SOLAR PRO. Mexican lithium sodium sulfur battery removed from the list

Can a lithium-ion battery make a profit in Mexico?

AMLO and many Mexican policymakers hope to leverage lithium to profit from the rapidly growing value chain of clean energy minerals and technology. Lithium-ion batteries, electric vehicles, and other clean energy technologies are attracting skyrocketing sums of capital.

Will Mexico develop lithium in Sonora?

In recent years, Mexico's outgoing President, Andres Manuel Lopez Obrador (AMLO), has sought to develop lithium resources in the state of Sonora. AMLO and many Mexican policymakers hope to leverage lithium to profit from the rapidly growing value chain of clean energy minerals and technology.

Why has Mexico decided to batten its hatches with lithium?

Given this panorama and under the protection of its energy sovereignty, the Mexican government has decided to batten its hatches with respect to lithium, even before being appraised of an approximate calculation of the quantity of minerals the country is sitting on.

Should Mexican political leaders consider lithium mining options in 2024?

With a consequential Presidential Election in 2024, now is the time for Mexican political leaders to carefully analyze their options regarding lithium mining and ensure minimal damage to ecological security. In this context, political leaders in Mexico and community leaders in Sonora should consider the following recommendations:

How much lithium does Mexico have?

Mexico holds 1.7 million tonnesof lithium reserves. Agnico Eagle,through a Mexican subsidiary,will take a 50% stake in Minas de San Nicolás for \$580 million. The project,focused on innovation and new technologies,would involve building facilities around Santiago and the Valparaiso coastal region.

Where is lithium mined in Mexico?

According to the US Geological Services, Mexico has the ninth largest identified lithium resources in the world (1.7 million tons). 4 However, there is currently no commercial mining exploitation of lithium in Mexico, only some exploration projects in Jalisco, Guanajuato, Nogales, Sonora, and Puebla.

Mexico could move up the value chain into lithium refinement and, perhaps one day, lithium-ion battery production to complement its already-thriving automotive industry. There are significant challenges to this ambitious pathway. Mexico would need to foster a workforce trained in chemical engineering, materials science, and other technical ...

BASF is developing a longer-duration version of its sodium-sulfur battery, which offers duration, supply

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chain, and safety advantages over lithium-ion.(Image courtesy of BASF.)

Mexico holds 1.7 million tonnes of lithium reserves. The proposed law, now in the hands of the Senate, bans all private participation in the exploration and mining of the battery metal.

Three issues should give Mexican policymakers pause. First, unregulated lithium mining can threaten local ecosystems through pollution and water loss. Second, drug cartels have a track record of co-opting other natural resources in Mexico to diversify their revenue streams. Thus, the potential wealth of lithium production could create security ...

In 2018, the Canadian company Bacanora Lithium PLC discovered a lithium deposit located in Bacadéhuachi, Sonora, in northern Mexico with declared reserves of 243.8 million tonnes, making it the world"s largest lithium mine. In the years since, lithium has become crucially important given its essential role in the production of batteries for ...

Referred to as "white gold," countries with lithium reserves are racing to increase extraction and export deposits for battery production. As automobile and battery ...

Abstract Lithium (Li)/sodium (Na)-sulfur (S) batteries are considered to be competitive candidates for the next-generation energy storage devices due to ultrahigh theoretical energy densities and potential low costs. However, the insulating nature of S and dissolution of intermediate polysulfides hinder the development. Here, the use of selenium (Se) or tellurium ...

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Room-temperature sodium-sulfur (RT Na-S) batteries are considered as a promising next-generation energy storage system due to their remarkable energy density and natural abundance. However, the severe shuttling behavior of sodium polysulfides (NaPSs) significantly hinders their commercial visibility. Therefore, several strategies have been ...

I believe that for several years - perhaps a decade or more - we will not see a 100% Mexican lithium extraction process. In addition, there are few companies today that have a method for extracting lithium from clays [such as those in Sonora] that is sufficiently cost-effective to make it viable in the long term. Added to this ...

Theoretical and (estimated) practical energy densities of different rechargeable batteries: Pb-acid - lead acid, NiMH - nickel metal hydride, Na-ion - estimate derived from data for Li-ion assuming a slightly lower cell voltage, Li-ion - average over different types, HT-Na/S 8 - high temperature sodium-sulfur battery, Li/S 8 and Na/S 8 - lithium-sulfur and sodium-sulfur ...

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The Lithium-Sulfur Battery (LiSB) is one of the alternatives receiving attention as they offer a solution for next-generation energy storage systems because of their high specific capacity (1675 mAh/g), high energy density (2600 Wh/kg) and abundance of sulfur in nature. These qualities make LiSBs extremely promising as the upcoming high-energy storing ...

To what extent private companies will be able to participate in the Mexican lithium market: the amendment to the Mining Law is clear that primary activities (e.g., exploration, mining exploitation, and refining) will be carried out by the new government agency, but the Decree seems to open the door for LitioMx to partner with private companies ...

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Chinese mining company Ganfeng has filed a lawsuit against Mexico at the International Centre for Settlement of Investment Disputes (ICSID), a World Bank entity. The lawsuit, filed last Friday, alleges the cancellation of ...

Lithium-sulfur (Li-S) batteries are among the most promising next-generation energy storage technologies due to their ability to provide up to three times greater energy density than conventional lithium-ion batteries. The implementation of Li-S battery is still facing a series of major challenges including (i) low electronic conductivity of both reactants (sulfur) and products ...

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