



SOLAR IN CT **STORAGE**

*Why Is Battery Backup A Critical
Piece of the Renewable Puzzle?*



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WHAT IS BATTERY STORAGE AND WHY IS IT IMPORTANT?



A battery storage system is a device that stores electrical energy in batteries for later use. It can be used to store energy generated by renewable sources such as solar panels or wind turbines, or to store energy from the grid during off-peak hours when electricity is cheaper and then use it during peak hours when electricity is more expensive. These systems range in size from small power walls for residential use to arrays of large shipping container-sized units that provide hundreds of MW of power.

Battery storage systems are an essential support for a green electrical grid that is powered by renewables. Because solar and wind provide energy intermittently (i.e., only when the sun is shining or the wind is blowing), batteries are needed to store any excess electricity during peak production and distribute it when supply is low.



WHAT ARE MY STORAGE OPTIONS?

A wide assortment of battery systems exist for commercial and residential use. However, to receive the CT state incentives available to Eversource and United Illuminating customers, units must be on the [approved equipment list](#). This list is evolving and expected to expand in 2024.

Eligible systems must 1) be capable of transmitting data to the utility's distributed energy resource management system (DERMS/DRMS) platform, 2) be able to manage the passive electricity dispatch requirements of the Energy Storage Solutions program, and 3) meet certain safety requirements.

The battery storage systems on the market today have **capacities of between 10 and 39 kWh** and can provide power to essential home systems for many hours or even days depending on use.



WHAT SHOULD I KNOW BEFORE ADDING STORAGE?

Here are several factors to consider before buying. Work with your contractor to design the best system for your home.

1. **Energy Needs:** Determine daily energy consumption of essential electrical devices to select an appropriate battery capacity.
2. **Battery Quality:** Consider battery efficiency and how much of the battery's capacity can be used. A battery has a certain capacity but also a maximum discharge rate.
3. **Installation Space and Location:** Ensure proper ventilation and temperature control in a dry location.
4. **Inverter Compatibility:** Confirm compatibility with existing energy sources.
5. **Warranty and Lifespan:** Check manufacturer's warranty and expected lifespan.
6. **Budget and Cost:** Consider total ownership costs, including installation and maintenance. Research state and federal incentives as well as financing options.
7. **Monitoring and Control:** Ensure a user-friendly interface for system management.
8. **Future Expandability:** Consider scalability for potential system expansion.

WHAT STORAGE INCENTIVES EXIST?

FEDERAL

Purchasers of battery storage systems of at least 3 kWh can receive a tax credit off of their tax bill up to 30% of the cost of the system in the year in which it is installed. This Residential Clean Energy Property Credit (Section 25D on your taxes) is good until the end of 2032.

STATE

To take advantage of the state's Energy Storage Solutions program, you must be willing to share your storage system with the grid. If you purchase and install a qualifying system, you will be eligible for a rebate of \$200 per kilowatt-hour (kWh) of battery capacity, up to 50% of the cost with a maximum incentive per project of \$7,500. Higher incentives are available for customers who meet low-income eligibility limits, live in underserved communities, or are on the grid edge. Incentive levels are periodically reviewed and modified so it is important to check the Energize CT for up-to-date information.

The performance incentive is received after each performance incentive season, for the first 10 years, and based on the average power your system provides to the grid during critical times, peak summer and winter demand events. The utility won't draw power from your battery two days before a predicted extreme weather event, so you'll be charged up and ready to go if the power goes out.

HOW CAN WE ENCOURAGE STORAGE?

Encouraging the adoption of battery storage can have positive effects on both individual households and the broader energy grid. Here are several ways individuals and communities can promote the uptake of battery storage:

Community Outreach: Organize workshops, webinars, informational sessions, or campaigns to inform people about battery storage options, benefits, and how to get started.

Demonstration Projects: Publicize and highlight battery storage systems installed on municipal properties and other storage projects within the community.

Local Regulations and Zoning: Advocate for local policies that make it easier for individuals to install and use battery storage systems.

Community Microgrids: Explore the possibility of creating community microgrids that incorporate battery storage, allowing for greater energy resilience and independence.

Support for Strong Solar Policies: Batteries paired with solar provide backup power and resiliency. Encourage state legislators and local leaders to strengthen support for solar, including: an improved interconnection process, use of grid-enhancing technologies (GETs), larger incentives for solar development on parking lots and other disturbed areas, and more streamlined permitting.



RESOURCES

- [Energy CT Energy Storage Solutions Program](#)
- [CT Green Bank - Energy Storage Solutions](#)
- [Battery Storage Incentives](#)
- [Quick Fact Sheet for Residential Customers](#)
- [EnergySage Buyer's Guide: Solar Batteries](#)
- [How Much of My House Can I Power on a Battery?](#)

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