

CleanEnergyGroup

Understanding Solar+Storage

Answers to Commonly Asked Questions
About Solar PV and Battery Storage

How can I pay for a solar+storage system?

Installing a solar and energy storage (solar+storage) system can lead to long-term cost savings, as well as other important benefits such as energy resilience and reduced emissions. However, the upfront cost of a solar+storage system can be a significant barrier. Incentives and grants, when available, can improve the economics of a project, while financing is often necessary for a project to cross the finish line.

Incentives

State, federal, and utility incentives help drive solar+storage market development by lowering upfront costs and improving system economics.

- **FEDERAL TAX CREDIT:** Solar, wind, energy storage, and other zero-emission technologies can access the 30 percent Investment Tax Credit (ITC) and, if eligible, apply for additional bonus credits. Solar and wind projects must begin construction by July 4, 2026 (or be placed in service by December 31, 2027) to be eligible. Storage projects can continue to access the full ITC through the end of 2033. Tax-exempt entities can access the full value of the ITC through a provision called Direct Pay. Learn more in Clean Energy Group's guide: [What Nonprofits Need to Know about the Investment Tax Credit](#).
- **STATE INCENTIVES:** More states are beginning to offer battery storage incentives, typically structured as an upfront incentive or performance-based incentive. Upfront incentives are a portion of the total project cost, usually up to a maximum system size and cost amount. Performance-based incentives are related to providing utility services and are structured so that a battery owner receives payment when the battery is called on and deployed to the grid, often to lower energy consumption during times of high electricity demand. States with battery storage incentives for commercial properties (including community-serving properties) include [New York State](#) Residential and Retail Storage Incentives, [Maryland](#) Residential and Commercial Energy Storage Grant Program, [Massachusetts](#) ConnectedSolutions and Clean Peak Standard, [Connecticut](#) Energy Storage Solutions Program, and [California](#) Self-Generation Incentive Program (SGIP).
- **UTILITY INCENTIVES:** Some utilities offer their own battery storage incentive programs, such as [Green Mountain Power](#) in Vermont, [Hawaiian Electric](#), and [Xcel Energy](#) in Colorado.

Grants

Federal, state, utility, and foundation grants can help reduce upfront expenses or bridge financial gaps. Depending on the source, these grants may be offered in support of innovative energy initiatives, demonstration projects, or to benefit specific communities or populations. Organizations interested in pursuing grants should identify opportunities through their utility, municipal and state governments, and/or private foundations. A few of the states that offer grants for solar and battery storage systems include [Maryland](#), [Michigan](#), [Oregon](#), and [Washington](#).

Financing

Solar+storage projects can be financed through a conventional loan, lease, or tax equity investment. Third-party financing is a popular option to finance solar systems and can also be used to finance battery storage. The following are two common types of third-party financing:

- **POWER PURCHASE AGREEMENT (PPA):** A developer installs a solar (or solar+storage) system on a customer's property, with the customer responsible for little to no upfront costs. The developer owns the system and sells power generated by the system back to the customer at an agreed upon rate. This rate is typically lower than the rate charged by the utility, resulting in savings for the customer. The developer operates and maintains the system through the term of the agreement, at which point ownership may be transferred to the customer.
- **ENERGY SERVICES AGREEMENT (ESA):** Like a PPA, all project development and construction costs, as well as maintenance and operation of a system, are covered by the developer. Once the system is operational, the customer begins making set monthly ESA payments based on an agreed upon rate.

In some cases, the solar and battery storage portions of a project may be financed through separate mechanisms, such as a PPA for solar generation, and an ESA or monthly lease fee for the storage system and/or other energy efficiency upgrades.

This text was adapted from chapter 5 of Clean Energy Group's July 2024 publication, *Understanding Solar+Storage: Answers to Commonly Asked Questions About Solar PV and Battery Storage*. Read the full guide at www.cleanegroup.org/publication/understanding-solar-storage.