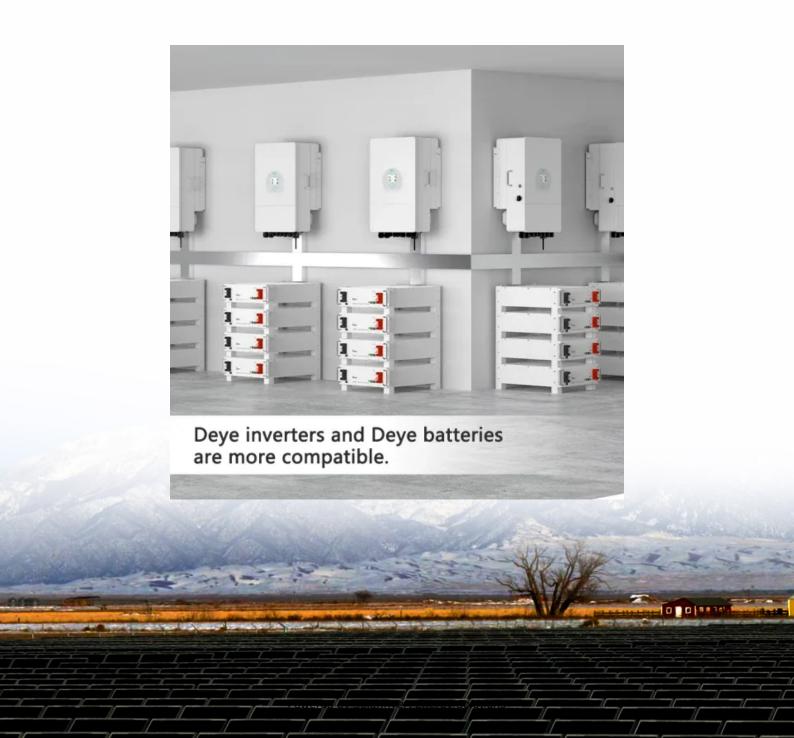


SolarInvert Energy Solutions

Peak-valley electricity price difference energy storage system





Overview

How much does electricity cost in a valley?

Table 1 shows the peak-valley electricity price data of the region. The valley electricity price is 0.0399 \$/kWh, the flat electricity price is 0.1317 \$/kWh, and the peak electricity price is 0.1587 \$/kWh. The operation cycles (charging-discharging) of the Li-ion battery is about 5000–6000.

How many provinces have a peak to Valley electricity price difference?

The State Grids and China Southern Power Grids of 29 provinces, autonomous regions and municipalities announced the electricity tariffs for industrial and commercial users in December 2021. According to the statistics, 14 provinces and cities have a peak to valley electricity price difference that exceeds 0.7 yuan/kWh.

What is the difference between Peak-Valley electricity price and flat electricity price?

Among the four groups of electricity prices, the peak electricity price and flat electricity price are gradually reduced, the valley electricity price is the same, and the peak-valley electricity price difference is 0.1203 \$/kWh, 0.1188 \$/kWh, 0.1173 \$/kWh and 0.1158 \$/kWh respectively. Table 5. Four groups of peak-valley electricity prices.

How does a battery energy storage system work?

On the one hand, the battery energy storage system (BESS) is charged at the low electricity price and discharged at the peak electricity price, and the revenue is obtained through the peak-valley electricity price difference. On the other hand, extra revenue is obtained by providing reserve ancillary services to the power grid.

Can user-side energy storage projects be profitable?

At present, user-side energy storage mainly generates income through the



arbitrage of the peak-to-valley electricity price difference. This means that if the peak to valley price difference is higher than the levelized cost of using storage (LCUS), energy storage projects can be profitable.

How does energy storage make money?

Energy storage can participate in peaking shaving and ancillary services. It generates revenue though electricity price arbitrage and reserve service. The BESS's optimization model and the charging-discharging operation control strategy are established to make maximum revenue.



Peak-valley electricity price difference energy storage system



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peak-valley price difference of energy storage on the user side

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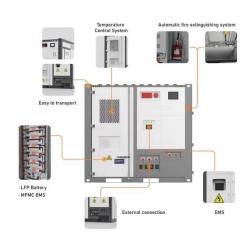
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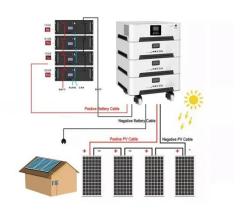
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