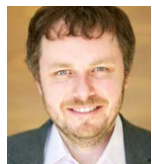




Electric Vehicle Mayhem: Navigating EV Charging Solutions

By Steve Hubbard

Electric vehicles (EVs) are coming and fast! EVs are a common sight today, and the federal government's plan includes making 100% of new passenger vehicles sold in Canada electric by 2035, so we will see them more and more.



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While gas stations are abundant, Electric Vehicle Charging Systems (EVCS) are in short supply, so the federal government has introduced the Zero Emission Vehicle Infrastructure Program (ZEVIP) to help fund the installation of EVCS across the country. The funding is available via various delivery organizations and can cover up to 50% of project costs to install EVCS in commercial, industrial and multi-unit residential buildings (MURBs), including condominiums.

Since an estimated 80% of EV charging will be done overnight at home, condo corporations must be prepared with an action plan beyond simply installing 1 or 2 chargers. Consider how your residents will charge in 2035 when 100% of new passenger vehicles sold are electric. Condo boards and property managers should consider getting started on building a

long-term strategy around EV charging and consider the following list of issues:

1. Your building may not have enough power, and you don't want to have breakers trip and potentially having vital building equipment offline.

Solution: Have a professional firm with engineers & electricians on staff conduct a building power study to understand your building and its requirements fully. The study should look at historical hourly data and peak hydro consumption to determine how much power is available for EVCS. A resident survey could gauge owner interest in owning EVs.

2. So you don't have enough power?

Solution: Look for contractors with experience in offering networked (grant-eligible) EVCS that use software and hardware for dynamic power load management. Connected EVCS can allow power to be shared and maximize the power available to chargers so that owners wake up in the morning with sufficient EV range.

Tip from an expert: Val Khomenko, Regional Condominium Manager at ICON Property Management, suggests: "It's critical to think carefully with a long-term view regarding EV Charging.

Too many pitfalls exist to be trapped into proprietary tech that might not be available or scalable down the road."

3. How do we get reimbursed for charging (cost of hydro) and manage the chargers?

Solution: Good solutions for EVCS should include a software package that offers the following to eliminate burdens for boards or management:

- Remote monitoring, control and customer support that deals directly with end-users;
- Energy metering & billing so users pay for their charge with an app or RFID card, and reconciliation & payment is done automatically for the board regularly;
- Scalability so that as more owners adopt EVCS, they can be added and appropriately commissioned and easy to code, giving users as much power as safely possible;
- Flexible access control so that only eligible users can charge, and ideally, it has the flexibility to make the chargers available to the public for revenue generation if that's of interest;
- Open source so that the board is not locked to a system they can't change

down the road. Look for OCPP (Open Charge Point Protocol) compliant solutions; and

- Cell/wifi/ethernet connections allow the system to communicate with the cloud to do what it's meant to do.

4. 50% Government Grants – How do we access them?

Solution: A reputable company with experience. If a contractor can't handle the paperwork with the condo to procure the grants or their system isn't eligible, you might want to think twice.

Government grants cover up to 50% of total project costs, including any electrical infrastructure (panels, transformers, breakers), the chargers, commissioning, electrical work and permits, engineering, project management etc.

5. How do we know it's safe?

Solution: Ensure your contractor involves the Electrical Safety Authority (ESA) throughout the process. ESA should ensure the system meets all Canadian Standards Association (CSA) requirements like cUL or cETL. This is

important as ESA will review the hardware, software, and electrical design to ensure everything is safe and sound.

6. How do we choose the best contractor?

Solution: First, the contractor should be able to do all of the above. Electrical contractors may know how to install, but that doesn't mean they know EV charging software solutions or payment and reconciliation options. The contractor should be able to provide you with multiple, safe, grant-eligible solutions to get you started with charging on-site. Choose a specialist with references from other condo boards or clients and a good business history. Consultation is key!

7. How to compare quotes with so many solutions?

Solution: As mentioned above, you must consult each contractor invited to propose an EVCS for the condo. Take your time, conduct interviews, ask questions referring to the points above and don't focus on pricing until you understand the proposal in detail. With grants covering up to 50% of project costs, you don't want to leave money on the table. If the long-term strategy involves adding transformers, sub-panels, and traditional electrical equipment to expand the system, why not install it now at a considerable discount?

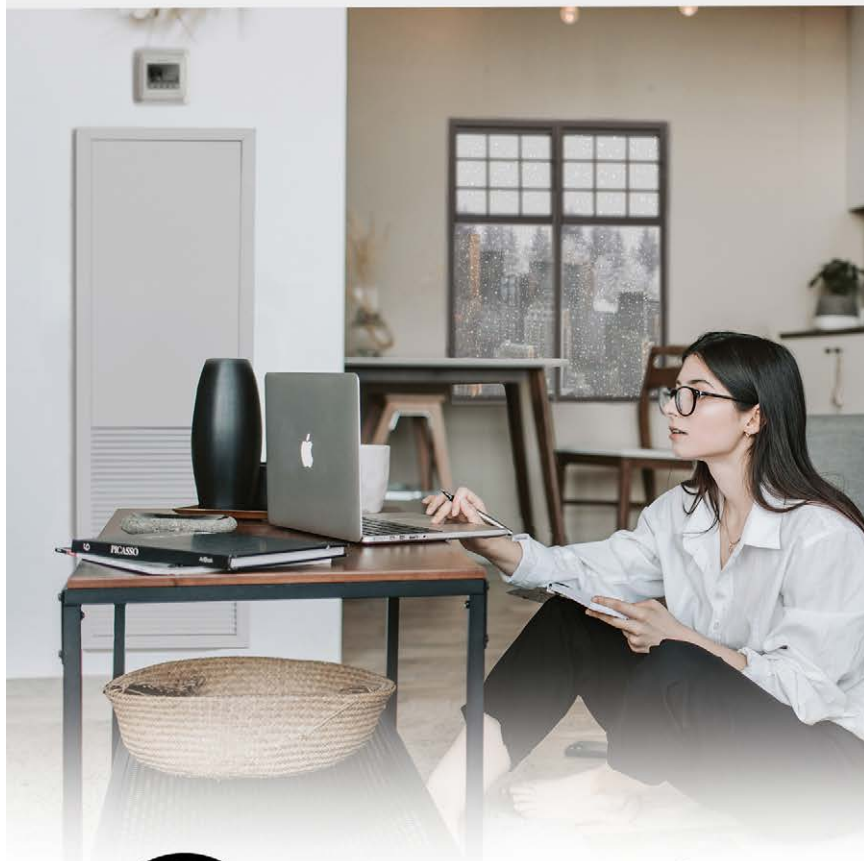
Tip from an expert: Melody Brown, Property Manager at Condominium Management Group, says, "Consult legal counsel throughout the process. Once you have initial quotes, you will need to determine whether you need to involve owner approval. Your contractor will need to work closely with you on this." She also stresses that rebates can take time to process, so boards and management must plan accordingly.

The main focus should be finding reasonable turn-key solutions that don't burden management or board members with additional work. A solution without software, for example, may require an alternate payment reconciliation solution that can be highly cumbersome. ■

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