

# Submission on B.C. Medium and Heavy-Duty Zero-Emission Vehicles

Clean Energy Canada is a climate and clean energy program within the Morris J. Wosk Centre for Dialogue at Simon Fraser University.

We are pleased to submit these comments as part of the Government of British Columbia's consultations on *B.C. Medium- and Heavy-Duty Zero-Emission Vehicles: 2023 Consultation Paper*.

Overall, we support the policy package proposed by B.C. Our specific regulatory design comments are provided below, but in general we recommend the following changes:

- **Maintain the 2026 start date, but modify the sales trajectories for different classes of vehicles to reflect the technological readiness of the market.** By placing an earlier focus on easier to deploy vehicle classes and use cases, B.C. can accelerate and optimize overall adoption. Specifically, Clean Energy Canada recommends:
  - Accelerating the class 3 vehicle sales trajectory to reach 50% zero emission vehicle (ZEV) sales by 2030, and 100% by 2035.
  - Further subdividing class 4 - 8 vehicles to accelerate easier to decarbonize zero emission medium and heavy duty vehicles (ZEMHDV) and use cases first.
    - Most urban buses (mainly school and transit) reach 100% ZEV sales by 2030.
    - Most urban medium duty vehicles (mainly class 4 - 6 box trucks) reach 50% ZEV sales by 2030, and nearly 100% by 2040.
    - Heavy Duty Vehicles (class 7 - 8) reach up to 10% ZEV sales by 2030 and nearly 100% by 2040.
  - Adjust the sales of class 7-8 vehicle tractors, to start at 2% sales in 2026, 10% in 2030, 40% in 2035 and 100% by 2040.
- **Allow all early action credits (EAC) to start in 2023 for all vehicle classes, coupled with credit expiry aligned with California's regulation.** Clean Energy Canada recommends increasing the early action credit time horizon to be in line with California's three years. All credits, whether EAC or credits generated at the start of

the regulation in 2026 should have credit expiry. Aligning with California, EAC should expire after 7 years, and other credits after 5 years.

- **Adjust the weight class modifier for class 3 vehicles from 0.8 credits to 1 credit.** The sales for ZEMHDV in Canada are minimal. Therefore, Clean Energy Canada recommends that B.C. remove any disincentive such as partial credits for now, but revisit this allocation at a later stage.
- **Update the fleet ZEV and/or public transit agency ZEV requirements to include zero emission school buses.** As zero emission school buses are important “first movers”, include them within either the fleet ZEV or public transit agency requirements. Zero emission school bus fleet and stock requirements should be covered in one set of regulations that is deemed suitable by B.C.
- **Align zero emission bus (ZEB) purchase and stock requirements with public transit agency's decarbonization and expansion plans.** Align the ZEB requirements with existing public transit decarbonization plans to expand bus service. This includes TransLink's existing fleet and replenishment plans through its [Transport 2050 plan](#).

In our view, the proposed regulations are a key driver of the ZEMHDV market in B.C. from 2026 onwards. They will address supply and market predictability challenges.

Clean Energy Canada recently held a [convening](#) focused on the immediate short-term actions to drive ZEMHDV update. Participants found that by acting on a few short-term “no regret” actions in the next 18 months, B.C. can help catalyze the deployment of ZEMHDV. While the report did not discuss ZEV regulations, in our view these complementary actions can help set the conditions for success for these regulations. The specific themes that emerged from the convening were:

- 1. Focus and prioritize programming and policy using a strategy which targets early adopters.** In order to optimize resources, an approach that aligns programming and regulations to focus on those classes of vehicles most ready for mass deployment is best positioned to increase uptake. B.C. should use the [beach head strategy](#) created by the California Air Resources Board and CALSTART as a guide to update the Clean Transportation Action Plan (CTAP) in the next 18 months to lay the groundwork for the start of the respective ZEMHDV regulations. The beachhead strategy should also inform the trajectory of the regulations for different vehicle classes as outlined below.
- 2. Ensure corresponding programs and funding are accessible and support is targeted to fleets that really need it (SMEs, municipalities).** By streamlining and improving accessibility to existing programming B.C. can focus on making trucks and buses even more visible and accessible over the next 18 months.
- 3. Work with utilities and regulators to set up the infrastructure needed in a timely and cost effective way.** Access to charging/fuelling infrastructure was highlighted

as a key barrier. By working now through the CTAP and other ongoing processes, B.C. can help utilities plan for future anticipated demand and re-balance the cost and risk of infrastructure development.

We look forward to exploring these recommendations with government outside of this consultation and demonstrating how they can provide important and complementary support to the success of this regulation.

Our specific proposed regulatory changes are listed below. Thank you for the opportunity to comment and we look forward to supporting the implementation of the resulting regulation. As a note, we have not commented on every portion of the consultation, but relevant sections.

## Detailed Submission

### Appendix 1 ZEV Sales Targets for Medium- and Heavy-Duty Vehicles

#### 1) Who is being regulated?

- **Define low volume suppliers as those that do not exceed 100 average annual sales for the 3 prior model years. Should a different low volume threshold be established for bus suppliers versus other MHD vehicle suppliers?**
- **Allow low volume suppliers to voluntarily opt-in to generate credits via ZEV sales under the regulation.**

**Support.** Clean Energy Canada supports the voluntary opt-in for low volume suppliers to generate credits via ZEV sales under the regulation.

The [majority of zero emission truck and bus manufacturers](#) supplying ZEMHDVs in Canada are legacy OEMs or have been established and selling ZEMHDVs for many years. Despite this, enabling new market entrants to benefit from the credits will be critical in allowing for a diverse supply of ZEMHDVs. More specifically, a diverse supply would help to meet the diverse use cases, duty cycles and vehicle classes within the sector.

#### 2) What is the first year of vehicle sales that will be subject to the regulation?

**It is proposed that B.C.'s new MHD ZEV sales requirement:**

- **Set calendar year 2026 as the first compliance year.**
- **This would mean that MHD vehicle sales made starting January 1, 2026 through December 31, 2026, would be subject to the proposed regulated requirements.**

**Support, with proposed changes.** Clean Energy Canada recommends keeping the start date for 2026, but modifying the sales trajectories for different classes of vehicles that reflects the technological state of the market. This will accelerate and optimize overall adoption by focusing on the easier to deploy classes of vehicles early-on. This targeting will

then help to advance the technology in currently less mature markets. In line with [modelling](#) conducted by the Pembina Institute, Clean Energy Canada recommends:

- Accelerating the class 3 vehicle sales trajectory to reach 50% ZEV sales by 2030, and 100% by 2035.
- Further subdividing class 4 - 8 vehicles to accelerate easier to decarbonize ZEMHDV and use cases first.
  - Most urban buses (mainly school and transit) reach 100% ZEV sales by 2030.
  - Most urban medium duty vehicles (mainly class 4 - 6 box trucks) reach 50% ZEV sales by 2030, and nearly 100% by 2040.
  - Heavy Duty Vehicles (class 7 - 8) reach up to 10% ZEV sales by 2030 and nearly 100% by 2040.
- Adjusting the sales ramp up of class 7-8 vehicle tractors, starting at 2% sales in 2026, 10% in 2030, 40% in 2035 and 100% by 2040.

Due to the complexity of the MHDV sector, one of the guiding principles in leading jurisdictions such as California has been the [beachhead strategy](#). This was developed by the California Air Resources Board (CARB) along with the think tank CALSTART. The strategy focuses on successful deployment in waves, starting with targeted market segments (e.g., short-haul, school buses, transit, last-mile delivery, urban freight) to help advance the technology for currently less technologically mature markets (e.g., long haul). The components of electric powertrains are the same across multiple platforms. Investing in market-ready applications, such as urban delivery trucks, helps drive the transfer of technology to more challenging ones, such as long-haul tractor trailers.

Having a longer trajectory for larger vehicles aligns with time required to reach total cost of ownership (TCO) parity. It is also [expected](#) that ZEMHDVs will reach TCO parity in North America across all segments by 2035. Battery electric vehicles tend to become cost-competitive for smaller trucks before 2030 and for short-haul (<500-mile) heavy trucks before 2035. When coupled with fiscal incentives at the provincial and federal level with higher diesel prices, this makes the business case that much more attractive, removing a significant barrier to adoption. As TCO parity is reached in North America, adoption will accelerate. [For example](#), last mile delivery vans in many European cities have already reached TCO parity when taking into consideration vehicle incentives and high gasoline/diesel prices.

Finally, it is important for context that [California's consultation process](#) for its Advanced Clean Truck ruling began in October, 2019, and was finalized after 3 years in March 2021. The regulation does not take effect until model year 2024. B.C.'s process in comparison is significantly shortened - by half - with the consultation process beginning in June 2023 and regulatory implementation set for model year 2026. A slower sales trajectory for larger vehicles can help ensure industry readiness.

### 3) How will ZEVs be defined?

It is proposed that B.C.'s new MHD ZEV sales requirement:

- **Define a MHD ZEV as a vehicle that produces no tailpipe emissions while in operation (i.e., exclude MHD PHEVs and EREVs from the definition of MHD ZEV).**
- **Within the definition, include exemptions from the no-PHEV rule for some vehicle types/use cases, e.g. authorized emergency vehicles. Please include in your feedback what exemptions the Ministry should consider.**

**Do not support.** Clean Energy Canada does not support the exemption of PHEVs from the ZEV sales requirements. While we do agree with a different treatment of PHEVs compared to fully battery electric vehicles (BEV), complete omission may prevent fleet owners/operators from accessing important transition technology. Hence, we propose B.C. align with California's approach to generate credits that would at maximum equal to 75% of a ZEV credit, where the credit is equal to the all-electric range multiplied by 0.01 and the weight class multiplier.

### 4) Sales Targets by Vehicle Class

**Table 2 presents the proposed B.C. MHD ZEV sales requirements. The proposed sales targets align with California's but allow for a phase-in period with requirements only starting in 2026. It is proposed that authorized emergency vehicles would be exempt from the 100% targets.**

**Support, but with recommended changes.** While Clean Energy Canada supports the ambition laid out in the sales targets, it comes with significant concern with regards to its real-world implementation. Clean Energy Canada recommends keeping the start date for 2026, but modifying the sales trajectories for different classes of vehicles and use cases to reflect the technological state of the market.

As mentioned, B.C.'s consultation process will be shorter than California's with similar effective percentages (i.e. in 2026 class 2b-3 vehicle sales are 10%, class 4 - 8 is 13% and class 7-8 tractors are 10%).

We also note the following challenges in the proposed design:

- a significant jump of sales of 45% - 60% in just one year from 2035 to 2036 across vehicle classes; and,
- parallel class 3 and class 7-8 tractors sales targets of 30% by 2030.

This aspect of the proposal does not recognize the difference in technology readiness level for these different vehicle classes, as outlined in the [beachhead strategy](#). We recommend a slower ramp up for class 7 -8 and tractors and an end date of 2040 for 100% sales. This is in line with [CALSTART's Global Agreement on zero emission trucks and buses](#).

Finally, it is important to have supply side regulations such as regulated sales targets, but

also there must be a supportive ecosystem to realize its real world application. This must be done in collaboration with provincial and federal governments, municipalities, utilities and industry to ensure the transformative action needed. Without the creation of this ecosystem, B.C. risks missing its sales and emissions targets due to the lack of comprehensive support where it is desperately needed. As outlined in our recent report (appended to this submission), Clean Energy Canada strongly recommends 4 priority “no regret” actions that can be taken in the next 18 months to jumpstart the accelerated adoption of ZEMHDVs in B.C. ([further details to be found in the report](#)):

1. Make zero emission trucks and buses accessible.
2. Accelerate access to electricity and infrastructure.
3. Show and tell how the vehicles work.
4. Make sure government policy is based on good data and targets early adopters.

## 5) Credit Generation and the Compliance System

It is proposed that, in B.C.’s new MHD ZEV regulated unit system:

- **ZEV credits are earned for each ZEV sold and registered in B.C.**
- **Credits generated per vehicle = 1 ZEV credit for each ZEV sold multiplied by the weight class modifier according to vehicle class. See Table 3 for proposed weight class modifiers. In this system, Class 3 ZEVs would earn 0.8 credits per sale, and class 7 & 8 tractor ZEVs would earn 2.5 credits per sale.**
- **Compliance obligations in any year will be calculated as the number of vehicles sold, multiplied by the percent sale requirement, multiplied by the weight class modifier according to vehicle class.**
- **Compliance obligations arising from class 3 - 8 vehicles can be offset by class 3 - 8 credits.**
- **That class 7 & 8 tractor debits can only be offset by class 7 & 8 tractor credits, except where the supplier produces less than 25 class 7 & 8 tractors in a compliance period, in which case class 3 - 8 credits can offset their class 7 & 8 tractor debits**

**Do not support.** Clean Energy Canada supports the use of weight class modifiers with greater weight given to difficult to decarbonize vehicle classes with higher emissions contributions. But, we recommend that B.C. give full credit for class 3 vehicles rather than 0.8 partial credits.

In Canada, [sales of ZEMHDVs have been minimal, totalling less than 1%](#) of MHDV sales in 2021, or about 200 ZEMHDVs. Based on the [beach head strategy](#), the medium truck and van segment, along with buses are primed for zero emission technology adoption as first movers. Accelerated deployment within these vehicle classes will catalyze sales in harder to decarbonize sectors such as heavy/long haul trucks through technology proliferation. Hence, given the already low volume sales of ZEMHDVs are not in a place for this important vehicle segment to be provided a partial credit. In the long term, this will delay adoption in other harder to decarbonize segments.

## 6) Early Credits

It is proposed that in B.C.'s new MHD ZEV sales requirement:

- **Early ZEV credits can be generated for ZEV sales in calendar years 2024 and 2025, to encourage ZEV sales to occur before the regulated targets begin in 2026.**
- **Early credits will not be granted to vehicles that have already generated credits through Initiative Agreements under the ZEV Act.**

**Do not support.** EACs will provide further incentive to automakers to begin selling these vehicles. This is due to the more nascent stage of ZEMHDVs in the B.C. market and the accelerated timeline for the implementation of the regulation. We recommend EACs are offered across all three vehicle categories starting in 2023. The total period to generate EACs across all segments would be three years, in line with California.

It is important to note that this must be coupled with an expiry date for credits (see section below on credit expiry). This will prevent EAC being used in later years to offset more stringent sales targets in later years.

## 7) Purchase Agreements

It is proposed that B.C.'s new MHDZEV sales requirement:

- **Provide authority to the Director under the ZEV act to issue credits to a supplier under a purchase agreement, in extenuating circumstances.**
- **The price of such credits would be the prescribed penalty rate per credit, plus an additional value.**

**Strongly support.** Clean Energy Canada strongly supports the purchase agreement mechanism to be a last resort mechanism when all other options have been exhausted. Tying this to the penalty rate per credit further enforces the use of purchase agreements as a last resort option.

## 8) Credit Lifetime

**To further encourage early sales of MHD ZEVs into B.C., it is proposed that, in B.C.'s new MHD ZEV sales requirement, credits generated do not have a lifetime limit.**

**Does not support.** Clean Energy Canada does not support no credit expiry as it is not a best practice followed by other jurisdictions such as California for a similar regulation. [California's](#) staggered approach states that credits generated between 2021 to 2023 will expire in 2030, and credits generated at the start of the regulation in 2024 would expire after 5 years.

Clean Energy Canada strongly recommends B.C. also expires EAC after 7 years and credits generated after the start of the regulation after 5 years.

## 9) Non-Compliance

**It is proposed that the new MHD ZEV sales requirement set the penalty of \$30,000 CAD per credit out of compliance (adjusted for inflation using the Consumer Price Index).**

**Support, with changes.** Clean Energy Canada supports the use of a financial penalty as the mechanism for treating non-compliance. It is recommended that this penalty is aligned with California's, if possible, to align with a "per vehicle" versus a "per credit" penalty. A "per credit" penalty penalizes vehicles with higher weight class modifiers, such as class 7 & 8 tractors without an appropriate "adjustment" in place to equalize penalties between classes. Should B.C. opt for a "per-vehicle" penalty, further clarity is also needed on whether California's added clause to half the number of manufacturer's outstanding debits to calculate the number of vehicles out of compliance would be included within B.C.'s regulation. If it is, it could create an under or over-payment of penalties depending on the vehicle classes the manufacturers are selling. Therefore it is recommended that this clause not be included in B.C.'s regulation and B.C. opt for a simpler "per vehicle" penalty as seen below.

The example below highlights this for automakers selling class vehicles versus automakers selling class 7 & 8 tractors. As can be seen, class 7&8 tractor sales requirements are penalized more severely versus class 3 due to the weight class modifier. In addition, with the inability for class 7 - 8 tractors to trade with other vehicle classes, this places an even harsher penalty on this vehicle class than class 3 - 8 vehicles that are able to trade credits amongst themselves.

	Class 3 Vehicles	Class 7 & 8 Tractors
<b>Sales Requirement</b>	30% by 2030 = 300 vehicles* or; 240 debits (300 x 0.8 weight class multiplier)	30% by 2030 = 300 vehicles* or; 750 debits (300 x 2.5 weight class multiplier)
<b>Real Sales</b>	150 ZEVs or; 120 credits (150 x 0.8 weight class multiplier)	150 ZEVs or; 375 credits (150 x 2.5 weight class multiplier)
<b>Real Total Vehicle Sales Out of Compliance</b>	150 vehicles	150 vehicles
<b>Total Debits - Total Credits</b>	120 outstanding debits	375 outstanding debits
<b>Estimated Total Vehicle Sales Out of Compliance (half of outstanding debits) - California's approach</b>	60 vehicles (120 outstanding debits/2)	187.5 vehicles (375 outstanding debits/2)
<b>Per Vehicle Penalty (at USD 37,00) - California's</b>	USD 2.25 million (60 vehicles x USD 37,500 per vehicle)	USD 7 million (187.5 vehicles x USD 37,500 per vehicle)

<b>approach</b>		
<b>Per Credit Penalty ( at USD 22,716 per credit**) - B.C.'s approach</b>	USD 2.725 million (120 outstanding debits x USD 22,716 per credit)	USD 8.5 million (375 outstanding debits x USD 22,716 per credit)
<b>Recommended Approach (Real Total Vehicles Out of Compliance x Per Vehicle Penalty)</b>	USD 5.6 million (150 vehicles x USD 37,500)	USD 5.6 million (150 vehicles x USD 37,500)

\*Assume the manufacturer sells 1,000 vehicles in 2030.

\*\* Assume CAD 30,000 per credit value is worth USD 22,716 per credit.

## Appendix 2 Fleet ZEV Requirements

### 1) High Priority Fleet Requirement

**The Ministry is seeking general comments on the application in B.C. of high priority fleet requirements similar to those proposed in California, but for Class 3 and above. It is proposed that B.C.'s MHD ZEV requirements include fleet purchase and stock requirements, with phased-in targets starting for January 1, 2026, aligning with California's targets starting in 2028. Due to jurisdictional authority, federal government fleets are proposed to be exempt from the B.C. rules.**

**Strongly support, with comments.** Clean Energy Canada strongly supports the application of high priority fleet requirements in B.C. Due to B.C.'s comparatively smaller market size than California, it will be more important for the province to target investment areas.

Based on findings and recommendations from our [recent convening report](#), we recommend B.C. leverage its Clean Transportation Action Plan to develop a “beach head” strategy. This strategy focuses on early waves of adoption and considers how to address key market transformation barriers.

The beachhead strategy focuses on successful deployment in waves, starting with targeted market segments to help advance the technology for currently less technologically mature markets (e.g., long-haul). For example, the components of electric powertrains are the same across multiple platforms. Investing in market-ready applications, such as urban delivery trucks and public transit, helps drive the transfer of technology to more challenging ones, such as long-haul tractor trailers. Given the state of ZEMHDV adoption in the B.C. market, we recommend a focus on last-mile, short-haul delivery, medium freight, refuse, some drayage applications, and public fleets as the most immediate near-term priorities to achieve mass mobilization.

Second, due to the state of the ZEMHDV market in B.C., fleets will need significant support and targeted investment focused on early adopting segments. Therefore, basing a strategy on technology snapshots that would inform priority areas of investment focus for pilots, demonstrations, and the commercialization of ZEMHDVs within a B.C. context is key. For

example, California's [Long Term Heavy Duty Investment Strategy](#) does this. It identified drayage trucks, short haul/last mile deliveries, and transit as prime for early adoption. Finally, the province in collaboration with utilities and the federal government and key data collecting organizations such as ICBC should produce and compile not only data but actionable insights to ground future planning and investment decisions. This includes public data on customer and market segmentation, vehicle use cases, different fleet sizes, fleet types, duty cycles, vehicle telematics data, and charging use cases can inform the investment strategy by identifying the “high-priority” areas in the B.C. context. An example of vehicle use cases as an online, interactive tool is the [National Renewable Energy Laboratory's Fleet DNA project](#).

## 2) State and Local Government Agency Fleet Requirements

### What are the requirements?

**The Ministry is seeking general comments on the application of similar ZEV purchase stock requirements for provincial and local government agency fleets in B.C., including any exemptions, in the proposed MHD ZEV legislation. It is proposed that B.C.'s MHD ZEV fleet purchase and stock requirements for provincial and local agencies start for January 1, 2026, and phase in to align with California's targets starting in 2029. In providing comments and input, please also consider the following:**

- **If the requirements should apply to similar public bodies in B.C., such as local governments, public utilities, public agencies of the Province of B.C., and crown corporations; and,**
- **Recognizing the differences in size and capacity of different provincial and local government fleets, how the requirements could be tailored to accommodate the unique needs of smaller, rural, remote and northern fleets.**

**Strongly support, with comments.** Clean Energy Canada strongly supports the application of ZEV purchase stock requirements for provincial and local government agency fleets in B.C.

As outlined similarly in California's [Long Term Heavy-Duty Investment Strategy](#) and other policy frameworks from leading organizations in North America such as the Northeast States for Coordinated Air Use Management (NESCAUM)'s [Multi-state Medium- And Heavy-Duty Task Force Zero-Emission Vehicle Action plan](#), public fleets offer an excellent opportunity to jumpstart ZEMHDV adoption.

## 3) Additional Specifics for Both High Priority and Provincial/Local Government Agencies

### Joint compliance options

**Support, with comments.** It will be important, as mentioned in the [consultation paper](#), to provide proper support to local governments of different sizes and capacities.

This could include “group reporting” for local governments of smaller sizes (e.g., via Metro

Vancouver), application/report services that are offered through an EV concierge program through the B.C. government (see [Clean Energy Canada report](#)), or additional funding to hire staff for reporting for smaller, rural, remote and northern fleets.

Finally, public fleets from smaller, rural, remote and northern areas should be given an equitable transition based on the capacity of these governments. This can be done via the “hiring entity requirement” provision, where services can be offered to these governments for navigating compliance and supporting reporting requirements.

### **Near-Zero-Emission-Vehicles (NZEVs)**

**The Ministry is seeking comments on the application of similar provisions to high priority, provincial and local government entities in B.C. It is however proposed that, similar to the MHD ZEV sales requirements, NZEVs also be excluded from the MHD ZEV fleet requirements in B.C.**

**Do not support.** Please see Appendix 1, part 5 above for further details on NZEVs and PHEVs.

### **3) Drayage Truck Requirements**

**The Ministry is seeking general comments on how similar ZEV drayage provisions could be applied in B.C., and what modifications could be made to reflect the B.C. market. The B.C. MHD ZEV requirements for drayage trucks are proposed to start slightly later than California’s, on January 1, 2026, and include the 2035 requirement to be fully ZEV.**

**Strongly support, with comments.** Clean Energy Canada supports the drayage provisions to be applied in B.C.

The [Port of Vancouver](#), the largest port in the country, can be an excellent high priority, early adopter area for ZEMHDVs. In addition, as identified through the beach head strategy, drayage is also supported as a “first wave”, early adopter technology. This has similarly been identified by jurisdictions around North America. In particular, California’s HVIP program has slated specific funding to go towards ZEMHDV for drayage trucks. This funding stream was created through California’s Heavy Duty Investment Strategy as drayage was identified as a “high priority” area. Should the province have fleet requirements for this section of MHDVs, similar funding mechanisms should be available.

## **Appendix 3 Public Transit Agency ZEV Requirements**

### **1) What is being regulated?**

**It is proposed that B.C.’s new public transit agency ZEB requirement:**

- **Apply to all buses with a GVWR greater than 6,350 kg (to include Class 4 to Class 8 buses), used for transit services including articulated, over-the-road, double-decker, and cutaway buses.**
- **Exclude trolleybuses or school buses, even if operated by a transit**

- authority.**
- **Require the ZEB to emit tailpipe emissions (be either a battery electric bus or a fuel cell electric bus).**

**Do not support.** Clean Energy Canada does not support the exclusion of zero emission school buses from the requirements. School buses are prime for early adoption and have been seeing uptake across Canada as an early “beach head” technology. Whether school buses are included under the ZEB requirements or the Fleet ZEV requirements are optional. Either way, they should not be excluded from the ZEMHDV fleet and stock requirements.

In addition, as outlined in Appendix 1, part 5, Clean Energy Canada does not support the exclusion of NZEVs or PHEVs from the requirements.

## 2) What are the ZEB purchase and stock requirements?

**It is proposed that B.C.’s new public transit agency ZEB requirement:**

- **Require that 50% of new bus purchases be ZEB in 2026, 2027 and 2028, and 100% be ZEBs starting in 2029 and beyond.**
- **Require the transit agencies have 41% ZEV fleets by 2030 and 100% ZEB fleets by 2040.**
- **Allow for exemptions to the above rules, in extenuating circumstances, on application to, and approval by, the Director designated under the ZEV Act.**
- **Include similar reporting and record-keeping provisions as are in the California rules.**

**Support, with comments.** Clean Energy Canada supports the purchase and stock requirements, but notes B.C. take note of public transit agency’s decarbonization plans. For example, [TransLink’s Transport 2050](#) plan aims to double bus service within ten years.

Aligning the transitioning of fleets to zero emission buses will also have higher capital costs for vehicles and infrastructure. Balancing those additional costs with increasing costs associated with bus service expansion will be important. Therefore, the regulations should take expansion into account, as overall increasing bus service also reduces GHG emissions through mode shifting from light-duty vehicles to public transit.

## CONTACT

**Meena Bibra**  
Senior Transport Policy Advisor  
[meena@cleanenergycanada.org](mailto:meena@cleanenergycanada.org)  
647-394-2616

**Rachel Doran**  
Director of Policy and Strategy  
[rachel@cleanenergycanada.org](mailto:rachel@cleanenergycanada.org)  
613-293-9272