



Energy storage battery installation 15 kWh

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Pairing solar panels with battery storage is an opportunity to gain unprecedented control over your energy costs. While Enphase is best known for its microinverters, they've splashed onto the residential energy storage scene with modular, durable, and affordable batteries.

Batteries are just one product in the Enphase Energy System. Other components include system controllers, combiners, microinverters, and the Enphase Enlighten monitoring app.

Simply put, Enphase IQ Batteries store excess solar energy for later use. You can use that energy on a daily basis to avoid buying electricity from the grid (known as solar self-consumption) or save it to provide backup power during grid outages.

Enphase batteries integrate seamlessly with other Enphase components to enhance overall system efficiency and reliability. They can also work with non-Enphase components but may be more difficult to install and have limited functionality.

Solar inverters change the DC electricity produced by solar panels into AC electricity that powers home systems and flows through the grid. Enphase's microinverters are unique in that they attach to the bottom of each panel and perform the inversion before the current leaves the solar panel.

As the name suggests, the Enphase IQ Combiner consolidates the wiring from the microinverters on each solar panel to create a single connection to the grid. This device enhances safety, improves installation efficiency, and allows for seamless integration with the Enphase IQ Batteries and System Controller.

The Enphase App provides real-time insights into your energy production, storage, and consumption. Through this interface, you can monitor your Enphase system's performance, troubleshoot issues, and even control your Enphase IQ Batteries remotely.

Before exploring the individual IQ Battery models, let's take a look at some core features that may help you choose between Enphase and the other top solar battery brands on the market.

To start, all of Enphase's IQ batteries are AC-coupled, as opposed to DC-coupled. The key difference in AC- and DC-coupled battery systems is when and where the DC electricity produced by solar panels is inverted into AC electricity that powers home systems and the local utility grid, as shown in the graphic below.

The advantage of AC-coupled batteries is that they are easier to configure into existing solar systems,

especially in systems with microinverters where the solar inversion happens on the panel itself.

The disadvantage of AC-coupled batteries is that a little bit of energy is lost to heat during each inversion, which reduces the round-trip efficiency of the battery system. In other words, you get less solar energy out of your battery than you put in.

If you already have solar panels — especially ones with Enphase microinverters — then Enphase’s IQ batteries make a great fit. If you are installing solar panels and battery storage all at once, you have a unique opportunity to invest in a more efficient DC-coupled battery.

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