

VANCOUVER ELECTRICAL REPAIR

EV Chargers

Level 2 charger circuits, panel capacity, load management, strata parkade installations and CleanBC Go Electric rebates

4 Expert Answers from Electric IQ

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Can my Coquitlam garage charger be set to a lower amperage to avoid an upgrade?

Load management is the right instinct, and in many Coquitlam homes it works well enough to avoid a panel upgrade entirely. A Level 2 EV charger circuit is typically sized at 40A or 50A (for a 32A or 40A continuous charge rate), but most modern chargers let you dial the output down to 16A, 24A or 32A through an app or a DIP switch setting. If your panel has enough spare capacity to support a smaller continuous load, a licensed electrician can size the breaker and wire to match the reduced setting and skip the upgrade.

What actually determines whether this works

The key number is your panel's available capacity after accounting for everything already running: electric baseboard heat, a dryer, a range, a hot water tank, and any other large loads. An electrician will do a load calculation (required by the BC Electrical Code for any new circuit that affects the service) and compare the result against your service size. Coquitlam homes from the 1970s and 1980s often have 100A services, which can be tight once heat and cooking loads are added. If the calculation shows 24A of headroom, a charger set to 16A continuous (on a 20A breaker) is a legitimate solution. If the panel is already near its limit, no amount of dial-turning avoids the upgrade.

A smarter middle path is a charger with built-in load management, sometimes called a smart or dynamic charger. It monitors your home's real-time consumption and automatically throttles the charge rate when other loads spike, then ramps back up when they drop. This lets you install a larger-capacity circuit (say, 40A) while staying within your service limit on paper, and it gives you room to charge faster on a quiet evening. Some BC Hydro rebate programs have accepted this approach for single-family homes, so it is worth asking about eligibility before the work starts.

Coquitlam's electrical permits are issued by Technical Safety BC, not by the city, so your electrician will pull the permit through Technical Safety BC and the work will be inspected before the charger goes into regular use. Skipping the permit is a common mistake that can void your home insurance claim if there is ever a fire or a fault on that circuit.

A straightforward charger circuit in Coquitlam with a short run from an existing 100A panel typically costs \$800 to \$2,000 installed, permit included. If the panel needs upgrading to 200A, add \$3,500 to \$6,000, and potentially more if BC Hydro needs to upgrade the service drop. A load management charger adds roughly \$200 to \$500 to the hardware cost but can save the upgrade cost entirely.

Before hiring, ask the electrician for their Technical Safety BC licence number, confirm WorkSafeBC coverage, and make sure the permit is included in the quote. Ask specifically: "Will you do a load calculation, and what happens to the price if the panel needs upgrading?"

Want quotes on this? Vancouver Electrical Repair can match you with local Coquitlam electricians for free.

Q2

Where should the charger sit in a West Vancouver garage with two cars?

For a two-car garage in West Vancouver, the most practical placement puts **one Level 2 charger between the two stalls**, centred on the shared wall or a structural post, so a single cord reaches either vehicle. That works well if you charge one car at a time. If both cars need overnight charging simultaneously, you will want two chargers, one per stall, or a load-managed dual-outlet unit.

Placement details that matter in a West Vancouver garage

Mount the charger at roughly 1.2 to 1.5 metres above the finished floor, on the wall closest to where the charge port sits on your vehicles. Most North American EVs have the port at the front left or rear left, so a side wall or the back wall between the stalls is usually the sweet spot. Keep the cord path clear of where you walk and away from the front of the stall where a bumper could contact the unit.

West Vancouver's marine climate means moisture management matters even inside a garage. If the garage is not fully enclosed or has an open front, specify a charger rated NEMA 4 or NEMA 3R for wet locations, and make sure the outlet or hardwired connection uses a weatherproof box. Corrosion at the breaker connection is a real issue in older West Vancouver homes close to the water.

The electrical run is often the bigger decision than the wall position. A detached or semi-detached garage in West Vancouver can mean a long conduit run from the main panel, sometimes 20 to 30 metres or more, which adds cost and may require a sub-panel in the garage rather than a single circuit back to the house. A 50A dedicated circuit (for a 40A continuous load, which is standard for Level 2) is the minimum for a single charger; two chargers typically need either two 50A circuits or a load-sharing unit on one 60A to 80A circuit.

For a single charger with a short run and available panel capacity, budget roughly \$800 to \$2,000 installed. A long run, a detached garage, or two chargers with load management typically runs \$2,500 to \$4,000 or more before the cost of the charger hardware itself (\$600 to \$1,000 per unit).

Permits and authority: West Vancouver runs its own electrical permit and inspection program, separate from Technical Safety BC. Your electrician pulls the permit through the District of West Vancouver's building department, not through Technical Safety BC. Make sure the permit is included in any quote you receive.

On rebates, the BC Hydro EV charger rebate covers 50% of purchase and installation up to \$350 for eligible single-family homes. CleanBC Go Electric has additional programs worth checking before work starts, and most require the permit to be in place, so apply before the electrician books the job.

Before hiring, ask for the contractor's Technical Safety BC licence number and WorkSafeBC coverage, and confirm both independently. A fair quote for this job includes the circuit, the permit and inspection fee, any conduit or trenching, the load calculation if the panel is close to capacity, and all materials.

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Q3

Will a charger on a 100 amp Port Coquitlam service need a load calculation?

Yes, almost certainly. On a 100A service in Port Coquitlam, a load calculation is not optional, it is the step that tells you whether the panel can actually support a Level 2 EV charger without overloading the service, and most electricians will do one before they quote the circuit.

Why 100A services are tight for EV charging

A Level 2 charger on a dedicated 40A or 50A circuit draws a continuous load, which the BC Electrical Code treats at 80% of breaker rating for sizing purposes. That means a 50A breaker is carrying a sustained 40A load. On a 100A service that also feeds electric baseboard heat, a range, a dryer and a hot water tank, you may already be at or near the service limit during a cold evening. The load calculation adds up all the connected loads using the demand factors in the BC Electrical Code and shows exactly how many amps of headroom remain.

If the calculation shows headroom, the electrician runs the circuit and you are done. If it shows the service is too full, the options are a service upgrade to 200A (typically \$3,500 to \$6,000 in Metro Vancouver, more if BC Hydro needs to replace the service drop or meter base), a load management device that throttles the charger when the house load is high, or a smaller 30A charger circuit that draws less continuous current. Load management hardware adds roughly \$300 to \$800 to the job but can avoid a full service upgrade.

Port Coquitlam issues its electrical permits through Technical Safety BC, not through the city's own building department. That means the electrician pulls a Technical Safety BC permit, the work is inspected by a Technical

Safety BC safety officer, and the permit fee is typically in the \$100 to \$200 range for a residential circuit. The load calculation is part of what the inspector expects to see justifying the installation.

A fair quote for this job should include the load calculation, the dedicated circuit, the permit and inspection fee, and any load management hardware if needed. Ask the electrician whether the quote covers BC Hydro coordination if a service upgrade turns out to be necessary, because Hydro's disconnect and reconnect for a panel change runs around \$1,200 and is not always included.

Before you hire, ask for the contractor's Technical Safety BC licence number and confirm WorkSafeBC coverage. The CleanBC Go Electric rebate for a home EV charger covers 50% of purchase and installation up to \$350 for eligible single-family homes and row homes, and it requires a licensed contractor, a permit, and an application before the work starts.

Want quotes for this? Vancouver Electrical Repair can match you with local electricians for free.

What does an EV-ready plan mean for a Burnaby condo parkade?

An EV-ready plan for a Burnaby strata parkade is a formal electrical planning document that maps out how the building's shared electrical infrastructure can support EV charging across some or all parking stalls, without overloading the building's main service. The cost to commission one typically runs **\$3,000–\$10,000** depending on building size and complexity, and it is a prerequisite for most CleanBC Go Electric strata rebates.

What the plan actually covers

The document is produced by a licensed electrical engineer or a qualified electrical contractor and starts with a load calculation on the building's existing service. Older Burnaby concrete towers from the 1970s and 1980s often have a main service sized for the loads of that era, with little headroom for dozens of Level 2 chargers drawing 7–10 kW each. The plan identifies how much capacity is already available, what infrastructure upgrades the parkade needs (conduit runs, sub-panels, metering equipment), and how many stalls can be energised immediately versus phased in over time.

Load management is central to every plan. Rather than sizing the electrical service for every stall running at full power simultaneously, a shared load management system throttles charger output dynamically so the building's demand stays within its service limit. This is what makes EV-ready upgrades financially realistic for most stratas.

The plan also addresses per-stall metering, which is required so each owner pays only for the electricity they use. In Burnaby, the electrical permit for parkade work comes from the City of Burnaby's own electrical inspection department, not Technical Safety BC, so the plan and the contractor's permit application go through the city. That distinction matters when the strata is coordinating with BC Hydro for any service upgrade, because the permit authority and the utility are separate conversations.

Strata council approval is required before any work begins. Under the Strata Property Act, parkade wiring is common property, so the plan, the contractor selection and the alteration agreement all need a council resolution, and depending on the scope, possibly a three-quarters vote of owners.

CleanBC Go Electric offers rebates for both the EV-ready planning study and the subsequent infrastructure installation. The planning rebate has historically covered a meaningful portion of the study cost, but the program requires the application to be submitted and approved before the work is commissioned, so the strata should apply early. BC Hydro may also need to be involved if the service upgrade requires a new transformer or a larger service entrance, which adds lead time measured in months, not weeks.

A fair scope of work for the plan includes a site visit, a review of the existing electrical room drawings, the load calculation, a phased implementation schedule, a cost estimate for each phase, and a report the strata council can present to owners. Ask the contractor whether the fee includes attending a strata council meeting to present findings, and confirm they hold a Technical Safety BC electrical contractor licence and WorkSafeBC coverage before signing anything.

Want quotes on an EV-ready planning study for your Burnaby building? Vancouver Electrical Repair can match you with local electricians familiar with strata parkade work, for free.

Disclaimer: This guide is provided for informational purposes only by Vancouver Electrical Repair. It does not constitute professional advice. Always consult qualified, licensed contractors and your local electrical authority (your municipality or Technical Safety BC) before starting any electrical project. Information is current as of October 4, 2026 and may change. Visit vancouverelectricalrepair.com for the latest answers.