Canadian Electric School Bus Alliance

Accelerating Electric School Bus Adoption in Ontario

Policy Brief

Background

In the Made-in-Ontario Environment Plan, the Government of Ontario has set a goal to reduce greenhouse gas (GHG) emissions by 30% below 2005 levels by 2030. Electrifying medium- and heavy-duty vehicles (MHDV), which account for 24% of the GHG emissions in the transportation sector of the province, would greatly contribute to this objective.[1] While electric school bus (ESB) procurement could support the transition towards decarbonized transportation, **only 200 ESBs have been ordered** in Ontario[2], representing **0.1% of a fleet of 20,000 school buses**.[3]

Why do we need to act now?

Climate Benefits

An entirely ESB fleet would **reduce the GHG emissions by 340,000 tonnes annually** or 4 million tonnes over the 12-year-life of a school bus.[4] This is partly due to the province's low-carbon electricity grid, as 92% of electricity is from zero-carbon sources.

Health Benefits

School bus electrification also holds significant potential to reduce diesel-related air pollutants (nitrous oxides, sulfur oxide, particulate matter), which primarily affect the health of bus drivers and of the **830,000 children** who ride the bus to school every day, as well as disadvantaged communities who are more likely to live near major roadways and thus daily bus routes.[5] Replacing one diesel bus with an ESB could potentially save $11,800 in healthcare costs over its 12 year lifespan. With 20,000 diesel school buses, there is a potential to **save $236 million ($M) in healthcare costs**.[6]

Economic Benefits

ESBs also offer many economic advantages, according to Pembina Institute's report, *Power Boost*.[7] MHDV manufacturers claim to create about 20 new jobs for each $1M of manufacturing plant investment. If Ontario aims for a 65% ESB target by 2030, matching Quebec's target, the impacts of market growth in the ESB sector could lead to around **10,800 jobs and $1.5 billion ($B) in gross domestic product (GDP) by 2030**. Additionally, the manufacturing and installation of ESB chargers could create an **additional 2,400 jobs**

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[1] Environment and Climate Change Canada. (2021). National Inventory Report 1990-2019: Greenhouse Gas Sources and Sinks in Canada - Part 3.

[2] The Delphi Group, Pollution Probe & Canadian Partnership for Children's Health and the Environment (2022). *Opportunities for Accelerating School Bus Electrification in Ontario.*

[3] Ecology Ottawa (2023). *Yellow Buses Go Green*.

[4] Ibid.

[5] Government of Ontario (2020). Ontario Reviews Student Transportation to Improve School Bus Service for Students and Families

[6] Ibid.

[7] Chandan, B., Smith, C., Jantz, D., & Lloyd, P. Power Boost: Electric school buses and the revitalization of small- and medium-size businesses in Ontario's auto industry. The Pembina Institute, 2023.

and contribute around $300M in GDP by 2030. There are also major economic benefits for small and medium enterprises as the automotive value chain restructures itself.

What are the main barriers?

According to an upcoming report by The Delphi Group and Pollution Probe, *An Electric School Bus Strategy in Ontario*, there remain several barriers to ESB adoption in Ontario:

- ESBs, on average, **cost $260,000 more than a diesel school bus**;
- Operators are **struggling to replace 10% of their school buses** each year with ESBs due to the **lack of provincial funding available** to offset ESB higher costs;
- The existing contracts with school bus companies typically have a **duration of only 5 years**, which **does not provide a favorable business model** that would incentivize bus companies to consider switching their fleets to ESBs;
- Ontario colleges do not offer **training programs** for the maintenance of zero-emission MHDVs (only a few manufacturers provide specific training);
- **Winter conditions are challenging for ESBs**, as in extreme cold, electric vehicle (EV) battery energy consumption can increase by up to 40%.

Recommendations

In order to maximize the wide range of benefits associated with the electrification of school transportation and to help Ontario meet its climate target, it is key that the province **commits to a 100% ESB fleet**, as recommended by the Pembina Institute and Ecology Ottawa, and in alignment with its neighbours in Québec. To achieve this, we highlight five priority areas for policy development in Ontario:

Policy and Funding

1. Incorporate ESB targets into provincial policies and programs;
2. Enact policy measures, such as a scrappage program, to retire old diesel buses and replace them with ESBs;
3. Increase funding for school bus operations to cover the incremental costs of ESB requirements (eliminating provincial sales tax and grant funding stackable to the federal Zero Emission Transit Fund program) and offer low-interest financing for fleet operators;
4. Increase the Ministry of Education budget to launch ESB pilot programs;

Contract and Duration

5. Increase the duration of contracts with school bus companies to 10 years for those using ESBs so that the additional expenses can be spread out over a longer period;
6. Conduct a financial study to determine an appropriate proportion for ESB requirements in transportation contracts;

Infrastructure and Charging

7. Extend the commitment and spending on charging infrastructure to include ESB charging stations at school districts;
8. Ensure Ontario's infrastructure is ready for ESBs by investing in charging stations;

Implementation and Support

9. Conduct pilots to study technological and regulatory barriers to ESB implementation, including vehicle-to-everything (V2X) applications;
10. Offer subsidized/free ESB maintenance certification programs for existing heavy-duty diesel mechanics;
11. Provide training programs for ESB manufacturing, operation, and maintenance;
12. Develop public education and awareness resources about the health benefits and advantages of ESBs and create an ESB Toolkit to spread awareness and offer guidance on best practices for adoption;
13. Engage with stakeholders to facilitate access to funding and technical assistance;

Advocacy and Collaboration

14. Collaborate with relevant organizations, institutions, and businesses to disseminate knowledge, promote ESB adoption and advocate for provincial funding.

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

Contact

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About CESBA

Led by Équiterre in partnership with Green Communities Canada, the **Canadian Electric School Bus 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