

PACIFIC GAS AND ELECTRIC COMPANY

# POWER RESILIENCE PLAYBOOK

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For Small Businesses

# INTRODUCTION

**In the event of extreme weather, wildfires or other emergency situations, PG&E may need to turn off power to ensure public safety or protect critical infrastructure.**

Be ready to act in the event of a power outage. Backup electric power, including generators, can be a vital part of any preparedness plan.

Backup electric generators operate as a stand-alone power source and are not connected to PG&E's power grid. Generators are typically powered by solar plus back-up storage, battery, natural gas, gasoline, propane or diesel fuel.

**This guide is intended for businesses of all sizes.** Information on backup power options and considerations is available on PG&E's website at [pge.com/backupper](https://pge.com/backupper).

# BACKUP POWER

**Consider these important factors when deciding whether you need backup power:**

 **Energy Needs:** Do you own certain devices or equipment that need to keep functioning in the event of a loss of power? How crucial is it for you to have power during an extended outage?

 **Cost:** Backup power can cost thousands of dollars. Take any immediate needs into consideration as you examine which option may be the best choice for you.

 **Noise & Emissions:** Are there community ordinances that restrict or limit the decibel level or emissions from outdoor equipment?

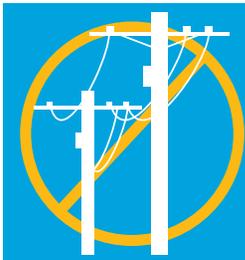
Portable and permanent-standby generators may be able to provide power for large equipment or a whole building. Alternative backup power solutions include portable power stations and battery technology that can charge devices ranging from phones to refrigerators.

For more information, visit PG&E's Marketplace at [www.marketplace.pge.com/portable-power-stations](http://www.marketplace.pge.com/portable-power-stations).

# GENERATOR SAFETY

**Understand how to use your generator in order to avoid damaging your property, endangering your life and the lives of PG&E employees who may be working on power lines in your community.**

For more information, visit [pge.com/backuppower](https://pge.com/backuppower).



**FOR YOUR SAFETY:** Understand and follow all safety instructions provided by the manufacturer. Never connect generators to another power source, including PG&E power lines.

## PORTABLE GENERATOR SAFETY

- Ensure backup generators are the correct size for your power needs
- Position your generator where the exhaust can vent safely
- Only use extension cords that are properly sized for your generator's electric output to prevent overheating
  - The American Wire Gauge (AWG) industry standards can be utilized to determine which extension cord is right for you - remember, the thicker the cord, the smaller the AWG rating
- Keep cords out of high-traffic areas to avoid tripping hazards

## PERMANENT-STANDBY GENERATOR SAFETY

- Apply for Interconnection for a Permanent-Standby Generator by visiting the PG&E Interconnection Portal at [www.egi-pge.com/](http://www.egi-pge.com/)
- Installation requires a licensed electric contractor or other qualified professional
- Ensure electricity from your generator does not flow or "backfeed" into PG&E's power lines
  - Prevent "backfeed" by installing a "double-pole, double-throw transfer switch"
- Additions or adjustments to your facility wiring should be inspected by your city or county building department
- Once installation is complete, call PG&E at 1-800-743-5000 to let us know about your backup system
  - PG&E employees will then be aware of your generator when working on an outage in your area

# GENERATOR OPTIONS

**Power outages can happen at any time. Backup electric generators can be a part of any preparedness plan.**

Below are representative suppliers and contractors. PG&E does not make any endorsements or recommendations. Before you purchase, PG&E recommends reviewing your options and getting more than one bid. This list is not comprehensive of all possible suppliers.

## RESIDENTIAL OR SMALL AND MEDIUM BUSINESS

[Amazon >](#)

[Cummins >](#)

[Lowe's >](#)

[Angie's List >](#)

[Generac Battery Solution >](#)

[Kohler >](#)

[Ascentium Capital >](#)

[Generac Power Systems >](#)

[Peterson Power >](#)

[Briggs & Stratton >](#)

[Home Depot >](#)

[Sears >](#)

[Champion Power Equipment >](#)

[Home Advisor >](#)

[Tesla >](#)

# GENERATOR PLACEMENT

Keep your generator in a safe and secure location.  
Consider the following:

- ✔ **Maintain three or four feet of clear space on all sides of your generator for adequate ventilation.**
- ✔ **Consider a weatherproof enclosure that is large enough to provide adequate ventilation and easy access to your generator's radiator, fuel tanks, air and oil filters, and charging system.**
- ✔ **Buy or rent a generator built with acoustical steel and sound insulation if it will be located in a residential area.**  
**Note:** Local noise ordinances should also be reviewed as they may impact generator siting, design or operations.
- ✔ **Consider installing a cement pad to provide a stable surface for portable generators during an outage.**
- ✔ **Cover your generator with a roof to increase its life expectancy.** Or position the generator pad so that a roof can be added later.
- ✔ **Generators and their fuel tanks should be located above flood levels.** A common height requirement for critical infrastructure is three feet above the 100-year floodplain. Check your local and state requirements.

# FUEL

## **Maintain on-site fuel and have multiple ways to obtain additional fuel from vendors during emergencies.**

It may be difficult or impossible to purchase fuel during a power outage. To keep your generator operating for an extended period and to maximize availability, consider using a bi-fuel generator and reducing energy consumption. To help manage fuel availability in the event of an emergency, consider the following:

1. Local fuel availability during power outages and other emergencies
2. The number of hours you expect your generator to run without refueling
3. Adequate on-site fuel storage to mitigate emergency fuel delivery
4. Safe storage requirements for fuel in natural disaster areas
5. Periodic tests for fuel degradation
6. Operating a generator may be subject to air quality regulations.
  - To find the air quality regulator serving your area and obtain more information please visit [arb.ca.gov/app/dislookup/dislookup.php](http://arb.ca.gov/app/dislookup/dislookup.php).

# GENERATOR MAINTENANCE

**If generators are not properly maintained, they will not function properly during emergencies, leaving you without backup power when you need it the most.**

Maintenance requirements for generators vary, so be sure to have a contractor perform scheduled maintenance as recommended by the manufacturer.

**DID YOU KNOW?** During Hurricane Sandy, many generators failed after 24 to 48 hours because they had not been properly exercised and maintained.

## Generator Operation Maintenance and Tips:

- ✔ **Regularly run generators** under required load for extended periods to test for any problems.
- ✔ **Record all maintenance activities** to assess performance and operating costs and inform future buying decisions.
- ✔ **Test your generator** under load after each time it is serviced.
- ✔ **When you change the oil in your generator, consider sending a sample to be tested for the presence of metals.** Metals could indicate engine wear, which may require repairs.
- ✔ **Perform additional maintenance** on your generator if you anticipate it may be run for extended periods of time (more than five days).

**For more information please visit**  
[pge.com/backupper](https://pge.com/backupper)