Auto Dealerships, Climate Change & Electric Vehicles in Canada

Zero emissions vehicles (ZEVs) are transforming the auto retail industry. An increase in the demand for ZEVs means a change in the traditional auto dealership model. This guide aims to equip auto dealers with an understanding of how the EV transition will impact your business and the opportunities that can be leveraged to increase exposure in the electric vehicle market.

Government Action

Federal and regional measures are driving EV adoption. Find more details below on how the government is changing the transportation industry and the rebates your customers can access when buying or leasing an EV from your dealership.

Policy Signals - Canada	
Mandatory Light-Duty Vehicle (LDV) ZEV Stales Target	The Government of Canada has mandated that 100% of new light-duty cars and vans sales to be zero-emission by 2035, with an interim target of 20% by 2026 and at least 50% by 2030.
Budget 2022	$400 million in additional funding for ZEV charging stations with the objective of adding 50,000 ZEV chargers to Canada's network.
	$500 million in large-scale ZEV and refuelling infrastructure.
	$1.7 billion to extend the iZEV purchase incentive program for LDVs.
Mandate Letter to Federal Minister of Transport	Introducing additional investment tax credits for renewable energy and battery storage solutions; doubling the Mineral Exploration Tax Credit for raw minerals essential to the manufacturing of clean technologies; and a tax credit for up to 30% for clean tech development.
In Development: Medium & Heavy-Duty Vehicle Targets (MHDVs)	Government has launched an integrated strategy to reduce emissions from MHDVs with the aim of reaching 35% of total MHDV sales being ZEVs by 2030. A ZEV regulation is under consideration to require 100% of MHDV sales to be ZEV by 2040 for a subset of vehicles.
Provincial Policies	Six provinces (Quebec, Ontario, B.C., New Brunswick, Nova Scotia, and PEI) have electric vehicle deployment and/or manufacturing goals. B.C. and Quebec have mandates for new passenger vehicle sales (100% by 2040) and Quebec has a zero-emission vehicle standard, which requires OEMs to obtain ZEV credits.

Demand and Supply Incentives

The term "ZEV" is specific to vehicles that do not emit exhaust or other pollutants from their power source i.e., a fully electric vehicle. Rebates for ZEVs therefore do not apply to hybrid electric vehicles (HEV) or plug-in hybrid electric vehicles (PHEVs).

Canada's Demand Incentives*	
Federal	
iZEV Program	Up to $5,000 rebate applied at the point of sale for the purchase or lease of a ZEV + $10,000 allowed for upgrades, assuming the base model is under $45,000. Can be combined with other provincial rebates.
Tax Incentives	100% tax write-off up to $55,000 for businesses buying ZEVs for commercial purposes.
Provincial	
Quebec	Up to $7,000 (as of 1 July 2022) rebate for purchase or lease of a new ZEV and up to $5,000 for a plug-in hybrid.
British Columbia	Provincial rebate up to $3,000 for the purchase or lease of a new EV, including longer-range plug-in hybrids. Other incentives also exist, such as the BC-SCRAP IT (up to $6,000 for trading in a gas-powered vehicle for EV purchase) and EV charger rebates offered by BC Hydro and FortisBC.
Newfoundland and Labrador	Provincial rebate administered by NL Hydro for up to $2,500 on the purchase or lease of a ZEV and a $1,500 rebate for a plug-in hybrid.
Prince Edward Island	Providing up to $5,000 in rebates for the purchase or lease of a new or used ZEV and a $2,500 rebate for plug-in hybrids. A free Level-2 charger will be provided to consumers who utilize both incentives.
Nova Scotia	Up to $3,000 rebate for the purchase or lease of qualifying EVs and up to $2,000 for used ZEVs.
New Brunswick	Up to $5,000 rebate for the purchase or lease of a new EV, $2,500 for hybrid-electric purchases or leases, and $2,500 for used EVs.
Yukon	Up to $5,000 rebate for a new ZEV and $3,000 for a new hybrid-electric purchase.
Ontario	Used EV and Scrappage Incentive Program: $1,000 toward the purchase of a used ZEV, and $1,000 toward the purchase of a used ZEV or plug-in hybrid when you scrap an old gas-powered car.
Northwest Territories	Arctic Energy Alliance offers rebates of up to $5,000 for purchase of new ZEV or a plug-in hybrid, and $500 for Level-2 chargers. Only eligible for communities that use hydroelectricity.
Nunavut, Alberta, Saskatchewan & Manitoba	Federal incentive only.

Canada's Supply Incentives	
Corporate Tax Incentives	50% corporate tax cut for OEMs that manufacture a ZEV or ZEV component.
Zero Emission Vehicle Awareness Initiative (ZEVAI)	NRCan fund that supports outreach, education, and capacity-building activities for ZEVs.
Electric Vehicle Infrastructure Demonstration (EVID) Program	Fund supporting next generation and innovative EV charging and hydrogen refuelling infrastructure.
Electric Vehicle Infrastructure Program	Five-year, $280 million program ending in 2024 to address lack of charging and refuelling stations in Canada; up to 50% of total project costs up to $5 million.
U.S. Inflation Reduction Act (IRA)	Beginning in 2023, the IRA will include a tax credit for EVs that can only be accessed if at least 50% of the vehicle's materials and battery components are sourced in North America or by a U.S. trading partner. This percentage will rise by 10% annually until they reach 80% in 2027 and 100% in 2029, providing a massive opportunity for Canada's supply of EVs and EV components.

* **Note:** Some rebate eligibility varies by brand, model, and price. Be sure to check based on your customer's needs.

Regional Electricity Grid Requirements

Clean- and renewable-powered grids will impact the economics of ZEVs. It is important to understand your dealership's regional power sources for two main reasons:

1 **ZEVs are only as clean as their power supply.**
The production and manufacturing of ZEVs is more carbon-intensive than internal combustion engine (ICE) vehicles. However, with a clean electricity grid, it will only take one year for a ZEV to reach "carbon parity" with ICE vehicles. If the electricity grid is powered by coal/fossil fuels, it will take over five years to reach carbon parity.

2 **It's cheaper for customers to fuel ZEVs.**
Regions with the cleanest grids tend to have the lowest electricity rates.

TIPS

Check the **map** to see how clean your region's electricity grid is.

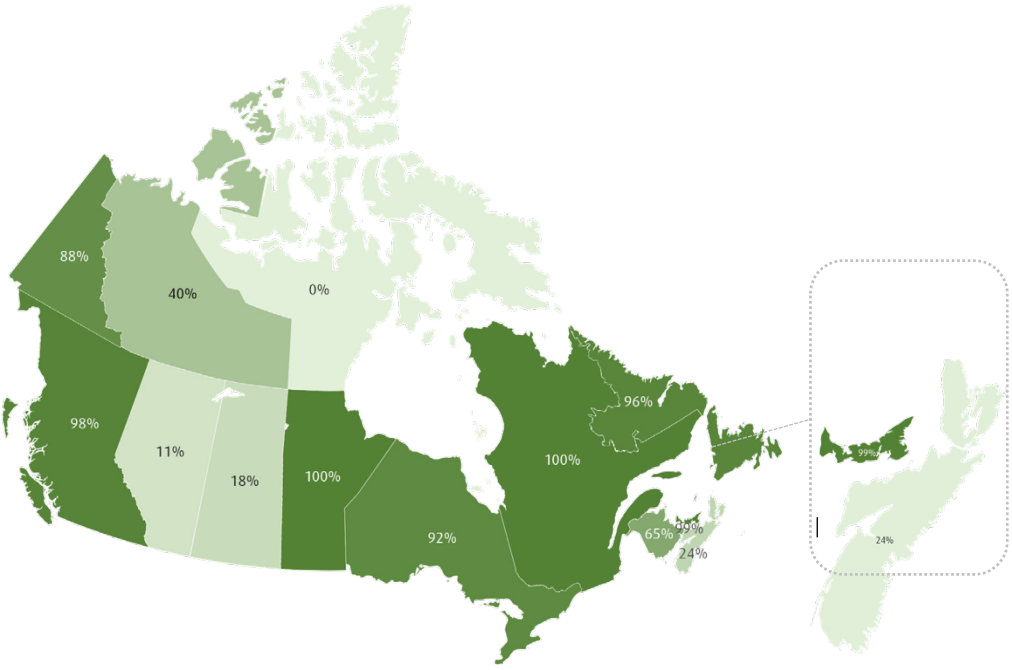


Figure 1: Share of non-emitting sources used in power generation
BMO, Natural Resources Canada

Charging Infrastructure

Accessible public chargers will be increasingly important as ZEVs scale. This includes financing support for at-home chargers and investment into publicly accessible DC fast-charging.[1]
See below for more details on the types of chargers available, how this compares to the average ZEV battery range, and charger infrastructure locations across Canada.

Charging Types & Considerations

Electric Vehicle Charging 101			
Considerations	Level 1 Charger	Level 2 Charger	Level 3 Charger
Time to Full Charge	Up to 20hrs	Up to 6-7hrs	30 minutes
Outlet Requirements	120 V wall outlet	208 or 240 V wall outlet	480+ V
Common Location	Home	Home, businesses, public Stations	Public stations
Compatibility with ZEVs	All	All	Some

Average ZEV Statistics on a Full Charge	
Average Range	322 km
Avg. Energy Consumption	200 Wh/km
Avg. Useable Battery Capacity	61.7 kWh

Charging Stations in Canada

There are currently **6,982 public charging stations** in Canada. Most are in southern Ontario, Quebec, and British Columbia.

Customers can **map their route** to see where and how often they can charge using the **ZEV stations locator** by Natural Resources Canada.

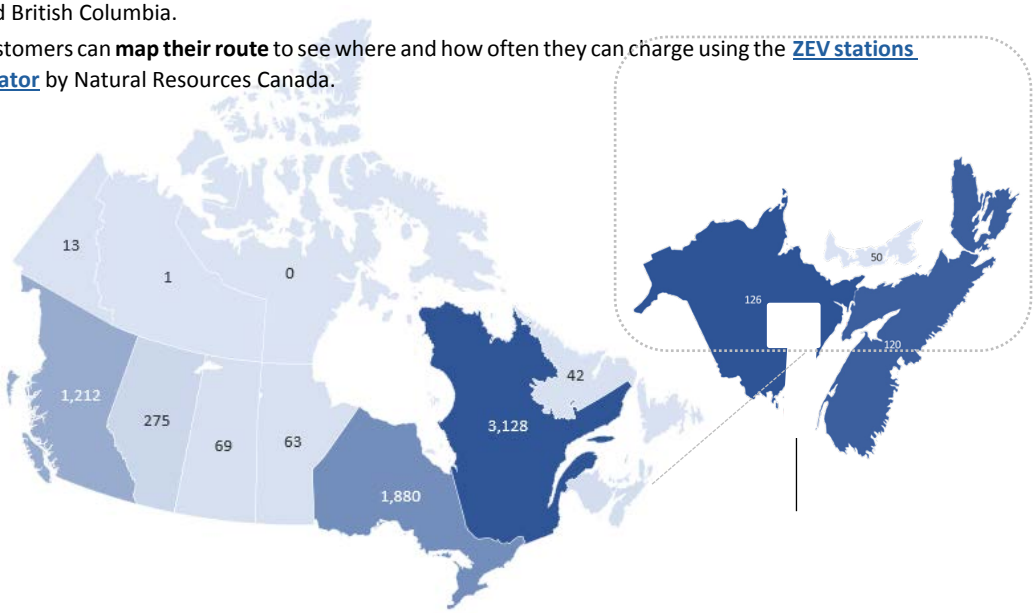


Figure 2: Number of charging stations across Canada by province

BMO, Statistics Canada

[1] DC fast chargers convert AC power to DC within the charging station and deliver DC power directly to the battery, which accounts for the faster charge.

Mapping Travel Routes with EV Infrastructure

To map out their routes, customers should be aware of:

1. Their vehicle's range on a full charge
2. The distance they need to travel
3. Where the EV infrastructure is along their route; and
4. Which stations offer DC-fast charging.

The last three steps can be done with the **ZEV stations locator**.

The average range for ZEVs on a full charge is 322km. Most ZEVs would be able to take customers from Toronto to Collingwood (146km), Huntsville (233km) and Algonquin Park (276km) without recharging. Alternatively, routes like Toronto <> Ottawa would require a charge along the way, where there is plenty of infrastructure to accommodate charging along those routes.

Customers will still experience challenges when driving long distances in the northern parts of each province, where infrastructure is scarce.

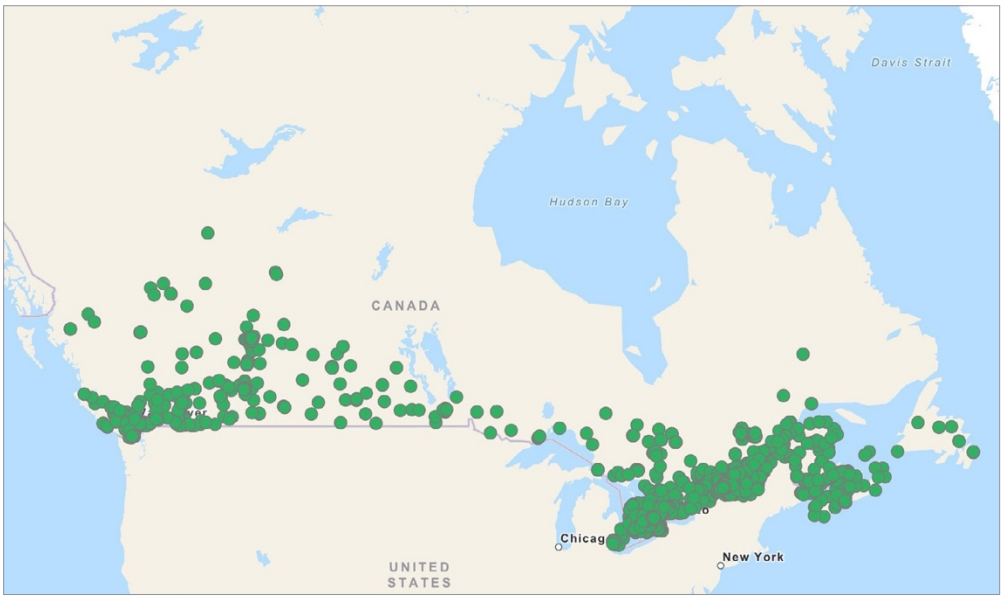
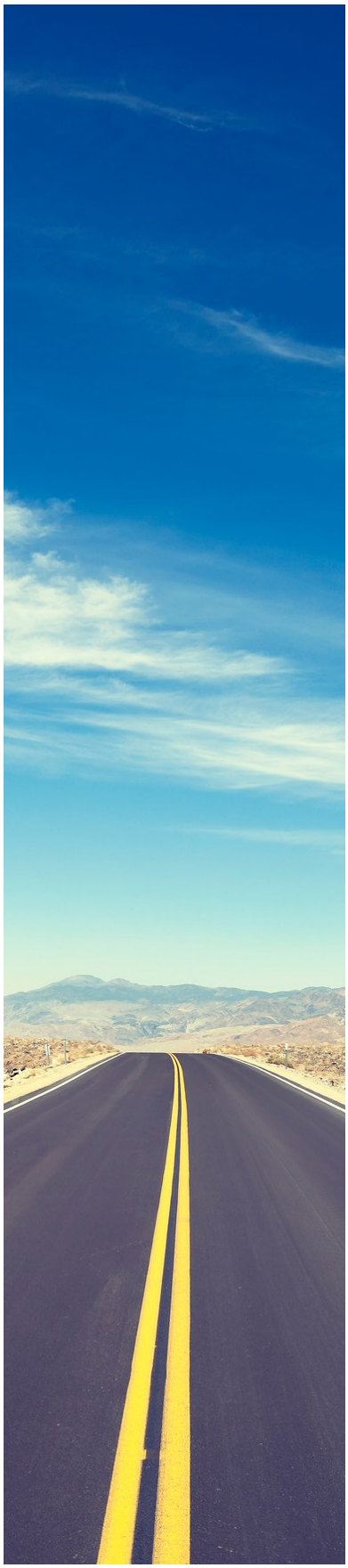
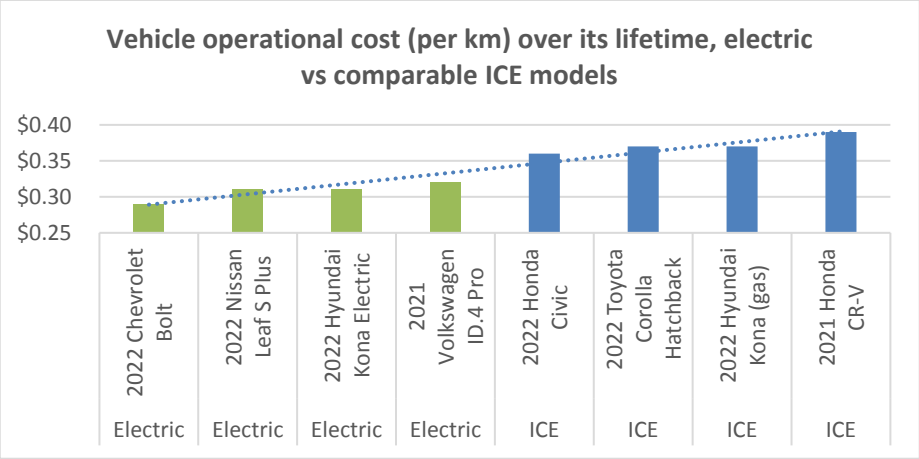


Figure 3: Map of charging infrastructure across Canada
Natural Resources Canada



Cost Considerations

The **upfront sticker price of a ZEV is higher than an ICE**. However, the **ZEV total cost of ownership (TCO) nets out cheaper** via savings in operational costs (fuel and maintenance). For example, a Chevrolet Bolt costs $16,700 more to purchase than its gas-powered equivalent, but the Bolt costs ~$21,800 less to operate over equivalent lifetimes, for a savings of $5,100.



Clean Energy Canada, BMO Climate Institute. Assume a conservative eight-year lifetime with 20,000 kms per year. The higher the lifetime and kms, the cheaper ZEVs become.

Recent studies by **Clean Energy Canada** demonstrate that ZEV sedans, hatchbacks, crossovers & SUVs were cheaper to operate than their ICE counterparts. As a result, the lifetime ownership costs were much lower for ZEVs than ICE vehicles.

Some ZEV premium vehicles, however, (e.g., Tesla Model 3, Ford F-150) have a more expensive TCO than their ICE counterparts.

TIPS

The sticker price of a ZEV is a huge barrier for most buyers, even if they net out cheaper over the life of the asset, on average. Ensure your clients understand:

1. Their regional rebate offerings to offset the purchase price
2. The exact margin of operational savings between a chosen ICE vehicle model and its comparable ZEV counterpart.

[2] Clean Energy Canada, 2022

Customer Cost Considerations

Direct Costs for Customers	
Sticker Price	Retail prices for EVs range broadly, depending on the model. In Canada, the range is between CAD$32,000 - $160,000.
Refuelling/Charging Costs	Refuelling costs depend on regional residential electricity rates (per kWh) and the range + battery capacity of the ZEV model. Full Charge ($) = price of electricity per kWh * vehicle's kWh/100km rating.
Repair Costs	EVs are more reliable and require less maintenance than ICE vehicles. When a car does need servicing, EV drivers can expect to save on average US$4,600 in repair and maintenance costs.[3]
Insurance and Taxes	Insurance cost depends on traditional factors such as model, age, driving history, location, etc., however many insurers have premium offerings for green vehicles to consider.
Battery Replacement	If the ZEV is no longer under warranty, battery replacements can be up to US$20,000.[4]

Indirect Costs for Customers	
At-Home Charger Installation[5]	Level 1 chargers cost between US$300 - $600. Level 2 chargers cost between US$500 - $1,000. In both cases, labour and installation costs range from US$1,200 to $2,000, depending on the complexity of installation, where the charger will be located, and the age of the home. Level 3 chargers cost upward of US$20,000 and are not usually suitable to home charging infrastructure given their electricity requirements.
Time of Use (TOU) Rates	It is cheaper to charge an EV during off-peak electricity hours.
Upgrades to Electrical Panel	Older homes generally do not have the electrical capacity to accommodate Level 2 charging requirements (e.g., 240v/30 amps). Some customers may face additional charges to install more capacity.

[3] Consumer Reports, 2020
[4] Recurrent Auto, 2022
[5] International Council on Clean Transportation, 2019

Changes to Your Business & New Opportunities

Changes to Your Business	Solutions & New Opportunities	
Changing Business Models	**As OEMs are increasingly shifting toward online direct sales for ZEVs, they prefer dealerships to operate as more of a showroom-based business.** While some OEMs have eliminated dealerships completely (Tesla, Lucid), others may prefer the "agency model", in which the OEM operates as the direct-to-consumer retailer and the dealer acts as the physical touch point with the customer for expertise, service, and support.	• **Expand your role as a service provider.** Dealerships can capitalize on their physical footprint by creating a transformative customer experience. Offer a customer experience that includes not only the EV itself but also the broader ownership journey (e.g., adapt the test drive to include charging the vehicle or offer longer test drives).
Margin Erosion	**Dealers will likely experience a decrease in aftersales parts revenue** because ZEVs are more reliable and require less maintenance on average. **Negative impact on profit pools as ZEV users often do not require a visit to the dealership**. ZEV maintenance is primarily delivered via online software updates. **Potentially lower sales margins of ZEV sales** due to the higher costs of ZEV manufacturing and price competitiveness. **Limited flexibility for dealerships to set end prices** as OEMs gain power in pricing controls and online channels. **Used ZEVs on the market today are likely less profitable due to concerns with long-term battery performance**. However, the residual value of ZEVs will increase over time.	• **Capitalize on cross-selling opportunities.** Consider selling off-road and/or aftermarket parts for EV vehicles, such as at-home charging stations, work with OEMs to sell replaceable batteries, and/or start a "battery as a service" (BaaS) subscription. This allows EV customers to 'subscribe' to battery swapping on a monthly or yearly basis, and can be accompanied by other plans (e.g., unlimited mileage, repair, and insurance coverage). Some battery-swapping/replacement companies will offer discounts on the retail price of ZEVs for those who participate in the program. • **Expand various F&I products to meet consumer needs.** Since ZEVs, hybrids, and plug-in hybrids cost more upfront, they drive higher attachment rates for guaranteed auto protection and appearance products. Dealers can also offer special protection plans for batteries, in addition to extended service contracts and battery maintenance plans.
Frontline Sales Processes	**Dealerships that sell ZEVs are expected to have expertise on electric vehicles**. This includes understanding regional rebates, the total cost of ownership advantage of a ZEV, charging costs, at-home infrastructure, the lifetime of batteries, and battery replacement. **A wider range of skills are required to service ZEVs, including electrical engineering, computing, and software**. To hire skilled labour, dealerships may suddenly find themselves competing with non-auto industries for new talent. **Consumers have historically faced challenges finding ZEVs for purchase due to limited dealership inventory**. 55%[6] of dealerships in Canada do not have ZEVs in inventory available for purchase or test-driving. This creates an opportunity for dealers to differentiate themselves with higher inventory and more knowledgeable staff.	• **Train the frontline sales team.** Train sales teams to become knowledgeable about important EV buying criteria such as range, vehicle performance, service expectations and day-to-day operations. This will become especially important as OEMS shift toward the agency model and expect dealerships to provide expertise and servicing for EVs. • **Upskill your technical employees where possible.** For example, on-site technicians or engineers could be trained in software development. • **Reform service and reconditioning centres.** Establish new point-of-sale processes, train technicians to manage high-voltage systems, and invest in the special tools and equipment required to service electric powertrains. • **Increase ZEV inventory well before 2035.** Demand has been far greater than supply and the EV transition is gaining momentum. • **Keep knowledge current on EV depreciation.** Understand EV depreciation, especially as ambiguous residual values remain a risk for dealers.
Financing and Insurance	**More buyers will need the help of the dealer to create a financing solution**, as the sticker price of EVs are almost always more expensive than comparable ICE vehicles. This may result in an increase in finance reserves. **Customers are looking for online** solutions for ZEV financing in a shift away from arranging financing in person.	• **Offer a digital sales model** when providing quotations and financing (e.g., allowing customers to complete paperwork online). • **Develop an end-to-end EV leasing or financing solution** that includes everything from financing the vehicle, home charger installation (with utility partnerships), and seamless commercial charging access, all in one monthly payment.

[6] Dunsky Report, 2021

How BMO Can Help

BMO is committed to being your lead partner in the low carbon transition. We can help you navigate the challenges associated with the ZEV market and advise on how to leverage new financing and revenue-generating opportunities. Speak with your relationship manager to see how BMO can help.

BMO Climate Institute

Contact us at climate.institute@bmo.com

Center for Climate and Energy Solutions: https://www.c2es.org/document/canadian-provincial-clean-vehicle-policies-and-incentives

ChargeHub: https://chargehub.com/en/electric-car-charging-guide.html

Clean Energy Canada, 2022: https://cleanenergycanada.org/wp-content/uploads/2022/03/Report_TheTrueCost.pdf

Consumer Report, 2020: https://advocacy.consumerreports.org/wp-content/uploads/2020/10/EV-Ownership-Cost-Final-Report-1.pdf

Dunksy, 2021: https://www.dunsky.com/wp-content/uploads/2021/12/DunskyZEVAvailabilityReport_2021-04-1.pdf

International Council on Clean Transportation, 2019: https://theicct.org/sites/default/files/publications/ICCT_EV_Charging_Cost_20190813.pdf

McKinsey, 2019: https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/as-dramatic-disruption-comes-to-automotive-showrooms-proactive-dealers-can-benefit-greatly

McKinsey, 2021: https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/a-turning-point-for-us-auto-dealers-the-unstoppable-electric-car

Natural Resources Canada: https://www.nrcan.gc.ca/energy-efficiency/transportation-alternative-fuels/electric-charging-alternative-fuelling-stationslocator-map/20487

Plug'n Drive: https://www.plugndrive.ca/electric-vehicle-incentives/

PwC, 2022: https://www.strategyand.pwc.com/de/en/industries/automotive/the-agency-distribution-model.html

Recurrent Auto: https://www.recurrentauto.com/research/costs-ev-battery-replacement

Statistics Canada: https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=2510001501