

Last year we decided to have additional solar panels installed — ground-mounted, as we already have solar panels on our roof — and, after dithering a bit, decided that we would add a backup battery to the system, even though we didn't expect we would need it much for some time to come. The system (22 Silfab solar 420w panels with Enphase micro inverters on a groundmount, and an Enphase system controller with one IQ battery 5P for battery backup) was completed and online this spring, in early May — and less than two months after that, the battery backup justified its existence by keeping our house powered after the devastating June 22 storm.

The grid in Clinton went down about 4:00am Sunday morning, June 22, when the storm and tornadoes went through, but the Enphase battery kicked right in and kept us powered up during the ~32 hours that we lost grid power. It was fully charged — we'd been getting storm alerts and the message that "Your system profile will continue to be in "Full Backup" till the storm alert ends." We turned off what we could to reduce the power draw (including the computers — there was of course no internet connection anyway), and the battery had no problem keeping refrigerator, freezer, well pump, and occasional lights and phone chargers going all day. During the day Sunday while the sun was up the battery was able to stay charged, but it was pretty cloudy most of the day, so the battery was probably not completely topped up. We still had power through the night and Monday morning till about 6:00am, but shortly after that the battery evidently went below 5% and shut down. So we did lose power briefly, but only for about an hour, and once the sun was high enough to hit the solar panels, the battery quickly charged up. It was very sunny Monday, so the solar array was able to supply way more power than we were using, even with the heat pump air conditioning the house. We were planning that we would turn off the air conditioning as soon as the sun left the solar panels Monday evening, but in fact the grid power came back on about noon on Monday. All in all, the panels and the battery worked very well, as planned, for their first extended grid power outage.

Enphase has a cool app (Enlighten) that lets us know how the battery and the system is doing. We had trouble at first getting any current information from the Enphase Enlighten app with the internet down, but eventually figured out that if we turned the phone's cellular data off and the phone's wifi on, and then told the Enlighten app to connect locally, it did get the data from the system. The app also occasionally produced a banner asking if I wanted to connect locally, which made it easy to do so.



*Ground-mounted solar panels*



*Enphase battery system*