PVEL
MAKE DATA MATTER.

# Field Testing at PVUSA

Evaluate energy yield, assess product safety and conduct R&D studies for solar and storage equipment at our iconic outdoor testbed.

### Highlighted Field Studies

- **Comparative energy yield**
  Assess different solar PV manufacturers, technologies, product types and shading scenarios.
- **Product development**
  Evaluate early-stage technologies to obtain R&D insights that inform product design and commercialization.
- **Runtime**
  Validate the reliable operation of energy storage products, inverters and other power electronics in the field for extended durations.
- **Product safety**
  Conduct field-representative arc and ground fault testing and evaluate rapid shutdown devices (RSDs) and other power electronics.
- **Model validation**
  Compare energy production in the field at PVUSA to performance models generated with PVEL's in-lab characterizations.

## Who We Are

PV Evolution Labs (PVEL) is the leading independent lab of the downstream solar industry. Our testing helps manufacturers gain market acceptance by validating the reliability and performance of their products. Developers, asset owners, and investors leverage PVEL's data and services to mitigate technology risk in solar and storage projects.

## About PVUSA

PVUSA, the home of PVEL's grid-connected, research-grade outdoor testbed, is located in Davis, California. The storied facility is one of the first solar plants in North America.

The field testbed represents California inland conditions, with a hot, dry summer season, and provides a range of groundcover options.

## PVEL's Testing at PVUSA

PVUSA provides a unique environment for comparing the performance of different products against competitive technologies and assessing real-world performance and operation.

These products include, but are not limited to:

- PV modules and PV module components
- Inverters, microinverters and power optimizers
- Mounting systems, including trackers and racking products
- Energy storage systems

## PVUSA Test Equipment and Instrumentation

- Custom-built data acquisition systems for lab-quality DC and AC monitoring at the module- and/or string-level
- Multi-sensor weather stations and irradiance sensors (pyranometers, pyrheliometers and reference cells) for meteorological monitoring
- Revenue-grade meters for lab-quality performance monitoring on demand
- Plane of irradiance (POA) and global horizonal irradiance (GHI) albedometers for high-precision albedo measurement
- Multiple groundcover options for measuring albedo gains
- Rooftop structures for testing PV products and roof surface enhancements
- On-site PV module characterization lab with state-of-the-art equipment for flash, EL and safety testing


**To find out more about field testing at PVUSA, contact PVEL's business development team: info@pvel.com**

PVEL
MAKE DATA MATTER.



member of group kiwa