like the approach of setting a federal backstop for EV adoption but allowing provinces and territories the freedom to create their own mechanisms to meet those targets.

What issues impede adoption of ZEVs by low-income households? How can Government address these issues?

Even with the availability of both provincial and federal incentives, EVs are still inaccessible to low-income households due to price and the lack of access to home charging for people who are proportionately more likely to live in MURBs and/or to be housing insecure.

Nova Scotia already has used EV incentives in place, a move that was widely supported by electric mobility advocates when they were introduced. Thus far, we have seen about one used EV incentive for every two new EV incentives, though it is worth noting that our used EV supply has been even more limited than our new EVs. At the same time, we have seen significant



growth in dedicated used EV dealerships in the province over the last year, underscoring the scale of demand for used EVs.

We would like to see the introduction of a federal used EV incentive to further reduce the price of used EVs. We also note that one stakeholder on the Jan. 12th eNGO consultation session opposed 'double rebating', whereby an EV can have both a new and used incentive applied. We respectfully disagree; Nova Scotia allows for any qualifying EV to have one new and one used incentive applied. If this were not allowed, we do not believe we would have seen the growth in used EV dealerships that we have to date because many of the EVs they stock would be ineligible for used incentives, having already had new incentives applied. We also recommend allowing any model of EV to be eligible for a used incentive, so long as the price is within an acceptable range. In Nova Scotia, this range is currently set at \$10,000 to \$55,000 for used BEVs, and \$10,000 to \$40,000 for used PHEVs.

Serious consideration should be given to making the federal incentive framework more progressive by allowing more generous new and used incentives for lower income households. Where EVs are still a new technology to many and overall sales are very low in Canada, we support the broad application of incentives at the present time. However, we know that there are people getting incentives who do not need them. As the adoption curve transitions from early adopters to early majority and the MSRP of new EVs continues to decline, incentives should be progressively reduced and eliminated for moderate-and higher-income Canadians. However, we support maintaining incentives for lower-income households for a longer period.

Access to charging and culturally informed EV education is also an issue in historically marginalized communities, such as Nova Scotia's African Nova Scotian communities and Mi'kmaq reserves. We would like to see special support for education and infrastructure for these communities in the form of designated funding streams made available for these communities. However, given our experience that federal funding can be difficult to obtain and manage absent significant organizational resources, we would also like to see federal funds provided to provinces and territories to be used in their discretion to further reduce barriers to EV adoption in these communities.

Finally, we would like to see direct support for EV carsharing initiatives by municipalities and non-profits. We have seen encouraging initiatives in Nova Scotia whereby service providers working with vulnerable populations are trying to secure EV fleets and charging infrastructure so they can offer these vehicles for their clients, many of whom would otherwise have no real prospect of accessing an EV. Unfortunately, given constraints in both EV supply and operating resources for these service providers, these initiatives face many challenges moving from conception to reality, and targeted support would be very beneficial. Smaller municipalities in the province are also interested in exploring shared EV fleets for staff and residents, but again lack access to the resources to make these initiatives successful.



What role should PHEVs play in achieving the 100% ZEV sales target?

There is still widespread conviction in Nova Scotia that there is not enough public charging infrastructure to justify buying an EV. This is certainly true in some areas of the province, but in many cases this view reflects the persistence of the 'gas station mindset'; people who don't yet own EVs often don't understand or accept that most charging happens at home. While this underscores the importance of ongoing public education, PHEVs are important today as a transitional technology for those who are not ready to go fully electric, or those who lack access to home charging. However, as charging infrastructure expands and EVs become more mainstream, we see justification for phasing out PHEV incentives in advance of the elimination of BEV incentives (though we expect there may be good reason to allow PHEV incentives to remain available for longer periods for remote and Northern communities where infrastructure remains a challenge.)

In addition to the measures already implemented by the Government, are there other actions the Government should explore to complement the regulated sales mandate?

Although demand had increased markedly in Nova Scotia in recent years, as we travel the province educating about EVs we see we are only scratching the surface. We still encounter people who don't know EVs exist, or who believe that because Nova Scotia's electricity grid still relies on coal that EVs are in fact 'dirtier' than ICEs. We still hear of consumers going into some dealerships and getting wrong information about EVs. Although supply-side measures are vital, supporting the growth of EV demand through education remains a crucial demand-side tool.

Government can also lead by example and should accelerate the conversion of its fleets to EVs.

The ZEVIP program should be reviewed to reduce barriers to entry for smaller organizations. Until the introduction of the Delivery Organization funding stream, the need to have a minimum of twenty level 2 chargers installed to access ZEVIP was a barrier for even our largest municipalities and businesses. We were pleased to see the introduction of the Delivery Organization stream to address these concerns and, as noted above, we were the successful applicant for this funding. However, to participate in this program we will need to pay out over a million dollars to groups installing charging stations and then wait nearly a year to be reimbursed by the Government. This is a substantial detriment to participating in this program for Delivery Organizations, and there are few organizations in Atlantic Canada who would be willing or able to take on this burden.

What is the role of other actors, including the private sector, to help complement the regulated sales mandate?

As noted above, the experience consumers have at a dealership can make or break a sale. Our dealership landscape in Nova Scotia is a mix of motivated EV market leaders, those testing the water by offering a few used models, and those who denigrate EVs as an option in comparison to ICEs. OEMs have a huge role in dealerships in becoming EV certified; we were told by one



senior member of a large dealership family that they were unable to complete in-process EV certifications during the pandemic because of the OEM requirement for dealership staff to fly to Toronto for training at a time when interprovincial travel was prohibited. For whatever reason, the OEMs were unwilling to allow for online completion of the training. In addition to supply side mandates, the Government should also work with OEMs to support more dealerships getting EV certified.

Financial institutions can support EV adoption by offering preferential financing for EVs versus ICEs. Several credit unions in Nova Scotia already do this for EVs, as well as green home retrofits.

We are in the midst of a building boom in Nova Scotia, with many of the new buildings being larger MURBs. Every one of these buildings should be at least EV-ready; the single most expensive time to add EV charging capability is shortly after a building is completed, and yet that is the reality on the ground today. The Building Code needs to be amended immediately to require all new buildings to be at least EV-ready.

Should the Government scale up its existing efforts on incentives, infrastructure, and awareness and what are the priorities?

Yes, to all three, for the reasons outlined above.

Sincerely,

Erin Burbidge
Director of Programs and Policy

From: [Minister, Natural Resources and Renewables](#)
To: steven.guilbeault@parl.gc.ca
Cc: omar.alghabra@parl.gc.ca; infovehiculeetmoteur-vehiculeandengineinfo@ec.gc.ca; [Minister, Env](#)
Subject: Re: Zero-Emission Vehicle (ZEV) Consultation
Date: February 2, 2022 9:08:00 AM
Attachments: [Let - Min-Guilbeault ECCC ZEV-Consultation Jan 31 22.pdf](#)
[ZEV Discussion Document 2021 12 17.pdf](#)

Good Morning,

Attached please find correspondence from Hon. Tory Rushton, Minister of Natural Resources and Renewables, regarding zero-emission vehicle (ZEV) consultation.

Regards,

Pauline Cuvelier

Senior Executive Administrative Coordinator to Hon. Tory Rushton
Minister of Natural Resources and Renewables

Tel: 902-424-4037

E-mail: Pauline.Cuvelier@novascotia.ca



Natural Resources and Renewables
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February 2, 2022

Honourable Steven Guilbeault, Minister
Environment and Climate Change Canada
steven.guilbeault@parl.gc.ca

Dear Minister Guilbeault:

Re: Zero-Emission Vehicle (ZEV) Consultation

Thank you for the opportunity to provide comments on the federal ZEV mandate and ZEV commitments. Nova Scotia's transportation sector greenhouse-gas emissions (GHGs) represent 35 percent of our total provincial GHGs. As such, we are committed to supporting clean transportation initiatives, which include the deployment of electric vehicles (EVs) and related technologies, public-transit electrification, and the development of active-transportation networks.

Since 2018, Nova Scotia has demonstrated our commitment to ZEVs through these initiatives:

- In 2018, Nova Scotia contributed funding toward Nova Scotia Power Inc.'s EV fast-charging infrastructure; a 12-station network that covers the Province from Yarmouth to Halifax to Sydney
- In 2019, Nova Scotia funded the *Next Ride* EV engagement campaign, that allows all Nova Scotians the opportunity to test drive and learn about EVs. In 2021, this campaign won the Delta Management Group's *Clean 50* award for "Outstanding contribution to clean capitalism"
- In 2021, Nova Scotia was the first province in Atlantic Canada to invest \$9.5M to offer a new and used electric-vehicle incentive via our *Electrify!* Program. This Program 'tops up' Transport Canada's iZEV rebate program and uses the same eligibility criteria for new EV rebates. Nova Scotia included a used ZEV rebate to ensure those with lower earning-potential can also participate in this electric transition. This rebate program is an important area where provincial and federal staff are working cooperatively to ensure these programs are successful

Federal policy and programs are crucial to ensuring that Canada transitions to clean transportation in a timely and coordinated way. As such, I want to ensure that federal policy works cohesively with our ongoing provincial efforts to amplify results and maximize transportation-sector GHG emission reductions.

1. Federal ZEV Mandate of 100 Percent ZEV Sales by 2035

Nova Scotia supports a federal ZEV mandate of 100 percent sales by 2035, with appropriate interim targets to be determined.

Nova Scotia’s current ZEV target of 30 percent sales by 2030 matches the existing federal targets. However, there is a large gap to get to 100 percent sales by 2035. Nova Scotia will need considerable federal support and funding to meet these ambitious goals.

As a smaller population centre, Nova Scotia, and broadly, all Atlantic Canada, has been dealing with a consistent problem of vehicle availability. To ensure that every Canadian can buy a ZEV when they are ready, a federal ZEV mandate needs to ensure even distribution across the country so that new ZEVs are not focused solely in Central or Western Canada. A mandate with compliance mechanisms on a regional or provincial basis, such as percent-sales per capita, could be applied.

2. State-of-Readiness of EVs in Nova Scotia

- a. Next Ride EV Engagement: This campaign was launched in 2019 and has reached thousands of Nova Scotians in-person and online to provide EV information and local resources. We have invested an average of \$350,000 annually and will continue this investment. To reach more Nova Scotians and take the campaign ‘mainstream’, a federal contribution would be greatly appreciated.
- b. Battery research Laboratories: EV batteries contain metals which can be reused and recycled into new equipment. Batteries that are no longer suitable for EVs can be used as electricity-grid storage. Early-adopter EV batteries are nearing their EV end-use; therefore, policies and programs are needed in the immediate future at the federal and provincial levels.

Dalhousie University is a leader in battery research, both in battery R&D (20(1) Research Group) and in end-of-life EV batteries for utility-grid storage (20(1) team). These labs are ideal for further investment, consultation, and testing of new EV battery strategies. I would be happy to discuss additional funding or collaboration with these laboratories.

3. Partnership for Charging Infrastructure Network

High-speed charging is becoming a big interest and concern for both EV owners and private-sector investors. Staff discussions have found that the Natural Resources Canada RFP program is important in developing more infrastructure across the Province. However, it is onerous for proponents to apply and administer the contracts and reporting requirements and has discouraged some potential proponents in NS from applying to these programs.

12(1)(a)(i); 17(1)

12(1)(a)(i); 17(1) I would appreciate the opportunity to discuss this idea with you further.

I look forward to working together to ensure that we take meaningful action on climate change while seizing the opportunities presented by a clean economy.

Regards,



Tory Rushton
Minister

- c. Honourable Omar Alhabra, Minister, Transport Canada
Environment and Climate Change Canada ZEV Consultation
Honourable Tim Halman, Minister of Environment and Climate Change

Enclosure

Achieving a Zero-Emission Future for Light-duty Vehicles

Stakeholder Engagement Discussion Document December 17



Objectives for today's discussion

- Review what was heard at the ZEV consultations earlier this year
- Provide an overview of integrated federal strategy to transition the LDV sectors to ZEVs, as well as developments since March 2021
- Receive input on additional measures needed to achieve a mandatory ZEV sales target of 100% by 2035, including:
 - ❑ Setting an ambitious ZEV sales target for 2025 and a 2030 target of at least 50%
 - ❑ Mandating the sale of zero emission vehicles
 - ❑ Other key considerations
- Discuss next steps

What we heard from stakeholders last March

- Continued need for a holistic approach to combine any regulations with complementary demand-side measures, including incentives, infrastructure, consumer awareness, and education
 - ❑ Highlighting importance of matching magnitude of Canadian measures with US demand side measures
- Diverse views on regulatory approaches to address ZEV supply
 - ❑ General agreement for continued alignment with U.S. GHG standards as an important means to reduce GHG emissions from vehicles while ensuring the ongoing competitiveness of the industry
 - ❑ Some felt a ZEV standard approach would be needed to drive transformational change and create the market certainty necessary to accelerate the transition to ZEVs and to make decisions and long-term investments required (e.g., electricity generation and distributors)
 - ❑ Opinions on implementing a ZEV standard were more diverse, with most OEMs disagreeing with its application, and NGOs strongly in favour citing how it can drive electrification while providing a strong long-term investment signal
- Importance of coordination within Canada and North America
 - ❑ Need to work with U.S. administration on a coordinated North American approach, as well as need a consistent national approach within Canada
 - ❑ A federal ZEV standard would require mechanisms to address regional differences and ensure adequate supply in all provinces, not just BC and Quebec

Decarbonizing On-Road Transportation Requires an Integrated Federal Approach

In April, Canada set a national emissions reductions target in 2030 of 40-45% GHG reductions below 2005; to achieve this goal, deep reductions are needed in the transportation sector, which is responsible for 25% of domestic emissions, of which approximately 85% is from on-road transportation

- LDV sector accounts for half the transportation GHG emissions and LDV sector emissions have been higher than 2005 levels each year since 2015
- ZEVs are key to decarbonizing LDVs and are significantly more advanced for the LDV sector than for other modes
- In June, the Government set a mandatory ZEV sales target of 100% by 2035, and committed to consult on mandatory measures and interim 2025 and 2030 ZEV sales targets
- The November Speech from the Throne stated that the Government of Canada mandating the sale of zero emissions vehicles will help us breathe cleaner air
- The Government of Canada has committed to continue to align with the most ambitious North American performance-based GHG standards for post-2025 vehicles and mandating sales of zero emissions vehicles
- In its Roadmap to 2030, the Government of BC has set new light-duty ZEV sales targets of 26% by 2026, 90% by 2030 and 100% by 2035.
- The Government of Quebec announced in its 2030 Plan for a Green Economy to have 1.5 million electric vehicles on the road in Quebec in 2030 and no sales of new gasoline-powered cars and passenger trucks as of 2035

Federal Policy Levers for ZEV Deployment

 Research, Development & Demonstration Fund RD&D in areas not yet commercially proven, pre-regulatory work, safety and performance testing on technologies, fuels, batteries, enabling infrastructure	 Awareness and Training Fund tools and information to raise awareness and confidence in decarbonization options, and stimulate shift to greener operations; support training and certification in use of new technologies, fleet assessments, benchmarking, etc.
 Infrastructure Build the enabling charging and refueling infrastructure to support the transition and scale-up to low- and zero-carbon alternatives	 Industrial & Supply Chain Transition Help develop capacity to manufacture clean technologies, fuels and critical minerals
 Incentives Catalyze the transition to low- and zero-emission alternatives through financial support to offset higher cost, promote early adoption and send signals to industry on product demand	 Regulations Align with the most stringent North American GHG standards for vehicles, mandate the sales of zero emission vehicles and explore if other mandatory measures are needed
 Stewardship & Partnership Stimulate market via federal procurement, supporting Greening Government Strategy, and work with key stakeholders, partners and like-minded states to align and leverage efforts, and advance norms and ambition	

Continued alignment with US

- Canada has committed to continue to align with the most ambitious North American performance-based GHG standards for post-2025 vehicles, while also mandating the sale of ZEVs to achieve the mandatory ZEV sales target of 100% by 2035
 - ❑ The Biden administration has announced new standards for model year 2023-2026 vehicles, which are expected to be finalized by December 2021, more stringent standards for post-2026 to be determined in 2024
 - ❑ Canada's regulations incorporate by reference the US standards – will automatically adopt new US standards once US finalizes them
 - ❑ The Biden administration established a non-binding 50% ZEV sales goal by 2030
 - ❑ The US has not announced a 100% ZEV target, nor its regulatory ambitions for 2035
 - ❑ California has set a course to end sales of internal combustion passenger vehicles by 2035
-

Getting to 100% ZEV sales by 2035

- Government committed to work with partners to develop interim targets, mandating the sale of ZEVs, and to develop additional mandatory measures as needed to meet the mandatory ZEV sales targets
- Considerations include:
 - ❑ Feasibility, costs and benefits of various approaches
 - ❑ Approaches pursued by other jurisdictions
 - ❑ Implications of non-aligned approaches within North America, the US and Canada
 - ❑ Automakers' electrification commitments and competitiveness of Canada's automotive industry

Key Discussion Questions:

- **What should be the approach to achieving 100% in 2035, including ZEV sales of at least 50% in 2030?**
 - **In addition to ZEV sales targets of at least 50% by 2030 and 100% by 2035, are additional interim targets needed to allow Canada to succeed? What should those targets be?**
 - **The Government of Canada will be mandating the sale of ZEVs. How should this be designed and what should be considered to ensure its success? What are the mechanisms in other jurisdictions' mandatory ZEV regulations that should be used or avoided?**
-

Other Considerations

Achieving 100% ZEV sales may pose challenges for particular communities or households in Canada, including:

- Northern and remote regions (e.g. off-grid communities)
- Lower-income households, before ZEVs get closer to price parity
- Those who use their vehicles in particularly challenging operating conditions

Key Discussion Questions:

- **What issues impede adoption of ZEVs in Northern and remote communities and by low-income households?**
- **How can Government address these issues?**
- **What role should PHEVs play in achieving the 100% ZEV sales target?**

Complementary Measures

- The Government committed to using a combination of regulations and investments to ensure that Canada reaches the 2035 target
- The Government has invested more than \$1B to support consumers and industry

Key Discussion Questions:

- **In addition to the measures already implemented by the Government, are there other actions the Government should explore to complement the regulated sales mandate?**
 - **What is the role of other actors, including the private sector, to help complement the regulated sales mandate?**
 - **Should the Government scale up its existing efforts on incentives, infrastructure, and awareness and what are the priorities?**
 - **Should Canada explore other options to close the price gap between ZEVs and ICE vehicles, including feebates or measures that prevent higher leasing and lending rates for ZEVs?**
 - **Should Canada's Excise tax on Fuel - Inefficient Vehicles (Green Levy) be modernized to better align with climate objectives (e.g. include a wider range of vehicles?)**
-

Other Considerations

There are other elements that can contribute to enabling success, including RD&D grid readiness, battery lifecycle, and critical mineral supply

Key Discussion Questions:

- **What are the RD&D gaps to support the uptake of ZEV technologies and charging/refuelling solutions (e.g. higher-power charging solutions, V2G, energy storage, etc.)?**
- **What challenges and opportunities do you anticipate for the electricity grid as a result of accelerating our EV sales targets?**
- **What role does Canada's critical minerals and battery supply chain have in helping Canada achieve its ZEV targets?**
- **What end of life EV battery strategies need to be in place to support our environmental goals while achieving the 100% ZEV target?**

Next Steps

- ECCC to meet with stakeholder groups over the coming 5 weeks
- Stakeholder feedback will inform analysis and policy recommendations
 - ❑ Written feedback will be accepted until **January 21, 2022**
 - ❑ General inbox: infovehiculeetmoteur-vehiculeandengineinfo@ec.gc.ca

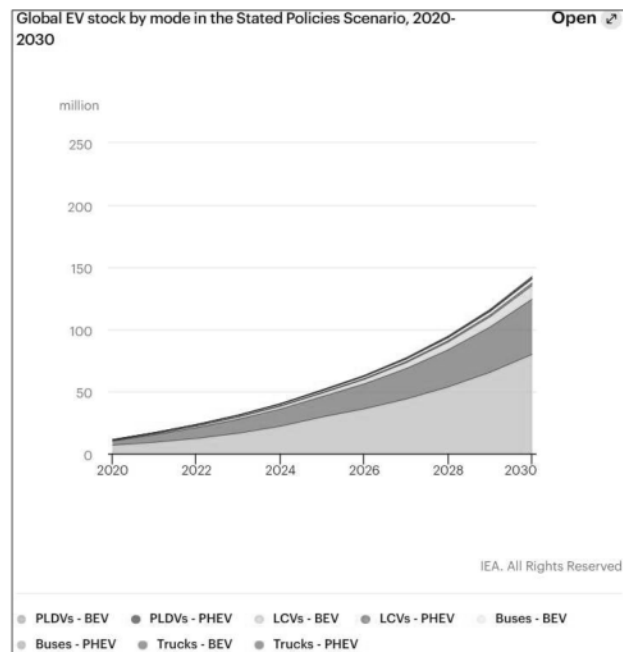
ANNEX

What is happening around the world

- August 2021: U.S. announced more stringent LDV GHG standards for model years 2023-2026
- Biden's August 2021 Executive Order set non-binding target of 50% ZEV sales by 2030; proposed post 2026-2030 rules expected [2023/2024]
- California – Proposed ZEV Regulation (Final June 2022) ZEV sales requirement
 - Regulatory credit requirement: % of new vehicle sales 2026 30%; 2030 70%; 2035 100%
 - Minimum vehicle requirements: 2026 24%; 2030 56%; 2035 100%
 - Working on adoption with S177 states, including New York, New Jersey
- EU – European Green Deal “Fit by 55” Proposed transportation requirements to achieve
 - 55% reduction of emissions from cars by 2030; 50% reduction of emissions from vans by 2030
 - All new cars registered in the EU as of 2035 will be zero-emission
- UK: Proposed: For new LDVs: by 2030 only BEV, FCEV, and PHEV, as of 2035 only BEV, FCEV
- China: 25% ZEV sales by 2025 target and sales mandate
- Norway: Target of 100% LDV ZEV sales by 2025; highest per capita ZEV sales through a combination of investments in charging, consumer incentives, addition of a NOX tax plus removal of VAT on new ZEV purchases

ANNEX: Global Outlook For ZEV Deployment

- According to the IEA Global EV Outlook 2021, based on existing policies, the global electric vehicle stock could reach 7% by 2030



Current North American ZEV Mandate Regulations

	ACC II: California ZEV Program (proposed amendments to 2035)	ACC I: California ZEV Program (requirements currently and until 2025)	Quebec ZEV Standard (Being amended)	BC ZEV Standard (Being amended)
Initial year for ZEV requirements	Requirements start for MY2026 and beyond	Initial requirements for 1998. ACC adopted in 2012 set requirements for MY2015 and beyond	Requirements start for MY 2018	Requirements start for MY 2020
Regulated Automaker	Same as ACC I	OEM's who sell more than 4,500 vehicles per year	Same as CAL	OEMs selling > 5,000 vehicles/year
Regulatory Requirement	Same as ACC I	Manufacturers must introduce increasing # of ZEVs for sale yearly	Automakers to earn credits through sale or lease of ZEVs in QC	Automakers meet escalating annual % of new LDV ZEV sales & leases
ZEV credit requirements*	30% in 2026 70% in 2030 100% in 2035 and beyond	12.0% in 2021 14.5% in 2022 17.0% in 2023 19.5% in 2024 22.0% in 2025 and beyond (CARB expects to align with 7-12% ZEV sales in 2025)	Same as CAL to 2025; currently amending post-2025 requirements to ramp up to 100% ZEV sales by 2035	Credit requirements using ratios aligning with the following sales targets: 10% in 2025 30% in 2030 100% in 2040
Leading to a complete ICE ban? (or a 100% ZEV sales requirement)	Planned, by 2035 Update to be finalized in 2022 as part of ACC II	See ACC II	Planned, by 2035	2040 date in legislation
Penalties	Same as ACC I	US \$5,000/credit	C\$5,000/credit	C\$5,000/credit

Transport Canada ZEV target consultation

Government of Nova Scotia response

Comments due January 20, 2022

Summary of issues

Transport Canada is looking to receive input on additional measures needed to achieve a mandatory ZEV sales target of 100% by 2035, including:

- Setting an ambitious ZEV sales target for 2025 and a 2030 target of at least 50%
- Mandating the sale of zero emission vehicles
- Other key considerations

Transport Canada questions

Getting to 100% ZEV sales by 2035

Question	NS Gov Response
1. What should be the approach to achieving 100% in 2035, including ZEV sales of at least 50% in 2030?	Nova Scotia has committed to 30% ZEV sales by 2030 – matching the current federal target. To achieve 50% sales by 2030, NS <u>will</u> need continued federal investment in ZEV rebates and infrastructure funding.
2. In addition to ZEV sales targets of at least 50% by 2030 and 100% by 2035, are additional interim targets needed to allow Canada to succeed? What should those targets be?	Moving the target of 30% up to 2028 could lead to greater success for a 50% target by 2030. Other interim targets for 2023 to 2030 to be determined by Federal modelling, Nova Scotia will not suggest those interim targets.
3. The Government of Canada will be mandating the sale of ZEVs. How should this be designed and what should be considered to ensure its success? What are the mechanisms in other jurisdictions' mandatory ZEV regulations that should be used or avoided?	<u>Regional allocation.</u> Like other provinces without a ZEV mandate, Nova Scotia has supply constraints. To ensure equitable distribution across the country, regional/provincial ZEV requirements are needed, as opposed to a broad national mandate. This will ensure manufacturers bring ZEV across the country, and not focussed in areas of high populations. A provincial per capita mandate, or % sales in each provincial jurisdiction would be appropriate.

Achieving 100% ZEV sales may pose challenges for communities or households in Canada:

- Northern and remote regions (e.g. off-grid communities)
- Lower-income households, before ZEVs get closer to price parity
- Those who use their vehicles in particularly challenging operating conditions

Question	NS Gov Response
4. What issues impede adoption of ZEVs in Northern and remote communities and by low-income households?	<ul style="list-style-type: none"> • Equity for low-income households in NS is a priority for the NS Government. • Nova Scotia has adopted ZEV rebates for used vehicles to support those with lower incomes in buying ZEVs.
5. How can Government address these issues?	<ul style="list-style-type: none"> • Canada can adopt rebates for used vehicles. • Canada can consider the use of 'income-tested' rebates, whereby lower income households receive greater rebate assistance with ZEV purchase. • Nova Scotia has successfully implemented similar measure for home efficiency programs.
6. What role should PHEVs play in achieving the 100% ZEV sales target?	<ul style="list-style-type: none"> • The supply of ZEVs has been consistently low in Nova Scotia. PHEVs play an important role in this transition and are expected to do so until 2035. • Manufacturers should be encouraged to develop longer range PHEVs (80km-100km or greater electric range).

Complementary Measures

Question	NS Gov Response
7. In addition to the measures already implemented by the Government, are there other actions the Government should explore to complement the regulated sales mandate?	<p>Continued investment in charging infrastructure. High speed (Level 3) infrastructure is becoming a significant interest and concern to EV owners and private sector investors.</p> <p>The current NRCan RFP program is onerous for proponents to apply and administer the contracts (reporting requirements). This had discouraged potential proponents in NS from applying to these programs.</p> <p>12(1)(a)(i); 17(1)</p>
8. What is the role of other actors, including the private sector, to help complement the regulated sales mandate?	The private sector should be encouraged to invest in charging infrastructure – deploying and maintaining.

	<p>Auto manufacturers (OEMs), such as VW and Tesla, have been deploying networks of their own. OEMs should invest in networks, either their own, or support for private sector businesses to deploy more charging.</p> <p>Electric utilities should be offering discounted charging for appropriately controlled home and business chargers (smart chargers).</p>
9. Should the Government scale up its existing efforts on incentives, infrastructure, and awareness and what are the priorities?	<p>Yes.</p> <p>Per above (Q7), NS is interested in pursuing a bi-lateral agreement with the Government for charging infrastructure.</p> <p>Nova Scotia is delivering a successful, award-winning EV engagement campaign Next Ride . Federal investment in this campaign to reach more Nova Scotians and increase adoption would be appreciated.</p>
10. Should Canada explore other options to close the price gap between ZEVs and ICE vehicles, including feebates or measures that prevent higher leasing and lending rates for ZEVs?	<p>There is a concern or perception that auto dealership may increase prices of their ZEV models in step with the value of a ZEV rebate.</p> <p>Nova Scotia would support measures to ensure this does not occur, or to make ZEV pricing more transparent.</p>
11. Should Canada's Excise tax on Fuel - Inefficient Vehicles (Green Levy) be modernized to better align with climate objectives (e.g. include a wider range of vehicles?)	<p>Yes.</p>

RD&D grid readiness, battery lifecycle, and critical mineral supply

Question	NS Gov Response
12. What are the RD&D gaps to support the uptake of ZEV technologies and charging/refuelling solutions (e.g. higher-power charging solutions, V2G, energy storage, etc.)?	<ul style="list-style-type: none"> Invest in V2G: With the severity of impacts from storms due to climate change increasing over time, Nova Scotia is beginning to invest in V2G research and pilot tests. The potential for use of the technology is emergency situations and integration of more renewable energy is encouraging. A federal investment program for larger-scale deployment of V2G charging infrastructure (school buses, transit buses, emergency vehicles) would be well-received. Work with EV supply equipment (EVSE) manufacturers: EV batteries are becoming more powerful, with longer ranges and capable of higher speed charging. The

	<p>existing L3 network in the province installed in 2019 is 50kw, which no longer meets the needs of new vehicles. New L3 stations should be installed with a minimum 150kw capacity, with the potential to be upgraded over time without full charging station replacement.</p> <ul style="list-style-type: none"> • Micro-grids: We are seeing interest from Nova Scotians in installing microgrid solutions, where EV charging infrastructure, renewable energy, and energy storage are being incorporated together to help organizations reduce grid consumption/reduce energy costs, maximize renewable energy output, control peak demand, and provide increased resiliency during extreme weather events.
<p>13. What challenges and opportunities do you anticipate for the electricity grid as a result of accelerating our EV sales targets?</p>	<p>Vehicle charging impact is dependent on policy. Appropriately timed vehicle charging, and use of additional available capacity if vehicle batteries, can have a positive impact on grid cost and stability. Conversely, unmitigated charging will exacerbate existing peak-management problems, and lead to unnecessary distribution upgrades.</p>
<p>14. What role does Canada’s critical minerals and battery supply chain have in helping Canada achieve its ZEV targets?</p>	<p>EV batteries contain metals which can be reused and recycled into new equipment. Batteries which are no longer suitable for EVs can be used as electricity grid storage. Early-adopter EV batteries are nearing their EV-end use therefore, policies and programs are needed in the immediate future at the federal and provincial levels.</p>
<p>15. What end of life EV battery strategies need to be in place to support our environmental goals while achieving the 100% ZEV target?</p>	<p>NS’s Dalhousie University is a leader in battery research, both in battery R&D (20(1) team) and in end-of-life EV batteries for utility grid storage (20(1) team). These labs are ideal for further investment, consultation, and testing of new EV battery strategies.</p>