

TESLA POWERWALL 3 · ONTARIO HOMES

Power that stays on. And pays you back.

What happens when the grid fails, why a battery answers it better than anything else, and what else it does for you the other 360 days a year.

0.002s

Time to switch over.
You never see the lights
flicker.

10×

Price gap between
night power and evening
power.

\$10,000

Ontario rebate available
when installed with solar.

PEO

Professional Engineers
P.E.O.

CEM

Certified Energy Managers
A.E.E.

ECRA

Licensed Contractor
Morava Electric #7008817

TESLA

Certified Installer
Powerwall 3 & Wall
Connector

HYDRO

Toronto Hydro Cleantech
Service network member



Energable Inc. is a Tesla Powerwall Certified Installer, insured for \$5M in commercial general liability and \$2M in professional liability.

Electrical work is performed in partnership with Morava Electric, ECRA/ESA #7008817.

WHERE THIS GOES

The map

1

The grid is getting less reliable

More storms. Older wires. More demand. Outages are getting longer, not shorter.

2

An outage costs you real money

A dead sump pump. A warm freezer. A workday lost. Heat off in February.

3

The Powerwall answers it instantly

It takes over in two thousandths of a second. Nobody in the house notices.

4

And it earns money every single day

It buys power at night for 3.9¢ and runs your house at dinnertime, when power costs 39.1¢.

5

You control it from your phone

See where your power is going. Change how it behaves. Charge up before a storm.

6

It grows with you

Add storage. Add solar. Add an EV charger. Start with what you need today.

7

What about a generator?

Sometimes a generator is the right answer. We install those too. Here is the honest comparison.

8

Can you have both?

Yes, but not the way most people assume. We show you exactly how it wires up.

STEP 1 The grid was built for a different world

Ontario's distribution system was designed decades ago, for smaller homes with fewer electric things in them. Three pressures are now working against it at once.

A

WEATHER

Storms are hitting harder

Ice storms, wind events and summer heat waves knock out power more often than they used to. Most Ontario homes lose power one to three times a year. Some lose it for days.

B

AGE

The equipment is old

Poles, transformers and overhead lines across the GTA are past their design life. Replacing them takes decades and costs billions. It is happening slowly.

C

DEMAND

Everyone is plugging more in

Electric cars. Heat pumps. Air conditioning. Data centres. The evening rush between 4 and 9 p.m. is the tightest it has ever been, which is exactly why power costs the most then.

THE PART MOST PEOPLE MISS

That third pressure, everyone plugging more in, is also the **opportunity**. Because evening power is scarce, Ontario prices it ten times higher than overnight power. A battery is the one device in your house that can take advantage of that.



300,000+

Homes left without power for days after the December 2013 ice storm, the GTA's largest weather-driven outage on record. Toronto Hydro calls it a matter of when, not if, it happens again.

STEP 2 It is never just the lights

People picture candles and a board game. What actually happens is more expensive than that.

What stops	What it costs you
Sump pump	A finished basement. This is the single most expensive thing an outage does to a GTA home, and it happens during the exact storms that cause outages.
Furnace	A gas furnace still needs electricity to run its blower. No power means no heat, and in February, frozen pipes.
Fridge and freezer	Roughly four hours before food is at risk. A full freezer is often \$400 to \$800 of groceries.
Internet and home office	If you work from home, a four-hour outage is half a working day. Twice a year, that adds up.
Well and septic pump	No water at the tap and no drainage. On a rural property this is not an inconvenience, it is the whole house stopping.
Medical equipment	Oxygen concentrators, home dialysis, powered lifts. Here the cost is not measured in dollars at all.

"We lost power for eleven hours. The sump quit around hour four. The insurance claim was \$19,000."

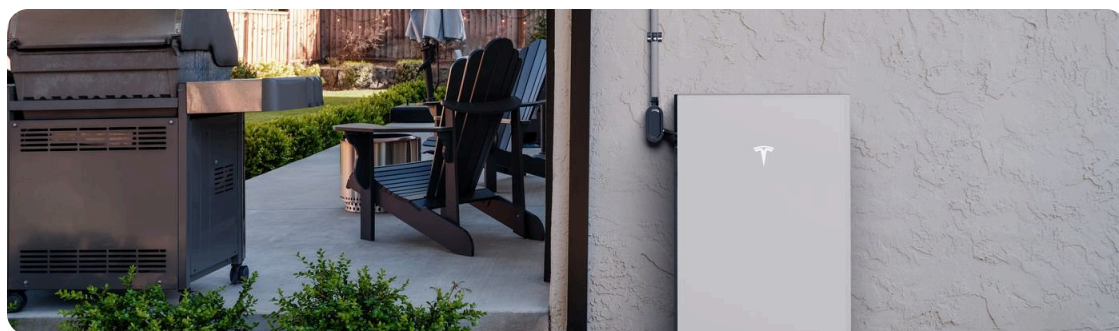
A conversation we have had, in some form, with more than one homeowner in Toronto.

THE HONEST FRAMING

A generator or a battery is not something you use often. It is something you are very glad to have on the two days a year you need it, and a battery is the only one of the two that does anything useful on the other 363.

STEP 3 What a Powerwall 3 actually is

A flat white cabinet, about the size of a large radiator, that hangs on a wall. Inside is a battery, a computer, and a solar inverter. There are no moving parts.



Powerwall 3 mounted outside a home. It is rated for indoor or outdoor installation, -20°C to 50°C .

STORES

13.5 kWh

Enough to run the essentials of a typical home for most of a day

DELIVERS

11.5 kW

Enough to start an air conditioner and run the house at the same time

SIZE

110 × 61 cm

19 cm deep. Needs clear space in front only, not on the sides

NOISE

Silent

Quieter than your fridge. Indoors or outdoors, -20°C to 50°C

What it does for you

- ✓ Keeps the house running when the grid fails
- ✓ Cuts your bill every day by shifting when you buy power
- ✓ Stores your solar for the evening instead of wasting it
- ✓ Runs silently, with zero emissions and no fuel
- ✓ Needs no servicing, ever. 10-year warranty

What it is not

- ✗ Not unlimited, it holds a set amount of energy
- ✗ Not a generator replacement for multi-day outages
- ✗ Not something you have to operate. It runs itself
- ✗ Not a roof product, solar is separate and optional

STEP 3 CONTINUED

The moment the power goes out

1

The grid drops

A tree comes down three streets over. Your neighbours' houses go dark.

2

The Gateway disconnects you, in 0.002 seconds

A small grey box called the Tesla Gateway 3 sits between your house and the street. It senses the failure and cuts your home free of the grid faster than a light bulb can dim.

3

The Powerwall takes over

Your house is now running on the battery. **Nothing in the house restarts.** No clocks reset. No computers reboot. Nobody in the room looks up.

4

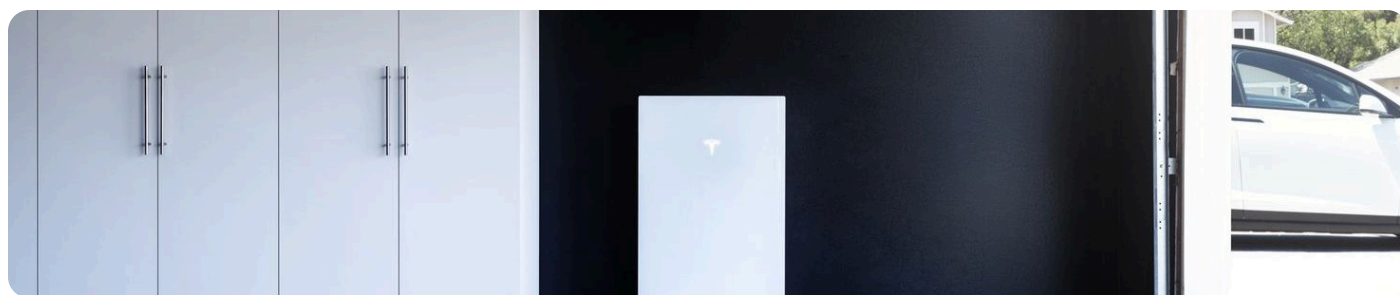
Your phone tells you what happened

Usually the first way you find out is a notification, or a neighbour knocking to ask if you have power too.

5

The grid comes back. It reconnects itself.

The Gateway checks the grid is stable, reconnects, and recharges the battery overnight at the cheap rate. You do nothing.



The house is on battery power and nobody inside can tell. The Gateway sits between your meter and your panel and does the switching in two thousandths of a second.

WHY 0.002 SECONDS MATTERS

A generator takes 10 to 30 seconds to start. In that gap, your house is dark, your furnace shuts down, your computer loses what you were doing, and your sump pump stops. **The Powerwall closes that gap completely.**

STEP 4 Buy at night. Use at dinnertime.

Ontario sells the same kilowatt-hour for 3.9¢ at midnight and 39.1¢ at six in the evening. Ten times the price, for the same thing.

3.9¢

Overnight
11 p.m. – 7 a.m., every
day

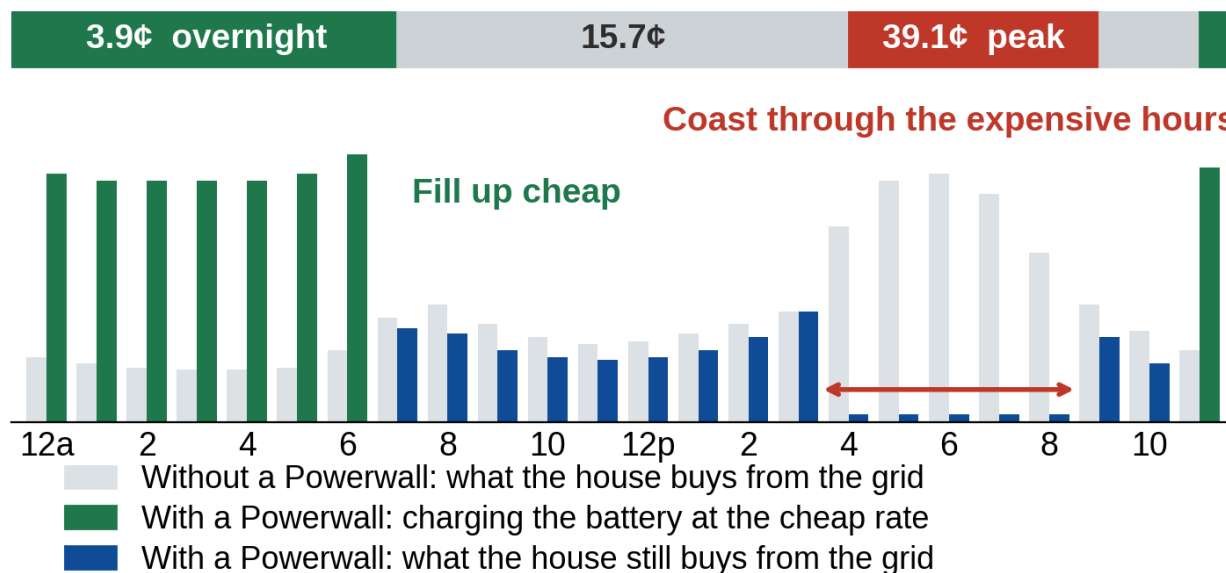
39.1¢

Evening peak
4 – 9 p.m., weekdays

35.2¢

The gap the Powerwall
lives in
on every kWh it moves

The Powerwall fills up overnight while power is cheap, then runs your house from 4 to 9 p.m. instead of buying from the grid. **Same power, same habits, you just stop paying peak price.**



OEB Ultra-Low Overnight rates, effective 1 Nov 2025. Typical detached home, weekday.

THE CATCH, STATED PLAINLY

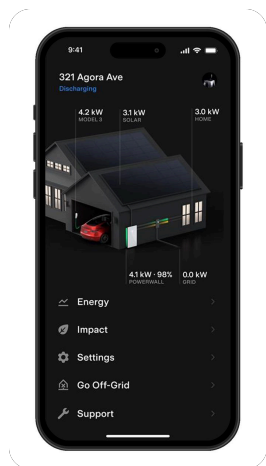
This only works if you are on Ontario's **Ultra-Low Overnight** rate plan. Most homes are not, they are on the default plan, where the gap is only 10.5¢ instead of 35.2¢.

Switching is free and takes one phone call. We handle it, and check your first bill.

Worth roughly \$500 to \$830 a year for a typical GTA detached home, before any solar.

STEP 5 Your phone is the control room

You do not have to operate a Powerwall. But you can watch it, and change how it behaves, from anywhere.



The Tesla app shows your home live, sun coming in, battery charging or discharging, what the grid is doing, and where every watt is going right now.

Most people check it constantly for the first month, then almost never. **The system does not need you.**

What you can see

- ✓ Where every watt is going, right now
- ✓ How full the battery is
- ✓ What you used today, this month, this year
- ✓ How much you saved, and when
- ✓ A record of every outage you rode through

What you can change

- ✓ **Storm Watch:** Tesla sees a severe weather alert for your area and charges the battery to full automatically
- ✓ **Backup reserve:** how much you hold back for outages versus use for savings
- ✓ Charge from the grid on or off
- ✓ How your EV charges, and when

THE ONE SETTING THAT MATTERS

Backup reserve. Set it high and you always have power in reserve, but you earn less. Set it low and you earn more, but you might be half empty when a storm hits.

Most of our clients run 20–30% in summer and 40–50% in ice storm season. You can change it from your phone in two seconds, and Storm Watch overrides it for you when weather is coming.

STEP 5 CONTINUED **Load shedding: making it last longer**

A battery holds a set amount of energy. The trick to making an outage comfortable is not buying a bigger battery, it is being smart about what runs during one.

1

AUTOMATIC

Your EV stops charging

The system knows it is running on battery and pulls back your car charging on its own. Your car is a reserve during an outage, not something you top up.

2

ENGINEERED

Big loads are switched off by a relay

We wire a contactor onto the electric water heater, the air conditioner, or the hot tub. The moment the house goes onto battery, those drop out, and come back when the grid does. You never touch anything.

3

DESIGNED IN

Some circuits are simply not backed up

Decided at design time, on paper, with you. We give you a list of exactly which circuits stay live and which do not, before anything is installed.

4

MANUAL

You decide in the moment

Long outage and you want to stretch it? Turn off a breaker. Skip the dryer. The app shows you what is drawing power, so you can see the effect immediately.

If you back up...	One Powerwall lasts	Comment
Fridge, freezer, furnace blower, sump, lights, internet	14 – 18 hours	The sensible default
All of the above plus central air conditioning	6 – 9 hours	Shed the A/C and you are back to a day
Whole house, nothing shed, electric range in use	4 – 6 hours	This is why shedding exists
Essentials, with solar on the roof	Indefinite in summer	The battery refills every day

STEP 6 Your car and your battery, together

An EV is the biggest electrical load most homes will ever add. Paired with a Powerwall and the right rate plan, it also becomes one of the cheapest ways to drive in Canada.



Powerwall units and a wall connector in the same garage. A Tesla Universal Wall Connector charges non-Tesla vehicles as well.

What happens	Why it matters
You charge after 11 p.m.	3.9¢ a kilowatt-hour. Roughly \$1.20 to fill 100 km of range. Set it once and forget it.
Charging pauses in an outage	The system protects your house rather than filling your car. Automatic, you do not have to remember.
Charging is shared with the house	If your service is tight, the charger backs off instead of tripping the main. This often removes the need for a \$9,000 service upgrade.
Charge on sunshine	With solar, you can tell the car to only take surplus solar. Free driving on a bright Saturday.
Works with non-Tesla cars	A Tesla Universal Wall Connector or a compatible third-party Level 2 charger works the same way. You are not locked in.

ONE NUMBER TO KNOW

A Level 2 charger at full output draws up to 11.5 kW, which is the entire output of one Powerwall. If you want to charge *and* run the house during an outage, that needs two units. In practice, almost nobody does. **We shed the charger and your car becomes the spare tank.**

STEP 6 CONTINUED

Add solar, and the Powerwall becomes the inverter

Most solar systems need a separate box on the wall called an inverter. Powerwall 3 has one built in, the panels wire straight into it.



Panels connect straight into the Powerwall, up to 20 kW of solar, with no separate inverter on the wall.

One less box

No separate solar inverter to buy, mount, warranty or replace. Up to 20 kW of panels connect directly.

One less failure point

Fewer devices, fewer things to go wrong, and one company behind all of it for ten years.

Cheaper together

Adding solar during a Powerwall install costs far less than adding it after. Same crew, same permits, same trip.

Why solar and a battery belong together

Solar makes power at midday, when your house is empty and power is cheap, worth 15.7¢. With a battery it is **held until dinner and used when power costs 39.1¢**. Same sunshine, more than double the value.

AND IN A LONG OUTAGE

A Powerwall alone gets you through a night. A Powerwall with solar **refills itself every morning**, so in summer, a multi-day outage is simply not a problem.

Not sure yet? Ask for solar-ready provisions, conduit and Gateway set up while the walls are open. A few hundred dollars now, thousands saved later.

STEP 6 CONTINUED Start where you are. Add as you go.

You do not have to buy the whole system on day one. The Gateway and the first Powerwall are the foundation. Everything else bolts on later.

Configuration	Energy	Power	Right for a home that...
1 Powerwall	13.5 kWh	11.5 kW	Has gas heat and gas hot water. Backs up the essentials plus lights and outlets comfortably.
1 Powerwall + 1 Expansion	27 kWh	11.5 kW	Wants twice the hours, not more power. An Expansion is battery only, the cheapest way to add runtime.
2 Powerwalls	27 kWh	23 kW	Runs central air, an electric range and a heat pump without shedding anything.
2 Powerwalls + 2 Expansions	54 kWh	23 kW	Fully electric home, heat pump, induction, two EVs. A day or more of unrestricted running.

Maximum: four Powerwalls and three Expansions on one home, seven units in total.

THE EXPENSIVE MISTAKE TO AVOID

People buy a second full Powerwall when what they actually needed was more *hours*, not more *power*. If everything in your house fits inside 11.5 kW, an **Expansion** gives you the same extra energy for meaningfully less money.

Which one you need is a calculation, not a guess. It is the first thing we work out.



Units mount side by side, never stacked. Adding a second one later is a half-day job if the wall space and conduit were planned for it.

LOOKING AHEAD Your car as a second battery

An electric car carries five to ten times the energy of a Powerwall. Letting it power the house during an outage is the obvious next step, and it is already partly here.



11.5 kW

What a Cybertruck can put back into your house, the same output as one Powerwall, through a Tesla Universal Wall Connector and Gateway. No other Tesla model does this yet.

What	Where it stands today
Powershare, vehicle-to-home	Available now on Cybertruck (AWD and Beast). It can power a home at up to 11.5 kW, the same as a Powerwall, through a Tesla Universal Wall Connector and a Tesla Gateway.
Other Tesla vehicles	Not yet. Tesla has signalled that more vehicles will follow, but no other model supports vehicle-to-home at the time of writing.
Powershare together with a Powerwall	Not enabled yet. Tesla has said a Powerwall-plus-Powershare setup is coming, and has already pushed the date once. Do not buy on the basis of it.
What we do about it	We design the Gateway and conduit so that adding it later is straightforward. That costs nothing extra today and keeps the door open.

WHY WE ARE TELLING YOU THIS RATHER THAN SELLING IT

Vehicle-to-home is genuinely exciting and it is genuinely not finished. **We will not put a feature in your payback calculation that you cannot use on the day we hand the system over.** If it arrives, it is a bonus. That is the honest way to treat it.

STEP 7 Battery or generator?

The honest answer

We install both. So here is the comparison without a thumb on the scale.

TESLA POWERWALL 3

- ✓ **Instant:** 0.002 seconds, no gap at all
- ✓ **Silent:** quieter than a fridge
- ✓ **No fuel, no exhaust, no permit for gas**
- ✓ **Zero maintenance** for its whole life
- ✓ **Earns money daily:** \$500 to \$1,800 a year
- ✓ **Rebate eligible** when installed with new solar
- ✓ Fits in a garage; needs front clearance only
- ✗ Runs out. Typically 14–18 hours on essentials
- ✗ Costs more per hour of backup

STANDBY GENERATOR

- ✓ **Runs for days** on a natural gas line
- ✓ **Cheapest way** to buy a lot of backup hours
- ✓ **Handles very large loads:** big pumps, big A/C
- ✗ **10 to 30 seconds of darkness** every time
- ✗ **Loud:** 60 to 75 dB, and your neighbours hear it
- ✗ **Exhaust:** siting and setbacks are strict
- ✗ **Servicing every year**, plus a monthly test run
- ✗ **Earns nothing** the other 363 days
- ✗ Needs a gas line, a pad, and outdoor space
- ✗ No Ontario rebate. None.

WHEN WE WILL TELL YOU TO BUY THE GENERATOR

If you are on a rural feeder and have **actually lost power for two days**. If you have a deep well and a septic pump. If someone in the house depends on powered medical equipment. If you heat with electric baseboards and no heat pump. In those cases the honest answer is a generator, or both, and we will say so in writing.

STEP 8 Yes, but not the way you think

△ STRAIGHT ANSWER FIRST

A generator cannot charge your Powerwall.

Tesla does not support it, in any configuration, on any Powerwall. The two never run at the same time and never feed each other. Anyone who tells you a generator will "top up the battery" is wrong.

What you *can* have is a **cascade**: the Powerwall handles the outage first, and the generator takes over only when the battery runs low. That is Tesla's supported design, and done properly it is very good, but it is worth understanding exactly what it does and does not do.

Why the myth exists

A generator makes 240 volt AC power. A Powerwall charges from 240 volt AC power. So it *looks* like it should just work. It does not, for one reason: a battery inverter and a generator are both trying to be the boss of the same circuit at the same time, and neither will yield. Connect them and you get equipment damage, not a charged battery.

WHAT REFILLS THE BATTERY

- ✓ The grid, overnight, at 3.9¢
- ✓ Your solar panels, every day the sun is up

WHAT DOES NOT

- ✗ A standby generator
- ✗ A portable generator
- ✗ Your car

What that means in practice

HOURS 0 – 16 Battery

Silent, seamless, no fuel. Covers almost every outage you will have.

THE HANDOVER ~5 sec

One brief drop, deep into a long event.

HOURS 16 + Generator

Runs as long as the gas holds out.

RECHARGE Sun / grid

Solar refills the battery. The generator never does.

STEP 8 CONTINUED

How a hybrid is actually wired

1

The Gateway goes first, right after the meter

Tesla Gateway 3 becomes your main service disconnect. Everything downstream is protected by it.

2

A transfer switch goes *after* the Gateway, not before it

This is the part people get backwards. The automatic transfer switch sits **downstream** of the Powerwall system, between it and your loads.

3

The generator connects to the transfer switch

Never to the Gateway, never at the meter. The switch keeps the two sources completely separated.

4

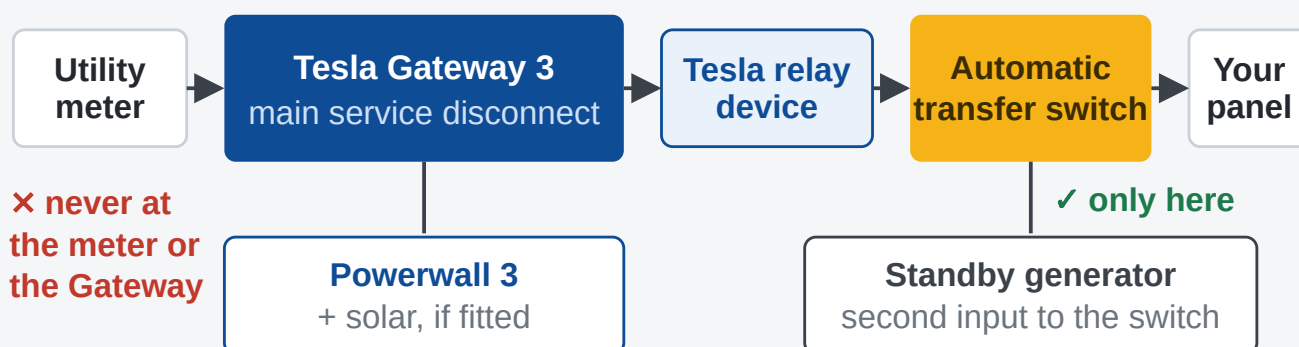
Grid fails → Powerwall carries the house instantly

The transfer switch still sees a healthy source, so it stays put. The generator does not start. Silence.

5

Battery runs low → the generator takes over

The switch sees the loss and starts the generator. **There is a brief interruption at that handover**, a few seconds, once.



Grid fails → Powerwall carries the house instantly. The transfer switch still sees a live source, so the generator stays off.

Battery runs low → the relay opens, the switch loses its source and starts the generator. Brief interruption, once, deep into a long outage.

Tesla's supported configuration for a Powerwall system alongside third-party backup. The two sources are physically isolated by the transfer switch and never operate in parallel. The generator does not recharge the Powerwall.

STEP 8 CONTINUED

The five questions people actually ask

Question	Straight answer
Can the generator recharge the Powerwall?	No, not through the Gateway, the solar inputs, or a transfer switch. Tesla supports generator charging of Powerwall in no configuration. Only the grid and solar refill it.
Can I use a meter collar, a GenerLink-style device, ahead of the meter?	No, not with a Powerwall system. It back-feeds your whole service, which means it feeds the grid side of the Gateway. The Gateway would read it as "the grid is back" and try to synchronise with it. Not supported, and not safe.
Can the generator connect to the Gateway itself?	No. The Gateway has one grid input and it is for the utility. A generator on it is the same problem as the meter collar.
So what <i>is</i> the right way?	An automatic transfer switch downstream of the Gateway, with the generator on its second input. The two sources stay completely isolated. This is Tesla's published configuration, and the one we build.
Will the changeover be seamless?	Not entirely. The switch <i>into</i> battery is instant. The switch from battery <i>to</i> generator drops the load for a few seconds, once, deep into a long outage.

WHY THIS HAS TO BE ENGINEERED, NOT IMPROVISED

A generator and a Powerwall are two independent sources of electricity. If they are ever allowed to touch, you get an out-of-phase fault that destroys equipment, or a back-feed onto a line a utility crew is working on.

We will not wire a generator alongside a battery without an engineering drawing and a written sequence of operation. That is not a preference, it is the difference between a system that passes inspection and one that hurts somebody.

GETTING STARTED What this looks like at your house

1

We look at your actual power use

Your utility keeps an hour-by-hour record of your home. We pull it. That tells us what you really use, and when, instead of guessing from an average.

2

We visit, about 90 minutes

Panel, meter, grounding, equipment locations, and the roof if solar is on the table.

3

You get an engineering calculation

It says plainly what your electrical service can handle, **including when the answer is that you need no upgrade at all.** You keep it whether or not you hire us.

4

We show you two or three options with real numbers

Each one priced line by line, with its payback, its backup hours, and its downsides, including the argument against the one we recommend.

5

You decide. We handle everything else.

Rebate applications, utility forms, permits, inspection, installation, commissioning, and setting up your rate plan.

OUR PROMISE

We do the diagnosis. We are not paid to sell you the cure.

Our engineering is priced separately from our installation work. That means if the calculation says your panel is fine, or that a smaller system suits you better, or that a generator is genuinely the right answer for your property, **we can afford to tell you.** That is the whole point of hiring an engineer instead of a salesperson.

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Book an assessment

Next: Guide 2 · The Numbers. Payback, the Ontario rebate, and what changes when you add solar.