VANCOUVER ELECTRICAL REPAIR

Backup Power & Smart Home

Generators, transfer switches and battery backup for storm outages, plus smart panels, switches and home automation

4 Expert Answers from Electric IQ

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Q1

Can I run a generator through the dryer plug during a North Vancouver outage?

No. Backfeeding a generator through a dryer outlet is one of the most dangerous things you can do during an outage, and it is illegal under the BC Electrical Code.

Here is what actually happens: the generator pushes power backward through your panel and out onto the BC Hydro lines that you assume are dead. Hydro crews working to restore power on your street can be killed by that backfed current. Your neighbours' homes can also receive unexpected voltage. Inside your own house, when Hydro restores power while the generator is still connected, the two sources collide and can destroy the generator, damage appliances and start a fire. The dryer outlet itself is not designed or rated for this use.

The right way to connect a generator in North Vancouver

The only code-compliant method is a proper transfer switch or a generator interlock kit installed at your main panel. A transfer switch physically disconnects your home from the Hydro grid before connecting the generator, so backfeed is impossible. An interlock kit is a mechanical device bolted to the panel door that prevents the main breaker and the generator breaker from being on at the same time. Both require a permit and a licensed electrical contractor to install.

In North Vancouver, the permit authority depends on which municipality you are in. The City of North Vancouver and the District of North Vancouver both run their own electrical permit and inspection programs, separate from Technical Safety BC. Your electrician will pull the permit from the correct office, and the work will be inspected before you rely on it.

Installed cost for a transfer switch or interlock in Metro Vancouver typically runs $800 to $2,500, depending on panel access, whether a dedicated generator circuit and inlet are added, and the complexity of the loads you want to back up. A manual interlock with an outdoor inlet is at the lower end of that range; a larger automatic transfer switch with a sub-panel for critical circuits sits at the higher end.

A few practical points worth knowing: portable generators must run outdoors, well away from windows and doors, because carbon monoxide kills quickly in enclosed spaces. Extension cords run from the generator directly to individual appliances are a perfectly legal and safe interim approach while you plan a permanent solution. And if you are considering a standby generator or a battery backup system, those installations involve load calculations, utility coordination and permits as well, so plan ahead rather than after the next windstorm.

North Vancouver's fall and winter storm season makes outages a real recurring risk. Getting a transfer switch or interlock installed during the dry months (May through September) means the work is done before you need it, and the inspector is not working in the rain.

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

Q2

Can a home battery keep my Richmond fridge running for two days?

A home battery system can realistically keep a fridge running for two days, but whether it actually does depends on the battery's usable capacity, the fridge's draw, and what else you leave on. Here is how to think through it for a Richmond home.

The Math That Matters

A typical modern fridge uses roughly 1 to 2 kWh per day, so a 48-hour run needs about 2 to 4 kWh of usable energy. Most home battery systems sold in Canada today have usable capacities in the 10 to 13.5 kWh range (a single unit). On paper, that is plenty for the fridge alone. The catch is that "usable" capacity shrinks in cold weather, and a marine-climate winter in Richmond, where temperatures hover near zero, can reduce effective output by 10 to 20 percent depending on where the battery is installed. An unheated garage is the worst spot; a conditioned utility room is far better.

The second catch is that a fridge is rarely the only load. If the battery is also carrying a few lights, phone chargers, a router and a gas furnace's blower motor, your daily draw climbs fast. A gas furnace blower alone can pull 400 to 800 watts while running. Add that up over 48 hours and a single 10 kWh battery gets tight.

The honest answer: one standard home battery can keep a fridge running for two days if you manage other loads carefully, but it will not power a whole house for that period.

For Richmond specifically, the grid is served by BC Hydro. The windstorm outages that hit the Lower Mainland most often in October through February are usually resolved within 24 hours, though longer outages do occur. A single battery paired with solar panels (if your roof qualifies and strata rules allow) can recharge during daylight, extending that window considerably.

On the electrical side, a home battery installation requires a dedicated circuit, a critical-loads sub-panel or a transfer switch, and in many cases a bidirectional inverter. This is permitted work. Richmond issues its own gas permits but its electrical permits come from Technical Safety BC, so your electrician will pull the permit there, and the installation must pass a Technical Safety BC inspection before the battery is energised. The work must be done by a licensed electrical contractor.

Cost for the electrical portion, not including the battery hardware itself, typically runs $1,500 to $3,500 in Metro Vancouver depending on panel capacity, run length, and whether a critical-loads sub-panel is needed. Battery hardware from common Canadian suppliers adds roughly $8,000 to $15,000 for a single unit installed. Check CleanBC Better Homes for any current rebates on battery storage paired with heat pumps, as the program does evolve.

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. Also ask whether the battery location meets the manufacturer's temperature range, because Richmond garages get cold enough in January to matter.

Want quotes for this? Vancouver Electrical Repair can match you with local electricians familiar with battery and backup installations for free.

Q3

Solar panels plus a battery in Coquitlam, does BC Hydro need to approve it?

Yes, BC Hydro approval is required before a grid-tied solar and battery system goes live in Coquitlam. This is not optional and skipping it creates real problems with insurance, interconnection and future home sales.

What BC Hydro's Role Actually Is

BC Hydro is the utility that owns the distribution grid you are connecting to, and any system that can export power or island (run independently during an outage) must go through their interconnection process. You apply to BC Hydro for a Net Metering Agreement before the system is commissioned. BC Hydro reviews the application, may require a site inspection, and ultimately approves the interconnection and installs a bi-directional meter. Without that agreement in place, your installer cannot legally energise the grid-tied portion of the system.

The battery adds a layer of complexity. If the battery is configured to island your home during an outage (which is the main reason most people want one), the inverter must have anti-islanding protection that satisfies BC Hydro's interconnection standards. Most modern hybrid inverters do, but BC Hydro reviews the equipment list as part of the application.

On the permit side, Coquitlam is a Technical Safety BC municipality for electrical permits, not one of the seven cities that run their own program. That means your electrical contractor pulls the permit through Technical Safety BC, and a Technical Safety BC inspector signs off on the installation. The solar and battery wiring, the disconnect, the interconnection point at your panel and any new sub-panel all fall under that permit.

Your contractor will typically handle both the Technical Safety BC permit and the BC Hydro net metering application as part of the job. Confirm this explicitly before signing anything, because some installers treat the utility application as the homeowner's problem.

On cost, a residential grid-tied solar system with a battery in Metro Vancouver typically runs $15,000 to $35,000 installed, depending on system size (kilowatts of panels, kilowatt-hours of battery), roof complexity, panel capacity and how much new wiring is needed between the array, the inverter and your main panel. If your existing panel is a 100A service or is already near capacity, a service upgrade to 200A adds $3,500 to $6,000 on top of that. Get the load calculation in writing before you commit to a system size.

CleanBC does not currently offer a direct rebate for solar panels themselves, but if the system is paired with a heat pump or other CleanBC-eligible equipment, those rebates may apply to that portion. BC Hydro's net metering program credits you for exported power at a rate set by the BC Utilities Commission, so ask your installer to model the payback period using current rates, not optimistic ones.

What a fair quote should include: the Technical Safety BC permit and inspection fee, the BC Hydro interconnection application, all wiring from array to inverter to panel, the disconnect switch required by code, commissioning and a single-line diagram for the inspector. Ask each bidder for their Technical Safety BC contractor licence number and confirm WorkSafeBC coverage before you sign.

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

Q4

Does a battery backup for the sump pump need an electrician in Burnaby?

A battery backup for a sump pump in Burnaby usually does **not** require a licensed electrician or a permit, but the answer depends on exactly what you're installing.

What type of backup matters most

Most battery backup sump pump systems sold at hardware stores are self-contained units: a battery, a charger, and a secondary pump that plugs into an existing standard outlet. If your sump pit already has a grounded 15A or 20A outlet nearby and you're simply plugging in the backup unit, that's a homeowner task, no permit, no electrician required. The same goes for a UPS (uninterruptible power supply) style unit that sits between the wall outlet and the pump.

Where a licensed electrician becomes necessary is when the installation requires new wiring. Common situations in Burnaby homes include:

- No outlet near the sump pit, requiring a new dedicated circuit run from the panel
- The existing outlet is ungrounded (common in pre-1970s Burnaby homes), and the backup unit requires a grounded connection
- You're installing a whole-home battery backup system (like a wall-mounted lithium unit) that ties into your panel
- You want a transfer switch so the backup can power the pump during an outage without relying on a plug-in connection

A new circuit or any panel work in Burnaby requires a permit. Burnaby runs its own electrical inspection program through its building department, not Technical Safety BC, so the permit is pulled through the City of Burnaby, and the contractor must be a licensed electrical contractor under Technical Safety BC.
One detail worth checking in older Burnaby homes (particularly 1965–1976 stock in areas like Edmonds, Cariboo or Lakeview): if the outlet near the sump is on an aluminum-wired circuit, confirm the receptacle is rated CO/ALR or has been properly pigtailed to copper. A standard outlet on aluminum wiring is a fire risk, and a battery charger drawing continuous current makes that worse.

Any outlet in a crawlspace or unfinished basement near water also needs to be GFCI-protected under the BC Electrical Code, if yours isn't, that's worth fixing at the same time.

For a simple plug-in battery backup unit, budget $200–$600 for the hardware itself. If you need a new dedicated 20A circuit added, add $400–$900 for the electrical work, depending on the run length and panel access. A whole-home battery system with panel integration is a much larger project, typically $8,000–$20,000 installed, depending

on capacity.

If you need a new circuit or panel work, Vancouver Electrical Repair can match you with a local Burnaby electrician for a free quote, just confirm their Technical Safety BC licence number and that the permit is included in the price before you commit.

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.