

The Basics of a Home Solar Power System

The words solar power are everywhere these days. We know this means we can get electricity from the sun but do we really understand all that is involved?

For most of us the answer is no. Here are some basics of a home solar power system.

Energy Audit: Conduct an energy audit to determine your energy consumption and plan your solar system accordingly.

Regular Inspections: Schedule routine inspections to identify and address any issues promptly.

Energy Efficiency: Improve energy efficiency in your home to reduce overall energy consumption.

Sizing Your System: Calculate the size of your solar system based on your energy needs and available space.

Professional Installation: Hire a reputable solar installer for proper system design and installation.

Warranty and Maintenance Contracts: Consider warranty and maintenance contracts to protect your investment.

Permitting and Regulations: Ensure compliance with local permitting and zoning regulations for solar installations.

Solar Panels Placement: Install solar panels in an area with maximum sun exposure, typically facing south and angled for optimal sunlight capture.

Solar Panel Maintenance: Regularly clean solar panels to remove dust, dirt, and debris that can reduce efficiency.

Solar Tracking: If feasible, consider solar tracking systems that follow the sun's path for increased efficiency.

Shade Avoidance: Minimize shading on solar panels, as even small shadows can significantly reduce output.

Monitoring System: Install a monitoring system to track your solar system's performance and energy production.

Battery Storage: Invest in battery storage to store excess solar energy for nighttime or cloudy days.

Battery Maintenance: Maintain and monitor your solar batteries to extend their lifespan.

Inverter Selection: Choose the right type of inverter (string or micro) to convert DC solar power to AC for use in your home.

Off-Grid or Grid-Tied: Decide between an off-grid or grid-tied system based on your energy needs and location.

Net Metering: If grid-tied, inquire about net metering programs with your utility company to earn credits for surplus energy.

Incentives and Rebates: Explore local and federal incentives and rebates for solar installation to reduce costs.

Fire Safety: Follow fire safety guidelines when installing solar panels to ensure firefighter safety.

Weather Resilience: Ensure your solar system is designed to withstand local weather conditions.

Winter Snow Removal: Have a plan for removing snow from solar panels in winter to maintain efficiency.

Solar Panel Recycling: Research options for recycling or disposing of solar panels at the end of their life.

Backup Generator: Have a backup generator for extended periods of low sunlight or emergencies.

Emergency Shutdown: Know how to safely shut down your solar system in case of maintenance or emergencies.