



An Extended Guide · No. 1394

Whole-Home vs Essential-Loads Backup

How much of your home to
back up, without overspending

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! Read this first — this is a licensed electrician's job

A whole-home battery ties into your home's main electrical panel, and that makes the installation real electrical work — a job for a licensed electrician, done with a permit, and often with your utility's approval before it is switched on. It is not a do-it-yourself project. The happy news, and one of a battery's real advantages, is that once it is installed it runs silently and gives off no exhaust and no carbon monoxide, so unlike a generator it is safe indoors or in the garage. But the battery still stores a great deal of energy, so leave the wiring, the mounting, and any service to the pros, and follow the installer's and maker's instructions. I help you plan it and line up a trustworthy licensed electrician — I do not do the wiring myself. Whether you back up a few essential circuits or the whole home, both approaches tie into that same main panel, so both are a licensed electrician's job done under a permit.

How much of your home should a battery cover?

This is the question that decides most of what you'll spend and how a battery will feel to live with: keep just the essentials running, or aim to power the whole home? Let's think it through together, without pressure and without overspending.

I'm Bill, and I run Bill's Home Tech here in Portage County, Ohio. In 30-plus years of helping folks with home gear, I've learned that the cheapest mistake to avoid is buying more than you need — or less than would actually comfort you. This guide is about finding your right-sized answer.

I don't sell batteries and I earn no commission, so there's no thumb on the scale here. We'll look at both setups honestly, name the loads that really drive the decision, and start where every good plan starts — with what you truly need running.

★ There's nothing to sell you here

If you'd like a second opinion on how much to back up before you spend a dollar, call or text me at (330) 200-8042. I'll talk it through honestly — free, and with no sales pitch.

The whole guide, on one page

If you remember only these things, you already understand the choice between essential-loads and whole-home backup.

- ❑ You can back up a handful of essential circuits, or aim to keep the whole home running — and there's a sensible middle ground too.
- ❑ Essential-loads backup is the common, budget-friendly choice: a small backup panel for the fridge, some lights, internet, heat, a medical device.
- ❑ Whole-home backup needs more battery and careful load management, so the heavy things don't all switch on at once.
- ❑ The heavy loads — central air, an electric range, a well pump — are what really decide which way you lean.
- ❑ Start from your must-run list. Writing down what you truly need running is the single most useful step you can take.
- ❑ More coverage means more equipment and more cost — honest, but not a reason for or against. It's about what protects what you care about.

✓ The one-sentence version

Back up the essentials to stretch a battery and your budget; back up the whole home when comfort or heavy loads demand it — and let your must-run list, not fear, make the call.

The two setups, side by side

Before we go deep, here's the plainest possible picture of the two roads you can take.

Essential-loads backup

Your electrician wires a small 'backup' panel and moves your must-have circuits onto it. During an outage the battery keeps just those alive, and the rest of the house waits for the grid. It's tidy, common, and gentle on both the battery and your wallet.

Whole-home backup

The battery, with the right controls, keeps your entire home running — or as close to it as makes sense. It takes more battery and clever load management so the big appliances don't gang up on it. It's more capable, and a larger investment.

✓ It isn't strictly either-or

Plenty of homes land in between — essentials plus a comfort or two. We'll get to that middle path. First, let's make the choice with your real needs in front of us.

Start with your must-run list

Before any battery talk, before any quote, do this one small thing. It's worth more than any spec sheet.

Get a piece of paper and write down what you would truly want running in an outage. Not everything you own — just what genuinely matters when the lights go out. Be honest about what's a need and what's a nicety. This short list is the foundation of every good decision that follows.

- **Keeping food:** the refrigerator, and a freezer if you rely on one.
- **Staying warm or cool:** your furnace's controls and blower, or a way to ride out real heat or cold.
- **Health and safety:** any medical device, and enough light to move around without a fall.
- **Staying connected:** the internet, a phone charger, a way to reach family or call for help.
- **Water, if you're on a well:** the pump — because no power means no water at all.

★ I'll help you make the list

If you're not sure what belongs on your must-run list, that's exactly the kind of thing I sit down and sort out with folks. Call (330) 200-8042 and we'll build it together.

Essential-loads backup, up close

This is where most folks start, and for good reason. Let's look at what it really covers and why it's so sensible.

With essential-loads backup, your electrician sets up a small backup panel — you'll also hear it called a critical-loads subpanel — and moves your chosen circuits onto it. Think the fridge, a few lights, the internet, the furnace's controls, and perhaps a medical device. Those keep humming; the rest of the house sits quiet.

The beauty of it is restraint. Because the battery only carries a handful of gentle loads, its charge stretches much further, and the whole system stays smaller and simpler. For the short, common outages most folks actually face, it's often all the comfort you need.

✓ Small can be exactly right

There's no prize for backing up more than you'll use. A well-chosen essential-loads setup can be the smart money — quietly keeping the important things going while a bigger system sits idle next door.

Whole-home backup, up close

Now the bigger ambition: keeping the whole house alive. It can be wonderful — with eyes open about what it asks.

Whole-home backup aims to keep everything running, or nearly so. That takes more battery, and it takes careful design, because a house is full of heavy appliances that would happily all switch on at the same moment and ask more of the battery than it can give at once.

The answer is load management — often a smart panel or control that can stagger the big loads or set some aside for a while, so the battery is never overwhelmed. Done well, it feels seamless. It is, though, the larger and more involved of the two setups, and every piece has to be sized to work together.

✓ Whole-home rarely means all-at-once

Even a whole-home setup usually leans on smart management rather than brute force. Knowing that keeps your expectations right — and points to why sizing this is firmly a professional's job.

The heavy loads that decide it

If one thing tips the choice between the two setups, it's the big, hungry appliances. Let's name them plainly.

Some loads are gentle — a fridge, lights, a modem, a furnace blower. A battery carries those with ease. Others are heavy: central air conditioning, an electric range or oven, an electric water heater, a well pump. These draw a lot, and some of them hit the battery with a big surge the instant they start up.

Those heavy loads are the fork in the road. If your must-run list is all gentle circuits, essential-loads backup fits beautifully. The moment you want a big 240-volt appliance carried too, you're into whole-home territory, with more battery and careful management — and firmly the installer's job to size.

! Heavy loads change everything

A well pump or a central AC unit can drain a battery quickly and can demand a big jolt to start. Never assume one is included — ask specifically, and let a proper load calculation, not a hopeful guess, decide whether it belongs in your plan.

How smart load management helps

This is the clever bit that makes bigger backups practical, so it's worth a friendly look.

A smart panel or load-management control acts a bit like a thoughtful traffic officer for your electricity. It watches what the battery can give and keeps the heavy loads from all crowding in at once — letting the air conditioner wait a beat while the well pump finishes, say, or setting a big load aside for a while if the battery is running low.

That staggering and shedding is what lets a battery back up more of your home without needing to be enormous. It's also part of why whole-home setups cost more and lean harder on good design. The controls are doing real work behind the scenes.

✓ **Managed, not magical**

Load management stretches what a battery can do, but it can't rewrite the honest limit — a battery still holds only so much. It makes the most of your capacity; it doesn't replace having enough of it.

Cost and complexity, honestly

I won't quote dollar figures — they vary far too much by home — but I can be straight about the shape of the trade-off.

More coverage means more equipment, more to install, and more to design carefully. Backing up a few essential circuits is one kind of investment; backing up the whole home, with the battery and smart controls it takes, is a larger one. Adding heavy loads or solar to the mix grows it further still.

None of that is a reason for or against — it's just the honest picture. The right question isn't 'what's cheapest,' but 'which setup actually protects what I care about, for what I'm willing to spend.' For one home that's a modest essential-loads battery; for another it's the whole home. It depends on you.

✓ Match the spend to the worry

Name the outage you actually lie awake about. If it's the fridge and the furnace through a common storm, essentials may be plenty. If it's your whole life grinding to a halt, the bigger setup earns its keep.

Two kinds of homes, two sets of needs

How much to back up looks different for a close-in home with short outages and city water than for a rural home on a well, where losing power means losing water too.

If you live in town or the suburbs

In town or the suburbs, essential-loads backup is often plenty. Outages tend to be shorter, city water keeps flowing no matter what, and the loads you'd truly miss are usually the gentle ones a battery carries with ease.

- The fridge, some lights, the internet, and the furnace's controls make a tidy essential-loads list for shorter outages.
- City water means water keeps running regardless, so backup is about food, warmth, and staying connected.
- Whole-home backup is still on the table if you want it all — it's a choice about comfort and budget, not necessity.
- A smaller, well-chosen setup often gives in-town homes all the reassurance they need, for less.

If you are out in the country on a well

Out in the country, the well pump forces the question. No electricity means no water for drinking, cooking, flushing, or animals, and the pump is a heavy load — so your must-run list has a demanding member from the start.

- A 240-volt well pump belongs on the must-run list, but it draws a big starting jolt and can drain a battery fast — one for the installer to size carefully.
- Adding the well pump usually pushes you toward more battery, tipping the plan from bare essentials toward the fuller end.
- Many rural homes pair a battery with a generator, letting the battery carry gentle loads while the generator handles the long, heavy haul.
- Store drinking water no matter what you choose — when the well is down, stored water is your bridge until the pump can run again.

★ City water or a well? It changes the answer

The well is the piece that decides a lot here. Tell me whether you're on city water or a well and what you'd want running, and I'll help you picture the right amount to back up. Call (330) 200-8042.

The middle path: essentials, plus a little

Most real homes don't live at the extremes. Here's the sensible ground in between, which suits a lot of folks.

You don't have to choose between a bare-bones backup and the whole house. Many homes back up the true essentials and then add a comfort or two — a window air conditioner in a bedroom, say, or the outlets in the room where the family gathers. It's a way to buy peace of mind without buying everything.

There's also room to grow. A setup chosen with the future in mind can often have capacity added later, so you can start with essentials now and expand if your needs or budget change. That's a good thing to raise with your installer early.

✓ Start sensible, leave room

Beginning with essentials and a clear path to add more is often the wisest money. You get comfort today and options tomorrow, without paying for capacity you may never touch.

Sorting needs from nice-to-haves

The heart of right-sizing is honest sorting. Let's separate what you truly need from what would simply be pleasant.

- **Usually true needs:** keeping food cold, keeping warm or cool enough to be safe, any medical equipment, light to move safely, a way to reach help.
- **Often nice-to-haves:** the big television, the whole-house air conditioning, the electric oven, the hot tub — lovely, but not what keeps you safe.
- **The honest test:** for each item, ask 'would I be in real trouble without this for a while, or just less comfortable?' That one question sorts most lists.
- **Worth remembering:** every nice-to-have you add asks more of the battery, so each one nudges you toward a bigger, costlier system.

✓ Comfort is allowed — just count it

There's nothing wrong with backing up a comfort or two. Just do it on purpose, knowing it grows the system, rather than by accident. Deliberate choices are how you avoid regret in either direction.

What 'whole-home' really means

The phrase gets used loosely, so let's pin down what it does and doesn't promise, plainly.

Whole-home backup means your whole panel can be kept powered — but, as we've seen, usually with smart management steering the heavy loads rather than running every appliance flat-out at the same instant. It's 'the whole home, sensibly,' not 'everything at once, forever.'

And a battery's charge is still finite. Even a whole-home setup will run down under heavy use during a long outage, unless solar and daylight are refilling it. Whole-home is about reach — what can stay on — not about endless runtime. Keeping those two ideas separate saves a lot of disappointment.

! Whole-home is not the same as unlimited

Backing up the whole home doesn't make a battery bottomless. Heavy loads over a long outage will still drain it. If your real fear is the multi-day storm, a battery may be one piece of the plan, alongside a generator.

How this ties to sizing

How much you back up and how big a battery you need are two sides of the same coin. Here's how they connect.

The more of your home you want to keep running, and the heavier the loads on your list, the more battery — both capacity and output — it takes. That's why the essential-versus-whole-home question and the sizing question can't really be separated; your coverage choice sets the size, and the size sets the cost.

I won't put a number on any of it, and neither should anyone who hasn't studied your home. The right size comes from a proper load calculation by a licensed installer, working from the very must-run list you'll have built. Our sizing guide covers capacity versus runtime in honest, number-free detail.

✓ Your list feeds the load calc

The must-run list you make here is exactly what a good installer uses to size the system. Bring it to every quote, and you'll get answers tied to your real needs instead of a one-size-fits-all pitch.

How this ties to your panel

Your coverage choice also decides how the battery connects to your electrical panel. The two go hand in hand.

Essential-loads backup usually means a small backup subpanel holding your chosen circuits. Whole-home backup usually means a smart control device that can look after your entire panel and manage the heavy loads. Which tie-in you get follows directly from how much you've decided to back up.

You don't need to master the wiring — that's the electrician's world — but it helps to know the two go together. Our inverter-and-panel guide walks through the backup subpanel and the whole-home control in plain English, if you'd like to see how the connection actually works.

✓ Coverage first, tie-in follows

Decide what you want running, and the right panel setup tends to reveal itself. That's why the must-run list comes first — it quietly answers several questions at once.

If someone relies on medical equipment

When health depends on power, the must-run list gets serious. Let's handle this carefully and kindly.

If anyone in the home uses an oxygen concentrator, a CPAP or BiPAP, a nebulizer, a powered wheelchair, or a medication fridge, that equipment belongs at the very top of your essential-loads list. A battery's clean, instant, silent power suits these devices well — but it should be one layer of a plan, never the whole plan.

- Keep the manufacturer-approved battery backups and any car adapters that came with the equipment.
- Oxygen users should keep backup tanks that need no power at all.
- Register with your utility's medical or priority list, and tell your equipment supplier about your setup.
- Ask your doctor how long you can safely go, and have a plan to relocate if an outage runs long.

! A battery is one layer, not the whole plan

If equipment ever fails and backups run low, or someone has trouble breathing, chest pain, confusion, or blue lips, call 911. I help set up and test the plan and line up the electrician — I don't give medical advice. Please talk with your doctor too.

A few myths, cleared up

Some common beliefs about how much to back up just aren't so. Let's clear the air gently.

- **'Whole-home backup is always the better choice.'** Not if it means paying for capacity you'll never use. The best setup is the one that fits your real needs.
- **'Essential-loads means just one lamp and the fridge.'** It can cover quite a lot — heat, internet, medical gear, several rooms — as long as the loads stay gentle.
- **'I have to back up my central air conditioning.'** Rarely a true need. It's a heavy load that drains a battery fast; many folks leave it off and stay comfortable other ways.
- **'More battery is always safer.'** Only up to a point. Past what your loads call for, extra capacity mostly costs money and sits idle.

✓ When a pitch pushes 'bigger,' ask why

A good installer sizes to your list, not to the top of their catalog. If someone's steering you to the largest system without asking what you need, slow down — or ask me.

Questions worth asking before you decide

Whether you're talking to a salesperson or to me, these keep the conversation about coverage honest.

Q: Am I being quoted essential-loads or whole-home backup?

Make sure you know which, and why it fits your goals. The two differ a lot in reach, cost, and complexity, and it should be crystal clear which one is in the quote.

Q: Exactly which circuits will this keep running?

Ask for the list, tied to your must-run list — not a vague 'the essentials.' You should be able to see what stays on and what goes dark.

Q: Are any heavy loads included, and what do they cost me in capacity?

Central air, a range, a well pump — if any are in, they drive the size and price. A good installer will be plain about the trade-off rather than gloss over it.

Q: Can I start smaller and add more later?

For many setups, yes. If growing later matters to you, say so now, so they choose equipment that leaves room. It's far easier than reworking it down the road.

✓ There's no silly question

This touches money, comfort, and safety at once. Ask until you're sure — a good salesperson, or I, should welcome every single one.

A simple way to tell which fits

There's no single right answer, but these patterns hold up well. See which one sounds like your home.

- **Short outages, city water, gentle needs:** essential-loads backup is often plenty, and the smart money.
- **You want comfort kept, not just survival:** lean toward the middle path — essentials plus a chosen comfort or two.
- **Heavy loads you truly need, like a well pump:** you're into whole-home or a fuller setup, sized by a pro.
- **Long or severe outages worry you most:** think battery plus generator, so endurance isn't riding on charge alone.
- **Not sure yet:** build your must-run list first — it quietly answers most of this for you.

★ Let's find your right size together

Tell me about your home, your outages, and what you'd want running, and I'll help you see honestly how much to back up — with nothing to sell you. Call (330) 200-8042.

What I do, and what I leave to the pros

Worth saying plainly, because it's the honest shape of how I help with a decision like this.

- **What I help with:** building your must-run list, sorting needs from nice-to-haves, explaining quotes in plain words, and lining up a licensed electrician I trust.
- **What only a licensed pro does:** the load calculation, sizing the system, wiring the backup panel or whole-home control, and pulling the permit.
- **What I never do:** the licensed electrical work or a firm size or price — those belong to a pro who has studied your home, not to a guess.

★ Call before you commit

The best time to reach me is while you're still weighing essentials against whole-home. A little plain guidance up front saves a lot of second-guessing later. Reach me at (330) 200-8042.

Common Questions

The questions I hear most from folks deciding how much of their home to back up, answered plainly.

Q: What's the difference between essential-loads and whole-home backup?

Essential-loads keeps a chosen handful of circuits alive on a small backup panel; whole-home aims to keep the entire panel running with more battery and smart load management. One is smaller and simpler, the other larger and more capable.

Q: What usually goes on an essential-loads backup?

Commonly the refrigerator, some lights, the internet, a furnace's controls, and a medical device if someone relies on one — the gentle, must-have loads. You choose the list with your installer.

Q: Do I need to back up my central air conditioning?

Rarely a true need. Central air is a heavy load that drains a battery quickly and can demand a big starting surge. Many folks leave it off and stay comfortable other ways, which keeps the system smaller.

Q: What is a smart panel, and do I need one?

It's a control that can back up your whole panel and stagger or shed heavy loads so they don't overwhelm the battery. You need one mainly if you're aiming at whole-home backup; essential-loads setups often don't.

Q: Which one is cheaper?

Essential-loads backup is almost always the smaller investment, because it takes less battery and simpler controls. Whole-home costs more for more reach. I won't quote dollars — those come from your installer.

Q: How do I decide which is right for me?

Start with your must-run list. If it's all gentle circuits, essentials likely fit; if it includes heavy loads you truly need, you're toward whole-home. A load calculation turns that list into the right answer.

★ Still weighing it? That's what I'm here for

Getting the size right before you spend is exactly the kind of thing I love to help with. Call or text me at (330) 200-8042 and let's talk it through, no pressure.

You don't have to do this alone

You just have to remember that a friendly, patient person is one call away.

I hope this guide made choosing whole-home or essential-loads backup feel a little less daunting and a lot more doable. Keep it in a drawer with your other home papers, come back to a page whenever you need it, and don't worry about memorizing anything.

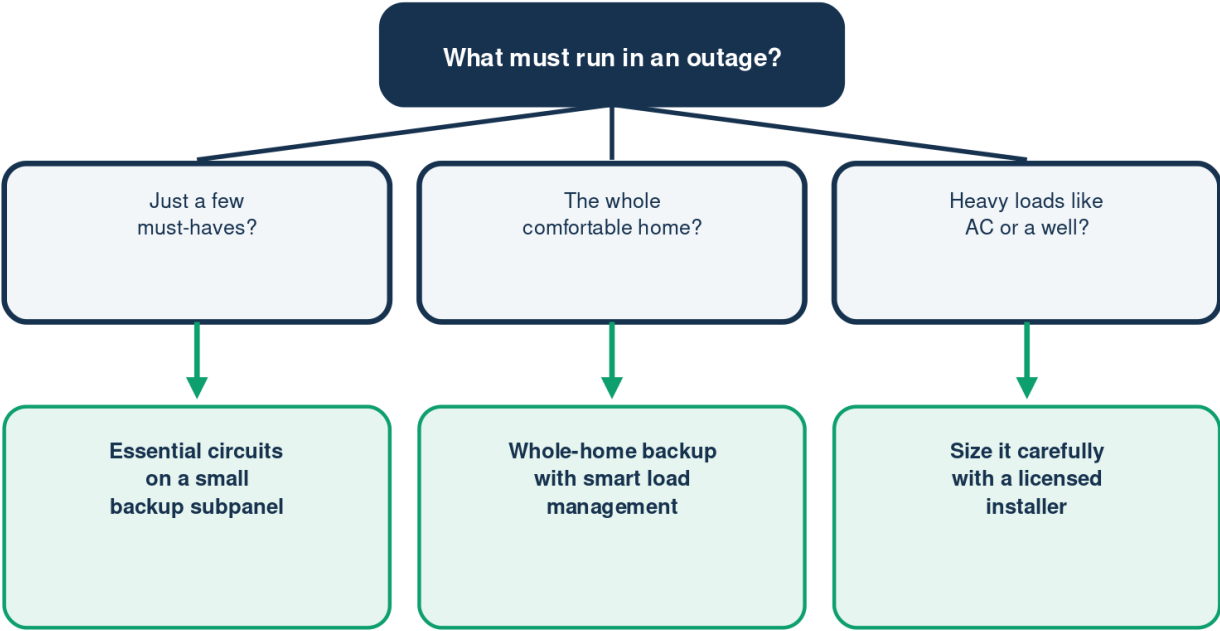
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★ Bill's Home Tech — real help, close to home

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How Much Should You Back Up?

Let your needs, not fear, set the size

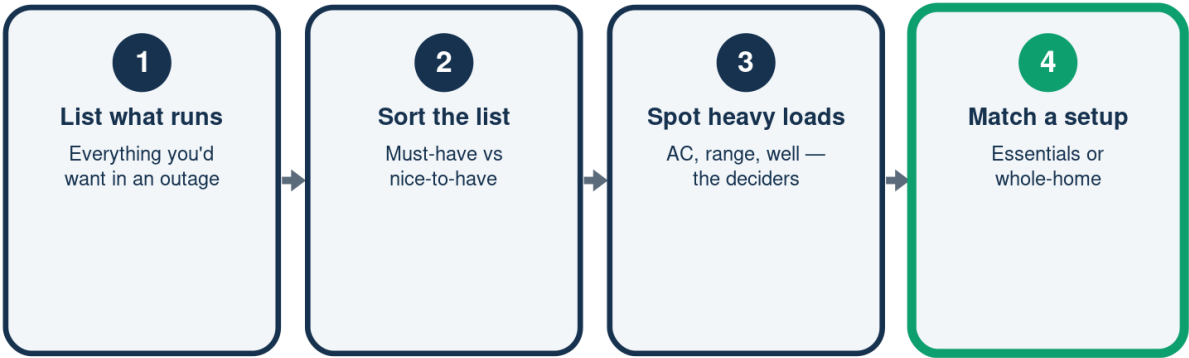


How much you back up drives how much battery you need — a load calc, not a guess.

Start from what you truly need running, then build out.

Start With Your Must-Run List

One page of paper saves a lot of guessing



The list does the deciding — it is the most useful step you can take.

Essential-Loads vs Whole-Home

Two honest ways to set a battery up

	Essential loads	Whole home
Typical picture	Fridge, lights, wifi	The comfortable house
Battery and gear	Less	More
Heavy loads	Usually left off	Managed or shed
Cost	Lower	Higher
Best when	Budget-minded	You want it all

Neither is 'better' — it is about what your home truly needs.

Which Loads Are Heavy?

The big loads are the fork in the road

	Light loads	Heavy loads
Examples	Fridge, lights, wifi	AC, range, well pump
Motor surge	Small or none	A big starting jolt
On a battery	Stretches it	Drains it fast
In backup	Easy to include	The deciding factor

The heavy loads are what decide essential vs whole-home.



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A Note From Bill

A quick note from Bill.

I write these guides to make home tech a little less frustrating, and I do my best to keep every step accurate and up to date. Still, every home, device, and setup is a bit different, so I can't promise a guide will match yours exactly or fix your particular problem. These guides are for general information only — they're not professional, legal, or financial advice, and they don't replace your device's own manual or the manufacturer's instructions. Please go slow, use your own good judgment, and use everything here at your own risk. If a step involves electrical wiring, a gas appliance, a water heater, plumbing, or climbing a ladder — or if anything just doesn't feel safe — please stop and call a licensed professional (or give me a call at 330-200-8042). Bill's Home Tech and Bill Davis can't be responsible for any damage, data loss, or injury that comes from using these guides. Thanks for reading, and stay safe out there.

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