



LEAD BATTERIES: ENERGY STORAGE CASE STUDY



Monbat Group Powering Climate Change Research in Antarctica

South Shetland Islands

On Livingston Island, part of the South Shetlands Archipelago, a remote Antarctic research station is backed by advanced lead battery energy storage.

Conducting climate change research since 1988, scientists at the Bulgarian Antarctic Base Bulgarian Antarctic Base "St. Kliment Ohridski, study geology, mineral resources, glacier movements and the marine ecosystem.

"Securing the BESS for the Bulgarian Antarctic Base is an honour and a great test-on-the-edge for our VRLA batteries."

Technical Specification

Energy demand and consumption has steadily increased at the research station, requiring additional battery energy storage to support the needs of the scientists.

With a photovoltaic power plant deployed in 2008, the research station paired it with a battery energy storage system (BESS) using Monat's advanced lead batteries.

The BESS is used to balance power grids and save surplus energy, whilst also providing uninterruptible power despite adverse weather conditions.

Capable of operating in extremely low Antarctic temperatures of -38°C, Monbat's VRLA lead batteries are chosen for their reliability, resilience and performance.

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Battery energy storage using advanced lead batteries also facilitates the integration of more renewable energy sources into the electricity systems on site.

This adds an additional level of sustainability to the project as advanced lead batteries are recycled at rates of close to 100%.

About the Company

Currently the 4th largest lead battery producer in Europe and No. 1 in the Balkans, Monbat operates under two main business segments – lead batteries and Liion high-power solutions.

Monbat applies a flexible vertically integrated model, synergistically uniting recycling and producing of lead, lead alloys and other raw materials, manufacturing and trading of batteries.

Monbat has a worldwide presence in over 70 countries and more than 20 different applications and industries.

Technical Summary

Overall capacity	12 kW
Number of batteries	104 48V 90Ah batteries, connected in 26 strings
Battery specification	VRLA, AGM
Use case	Microgrid
Available stored energy	120 kWh