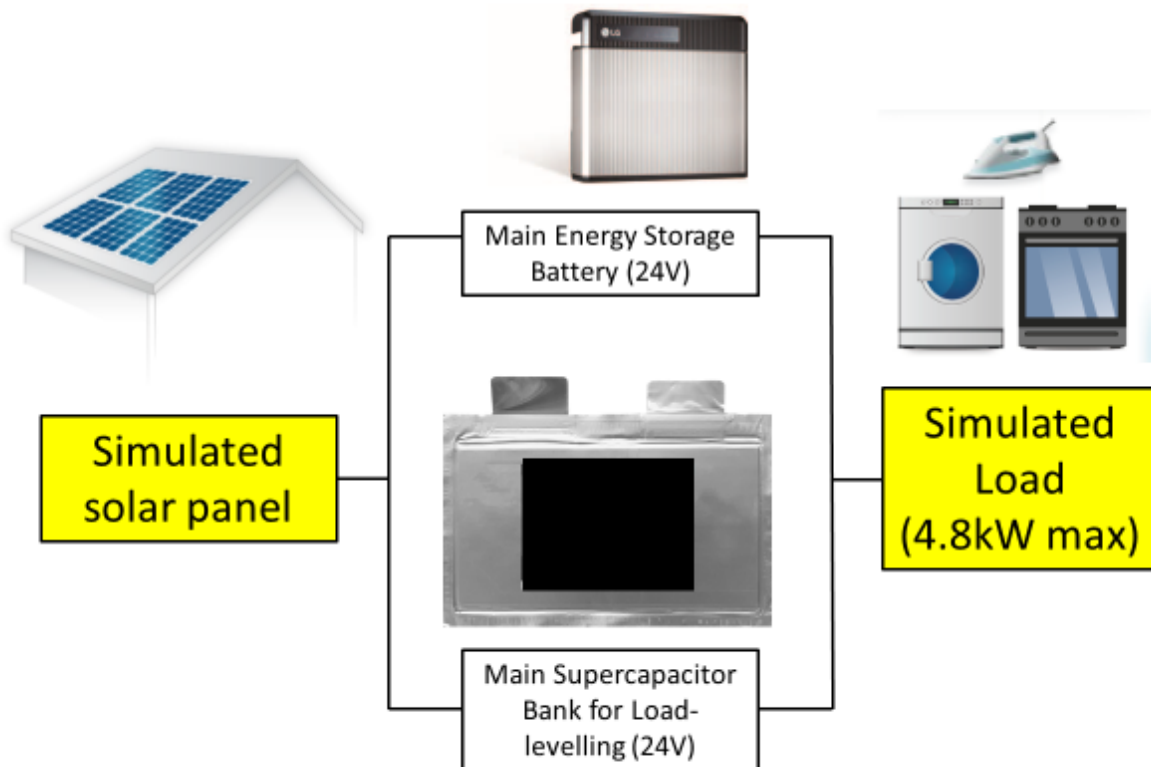
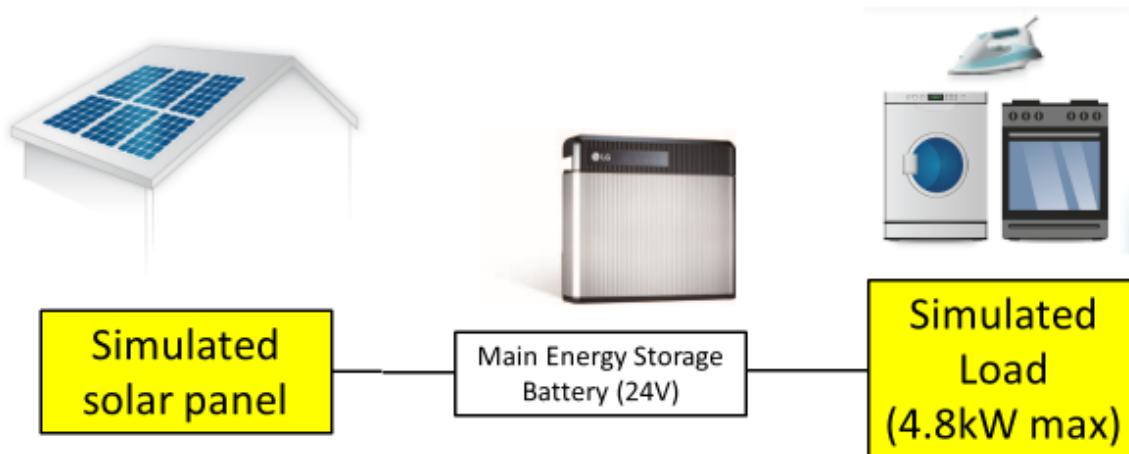


TECHNICAL ASSISTANCE REQUEST

The Power Smoothing Mechanism team desires the assistance of a laboratory with significant battery testing capabilities. Ideally, we would like 2 testing channels capable of generating and measuring 4.8kW at 24V, or 200A. The PSM is intended for household purposes at this stage. However, we would like to err on the side of testing larger loads. 24V is a common rooftop photovoltaic and home energy storage operating voltage. 200A is typically the maximum current delivered to residential homes. We seek both realistic tests and those near the limit of real world performance. Also, we would like for our partner to have experience generating charge and discharge profiles that can accurately model solar charge profiles and home loads. 2 testing channels are needed because we need to compare energy storage efficiency and degradation in a primary battery enhanced by a PSM and in a primary battery on its own. The improvements in energy storage efficiency and in system life directly correlate to the economic value added by the PSM. Diagrams of the test setup with and without the PSM are shown below.





Notice that a DC-AC inverter is not included in the diagram. The test's load profile should consider any losses that may be caused by an inverter. An identical charge and load profile must be tested upon a primary battery on its own. The performance improvements that the PSM enables, when compared to a primary battery by itself, will indicate how much more efficiently the PSM-enhanced primary battery stores energy.

We are seeking initial adopters, who would like to use the PSM. We will ask these initial adopters for performance data and constructive feedback on its performance. Ideally, partners will be able to share charge and discharge data realtime with the Power Smoothing Mechanism team. Several private entities are interested in becoming initial strategic partners to use the PSM. All of these entities are in the Southeast. Geographic diversity would be a bonus, but is not necessary.

We intend to spend any voucher funds on testing expenses and costs associated with installing initial PSMs and monitoring systems with early adopters.