

## ContainerPower Energy Solutions

# Solar panels generate electricity for direct household use



## Overview

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In 2024, rooftop solar was the fastest-growing source of electricity worldwide, according to data from the U.S. Energy Information Administration. Yet many homeowners still hesitate because of cost, myths and confusion about how the technology actually works. With electric utility rates climbing in.

Before starting the process of powering your home with solar energy, homeowners should investigate their energy use and consider potential efficiency upgrades. Homeowners should be well aware of their total electricity usage, and consider low-cost and easy-to-implement efficiency measures before.

Solar panels produce electricity through a process called the photovoltaic effect. Most home solar panels are made of silicon, a semiconductor material. When sunlight hits the panel, the electrons in the silicon get excited and create an electrical current that flows to the system's solar inverter.

If you want to use solar power for your home, your options include buying a system, leasing a system, or signing an agreement to buy solar power. Before you agree to anything, know what you're getting. Depending on the option you choose, you might get certain tax breaks or need to take extra steps.

Self-consumption is becoming increasingly important as more homeowners install solar panels and home batteries. It involves producing and using your own electricity directly at your home or business. As net metering policies evolve, embracing self-consumption still ensures you maximize your solar.

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