

Small Gasoline and Propane Generators for emergency use



The recent power outages have many people with medical or mobility needs thinking they should buy a generator. Should you get one and which one should you get?

Gasoline generators are sold for a broad variety of price points for \$90 for a tiny "Harbor Freight Special" to \$2000. The array can be confusing.

The UC Berkeley Disability Lab recommends that you purchase a..

... a generator that uses "inverter" technology and advertises that it has "clean sine wave output" or is "safe for delicate electronic devices." These go for around \$400~500 for a 1600/2000 watt unit (such as the Costco unit pictured above). For most smaller households, a small 1600/2000 watt unit is enough to power the devices that they will need powering and is small and light enough to move — the Costco unit is 60 lb. A bigger generator can power more things but may weight 200-400 lb and take up more space. Non-inverter generators can harm sensitive electronic devices.

Note that all gasoline and propane generators produce copious amounts of CARBON MONOXIDE. Never run a generator indoors or even in a semi-enclosed space (such as a garage with the door open). Don't run them near open windows or doors. People have died from carbon monoxide poisoning.

When you buy your generator, also get a **gasoline can** so you can refuel the generator, a **long extension cord** so you can run the generator as far away from your home as possible, as well as a **bicycle chain lock**. In a regional emergency situation, people have been known to steal generators.

Can my 1600/2000 Watt generator run this?

Window or portable AC unit	1800 wats surge	Yes, alone
Refrigerator	1500 watts surge	Yes, alone
O2 concentrator (large)	600 watts	Yes
Wheelchair/scooter charger	300 watts	Yes
CPAP (with heater)	90 watts	Yes

Is 1600/2000 watts enough?

1600/2000 watts should be enough for smaller households. A big refrigerator or AC may cause the generator to trip when you try plugging anything else in. If that's the case, you can run the AC or fridge ALONE for 15-20 minutes every hour to get everything cold, then unplug the AC/fridge and plug in the other devices. If it is absolutely essential to maintain a certain temperature, you may want to get a larger generator such as 3200 watts or get a separate generator dedicated to this duty.

We don't recommend generators that are not labelled "inverter" and that don't have "clean sine wave" or are not labelled "safe for delicate electronics." These generators can damage the sensitive electronics of laptops, CPAP/BPAP machines, and so forth.

Is running a generator safe?

No, running a generator produces a lot of noxious gasses including carbon monoxide that can kill you. Having gasoline lying around your property is dangerous if there's a fire. Filling a generator with gas before it's cooled down can cause fires. They are dangerous devices. Please be careful using them. Read the manual carefully.

What is duty cycle?

Many generators will need to cool down after running continuously. Smaller units may need to cool down for an hour after running for 3-5 hours. Read the manual!

Does fuel go bad?

The fuel in your gasoline can (jerry can) will go eventually go bad in a few months. Buying some "Sta-Bil" or other gasoline preservative will help keep it for about a year.

What about propane and dual fuel generators?

Propane is very clean burning, won't go bad, starts easily, and is easy to maintain. It's great for everyday use but in a regional emergency, finding somewhere to fill your propane tank might be difficult. Dual-fuel generators that can run both on propane and gasoline are the best of both worlds in this regard.

Please give us feedback on this! Either now or later on at: knak@berkeley.edu