Smiley Electric

Licensed electrician · Portland, Oregon · Oregon CCB #227116

FREE HOMEOWNER GUIDE

Portable vs standby generator: which is right for your home?

Why backup power is on Portland's mind

Outages are getting more frequent across Oregon: winter ice and wind storms, summer heat waves loading the grid, and wildfire-season shutoffs. When the power goes out, the question is what you actually need to keep running: the fridge, the furnace fan, a well pump, medical equipment, a home office. How much of that list matters to you, and how often, is what decides between a portable generator and a standby system.

Both get you through an outage. They differ in cost, effort, and how much of the house they carry, and the honest answer is that each one is right for a different household.

Portable generators: low cost, hands-on

A portable generator is the budget route. It runs on gasoline or propane, lives in the garage or shed between storms, and puts out enough power for the essentials: refrigerator, lights, electronics, and depending on size, a furnace fan or well pump. When an outage hits, you wheel it out, start it, and connect it.

- [ ] Low upfront cost compared to a standby system
- [ ] Powers the essentials, not the whole house: central HVAC and large appliances are usually out of reach
- [ ] Manual everything: you start it, connect it, and refuel it every few hours
- [ ] Must run outdoors, well away from windows and doors, never in a garage: the exhaust carries enough carbon monoxide to be fatal indoors

The connection is what most people miss

Extension cords through a window work for a lamp and a fridge, but powering house circuits, the furnace, or a well pump safely requires a generator inlet and a transfer switch or interlock at the panel. That electrical work typically runs $800 to $2,500 installed, and it is what turns a portable unit from an extension-cord scramble into a real backup system. It is also the safety line: a generator tied into house wiring without one can backfeed the utility line and electrocute a lineworker restoring your neighborhood.

Standby generators: automatic and whole-home

A standby generator is permanently installed outside the house and wired into your electrical system through an automatic transfer switch. It runs on natural gas or propane, so there is no refueling, and when the grid drops it starts itself and picks up the load in seconds, whether you are home or not. When utility power returns it hands back and shuts down.

- [ ] Automatic transfer: no cords, no starting anything in the rain
- [ ] Sized for large loads, up to true whole-home coverage including heat and well pump
- [ ] Runs on the fuel line, so it keeps going through a multi-day outage
- [ ] Costs more: a whole-home standby system typically lands between $6,000 and $15,000 or more installed, and it needs periodic service and testing

Two trades, one permit trail

A standby install is permitted, inspected work with two trades involved. We handle the electrical side, the transfer switch, the panel work, and the wiring, and we coordinate with a licensed gas contractor for the fuel line itself. Placement is part of the code too: clearances from windows, vents, and property lines are requirements, not suggestions. We are licensed, bonded, and insured, Oregon CCB #227116, and we manage the electrical permit and inspection.

How to choose

- [ ] A few short outages a year, and you do not mind running cords and pulling a starter: portable, ideally with an inlet and transfer switch installed
- [ ] Frequent or multi-day outages, a well pump, medical equipment, or a home office you cannot lose: standby
- [ ] Want automatic coverage without whole-home money: a smaller standby sized for essential circuits splits the difference
- [ ] Not sure what your house actually draws: a load calculation answers it, and that is how a generator gets sized correctly

Where to start

If you already own a portable unit, the highest-value next step is a proper inlet and transfer switch so it can carry house circuits safely. If you are weighing a standby system, our generator installation page covers how we scope the work, and the generator installation cost guide breaks down what drives the price. We give a free ballpark by phone or photo, and a project consultation gets you a firm, written estimate once we've seen your panel and site. Mid-outage with a dead panel rather than a generator question? Our emergency line answers 24/7.

Frequently asked questions

Can a portable generator power my whole house?

Not realistically. Portable units top out well below what central HVAC, an electric range, and the rest of a home draw at once. With an inlet and a transfer switch or interlock, a portable can carry the essentials: refrigerator, lights, furnace fan, even a well pump. Whole-home coverage is what standby systems are built for.

How much does backup power cost to install?

The electrical work to connect a portable generator, an inlet plus a transfer switch or interlock, typically runs $800 to $2,500. A whole-home standby system typically lands between $6,000 and $15,000 or more installed,

depending on size, placement, and the fuel run. We give a free ballpark by phone once we know your setup.

Do I need a permit to install a generator in Oregon?

Yes. Transfer switches, interlocks, inlets, and standby generator wiring are all permitted, inspected electrical work in Oregon. A standby system also involves fuel-line work by a licensed gas contractor and placement clearances from windows and vents. We handle the electrical permit and coordinate the inspection.

Is it safe to run a portable generator in the garage during a storm?

No, not even with the door open. Portable generators produce carbon monoxide, and running one in a garage or near open windows can be fatal. Run it outdoors, well away from the house with the exhaust pointed away, and have working carbon monoxide alarms inside if you use one.

Sources

1. CPSC Safety Alert: Portable Generator Hazards, U.S. Consumer Product Safety Commission. https://www.cpsc.gov/s3fs-public/5123_SafetyAlert_PortableGenerators_102021.pdf
2. Carbon Monoxide (CO) Poisoning Basics, Centers for Disease Control and Prevention. https://www.cdc.gov/carbon-monoxide/about/index.html
3. Backup Generators, Portland General Electric. https://portlandgeneral.com/outages-safety/be-prepared/backup-generators
4. Contractor License Search, Oregon Construction Contractors Board. https://search.ccb.state.or.us/search/

> **Need a licensed electrician in the Portland area?**
> Call Smiley Electric at (503) 484-7556 (Mon–Sat, 7am–5pm) or visit smileyelectric.net/contact. For sparks, smoke, a burning smell or a hot panel, turn off the power if it is safe and call right away.

Reviewed by Joshua Smiley, owner & master electrician, Smiley Electric. Last reviewed November 13, 2026. Online version: smileyelectric.net/help/portable-vs-standby-generator/. General information, not a substitute for an on-site inspection.

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