



**AUTOMOTIVE RETAILERS ASSOCIATION**  
*Driving Industry Excellence*

## Summary Analysis of Electric Vehicles Sold through ICBC Salvage Auctions and Rebuilt Electric Vehicle Inspections by the CVSE (2023)



Prepared by Automotive Retailers Association  
Driving Industry Excellence  
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## Executive Summary

This report analyzes electric vehicles (EVs) sold through ICBC salvage auctions in 2023 and their subsequent rebuild and inspection rates. The data reveals that despite a high number of EVs being designated for rebuilding, only 20% of these vehicles were successfully rebuilt and passed Commercial Vehicle Safety and Enforcement (CVSE) inspections. This analysis highlights the significant exportation of salvaged EVs, which impacts British Columbia's ability to develop a local zero-emission vehicle (ZEV) recycling and repurposing infrastructure.

The report concludes with policy recommendations, including controlling ZEV exportation, incorporating Lithium-ion batteries under environmental planning regulations, and encouraging local investment in EV repair and battery remanufacturing.

## Impact of EV Salvage Export on the ZEV Mandate

The provincial government has mandated that, by 2035, all new light-duty passenger vehicle sales must be zero-emission. Currently, there are over 3.5 million vehicles registered in BC, with an average lifespan of 12 years. As a result, it is predicted that by 2035, approximately 50% (roughly 2 million) of all vehicles in BC will be zero-emission.

BC has experienced some of the highest rates of EV adoption in Canada, thanks in part to financial incentives for the purchase of new or used zero-emission vehicles (ZEVs). However, growth could be hindered if more attention is not given to the infrastructure supporting the life cycle care, maintenance, and recycling of ZEVs.

One of the major concerns for both consumers and the industry is the high cost of replacing an EV battery once its State of Health (SoH) deteriorates to a point where the vehicle can no longer function efficiently. Currently, there is no consistent, proven infrastructure to support the repair, remanufacturing, or end-of-life disposal of EV batteries. This leads to concerns regarding costs, environmental impact, health and safety, as well as the need for training and investment from the industry.

In addition to these challenges, there is a significant gap in regulations and policies that would encourage greater used ZEV adoption. Consumers need positive incentives to transition from internal combustion engine vehicles to ZEVs, and without robust aftermarket solutions, ZEVs may not present a cost-effective option. This is particularly true when factoring in the high cost of battery replacement.

Furthermore, many of the ZEVs in BC (about 100,000 vehicles at last count) were purchased with the help of financial incentives. When these vehicles are exported to other provinces or countries, BC loses both the economic opportunities that come with developing a local ZEV infrastructure and the original investment in incentivizing ZEV adoption.

## Summary Analysis

Below is a summary analysis of ICBC salvage electric vehicles auctioned to rebuilders and vehicle dismantlers. The analysis demonstrates that a high percentage of these vehicles are unaccounted for and likely either directly sold or exported to out of province buyers. As you can see from this analysis only a small percentage of electric vehicles likely remain in the province.

### 1. Categories of Buyers

ICBC classifies buyers into three categories:

- **Wrecker/Dismantler (Dismantle Parts Only - DPO):** These vehicles are purchased by licensed recyclers for dismantling purposes only, **with no intent to rebuild** the vehicle or resell as a complete vehicle.
- **Rebuilder Dealer:** Vehicles are sold to licensed dealers **with the intent to rebuild** and re-register the vehicle after passing the Commercial Vehicle Safety and Enforcement (CVSE) inspection.
- **Joint Wrecker/Rebuilder:** Auto dismantlers who are also certified rebuilders. They may purchase vehicles for dismantling or rebuilding.

### 2. Breakdown of Electric Vehicle (EV) Sales by Model and Buyer Category (2023) \*

Vehicle Model	Joint Wrecker/Rebuilder	Rebuilder Dealer	Wrecker/Dismantler (DPO)	Total Units Sold
Tesla	43 (17 DPO)	414 (0 DPO)	16 (16 DPO, 1 Crush)	473
Nissan Leaf	16 (12 Rebuild, 4 DPO)	54 (54 Rebuild)	14 (14 DPO)	84
Chevy Volt/Bolt	5 (4 Rebuild, 1 DPO)	78 (78 Rebuild)	12 (12 DPO)	95
Hyundai Ioniq	Included with Chevy Volt/Bolt (same sales data)			
Audi E-Tron	Included with Chevy Volt/Bolt (same sales data)			
Other (BMW, VW, Kia, etc.)	Data not specified individually	Data included in overall totals		
<b>Total</b>	N/A	N/A	N/A	652

**\*Source: ICBC salvage sales stats (2023).**

The above chart only includes identifiable zero emission full battery electric vehicles and does not include hybrid vehicles and/or any other type of zero emission vehicles.

- **Tesla:** 473 units sold; the majority (414) sold to Rebuilder/Dealers.
- **Nissan Leaf:** 84 units sold, 54 sold to Rebuilder/Dealers.
- **Chevy Volt, Bolt, Hyundai Ioniq, Audi E-Tron:** 95 units sold collectively with 78 sold to Rebuilder/Dealers.

### 3. Rebuild vs. Dismantle Breakdown

- **Total EVs Sold:** 652 units
  - **Rebuild-Designated Vehicles:** 588 units (90% of total)
  - **DPO (Dismantle Parts Only):** 64 units (9.8% of total)

### 4. Rebuild Rates and CVSE Inspections

- **Units Sold for Rebuilding:** 546 units sold as Rebuild (to both Rebuilder/Dealer and Joint Wrecker/Rebuilder categories).
- **Vehicles Successfully Rebuilt and Inspected (2023):**
  - 108 vehicles were rebuilt and passed CVSE inspection:
    - 47 Teslas
    - 16 Nissan Leafs
    - 8 Chevy Volt/Bolt
    - 0 Audi E-Tron
    - Remaining 39: mix of BMW, Volkswagen, Kia, etc.
  - Only 20% of the EVs sold for rebuilding were successfully rebuilt.

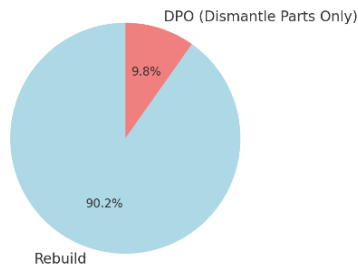
### 5. Buyer Category Comparison

#### Comparison of Inspections to Rebuild Sales

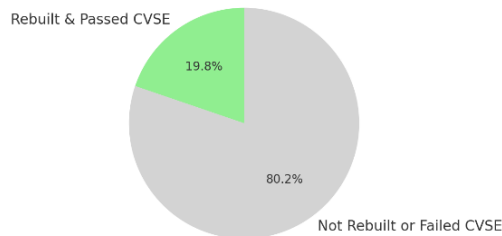
- **Rebuilder Dealer Category:**
  - 414 Teslas were sold to the Rebuilder Dealer category, but only **47 Teslas were rebuilt and inspected**. This represents an 11.3% rebuild rate for Tesla in this category.
- **Joint Wrecker/Rebuilder Category:**
  - Out of 43 Teslas sold, 17 were designated DPO. Assuming **50% were sold to facilities not intending to rebuild**, only a fraction of the remainder would have been successfully rebuilt and inspected.
- **CVSE Inspection Pass Rates:**
  - 216 total rebuilds passed inspection in 2022 and 2023, indicating **only 20%** of electric vehicles sold in this category are converting into roadworthy electric vehicles.

Here are three pie charts based on the data:

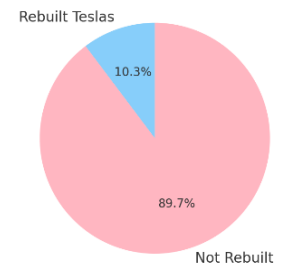
Total EVs Sold: Rebuild vs DPO



Rebuild Success Rate (Passed CVSE)



Tesla Rebuilds (Passed vs Not Rebuilt)



1. **Total EVs Sold: Rebuild vs DPO (Dismantle Parts Only)**: This chart shows that 90% of the EVs sold were designated for rebuild, while 9.8% were sold for dismantling only (DPO).
2. **Rebuild Success Rate (Passed CVSE Inspections)**: Out of the total vehicles sold for rebuilding, only 20% were successfully rebuilt and passed CVSE inspection, with 80% not rebuilt.
3. **Tesla Rebuilds (Passed vs Not Rebuilt)**: Of all the Teslas sold for rebuild, only 47 (about 10%) were successfully rebuilt and passed CVSE inspection, while 90% were not rebuilt.

These visualizations help illustrate the significant gap between the number of vehicles designated for rebuilding and the number that are actually rebuilt and certified.

## Data Interpretation and Analysis

The data shows that of the 652 EVs sold at ICBC auctions in 2023, 90% were designated for rebuilding, yet only 20% of these vehicles were successfully rebuilt and inspected. This indicates a significant gap between the intent to rebuild EVs and the actual success rate, with many vehicles likely being exported or sold for parts instead.

For example, while 414 Teslas were sold to rebuilders, only 47 were successfully rebuilt and inspected, representing a rebuild success rate of just over 11%. This low rebuild rate highlights barriers such as high repair costs, lack of parts, and the need for specialized training and infrastructure investment to handle EV components, especially their batteries.

## Conclusion and Call to Action

The findings from this analysis underscore the need for stronger policies and industry collaboration to meet BC's 2035 ZEV mandate. By addressing the gap between the sale and rebuild of salvaged EVs and ensuring that the exportation of EVs and their batteries is limited, BC can build a sustainable EV ecosystem.

To maximize the benefits of the province's investment in ZEV incentives, and to support long-term sustainability, stakeholders must work together to develop local infrastructure for battery recycling, remanufacturing, and repair.

## Policy Recommendations

- 1. Incorporate Lithium-ion Batteries into the *Vehicle Dismantling and Recycling Industry Environmental Planning Regulation*:** This will ensure that end-of-life EV batteries are properly handled, minimizing environmental impacts and creating opportunities for recycling within BC.
- 2. Develop Salvage Buyer Policies to Reduce Exports of Salvaged EVs:** Work with ICBC, government and stakeholders to introduce policy and regulations that disincentivize exportation of EVs and their batteries, encouraging local recycling and reuse instead.
- 3. Incentivize Local Battery Repair, Remanufacturing, and Recycling:** Provide incentives for the development of industries focused on battery refurbishment and recycling. This will reduce the need to export EVs and their components and support the growth of a circular economy.