Songtsam Basomtso Linka, PR China

Green and low-carbon operation with Omnivise T3000 microgrid control system



The hotel

The Songtsam Basomtso Linka, in Southwest China, is the first green and low-carbon hotel of Songtsam Group that supports the country's green energy transition in China. It is the largest and most advanced hotel in the Songtsam Group, designed with sustainable symbiosis with local culture and natural landscapes in mind.

The hotel at an altitude of 3,480 meters (approx. 11,417 feet) has 122 rooms and suites.

As the green energy technology partner, Siemens Energy designed and implemented the hotel's energy system, with solar energy as the main electricity source, replacing approximately 1 million kilowatt-hours of traditional energy consumption per year. Due to the problem of daily and seasonal imbalance of photovoltaic power generation, the hotel is equipped with heat storage, oxygen storage and other facilities for local consumption and storage utilization of photovoltaic energy, so that the hotel can maximize the independent supply of green energy.

More than
1000 tons
reduced carbon dioxide emissions



The task

Songtsam Group was looking for a sustainable solution that can help reduce the hotel operation's carbon impact to the minimum while meeting the hotel demand for electricity, heating and oxygen.

One challenge was that there is no permit to export power to the grid, therefore the goal was to maximize the usage of renewable energy while avoiding exports to the grid. This is done first by covering the non-controllable loads of the hotel such as loads from the Kitchen or from the guest rooms with renewable power, and as a second step, using whatever surplus of renewable power was available for feeding controllable loads at the hotel such as heat pumps and oxygen generation. This allows also to balance the renewable fluctuation of the PV by turning ON and OFF controllable loads at the hotel.

Another challenge was the tight schedule in which the project had to be seamlessly integrated with all the other facilities of photovoltaic tiles, air heat pump, molecular sieve oxygen generation and energy storage.



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Both teams from Songtsam and Siemens Energy shared the strong sense of commitment and responsibility to make the operation run smoothly and build the hotel as a successful pilot of low-carbon development in China.

The solution

Through collaboration with Songtsam, Siemens Energy installed transformers, distribution cabinets, and software, providing guidance on the selection of solar panels, air heat pumps, and heat storage tanks. This ensured the successful deployment of the Omnivise T3000 system in China.

In addition, in the whole low-carbon energy system solution, the powerful system compatibility and intelligence of our proven Omnivise T3000 microgrid control system achieves the balance of hotel energy supply and demand, economy and low-carbon goals. The control system can monitor, analyze, and automatically regulate the hotel's energy consumption process in real-time, and ensure the long-term stable, efficient and safe operation of the hotel's energy system through multi-energy complementarity, optimized scheduling, and digital operation and maintenance.

The Omnivise T3000 control system is currently used in more than 3,700 units worldwide and the Songtsam Basomtso Linka project is the first application of this microgrid control system in China.

“We thank Siemens Energy for their strong support. As this is a demonstration project, with the deepening of cooperation and application of solutions, Songtsam hotel's life, safety, reliability and energy saving will be greatly improved in the long run.“

Baima Duoji, Founder and Chairman of Songtsam Group

The results

- Real-time monitoring of consumption process
- Long-term stable, efficient and safe operation of the hotel's energy system
- Optimized scheduling and digital operation and maintenance

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