SGIP Monitoring Plan for Lunar Systems

The following monitoring plan is proposed based on the 2024 SGIP Handbook requirements.

Project Site Address: 755 Ravendale Dr, Mountain View, CA, 93043
Energy Storage Make: Lunar Energy
Energy Storage Model: ☐LE-ESS-20KWH (Export Only) ☐LE-ESS-15KWH (Export Only)
Energy Storage Quantity: 1

System Description

The Lunar System is composed of (1) Lunar ESS, a hybrid inverter and stack of DC battery blocks (2) Lunar Maximizers, module-level DC-DC controllers optimizing production of every solar panel, and (3) Lunar Bridge, a microgrid interconnection device that automatically detects outages and seamlessly transitions between grid and island. Powered by Lunar AI software, the Lunar system is designed to maximize solar consumption, reduce utility bills, optimize earnings from VPPs, and deliver a seamless backup experience.

Intended applications for this project (select setting apply)

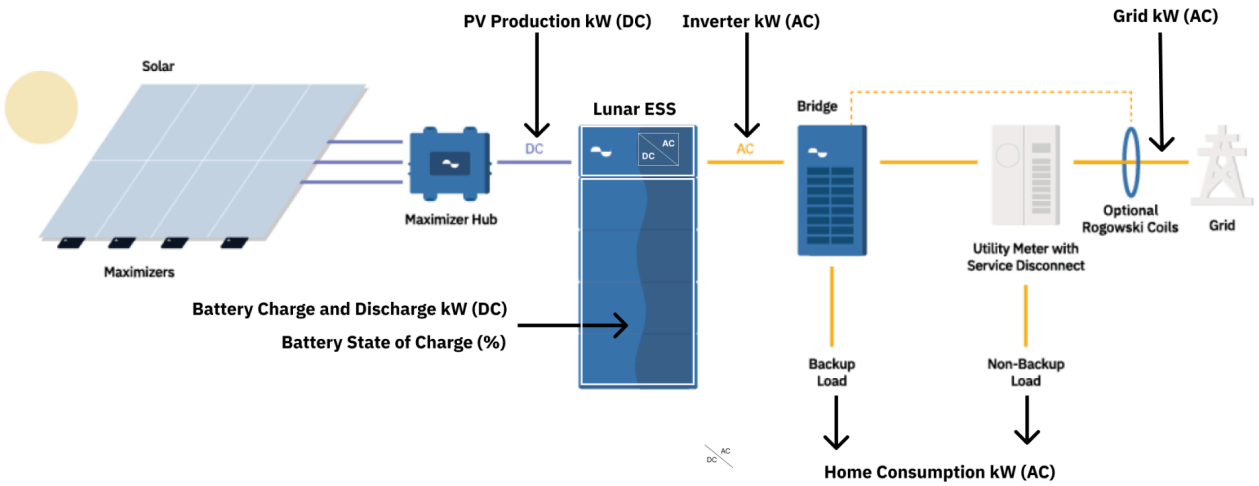
- ☐ **Self Consumption**: Maximize solar consumption
- ☑ **Lunar AI:** Utility rate optimization (i.e. TOU and NBT rate arbitrage)
- ☐ **Backup Only**: Remain 100% Battery SOC in case of grid outage (not recommended for SGIP projects)

Backup Loads

Average energy consumption at this residence is about 50 kWh per day with typical residential appliances and loads.

Metering System

The Lunar Inverter monitors DC production from the PV system, battery state of charge (SOC), battery charge and discharge power, and inverter AC power. The Lunar Bridge measures power consumption going in and out of the Bridge (grid import and export for whole home backup). For partial home backup, optional CTs (Rogowski Coils) are attached to the main service panel to measure the grid import and export to accurately calculate the total home consumption. Data is stored in the inverter and regularly uploaded to the cloud via built-in cellular, wireless or ethernet network. Metering data can be accessed through the Lunar Gridshare fleet monitoring platform via a web browser.



Data streams being collected include:

- PV Production kW (DC) – 15 min resolution; reported every 15 min
- Inverter kW (AC) – 15 min resolution; reported every 15 min
- Battery State of Charge (%) – 15min resolution; reported every 15 min
- Battery Charge and Discharge kW (DC) – 15 min resolution; reported every 15 min
- Home consumption kW (AC) – 15 min resolution; reported every 15 min
- Grid Import and Export kW (AC) – 15 min resolution; reported every 15 min

System Operation

When pairing with On-Site Renewable Generators, Lunar systems are set on PCS Export Only mode, which means that the system will charge exclusively from PV, except extreme weather events or critical battery maintenance. The Lunar system complies with ITC operational requirements and will be charged at least 75% from renewables. The metering data can be used to verify the system is being charged from renewables per SGIP requirements.