

Incentives for Medium- and Heavy-Duty Zero-Emission Vehicles Program

Pembina Institute comments and recommendations

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Recommendation summary

- Offer information on the program as soon as possible
- Ensure the eligible vehicle list is flexible to changes in the market, and operates on a rolling basis
- Allow non-Canadian OEMs and vendors to distribute Canadian voucher incentives to Canadian companies
- Ensure incentives cover at least 50% of the incremental cost
- Include lighter cargo vans in the class 2b category
- Ensure transparency and clarity at all stages of the program, especially regarding the remaining yearly funds
- Earmark a portion of the funding for small trucking fleets and organizations that operate in or serve under-resourced communities
- Allow incentives to be stacked with provincial and territorial incentives, where available
- Initiate extensive, multi-lingual outreach campaigns to fleets as well as vendors and manufacturers in and outside of Canada
- Enhance data collection and reporting

Context

The Pembina Institute welcomes the opportunity to provide input on the design of Transport Canada's new incentive program for medium- and heavy-duty zero-emission vehicles (iMHZEV). This new, four-year, \$547.5 million purchase incentive program is a critical component to help businesses and municipalities make the switch from internal combustion engine vehicles to zero-emission vehicles. Our comments include insights from our [Urban](#)

Delivery Solutions Initiative, a national network of businesses and organizations working to reduce freight emissions in Canadian cities.

MHDVs are a significant contributor to Canada’s greenhouse gas emissions. Freight trucks currently account for nearly 35% of Canada’s transport sector emissions, and nearly 10% of Canada’s overall emissions. This share has grown since 1990, when these figures were at 16% and 3% respectively.¹

Financial incentives are crucial in reducing one of the main barriers to electric vehicle adoption: high upfront purchase prices. We are pleased to support the proposed Transport Canada incentive program as we believe this measure — along with other complementary zero-emission MHDV demand- and supply-side programs and policies, including support for charging infrastructure — will help bridge the gap and kickstart Canada’s adoption of 35% of medium- and heavy duty vehicle sales to be zero-emission by 2030.

Recommendations

We agree with most of the proposed program parameters as outlined in Transport Canada’s webinar.

To ensure that the program achieves its objectives, we recommend that Transport Canada consider these comments on the program design and delivery:

Timing

- Fleet owners report that larger-scale capital expenditure decisions are often made up to five years in advance. Incentives that require upfront capital expenditure by the fleet owner–operator, but that are presented with limited prior notice or only made available for a short period of time, are often incompatible with the decision-making processes of large fleet owner–operators. Therefore, we are supportive of the proposed four-year program, which will give purchasers the opportunity to include incentives in their longer-term planning process.
- We support the swift implementation of the first year of the program, starting in 2022–23. We recommend that Transport Canada release its program guide as early as possible to inform prospect program participants of the eligibility requirements (particularly the list of eligible vehicles) and processes. In general, increased advance notice of a program and its program guide before its launch is helpful for fleets because many plan

¹ Government of Canada, “Greenhouse gas emissions by economic sector.” <https://www.canada.ca/en/environmentclimate-change/services/environmental-indicators/greenhouse-gas-emissions.html>

for and place orders for vehicles well in advance. Going forward, the program should align with capital expenditure planning cycles so that fleet operators can better account for the incentive program in their decision-making process.

Program parameters and eligibility criteria

Eligible vehicle list

- The electric vehicle market continues to rapidly evolve, and fleet operators are often trialling multiple vehicle models in various international markets. As large-scale purchasers, fleet operators will play an important role in informing manufacturers and dealers within their global networks of the new federal iMHZEV program. We encourage Transport Canada to share, as early as possible, the detailed process that will be required of vendors who are applying to have vehicles added to the list and who want to become eligible to distribute vouchers.
- Original equipment manufacturers (OEMs), especially those based outside of Canada, will need to be notified so they can apply for their vehicles to be included. This requires good communication and a transparent process. We recommend a simplified application system that will reduce the risk that program incentives could be exhausted before all OEMs have a chance to apply.
- It is critical that Transport Canada enable vehicle suppliers and OEMs to apply for inclusion on the eligible vehicle list on a rolling basis throughout the four-year period. Transport Canada should apply maximum flexibility in the process when adding new vehicles to the list and refrain from introducing any restrictions on when new vehicles can be added. We would also encourage a commitment by Transport Canada to review and approve/deny new vehicle applications within a reasonable timeframe and with full transparency, to avoid the creation of uncertainty, as end-users look to place orders.
- Many fleet operators work with OEMs to build and operate bespoke vehicles because off-the-shelf vehicle models do not meet their business requirements. We encourage Transport Canada to account for this in their program design.

Incentive levels

- We support incentives being offered to MHDVs within classes 2b to 8, except transit and school buses. Further, we believe that a limit of 10 incentives a year is reasonable to encourage widespread uptake of the program by organizations in Canada and is helpful for business planning, while also allowing government support to be distributed.
- We agree that incentive amounts should be similar in scale to existing incentives in states/provinces such as B.C. and California, adjusted for Canadian dollars. We

recommend regularly monitoring and updating incentive rates to ensure that they are proportionate to the cost of vehicle (given inflation, price of goods, availability of critical minerals). As the market matures and the price differential between ZEVs and diesel becomes smaller, incentives can be adjusted down.

- We recommend that incentives cover at least 50% of the incremental cost of zero-emission vehicles, given the notable purchase price differential between diesel and electric commercial vehicles (Table 1).
- We encourage Transport Canada to include class 2b vehicle models used for commercial purposes even where the gross vehicle weight rating parameters is less than 3,856 kg (e.g., Ford E-Transit van). These vehicle types are commonly used by small trucking fleets in the trades/service industry or making return-to-base deliveries in both urban and rural contexts. As reported in *Making the Case for Electric Urban Delivery Fleets in the GTHA* report, there are notable economic and environmental benefits of electrifying vehicles such as cargo vans. According to our study, electrifying a typical cargo van for parcel deliveries in the GTHA can result in an annual reduction of 12 tonnes CO₂e per vehicle.²
- Given the emissions-reduction potential, we recommend increasing the \$5000 incentive level for Class 2b to at least \$10,000 to account for the notable cost difference between fossil fuel and zero-emissions vehicles in that class (see Table 1, below). For example California’s HVIP program offers US\$7,500 incentives for Class 2b commercial vehicles.³

² Maddy Ewing, *Making the Case for Electric Urban Delivery Fleets in the GTHA* (Pembina Institute, 2021), 3. <https://www.pembina.org/reports/making-the-case-for-electric-urban-delivery-fleets-2021-04.pdf>

³ California HVIP, “Funding Updates.” <https://californiahvip.org/funding/>

Table 1. Initial purchase prices for trucks (2019 data)

	Diesel	Electric	Hydrogen
Class 2b	\$36,500	\$99,500	
Class 3	\$51,500	\$132,500	
Class 4/5 Short-Haul	\$63,500	\$132,500	
Class 4/5 Long-Haul	\$63,500	\$199,000	
Class 6/7 Short-Haul	\$83,500	\$221,500	
Class 6/7 Long-Haul	\$83,500	\$331,500	
Class 8 Short-Haul	\$146,000	\$331,500	\$531,000
Class 8 Long-Haul	\$212,000	\$497,500	\$637,000

Data source: ICF⁴

Clarity on how much funding remains

- We support a first-come, first-served distribution model, however we encourage Transport Canada to regularly publish how much funding is still available, publicly and online, throughout the four-year lifespan of the program.

Supporting small trucking fleets and advancing social equity

- We recommend Transport Canada apply a mechanism to ensure that a portion of funding is earmarked for small trucking fleets and organizations. California’s HVIP program has the Innovative Financing for Small Fleets funding type that could be emulated to ensure small fleets can participate.⁵ In 2022, California changed their funding model, setting aside funding for innovative small e-fleets, under-resourced–

⁴ ICF, *Comparison of Medium- and Heavy-duty Technologies in California: Part 2: Total Cost of Ownership Technology Analysis*, prepared for California Electric Transportation Coalition and Natural Resources Defence Council (2019), Table II-3. https://caletc.com/assets/files/ICF-Truck-Report_Final_December-2019.pdf

Currencies were initially in 2019 U.S. dollars. Conversion to Canadian dollars was done using the Bank of Canada’s 2019 Annual Exchange Rate of US\$1 = C\$1.3269. Results are rounded to the nearest 500. Source: Bank of Canada, “Annual Exchange Rates.” <https://www.bankofcanada.ca/rates/exchange/annualaverage-exchange-rates/#download>

⁵ California HVIP, “Clean-Air Vehicles at a Fraction of the Price.” <https://californiahvip.org/purchasers/>

community voucher enhancements as well as a small fleet funding shortfall provision.⁶ Canada's program should incorporate these learnings to ensure the first-come, first-served model does not disadvantage small fleets or fleets that support historically marginalized communities. Extra steps will need to be taken to ensure these fleets know about and can take advantage of the iMHZEV program.

- Consideration should also be given to ensure that the program is accessible to small- and medium-sized organizations and those who may operate in/and or serve under-resourced communities.

Coordination with other provincial/territorial incentives

- We agree that incentives should be stackable with provincial and territorial incentives, where available, but should not altogether exceed 100% of the manufacturer's suggested retail price.
- We encourage Transport Canada to coordinate with its provincial counterparts to ensure that eligible vehicles in each program are well aligned so that end-users can stack incentives.

Outreach and education

- We recommend that Transport Canada work with other relevant ministries and its stakeholder networks to execute an extensive outreach campaign to ensure that vendors and manufacturers from outside Canada are aware of the new program and are ready to participate. Many fleet operators in Canada work with non-Canadian MHZEV suppliers will be important stakeholders for building awareness of the new program.
- Offering information in multiple languages is one step to help ensure that the program is accessible to the diverse Canadian business community.

Data collection and reporting

- We recommend Transport Canada publicly report on the uptake of the program and its effectiveness in accelerating zero-emission MHDV adoption. Transport Canada should share its high-level program evaluation framework to understand project impacts and outcomes. The ministry should collect information on program recipients (organization type and size, geographic location, vehicle purpose) to understand how the program is being uniquely utilized by organizations across Canada, and capture fleet experiences in their early adoption journey (driver experience, lessons learned etc.).

⁶ California HVIP, "HVIP FY21-22 Policy Changes (11/22/2021)." <https://californiahvip.org/news/hvip-fy21-22-policy-changes-11-22-2021/>

- Create an open and accessible feedback mechanism to ensure the program is adaptable to changing needs. Based on information collected, stakeholder feedback, and changes in the market, adjust the program guide on an annual basis.