

Hybrid Storage Inverters and batteries are very complex systems with significant UL certifications required. Sol-Ark Hybrid inverters have already passed UL1741/IEE1547, UL1741SA smart inverters, CA Rule 21 phase 1/2/3, HECO Rule 14H, FCC, UL1699B arc fault, MIL-STD-461G, and IEEE 2030.5.

The largest expense of the ESS system is the battery. While Utilities will pay for usage of the battery over 4-5 years, there are several ways to extend the life of the battery from 10-14 years to 16-20+ years.

If we win the Set! selection, we have plans to work with NREL on battery simulations to improve battery lifespan under various temperature/charge/discharge/SOC/SOH conditions. We will investigate if active thermal heating or cooling is worth the energy input to achieve longer battery life. Based on discussions with NREL experts, another 20% improvement in battery lifespan can be achieved with active cell balancing vs. the common passive balancing. Passive balancing uses resistors to reduce high capacity cells to the lowest capacity cell. Passive discharge also wastes 5W to 20W x 24hrs = 120W to 480W per day. As an inverter designer, we believe Sol-Ark can improve BMS designs, adding value for our numerous battery manufacturer partners.