AMARENCO · UTILITY-SCALE SOLAR PROJECT, NOUVELLE-AQUITAINE, FRANCE

AMARENCO
Invest in RE.Generation

The satellite was setting the debt terms. One year on site moved them by 1.5%.

On a utility-scale project the long-term yield estimate drives the debt sizing and the tariff, and it usually rests on satellite irradiance data alone. That data carries a systematic bias on any given site, and the bias is priced into the financing. Amarenco ran a CalibSun autonomous station on its Nouvelle-Aquitaine project for a full twelve-month cycle, then calibrated the satellite record against what the site actually receives. **Calibrated GHI came out 1.5% above the reference database**, and the corrected dataset went straight into the yield study.

+1.5%

GHI measured on site above the reference satellite database, a bias otherwise carried into the yield study

5% → 0.5%

residual satellite error, after on-site calibration and post-processing

+2.5%

gain on the P90 to P50 ratio after calibration, the uncertainty a lender prices into the debt

Autonomous measurement station on site. Pyranometers in several orientations, with temperature, humidity and microclimatic variables, recorded every five minutes.

1. **Measure.**
A turnkey autonomous station runs a continuous twelve-month campaign on the project site, without grid connection and without on-site staff.

2. **Calibrate.**
The satellite record is corrected at source against the measured series, removing the bias instead of covering it with a blanket margin.

3. **Deliver.**
TMY, P50 and P90 structured for lenders, independent engineers and investment committees, with the raw measurements and the method attached.

Why it matters

what the developer gained, beyond the measurement

Financing terms
A narrower gap between P90 and P50 is what the lender prices. The value lands before the plant produces anything.

Months, not years
A corrected resource estimate without waiting out a multi-year campaign, so the timeline is not held hostage to the data.

Auditable, not asserted
Method and raw measurements are handed over, so an independent engineer can review the correction rather than trust it.

Microclimate captured
Site-specific conditions that satellite sources systematically miss, including local cloud and aerosol behaviour.

Reusable afterwards
The same measurements train the forecasting models once the plant is operating.

Scientific backing
Co-developed with MINES Paris - PSL and ARMINES. Main contributor to IEA PVPS Task 16.

The client came back
« We are now considering deploying this tool across all our large projects. » Gonzague Vuillier, Construction Manager, Amarenco.

Ready for the yield study
The corrected dataset was delivered in a form the yield consultant could use directly, with no rework.

Resource, then real time
The station that assesses the resource before financing becomes the sensor network that forecasts production after.

Amarenco utility-scale project in Nouvelle-Aquitaine, measurement campaign delivered in 2025. Amarenco refers to the service as the CUBE. Residual error and P90 to P50 figures from CalibSun project records and the FUTURE methodology. Project and quote referenced from Amarenco's public communication.