



SolarMax Energy Systems

Russian photovoltaic energy storage system



Overview

Do photovoltaic systems operate in Siberia and the Russian Far East?

Photovoltaic systems operating in Siberia and the Russian Far East have a number of specific features that should be taken into account when designing and using storage batteries.

What type of batteries are used in Russia?

Lead-acid storage batteries The most commonly used batteries in Russia, lead-acid storage batteries are widespread in renewable energy facilities. As an example, Yuchugey, an autonomous photovoltaic system located in the Republic of Sakha, uses lead-acid storage batteries with gel electrolyte (OPzV) and a total capacity of 164.2 kW · h.

Is there a universal solution to storage batteries in autonomous photovoltaic systems?

There is a need for skilled personnel training so as to eliminate as much as possible human factor mistakes when operating storage batteries in autonomous photovoltaic systems in Siberia and the Russian Far East. The authors conclude that there is no universal solution for all projects.

How much does electricity cost in Russia?

This is due to the fact that Russia's North and North-East have some 350 autonomous power supply systems using, as their main power generating equipment, diesel generators with an installed capacity ranging from 10 kW to hundreds of kW . . The leveled cost of electricity (LCOE) in such systems varies between € 0.35 and € 0.6 per kW · h.

Are lithium-ion batteries used in autonomous photovoltaic systems?

Lithium-ion storage batteries are also used in autonomous photovoltaic systems. For instance, the total capacity of lithium-ion batteries in the autonomous system Batamay (Republic of Sakha) is only 86.4 kW · h.

Which storage batteries are best for autonomous energy systems?

- In the Russian context, FLA and OPzS storage batteries are the best option for average-sized and more powerful autonomous energy systems with renewable energy sources. They are less costly than OPzV with similar capacity and are subject to high-current discharges.

Russian photovoltaic energy storage system



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