

Mozambique energy storage for backup power

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Recently, SCU successfully provided a 2MWh energy storage container system and a 1500kVA uninterruptible power supply (UPS) solution for a gemstone mine in Mozambique as the main backup power supply for the mine. This project not only helped the mine effectively solve the problems of unstable power supply and high energy consumption but also provided strong support for its green and low-carbon transformation.

2MWh 40ft energy storage container, connected to the grid, saves electricity costs by shaving peaks and filling valleys, and can also be used as a backup power supply. 1500KVA UPS is placed in the 40ft energy storage container as a backup power supply.

Advantages of energy storage system + UPS:

The 1500kVA UPS system configured in the energy storage container is specially designed for unstable power supply in mining areas. It can immediately switch to backup power mode in the event of an unexpected power outage, providing stable power for important equipment such as ore processing, drainage, ventilation and other systems to ensure production continuity. The combination of energy storage + UPS can not only avoid economic losses caused by production stagnation but also prevent power outages from damaging automation equipment.

Mining areas are usually located in remote areas, with complex power supply lines and are vulnerable to natural disasters, resulting in frequent power outages. SCU's energy storage system can provide emergency power to the mining area when the power grid is interrupted or the power supply is insufficient, ensuring the continuous operation of mining equipment and avoiding production losses caused by power outages. The backup power system equipped with 1500kVA UPS further enhances the mine's ability to respond during power failures.

The power demand of mining equipment such as ventilation, drainage, and equipment lifting systems often fluctuates, resulting in energy waste and unnecessary cost expenditures. The energy storage system can store electricity when the power demand is low and release it during peak hours to help the mining area achieve dynamic peak-valley balance. This model not only improves the energy utilization efficiency of the mining area, but also effectively reduces the overall electricity bill expenditure.

SCU's energy storage system can quickly respond to changes in the load of the power grid, adjust the frequency and voltage of the power grid through charging and discharging, and help the mining area achieve peak-shaving and frequency-regulating of the power grid. This not only relieves the load pressure of the power grid but also improves the stability of the power grid and makes the power supply system in the mining area

more reliable.

As more and more mining areas begin to introduce renewable energy such as solar energy and wind energy, energy storage systems can be used in conjunction with these energy sources to store electricity when there is excess energy and release it when demand peaks, thereby maximizing the utilization rate of renewable energy and reducing dependence on fossil fuels.

The intelligent management system of energy storage supports real-time monitoring and automatic adjustment of charging and discharging, making mining equipment and power systems work together more efficiently, further improving the digitalization and intelligence of mining areas.

The application of energy storage systems can reduce the demand for traditional energy in mining areas and reduce carbon emissions from coal-fired and diesel-fired power generation. At the same time, the energy storage system can also optimize the energy structure of mining areas, reduce energy consumption, provide technical support for the green and low-carbon transformation of mining areas, and help them achieve sustainable development goals.

The 2MWh lithium battery energy storage system provided by SCU has multiple technical advantages. It does not require additional maintenance and management, can automatically operate online, and has an extremely fast power supply response speed. At the same time, the lithium battery energy storage system has the ability to automatically start load equipment with variable frequency, and with its charging and discharging characteristics, it can solve the problem of reverse power transmission of lifting loads. In addition, the system can also serve as SVG (static var generator) compensation to further optimize the power quality in the mining area.

Through the implementation of this project, the Mozambique gemstone mining area has not only achieved improved stability of power supply and significant cost reduction but also successfully taken an important step towards green and low-carbon development. SCU's energy storage + UPS solution not only provides a solid energy guarantee for the mining area but also builds a sustainable energy ecosystem for it.

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