ELECTRIC MOBILITY CANADA 20 YEARS ANS MOBILITÉ ÉLECTRIQUE CANADA

IS YOUR FLEET READY FOR ZEVS?

AN OPERATIONAL AND FINANCIAL ASSESSMENT

Electric Mobility Canada

By EMC's Zero-Emission MHDV Working Group

April 2026

ABOUT EMC

Electric Mobility Canada (EMC) is the unifying and authoritative voice for the transition to electric transportation across Canada. Founded in 2006, EMC is the national industry association that enables and accelerates the transition to sustainable electric mobility through advocacy, collaboration, education, and thought leadership, with the goal of creating a cleaner, healthier, and more prosperous future for all Canadians.

EMC has 190+ member organizations, including electricity suppliers; manufacturers of light, medium, heavy, and off-road vehicles; infrastructure providers; technology companies; mining companies; research centres; government departments and agencies; cities; universities; fleet managers; unions; environmental NGOs; and EV owner groups.

Members of EMC collaborate under different working groups to identify barriers and solutions specific to different industry segments: Batteries (life cycle), Charging infrastructure (accelerating deployment), Utilities (best practices and grid planning), and MHDVs (Fleet electrification).

ELECTRIC MOBILITY CANADA 20 YEARS MOBILITÉ ÉLECTRIQUE CANADA

Electric Mobility Canada
Email: info@emc-mec.ca
Website: https://emc-mec.ca/

ACKNOWLEDGEMENT

Electric Mobility Canada acknowledges the contributions of its **Medium- and Heavy-Duty Vehicle Working Group members**, whose real-world experience and expertise were essential to the development of this assessment. Their collaborative input ensured that the tool reflects practical fleet realities and evolving market conditions.

ABOUT THIS ASSESSMENT

This assessment tool was developed through the voluntary efforts of the Electric Mobility Canada (EMC) Medium and Heavy-Duty (MHD) Working Group. It is designed as a practical, fleet-facing tool to help operators evaluate whether and how zero-emission vehicles (ZEVs) could fit within their operations.

The assessment is not intended to deliver a definitive yes or no answer, nor to replace detailed engineering, financial, or procurement analyses. Instead, it provides a structured way to identify strengths, constraints, uncertainties, and potential risks that commonly influence the success of MHD ZEV deployments.

The criteria reflect current market conditions, real-world fleet experience, and industry expertise at the time of publication. They are intended to support informed internal discussions and early planning and should be adapted to each fleet's specific operating context. Users are encouraged to seek professional advice before making major capital or operational decisions.

HOW TO USE THIS ASSESSMENT

This assessment helps fleet operators evaluate operational suitability and financial viability for medium- and heavy-duty ZEV adoption. It is a diagnostic tool, not a pass or fail test.

Each row is assessed using a Green ( ), Amber ( ), or Red ( ) designation as a guide. The objective is not to maximize Green results, but to honestly identify areas of readiness, uncertainty, or constraint. In many cases, Red signals issues that can be addressed through planning, investment, partnership, or timing rather than permanent barriers.

Part 1: Operational Suitability asks: **Can your fleet support ZEVs**?
> *Can your fleet operate ZEVs reliably and effectively given its current vehicles, routes, sites, systems, and organizational capacity?*

Part 2: Financial Viability asks: **Do the economics work?**
> *Do the economics support ZEV deployment under your fleet's expected usage patterns, financing conditions, and cost structure?*

Not all categories carry equal weight. Some Red conditions represent near-term blockers that may prevent deployment until they are resolved, such as lack of a suitable vehicle or viable charging solution. Others reflect risks or costs that can be managed over time. Fleet operators should use their judgement to distinguish between hard constraints and manageable challenges.

The thresholds and examples provided are illustrative, not prescriptive. What constitutes Green, Amber, or Red will vary by fleet size, vocation, jurisdiction, utilization, and risk tolerance. Apply the intent of the criteria rather than treating them as fixed rules.

The medium- and heavy-duty ZEV market continues to evolve rapidly. Vehicle availability, costs, incentive programs, charging solutions, insurance products, and resale markets are changing. A result assessed as Red today may reasonably shift to Amber or Green within the next 12 to 24 months. Fleets are encouraged to revisit this assessment periodically as conditions change.

GLOSSARY OF ACRONYMS

Acronyms are used sparingly and are defined here for clarity. Terms may have different meanings or applications depending on jurisdiction, fleet context, and regulatory framework.

BDC: Business Development Bank of Canada. A federal financial institution that provides financing and advisory services to Canadian businesses, including concessional financing for clean technology investments.

BESS: Battery Energy Storage System. Stationary battery systems used to store electricity for load management, peak shaving, resiliency, or backup power.

BEV: Battery Electric Vehicle. A vehicle powered exclusively by electricity stored in on-board batteries, with no internal combustion engine.

CaaS: Charging-as-a-Service. A commercial model where charging infrastructure and related services are provided under a service agreement rather than owned directly by the fleet.

CCA: Capital Cost Allowance. Canadian tax system for depreciating capital assets. Certain zero-emission vehicles may qualify for accelerated depreciation under specific CCA classes.

CFR: Clean Fuel Regulations. Federal regulations that require fuel suppliers to reduce the carbon intensity of fuels supplied in Canada. ZEV deployments may generate compliance credits that can be monetized, depending on fuel type and program participation.

CMS: Charger Management System. Software used to monitor, control, and optimize charging equipment, energy use, and charger availability.

DCFC: Direct Current Fast Charging. High-power charging used primarily for medium- and heavy-duty vehicles or opportunity charging, enabling faster charging compared to Level 2.

DEF: Diesel Exhaust Fluid. A liquid used in modern diesel vehicles to reduce emissions from selective catalytic reduction systems.

HVAC: Heating, Ventilation, and Air Conditioning. Vehicle systems that can significantly affect energy consumption and driving range, particularly in cold climates.

ICE: Internal Combustion Engine. Vehicles powered by gasoline or diesel engines.

KPI: Key Performance Indicator. A measurable value used to evaluate operational or financial performance, such as cost per kilometre or vehicle availability.

LCFS / LCFSP: Low Carbon Fuel Standard / Low Carbon Fuel Standard Program. Provincial or regional fuel regulations that require reductions in fuel carbon intensity and allow compliant activities, including ZEV operation, to generate tradable credits. Applicability and rules vary by jurisdiction.

MHDV: Medium- and Heavy-Duty Vehicle. Commercial vehicles beyond the light-duty category, including trucks, buses, and vocational vehicles.

NPV: Net Present Value. A financial metric that evaluates the value of future cash flows discounted to today's dollars, commonly used to assess long-term investments.

O&M: Operations and Maintenance. Activities and costs associated with operating and maintaining vehicles, charging infrastructure, and related systems.

OEM: Original Equipment Manufacturer. The company that designs and manufactures vehicles or major vehicle components.

PTO: Power Take-Off. Vehicle systems that deliver mechanical or electrical power to auxiliary equipment such as lifts, refrigeration units, or vocational tools, affecting energy use and range.

SLAs: Service Level Agreements. Contractual commitments defining performance standards, response times, and responsibilities for service providers.

SoC: State of Charge. The current level of charge in a vehicle battery, expressed as a percentage of total capacity.

TCO: Total Cost of Ownership. The full cost of owning and operating a vehicle or asset over its usable life, including capital costs, operating costs, maintenance, and residual value. In this assessment, financial viability is evaluated using multiple cost drivers rather than a single calculated TCO value.

TOU: Time-of-Use. Electricity pricing structures where energy costs vary by time of day.

ZETI: Zero-Emission Technology Inventory. A publicly available database developed by CALSTART that tracks commercially available zero-emission vehicle models by class and application.

ZEV: Zero-Emission Vehicle. A vehicle that produces no tailpipe emissions, including battery electric and hydrogen fuel cell vehicles.

PART 1: OPERATIONAL SUITABILITY

Is it feasible for my fleet?

Category	Green (High Suitability)	Amber (Conditional)	Red (High Risk / Blocker)
Vehicle			
Vehicle Ownership / Control	**Full Control:** • You own the vehicles and have the authority to choose the next vehicle technology. • Next vehicle will be a new purchase.	**Limited Control:** • You do not own the vehicles – they are leased and there is room to negotiate with the lessor for zero-emissions technologies. • Vehicles purchased are generally new.	**No Control:** • You do not own the vehicles – they are leased and there are no options or willingness from the lessor for zero-emissions technologies. • Vehicles purchased generally second ownership.
Vehicle Lifecycle and Fleet Growth	**Vehicle End of Life / New Vehicles Required:** • Vehicle(s) at or nearing the end of their useful life and the purchase of a new zero-emissions vehicle is optimal.	**Vehicle Replacement or Purchase Coming up soon:** • Vehicle(s) a few years from the end of their useful life and the purchase of a new zero-emissions vehicle should be planned for accordingly.	**No plans for replacement or new vehicles based on useful life:** • Most vehicles are new, therefore the need to purchase new zero-emissions vehicles may be limiting.
Vehicle Commercial Availability (See CALSTART's ZETI Guide)	**Commercially available** • From a major OEM with proven deployments in your class/vocation. • Multiple suppliers or configurations available.	**Limited availability:** • Vehicle offered by a new OEM, pilot-scale production, or long lead times (>12 months). • Limited body/vocation options. • Appropriate vehicles for operation coming out soon (within 1 year).	**Not available:** • Required vehicle class, body, or duty cycle is not yet commercially available as a ZEV today or likely in the near future.
Local Regional Dealer / Service Centre + Parts Availability	**Local Support Available / Days for Support:** • Local, authorized service network exists; parts readily available; uptime service level agreement (SLAs) available. • Remote 24/7 support available with real-time diagnostics and proactive monitoring. • OEM maintenance available.	**Regional service coverage only / Weeks for support:** • Limited service support: longer parts lead times; reliance on mobile service. • Limited remote monitoring; reactive support only. • OEM maintenance potentially available but with delays.	**No service support nearby / months or unknown for support:** • Unclear warranty/service pathway; fleet must self-support without OEM backing. • No remote support/integration, manual troubleshooting only.

Category	Green (High Suitability)	Amber (Conditional)	Red (High Risk / Blocker)
Vehicle (cont'd)			
Duty Cycle / Operating Pattern	**Predictable, Return-to-Base, Long Dwell Time:** • Vehicles return to a central depot overnight, every night. (e.g. shunt, urban delivery) • Single shift or multi-shift with long, predictable dwell windows (overnight or planned breaks) sufficient for charging.	**Mixed Routes or Tight Dwell Time:** • Most routes are return-to-base, but some are multi-day or variable. Seasonal peaks or occasional multi-day trips. • Tight dwell windows: back-to-back shifts require opportunity charging or careful scheduling.	**On-Road with Nearly No Dwell Time:** • Vehicles do not return to a home base, are continuously moving with no predictable dwell time (e.g., long-haul sleeper cabs). • Near-continuous operation with minimal dwell; uptime requirements incompatible with current charging realities.
Payload / aux load intensity/ elevation / Seasonal Variability	**No Major Impact:** • Payload and aux loads (PTOs, lifts, refrigeration, heating) predictable and well within vehicle capability. • Minimal performance loss.	**Some Impacts:** • Heavy or variable payloads; moderate auxiliary loads. • Seasonal impacts (winter HVAC, terrain) require buffer planning.	**Major Impacts:** • Extreme payloads, constant PTO demand, steep grades, or severe seasonal impacts exceed current ZEV capability.
Route Range	**Predictable & Short:** • Fixed and predictable routes. • Daily distances are consistently less than 70% of the EV rated range.	**Variable & Long:** • Daily distances sometimes meet or exceed 80% of the EV rated range or are highly variable.	**Extreme Range:** • Daily distances regularly exceed 80% of the EV rated range and may not be adequate to complete route without additional charging throughout the day.
Site / Depot Readiness			
Depot Strategy / Parking Control	**Private Depot:** • You own the depot/parking area and have full control to build your own infrastructure or enter into CaaS agreements.	**Leased Site / Charging-as-a-service (CaaS):** • You have a long-term lease (>10 yrs) with landlord approval OR a viable CaaS provider has a depot nearby OR shared charging services nearby.	**Unsolved:** • You have a short-term lease, no site control, or no depot, and no CaaS depot options are available.

Category	Green (High Suitability)	Amber (Conditional)	Red (High Risk / Blocker)
Site / Depot Readiness (cont'd)			
Site Power & Energy Management (N/A if using off-site charging strategy)	**Electrical Capacity Understood and On-Track:** • A capacity analysis has been completed. Either adequate spare capacity exists, or required upgrades are clearly scoped, budgeted, and timelines align with deployment. • Time-of-use rates understood; load management strategies identified to mitigate utility constraints and optimize energy costs.	**Electrical Upgrades Required – Planning in Progress:** • Significant site upgrades identified (e.g. new transformer, service upgrade) but full scope, budget or utility timeline not yet confirmed. Timelines and scope may affect deployment schedules. • Energy optimization strategies (demand management, TOU shifting) and/or Battery Energy Storage Systems (BESS) can offset capacity constraints and demand charges during ramp-up.	**Electrical Upgrades Too Prohibitive:** • Site requires new substation; lengthy delays (24+ months) or prohibitive costs. • Demand charges will significantly impact TCO; no mitigation strategy identified.
Utility Support	**Utility is Supportive:** • Utility has supportive programs to help with electrification and utility timelines align with deployment.	**Utility can support:** • Utility has expressed support but no dedicated programs.	**Utility is not interested:** • Utility is unsupportive or non-responsive.
Charging strategy robustness and scalability	**Clear charging strategy** (overnight, opportunity, or off-site): • Redundancy planned, contingency for outages. • Easily scalable / can accommodate fleet growth.	**Charging strategy identified but no resiliency measures:** • Relies on single point of failure or untested assumptions.	**No viable charging strategy identified**: • Dependency on speculative infrastructure.
O&M Support from Supplier Charging Infrastructure	**Fully supported locally:** • Local certified technicians available; preventative maintenance plan in place. • Remote monitoring 24/7; clear response timelines. • Spare parts stocked regionally, defined repair escalation process.	**Partial Support (not local):** • Remote monitoring available but field service is regional or requires travel. • Limited spare parts locally; longer response times. • Unclear preventative maintenance structure.	**No Support Offered:** • No formal maintenance agreement; no guaranteed response times. • No local technicians. • Fleet responsible for troubleshooting and repair coordination.

Category	Green (High Suitability)	Amber (Conditional)	Red (High Risk / Blocker)
Organizational Readiness			
Operational Scalability & Future Growth	**Easily Scalable:** • Initial deployment easily scalable (site, power, processes designed for expansion).	**Limited Resources for Scaling:** • Scaling possible but requires additional planning, capital, or site changes.	**Pilot deployment only**: • No clear path to scale beyond initial vehicles.
Change Management & Training	**Strong Leadership:** • Leadership, drivers, and maintenance staff are available and identified for championing the transition, with a plan in place for training.	**Neutral / Cautious:** • Staff is neutral or has unaddressed concerns (e.g., range anxiety, job security). • Limited staff availability, but still interest. • No executive sponsor or lead yet.	**High Resistance:** • Active resistance from key staff. • No training or change management plan is in place, • No available resources or interest to champion the initiative.
IT systems & monitoring	**Ready:** • Dispatch is digitally enabled and dynamic, with integration to telematics, and a good understanding of charger management software (CMS). You have a model of how you will monitor EVs and chargers to maintain uptime. • IT matches complexity of operations. • Ability to integrate into fleet management software.	**Basic:** • Dispatch is manual or static with no visibility into SoC, range, or charging needs. You have basic telematics but no knowledge of charger management software (CMS) or ZEV-specific systems. • Behaviour needs to change to integrate new software and tools. • Can likely gain this competency and acquire adequate resources.	**Manual:** • Operation and dispatch are managed manually; no telematics to monitor vehicle state-of-charge and energy use. • No capacity to integrate, no understanding or willingness to understand charger management software (CMS). • Do not think there is an ability to gain this competency.
Competency and Expertise	**Ready Staff:** • Internal staff have aptitude to take on new responsibilities and roles have been mapped out. • Planning abilities for new ways of working (e.g. new operating models, new software, etc.)	**Some Staff Training Needed:** • Staff have willingness to take on new responsibility, or there is an ability to hire new specialized staff, but not all roles are fully understood. • Planning abilities for new ways of working (e.g. new software, etc.)	**Staff yet to be trained and not interested in learning:** • Staff do not have training or willingness to take on new responsibility. • Union agreements may cause added complexity. • No flexibility for new ways of working.

Category	Green (High Suitability)	Amber (Conditional)	Red (High Risk / Blocker)
Organizational Readiness (cont'd)			
Vehicle and Infrastructure Maintenance capability & readiness	**Capable and Ready:** • In-house or partner maintenance equipped for EVs. • Tooling, safety procedures, and training in place (e.g. vehicle, infrastructure, CMS)	**Partial readiness:** • Reliance on third parties. • Gaps in tooling or procedures.	**No EV maintenance plan:** • Safety, tooling, and responsibility are unclear.
Resiliency & Uptime / Continuity of Operation Note: Define your minimum resilience threshold before sizing backup solutions. E.g., an ambulance depot may need near-100% backup capacity.	**Resiliency Plan Defined:** • A documented, funded continuity plan addresses key risks: backup vehicles (retained diesel units, rental agreements, or shared fleet pool); charging redundancy (spare charger capacity or access to mobile/public charging); backup power supply for grid outage scenarios (e.g. on-site generator or battery energy storage), a parts and service escalation process; and operational flexibility to reassign routes or adjust schedules if a BEV or charger is unavailable.	**Partial Resiliency Planning:** • Some backup capacity exists (e.g., diesel fleet still operational during transition) but no formal continuity plan is documented. • Contingency planning is informal or ad hoc and charger redundancy is limited. • Manageable for non-mission-critical operations; formal planning is needed before scaling beyond initial vehicles.	**No Resiliency Planning:** • No continuity plan or backup capacity exists. • No strategy for vehicle downtime, charger failure, or service disruption. • Any unplanned outage would immediately impact operations, service commitments, or contracts. • Responsibility for managing ZEV-specific operational risks has not been assigned.
Communication with Utility	**Active Utility Communication:** • Engagement with utility is underway and timelines align with deployment.	**Early-Stage Utility Communication:** • You have identified your utility contact and either begun preliminary outreach or have a plan to do so. • Formal engagement has not yet started, and utility timelines remain unconfirmed.	**No Utility Engagement:** • No communication with the utility has been initiated or planned; may not know who to contact or how to begin the process.

PART 2: FINANCIAL VIABILITY

Is this profitable for my fleet?

TCO Driver	Green (Favourable TCO)	Amber (Conditional TCO)	Red (High Risk / Poor TCO)
COST PER KM The ultimate KPI for trucking: blends capital investment with ongoing operational cost. EVs have higher upfront cost and lower operational cost vs. ICE. Both models can be compared on a cost-per-km basis. No single parameter should be evaluated alone — evaluate the full combination of CAPEX and OPEX.	**Lower or equal to ICE operations** • TCO estimate demonstrates equal or better cost/km than current ICE equivalent. • <5% above ICE cost	**Moderately higher than ICE cost/km** • Acceptable if the objective is to run a validation phase with clear intent to learn, optimize, and improve cost/km over time. • 5%-20% above ICE cost	**Significantly higher than ICE cost/km** • With no clear pathway or intent to close the gap. • >20% above ICE cost
Vehicle Incremental cost vs ICE (with incentives if available) **Type: CAPEX** Note: Should not be evaluated in isolation — high operational intensity can offset a higher vehicle premium. This is one element of the total cost/km equation.	**Vehicle cost is less than 30% above current ICE equivalent** • and/or significant incentives are available to offset the incremental cost.	**Vehicle cost is 30-100% above current ICE equivalent.** • Some incentives available to partially offset the premium. • High utilization required to achieve acceptable cost/km.	**Vehicle cost is more than 100% above current ICE equivalent.** • No meaningful incentives available to offset the premium.
Charging Infrastructure — Installation Complexity **Type: CAPEX** Note: Assesses the difficulty, timeline, and cost of installing the charging infrastructure required for your deployment. Includes electrical upgrades, permitting, construction, and integration with site operations.	**Low Complexity:** • Existing electrical capacity is sufficient or requires only minor upgrades (e.g., panel swap, dedicated circuit). Standard Level 2 or low number of DCFC installation at an owned depot. No transformer upgrade required. • Site modification is minimal (e.g., trenching, mounting pads, conduit runs).	**Moderate Complexity:** • Electrical upgrades required (e.g., new transformer, service upgrade, or dedicated switchgear) but scope is well-defined and manageable. • Some construction or site modification needed (e.g., trenching, mounting pads, conduit runs).	**High Complexity:** • Major electrical infrastructure required (e.g., new substation, high-voltage service extension, or significant utility-side upgrades). • Site constraints (e.g., underground parking, space constraints) add cost and complexity.

TCO Driver	Green (Favourable TCO)	Amber (Conditional TCO)	Red (High Risk / Poor TCO)
Charging Infrastructure — Utilization and Cost Ratio **Type: CAPEX** Note: Assesses how effectively the installed charging infrastructure is used relative to its cost. Higher utilization spreads the fixed infrastructure cost across more km driven, improving cost/km. Infrastructure cost should be amortized over its useful life (typically 10-15 years), not the vehicle ownership period alone.	**High Utilization, Low Cost Ratio:** • Charging infrastructure serves multiple vehicles or shifts, operating at high capacity (e.g., most plugs in use nightly or across shifts). • Infrastructure is right-sized to current fleet with a clear, funded plan for expansion as fleet grows.	**Moderate Utilization, Moderate Cost Ratio:** • Charging infrastructure is used at moderate capacity: some plugs are underutilized or only used during a single shift. • Infrastructure may be oversized for current fleet but justified by planned fleet growth. Or infrastructure is right-sized but shared with other tenants.	**Low Utilization, High Cost Ratio:** • Charging infrastructure is underutilized: installed capacity significantly exceeds current or near-term fleet needs with no clear growth plan. • Or infrastructure is a stranded asset risk (e.g., installed at a leased site with a short remaining term, or sized for a fleet expansion that is no longer planned).
Vehicle Financing (lease, as-a-service, or purchase options) Financial terms benchmarked against current ICE options (interest rate, residual value, amortization period, upfront deposit).	**Financing available:** • Vehicle financing and/or leasing is accessible. • Terms are comparable to or better than current ICE equivalent.	**Financing available:** • Vehicle financing and/or leasing is accessible, but terms are less competitive than current ICE equivalent (e.g., shorter amortization, higher rates, larger deposit).	**Financing not available**, • And/or terms are not competitive. Fleet must self-finance or accept unfavourable conditions.
Energy/Fuel Costs — electricity vs. displaced diesel + DEF **Type: OPEX** Note: "Managed charging" refers to the ability to manage peak demand, so the fleet pays only the variable cost ($/kWh) and avoids demand charges ($/kW). CaaS models may have higher energy costs but eliminate infrastructure CAPEX.	**Low electricity cost:** • Electricity cost is less than 40% of current diesel + DEF cost. • Managed charging is feasible and/or discounted industrial electricity rates are available.	**Medium electricity cost:** • Electricity cost is 40-60% of current diesel + DEF cost. • Demand charge management may be required to maintain favourable economics.	**High electricity cost:** • Electricity cost exceeds 60% of current diesel + DEF cost. • High electricity rates and/or inability to manage demand charges erode fuel cost advantage.

TCO Driver	Green (Favourable TCO)	Amber (Conditional TCO)	Red (High Risk / Poor TCO)
Utilization (combined value of maintenance savings, fuel displacement, and reduced downtime) **Type: OPEX** Note: BEVs have fewer components that need servicing, reducing downtime (improving availability) and lowering maintenance costs.	**High-Mileage:** • Vehicle runs high-utilization routes and is above average for its class and vocation utilization (e.g. double-shifted or >50% work hours in use, driving or idling). • Reductions in fuel and maintenance can be converted to faster return on investment. • Charging equipment maintenance is predictable and low.	**Moderate-Mileage:** • Vehicle runs a standard single shift at or slightly below average for its class and vocation utilization (e.g. with 30-50% work hours in use, driving or idling). • Fuel and maintenance savings exist but reduced proportionally by lower usage. • Charging equipment maintenance costs are moderate or uncertain.	**Low-Mileage:** • Low-use or specialty vehicles well below average for its class and vocation utilization (e.g. <30% in use, driving or idling). • Fuel and maintenance savings are minimal due to low usage. • Charging equipment maintenance costs are uncertain relative to overall benefit.
Residual Value **Type: CAPEX** Note: Residual value significantly impacts loan valuation and cash flow.	**Residual value:** • High to medium confidence. **Used market:** • Active used BEV market exists with demonstrated resale values. **Buy-back value:** • Fixed buy-back value comparable to current ICE equivalent is available. **Ownership:** • Long-term ownership planned (6+ years).	**Residual value:** • Medium confidence. **Used market:** • Used market exists for equivalent products but with limited data. **Buy-back value:** • Fixed buy-back value is available but lower than current ICE equivalent. **Ownership:** • Medium-term ownership (4-6 years).	**Residual value:** • Low confidence. **Used market:** • No established used market currently. **Buy-back value:** • No fixed buy-back value available. **Ownership:** • Short-term ownership planned.

TCO Driver	Green (Favourable TCO)	Amber (Conditional TCO)	Red (High Risk / Poor TCO)
Insurance **Type: OPEX** Note: BEV insurance premiums are typically higher than ICE equivalents, driven by higher vehicle replacement value, specialized repair requirements, limited collision repair shop availability, and longer downtime during claims. Premiums are expected to moderate as insurer familiarity and claims data mature. Fleets should obtain BEV-specific quotes early in the evaluation process — do not assume current ICE premium rates will apply.	**Manageable Premium Increase:** • Insurance premiums for BEVs are no more than 20% above current ICE equivalent premiums. • Insurer has experience underwriting commercial BEV fleets and offers competitive terms. • Coverage is comprehensive (liability, collision, cargo, downtime) with no BEV-specific exclusions.	**Moderate Premium Increase:** • Insurance premiums for BEVs are 20-50% above current ICE equivalent premiums. • Insurer has limited experience with commercial BEVs and is pricing conservatively. • Coverage is available but may include BEV-specific conditions (e.g., higher deductibles for battery damage, exclusions for certain charging scenarios).	**Significant Premium Increase or Coverage Gaps:** • Insurance premiums for BEVs exceed 50% above current ICE equivalent premiums, or comprehensive coverage is difficult to obtain. • Insurer is unfamiliar with commercial BEVs and is applying significant risk loading. • Coverage may exclude key scenarios (e.g., battery thermal events, charging infrastructure liability). • Limited insurer options in the market for this vehicle class.
Other Fiscal Incentives (accelerated depreciation, grants, concessional financing)	**Accelerated depreciation available** (e.g., CCA Class 55/56 — 100% first-year write-off for ZEVs vs. 30% Class 16 for ICE). **Concessional financing available** (e.g., BDC at 0% for capex). • Amortization policy reflects full vehicle lifetime.	**Standard depreciation rates apply.** • Some favourable financing available (e.g., provincial programs, lender preferential rates for EVs) but not as advantageous as Green scenario.	**No accelerated depreciation.** • No concessional financing or grants available. Standard commercial financing terms only.
Cash Flow Position and Payback Type: CAPEX/OPEX	**Positive or neutral cash flow achievable within 5 years** • Through combination of incentives, fuel savings, and maintenance reductions. • Access to favourable financing (preferential EV rates, green loans, provincial programs). • Payback period under 5 years.	**Cash flow is negative in early years but trending positive.** • Some grant support available (project evaluation grants, training grants). • Payback period of 5-10 years. • Requires careful financial planning.	**Negative cash flow with no clear path to breakeven within vehicle ownership period.** • No grant support or favourable financing. • Payback period exceeds 10 years or negative NPV over vehicle lifetime.

TCO Driver	Green (Favourable TCO)	Amber (Conditional TCO)	Red (High Risk / Poor TCO)
Other Variable Costs (labour, tools integration, insurance, operational impact) **Type: OPEX**	**Labour:** • Improved worker well-being and retention with low to no incremental labour cost. **Tools integration:** • Easy to integrate BEV monitoring and CMS into current operational tools. **Operational gains:** • Higher vehicle and labour availability drives increased uptime and revenue potential. **Facility Insurance:** • Remains fairly equal for existing building.	**Labour:** • Low improvement in well-being/retention; some incremental labour cost. **Tools integration:** • Moderate complexity to integrate into current operational tools. **Operational gains:** • Limited ability to convert increased availability into revenue gains. **Facility Insurance:** • Premium to address safety hazard (mostly potential for battery fire)	**Labour:** • Worker resistance and decreased productivity; significant incremental labour cost. **Tools integration:** • Unable to integrate BEV systems into current operational tools. **Operational impact:** • Higher operational risk and inability to manage the transition. Potential negative impact on customer perception. **Facility Insurance:** • Prohibitive costs
Carbon Credits and Regulatory Drivers Note: carbon tax credits can be volatile. Review Federal (e.g. CFR) and/or provincial (e.g. LCFS) if and where applicable.	**Strong Driver:** • Fleet operates in a jurisdiction with a high and rising carbon tax and/or faces a strong ZEV sales/fleet mandate. • Fleet has access to tools or partners to generate, track, and monetize carbon credits (e.g., CFR credits)	**Moderate Driver:** • A carbon tax exists but is not a primary financial driver, OR the cost to generate and process credits is high. • Unclear access to tools or partners to generate, track, and monetize carbon credits (e.g., CFR credits)	**No Driver:** • No significant carbon price or ZEV mandates are in place. No carbon credit revenue opportunity.

ELECTRIC MOBILITY CANADA 20 YEARS MOBILITÉ ÉLECTRIQUE CANADA