Electric Mobility Canada

2025 Pre-budget Recommendations for Canada

August 2, 2024

RECOMMENDATIONS FOR THE ADVANCEMENT OF TRANSPORTATION ELECTRIFICATION IN CANADA

1. Light-duty vehicles

Policy solutions to overcome barriers to consumer EV adoption that focus on affordability and value, education, and awareness, as well as new polluter-payer funding mechanisms to support their implementation.

1.1. Zero Emission Vehicle (ZEV) rebates

Continue purchase incentives for new passenger ZEVs but focus on value for electric-only range to include more long-range electric cars, SUVs, and pickup trucks.

The government should continue to provide purchase incentives to make ZEVs more affordable until their prices are equivalent to those of gas vehicles. This levels the playing field between the two types of vehicles. New vehicle incentives also increase the number of used ZEVs available which, over time, leads to lower prices for used electric cars. The federal ZEV rebate program should be updated to include more of the long-range cars, SUVs, and pickup trucks that Canadians want to buy.

Going forward, eligibility for incentives should be based on the price relative to electric range, rather than sticker price alone. If a given trim of a Zero-Emission car, crossover, or SUV costs less than $145 (MSRP) per kilometer of range (EPA/NRCan) offered, it should be eligible. If a trim of a ZEV pickup truck costs less than $180 per kilometer of range, it too should be eligible. All zero emission vehicles under $45,000 in price should remain eligible, regardless of their price-to-range value. Plug-in hybrids (PHEVs) at this price point should also be eligible for incentives but only if they offer at least 80 km of electric range.

As for electric vehicles above $100,000, they should be exempted from the federal luxury tax as it is a deterrent for more affluent buyers to buy cleaner electric vehicles, which contradicts the federal governments' own ZEV adoption and GHG emission reduction targets.

Rebates for electric motorcycles & bicycles

As we evolve to different and more efficient modes of electric transportation, electric motorcycles and bicycles represent two of the best and greenest ways to move around in urban and suburban areas. That is why we recommend that the federal government adopts a $2500 rebate for electric motorcycles and a $1000 rebate for electric bicycles.

One rebate per ZEV buyer

To support the transition to ZEVs in a fiscally responsible manner and to incentivize buyers to keep their ZEVs longer, EMC recommends that from now on BEV and PHEV buyers have access to one rebate per person.

A $2500 rebate for used BEVs

Even though the total cost of ownership of ZEVs is generally lower than that of comparable gas vehicles, the upfront cost of a new BEV or PHEV can make it harder for modest- and low-income Canadians to have access to them. That is why we ***strongly recommend*** that a used ZEV rebate program be adopted. The $2500 federal rebate should be stackable with provincial used ZEV incentives. This low cost, high impact initiative will indeed make a significant difference in helping people who currently cannot afford a cleaner vehicle.

1.2. FEE-BATE SYSTEM
Have the most polluting vehicles fund EV incentives for new vehicles

In 2007, the Harper Government* adopted a fee-bate system where cleaner vehicles were eligible to a rebate of up to $2,000 while fuel inefficient vehicles would be faced by an up to $4,000 levy.

The announcement read as follows:

> ***"Incentives for Purchasing More Fuel-Efficient Vehicles***
>
> *Canadians purchase about 1.5 million new passenger vehicles annually, and about 12 per cent of Canada's total greenhouse gas emissions are generated by daily driving. Everyone has a role to play in reducing the amount of emissions that come from vehicle fuel consumption. Industry has a role in improving the efficiency of transportation and in promoting the development and adoption of cleaner transportation technologies. For its part, the Government has committed to introduce tougher fuel-efficiency standards for new passenger vehicles and light trucks that will be sold in Canada beginning with the 2011 model year.*
>
> *Canadians have the choice to contribute to a cleaner environment when selecting what type of vehicle best meets their needs. Providing a financial incentive to help Canadians that want to make an environmentally responsible choice is a sound investment in Canada's future and the health of Canadians.*
>
> *To increase consumer purchases of more efficient advanced technology vehicles before the new fuel-efficiency standards take effect in 2011, Budget 2007 proposes a new Vehicle Efficiency Incentive (VEI) structure that will cover the full range of passenger vehicles available today. The VEI will have three distinct components and come into effect March 20, 2007:*
>
> A performance-based rebate program offering up to $2,000 for the purchase of a new fuel-efficient vehicle.
> Neutral treatment of a broad range of vehicles with average fuel efficiency that are widely purchased by Canadians.
> A new Green Levy on fuel-inefficient vehicles.
>
> *These measures, together with a new initiative to encourage Canadians to retire older, more polluting vehicles,* ***will be broadly revenue neutral.***
>
> *: https://www.budget.canada.ca/2007/pdf/bp2007e.pdf

We strongly support that approach as it is the most efficient and affordable way (price per ton) to lower GHG emissions from the light duty vehicle fleet.

That is why we recommend imposing a fee on the most polluting new vehicles and using the revenues generated to fund EV purchase incentives. This approach would offer consumers a choice: they can purchase a cleaner car and get an EV incentive or choose a more polluting car and help support other

Canadians in going electric. Establish a fee-bate system where purchases of the most polluting new vehicles would be subject to polluter-pay fees that would fund ZEV purchase incentives (see 1.1 above). Average and less-than-average polluting vehicles would face no fee. This approach would offer consumers a choice: they can purchase an electric vehicle and get a rebate, purchase an average or less than average polluting vehicle a avoid the fee, pick an or they can pick a higher polluting vehicle and help support other Canadians who are going electric. Until all categories of vehicles are available in an electric version, exemptions can be proposed for larger (3 children or more) families and people who need bigger gas vehicles for work.

We recommend a gradual approach to help Canadians make the transition to cleaner cars and light trucks between now and 2035.

1.3. LOW- AND MODEST-INCOME HOUSEHOLDS
Make ZEVs more accessible for low- and modest-income households

Low- and modest-income Canadians also benefit from the fuel and maintenance savings an electric car provides but are less likely to be able to afford a new or even a used EV. Canada should establish an income-tested incentive program to make ZEVs more accessible for consumers inspired by the California and BC programs. The program should include an incentive 'top-up' for the purchase of a new EV, an incentive/rebate for the purchase of a used EV, and low-interest loans for first time EV buyers.

1.4. REMOVE iZEV CAP FOR FLEETS
Make it easier for taxi, carshare, rideshare or other ride-hailing companies to go electric

To accelerate the transition to fully electric transportation by 2030, it is important to prioritize the electrification of high-use vehicles, such as those used by taxi, carshare, ride share, and ride-hailing companies. Currently, these businesses face a cap on the number of ZEV incentives they can access under the iZEV program when purchasing or leasing cars. To support their transition to ZEVs, we recommend removing this cap for these and other transportation facilitators and providers.

1.5. EV EDUCATION AND SALESFORCE TRAINING
Support consumer EV education and industry salesforce training

Many Canadians want to go electric but have unanswered questions or do not know where to start. Work with leading and trusted organizations like Plug'n Drive, EV Society, Plug in BC, EVAAC, AVÉQ and others to establish a suite of programs to educate and support consumers in making the transition to ZEVs. Though interest is growing, Canadian consumers still express concerns and low levels of consumer awareness continue to be a barrier. Consumer education efforts could include creating a Canadian version of MIT's CarbonCounter.com and supporting communication initiatives on the availability and ease of charging. We also recommend that the federal government keeps supporting industry salesforce training to facilitate EV sales.

1.6. A GREEN SCRAPPAGE PROGRAM
Offer a vehicle scrappage programs for all types of vehicles

Establish a program that gets fossil fuel powered vehicles off the road and replaces them with zero emission modes of transportation. Allow all polluting vehicles–from cars and trucks to buses to off-road vehicles–to be scrapped and recycled as part of the program. Government could offer clean transportation options such as dedicated ZEV rebates or public transit passes, vouchers for bicycles, vouchers for EV-only car/ride share services etc., for Canadians who are not looking to purchase a new vehicle.

2. Medium- and Heavy-Duty and Off-Road Fleet Electrification

Solutions to overcome and address the barriers in the fleet and non-passenger segment, including for affordability, the transition to electric public transit, electric school bus and truck fleets, electric off-road electric vehicles, and actions the government can take regarding federally regulated facilities.

The Medium and Heavy Duty Zero Emission Vehicle segment is developing at a fast-growing pace, thanks to support from the federal government, the private sector and R&D development. Yet, we are still in the initial stages of the decarbonization of this segment. EMC's Electric Medium and Heavy-Duty Vehicle (eMHDV) working group has identified the gaps in the eMHDV ecosystem. While some gaps can be addressed swiftly with government support, some others will take more time and will need dedication in the medium to long term.

2.1. AFFORDABLE ELECTRIC TRANSIT BUSES

Make the transition to electric transit buses more affordable.

Tax credits and rebates are needed to lower the upfront cost of Zero-Emission buses and related infrastructure. Simplify application processes for existing incentives and continue to provide predictable and long-term funding to municipalities and transit agencies that plan to convert their entire fleet to electric vehicles. The new Canada Public Transit Fund must prioritize electric transit bus adoption to send a strong signal that Canada is decidedly going electric both for GHG emission reduction and Canadian job creation. If Canada is to impose of surtax on Chinese electric buses, it needs to encourage its own Canadian electric transit bus fleet and industry.

2.2. ELECTRIC SCHOOL BUS ADOPTION

Work across jurisdiction to accelerate electric school bus adoption.

Simplify application processes for existing incentives and accelerate the deployment of projects through the ZETF. Provide predictable and simple long-term funding to school bus operators planning to convert their fleet to electric vehicles through a simpler, more efficient version of the ZETF program, especially in the recently announced Canadian Public Transit Fund, to make funding more readily available. Incentives should be stackable with other federal and provincial programs supporting cleaner commutes for students. Include vehicles with final assembly in Canada, sold and serviced through Canadian businesses. The new Canada Public Transit Fund must prioritize electric school bus adoption to send a strong signal that Canada is decidedly going electric both for GHG emission reduction and Canadian job creation. If Canada is to impose of surtax on Chinese electric school buses, it needs to encourage its own Canadian electric school bus fleet and industry.

2.3. ELECTRIC TRUCKS IN COMMERCIAL FLEETS

Accelerate the integration of electric trucks into commercial fleets

Accelerate business cases for ZEV medium- and heavy-duty Fleets with funds for transition planning and for the purchase of vehicles. Simplify application processes for existing incentives, expand incentive offerings by removing the current cap and add predictable funds after March 2026. To broaden industry knowledge, make public sharing of aggregated and anonymous data a requirement for providing funding to fleets.

2.4. FEDERAL FACILITIES

Electrify vehicle fleets in ports, airports, and similar federal facilities

Phase out fossil-fuel vehicles at federally regulated properties, such as water ports, intermodal railyards, parks, and airports, through a combination of tolls on polluting vehicles, obligations for subcontracting operators, restrictions on access for polluting trucks.

2.5. ELECTRIC OFF-ROAD VEHICLES
Make electric off-road vehicles more affordable

A growing number of companies offer a diversity of off-road vehicles ranging from electric snowmobiles to electric watercrafts and electric ATVs that are either used for work or pleasure, and that can help significantly reduce GHG emissions, air, and water pollution. For example,

Today, a growing number of cities, states, countries, and automakers are moving towards 100% ZEV sales by 2035 of both road and off-road vehicle and Canada could do the same. The jurisdictions that are including targets for the electrification of off-road vehicles include New Jersey (Bill S 432), California (Sept. 23, 2020, Executive Order) and New York (Bill S 2758). If the government is serious about achieving zero emissions in the transport industry, it must also extend these policies to the off-road sector. In addition, some of the leaders in the electric off road and marine industry are based here in Canada, which means that supporting the transition to zero emission will help create high paying sustainable jobs in the country.

That is why we recommend:
- A federal rebate for the purchase of electric snowmobile, personal watercraft, or RV in line with the Yukon rebate of $2500.
- A ZEV mandate for small off-road vehicles in line with the most ambitious jurisdictions in North America, whether at the federal or state level.
- A luxury tax exemption for zero emission vessels as they are more expensive to purchase and need to be encouraged.

2.6. FERRIES
Support the electrification of Canada's ferry services

According to the Canadian Ferry Association "Canada is home to over 180 different ferry routes with a route presently operating in each province and most of the territories. These ferries represent a mix of private and publicly operated routes as well as a mix of passenger, freight, and mixed-use ferries. Transportation through waterways has always been a crucial part of Canada's history. With ferry routes in every region across Canada, the ferry sector continues to play an integral role in Canada's economic and social development.

In June 2022, a large EMC delegation went to Norway for the EVS35 International conference. That is when we discovered that 47% of Norway's ferries were already electric. The largest ferry in Norway, the Bastø Electric is 139.2-metre-long and 21-metre-wide having room for 600 passengers and 200 cars or 24 trucks. The battery and fast-charging systems for all three ferries are supplied by Siemens Energy from the battery factory in Trondheim. Bastø Electric uses batteries with a capacity of 4.3 MWh. The fast-charging system has a capacity of 9 MW, according to the shipping company. When docking, the ferry is always "charged at lightning speed."

BC Ferries has already acquired six new electric ferries. The Ontario Ministry of Transportation recently commissioned the construction of two of them. The Quebec government announced that it would adopt a zero-emission ferry for its Saint-Ignace-Sorel and L'Isle-aux-Coudres ferry services starting in 2030.

We recommend that the federal government works with regional or provincial ferry agencies, as well as Crown corporations like BC Ferries, to launch a program to support the electrification of ferry services across Canada to lower GHG emissions, air and water pollution, underwater noise AND create a Canadian zero emission marine industry to become a North American leader.

3. EV Charging infrastructure

Transitioning to electric mobility requires a new way of thinking about the fueling infrastructure of the future: electric vehicle charging. We propose solutions to overcome EV charging challenges in multi-unit buildings, remote areas, highway corridors and on public lands.

3.1. INVEST MORE IN INFRASTRUCTURE, WITH iZEV SAVINGS GENERATED BY FEE-BATE SYSTEM

We recommend that the federal government reinvests 50% of the current iZEV program that it will save by transitioning to a fee-bate system for the purchase of ZEVs to expand the ZEVIP funding support Canada's EV infrastructure deployment targets for light, medium and heavy-duty vehicles. This measure could help fund the ZEVIP program for up to $3 Billion by 2030.

3.2. EV CHARGING INFRASTRUCTURE TARGETS

Canada now has clear and ambitious targets, aligned with NRCan's latest report* on charging infrastructure deployment needs, for putting EV charging connectors in key areas such as apartment buildings, workplaces, downtown cores, along highways and remote travel corridors, and at fleet depots, including service areas for specialized fleet vehicles. For example, medium- and heavy-duty vehicles and specialized vehicles account for 2/3 of Quebec City's fleet of 1,700 municipal vehicles, and currently, financial support from senior governments is focused on the development of these types of vehicles by manufacturers, but not on their acquisition, nor on the acquisition of the charging infrastructure required by municipalities.

Table 6. Estimated total charging infrastructure needs for light-duty vehicles charging for Canada

Scenario	Type of port	2025	2030	2035	2040
High access to home charging (base case)	DCFC - community	6,200	18,900	31,400	41,700
	DCFC - corridor + rural	1,600	1,900	3,100	3,900
	DCFC - taxis + rideshare	1,200	1,200	1,800	1,800
	Total - DCFC	**9,000**	**22,000**	**36,300**	**47,400**
	L2 - community	58,200	132,900	255,000	385,300
	L2 - workplace	33,300	79,600	155,500	245,900
	Total - L2	**91,500**	**212,500**	**410,500**	**631,200**
	Total – Public ports	**100,500**	**234,500**	**446,800**	**678,600**
	L1 - home	141,100	588,500	1,470,900	2,207,300
	L2 - home	828,100	3,718,600	10,250,500	16,065,900
	L2 - work	33,300	79,600	155,500	245,900
	Total Private	**1,002,500**	**4,386,700**	**11,876,900**	**18,519,100**
Low access to home charging	DCFC - community	6,300	20,200	37,800	52,800
	DCFC - corridor + rural	1,600	1,900	3,100	3,900
	DCFC - taxis + rideshare	1,200	1,200	1,800	1,800
	Total - DCFC	**9,100**	**23,300**	**42,700**	**58,500**
	L2 - community	58,400	135,500	270,900	418,700
	L2 - workplace	33,500	84,500	188,300	318,300
	Total - L2	**91,900**	**220,000**	**459,200**	**737,000**
	Total – Public ports	**101,000**	**243,300**	**501,900**	**795,500**
	L1 - home	140,600	571,800	1,358,200	1,983,200
	L2 - home	825,300	3,614,400	9,458,300	14,404,400
	L2 - work	33,500	84,500	188,300	318,300
	Total Private	**999,400**	**4,270,700**	**11,004,800**	**16,705,900**

*: https://natural-resources.canada.ca/energy-efficiency/transportation-alternative-fuels/resource-library/electric-vehicle-charging-infrastructure-for-canada/25756

3.3. EV-READY PARKING
Make 1,6 million condominium and apartments EV-ready by 2030

Nearly 30% of Canadians live in apartments or condominiums (Statistics Canada, 2021). A lack of EV charging access in these buildings creates a major barrier to EV uptake. Government should take immediate steps to make 1,6 million parking spaces in these buildings, EV ready. Complete this goal by allocating funds for retrofits to make parking stalls EV-ready. Allocate $250M/year for five years specifically for the purpose of funding 50% of electrical power upgrade and make-ready infrastructure costs in existing multi-unit residential buildings.

3.4. NATIONAL BUILDING CODES
Add EV charging requirements to national building codes

Establish provisions in the upcoming review of the National Model Building and Electrical Codes to have all new residential parking spots be "EV-ready" and 20%-40% of new non-residential parking spots to include the basic electrical infrastructure needed for EV charging. Cities should also be encouraged to play a leadership role by developing their own EV-ready requirements.

3.5. UNDERUTILIZED GOVERNMENT LAND
Put underutilized government-owned lands to work: establish public charging "hubs"

To support access to charging in urban areas for those without reliable home charging access, establish charging hubs on underused government-owned lands, particularly in high-density urban areas. Charging hubs should be large, open to all charging operators without exclusivity, and accessible to the public. User fees should be limited to charging services, which may include «idling» fees.

3.6. CONNECTION REBATE TO COVER UTILITY COSTS
Provide a connection rebate to cover costs levied by utilities when building large-scale charging stations

Moving freight and large volumes of passenger vehicles with electricity will require electrical service upgrades to accommodate the power needs of large-scale charging infrastructure. These installations are costly today. Federal and provincial governments, electric utilities, provincial regulators and charging operators must work together to better allocate these costs while recognizing the economic opportunities. In the near-term, Canada can support charging investments by providing time-limited rebates for large-scale charging investments.

3.7. REDUCE GRID CONNECTION TIMELINES
Support regulatory reform to allow for proactive system upgrades and fund utilities to establish capacity maps.

Insufficient near-term planning of utility electrical capacity, especially in major freight districts, will restrict or delay fleet electrification. Utilities are regulated to be reactionary for capacity upgrades of their distribution system, resulting in lengthy delays from the moment a fleet expresses its need for upgrade. To reduce these delays, utilities need to proactively forecast and upgrade their capacity, so they are ready when ZE MHDV fleets need to connect. They also need to proactively engage with fleets to fine-tune the planning process, recognizing that fleets will become major utility customers in the future.

- To help reduce grid connection timelines, work with provinces to enable regulatory reform to allow for proactive system upgrades by utilities.
- Fund utilities to establish detailed and real-time updated capacity maps so that landowners / fleet operators will know, when planning, whether their properties are ready to support which level of load, or whether capacity upgrades are needed.

3.8. HOME ENERGY RETROFITS
Include EV charger installation in home and public building energy retrofit programs

While most Canadians live in single detached houses in Canada (2021 Census Data, see table below), hundreds of thousands of older Canadian homes have outdated electrical panels, making it difficult and sometimes impossible to install an EV charger. EVs being three-times more energy efficient than gas cars and contributing to reducing GHG emissions, existing home energy retrofit programs should support the installation of newer, more efficient electrical panels and EV charging infrastructure, including panel size and smart panel upgrades, *It is worth noting that the 2 provinces with the lowest proportion of single detached houses (BC, 42% and Québec 45%) are the ones with the highest percentage of EV sales.*

Structural type of dwelling	Total - Structural type of dwelling	Single-detached house	Semi-detached house	Row house	Apartment or flat in a duplex	Apartment in a building that has fewer than five storeys	Apartment in a building that has five or more storeys	Other single-attached house	Movable dwelling
Canada	14,978,940	7,872,310	746,560	980,105	821,490	2,738,020	1,596,155	34,880	189,420
Newfoundland and Labrador	223,250	161,410	8,695	10,770	27,535	12,330	810	410	1,295
Prince Edward Island	64,570	43,855	3,645	2,680	1,135	10,370	130	85	2,680
Nova Scotia	428,230	272,980	21,605	11,220	13,165	64,575	28,645	700	15,345
New Brunswick	337,655	228,950	13,490	9,740	13,890	51,985	4,260	1,140	14,195
Quebec	3,749,035	1,671,920	199,080	98,625	271,245	1,242,910	225,745	15,745	23,760
Ontario	5,491,200	2,942,995	303,260	505,265	181,030	548,785	984,665	10,220	14,985
Manitoba	518,055	343,990	18,185	19,720	7,445	74,865	43,665	600	9,590
Saskatchewan	449,580	322,070	13,680	19,860	11,240	61,855	11,040	755	9,090
Alberta	1,633,220	994,565	98,740	127,735	43,730	247,030	74,880	1,220	45,325
British Columbia	2,041,835	866,340	62,890	168,590	249,835	417,475	221,845	3,760	51,100
Yukon	17,180	10,355	1,270	1,250	700	1,985	60	125	1,445
Northwest Territories	15,210	8,600	1,070	1,630	370	2,515	300	115	615
Nunavut	9,925	4,280	960	3,020	190	1,350	110	5	

Data source: Statistics Canada. Table 98-10-0040-01 Structural type of dwelling and household size: Canada, provinces and territories, census metropolitan areas and census agglomerations with parts

EV-Ready retrofits for non-residential buildings

The costs of improving the energy efficiency of non-residential buildings are also high and are currently supported by provincial governments. Additional federal support should be dedicated to including EV-ready retrofits in energy efficiency upgrade projects for public non-residential buildings.

3.9. FUNDING PROGRAMS FOR CHARGING INFRASTRUCTURE FOR MHDVS AND SPECIALIZED VEHICLES

Establish a dedicated grant-based incentive program to support the deployment of large-scale EV charging installations and electrical service upgrades, to facilitate the medium and heavy-duty segments, particularly in the truck sub-sector and specialized vehicles that are not considered under the current CIB program for electric buses and school buses. The new program should support charging infrastructure design and deployment for MHD commercial and public fleet depots, including funding for urban hubs, highway-side locations, and rest-stops. As-a-service offerings that shift charging solutions to Opex rather than Capex should be considered eligible for funding. Focus immediate funding on depot / return-to-base

charging, with an outlook to funding en-route and/or shared installations as industry aligns on standards in the coming year(s).

3.10. TECHNOLOGY BASED SOLUTIONS

Leverage technology-based solutions to add value and reduce costs for EV drivers and the grid.

Funding programs should offer flexibility for innovative charging solutions such as software-based charging management solutions that can help optimize charging load by shifting and shaping demand, by sharing power intelligently between vehicles and other load sources, and mobile charging solutions to complement static charging infrastructure especially for underserved and urban areas where there are grid limitations. This can help EV drivers, property owners, fleet managers, and utilities save money by reducing the need for costly upgrades on both sides of a customer meter while ensuring reliable charging infrastructure access.

3.11. RIGHT TO CHARGE

Support right to charge rules for residents of multifamily properties.

Residents of multifamily properties such as apartment and condominium buildings are sometimes prevented by property managers or resident associations from installing or accessing charging stations. This contributes to an inequitable disparity in charging access between residents of single-family homes and multi-family properties. Provincial "Right to Charge" rules provide support to residents of multifamily properties by allowing them to pursue adding EV charging infrastructure for their use in most circumstances.

3.12. SUPPORTING RURAL, REMOTE, AND OFF-ROAD ACCESS TO CHARGING.

Rural, remote, and off-road regions do not always have access to sufficient electricity supply that can accommodate charging infrastructure for light-, medium-, heavy-Duty and off-road electric vehicles. These regions must be supported in making level 2 and fast charging infrastructure accessible, especially if they are off-grid, with green-innovative charging solutions.

4. Federal Regulation

Achieving EV adoption will require coordination and strategy – including a focus on overcoming the challenges of vehicle availability and supply. We also need to ensure no Canadians are left behind, whether they live in rural, remote, or Indigenous communities.

4.1. NATIONAL ZEV SALES REGULATION

Adopt national ZEV sales regulations for passenger vehicles, requiring 90% ZEV sales by 2030.

Canada's existing EV availability standard sets an EV supply target of 100% in 2035 and only 60% in 2030. EMC believes that, with the right policies in place, Canada will achieve this target earlier, resulting in cleaner air and reduced greenhouse gas pollution. EMC therefore recommends that Canada adopt a target of at least 90% in 2030 to ensure dedicated time and attention can be placed on electrifying the final 10% of new vehicle sales – in Canada's rural and northern communities – between 2030 and 2035.

Even though Canadian ZEV sales are on their way to reach the first threshold of 20% by 2026, we know many carmakers are pushing back against this regulation. This should not deter government for doing what is right for Canadians from a ZEV supply, job creation, GHG emission and air pollution point of view. If Canada is to adopt a surtax on Chinese made EVs, it needs to send a strong signal that it is serious about supporting the transition to EVs by making sure that Canadians have access to more entry level EVs in the country.

A sufficiently stringent national ZEV target, accounting for compliance flexibilities, would push automakers to introduce more EV models, increasing consumer choice and reducing wait times for EVs, to help meet the ever-growing demand for EVs in Canada. A national ZEV standard, requiring at least 90% ZEV sales by 2030, would also reduce vehicle costs, deliver better value for infrastructure programs, attract industrial production, and drive innovation to supply the growing domestic ZEV demand. In addition, it would help level the playing field across Canada, earlier than the existing EV Availability Standard. Today, most EV supply goes to the two provinces that already have ZEV standards in place: British Columbia and Quebec. Federal interim ZEV targets need to be sufficiently high to attract ZEV supply across the country, rather than only in provinces where ZEVs also generate provincial credits.

4.2. STRONG TAILPIPE EMISSION STANDARDS

Implement strong tailpipe emission standards for all types of vehicles

Canada must align its auto tailpipe emission standards with the toughest emission standards in North America, in addition to establishing a national ZEV regulation. Cleaner cars not only cut carbon emissions, but they also improve air quality in our communities and save consumers money at the pump. The existing standards have too many "compliance flexibilities" (loopholes) which should be eliminated going forward. Canada must also strengthen emission standards for larger vehicles like buses and trucks, as these are big contributors to tailpipe pollution. Standards should not be footprint based, like the US EPA standards, since that approach entices car manufacturers to sell larger models and abandon their smaller, more efficient models.

4.3. NATIONAL ZEV SALES REGULATION FOR MHDVS

Adopt a national ZEV sales regulation for medium and heavy-duty trucks and buses requiring 100% ZEV sales by 2040 at the latest.

Eleven (11) US states have formally adopted California's Advanced Clean Truck rule, establishing a legal requirement on manufacturers to achieve strong ZE MHDV adoption targets. Without reciprocal action mandating manufacturer supply in Canada, across all sectors of MHDV use including passenger transportation and freight, access in Canada to the world's limited ZE MHDV supply is likely to be delayed, hindering adoption by operators who are ready to transition. Canada should move forward to establish a ZE MHDV standard that ensures Canadian fleets have equal access to ZE MHDVs as US fleets do in ZE MHDV / ACT States.

The MHD-ZEV sales regulation should aim to achieve 100% Zero-Emission sales:

- By 2030 for transit and school buses
- By 2037 for Class 2b/3 trucks
- By 2040 for Class 4-7-8 trucks

The sales regulation should include interim milestones along the way for each category. Increase ambition as technology and product offerings improve. Align Canada's requirements with the most ambitious targets in North America.

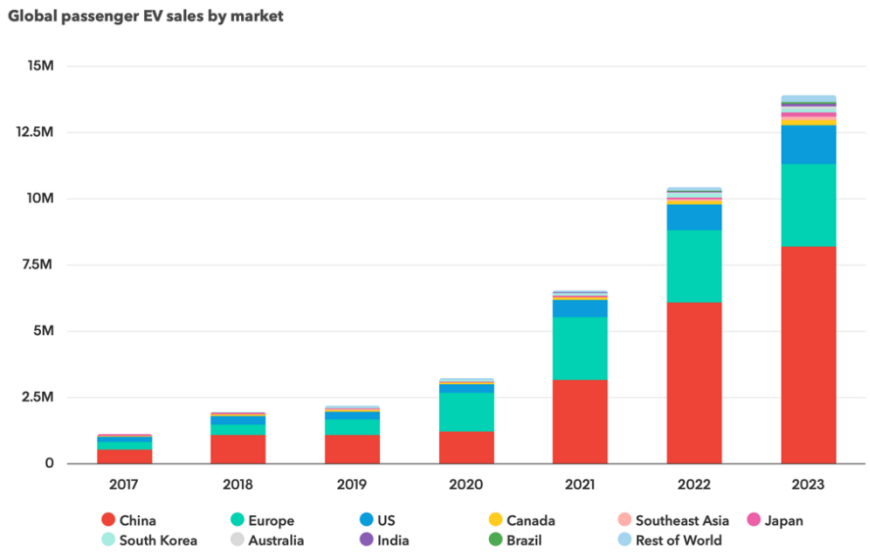
5. A Canadian EV Action Plan

Achieving EV adoption will require coordination and strategy – including a focus on overcoming the challenges of vehicle availability and supply. We also need to ensure no Canadians are left behind, whether they live in rural, remote, or Indigenous communities. A Canadian EV Economic Development and Investment Attraction Strategy, focused R&D efforts, and action to protect Canadian industry and workers from foreign buy-domestic rules will help ensure a prosperous transition to an electric mobility economy in Canada.

One of the most important reasons why Canada needs to accelerate electric mobility policies is jobs. When we say that we must reduce our GHG emissions and air pollution, we all agree that we must be doing that while supporting the transition to sustainable jobs in the clean energy and transportation sectors.

The Canadian Battery industry: a once in a generation opportunity

According to BNEF 2024 Electric Vehicle Outlook, "China still dominates the global EV market, but sales are rising quickly elsewhere too. Electric vehicles are no longer only a wealthy country phenomenon. Developing economies like Thailand, India, Turkey, Brazil, and others are all experiencing record sales as more low-cost electric models are targeted at local buyers."



(Credit: BNEF 2024 Electric Vehicle Outlook)

Here are the six key recommendations from this report:

- Develop a strategy: Canada needs a public-facing, national battery strategy that pulls existing efforts together, connects dots across the battery supply chain, and guides industrial development.
- Build the workforce: Canada is home to one of the world's top talent pools but is faced with worker shortages and challenges ensuring the right talent is in the right place. Canada must develop new strategies to engage and mobilize big populations of skilled workers.
- Accelerate project development: Canada faces significant competition in securing additional battery supply chain investments. Canada should focus on lining up project land and infrastructure needs while creating predictable and efficient review processes for projects across the supply chain.
- Grow the North American market: Canada must support and expand policies to increase domestic EV demand and uptake.
- Promote Canada's clean battery brand: Canada should continue promoting its clean battery advantages–including low-carbon critical minerals, proximity to the U.S., innovative battery research and recycling leadership, and abundant clean electricity–to attract investment into its battery supply chain and increase export opportunities.
- Scale up homegrown clean battery leaders: Canada is home to a host of innovative battery technology companies. The next step is to leverage existing investments from multinational battery cell manufacturing companies to also support domestic companies.

5.1. CANADIAN EV STRATEGY
Immediately Launch a Canadian EV Strategy

Enact legislation requiring the federal government to establish a Canadian EV strategy and a regularly updated EV action plan through 2035. Legislation should require the government to implement actions sufficient to achieve 100% passenger vehicle sales by 2030 and by 100% Zero-Emission bus and truck sales by 2040 at the latest.

Launch a pan-Canadian EV Strategy that includes an EV Action Plan to accelerate EV adoption. Enact legislation requiring the federal government to (1) establish an EV strategy, and (2) maintain and regularly update an EV action plan through 2035. Legislation should require the government to implement actions sufficient to achieve 100% passenger vehicle sales by 2030, and by 2040 at the latest for MHDVs. Accountability measures, such as audit, should be established. The initial strategy and plan should adopt the actions contained in this Platform document.

5.2. RURAL, NORTHERN, FIRST NATIONS AND INUIT COMMUNITIES
Develop a plan to help rural, northern, First Nations and Inuit communities go electric

Many rural, northern, and Indigenous communities in Canada have not yet had equal opportunity to participate in the benefits of the EV transition due to a lack of charging options and vehicle availability, among other things. It is critical that these barriers be addressed to allow all Canadians a meaningful opportunity to drive electric.

5.3. ATTRACT INVESTMENTS
Support and attract EV-related business and investment in Canada

Focus on attracting more investment to accelerate EV manufacturing and related industries in Canada, including assembly, parts, machinery, charging equipment, and battery making, critical battery materials extraction/processing with a "Canadian EV Economic Development and Investment Attraction Strategy." Building these industries will create good sustainable jobs and raise the profile of EVs to further support their adoption in Canada.

5.4. FOCUS R&D INVESTMENTS ON STRATEGIC EV TECHNOLOGIES

Canada should focus its efforts on accelerating technologies, research, development, and manufacturing associated with reducing the costs of vehicle batteries and thus vehicle costs per unit of range. Achieving economies of scale in vehicle, battery and charging infrastructure production will also help to reduce costs for consumers and fleets. Finally, to keep Canada competitive, create new financial instruments to support domestic EV-related R&D and manufacturing, including MHDV, off-road, marine and rail vehicles and ecosystems.

5.5. FAST-TRACK EV-ONLY SERVICE TRAINING
Work with provinces to fast-track EV-only service technician training

EVs are far less complicated machines than gas vehicles. Work with provinces to revamp the vehicle mechanic curriculum to prioritize EVs by fast-tracking training for EV mechanics and provide them with more apprenticeship opportunities. As more EV batteries will need repair, help create a dedicated program to make EV battery repair as affordable as possible to lower insurance fees on EVs.

5.6. EV MANUFACTURING IN NORTH AMERICA
Take a North American approach to EV manufacturing and supply chains

Work with the US Administration to ensure that any "Buy America" policies reflect the North American auto market and do not negatively impact Canadian EV-related businesses or suppliers. Collaborate with the U.S. to build a North American EV industry and supply chain *beyond the Inflation Reduction Act.* Ensure policies are designed in a way that maximizes and accelerates ZEV and ZEV infrastructure deployment.

5.7. RETRAINING PROGRAMS FOR WORKERS
Support retraining programs and help workers make the transition to zero carbon industry.

Building a labor force with the right skills– from engineering and research, electrical and mechanical, charging infrastructure installation, maintenance, and fleet management–will be critical to the success of Canada's transition to a zero-carbon economy. Explore opportunities for the government to support employers, whether traditional industry or all-EV, to train new employees who have not previously worked in the EV industry. Maintain existing funding commitments for training and re-training.

5.8. ELECTRIFY THE MINING SECTOR
Support electrification in the mining sector

Support electrification at mining locations across Canada and promote sustainable mining development and operations, particularly in relation to minerals and metals needed for the ZEV supply chain in Canada and other jurisdictions.

5.9. EV BATTERY CIRCULAR ECONOMY
Support EV battery circular economy

The battery recycling market from now until 2030 will come mostly from off-spec battery products. To ensure that the valuable critical minerals in EOL battery packs as well as off-spec and recalled products are not lost, recycling capacity in North America needs to grow significantly and movement of the recyclable products must also be facilitated to ensure that they can be delivered to the recycling facilities in a timely but safe manner. EMC recommends that the government modernizes the legislative and regulatory framework to facilitate the transportation of used and end-of-life batteries and to encourage battery recovery, repurposing, remanufacturing, and recycling in North America.

6. Federal leadership
Government can lead by example and make use of its own facilities, convening ability and internal process to help accelerate the transition to electric mobility.

6.1. PRIVY COUNCIL OFFICE FOR ELECTRIC TRANSPORT

Create a dedicated Privy Council Office to coordinate EV responsibilities across departments and advise the Prime Minister on progress being made towards achieving the government's electrification goals. Centralized coordination and Prime Ministerial oversight will elevate the importance of this issue and ensure it receives the attention it deserves.

6.2. EV SOLUTIONS FOR OUR GRID
Convene electricity stakeholders to develop EV solutions for our grid

Establish cross-Canadian guidance for electricity regulators to speed up deployment of charging infrastructure through an intergovernmental table to examine electrical system regulatory matters to

expedite EV charging infrastructure installation and to support utilities Work through the Council of Canadian Energy Ministers to establish pan-Canadian guidance for electricity regulators to expedite deployment of charging infrastructure. Guidance could address electrical service size challenges for EV charging; demand charges and opt-in electricity rates for public charging; the need for EV charging station connection prioritization to keep infrastructure expanding in step with EV demand; and pre-building distribution and transmission capacity in locations where future charging installations are anticipated. Charging infrastructure for medium- and heavy-duty vehicles as well as for light-duty vehicles should be included in the scope of work.

6.3. GOVERNMENT & PARLIAMENTARIAN EV AWARENESS
Make government & parliamentarian EV awareness and education a priority

Unless both consumers and policy makers understand all the benefits, needs and savings associated with electric vehicles, the transition to an electric future will take longer than necessary. The government should make education a priority, working with leading organizations like Plug'n Drive, EV Society, AVEQ, EVAAC, Plug in British Columbia and others to establish experiential learning opportunities for elected officials and civil servants.

6.4. FEDERAL FLEETS AND BUILDINGS
Ensure federal fleets and buildings are 100% electric and EV-ready

Government can lead by example and further increase domestic EV demand and investment by using its own purchasing power. Starting now, every vehicle purchased by the government should be electric, unless an electric option does not yet exist to meet a specific need. Canada should also start electrifying its owned and leased parking lots immediately to offer charging options to its fleets, employees, and visitors. Set a hard target of at least 10% of all owned and occupied parking spaces being electrified by no later than 2025.

6.5. ZERO EMISSION ZONE IN THE CITY OF OTTAWA

The Government of Canada should work with the National Capital Commission and the City of Ottawa to establish a Zero Emission Zone (ZEZ) in downtown Ottawa. ZEZs are areas in which polluting vehicles are required to pay a fee to enter, acting as a disincentive for gas-vehicle use within the zone, and encouraging forms of zero emission travel such as EVs, bicycles or electric public transit. Other cities and national capitals (e.g., London, UK) are implementing Zero-Emission zones too.

6.6. CLEAN PROCUREMENT POLICIES
Adopt "Clean procurement" policies across Canada

Lowest bidder public policies have hampered the transition to cleaner, sometimes more expensive technologies that can, in the end, be less expensive when total cost of ownership is considered. New "clean procurement" policies could help Federal departments, agencies and crown corporations, provincial governments, municipal governments, transit agencies, ferry agencies, school boards and other institutions to purchase zero emission vehicles of all types without conflicting with free trade agreements.

ABOUT EMC

Founded in 2006, Electric Mobility Canada is a national membership-based industry association dedicated exclusively to the advancement of electric mobility as an opportunity to support the Canadian economy while fighting climate change and air pollution.

EMC has a wide range of member organizations including, light, medium, heavy-duty, and off-road vehicle manufacturers, infrastructure providers, utilities, tech companies, mining companies, research centers, governmental departments, cities, universities, fleet managers, unions, environmental NGOs, and EV owners' groups.

EMC's mission is to enable and accelerate the transition to sustainable electric mobility in Canada through advocacy, collaboration, education, and thought leadership, with the end goal of creating a cleaner, healthier, and more prosperous future for all Canadians.

Electric Mobility Canada supports the activities of its members by:

- Communicating legislative, policy, technical and operational matters of key interest pertaining to electric mobility to our membership. This includes identifying the actions required to meet the needs of the members and proactively communicating these needs to policy makers and other stakeholders.
- Establishing partnerships to accelerate the adoption of electric mobility through research, demonstration projects, policies, programs, and strategies to increase market penetration.
- Acting as a resource center for relevant and contemporary information on electric mobility from across Canada and around the globe.

Electric Mobility Canada is the unifying and authoritative voice for the Transition to electric mobility across Canada.

CONTACT INFORMATION

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SUMMARY OF EMC RECOMMENDATIONS

LIGHT-DUTY VEHICLES

1. Continue purchase incentives for new passenger ZEVs but focus on value for electric-only range
2. Fee-bate system: Have the most polluting vehicles fund EV incentives for new vehicles
3. Make ZEVs more accessible for low- and modest-income households
4. Remove iZEV caps for carshare, rideshare or other ride-hailing fleets
5. Support consumer EV education and industry salesforce training
6. Offer a vehicle scrappage programs for all types of vehicles

MEDIUM- AND HEAVY-DUTY AND OFF-ROAD FLEET ELECTRIFICATION

1. Make the transition to electric transit buses more affordable.
2. Work across jurisdiction to accelerate electric school bus adoption.
3. Accelerate the integration of electric trucks into commercial fleets
4. Electrify vehicle fleets in ports, airports, and similar federal facilities
5. Make electric off-road vehicles more affordable by offering rebates
6. Support the electrification of Canada's ferry services

EV CHARGING INFRASTRUCTURE

1. Invest more in infrastructure, with iZEV savings generated by a fee-bate system
2. Adopt EV charging infrastructure targets
3. Make 1,6 million condominium and apartments EV-ready by 2030
4. Add EV charging requirements to national building codes
5. Establish public charging "hubs" on underutilized government-owned lands
6. Provide a connection rebate to cover costs levied by utilities when building large-scale charging stations
7. Support regulatory reform to allow for proactive grid upgrades and fund utilities to establish capacity maps
8. Include EV charger installation in home and public building energy retrofit programs
9. Funding programs for charging infrastructure for MHDVs and specialized vehicles
10. Leverage technology-based solutions to add value and reduce costs for EV drivers and the grid
11. Support right to charge rules for residents of multifamily properties
12. Supporting rural, remote, and off-road access to charging

FEDERAL REGULATION

1. Adopt a national ZEV sales regulation for LDVs
2. Adopt strong tailpipe emission standards
3. Adopt a national ZEV sales regulation for medium and heavy-duty trucks and buses

A CANADIAN EV ACTION PLAN

1. Immediately Launch a Canadian EV Strategy
2. Develop a plan to help rural, northern, First Nations and Inuit communities go electric
3. Support and attract EV-related business and investment in Canada
4. Focus R&D investments on strategic EV technologies
5. Work with provinces to fast-track EV-only service technician training
6. Take a North American approach to EV manufacturing and supply chains
7. Support retraining programs and help workers make the transition to zero carbon industry.
8. Support electrification in the mining sector
9. Support EV battery circular economy

FEDERAL LEADERSHIP

1. Establish a Privy council office for electric transport
2. Convene electricity stakeholders to develop EV solutions for our grid
3. Make government & parliamentarian EV awareness and education a priority
4. Ensure federal fleets and buildings are 100% electric and EV-ready
5. Establish a zero-emission zone in the city of Ottawa
6. Adopt "Clean procurement" policies across Canada