

Introduction to SOMAH Fleet Monitoring

Designed to help solar contractors and property owners understand SOMAH's fleet monitoring and its importance after solar installation.



Solar on Multifamily Affordable Housing



Welcome to SOMAH

California's Solar on Multifamily Affordable Housing (SOMAH) Program is designed to provide significant financial incentives to cover the cost of solar installation on multifamily affordable housing. The savings from solar directly benefit affordable housing residents and add value to the property.

After all program requirements are completed and the incentive payment is issued, the system owner is responsible for handling regular maintenance on the incentivized photovoltaic (PV) system.

This guidebook is intended to help contractors and property owners understand how SOMAH's fleet monitoring system works and what to expect if your system is detected to have performance issues.



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I. What is Fleet Monitoring?

SOMAH fleet monitoring, also known as system monitoring, was created as an investment in the longevity of SOMAH systems. The software, called SunSpot, was designed for the SOMAH Program Administrators (PA) to monitor the performance of all completed SOMAH projects and ensure PV systems are performing as expected. If the SOMAH PA identifies any underperforming systems, the property owner and contractor will be alerted to identify any potential issues.

Fleet monitoring does **not** replace standard operations and maintenance procedures, as it is still the system owner's responsibility to facilitate regular maintenance.



II. How Does it Work?

The SOMAH Program uses Sunspot, a custom-made monitoring software, to track the performance of SOMAH PV systems. The software includes a dashboard which compares daily production energy from the inverters to the production estimate given at the time of the application. This data helps pinpoint systems that are underperforming by 30% or more of their estimated production.

As shown in Figure 1, a line chart is used to compare the actual aggregate production and the expected aggregate production across all finalized SOMAH PV systems. It also includes a map of California in which system performance is noted by different colors. For example, underperforming systems are flagged in red while systems performing to expectations are flagged in green. As the dashboard accumulates more data from finalized SOMAH PV systems, it will allow the SOMAH PA to better understand how underperformance may occur in PV systems across common locations and/or equipment types.

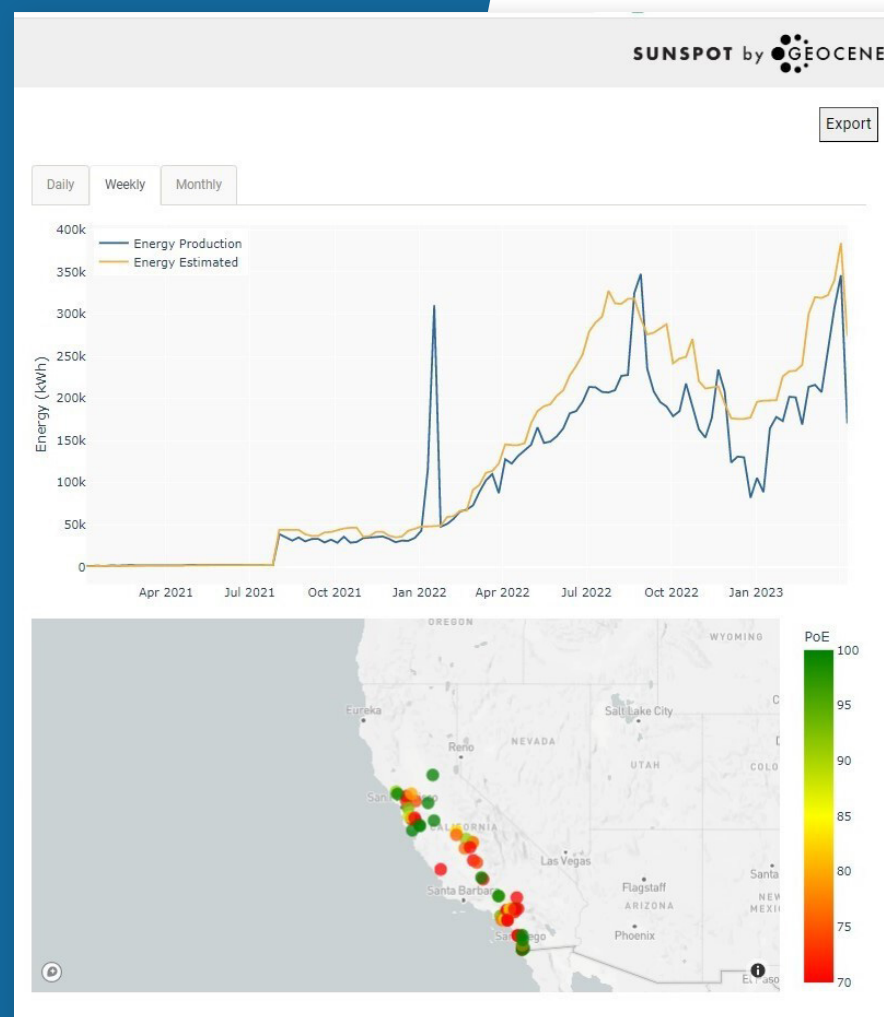


Figure 1. Actual vs. aggregate production

III. Why Is Fleet Monitoring Important?

1. Tenants do not benefit from underperforming systems.

SOMAH's mission is to provide long-term energy savings to tenants, but underperforming systems may diminish the benefits. Fleet monitoring will allow SOMAH to identify system performance issues promptly so corrections can be made and tenants can continue receiving the maximum energy bill savings.

2. Well maintained systems can still encounter issues.

SOMAH understands that issues may still occur even when PV systems are well maintained. The fleet monitoring software can act as a second set of eyes to monitor system performance and quickly alert the system owner of any issues.

3. Fleet monitoring improves equipment issues and prevents failures.

Monitoring SOMAH incentivized PV systems allows the SOMAH PA to learn and better understand equipment issues and failures. The information will help SOMAH improve diagnostics and support system owners through underperformance issues.

4. It provides reassurance to property owners and solar contractors.

SOMAH understands that it is not always possible to constantly monitor solar PV systems. Fleet monitoring reassures property owners and contractors that the SOMAH PA will flag any issues as they arise.

IV. How to Get Started

Per section 2.3.6.3 [Performance Monitoring and Reporting Services \(PMRS\) Requirements](#) of the SOMAH Program Handbook, the system owner must contract with a PMRS provider for a minimum of 20 years to provide transparency of the system's production for the host customer. Inverter login credentials and other information must be reported at the Incentive Claim Milestone so it can be used to connect PV systems to SunSpot.

The Incentive Claim Form has specific instructions for each inverter brand. Additional information may also be requested. However, the PA will not request sensitive or tenant-specific data.

Required Information for the Incentive Claim Form:

- **Site name(s):** Site names must be included as they appear in the monitoring web portal. There can be more than one site name per SOMAH application.
- **System ID, site ID or Plant ID number(s):** There can be more than one ID per SOMAH application.
- **API key:** Not all inverters use API keys, but inverter manufacturers such as SolarEdge do.
- **System owner contact information:** The name, organization, email and phone number of the person registered with the system monitoring provider must be included.

For systems that have already been finalized (incentive payment received), please contact techassist@calsomah.org.

SOMAH reserves the right to request 15-minute interval production data from the monitoring service. Production data can be provided via login credentials to inverter original equipment manufacturer (OEM) or equivalent production software at the Incentive Claim Milestone.

V. Actions for Underperforming Systems

1. SunSpot will flag PV systems that are underperforming by 30% or more than the expected production.
2. SOMAH's Technical Assistance (TA) team will send an email notification to the system owner named in the Incentive Claim Form that the system is underperforming.
3. The system owner contact and/or host customer will provide information on why the system is underperforming, if repairs are in progress and when repairs are expected to be completed.
4. The TA team will work with the system owner to determine the cause of the underperformance and the necessary steps to prevent future underperformance issues.



VI. Production Requirements and Incentive Clawbacks

The TA team will make multiple attempts to connect with the system owner if a system is underperforming. The system owner and/or host customer must respond in a timely manner to communicate the cause(s) of the issue and the steps being taken to repair it.

If the system owner does not respond or take action within one year of notification, the SOMAH PA may initiate repayment or “clawback” of the SOMAH incentive. Per [section 4.9.4](#) of the SOMAH Program Handbook, the SOMAH PA may initiate clawback if the project does not comply with program requirements. The clawback could be up to 90% of the paid SOMAH incentive.

Table 1. Incentive clawback schedule

Age of Solar System (years)	Amount Due (% of original incentive)
1-5	90%
6-10	75%
11-15	50%
16-20	25%

Note: While this table provides a prospective prorated incentive clawback schedule based on the timing of the noncompliant event, the portion of the incentive subject to clawback will be determined at the discretion of the SOMAH PA based on the details of the event(s).

VII. Additional Considerations

1. SOMAH fleet monitoring does **NOT** replace standard operations and maintenance procedures. It is the system owner's responsibility to handle regular maintenance and address any issues with the PV system.
2. The SOMAH PA will not extract personal identifiable information from the inverter monitoring portals. Only daily energy production in kWh will be collected.
3. The SOMAH PA reserves the right to request 15-minute interval data from your monitoring service, as stated in [section 2.3.6.3](#) of the SOMAH Handbook.

VIII. Additional Resources

Instructions to provide login credentials by brand:

1. [SolarEdge](#)
2. [Enphase](#)
3. [SMA](#)

Still have questions?

If you still have questions about fleet monitoring or would like your finalized SOMAH system to be added to our software, contact us by email at techassist@calsomah.org.



Solar on Multifamily Affordable Housing

Learn more about all our Technical Assistance and Support Services at
CalSOMAH.org/technical-assistance-and-support-services

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