

# Legislative Costing Note

Publication date:	2020-10-01																
Short title:	Full Depreciation for Business Investment in Zero-Emission Vehicles																
Description:	<p>The government is introducing a 100% depreciation rate in the year of purchase for eligible zero-emission vehicles (ZEVs) purchased by a business. This policy will provide full (i.e. 100%) depreciation to used on-road battery electric, plug-in hybrid or hydrogen fuel cell vehicles. The 100% rate will also apply to new and used automotive equipment and vehicles that are fully electric, or hydrogen powered and that are used for the purpose of rail, air, marine or off-road transportation.</p> <p>The 100% rate will apply to eligible vehicles purchased on or after March 2, 2020 and will expire on December 31, 2027 with a gradual phase out beginning January 1, 2024. Specifically, a 75% rate will apply to eligible vehicles purchased between January 1, 2024 and December 31, 2025 and a 55% rate will apply to purchases made between January 1, 2026 and December 31, 2027.</p>																
Data sources:	<table><tr><th><u>Variable</u></th><th><u>Source</u></th></tr><tr><td>Car Sales</td><td>Fleetcarma</td></tr><tr><td>Car Prices</td><td>Autotrader</td></tr><tr><td>Average Length of Ownership</td><td>Power Information Network</td></tr><tr><td>Age of Used Cars</td><td>Edmunds</td></tr><tr><td>Investment Flows by Industry</td><td>Statistics Canada</td></tr><tr><td>Aerial Investment</td><td>Harbour Air</td></tr><tr><td>Inflation, GDP, Market Projections</td><td>PBO Economic Model</td></tr></table>	<u>Variable</u>	<u>Source</u>	Car Sales	Fleetcarma	Car Prices	Autotrader	Average Length of Ownership	Power Information Network	Age of Used Cars	Edmunds	Investment Flows by Industry	Statistics Canada	Aerial Investment	Harbour Air	Inflation, GDP, Market Projections	PBO Economic Model
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Estimation and projection method:	<p>Public data on the purchase and sale of used vehicles for businesses is limited. PBO obtained data on new zero-emission vehicle (ZEV) sales of cars and trucks in Canada. Sales were projected using the PBO's economic model which accounts for current economic impacts. The subset of vehicles was then reduced to reflect the used ZEV market for those vehicles for businesses.</p> <p>PBO created a database from an online used car market to estimate current prices and depreciation rates for popular ZEV models of cars and trucks. The number of used vehicles sold on a cohort basis was calculated based on the market share of popular ZEV models multiplied by the percentage of vehicles resold by age. Adjustments were made for business behavior with respect to the age of vehicles purchased. The value of each used vehicle was estimated based on PBO's calculated depreciation prices, which was capped at \$55,000 per vehicle. PBO</p>																

calculated the eligible cost by multiplying by the number of used ZEVs on a cohort basis by the estimated value of each used vehicle. The total cost of extending the policy was estimated as the difference between the full depreciation against the current CCA rate of 30% for vehicles. The PBO also assumed approximately 70% of business per year are taxable.

Data was limited regarding the electrification and hydrogenification of the mining, aviation and railway industries. The mining industry has made significant advancements in electrification and automation of mining equipment and vehicles. Due to limited publicly available data of these sales, PBO obtained data on total historical investments by industry and asset class to estimate the average yearly investment. The share of investment moving towards electric or hydrogen powered vehicles was estimated based on the reported electrification rate among the top mining corporations in Canada and the estimated cost of electric versus non-electric equipment.

Due to limited available technology in aviation and rail industries, the PBO estimated future costs on a case by case basis based on news released on the adoption of eligible equipment and vehicles. The total cost for the mining, aviation and railway industries were estimated as the difference between full depreciation against the applicable CCA rates. Additionally, the total cost considered that approximately 70% of businesses per year in Canada are taxable. There was no limit on the price of ZEVs sold in the mining, aviation and railway industries.

**Aggregate Results:**

The estimated net cost of the full tax-write off for businesses investing in eligible zero-emission vehicles is \$94 million between 2020-21 and 2024-25.

**Source of Uncertainty:**

There is limited data available on new and used zero-emission vehicles across industries. Due to the recent adoption of ZEVs, the subset of passenger vehicles within Canada remains small at an estimated 146,000 passenger ZEVs sold for both personal and business use between 2011 and 2019. In 2018, businesses made up 6.4% of all new ZEVs purchased. Adoption of ZEVs in the mining, aviation and rail industries is novel with technological innovations daily. There exist limitations regarding the adoption of ZEVs in industries. Thus, projections are based on a small historical subset which introduces uncertainty.

Economic volatility also contributes to increased uncertainty in adoption of ZEVs.

**Prepared by:**

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## Cost of proposed measure

\$ millions	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025
Total cost	34	27	20	12	1

### Notes:

Estimates are presented on an accruals basis as would appear in the budget and public accounts.

Positive numbers subtract from the budgetary balance, negative numbers contribute to the budget balance.

"-" = PBO does not expect a financial cost

