

B.C. Zero-Emission Vehicles Act and Regulation:2022 Formal Review Intentions

Comments and recommendations – September 2022



Submitted to:

BC Ministry of Energy, Mines and Low Carbon Innovation
ZEVRegulation@gov.bc.ca

By

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EMC welcomes the opportunity to comment BC's ZEV Act and Regulations review intentions and thanks the BC government for the information and documents made available for this consultation. If you have any questions or comments in relation to this document, please do not hesitate to contact us.

About Electric Mobility Canada (EMC)

EMC is a national membership-based not-for-profit organization dedicated exclusively to the advancement of electric mobility as a promising opportunity to fight climate change and air pollution while stimulating the Canadian economy. EMC's mission is to strategically accelerate the

transition to electric mobility across Canada. Established in 2006, EMC is one of the very first electric mobility industry associations in the world. It represents organizations working to electrify transportation across Canada. Members representing more than 70 billion dollars a year in revenue include vehicle manufacturers, utilities, charging infrastructure manufacturers, charging suppliers and networks, technology companies, mining companies, fleet managers, unions, cities, universities, dealers associations, NGOs and EV owners associations.

Comments and recommendations on Review intentions

Design element sections in the table below relate to the chapters and sections in the consultation document [B.C. Zero-Emission Vehicles Act and Regulation:2022 Formal Review Intentions](#)

Design Element	BC Review Intentions	EMC Comments and Recommendations
2.1 - Accelerate light-duty ZEV targets.	<i>The following changes will be made to the ZEV Act:</i>	
	<i>Increase the provincial light-duty sales targets found in section 7 of the ZEV Act to 26% by 2026, 90% by 2030, and 100% by 2035.</i>	Support. Comments: With the most stringent 2030 target in North America (90% ZEV sales), BC should continue setting an example for the country as it develops a national ZEV mandate as a backstop to stringent provincial programs.
	<i>Change the prohibition year from 2040 to 2035 in section 9 of the ZEV Act.</i>	Support. Comments: BC has set a target for 100% sales in 2035. Its ZEV regulation should align with this target, mandating compliance at 100% for all sized vehicle manufacturers from this day forward and without (1) banking; (2) initiative agreements; (3) purchase agreements, and (4) and by phasing out Class B ZEVs from the program. A growing number of cities, states, countries and automakers are moving towards 100% ZEV sales by 2035, as seen in the COP26

		<p>declaration signed by 39 countries, 13 automakers and more than 130 total signatories. This is an important global milestone to reach net zero emissions by 2050, according to the International Energy Agency’s Net Zero by 2050 Roadmap</p> <p><i>BC may also consider adopting a ZEV mandate for off-road vehicles, including snowmobiles, or integrating the addition of such vehicles in this ZEV act and regulation review. See final section of this table for more information.</i></p>
2.2 - Credits per vehicle	<p><i>Proposed changes to the ZEV Regulation:</i></p> <p><i>Amend the ZEV Act so that beginning in model year 2026, eligible ZEVs (ZEV Class A and B) would earn 1 credit per vehicle.</i></p>	<p>EMC supports the principle of one credit per vehicle, but suggests the following modification to the proposed amendment:</p> <p>Proposed change: Beginning in model year 2026, eligible ZEVs would earn:</p> <ul style="list-style-type: none"> – 1 credit per BEV and other Class A types – 0.5 credit per PHEV and other Class B types <p>Include the following criteria to maximize BEV uptake:</p> <ol style="list-style-type: none"> 1. Define a declining cap on the % of compliance that can be met with PHEVs and other Class B sales; 2. Eligible PHEVs should have a minimum electric range of 80 km; 3. Create and include a BEV-medium ZEV type in eligible Class B ZEVs (see 2.6) <p>Comments: Quebec’s recent proposed approach gives 0.5 credit for PHEVs. Giving 1 credit to PHEVs could result in auto manufacturers supplying more PHEV to British Columbia where they are able to receive a full credit. While this could provide consumers in British</p>

	<p><i>In model year 2026, the existing credit banks would undergo a one-time adjustment such that the existing Class A ZEV credits would be divided by 4, and existing Class B ZEV credits would be divided by 1.3.</i></p>	<p>Columbia more options, it could result in higher overall emissions. A cap on the percentage of compliance PHEVs can be used for can offset increased emissions.</p> <p>Historic credit banks carried forward should be discounted evenly – regardless of credit type (ZEV class), so as not to distort the ZEV program and market prior to 2025. Failure to do this could see an increase of PHEVs, relative to BEVs, into the BC market in the leadup to the 2026 compliance year to maximize credit revenues from these types of vehicles. Discount all credits by dividing by 4. This further helps to maintain the stringency of the program on a go-forward basis. Furthermore, if BC were to divide Class B credits by 1.3, it is effectively reviewing the design of the pre 2026 program and specifying that range is no longer important in the current period. This seems to be out of scope for the review BC is undertaking on the 2026 period onward.</p>																																																																																										
<p>2.3 - Compliance ratios</p>	<p><i>Amend the compliance ratios in sections 11 and 12</i></p> <table border="1" data-bbox="432 878 1083 1268"> <thead> <tr> <th>Model Year</th> <th>Total ZEV Compliance Ratio (existing)</th> <th>Total ZEV Compliance Ratio (proposed)</th> <th>Minimum ZEV Class A Compliance Ratio for Large Suppliers (existing)</th> <th>Minimum ZEV Class A Compliance Ratio for Large and Medium Suppliers (proposed)</th> </tr> </thead> <tbody> <tr><td>2020</td><td>9.5%</td><td>9.5%</td><td>6%</td><td>6%</td></tr> <tr><td>2021</td><td>12.0%</td><td>12.0%</td><td>8%</td><td>8%</td></tr> <tr><td>2022</td><td>14.5%</td><td>14.5%</td><td>10%</td><td>10%</td></tr> <tr><td>2023</td><td>17.0%</td><td>17.0%</td><td>12%</td><td>12%</td></tr> <tr><td>2024</td><td>19.5%</td><td>19.5%</td><td>14%</td><td>14%</td></tr> <tr><td>2025</td><td>22.0%</td><td>22.0%</td><td>16%</td><td>16%</td></tr> <tr><td colspan="5"><i>Amendments take effect (switch to one credit per vehicle, and realign compliance ratios)</i></td></tr> <tr><td>2026</td><td>32.0%</td><td>26.3%²</td><td>23%</td><td>15.2%</td></tr> <tr><td>2027</td><td>41.5%</td><td>42.6%</td><td>29%</td><td>28.7%</td></tr> <tr><td>2028</td><td>51.5%</td><td>58.9%</td><td>36%</td><td>43.2%</td></tr> <tr><td>2029</td><td>61.0%</td><td>74.8%</td><td>43%</td><td>58.0%</td></tr> <tr><td>2030</td><td>71.0%</td><td>91.0%</td><td>50%</td><td>73.3%</td></tr> <tr><td>2031</td><td>90%</td><td>93.2%</td><td>63%</td><td>77.2%</td></tr> <tr><td>2032</td><td>108.5%</td><td>95.2%</td><td>77%</td><td>80.6%</td></tr> <tr><td>2033</td><td>127.5%</td><td>97.2%</td><td>90%</td><td>83.7%</td></tr> <tr><td>2034</td><td>146%</td><td>99.3%</td><td>104%</td><td>86.7%</td></tr> <tr><td>2035+</td><td>165%</td><td>100%</td><td>117%</td><td>89.5%</td></tr> </tbody> </table>	Model Year	Total ZEV Compliance Ratio (existing)	Total ZEV Compliance Ratio (proposed)	Minimum ZEV Class A Compliance Ratio for Large Suppliers (existing)	Minimum ZEV Class A Compliance Ratio for Large and Medium Suppliers (proposed)	2020	9.5%	9.5%	6%	6%	2021	12.0%	12.0%	8%	8%	2022	14.5%	14.5%	10%	10%	2023	17.0%	17.0%	12%	12%	2024	19.5%	19.5%	14%	14%	2025	22.0%	22.0%	16%	16%	<i>Amendments take effect (switch to one credit per vehicle, and realign compliance ratios)</i>					2026	32.0%	26.3% ²	23%	15.2%	2027	41.5%	42.6%	29%	28.7%	2028	51.5%	58.9%	36%	43.2%	2029	61.0%	74.8%	43%	58.0%	2030	71.0%	91.0%	50%	73.3%	2031	90%	93.2%	63%	77.2%	2032	108.5%	95.2%	77%	80.6%	2033	127.5%	97.2%	90%	83.7%	2034	146%	99.3%	104%	86.7%	2035+	165%	100%	117%	89.5%	<p>Support, with amendments.</p> <p>Proposed amendments:</p> <p>Compliance ratios should include a cap on credits earned through sale of PHEVs and use of banked credits.</p> <ul style="list-style-type: none"> – Cap and phase out PHEVs: 18% maximum % of total compliance in 2026, going down 2%/year, reaching 0% in 2035 – Cap and phase out banked credits: 20% maximum % of total compliance in 2026, going down to 0% by 2034 <p>Comments:</p> <p>PHEVs: « Jurisdictions have taken a range of approaches to the treatment of PHEVs in ZEV mandates, but all propose some limits on their eligibility—whether by adding all-electric range</p>
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		<p>requirements, only offering partial credits, including a cap on what percentage of an automaker’s compliance obligation PHEVs can meet, phasing out PHEV eligibility by a certain date, excluding PHEVs altogether, or a combination of these. »</p> <p>Banked credits: « Jurisdictions have taken a range of approaches to credit banking (i.e., using excess credits accumulated in previous years to meet compliance requirements in future years) in ZEV mandates, but all propose some limits on banking—whether by limiting the number of years before a banked credit expires, limiting the percentage of an automaker’s compliance obligation banked credits can meet, phasing out banking by a certain date, prohibiting banking altogether, or a combination of these. »</p>
2.4 - Medium volume suppliers	<i>Proposed change to the ZEV Regulation:</i>	
	<i>Amend the ZEV Regulation to require medium volume suppliers to meet the Class A compliance ratios.</i>	<p>Support.</p> <p>Comments: Applying more stringent sales requirements to a broader group of suppliers will cut vehicle emissions by moving BC more quickly towards battery-electric vehicles.</p>
2.5 - Penalty for credit deficit	<i>Proposed changes to the ZEV Regulation</i>	
	<i>Amend section 17 to increase the prescribed penalty rate from \$5,000 to \$20,000 for all model years, vehicle classes and ZEV classes from model year 2026 onward.</i>	<p>Support, with amendment.</p> <p>Proposed amendment: To maintain the efficiency of the penalty overtime, it should be annually adjusted to the Consumer Price Index (CPI).</p> <p>Comments: This aligns with California and Quebec’s proposed approach. If</p>

		<p>penalties are higher in other North American jurisdictions, it could mean automakers prioritize sending EV supply to those jurisdictions since consequences are worse.</p> <p>This also does not change the overall penalty since the is a proposed conversion to a one credit system (per BEV) worth \$20,000 per credit from a multi-credit system of 4 credits per BEV where each credit is worth \$5,000, equating to \$20,000 per BEV.</p>
<p>2.6 - Vehicle range</p>	<p><i>Proposed changes to the ZEV Regulation:</i></p> <p><i>Amend the vehicle definitions in section 1 of the Regulation to increase the range for ZEV types as follows for model year 2026 onward:</i></p> <ul style="list-style-type: none"> • <i>Battery electric vehicle (BEV): has a minimum EPA range of 241 km.</i> • <i>Battery electric vehicle – short range (BEV – short): has an EPA range of less than 241 km.</i> • <i>Extended range electric vehicle (EREV): has a minimum EPA range of 241km.</i> • <i>Extended range electric vehicle – medium range (EREV – medium): has a minimum EPA range of 80 km and a maximum EPA range of less than 241 km.</i> • <i>Extended range electric vehicle – short range (EREV – short): has an EPA range of less than 80 km.</i> • <i>Fuel cell electric vehicle (FCEV): has a minimum EPA range of 241 km.</i> • <i>Fuel cell electric vehicle – short range (FCEV – short): has an EPA range of less than 241 km.</i> • <i>Plug-in hybrid electric vehicle (PHEV): has a minimum EPA all-electric range of 80 km.</i> 	<p>Support, with amendments.</p> <p>Proposed amendments: Amend the vehicle definitions in section 1 of the Regulation to increase the range for ZEV types as follows for model year 2026 onward:</p> <p>ZEV types under Class A (1 credit) BEV: range of at least 241 km EREV: range of at least 241 km FCEV: range of at least 241 km</p> <p>ZEV types under Class B (0.5 credit, cap on % of compliance) BEV-medium: range of 125 to 240 km (new type) EREV-medium: range of 80 to 240 km FCEV-medium: range of 80 to 240 km (new type) PHEV: range of at least 80 km</p> <p>ZEV types under Class C (no credits) BEV-Short: range of less than 125 km EREV-Short: range of less than 80 km PHEV-Short: Range of less than 80 km</p> <p>Comments:</p>

	<ul style="list-style-type: none"> • <i>Plug-in hybrid electric vehicle – short range (PHEV – short): has an EPA range of less than 80 km.</i> <p><i>The province is interested in comments on each type of vehicle and range proposed. For example, is it still necessary to have an EREV category.</i></p>	<p>As battery technology improves over time, it is important that credits are incentivizing models with longer electric ranges but not all BEVs need to offer over 240 km of range. A lower range, of 125 to 240 km, can meet the needs of many households as a main or second vehicle. Since price and environmental impact of manufacturing is correlated to battery pack size, smaller medium-range BEVs can be financially accessible to more drivers while reducing overall environmental impact and pressure on mineral supply.</p> <p>Align at minimum with Quebec but also with California (if possible) to consolidate ZEV supply in Canada - both on EPA range and MY. This would provide opportunities for a greater range of ZEV models available, rather than auto manufacturers funneling certain ZEV models to certain provinces/states where applicable. Consolidated ZEV definitions would also ease compliance obligations. As automakers explore bringing back shorter range BEVs as an option to improve affordability and address battery mineral and material constraints, we suggest including in Class B, a BEV-medium type with a range of 125 to 240 km. Defining the appropriate minimum range and classification for BEV-medium and BEV-short may require further analysis.</p> <p>As for EREVs, though this technology seems to be disappearing from the market, it may be prudent to keep the category in the regulation to maintain flexibility for automakers.</p> <p><i>BC may also consider adopting a ZEV mandate for off-road vehicles, including snowmobiles, or integrating the addition of such vehicles in this ZEV act and regulation review. See final section of this table for more information.</i></p>
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<p>2.7 - New vehicle requirements</p>	<p><i>Proposed changes</i></p> <p><i>Require that to be an eligible ZEV under the Act and Regulation the vehicle must have:</i></p> <ul style="list-style-type: none"> • <i>an on-board charger with a size of 5.76kW;</i> • <i>a convenience charging cord that is capable of both level 1 and level 2 charging and is at least 20 feet in length; and</i> • <i>DCFC capability with vehicle connectors that conform with the Combined Charging Standard.</i> 	<p>Mostly disagree.</p> <p>Proposed amendment: Require that to be an eligible ZEV under the Act and Regulation the vehicle must have:</p> <ul style="list-style-type: none"> • an on-board charger with a size of 5.76kW; • a portable level 1 EVSE that shall be made available as an option at time-of-purchase or provided with the vehicle at delivery. • DCFC capability of any type. <p>Comments:</p> <p>DCFC Capability Vehicles should be equipped with DCFC capability to ensure a high degree of usability/utility for those vehicles and to encourage more uptake of ZEVs. However, there should be no requirement to meet any specific technical charging standard, so long as DCFC is equipped. Today, Tesla-standard connectors are the most prevalent standard deployed for DC Fast Charging in the province, followed by CCS. (source: NRCan)</p> <p>Portable EVSE (Charging cord) Real usage of EVs has shown that the convenience charging cord (which we take to actually mean a portable EVSE, rather than a European Level-2 convenience cord) is rarely used, especially in the case of BEVs. Requiring one for every vehicle could lead to additional electronic waste. When used frequently, such as with many PHEVs, plugging and unplugging from the wall outlet can lead to premature degradation as these EVSEs are generally not built for intense use but rather for ad hoc situations. At most, this element should thus be a required option at purchase, but not a</p>
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		<p>required equipment for all EVs sold. By making this feature an option consumers can save money by not selecting it when not needed. Costs of such equipment would otherwise be passed through to the consumer, increasing purchase prices.</p> <p>In addition, level 2 charging station manufacturers offer different options addressing the various charging needs of EV drivers, including smart functions that will play an essential role in grid management as EV adoption ramps up. In addition, the higher power requires adequate electrical installation that meets safety standards. Level 2 charging should remain a separate purchase in which buyers select a product that meets their needs and can be installed and used safely.</p> <p>Finally, this requirement would run counter to the EV-ready bylaws of over 20 local governments that require EV energy management or future utility time-of-use or demand response programs, a function not possible with the proposed inclusion of a “non-smart” level 2 capable portable EVSE.</p>
	<p><i>Pros and Cons of adopting California’s minimum assurance measures that have been proposed for their ZEVs:</i></p> <ol style="list-style-type: none"> 1. Durability: requiring vehicles to have 80% certified range value for 10 years or 150,000 miles (approximately 241,000 kms). 2. Propulsion-related parts warranty: requiring suppliers to provide a warranty for a minimum of three years or 50,000 miles (approximately 80,000 kms). For high-priced parts this would be seven years or 70,000 miles (approximately 113,000 kms). 	<p>Support alignment with California’s <i>final</i> Clean Car Rule.</p> <p>Comments: EMC notes that the final Clean Car II rules were modified following the drafting of the BC government’s intentions paper. Adopting the requirements specifically related to durability, warranty, and labeling by reference is appropriate.</p> <p>Consumer confidence will be heightened by assurance measures. Early models were sold with comparable warranties and this strategy contributed to early uptake. Assurance measures will alleviate concerns about battery lifespan expectancy that many new EV buyers continue to express. This also helps counter anti-EV rhetoric claiming falsely that battery degradation is a frequent</p>

	<p>3. Battery warranty: suppliers must offer a battery state of health warranty for eight years or 100,000 miles (approximately 161,000 kms) for any battery that falls below 70% for 2026 through 2030 model years, increasing to 75% for 2031 model year and subsequent model years.</p> <p>4. Battery labeling: requiring all suppliers to include a label on the vehicle battery that provides information about the battery system.</p> <p>5. Other: other measures that may not be captured in this list that could help ensure new ZEV's meet drivers' needs.</p>	<p>problem requiring premature and expensive battery replacement or repairs.</p> <p>California's final Clean Car II rule specifies multiple tiers of assurance measures including technical specifications by model year. British Columbia should adopt California's Assurance Measures for ZEVs by reference.</p> <p>For battery labeling, we support aligning with California ACC2 label requirements.</p>
2.8 - Vehicle weight	<p><i>Proposed changes to the ZEV Regulation:</i></p> <p><i>Amend the definition of 'light-duty motor vehicle' to increase the gross vehicle weight rating to 4,536 kgs or less.</i></p>	<p>Support.</p> <p>Proposed amendment: Review the maximum gross weight for light-duty vehicles every 2 years to ensure that the threshold is still appropriate and to eliminate any weight related compliance avoidance loophole. Provide flexibility for additional review of regulated vehicle weights to address new products being introduced to the market.</p> <p>Comments: It is important that this weight is increased to prevent loopholes, particularly for larger vehicles such as light-duty trucks, where manufacturers add more weight to the vehicle to avoid obligations under the ZEV regulation.</p> <p>In addition, if BC adopts a zero-emission medium- and -heavy</p>

		<p>duty vehicle sales mandate (similar to California’s Advanced Clean Truck Act), the rules under both policies must specify which vehicles can be used for compliance under the BC light-duty ZEV Mandate or the BC medium- and -heavy duty ZEV mandate (but not both), to avoid double counting and compliance loopholes.</p> <p>Ultimately, BC’s approach needs to be sufficiently flexible to ensure it can maintain pace with industry when new vehicles are launched, if those vehicles are intended largely for consumer/personal (rather than commercial) use.</p>
<p>2.9 - Registration and sales requirements</p>	<p>Proposed changes to the ZEV Act:</p> <p><i>Require that for a ZEV to receive credits under the ZEV Act and Regulation the vehicle must be delivered for retail sale or lease in B.C. for the first time (and not previously sold in another jurisdiction) and be registered in B.C.</i></p> <p><i>o The same requirements would apply for suppliers to report their total light-duty vehicle sales with the exception of the registration requirement.</i></p> <p><i>Amendments would be required to the definition of consumer sale to capture these changes.</i></p>	<p>Support, on the condition that this applies to new ZEV sales and removes eligibility of used ZEVs</p> <p>Comment: Used ZEVs should not be eligible. While California, Quebec and B.C.’s current ZEV mandates allow the sale of used ZEVs to earn credits, California and Quebec place a cap on the percentage of an automaker’s compliance obligation that can be met with these vehicles and plan to phase out this compliance pathway by 2032 and 2034, respectively. Excluding used ZEVs from the mandate will reduce administrative complexity and ensure a better supply of new vehicles, which in turn ensures a better supply of used ZEVs.</p> <p>To protect against gaming, BC should ensure that all credited vehicles are both delivered and registered in the province of British Columbia.</p>

		<p>Though EMC recommends that used ZEVs not be eligible for credits, if BC were to still consider this compliance pathway, the following conditions should be implemented:</p> <ol style="list-style-type: none"> 1. Only used BEVs and EREVs should be eligible. Used PHEVs should not be eligible. 2. Only used ZEVs that have not received credits in another North American jurisdiction should be eligible for B.C. ZEV credits. 3. Eligible used ZEVs would receive a maximum of 0.5 credits. 4. Declining cap on maximum % of compliance that could be met with used or reconditioned EVs, for example 20% for MYs 2026-2027, 15% for 2028-2029, 10% for 2030-2031, 5% for 2032-2033 and 0% after 2033.
2.10 - ZEV sales forecast	Proposed changes:	
	<p><i>Starting in compliance year 2023, require all medium and large suppliers to provide three years of ZEV sales forecast data annually as part of their model year reporting requirements.</i></p> <p><i>This data will be kept confidential to government.</i></p>	<p>Support, with protection of commercially sensitive business information.</p> <p>Proposed amendment: While we understand that individual company data must be kept confidential, we recommend the BC government provide aggregate sales data (being the aggregate total ZEV sales forecast of all manufacturers combined, not of any one individual manufacturer) to the public to improve transparency and support research and data-based decision making.</p>
2.11 - Reporting for small volume suppliers	Proposed changes to the ZEV Act:	
	<p><i>For the next compliance period, require that all small volume suppliers annually submit a report that includes their total light-duty vehicle sales and their total ZEV sales for the year to the province. This report would be</i></p>	<p>Support.</p> <p>Proposed amendment: Indicate the year in which small volume suppliers will be required</p>

	<i>subject to the same auditing provisions as model year and supplementary reports.</i>	to comply with ZEV sales requirement. Comments: Requiring small volume suppliers to submit annual reports prepares them for their future ZEV sales obligations. If B.C. is to meet its target of 100% ZEV sales by 2035, extending the ZEV Act's application to all vehicle manufacturers will be necessary, at the latest in 2035.
2.12 - EPA range	Proposed change to the ZEV Regulation:	
	<i>Amend subsection (a) of the definition of 'EPA range' in section 1 of the ZEV Regulation to include 'equivalent methods set out by the EPA' and remove subsection (b).</i>	Support.
2.13 - Reporting dates	Proposed change to the ZEV Regulation:	
	<i>Amend the regulation to change the compliance date from September 30 to September 1. Require suppliers to submit credit applications for all ZEV sales that will be included in the model year report by September 15. Change the number of days after the compliance date in which the model year report must be submitted to the director from 20 days to 49 days (which would be October 20).</i>	No comments.
2.14 - Encouraging affordable ZEVs for carsharing	Proposed change to the ZEV Regulation:	
	<i>Amend section 15 of the Regulation to include the sale of ZEVs to co-operative owned car share programs in B.C. at 25% or higher off the MSRP.</i>	EMC questions the motivations for this amendment. Section 15 is about initiative agreements, but if a co-operative car share program buys a vehicle (regardless of price) and registers it

		<p>in BC, the vehicle will generate credits regardless. Would this amendment lead to double credits, for the ZEV sale AND for the initiative agreement? If sales to car share programs are already eligible for credit, there should be no need for this initiative agreement pathway.</p> <p>Comments: Addressing supply and cost issues for car sharing programs looking to renew their fleet vehicles with ZEVs is important. Electrifying vehicles used for car sharing services can yield significant emission reductions, due to the high usage of such vehicles, while also exposing users to the benefits of EVs. EMC recommends that BC consider other affordability measures to address this rather than this amendment of the initiative agreements section of the ZEV regulation.</p> <p>B.C may also consider other affordability measures in this section to reach less urban and more diverse demographics, such as:</p> <ol style="list-style-type: none"> 1. Making medium-range, less-expensive BEVs eligible for credit (as recommended above). 2. Allowing a capped compliance pathway for low/middle income and/or rural, northern, and indigenous communities.
2.15 - Autonomous vehicles	<p>BC does not currently have a ZEV requirement specific to autonomous vehicles. Autonomous vehicle technology is still in the early years of development but is evolving quickly. California is proposing to ban the operation of autonomous light-duty vehicles that are not ZEVs beginning January 1, 2030 (for model year 2031 and later).</p> <p><i>The province is seeking feedback on if it should consider a similar requirement for the operation of autonomous</i></p>	<p>Once permitted on BC highways, an autonomous ZEV should be credited accordingly, provided it is a Class A ZEV, and is both operating and registered in British Columbia, whether privately, by a commercial fleet or by an autonomous driving system (ADS) manufacturer.</p> <p>We support a ban on the operation of autonomous light-duty vehicles that are not ZEVs.</p>

	<i>light-duty vehicles in B.C.</i>	
Other	These are other comments or recommendations we submit for consideration by the BC government.	<p>CREDIT BANKING We strongly encourage the B.C. government amend its ZEV Act and Regulation to include the expiration of banked credits after 2 years, to apply a cap on % of compliance that can be met with banked credits and to phase out credit banking entirely after 2033.</p> <p>This would align B.C. with leading jurisdictions who are currently implementing or updating their regulations. California allows credits to be banked for up to four years but phases out some credit banking starting in 2029 and all credit banking as of 2032. Quebec limits credit banking to 25% of an automaker’s compliance obligation in 2022 and reduces that limit to 0% after 2033. The UK proposes that no banking be allowed in its ZEV mandate.</p> <p>Experts note that banked credits from previous years being used to meet stricter compliance obligations in later years could risk meeting 2030 and 2035 ZEV sales targets. Considering British Columbia has one of the most ambitious targets for 2030 in North America, not having an expiry date on credits could jeopardize the province’s ability to meet its targets.</p> <p>CREDIT TRADING We recommend mandatory public disclosure of information on credit trading between car manufacturers, including number of credits traded and aggregated costs per compliance period.</p> <p>OFF-ROAD VEHICLES BC may also consider adopting a ZEV mandate for off-road vehicles, including snowmobiles, or integrating the addition of</p>

		<p>such vehicles in this ZEV act and regulation review.</p> <p>Off-road vehicles are responsible for significant levels of GHG and air pollution emissions, notably carbon monoxide, nitrogen oxides and volatile organic compounds, with direct and local negative health impacts for people using the vehicles and for people nearby.</p> <p>Given the increasing availability of electric and zero-emission technological substitutes in this domain, and given the need for all sectors to push further toward net-zero emissions, leading governments like British Columbia should consider adopting additional regulatory policies to ensure that zero-emission options are implemented in every part of the transportation sector where such a transition would be feasible.</p> <p>If considering the addition of off-road vehicles to the current ZEV Regulation and Act, these would be the amendments to contemplate:</p> <p>ZEV Regulation</p> <p><u>1 – definition:</u> Add a category of vehicle in the ZEV Regulations:</p> <p>“battery electric off-road vehicle” or “BEORV” means a zero-emission off-road vehicle that</p> <ul style="list-style-type: none"> (a) is propelled solely by an electric motor that is powered solely by a battery that is charged solely by an external electricity source, and (b) has a minimum EPA range of 80.47 km (c) is either a snowmobile, an industrial utility vehicle, all-terrain vehicle or a side-by-side vehicle
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ZEV Mandate Design – Best Practices

EMC and Clean Energy Canada recently released a document entitled [How Canada can design a truly effective zero-emission vehicle mandate](#) that the BC government may consult for other design elements to consider in its provincial ZEV mandate review.