



**Comments and Recommendations on
Regulations Amending the Passenger Automobile
and Light Truck Greenhouse Gas Emission Regulations**

**Submitted to
Environment and Climate Change Canada**

**By
Electric Mobility Canada**

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About Electric Mobility Canada

Founded in 2006, Electric Mobility Canada (EMC) is a national industry association that works to advance electric transportation to support the Canadian economy while fighting climate change and air pollution. With more than 150 member organizations, EMC includes light-, medium-, heavy-duty, and off-road vehicle manufacturers; utilities; infrastructure providers; technology companies; mining companies; research centres; cities; governments; universities; unions; fleet managers; environmental organizations and electric vehicle owners' groups. The EMC team helps develop electric mobility policies, programs and projects that apply to all types of EVs, from bikes to cars, from buses to boats, from trucks to trains.

Electric Mobility Canada is the national voice of the transportation electrification industry, from B.C. to Atlantic Canada.

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1 Introduction

Electric Mobility Canada is pleased to participate in the Government of Canada's consultation on the proposed [Regulations amending Passenger Automobile and Light-Truck Greenhouse Gas Emission Regulations](#) (the ZEV regulations or the proposed regulations).

1.1 Why EMC supports adopting ZEV sales regulations for Canada

As Canada's national EV industry association, EMC fully supports the federal ZEV sales regulation program. Time has shown that many of what old school auto industry representatives have been claiming against regulation was false. **Here are a few of these claims:**

a) EV supply

In 2011, both the federal and Ontario governments financially supported the production of the Toyota RAV4 EV to the tune of \$141.6 million. Four thousand units of the RAV4 EV were built (which represents a \$35,000 incentive per vehicle). But even though Ontario and Canadian taxpayers paid for their assembly in Ontario, they couldn't buy them. Though there was a \$8,500 rebate program in Ontario back then, the RAV 4 EVs units were all shipped directly to the U.S. Why? Because of ZEV sales regulation in the U.S. that did not exist in Ontario or Canada. Fast forward to today. Billions of dollars are pouring into a Canadian ZEV supply chain. We do not want to repeat the mistakes of a decade ago, hence the need for a federal ZEV sales regulation. Because the facts are clear: where stringent regulation is in place, ZEV supply and sales are much higher.

In February 2023, Dunskey published a report commissioned by Transport Canada¹ that found 82% of dealerships across Canada did not have any ZEV inventory during the survey period in 2022. Is it any wonder Canadian customers looking for a new EV must wait between six months and two years for most models?

During Q4 2022², Canada's ZEV sales were at 10.2% nationally while Canadian regulated markets were at 14.6% (Quebec) and 20.1% (B.C.). In other regulated countries, December 2022 ZEV sales were at 25% in France, 39% in the UK and 55% in Germany.

b) GHG emission reduction

In 2005, the federal government signed a voluntary agreement with OEMs where the latter vowed to decrease that their annual GHG emissions by 5.3 megatons by 2010. But because this was voluntary and there was no penalty if the target was not reached, the industry missed the mark by 95%. In fact, GHG emissions from the light-duty vehicle fleet *increased* by 8% between 2005 and 2019 (pre-COVID).

In 2019, the International Energy Agency published a devastating report³ for Canada. It calculated that our country's light-duty vehicle fleet had the **worst record in the world** for average fuel economy and GHG emissions per kilometer driven. The reason Canada is in this position comes down to a pivotal policy choice made almost 20 years ago.

¹ [Zero-Emission Vehicle \(ZEV\) Availability in Canada: Dunskey Updates its Cross-Country Inventory Report for Transport Canada](#), January 2023.

² [ZEV registrations topped 10 per cent Canadian market share in Q4 2022, S&P data shows](#). Electric Autonomy, February 13, 2023.

³ [Fuel Economy in Major Car Markets](#), IEA, March 2019

c) Market “distortion”:

Some traditional auto industry representatives have also said that ZEV regulations would create “market distortion.” Yet, those who advocate against regulation want the federal government to:

- Double or even triple EV subsidies.
- Finance EV infrastructure.
- Support manufacturing.

The fact that all these requests also “distort” the market doesn’t seem to bother anti-regulation advocates who want the governments’ subsidies minus the duties.

d) Investment deterrence:

While some have said that regulation would deter EV industry investment in Canada, what we have seen since March 2022 (when the federal government unveiled its Emission Reduction Plan) is the exact opposite. More than \$15 billion has been secured for Canada’s ZEV supply chain, thanks to the federal and provincial governments’ will to support the Canadian auto industry in its transition. And let’s not forget this week’s announcement from VW who will open a battery cell plant in Ontario, making this *one of the biggest if not the biggest automotive industry investment in the history of Canada*.

According to Unifor, since 2020, Canada has absorbed 15% of all EV and battery investments across North America, compared to the country’s average of a 6 to 7% share of the auto market over the past few decades. Canada’s string of electric-vehicle and battery investments over the past three years have earned it “about double” its historical share of North American automotive spending, and the country is well positioned to continue overperforming, according to Unifor President Lana Payne⁴.

What we are seeing is that ZEV sales regulation brings market predictability that investors need. It is one of the many reasons why Canada is becoming more and more attractive for EV industry leaders.

e) “Market integration”:

While some OEMs claim that Canada and the US should be seen as one integrated market which means that we should simply align with US GHG emission standards instead of adopting our own;

- The U.S.-Canada market is already bifurcated into ZEV and non-ZEV provinces and states. Canada must align with the group that has ZEV ambitions in line with its own. Fifteen other states have adopted a zero-emission vehicle mandate modelled after California’s, which together account for 36% of new U.S. car sales—and this list continues to grow. Adding the rest of Canada would put 43% of the U.S.-Canada car market under a ZEV standard.
- Since 2019, the Canadian government has said that it would adopt the most stringent regulation either at the federal or state level. Four years later, this is no news for car manufacturers who have been advised of this many times over.
- While regulation alignment with the US administration may be easier on OEMs, when BC and Quebec adopted their ZEV sales mandates, OEMs were able to adapt. ***They complained but they complied.*** Knowing that they could adapt to provincial regulations and then present Canada as a simple market rather than a unique country

⁴ [Auto investment in Canada surging because of EVs, batteries, data shows](#), Automotive News Canada, March 2, 2023.

shows utter disrespect towards Canada's prerogatives, laws, and regulations, not to mention federal elected officials and Canadian citizens.

***This is why EMC supports the federal ZEV sales regulation program.
This is also why we want to make sure that Canada's regulation is effective.***

1.2 Assessing the proposed regulations

To assess the mechanisms included in the proposition, EMC considered their impacts on ZEV sales trajectory and GHG emission reductions. Regulated ZEV sales targets will drive market certainty for the EV industry ecosystem which is necessary to raise private and public investments in transportation electrification. Of course, transportation electrification reduces GHG and pollution emission reductions which will reduce the impacts of climate change and achieve better air quality in our communities. All the above have important economic returns: investments in transportation electrification create clean, quality jobs for Canadians, GHG emission reductions reduces climate change and better air quality reduces health care costs.

EMC applauds the Government of Canada for its commitment to accelerating the transition of transportation to electricity through various policies and programs, including regulated ZEV sales targets. Our comments and recommendations aim to ensure the best possible outcomes from this regulation in terms of ZEV supply in Canada and GHG emission reductions. Finally, though we are critical of some flexibility provisions included in the proposal, we are not advocating for the removal of all flexibility mechanisms. We agree that some flexible pathways may be necessary for automakers that are less advanced in the EV transition to be able to comply. However, we also want to ensure that Canada's ZEV regulations will be stringent enough to motivate automakers to prioritize Canadian markets when they choose where to promote their ZEV models and to send ZEV inventory.

1.3 Summary of recommendations

EMC Recommendations	
1. TARGETS	Set more ambitious targets, aligning with B.C. targets.
2. REGIONAL DISTRIBUTION	Set more ambitious targets to ensure that more sales outside of B.C. and Quebec would be necessary to meet national targets and establish an opt-in provision to allow provinces or a group of provinces to set subnational targets.
3. PENALTIES FOR NON-COMPLIANCE	Maintain criminal sanction as a legal enforcement tool but add a credit clearance mechanism as a last resort compliance pathway, creating predictable financial consequences for non-compliance.
4. DEFICIT TIME LIMIT	Establish a credit clearance mechanism and limit credit debt that can be carried forward to 10% of annual compliance obligations.
5. CREDIT LIFESPAN	Reduce lifespan for banked credits to 3 years.
6. PHEV CREDITS AND CAPS	Reduce credits and compliance caps for PHEV sales

2 EMC Comments and Recommendations on the Regulatory Impact Analysis Statement

The section titles under this chapter refer to sections of [Canada Gazette, Part 1, Volume 156, Number 53: Regulations Amending the Passenger Automobile and Light Truck Greenhouse Gas Emission Regulation](#) to facilitate insertion of our comments and recommendations in the online consultation tool.

2.1 General Comments

EMC identifies multiple problematic elements in the proposed regulations that will severely limit results in achieving GHG emission reductions and increasing ZEV supply while also jeopardizing the overall target of 100% ZEV sales by 2035. Low targets and a rolling credit debt flexibility will delay increased ZEV supply and exacerbate regional distribution inequities. The combined effects of these provisions significantly reduce the efficiency of the regulation.

The proposed ZEV sales targets are too low and, to avoid exacerbating regional supply inequities, need to be aligned with those of leading jurisdictions as mentioned since 2019 by the federal government who announced it would align with the most stringent regulation. Addressing regional distribution is essential to ensure that all provinces have an equal chance in reaping the environmental, health and economic benefits of ZEVs. In addition to raising targets, Canada should also introduce an opt-in program in which provinces, territories or a group of provinces or territories could set subnational targets to be enforced federally through the national ZEV sales regulation. Finally, to avoid delayed action, especially in early years, Canada should establish a credit clearance mechanism that ensures that at least 90% of annual compliance targets are met each year, limits credit debt accumulation, and creates greater market certainty and liquidity with a more predictable year-over-year compliance trajectory.

2.2 Executive summary section

Though EMC has publicly supported Canada's targets (20% by 2026, 60% by 2030, and 100% by 2035), we estimate that market demand in 2025-2026 and the following years may very well surpass the proposed targets. In European countries such as the UK, we have seen ZEV sales increase from 2,4% to 24% between H1-2019 and H1-2022. In December 2022, ZEV sales in the UK reached 39,4%. In Germany, ZEV sales went from 3% to 26% between H1-2019 and H1-2022. In December 2022, ZEV sales in Germany rose to 55,4%. Also, Québec's and British Columbia's revised ZEV sales requirements for 2026 are set higher, at 26%. California's ZEV requirement for 2026 is 35%, and in Q4 2022, their sales were at 24%. For Canada's ZEV regulation to effectively contribute to additional GHG emission reductions when comparing to an unregulated context, sales targets must be higher than the proposed levels. Aligning at a minimum with the targets of regulated provinces will also contribute to better supply distribution and ZEV availability in unregulated provinces.

2.3 Objective section

Since the proposed ZEV sales targets are lower than those of the ZEV mandates enforced in B.C. and Quebec, additional ZEV sales and GHG emission reductions in Canada that could result from a national ZEV regulation is minimal at best because a significant portion of the national compliance obligations will be met through sales that would have occurred even without the Canadian regulation.

TABLE 1: Comparing ZEV sales targets (%) in North American jurisdictions and EMC's recommended targets

Year	Canada (proposed)	EMC Recommended SALES targets*	BC (July 2022 Intentions Paper ⁵)	QC (Draft amendment, June 2022 ⁶)	California (Adopted)
2025			10	22	22
2026	20	26	26.3	26	35
2027	23	43	42.6	34	43
2028	34	59	58.9	43	51
2029	43	75	74.8	53	59
2030	60	90	91	65	68
2031	74	93	93.2	77.5	76
2032	83	95	95.2	87.5	82
2033	94	97	97.2	94	88
2034	97	99	99.3	98.5	94
2035	100	100	100	100	100

*If considering partial credits for low- and medium-range PHEVs (16 to 49 km and 50 to 79 km) in 2026 to 2028 and full credits for longer-range PHEVs (80 km or more), compliance targets based on total *credits* may be lower than actual *sales* targets in 2026, 2027 and 2028.

Table 2: ZEV sales targets translated into credit targets after estimation of PHEV market share and partial credits scenario.

YEAR	ZEV Sales targets	BEV Sales (a)	PHEV Sales (b)	BEV Credits (c)	PHEV Credits (d)	CREDIT targets (e)
2026	26	19.5	6.5	19.5	2.9	22.4
2027	43	33.1	9.9	33.1	7.4	40.5
2028	59	46.0	13.0	46.0	9.7	55.8
2029	75	59.3	15.8	59.3	15.8	75.0
2030	90	72.0	18.0	72.0	18.0	90.0
2031	93	76.3	16.7	76.3	16.7	93.0
2032	95	79.8	15.2	79.8	15.2	95.0
2033	97	83.4	13.6	83.4	13.6	97.0
2034	99	87.1	11.9	87.1	11.9	99.0
2035	100	90.0	10.0	90.0	10.0	100

NOTES

- (a) Scenario for BEV share of ZEV sales: 75% in 2026, 77% in 2027, 78% in 2028, 79% in 2029, 80% in 2030 then increasing yearly by 2%, reaching 90% in 2035.
- (b) Scenario for PHEV share of ZEV sales: 25% in 2026, 23% in 2027, 22% in 2028, 21% in 2029, 20% in 2030 then decreasing yearly by 2%, leaving 10% in 2035.
- (c) Based on 1 credit per BEV sold.
- (d) Scenario for 2026 is half of PHEV sales counting for 0.75 credit each and half counting for 0.15 credit each; for 2027 and 2028 all PHEV sales counting for 0.75 credit each; after 2029 all PHEV sales counting for 1 credit.
- (e) ZEV credit targets necessary to reach ZEV sales targets under the above ZEV market share scenarios for BEVs and PHEVs, credit allowances of the proposed regulations and 2026-2028 PHEV market shares of different electric range categories (16 to 49 km, 50 to 79 km, and 80 km or more).

⁵ [B.C Zero-Emission Vehicles Act and Regulation : 2022 Formal Review Intentions Paper](#)

⁶ https://www.publicationsduquebec.gouv.qc.ca/fileadmin/gazette/pdf_encrypte/lois_reglements/2022A/105758.pdf

2.4.2 Compliance pathways

a. BEV Sales:

EMC agrees that 1 credit should be awarded for each BEV sold.

b. PHEV Sales:

EMC recommends that 0.5 credit be awarded for the sale of a PHEV offering at least 80 km of electric range. PHEVs offering 50 to 79 km of range could be awarded 0.25 credit until model year 2028 but PHEVs offering less than 50 km of range should not receive any credits.

The declining credit cap should start at 20% and go down to 0% by 2035. According to 2017-2022 data from Statistics Canada, the market share of PHEVs clearly shows a declining trend (see Table 3 below), with PHEV share sitting at a mere 21% in 2022. A cap set at anything higher may artificially favour PHEVs and this may result in an insufficient BEV supply to meet the growing demand for these models, especially if gasoline prices continue to rise.

TABLE 3: New motor vehicle registrations in Canada⁷

YEAR	BEVs	PHEVs	PHEV Share
2022*	70,835	19,328	21%
2021	58,726	27,306	32%
2020	39,036	15,317	28%
2019	35,523	20,642	37%
2018	22,570	21,713	49%
2017	9,079	10,617	54%

* First three quarters of 2022.

Furthermore, a study published by the International Council on Clean Transportation (ICCT) in 2022 presents “strong evidence that real-world electric drive share is far below the utility factor label rating”. Specifically, the analysis finds that real-world electric drive share may be 26%–56% lower and real-world fuel consumption may be 42%–67% higher than assumed within EPA’s labeling program for light duty vehicles.⁸ According to another ICCT publication, for greater certainty on the GHG emission reduction trajectory of the vehicle fleet, ZEV regulations should encourage faster adoption of EVs by 2030 and cap (at 20% or less) and consider phasing out PHEVs⁹. That reality is even more problematic in Canada where PHEVs run on gas a significant percentage of the time in the winter due to the battery management system of these vehicles requiring the gas engine to start below a certain temperature. So, even though the battery may be full, the vehicle just won’t run on electricity because of the cold weather.

c. Credit trading:

EMC agrees that the ZEV regulations should facilitate ZEV credit trading between OEMs should be allowed. ZEV credit deficits, banked ZEV credits and ZEV credit trades should be included in annual public reports under

⁷ [New motor vehicle registrations: Quarterly data visualization tool, Statistics Canada](#). (data consulted on February 1, 2023)

⁸ [Real world usage of plug-in hybrid vehicles in the United States, ICCT, December 2022](#)

⁹ [Canada’s Path to 100% Zero-Emission Light-Duty Vehicle Sales: Regulatory Options and Greenhouse Gas Impacts, ICCT, June 2022.](#)

the *Canadian Environmental Protection Act, 1999* (CEPA). For additional transparency the Government of Canada could consider establishing a credit trading desk, which could be inspired by existing provisions in the Clean Fuels Regulations (SOR/2022-140), which are also enacted under CEPA. This option could incentivize over-compliance while providing public accountability through a transparent market (see section 2.4.4 for more details).

Priority use of credits acquired from another OEM should be defined in the regulation: OEMs should be required to first apply credits transferred from another OEM to past deficits before applying them to the current year's obligations and should only be allowed to bank them once past deficits and current year's obligations are met.

2.4.3 Credit banking

To avoid flooding the credit market in early years of the regulation, we recommend a 3-year lifespan for banked credits. This will ensure that supply continues to grow in later years when targets ramp-up by preventing OEMs from using too many banked credits from earlier years to meet their obligations.

2.4.4 Time limit to offset deficits

Profit margins on ZEV models will grow in future years as production ramps up but are currently lower than profit margins on ICE vehicles, especially the popular larger SUV models. OEMs are thus financially motivated to maximize benefits by promoting and selling more profitable ICE vehicles in the early years of the regulation and by delaying ZEV sales as much as possible to later years when margins will have improved. Banking and borrowing flexibilities will be maximized by OEMs and the generous options afforded in the proposed regulation such as the 3-year rolling deficit mechanism, will delay the GHG emission reductions and ZEV supply increase that it was intended for.

To limit debt accumulation and correct the proposed 3-year rolling deficit that theoretically would allow automakers to defer large portions of their annual obligations, or even the entirety of those obligations, during the first years of the regulation, we recommend establishing a ZEV **credit clearance mechanism**¹⁰. Under such a program, an automaker would offset any deficit in each year by acquiring surplus ZEV credits from other automakers equal to the deficit or, if the necessary ZEV credits are unavailable from other automakers, through investments in charging infrastructure or through a credit purchase agreement. At the end of each year, automakers that have not met that year's ZEV obligations would be required to purchase available ZEV credits, through a public trading desk, to offset their credit deficit. Automakers with banked ZEV credits would have the option of offering some or all of their credits for sale. The credit trading desk should set the price for trading credits in accordance with the formula provided pursuant to section 30.7(6) of the ZEV regulations: $\$20,000 \times (\text{CPIA} / \text{CPIB})$. Finally, if the number of ZEV credits available for trading is insufficient, OEMs could generate credits by investing in ZEV related activities and/or purchase credits from the government through a purchase agreement. Whether through investments in ZEV related activities or through purchase agreement, the price of each credit would be set to $\$20,000 \times (\text{CPIA} / \text{CPIB})$. Finally, OEMs could use the flexibility of carrying a maximum of 10% of their obligations into the next year. If possible, revenues generated within the credit purchase agreement mechanism should be earmarked for eligible ZEV related government programs such as light-duty streams of ZEVIP, ZEVAI or iZEV. An automaker that participates in the credit clearance mechanism in 2 consecutive years

¹⁰ Resilient LLP performed a limited legal review of this submission. See Appendix A.

should be required to submit a compliance plan¹¹ detailing how they will obtain sufficient credits to meet future annual compliance obligations (without resorting to the credit clearance mechanism). As for ZEV related activities, EMC recommends that investments in charging infrastructure be the only eligible activity.

TABLE 4 –Credit clearance mechanism pathway

OEM situation	Stage 1 - Credit clearance mechanism	Stage 2 – Investment in ZEV related activity AND/OR Credit purchase agreements	Stage 3 – Deficit deferral
Compliance Deficit	Buy ZEV credits through the Credit desk.	Investments in Charging Infrastructure. Credit purchase agreements.	Use deficit deferral clause (capped at 10% of compliance obligation)
Compliance or over-compliance	Sell some or all surplus ZEV credits through the Credit desk.		

As an alternative to the solution proposed in the above paragraph, EMC recommends that deficits be limited to a grace period of 1 year instead of 3: automakers should be required to discharge the deficit of a given year within the following year, by selling more ZEVs or through credit trading. After that grace period, an automaker with any residual deficit would be in non-compliance.

2.5 Regulatory development section

2.5.1 Some OEMs say they will not be able to reach targets

Some OEMs have been fighting regulations for decades with the same arguments: *It cannot be done; It will cost too much; It will destroy the industry and kill jobs; Consumers do not want this; The market will solve it*; etc. They have deployed the same delay tactics and arguments to fight against regulations on seatbelts, antipollution systems, air bags, fuel economy standards and more. ‘Time after time, all these arguments have been proven wrong. The record shows that automakers have over-performed when faced with new rules. Rising to each challenge, they have implemented innovative solutions, complying with health, environmental, and safety standards at lower cost than even the agencies had initially estimated’¹².

In other regulated markets, credit trading between OEMs has enabled all manufacturers to meet their obligations. Though OEMs have fought against regulations and contested sales requirements for being too high, they have been able to comply every time while maximising all flexibilities available.

2.5.2 OEM associations want more rebates and infrastructure

Initiatives that encourage and facilitate EV adoption such as purchase rebates or EV tax exemptions, public awareness campaigns and government support for public charging infrastructure remain necessary and most certainly contribute to more interest for EVs. But a ZEV sales regulation is necessary to ensure that EV supply is there to meet the growing demand generated by public dollar investments. ZEV market share in Canadian jurisdictions clearly demonstrates that demand-side programs alone do not make ZEVs more available to customers. Rebates or EV tax exemptions, awareness initiatives and infrastructure deployment are useless if

¹¹ This approach draws upon best practices in the California LCFS regulation.

¹² [Time for a U-Turn - Automakers' History of Intransigence and an Opportunity for Change, Union of Concerned Scientists, December 2017.](#)

Canadians who want to buy an EV cannot do so because of insufficient supply. A ZEV regulation will maximize the impact of other government programs and investments and accelerate ZEV adoption in Canada by ensuring better ZEV supply where EVs are in demand.

TABLE 5 – Impact of rebates and mandates on ZEV Sales

State, Province or Country	ZEV Rebate	ZEV Mandate	ZEV % of Sales in Q4 2022 ¹³
California	YES	YES	24.2%
British Columbia	YES	YES	20.1%
Québec	YES	YES	14.6%
Canada	YES	NO	10.2%
Ontario	NO	NO	8.3%
Alberta	NO	NO	4.4%
Nova Scotia	YES	NO	3.6%
New Brunswick	YES	NO	3.4%
Saskatchewan	NO	NO	2.1%

2.5.3 Regional distribution

Without a mechanism that aims to enable a more even distribution of ZEV supply across Canada, the current design will exacerbate regional inequities. ZEV supply will continue to be concentrated in regulated provinces (B.C. and Québec) and larger markets (Ontario) while Atlantic Canada, Prairie provinces and Northern jurisdictions remain underserved, falling further behind and locally delaying positive economic, health and environmental impacts of transportation electrification and reducing market interest for infrastructure investments.

Most importantly in the context of the proposed federal ZEV Sales Regulation, the regulation must be designed to generate net GHG savings. Under current conditions, ZEVs must already be sold in BC and Quebec under provincial legislation. As a result, vehicles sold in those provinces do not provide a net GHG benefit to Canada. Vehicles sold outside of those regions, however, would provide a net GHG benefit.

In addition to raising targets to match B.C. targets, EMC recommends that the government consider establishing a provision through which a province, territory or group of provinces or territories could adopt regional targets at or above the national targets. Under such a provision, an administrative agreement would allow the federal government to enforce the regional targets, reducing compliance complexity for OEMs with minimal administrative burden for the participating provinces or territories.

2.5.4 Northern and remote communities

The Government of Canada may consider bonus partial credits for efforts to increase ZEV sales in northern and remote communities, taking inspiration from California's Environmental Justice allowances which earn OEMs 0.15 credit for sales in low- and middle-income communities. The eligible regions must be clearly defined and portion of compliance that can be met with these bonus partial credits should be capped at 5% or less. Also, to avoid

¹³ Q4 ZEV sales in Canada: [Canadian Automotive Insights, Q4 2022, S&P Global Mobility](#). California ZEV Sales: [California – Plug-in Sales Surged to 24% Market Share in Q4 2022, InsideEVs](#)

abuse of this measure, control requirements should be defined such as granting bonus partial credits only after the vehicle has remained registered in an eligible community for two years.

2.6 Regulatory analysis section

Traffic-related air pollution (TRAP) has serious health impacts. In a report published in February 2022, Health Canada estimated that TRAP was associated with over 1,200 premature deaths in Canada in 2015. Non-fatal health outcomes included 2.7 million acute respiratory symptom days, 1.1 million restricted activity days and 210,000 asthma symptom days per year. The total annual monetary value of the health burden was estimated at \$9.5 billion (CAD 2015), with \$9 billion being associated with premature deaths¹⁴.

The regulatory analysis does not include calculations to monetize the health co-benefits of the proposed regulation. The Atmospheric Fund (TAF) used Health Canada data to analyse health co-benefits that would result from reaching the ZEV sales targets proposed regulation. When monetized, the health co-benefits reach over \$90 billion (2025-20250), far exceeding the total net benefits of \$28.6 billion presented in the regulatory analysis¹⁵.

2.7 Implementation, compliance and enforcement, and service standards section

The absence of clearly defined penalties for non-compliance results in uncertainty in repercussions for OEMs who fail to meet the ZEV sales targets. Provisions under CEPA give no indication of when prosecution could take place nor how long the process may take. EMC strongly recommends exploring options that would resemble an administrative fee of \$20,000 for each credit short of compliance, as this is now the North American standard applied in California, B.C. and Quebec and has proven to be the most effective policy to motivate compliance.

3 Conclusion

The comments and recommendations expressed in this document were prepared in close collaboration with multiple EMC members across the industry ecosystem. When analysing the proposed regulation, our members expressed the highest levels of concern on sales targets, regional distribution, and compliance enforcement options. Higher sales targets are required to ensure a feasible path to 100% ZEV sales in 2035. Higher targets will also partially address regional distribution. To fully ensure regional distribution equity, we have proposed an opt-in program for provinces and territories that want to set subnational targets. Finally, as a solution to compliance enforcement, our proposed credit clearance mechanism has the added advantages of eliminating problems the 3-year rolling deficit would create while still offering compliance flexibilities to OEMs that may need them to meet their obligations.

While the focus of this document is on recommendations pertaining to the Passenger Automobile and Light Duty Vehicle Sector, the need prevails to ensure Canada improves its position as an attractive market for Medium and Heavy-Duty Electric Vehicle (MHD EV) deployment. This is imperative to achieve GHG reduction targets given the sector's increasing contribution to GHG emissions. Means to accelerate this segment are closely tied to the new landscape and pressures created by the USA Inflation Reduction Act, as well as retailer and shipper commitments to reduce their scope 3 emissions.

¹⁴ [Health Impacts of Traffic-Related Air Pollution in Canada, Health Canada, February 2022.](#)

¹⁵ [Canada's electric vehicle sales targets will reduce air pollution and create at least \\$90 billion in health benefits, TAF, March 7, 2023](#)

Measures to close gaps in the eMHDV ecosystem¹⁶ and ensure Canada becomes an attractive market for MHD EV deployment include (but are not limited to):

- 1) **Close the supply chain gap.** This can be done by bringing manufacturing of both new and repowered MHD EVs to Canada. Simplifying homologation in step with US approaches and having a Federal ZEV mandate help supply. In the case of repowering, this can complement a “MHD scrap-it program” and create local green jobs in R&D and manufacturing capacity. This helps to build out EV manufacturing and service capacity, while reducing vulnerability to global supply chains.
- 2) **Simplify the process of applying for incentives.** Current incentives are catered to large corporations that own their land and fleet, while the reality is often more complex and involves many different parties—including many SMEs and owner operators driving the vehicles—that work together in the transportation of goods. The current application process does not cater to real world complexities in the transportation ecosystem, hence forming a barrier to program uptake. One way to simplify the process is mandating utilities to prioritize projects for example, based on GHG avoided such as is currently done in provinces such as BC and Quebec.
- 3) **Further improve deployment and reduce CAPEX** by setting clear targets for charging infrastructure installation and MHD EV adoption and continue providing grant-based incentive programs (with a simplified application process) and implementing tax rebates and exemptions for charging infrastructure equipment and installation.

Thank you for your consideration of our contribution to this consultation. We remain available for, and look forward to, further discussions with government officials on our recommendations.



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¹⁶ [eMHDV Ecosystem Gaps, EMC MHDV Working Group, September 2022](#)

APPENDIX A - Overview of ZEV Mandate regulations and Credit Clearance Mechanisms in select jurisdictions (Canada, California, Quebec, B.C.)

1. Canada

[Clean Fuel Regulation](#)

Compliance-Credit Clearance Mechanism

Pursuant to sections 110(1) and (2), a participant may, in a report submitted under subsection 126(1) or 127(1), pledge to offer to transfer through the compliance-credit clearance mechanism any compliance credits and must not use a compliance credit that it has pledged to offer to transfer and must not transfer that compliance credit except through the compliance-credit clearance mechanism.

No pledge to transfer credits

Pursuant to section 111(2), if no participant pledges to offer to transfer a compliance credit through the compliance-credit clearance mechanism, the Minister must send a notice to each primary supplier who has not satisfied the total reduction requirement that informs them that there will be no compliance-credit clearance mechanism for that compliance period.

Maximum price

Pursuant to section 112(3) the maximum price for a compliance-credit through the compliance-credit clearance market mechanism is $\$300 \times (CPI_A \div CPI_B)$ – where CPI_A is the average Consumer Price Index for the calendar year to which the compliance period relates, as published by Statistics Canada under the Statistics Act; and CPI_B is the average Consumer Price Index for the 12 months of the year 2022, as published by Statistics Canada under the Statistics Act.

2. California

[Advanced Clean Cars II Regulation](#)

Fulfilling a ZEV Requirement Shortfall

Pursuant to section 1962.4(g)(1), a manufacturer who has a shortfall in a given model year, calculated according to section 1962.4(f)(2), may use any combination of the following to fulfill its shortfall:

- excess ZEV, PHEV, or environmental justice vehicle values;
- early compliance vehicle values;
- converted ZEV and PHEV values;
- pooled ZEV and PHEV values; or
- proportional FCEV values, to fulfill its shortfall.

Demonstrating Compliance

Pursuant to section 1962.4(h)(1), each manufacturer must report in accordance with section 1962.4(j), its ZEV requirement performance for the model year under subsection (f) and the resulting surplus or shortfall in values for the model year after applying any values according to subsection (g).

Incur and Carry Forward a ZEV Deficit

Pursuant to section 1962.4(h)(2), if a shortfall in meeting the Annual ZEV Requirement remains after determining compliance under section 1962.4(h)(1), the manufacturer shall incur a deficit for the model year. A manufacturer must make up the deficit within three model years following the model year in which the deficit was earned by submitting a commensurate amount, within applicable allowances for fulfilling a ZEV requirement shortfall, under section 1962.4(g)(1) for the model year in which the deficit was earned, of excess ZEV, PHEV, or environmental justice vehicle values, early compliance vehicle values, or pooled ZEV or PHEV values to the Executive Officer.

[Low Carbon Fuel Standard](#)

Credit Clearance Market

Section 95485(c)(1) provides that if a fuel reporting entity does not retire sufficient credits to meet its year-end compliance obligation under section 95485(a) by submitting an annual compliance report, showing that it possessed and has retired a number of credits from its credit account that is equal to its compliance obligation, that party must purchase its pro-rata share of credits in the Credit Clearance Market, if one occurs.

Section 95485(c)(1)(A) provides that If the Credit Clearance Market occurs, a fuel reporting entity that fails to comply with section 95485(a) is nevertheless in compliance if the party:

1. Retires all credits in its LRT-CBTS account;
2. Acquires its Pro-Rata Obligation in the Credit Clearance Market and retires that number of credits by August 31st of the year subsequent to the compliance year in question; and
3. Retires the remaining balance of its annual obligation, with interest, within five years.

Section 95485(c)(2) sets out the manner in which “Clearance Market” Credits can be acquired to meet a reporting entity’s annual compliance obligation.

Procedure for Selling in the Clearance Market if insufficient credits are pledged

If, for any compliance year, insufficient credits are pledged for sale into the Credit Clearance Market to fully clear outstanding deficits, the Executive Officer shall issue credits equal to the difference between the number of outstanding deficits and the number of credits pledged for sale in the Credit Clearance Market subject to the following:

1. Advanced credits will be issued to eligible Large IOUs and Large POU's that opt into the LCFS and are eligible to receive base credits per section 95483(c)(1)(A). Advanced credits will be allocated to eligible utilities based on their pro- rata share of base credits received in the most recent issuance. Advanced credits must be pledged for sale in the current Credit Clearance Market and may only be

sold at the maximum LCFS price per section 95487(a)(2)(D). A minimum portion of proceeds generated from the sale of advanced credits must be allocated using the 2023 and onward contribution percentages found in section 95483(c)(1)(A) paragraph 1. to the Clean Fuel Reward program.

2. The first such issuance of advanced credits will mark the start of the six-year “advanced credit window,” during which advanced credits can be issued and after which base credit issuances will be adjusted to account for advanced credits.

Use of Clearance Market Credits

Section 95485(c)(2)(B) stipulated that a Clearance Market credit can only be used for the purpose of meeting the fuel reporting entity’s compliance obligation from an immediate prior year.

Maximum Price

The maximum price for credits acquired, purchased or transferred via the Credit Clearance Market shall be set pursuant to section 95487(a)(2)(D) = \$200/credit (MTCO_{2e}) in 2016 adjusted annually by rate of inflation.

Compliance Plan

Pursuant to section 95485(c)(2)(C), a regulated entity that participated in the Credit Clearance Market for two consecutive years must submit a Compliance Plan to CARB in the second compliance year, detailing its plan to obtain sufficient credits to meet future annual compliance obligations within a five-year period.

3. Quebec

[Increase the Number Of Zero-Emission Motor Vehicles in Québec in order to Reduce Greenhouse Gas and Other Pollutant Emissions Act](#)

Pursuant to section 8 of the act, a motor vehicle manufacturer that has not accumulated the number of credits required to fulfill its obligations under this Act or the regulations must, within three months after the Minister sends a notice of claim, pay to the Minister a charge whose parameters, calculation method, conditions and terms of payment are determined by government regulation.

[Regulation respecting the application of the Act to increase the number of zero-emission motor vehicles in Québec in order to reduce greenhouse gas and other pollutant emissions](#)

Pursuant to section 31 of the regulation, a motor vehicle manufacturer must pay a charge based on the total number of credits that the manufacturer should have accumulated and the total number of those the manufacturer has accumulated for each group of 3 model years covered by a period. The charge is equal to \$5000 for each credit required for the manufacturer to meet the total number for credits it had to accumulate for the 3 model years covered by that period.

4. British Columbia

Zero-Emission Vehicles Act

Compliance

Pursuant to section 10(2), at the end of the compliance date for a model year, a supplier must have a balance that contains the following numbers of ZEV units:

- (a) for each vehicle class, zero or more ZEV units;
- (b) for each prescribed vehicle class, if applicable, zero or more ZEV units of each prescribed ZEV class.

Non-compliance with section 10(2)

Pursuant to section 10(3) and subject to subsection (4), if a supplier has a balance at the end of the compliance date for a model year that contains less than zero ZEV units of a vehicle class and ZEV class,

- (a) the supplier is subject to an administrative penalty in an amount determined under section 26 [automatic administrative penalties], and
- (b) on payment of the administrative penalty, the balance of ZEV units of the vehicle class and ZEV class is increased by a number of credits of the model year, vehicle class and ZEV class, which may be the unspecified ZEV class, that is equal to the amount below zero.

Issuance of Credits

The director may issue credits to a supplier in relation to (i) consumer sales of ZEV vehicles; (ii) in accordance with an agreement in relation to an action that the supplier proposes to take to reduce GHG emissions in BC from motor vehicles or increase the use, sale, or lease of ZEVs in BC; or (iii) in accordance with an agreement with a supplier that provides for the issuance of credits to the supplier on payment of the prescribed price per credit