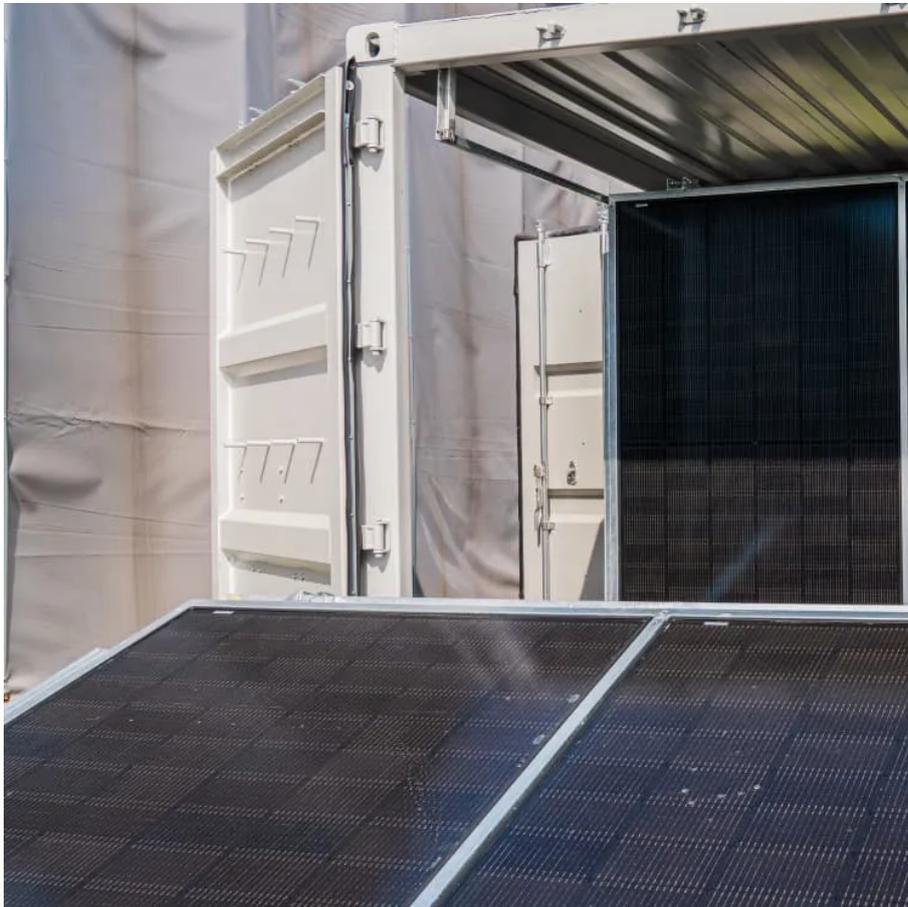


Japanese nickel-cobalt solar container lithium battery pack





Overview

Should lithium-ion batteries be nickel and cobalt free?

Since these characteristics are mostly determined by the cathode, a key component of lithium-ion batteries, going high nickel and cobalt free will be even more important. ※ This column was written based on the writer's views and does not necessarily reflect the opinion or strategy of LG Energy Solution.

Why is cobalt used in lithium ion batteries?

Cobalt is widely used for a key part of LIBs, the electrodes. All batteries work in a similar way: Two electrodes, one positive and one negative, promote the flow of lithium ions between them in what's called the electrolyte when connected to an external circuit.

Where can I recycle used lithium ion batteries?

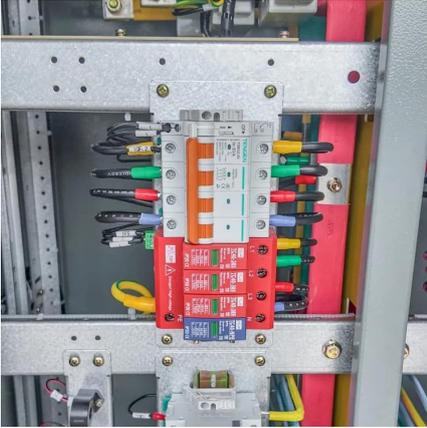
Sumitomo Metal Mining Co., Ltd. (TSE: 5713) has decided to construct recycling plants to recover copper, nickel, cobalt and lithium from used lithium ion batteries (LIB) and other materials in the Toyo Smelter & Refinery located in Saijo City, Ehime Prefecture, Japan, and the Niihama Nickel Refinery located in Niihama City, Ehime Prefecture, Japan.

Are electric vehicles based on nickel-manganese-cobalt lithium-ion batteries?

Today's electric vehicles are predominantly powered by nickel-manganese-cobalt (NMC) lithium-ion batteries. However, the inclusion of cobalt in this type of batteries has been considered as problematic due to its anticipated scarcity as well as associated supply chain risks related to its single source, human rights and mining practices.



Japanese nickel-cobalt solar container lithium battery pack



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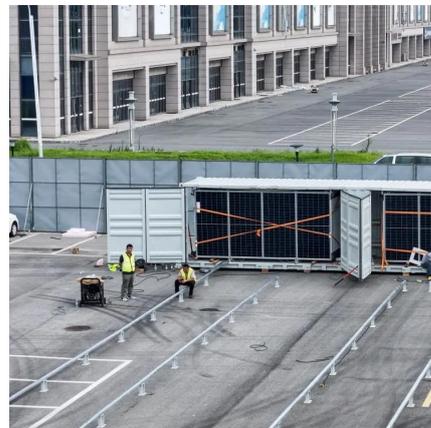
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