GENERAC®

Whole home power. Clean and simple.

True backup with Generac PWRcell™ Solar + Battery Storage

Rooftop solar is undeniably appealing to homeowners. It is a technology that promises to power homes with clean, renewable sunshine AND save money. Solar buyers can save thousands of dollars while doing their part to help reduce greenhouse gases, a win-win-win for utilities, system owners and the environment. However, the limitations of traditional solar and solar + storage have left some system owners in the dark and paying more out of pocket.

Two key issues result in dissatisfaction with traditional solar. First, the time of day when solar is produced doesn't match up with when homeowners are using the most energy. In this case, system owners can be exposed to high energy costs during peak-rate periods. Second, solar alone cannot power a home during a grid outage, leaving the solar customer vulnerable when the grid goes down. System owners have turned to energy storage to overcome these challenges, but off-the-shelf battery systems are only capable of powering a couple of appliances for a few hours during a power outage.

Generac dove into the solar industry in 2019 to solve these problems, the result is the PWRcell Solar + Battery Storage system. **PWRcell combines industry leading power and capacity with automatic load management, providing the industry's first true whole-home backup and savings solution.**

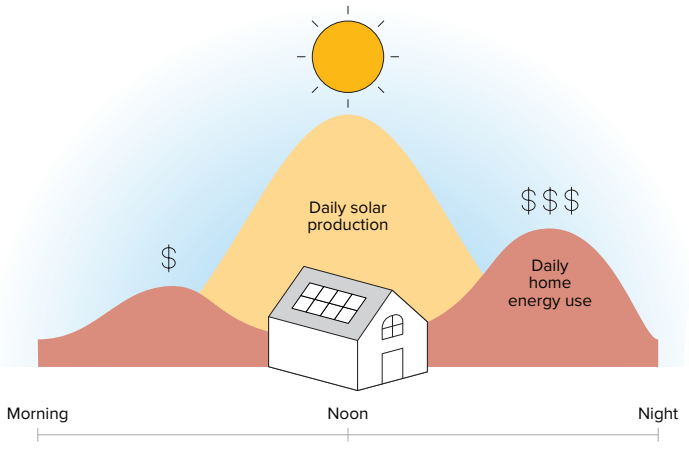
The Game is Changing. Traditional Solar Falls Short.

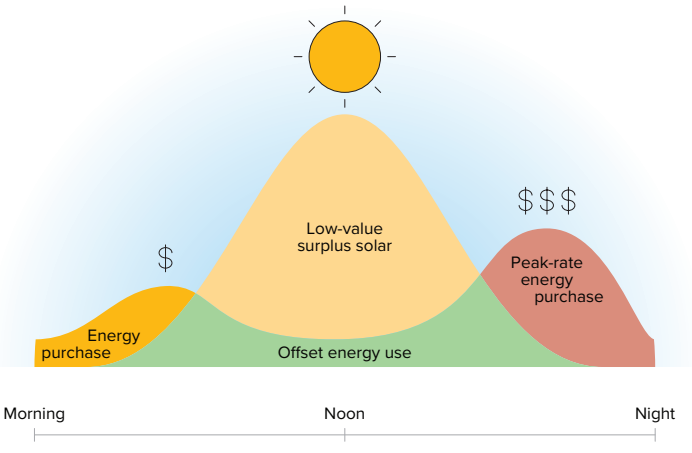
Homeowners use about 65% of their daily energy from 6 p.m. to 10 p.m., but the majority of solar energy is produced from 8 a.m. to 5 p.m. So where does the surplus solar energy go? It gets pushed back to the grid via “net metering”, or at least, it used to.

Utility companies have historically credited system owners for extra solar energy at a 1:1 exchange. However, as solar has grown in popularity, more solar power is being pushed onto the grid than utilities can effectively manage.

The result is a growing gap between supply and demand at certain times of the day. To bridge this gap, utilities turn to their costliest and dirtiest power sources, charge more for power during peak demand, and reduce the rates at which they buy solar power from producers. In some cases, solar buy-back is eliminated altogether. In this way, consumer return on investment (ROI) and the grid-greening benefit of solar energy is reduced.

ENERGY COSTS THROUGHOUT THE DAY





Homeowners demand more energy in the evening, so utilities charge more for supply during that time. A battery allows the homeowner to use solar power during peak-rate periods, avoiding high energy costs.

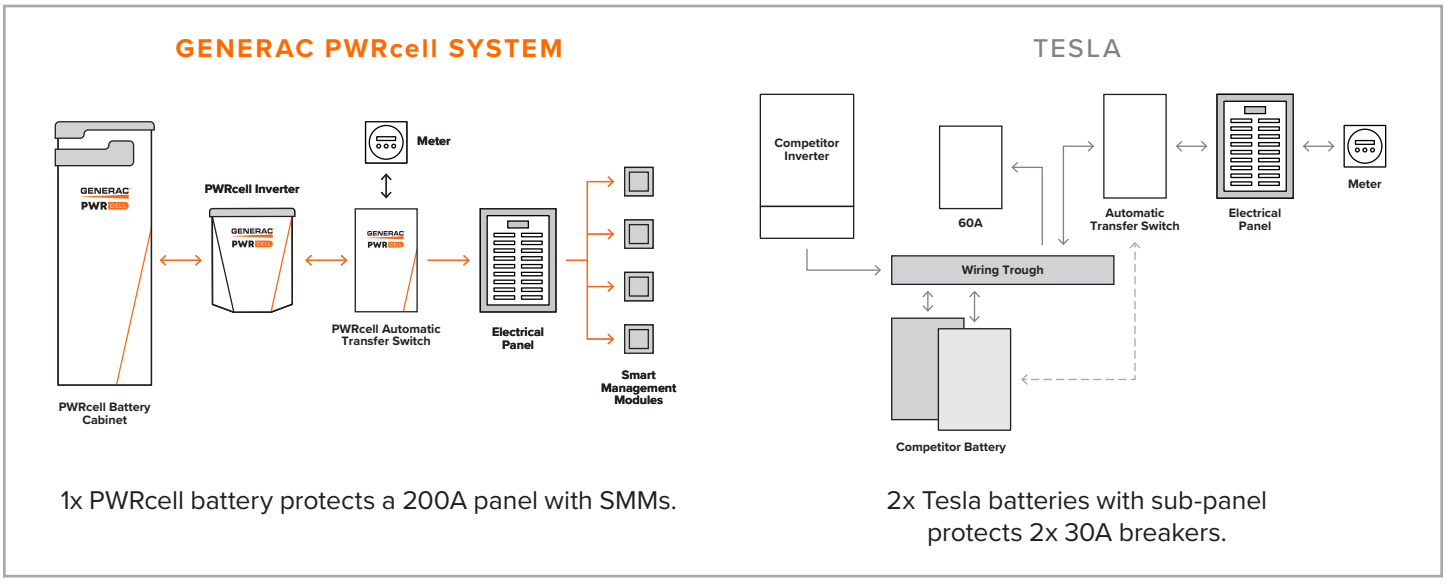
Standard solar only works when the grid works. With power outages rising nationwide, people see backup power as essential. Solar owners often assume their solar system will provide that protection and power their home if there is a utility power outage. Unfortunately, they would be wrong. By code, solar systems must disconnect from the grid during an outage, meaning customers who had chosen to invest in an alternative energy solution are left without power like everyone else.

Leading Batteries Leave More to be Desired

When mass-market solar + storage systems were introduced in 2015, they promised to solve the shortcomings of traditional solar. By charging themselves with free solar energy during the day, these early systems allowed their owners to use solar energy at any time, not just when the sun was shining. Stored solar could be used to avoid buying energy at expensive peak-rates and for backup power in the event of a grid outage, saving money and increasing energy security at the same time.

Despite the promise of a perfect product, the solar + storage systems available from the leading brands have not delivered in full. These systems are undersized and underpowered, unable to power an average home through an outage or offset typical peak-rate-period consumption. Although running the whole home on stored sunshine was what they promised, the ability to power a few appliances for a few hours was all they could deliver.

Given the price of solar + storage systems, this performance gap is a disappointing reality for early adopters of the technology. Until now, homeowners had to either settle for less or pay for large assemblies of batteries. Getting acceptable performance from a solar + storage system meant buying and connecting two or three battery systems together; an expensive, space consuming and unreliable solution. **This is the dirty secret of solar + storage.**



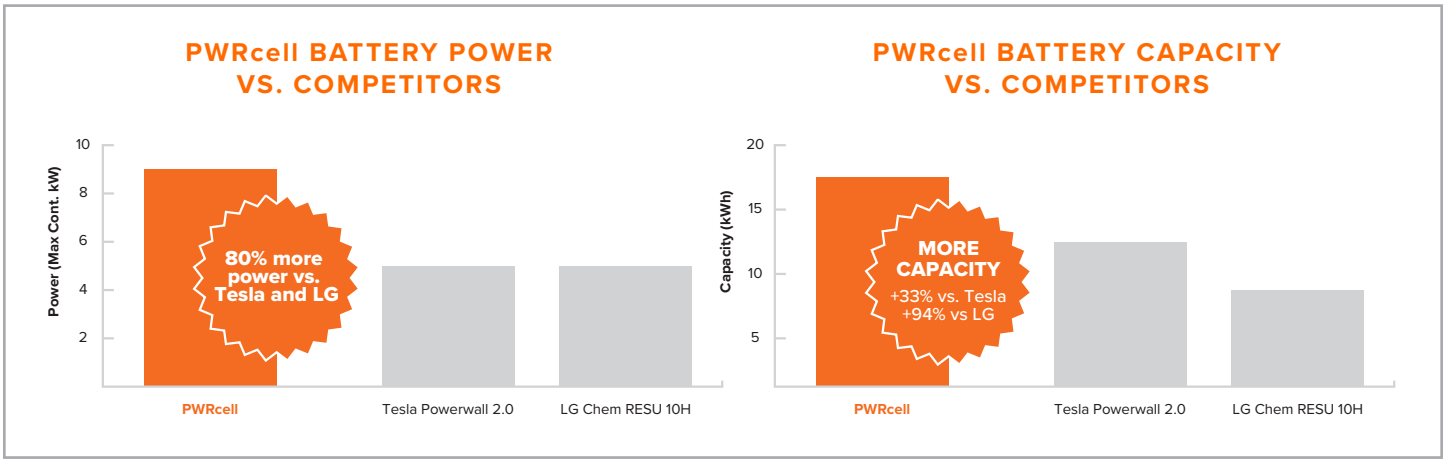
1x PWRcell battery protects a 200A panel with SMMs.

2x Tesla batteries with sub-panel protects 2x 30A breakers.

Solar + Storage, the Generac Way

Generac chose to make a battery storage system that can run the entire home. We have been making whole house generators for over 30 years, so it is only natural that we would put the same power and innovation into our solar + storage system. Our new PWRcell system delivers more capacity and more power output so the homeowner doesn't have to make lifestyle compromises during a power outage.

PWRcell has 94% more storage capacity than LG and 33% more than Tesla. Our system's continuous power output capability is 80% greater than Tesla's or LG's. Plus, PWRcell can deliver an unmatched 50A of peak motor starting current.



PWRcell boasts big power and capacity, meaning that consumers can maintain their lifestyle without disruption when the grid goes down. Power-hungry essential appliances like air conditioners, well pumps and refrigerators would overwhelm a lesser battery, but not PWRcell. If extended protection is needed, multiple batteries may be installed. **Generac delivers on the promise of running your whole home on stored sunshine. Clean and simple.**

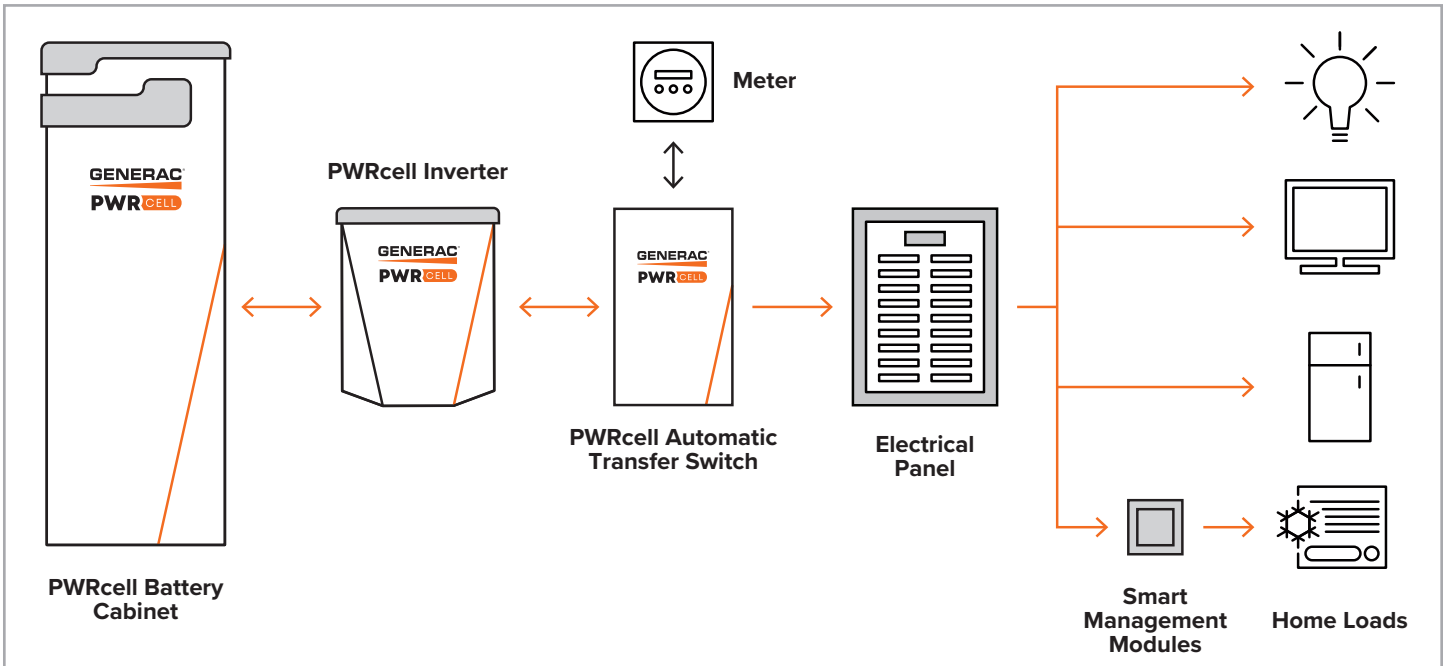
Your Home Energy Management System

To bring even more backup capability to PWRcell, Generac's PWRcell Automatic Transfer Switch (ATS) and Smart Load Management Modules (SMMs) allow for advanced load management and generator integration. With these components, Generac PWRcell installers can create simple and powerful whole home installations.

Unlike conventional load-shedding mechanisms, SMM load management allows PWRcell to punch above its weight and deliver whole home power. In a home where eight 2kW (16kW) loads were connected to a distribution panel, a dual-battery system from a major solar brand (10kW) would have to shed, or disable, three of the loads (6kW) in the event of a blackout. These loads would not be useable until grid power returned to meet code and remain within the system's limits.

A PWRcell system with just one battery (9kW) would handle the same scenario differently. PWRcell uses SMMs to "pause" larger, low-priority loads, giving preference and power to the essential loads when they need to run. When essential loads like refrigerators or well pumps end their run-cycle, that power is made available to low priority circuits again.

With PWRcell whole home power, Generac is making good on the solar promise. PWRcell delivers on the solar promise by allowing homeowners to run their entire home on stored sunshine while providing a cost savings solution, clean and simple.



The ATS and SMMs allow installers to prioritize loads in the home, preventing system overload. PWRcell can manage power distribution to essential and non-essential loads in the same panel, shedding non-essential loads when necessary and re-powering them when able.