

SUBMISSION

B.C. Zero-Emission Vehicles Act

Comments and Recommendations on Regulations Intentions Paper

INTRODUCTION

Clean Energy Canada is a climate and clean energy think tank within the [Morris J. Wosk Centre for Dialogue](#) at [Simon Fraser University](#).

We work to accelerate Canada's clean energy transition by sharing the story of the global shift to renewable energy sources and clean technology. We conduct original research, convene influential dialogues, inform policy leadership, and build citizen engagement.

We believe Canada—and British Columbia—is capable of developing one of the most advanced energy systems in the world, while significantly reducing carbon pollution by 2050 and building an innovative, growing economy, with good jobs and healthy communities and ecosystems.

This submission contains comments and recommendations from Clean Energy Canada regarding the establishment of regulations under the Zero-Emission Vehicle Act, in response to the [B.C. Zero-Emission Vehicle Act: Regulations Intentions Paper](#). The following advice is informed by our analysis, drawing from effective attributes found in California and Quebec's respective approaches, as well as offering approaches that would be unique to B.C.

BACKGROUND

In the summer of 2018, we conducted a study¹ assessing the availability of zero-emission vehicles (ZEVs) on dealerships throughout B.C. We called all 322 dealerships in B.C. that qualify for the province's EV rebate program and found that only 40% of them have electric cars on their lots available to purchase. Most dealerships said the wait time to get an electric car would be three months to a year—with some citing wait times of up to 18 months. Fewer than one in five of them could refer us to an alternative dealership with available EVs.

Research evaluating different policy options, conducted by Simon Fraser University's Sustainable Transportation Action Research Team (START), concluded that "A strong ZEV mandate would be the most effective, low-cost and transformative policy," noting that it is "the only policy examined to

¹ Clean Energy Canada, Batteries Not Included, 2018. <https://cleanenergycanada.org/report/batteries-not-included/>

receive an effectiveness score of 5/5.”² The use of a mandate is broadly supported by a diversity of stakeholders.^{3,4}

We are encouraged by and supportive of B.C.’s Zero-Emission Vehicle Act,⁵ as it holds the promise of increasing the range and number of ZEVs available, enhancing consumer choice and expanding opportunities for saving on fuel costs. British Columbians are excited about electric cars and the chance to cut both their carbon footprint and fuel costs. Driving an electric vehicle is six times less expensive than driving a gas-powered vehicle, according to [BC Hydro](#)—a win-win for commuters.

The ZEV Act requires that automakers sell or lease an escalating annual percentage of new light-duty ZEVs on a trajectory that achieves the following targets:

- 10% of light-duty vehicle sales by 2025,
- 30% by 2030, and
- 100% by 2040.

These targets are consistent with the trajectory needed for B.C. to achieve its 2050 GHG emissions goals.⁶ The legislation is intended to ensure a greater availability of ZEVs at more affordable prices in B.C., as committed in CleanBC,⁷ while creating a regulatory backstop to ensure B.C.’s greenhouse gas reduction targets are met. With this new law, B.C. joined a growing number of jurisdictions with ZEV standards, including Quebec, California, and nine other U.S. states, and became the first jurisdiction in the world to legislate a 100% ZEV target.

COMMENTS AND RECOMMENDATIONS

Who is being regulated?

The ZEV Act provides for the ability to establish different classes of suppliers, and it is proposed that the regulations define the following classes of suppliers based on the average annual sales volumes of the 3 previous consecutive years (e.g. MY 2017-2019 for MY 2020):

- Small – under 1,000 vehicles sold per year on average
- Medium – 1,000-7,999 vehicles sold per year on average

² START, Canada’s ZEV Policy Handbook, 2017. <https://metcalfoundation.com/publication/canadas-zev-policy-handbook/>

³ Clean Growth Intentions—Clean Transportation Re: Support for introducing a Zero Emission Vehicle Mandate in British Columbia. 2018. [Submission](#) from Clean Energy Canada, Tesla, City of Vancouver, David Suzuki Foundation, Innergex Renewable Energy Inc., Pembina Institute, NaiKun Wind Energy Group Inc., Modo Co-operative, Renewable Cities, Vancouver Economic Commission, Autocharger.ca, Clean Energy BC, Sustainable Transportation Action Research Team (START), Vancouver EV Association (VEVA,) & Movmi Shared Transportation Services.

⁴ UBCM Resolution [B131 Zero Emission Vehicle Mandate](#), *Endorsed* at the 2018 UBCM Annual Convention.

⁵ Zero Emission Vehicle Act <http://www.bclaws.ca/civix/document/id/bills/billscurrent/4th41st:gov28-1>

⁶ Sykes, M. and J. Axsen (2017). "No free ride to zero-emissions: Simulating a region's need to implement its own zero-emissions vehicle (ZEV) mandate to achieve 2050 GHG targets." *Energy Policy* 110: 447-460.

⁷ CleanBC <https://cleanbc.gov.bc.ca/>

- Large – 8,000+ vehicles sold per year on average

Several automakers have sales levels that cluster just above or just below the 8,000-vehicle threshold that defines “large” automakers and their associated compliance obligations. This could lead to a compliance strategy that would reduce the number of sales—by reducing vehicle supply or increasing vehicle price to reduce demand. This unintentional consequence is misaligned with the objectives of CleanBC and the ZEV Act and could be remedied by adopting size classifications that are informed by natural breaks in automaker size in B.C. While we previously suggested⁸ that B.C. adopt California’s sales volume classifications on a proportional basis to the size of B.C.’s automotive market, looking at natural breaks in automaker size in B.C. suggests the following class thresholds are most appropriate:

- Small – 1,249 or less
- Medium – 1,250-3,499
- Large – 3,500+

Different automakers have adopted different strategies to making and marketing ZEVs, as is their prerogative. Consequently, some may find it easier to comply with the Act, and even benefit from it, whereas others may find it more challenging. In terms of how the government views the prospects for compliance under the Act, we recommend that it continue to evaluate and consider the market as a whole rather than give consideration to the individual circumstances of automakers.

What kind of vehicles are being regulated?

In CleanBC, it was specified that the ZEV standard would apply to the sale or lease of new light-duty vehicles, which in Canada and the U.S. is defined as having a gross vehicle weight rating (GVWR) equal to or below 3,856 kg. While Quebec’s ZEV legislation includes medium-duty passenger vehicles, placing the weight limit at 4,500 kg, we understand that other vehicle classes are not currently under consideration but may be in the future.

Recently published research⁹ suggests that a ZEV mandate might be the most effective policy mechanism to cut GHG emissions from medium- and heavy-duty vehicles, and therefore we encourage the government of B.C. to consider expediting its evaluation of whether and how to adopt a standard for these vehicle classes. For that reason, and as previously recommended,¹⁰ we do not support the intention paper’s proposal that the sale or lease of medium- and heavy-duty vehicles be eligible for credits under initiative agreements.

However, it is possible that some longer-range (i.e. heavier battery) forthcoming large SUV and pick-up ZEVs will be heavier than 3,856kg and therefore risk being excluded. Consequently, we

⁸ Submission: Recommendations regarding B.C. zero emission vehicle standard legislation and regulation. February 19, 2019. <https://cleanenergycanada.org/report/submission-recommendations-regarding-b-c-zero-emission-vehicle-standard-legislation-and-regulation/>

⁹ Hammond, W., J. Axsen, et al. (2019). "How to slash greenhouse gas emissions in the freight sector: Policy insights from a technology-adoption model of Canada." *Energy Policy*: 111093.

¹⁰ Submission: Recommendations regarding B.C. zero emission vehicle standard legislation and regulation. February 19, 2019. <https://cleanenergycanada.org/report/submission-recommendations-regarding-b-c-zero-emission-vehicle-standard-legislation-and-regulation/>

recommend monitoring the GVWR of these ZEVs and adjusting, as required, to ensure their inclusion in the standard.

Compliance, reporting, model year definition, ZEV types and classes

We are generally supportive of the government's stated intentions regarding sections 2.3 through 2.6 of the intention paper, with the following exception:

In sections 2.5 and 2.6, we recommend removing consideration of neighbourhood zero-emission vehicles (NZEVs). These low-speed vehicles are unlikely to prove a viable substitute for an internal combustion engine vehicle, and consequently will not make a substantive contribution to greenhouse gas emission reductions.

Supply of ZEVs and Compliance Ratios

In our previous submission,¹¹ we recommended that rather than adopting four vehicle categories and a range-based formula, as used in California and Quebec, a One-to-One approach would offer a greatly simplified sales credit system. In effect, we recommended that a light-duty battery electric vehicle (BEV) or hydrogen fuel cell (HFC) vehicle of a minimum driving range (e.g. 100km) generate one credit when sold. This approach can ensure that the ZEV Standard, which is driven by the primary goal of long-term GHG emissions reductions as well as the more specific goal of increasing ZEV sales as a percentage of light-duty vehicle sales, can be transparently achieved or even exceeded (i.e. unlike in California and Quebec, there will not be a disparity between the credit requirements and the sales requirement in which ZEV market share is less than the overall ZEV sales target).

That said, we are supportive of the government's proposed approach to ensuring compliance ratios are established that would ensure that the specific sales goals, as legislated, are achieved. Furthermore, adopting the same approach as California and Quebec avoids a situation in which automakers may allocate higher range vehicles to those markets, offering less choice to British Columbians and/or limiting supply to those vehicles with lower ranges. Given range is a significant consideration by consumers,¹² this could lead to greater challenges in achieving sales targets.

However, the proposed change, in MY2025, to a One-to-One approach raises some concerns. The transition from a four-credit system to a one-credit system will, in effect, lead to an oversupply of credits, thus enabling automakers with surplus credits to remain in compliance without having to continue to increase actual ZEV sales. This "compliance on paper" would therefore not continue to deliver on the intention of the Act: to increase sales of ZEVs and in turn reduce greenhouse gas emissions. A potential solution to this challenge is to discount banked credits beginning in 2026 using a set formula (multiply banked credits by a factor of 0.25), or else to disallow any carry-forward of credit balance into 2026 and beyond.¹³

¹¹ Submission: Recommendations regarding B.C. zero emission vehicle standard legislation and regulation. February 19, 2019. <https://cleanenergycanada.org/report/submission-recommendations-regarding-b-c-zero-emission-vehicle-standard-legislation-and-regulation/>

¹² Plug n' Drive, "Driving EV Uptake," 2017. <http://www.plugndrive.ca/wp-content/uploads/2017/07/EV-Survey-Report.pdf>

¹³ In the event that this approach cannot be adequately articulated at this point in time, B.C. may wish to forego a decision about how to proceed post-2025, and instead develop a schedule and process for making a determination about whether

ZEV credits from consumer sales

Bearing in mind the points made in the preceding section, we are supportive of the formulae proposed in section 2.8, with the caveat that (as noted above) NZEVs should be excluded. While some stakeholders have suggested that the point of credit generation should be at the wholesale level, we strongly disagree. The intent of the Act is to get more ZEVs on B.C.'s roads, not just onto dealership lots. Therefore, it is imperative that the point of credit generation is the retail sale.

ZEV credits from initiative agreements

While we are supportive, in principle, of the flexibility offered by initiative agreements, we believe that they must demonstrably support the intent of the Act and have their cumulative use (across all regulated parties) capped. We agree that the sale or lease of used passenger ZEVs being sold or leased in B.C. for the first time (i.e. new to B.C.) is consistent with the Act and offers the added benefit of bringing lower cost ZEVs to the marketplace (expanding the pool of potential buyers). However, as noted earlier, we do not support the use of initiative agreements that would see credits generated from the sale of medium or heavy-duty vehicles.

When used, initiative agreements should be transparent and publicly disclosed. In addition, they should be subject to a stringency test, akin to an offset protocol that prevents double-counting and ensures additionality. To maintain confidence in the use of initiative agreements, they should be subject to a third-party audit, the cost of which should be borne by the automaker making use of the initiative agreement.

The intentions paper does not include, as has been suggested by some stakeholders, the inclusion of activities such as investments in EV charging and/or hydrogen refuelling infrastructure. We would not support consideration of these activities within initiative agreements given that there are numerous other programs and policies (for example the Low Carbon Fuel Standard) that incentivize and reward deployment of this infrastructure.

ZEV Credits from Purchase Agreements

We are supportive of the approach outlined, but we recommend that proceeds collected by government be explicitly, and in their entirety, reinvested back into programs that encourage and enable ZEV uptake (e.g. charging infrastructure, purchase incentives, education, etc.).

Non-compliance – Automatic and discretionary administrative penalties

While \$5,000/credit as a penalty for non-compliance is aligned with other jurisdictions, it is unclear whether it is a sufficiently high penalty. We are aware of ongoing research exploring the impact of different penalty rates,¹⁴ with preliminary findings suggesting that a \$7,500 or \$10,000/credit penalty might be needed to assure compliance with the later ZEV sales requirements. Therefore, we

and/or how to evolve the system. However, we believe this to be sub-optimal as we are supportive of laying out a clear path to 2040 from the outset.

¹⁴ Bhardwaj, C. and J. Axsen (Working paper). "Modeling the Long-term Effects of Low-carbon Regulation on Automakers and Technology Adoption: The Case of a ZEV mandate in Canada", Conference paper accepted for presentation at 2020 Transportation Research Board (TRB) Annual Meeting in Washington DC.

recommend that, at minimum, the penalty rate be inflation-adjusted for future years. In addition, a periodic review of the sufficiency of the penalty is advisable.

Specifying a schedule and process for review and stakeholder engagement

While not considered in the intention paper, we would like to recommend that the regulations stipulate a schedule and process for the review of the functioning and outcomes of the Act and associated regulations. This process should, in our view, include an opportunity for stakeholder input and lead to a publicly available report that discusses input and feedback sought and any changes proposed as a result of the review.

CONCLUSION

Thank you for the opportunity to comment on the B.C. government's proposed approach to regulations under the Zero-Emission Vehicle Act. Should you have questions about any of the comments or recommendations contained here, we would be happy to provide further clarification.