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Manitoba's Adoption of the 2025 National Model Codes: Incorporating Electric Vehicle Readiness into Building and Electrical Codes

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Executive Summary

Electro-Federation Canada (EFC) welcomes the Government of Manitoba's consultation on the adoption of the 2025 National Model Codes and the opportunity to provide recommendations on electric vehicle (EV) readiness requirements.

Electro-Federation Canada (EFC) represents more than 230 member companies that manufacture, distribute, market, sell, and maintain a range of electrical and automation products. These products represent the supply chain of critical parts, components, and equipment necessary to power industries, buildings, homes, and transportation across North America.

In its September 2024 Affordable Energy Plan, the Government of Manitoba committed under Action 6.3 to introducing EV-ready building requirements and electrical installation standards for new residential, commercial, and institutional construction, as well as major renovation projects. EFC supports the introduction of EV-ready requirements in the Manitoba Building Code, accompanied by appropriate installation requirements in the Manitoba Electrical Code. The current code review provides an opportunity to advance this commitment.

EFC's central recommendation is that Manitoba establish clear, consistent, and technically sound EV-readiness requirements that enable charging infrastructure to be installed efficiently and safely as demand grows, without requiring every building owner or resident to install charging equipment immediately.

Preparing buildings for future EV charging during construction is significantly more cost-effective than retrofitting completed buildings. It also provides an opportunity to incorporate modern electrical infrastructure, including energy management technologies that can help optimize available electrical capacity, and manage charging demand.

EFC recommends that the Government of Manitoba:

1. **Implement Action 6.3** of the Affordable Energy Plan by introducing EV-ready requirements into the Manitoba Building Code, supported by complementary electrical installation standards.
2. **Prioritize multi-unit residential buildings**, where retrofitting electrical infrastructure is particularly complex and costly.
3. **Recognize load management systems** such as Electrical Energy Regulating Equipment (EERE) and EV energy management systems (EVEMS) to optimize electrical capacity while maintaining safety.
4. **Harmonize requirements** with the Canadian Electrical Code and established Canadian standards, drawing on Québec's experience.
5. **Establish a clear implementation timeline**, developed in consultation with utilities, the electrical industry, and building stakeholders.

1. EV Readiness Reduces Long-Term Infrastructure Costs

Preparing buildings for EV charging during construction is significantly more cost-effective than retrofitting completed buildings.

Research published by Clean Energy Canada in 2025 found that installing EV charging infrastructure during new construction can be **three to four times less expensive than retrofitting existing buildings** [2]. Retrofitting may require electrical panel upgrades, new conduit and wiring, and modifications to completed parking facilities.

EV readiness should therefore be viewed as a long-term affordability measure. Incorporating electrical infrastructure during construction allows charging equipment to be installed as demand develops, without requiring building owners or residents to purchase chargers immediately.

This approach reduces future costs while preserving consumer choice.

2. Multi-Unit Residential Buildings Require Particular Attention

Access to home charging remains a significant barrier to EV adoption, particularly for residents of apartments and condominiums.

Clean Energy Canada's 2025 report found that **38% of surveyed EV owners living in multi-unit residential buildings lacked access to home charging**, compared with only 2% of single-family homeowners [2].

Multi-unit residential buildings (MURBs) present unique challenges because electrical infrastructure and parking facilities are shared among multiple residents. Retrofitting these buildings can require substantial electrical upgrades, coordination among property owners, and disruptive construction.

Introducing EV-ready requirements during construction would help prevent these barriers while complementing Manitoba's investments in public charging infrastructure.

EFC recommends prioritizing EV readiness in new multi-unit residential buildings, with requirements that are practical and cost-effective for different building types.

3. Building and Electrical Codes Must Work Together

EV readiness involves more than reserving space for future chargers. Buildings must have appropriate electrical infrastructure to accommodate charging safely and efficiently.

The Manitoba Building Code should establish requirements for incorporating EV-ready infrastructure into new construction, such as requiring raceways (conduit), wiring pathways and/or cable management systems from electrical rooms to parking spaces. The Manitoba Electrical Code should address requirements for electrical capacity planning and panel space allocation. Specifically, the Electrical code should require sizing electrical service, feeders, distribution systems, and electrical panels to accommodate future EV charging loads.

Importantly, EV-ready requirements should recognize modern **EV energy management systems (EVEMS)** and other Electrical Energy Regulating Equipment and load management systems.

These systems can distribute available electrical capacity across multiple vehicles and other loads, and manage simultaneous charging demand, potentially reducing the need for costly electrical infrastructure upgrades.

EFC recommends that Manitoba recognize code-compliant managed charging solutions when calculating load requirements, allowing buildings to accommodate future EV charging without unnecessarily oversizing electrical infrastructure.

4. Harmonized Standards and Practical Implementation

EFC supports harmonized electrical safety standards and consistent technical requirements across Canadian jurisdictions.

Québec's recently adopted EV-readiness framework provides a useful reference for Manitoba. Its approach emphasizes preparing buildings for future charging while allowing charging equipment to be installed as needed.

EFC encourages Manitoba to align its requirements with the Canadian Electrical Code and applicable Canadian standards to minimize regulatory differences and provide certainty for electrical equipment manufacturers, distributors, developers, and contractors.

EFC also encourages consultation with Manitoba Hydro, electrical equipment manufacturers, contractors, and other industry stakeholders to ensure requirements are technically feasible and cost-effective.

EFC welcomes the opportunity to work with the Government of Manitoba, Manitoba Hydro, and industry stakeholders to support the development of practical, harmonized, and technically sound requirements.

Warm Regards,

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Supporting References

1. Government of Manitoba. *Manitoba's Affordable Energy Plan* (September 2024), Action 6.3.

2. Clean Energy Canada. *Electrifying the Lot* (March 2025).
3. Government of Québec. Amendments to the Construction Code and electrical installation requirements (2026).