

Inverter and DC/AC Cables Revamping

Ground mounted solar PV plants - Total power 4 MWp

The LT Renewables Group, through its subsidiaries LT and LT Enerray, has been operating in the renewable energy field since 2001 offering ordinary and extraordinary maintenance services, remote monitoring, diagnostics and performance analysis for rooftop and ground-mounted photovoltaic systems, with a particular focus on safety issues.

Over the years, the company has grown steadily, focusing its resources on services with greater added value and investing in technology and innovation.

Our Case Studies are the demonstration of our transparency towards customers and the proof of the ability to obtain important results.

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In February 2020 LT worked on two photovoltaic plants in the province of Pavia which had low production values due to several faulty inverters (116 in total).

After carefully analyzing the situation, the Company decided to replace the faulty inverters with the model SUN2000-15KTL manufactured by Huawei.

The choice was dictated by the following aspects:

- Technological features (energy yield and integrated monitoring)
- Greater electrical safety thanks to the integrated DC arc protection
- Value for money.

The intervention also involved **DC and AC rewiring** to reduce voltage losses and solve low insulation problems.

The whole intervention brought the following benefits:

- **Increase in inverter efficiency: + 3% (European Efficiency)**
- **Increase in operating hours: + 1.3%** thanks to the wider operating voltage range of the inverters compared to other models and the efficiency of the MPPT tracker
- **DC loss reduction: - 3%**
- **AC loss reduction: - 1.4%**

with a performance improvement which led to an **increase in energy production equal to 7.72%** compared to the portions of the system still equipped with the original inverters, under the same AC and DC wiring conditions.

The new inverters installed also made it possible to obtain some additional advantages in terms of:

- **Smart Monitoring:** Integrated monitoring of the now installed equipment is compatible with any software platform
- **Smart I-V Curve Diagnosis:** Support for system analysis and diagnosis, allowing the tracing of I-V string curves, there is now the possibility to identify underperforming strings and accurately direct future maintenance interventions.
- **Safety:** Active protection against failures due to the DC electric arc thanks to an artificial intelligence algorithm.

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*LT, thanks to the experience acquired on **over 500 MWp under management** and over 100 MWp realized by the same through EPC, Revamping and Retrofitting activities, can carry out specialist analysis on any type of photovoltaic system.*

We offer our customers immediately relationships based on trust and transparency, with the belief that the human quality of professional relationships can make the difference.