

This virtual webinar, held on 9 May 2021, was hosted by Andy McDonald of the Ky. Solar Energy Society and Lane Boldman of the Ky. Conservation Committee. The presenters—Matt Partymiller (Solar Energy Solutions, Inc.) and John Cotton (Wilderness Trace Solar, Inc.)—shared the following information:

1. Battery power storage allows the following benefits: Net-metered customers to have power when the grid goes down. Where net-metering has been rigged by utilities, customers can protect their ROI. Customers and infrastructure can operate off-grid.
2. However, storage is a significant extra cost, which hasn't declined as quickly as PV panels. And different systems operate differently, e.g., AC/DC and configuration.
3. Though the electric utilities are very much against batteries, the PSC (Public Service Commission) recently affirmed customers have a right to use power storage systems.
4. Lithium-ion batteries are the default in more complex systems, but demand far outstrips supply. (The US manufactures only 10% of the Li-ion batteries it uses.) Lead-acid batteries cost less, and remain most common in residential applications. Ferrous phosphate batteries are gaining attention, especially since they don't heat up.
5. Designing battery back-up systems requires consideration of numerous factors, including power output, capacity, limitations on storage, resilience, life expectancy (which can vary from 5-20 years, depending on the type), recharge capability and discharge capability (many of these batteries have memories).
6. Types of inverters vary. Some are grid-tied, some not. Not all use batteries. The ones that do use batteries don't work with all batteries; some are brand specific.
7. Some battery systems are stackable, i.e., they allow expansion over time.
8. The on-going research is extensive, including how to recycle more components of spent batteries.
9. In the US, we can't yet use an EV as a battery for a home by tying into an inverter.

Since the PSC isn't allowing the electric utilities to destroy net-metering and LCAN's audience nearly always connected to the grid, LCAN concluded that—for now—we will let the industry mature further before trying to advise consumers on battery storage.

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