

## Performance Evaluation Reliable Expert Opinions

PI Berlin offers a range of services to assess the performance of PV plants and equipment during the operational phase. Our solar experts have developed unrivalled in-depth knowledge about solar PV plants based on our experience on-site, in the factory and in the testing laboratory. Investors, lenders and asset managers rely on our expert opinion to troubleshoot failures and underperformance, as well as to provide support in claim processes.

### Key Features

PI Berlin's PV plant investigations include:

- Review of contractor and supplier warranties
- In-depth analysis of monitoring data
- Assessment of O&M reports and performance
- On-site inspections and testing

### Expert Opinions

- Analysis of actual and expected performance ratio
- Risk assessment and mitigation measures
- Actionable punch lists for O&M contractors
- Recommended improvements with cost benefit
- Potential for claim initiation



### Case Study

**Situation:** The asset manager has noticed a drop in performance ratio over the last two years.

**Investigation:** PI Berlin conducted a performance analysis, as well as module on-site and lab tests.

**Result:** PID affected one module type and one third of the PV plant.

**Solution:** Pursue a claim with the module supplier and install anti-PID boxes to regenerate the modules.





## Every kWh Matters

PI Berlin knows that margins are tight and optimal performance is crucial.

### We address the essential operational questions

- What is causing the under-performance?
- Is there grounds for a warranty claim?
- Has the EPC contractor complied with its obligations?
- At what price can the plant be optimized to improve yield?
- What is the long term safety and performance impact?



## Our Opinion Matters

PI Berlin's performance investigations are relied upon by asset owners, investors and lenders.

- Unrivalled insights from the factory, lab and on-site
- Strict culture of independence
- Reliable data from on-site and lab testing
- Knowledge of leading edge technologies
- Team of expert solar advisors to interpret test results



## Why Choose PI Berlin?

### Projects on all Continents



Experience in desert, tropical and temperate climates

### Offices in Key Locations



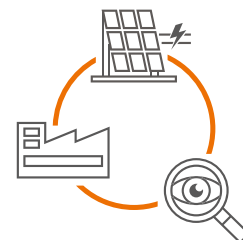
Presence in USA, Europe, and Asia

### All Major Components



Quality assurance of modules, inverters, trackers and batteries

### Factory, Lab and Field



More than 150 satisfied clients including developers, investors, and EPCs.

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