



From Manufacturing to Smart Green Energy: Hypontech Empowers Changfa Aluminum's Low-Carbon Transformation

Background

Under the guidance of China's "dual carbon" goals, the green transformation of energy-intensive industries has become essential to achieving high-quality development.



ChangShu, Suzhou, China

Changshu Changfa Aluminum Co., Ltd.—a key player in aluminum alloy profiles and related products—has long faced rising electricity demand and cost pressures during production.

In response, the company partnered with Hypontech to launch a distributed solar PV project, turning smart energy innovation into the driving force behind its low-carbon transition. This collaboration now stands as a benchmark for green manufacturing in China's industrial sector.

Hypontech’s Tailored Solution

After a thorough evaluation process, Changfa Aluminum Co., Ltd. selected Hypontech as its strategic partner for the project, recognizing the company’s technological expertise in inverters, comprehensive service capabilities, and proven track record in industrial energy applications.



To match the factory’s roof structure and power load characteristics, Hypontech deployed **18 units** of **HPT 50K three-phase** grid-tied inverters, achieving a total system capacity of **900 kW**. The setup provides a solid technical foundation for the factory’s shift toward cleaner energy.

Type	Model	Quantity/Unit(s)
Three phase	HPT 50K	18

HPT 50K – Powering Green Energy with “Hardcore” Performance

At the heart of any PV project lies the true measure of equipment performance. Hypontech’s HPT 50K inverter delivers four key advantages that make solar benefits tangible and measurable:



High Efficiency: Equipped with advanced topology and control algorithms, the HPT series achieves a maximum conversion efficiency of 98.8%, ensuring higher energy yield under the same sunlight conditions and maximizing overall system returns.



Reliability in Every Condition: Designed with comprehensive protection functions—including anti-islanding, DC reverse polarity, and overload protection—the HPT inverter adapts effortlessly to complex industrial grid environments, ensuring long-term stability and minimizing downtime losses.



Smart Operation & Maintenance: Integrated with Hypontech’s self-developed Hypon.Cloud platform, the system enables remote monitoring and intelligent diagnostics. Operators can track the real-time performance of each inverter, locate and resolve issues quickly, and significantly reduce maintenance time and cost—transforming traditional energy management into smart energy intelligence.



Built to Last: With IP65 protection, the inverter is engineered to withstand high temperature, humidity, and harsh environmental conditions, making it ideal for industrial rooftop installations.

Dual Benefits: Economic Savings and Environmental Gains

As of now, Hypontech’s PV system has been operating smoothly and efficiently. According to the project manager, “Our rooftop PV system generates about 850,000 kWh of green electricity each year, saving nearly 600,000 RMB (\$84,300) in annual electricity costs. The system will pay for itself in just 4–5 years, and for the next two decades, it will serve as a ‘green rooftop bank,’ continuously generating profit.”

The value, however, extends beyond economics.

The annual output of 850,000 kWh translates to a reduction of 578.4 tons of CO₂ emissions and 246.6 tons of standard coal, equivalent to planting 30,000 trees every year.

By turning sustainability from a cost burden into a value driver, the project showcases the real power of clean energy.



850000 kWh
clean electricity
generated annually



≈ \$ 8,4300
savings on power
bills each year



Just 4-5 years
rapid payback
period achieved



578,4 tons
reduction
in CO₂ emissions



246,6 tons
standard coal

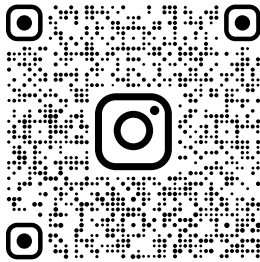


30,000 trees’
environmental
benefit

About Hypontech

Hypontech is a leading technical innovation company, specializing in distributed PV inverters and smart energy management solutions. As a comprehensive solution provider, Hypontech is committed to the R&D concept of 'quality in DNA,' continuously breaking through industry technical barriers and securing over 100 patents and copyrights.

The diverse product portfolio ranges from 350W to 80kW, ensuring comprehensive coverage in residential and commercial grid inverters, energy storage systems, microinverters, and smart energy management solutions. Hypontech is recognized as 2025 Reddot Winner, global TOP 9 single-phase inverter suppliers by Wood Mackenzie and have been consistently honored as the 'EUPD TOP BRAND INVERTER' for four consecutive years. For more information, please visit www.hypon.com.



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