



A Guide to Generators

Learn more about:



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Hello,

Thanks for taking a look at our standby generator guide for homes and businesses. Installing a generator is probably not something you've done before; it's an investment, and it's not a decision you want to make without knowing the facts.

Cromwell Solar has been providing energy services, including standby generator installation, to homes and businesses for over 40 years. We've seen a lot of changes in that time and we've grown alongside the industry. We have the skills and personnel to handle almost any installation, and a proven, engineering-backed process that ensures your project will be designed and installed to the highest standards. Our process begins by listening attentively to your needs and speaking honestly about the realistic expectations of your potential project. Cromwell uses only the best quality equipment, and we stand by our work.

We're big fans of backup power and have a generator backing up our own home (a battery system provides backup power to Cromwell's office and shop). Adding a safe and reliable standby generator to your home or business provides you with the peace of mind that you'll always have the safety and convenience of electricity. With the aging grid, power outages are occurring twice as often as they used to, installing a standby generator is more important than ever.

We've put together this comprehensive guide to installing a standby generator for a home or business to help you think about the pros and cons of generator installation and learn more about what to expect from a standby generator, as well as the installation process.

Here, you'll find much of what you need to know to decide if having a standby generator installed is a good idea for you. If you have any additional questions, we're just a phone call or an email away.

We'd love to hear from you.

Sincerely,

A handwritten signature in blue ink that reads "Aron & Sarah".



Aron and Sarah Cromwell

Why Install a Standby Generator?

If you're thinking about installing a standby generator at your home or business you likely already know the main advantage to owning one: secure, reliable power even during a utility outage.

Power outages happen more than ever before.



A combination of more extreme weather events and an aging, weaker electric grid have meant a doubling of outages over the past few years. The grid is now vulnerable to extreme heat and cold events as well as the traditional outages from wind and ice. Unfortunately, the events that take the grid down often occur at times when we need power the most.

Standby generators offer trusted power, ensuring lights stay on and critical appliances keep running when the grid fails.

Cromwell's professional teams can install a standby generator that meets your needs, no matter what they are.





The Problems With Power Outages

When an ice storm knocked out power for a few days in our neighborhood **our generator kept the furnace running, keeping us and our dogs warm and safe.**

The Midwest is very susceptible to power outages. Investing in a standby generator for your home or business to prevent the consequences of power loss is a sound investment.

Our neighbor's house without a generator ended up needing a total renovation after their attempts at heating it caused a serious fire (luckily neither they nor their dog were harmed). A house up the street had pipes freeze, displacing them for months and costing tens of thousands of dollars in repairs.

Damage from a **power outage can be catastrophic.**

Your sump pump isn't running, leading to basement flooding and serious mold growth, or your furnace isn't running so pipes can freeze and burst. Well-meaning attempts to heat a property using propane heaters or a portable generator in a garage/indoors kill over 100 Americans a year from carbon monoxide poisoning. Other costly and inconvenient problems include food spoilage and a loss of phone and internet connectivity impacting work, school, and recreation. **For businesses even short outages cause major disruptions and lost revenue.**

Know Your Generator Types

Portable generators bring serious electrocution, fire, and carbon monoxide risks. By contrast, **a standby generator is a safe solution for backup power during an outage.**



Portable generators

can be dangerous if not used properly. Hazards include carbon monoxide poisoning from exhaust, fire risk and burns.



Standby generators

are located outside and are safely, permanently wired into your building's electrical service panel (fuse box) through a transfer switch that automatically selects grid power when available, or generator power when it is not.



What is a Standby Generator?

A standby generator is a permanently installed generator connected to natural gas or propane lines (or diesel for industrial-sized ones) that automatically turns on within 30 seconds when it senses the grid is down and then automatically turns itself back off when your power has been restored.

Automatic Operation

A standby generator turns itself on when an outage is detected and off when power is restored.

No Refueling Necessary

A standby generator is directly plumbed into natural gas or propane lines.

Safe, Hardwired Electricity

Safely wired into your electrical service panel to supply power to either critical-only or all of your electrical needs.





What Can My Standby Generator Power?

Depending on how it is designed and installed, a standby generator can power only selected critical loads such as your furnace, refrigerator, and lights or power the entire electrical system. At Cromwell we will take the time to discuss the appropriately sized generator to meet your needs and budget. To determine generator size we look at the various electrical demands of each circuit you want to operate. Some appliances like refrigerators, heating and cooling, and pumps require extra power for startup and this needs to be factored into the calculations.

The more appliances we want to power the larger and more costly the required generator will be. However, splitting critical loads out from the rest of your electrical panel requires extra time and materials so this must be considered as well. **At Cromwell, we carefully examine the costs of various options to get you the best generator for your unique needs.**

Typically we find that whole house backup is the best value of our customers.

Cromwell Solar installs standby generators ranging from residential to large industrial sizes. We have the expertise to appropriately size your generator to your power needs and safely install it.

Our expertise in modern electrical equipment allows us to **pair generators with batteries and/or solar to give you almost infinite power backup time.**

Cost of Standby Generators

The cost of a standby generator is less dependent on generator size (typically 14-24kW for a home) than on other factors that increase the installation cost like distance from the generator to a natural gas or propane line, distance and ease of access to your electrical service panel, whether electrical upgrades to your panel are necessary, etc.

In general the total installed cost for a residential standby generator is often about \$12,000 to \$16,000 for a normal 200 amp service. **Financing is available, including 12 months same-as-cash or longer terms at reasonable rates.** Commercial standby generators are more expensive as they are larger and their electrical systems are typically more complex.



Standby generators provide new functionality to your home or building: **you'll have safe, steady, and reliable power even in the worst weather, and can avoid costly damage.**

Installing a generator can even add value to your building and some of the costs of generator installation can be offset with potential building insurance premium savings. That's not to mention the peace of mind knowing your home and loved ones are protected brings.



Increased Home Value

According to Consumer Reports, **a standby generator increases your home value up to 5%**, and according to a 2014 report by Remodeling Magazine, **installing a standby generator can provide a 150% return on your investment.**

Insurance Savings

A standby generator protects your building from damage from flooding or mold that could occur when your power is out. Generators keeping furnaces on can avoid even more serious, costly, and dangerous consequences from fires resulting from disastrous attempts to heat a home during an outage.

Considering the potential costs of insurance claims resulting from power outages, it's no wonder that insurance companies often offer discounts for homes with standby generators installed. Most insurers offer a discount of around 5-10% on the property portion of a homeowner's policy with proof of a standby generator permanently installed by a licensed professional.



Placement of Standby Generators

Where we install a standby generator onsite is an important consideration. **Cromwell Solar will conduct a site visit and discuss where we can install your standby generator according to local codes, and pair that with practical, financial, aesthetic, and acoustic considerations.**

Some restrictions on generator placement exist, such as code typically requiring a generator be no closer than five feet to a property line. Safety mandates placement be at least five feet from any doors or windows. Another concern affecting generator location is access from the generator to your main electrical service panel, meaning longer distances can be more costly.

Modern standby generators are quieter than older models, but the noise they make when operating should be considered when discussing generator placement. You might prefer that a standby generator not be placed right outside your primary bedroom, for instance. Landscaping and site selection can minimize noise issues and properly maintaining the generator will reduce operating noise.



Installation of Standby Generators

Cromwell Solar knows that communication is the key to a good customer experience. Throughout the design and installation process we keep our customers continually updated with a minimum of weekly updates.

The total time from contract to completion is often 1-3 months, with the bulk of that time being the wait for appropriate permits. On site, **a typical residential generator installation is only about 3-4 days** with commercial installations usually taking at least a few more days. Much of the required work will be indoors at the site of your electrical service panel, and the rest outdoors where the generator is located.

Our work site will be clean and **the generator will be neatly installed on concrete or a composite pad to ensure that it is level and away from dirt and plants.** A brief power interruption is needed to connect the generator to your electrical service, but we will work with you to schedule this for the least disruption possible (often a Saturday for commercial projects).



Standby Generator Maintenance

Routine maintenance is required to make sure your generator is always ready to keep the lights on. Luckily, the maintenance is inexpensive and is not disruptive. Like other combustion engines you may have owned, your generator will need the oil and oil filter changed regularly, spark plugs changed periodically, and electrical connections inspected and tightened as needed. Additionally, the outside of the generator should be kept clear of leaves and other debris.

When we install it we will program your generator to run about 15 minutes once a week as a self-test. During these tests listen for unusual noises and periodically take a look for leaks or damage. If anything is not normal, give us a call.

Cromwell Solar offers service contracts for the operation and maintenance of commercial and residential standby generators.

Additional services

Whole-Building Battery Backups

Cromwell installs battery systems for both home and businesses. Battery backups provide trusted, quiet power even in blackouts, and come with intuitive apps that give you up-to-the-minute information on your battery system. For those with time-of-use-metering batteries can also save you money by allowing you to buy and store power when it's cheapest. For businesses with demand charges, a battery system can lower these fees substantially.



EV Charger Installation

If you own an EV, having a dedicated EV charger is a near-necessity. Being able to quickly and easily top up your car overnight means you can head out in the morning without a second thought (or a stop at the gas station). Cromwell installs Level 2 and Level 3 EV chargers for homes and businesses, and can talk you through the best option for your needs.



Additional Services

Solar Panel Installation

Cromwell has been installing solar panels for over 40 years, and our professional teams have the experience to handle any job, large or small. Our experts design solar panel systems for your unique needs, ensuring you're buying the right amount of capacity, and our certified installers handle every step of the process from permitting to grid interconnection. Cromwell installs solar panels for homeowners, large businesses, churches, schools, and more. Get in touch with us today for a free quote.



Energy Audits and Retrofits

An energy audit from Cromwell Solar identifies efficiency-stealing issues and gives you a prioritized list of recommended improvements. Our professional teams can then carry out any retrofits you need, ensuring your home or business is performing at peak efficiency and saving you money in the long term.



Equipping Property For the Future

Installing a generator (or other improvements such as solar panels) is a way to future-proof your home by equipping it with the energy systems that will ensure reliability, sustainability, and efficiency for years to come.

These improvements give you **peace of mind, and make your property more attractive to future buyers.**

Cromwell's in-house teams include master electricians and fully certified installers, with years of experience in the field. We've handled thousands of solar installations, wiring and electric panel upgrades, EV charger installations, generator and whole-home battery backup installations throughout Kansas and Missouri. Trust our professionals to get the job done right, every time.

Cromwell's staff can answer any question you might have, and we're just a phone call away. Our process begins with a no-obligation quote that takes your unique needs into account — get in touch with us today to learn more.



For information about installing a generator for your home or business call us at 785-749-6020, or contact us at info@cromwellsolar.com.