

Background

In the [2030 Emissions Reduction Plan](#), the Government of Canada has set a goal to reduce greenhouse gas (GHG) emissions by 40–45% below 2005 levels by 2030. To meet its target, it aims for 35% of medium- and heavy-duty vehicle (MHDV) sales to be zero-emission vehicles (ZEVs) by 2030, increasing to 100% by 2040 where feasible.

The federal government has **not yet set a target specifically for electric school buses** (ESBs) as they fall under the current target of zero-emission MHDV sales. Given this target is only for 100% of *new sales* and not 100% of the *fleet converted* to electric by 2040, it lags behind those of other leading jurisdictions. For example, Prince Edward Island has a goal of achieving a 50% ESB fleet by 2027, while Quebec works towards an ESB fleet of 65% by 2030.

The federal government does offer, however, several funding programs for ESB purchase:

- The [Zero-Emission Transit Fund program](#) (ZETF), managed by Infrastructure Canada, offers approximately \$550 million (\$M) in funding for school bus replacement planning and for upfront vehicle and infrastructure expenses by offering up to \$205,375 for the purchase of a Type-C ESB and \$2,500 for the infrastructure;
- The [Zero-Emission Vehicle Infrastructure Program](#) (ZEVIP), administered by Natural Resources Canada, provides funding to support the purchase and installation of electric vehicle charging infrastructure by offering \$5,000 for infrastructure for a Type-C ESB; and
- The Canada Infrastructure Bank's (CIB) [Zero-Emission Buses Initiative](#) provides direct loans for the implementation of ESBs.

According to Dunsky Energy+Climate's report, [Pathways for Canadian Electric School Bus Adoption](#), there are **only 300 ESBs** in Canada, representing **less than 1% of the total fleet of 50,000 school buses**. Moreover, 45% of Canada's school bus fleet is less than five years old, meaning that these school buses will stay on the road for another seven years. This demonstrates the importance of putting the brakes on the purchase of thermal buses.

Why do we need to act now?

Accelerating the electrification of the school bus fleet represents a unique opportunity to achieve meaningful progress on Canada's climate and electrification targets, while generating complementary health and economic benefits for the country.

Climate Benefits

ESBs are cleaner for the environment: one ESB **saves about 17 tonnes of GHG each year** compared to a diesel school bus; for the entire fleet of 51,000 school buses in Canada, this would lead to a **reduction of 10.4M tonnes of GHG** over the 12-year life of a school bus.¹

Health Benefits

An entirely electric school bus fleet also holds significant potential to reduce noise and air pollution from diesel exhaust and the associated health effects. This primarily affects the health of the **2.2 million children** who ride the bus to school every day across Canada.² According to Ecology Ottawa, a single ESB could result in \$11,800 in total health cost savings over a 12-year lifetime. With the total fleet, there is a potential to **save more than \$601M in healthcare costs**.

Economic Benefits

Electrifying school buses can be a money saver in the long run. Compared to ICE buses, they **cost 80% less to power** due to the lower cost of electricity and higher engine efficiency, and **50% less to maintain** due to fewer moving parts. Fleet operators will also be able to **generate over \$5,000 in revenue by leveraging the Clean Fuel Regulation** and up to **\$4,000 by connecting their ESBs to the grid** using vehicle-to-grid (V2G) technology.

What are the main barriers?

Despite these benefits, several challenges remain for school bus electrification:

- ESBs can cost anywhere between **1.5 to 2.5 times an equivalent diesel bus**;
- **Lengthy processing times** and **difficulties in planning vehicle replacements** have resulted from the current structure of the ZETF program, primarily due to **delays in the approval process**;
- There is an **administrative burden with having to apply to multiple programs**, especially in provinces where provincial funding is also available;
- There is a **lack of training programs** for the maintenance of zero-emission MHDV;
- There are **challenges around charging infrastructure**, which can be a significant barrier, particularly from a **financial perspective**. For instance, the annual maintenance cost of a charging infrastructure can be up to \$3,000.³
- In provinces where school districts own the buses, it is **burdensome and uncommon for them to take on a loan** with the CIB program.

Recommendations

Federal funding for ESBs has certainly helped to create momentum across the country. However, given the small share of ESBs on the road, care must be taken so that additional measures and financial incentives are put in place to accelerate the uptake of ESBs in Canada and maximize its benefits.

Based on Dunsky's research, we recommend that the federal government sets an ambitious but realistic **target of 100% ESB by 2040**, in line with the provinces of PEI and

¹ Ecology Ottawa (2023). [Yellow Buses Go Green](#).

² Task Force on School Bus Safety. (2022). [Strengthening school bus safety in Canada](#).

³ Propulsion Québec. (2022). [Électrique de l'école à la maison : un guide technique sur l'électrification des autobus scolaires québécois afin de mener à bien sa transition](#).

Québec. To achieve this, over **2,580 buses would need to be converted to electric each year**, on average, between 2023 and 2040, and over **\$1.25 billion (\$B) would be required annually** from all stakeholders in Canada, ranging from governments to fleet operators.

As per the Green Budget Coalition recommendations, we encourage the government to:

1. Set a country-wide 100% ESB sales requirement to ensure sufficient supply for the Canadian market;
2. Work with provinces to temporarily extend the retirement age of current ICE buses to smooth out the demand of new ESBs needed in the near-term;
3. Extend existing federal funding programs for ESBs by ensuring additional funds for the ZETF after 2026 and for the ZEVIP after 2027;
4. Dedicate specific stream of funding for ESB only through the ZETF and ZEVIP to ensure funding sufficiency for ESB purchases;
5. Review the structure of funding allocation to decrease competition among federal and provincial funding programs, as well as to streamline the application process and reduce administrative delays for fleet operators;
6. Eliminate the second phase of ZETF application process for a point-of-sale rebate;
7. Develop education and awareness campaigns, notably through the [Zero-Emission Vehicle Awareness Initiative](#), to ensure that school bus operators know the benefits of ESBs and the funding programs and sources of revenue available to them;
8. Establish databases for ESB operational data to facilitate data collection and knowledge sharing among provinces to decrease the need for pilot projects;
9. Provide capacity-building support for fleet operators in terms of funding opportunities and workforce training services.

We are available to provide more detail on these recommendations and to contribute to discussions on these issues.

Contact

Canadian Electric School Bus Alliance | cesba-aceas@equiterre.org

About CESBA

Led by Équiterre in partnership with Green Communities Canada, the **Canadian School Bus Electrification Alliance** (CESBA) is an initiative that brings together provincial and federal school transportation stakeholders – from school boards passing through environmental organizations to national health associations, to advocate for measurable policies that will accelerate the transition to a 100% zero-emission school bus fleet by 2040, in alignment with Canada's climate targets. [Website](#)

