#42 - Connecting Incentives to Vehicle Battery Recycling Programs

Description

Canada is making significant commitments to electrification of passenger and some light-industrial vehicles. Canada has proposed regulations for one-fifth of all passenger cars, SUVs and trucks sold in Canada to operate on electricity by 2026.

Battery lifespans are estimated at between 10-20 years. Electric vehicles have been on the market for close to 10 years already, and some already require battery recycling. The batteries will need to be recycled. The issue is there are limited battery recycling facilities across Canada.[228], As a result, the Provincial and Federal Governments should investigate how many more recycling facilities are needed and determine which communities to target.

Background

Canada has proposed one-fifth of all passenger cars, SUVs and trucks sold in Canada in 2026 will need to run on electricity. Under new regulations proposed by Environment Minister Steven Guilbeault, 60 per cent of all vehicle sales will be EVs by 2030, and every passenger vehicle sold in Canada will need to be electric by 2035.[229],

BC passed the Zero-Emission Vehicles Act (ZEV Act)[230], on May 30, 2019. The ZEV Act requires automakers to meet an escalating annual percentage of new light-duty ZEV sales and leases, reaching: 10% of light-duty vehicle sales by 2025, 30% by 2030 and 100% by 2040. To increase uptake of electric vehicles, BC has also provided other incentives to consumers through the Go Electric Program.[231],

In 2018, Quebec's ZEV Act came into force. Quebec's standard seeks to boost the supply of (ZEVs) and low-emission vehicles (LEVs), such as plug-in hybrids, to afford Québec consumers access to greater numbers and a broader range of plug-in motor vehicles. The automakers subject to it must accumulate credits by supplying the Québec market with ZEVs or LEVs. The credit target is calculated by applying a percentage to the total number of light-duty vehicles that each automaker sells in Québec. The purpose of the ZEV standard is thus to incentivize the automobile market to develop greater numbers of models that rely on increasingly efficient low-carbon technologies.[232],

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[228] https://www.cbc.ca/news/business/electric-vehicle-battery-recycling-1.6695010
[229] https://www.cbc.ca/news/politics/canada-ev-mandates-2026-1.6693967
[230] https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/19029
[231] https://www2.gov.bc.ca/gov/content/industry/electricity-alternative-energy/transportation-energies/clean-transportation-policies-programs/clean-energy-vehicle-program
[232] https://www.environnement.gouv.qc.ca/changementsclimatiques/vze/index-en.htm

While these investments and targets are heavily debated, it is noted that many people are purchasing electric vehicles since a record 86,032 electric vehicles were registered in Canada in 2021, making up 5.3% of total vehicle registrations for that year. In comparison, there were 56,165 electric vehicles registrations (2.9% of total registrations) in 2019 and 19,696 (1% of total registrations) in 2017.[233],

Over the years, these electric vehicles will undergo wear and tear, and their batteries will need to be recycled. It is estimated that the car battery's life expectancy is 10-20 years.[234],

Recycling is also important since lithium, nickel and cobalt are scarce resources. The lithium, nickel and cobalt can be theoretically recycled limitlessly.

According to market analysts, a combined total of over 180,000 tonnes of lithium, cobalt, nickel, and manganese could be recovered by 2030 through Li-ion recycling, a value which is forecast to grow by approximately 10x by 2042 worldwide.[235],

While Canada hasn't pledged federal funding for recycling EV batteries, the U.S. is spending hundreds of millions of dollars on recycling projects. The U.S. Senate also just passed a bill to increase EV battery recycling, which could soon be signed into law.[236],

Canada needs to step up and invest in battery recycling.

[233] https://www.cer-rec.gc.ca/en/data-analysis/energy-markets/market-snapshots/2022/market-snapshot-record-high-electric-vehicle-sales-canada.html#:~:text=Release%20date%3A%202022%2D10%2D26&text=A%20record%2086%2C032%20electric%20vehicles,of%20total%20registrations)%20in%202017.
[234] https://www.jdpower.com/cars/shopping-guides/how-long-do-electric-car-batteries-last
[235] https://www.mining.com/how-much-could-battery-recycling-actually-aid-cobalt-lithium-supply-shortages/#:~:text=According%20to%20the%20market%20analyst,by%20approximately%2010x%20by%202042.
[236] https://www.utilitydive.com/news/ev-battery-recycling-senate-romney-ndaa/639317/

Recommendations

That the Government of Canada:

1. Work with the Provincial, Territorial, and First Nations Governments to commission a study and action plan for the implementation of electric vehicle battery recycling plants we will need per region[237]; and,

2. Invest in innovation for current electric vehicle battery recycling plants to increase their capacity.

Endorsements

The Natural Resources & Environment Committee supports this resolution.

Submitted By: Burnaby Board of Trade

Supporting Organizations: Surrey Board of Trade and Greater Victoria Chamber of Commerce

[237] The geographical regions of Canada are groupings of provinces and territories established for the purpose of statistical reporting. The six geographical regions of Canada are: Atlantic, Quebec, Ontario, Prairies, British Columbia, and Territories