



## BOLIVIA'S LITHIUM FUTURE: A SECOND CHANCE?

BY JARED DAVIS

As [the world transitions from fossil fuels](#), the post-pandemic global economy will increasingly depend on one resource: lithium. No country has more lithium than one of South America's least wealthy nations: Bolivia. For years, Bolivia has pinned its hope on the white, chalky mineral to transform its economy. But the country has yet to capitalize on its resources, falling far behind its neighbors Argentina and Chile in lithium production. As the new government of this landlocked country tries to unlock the lithium sector's enormous potential, it will have to overcome the technical challenges, limited local expertise and difficult investment climate that have stalled its lithium ambitions.

A major challenge for Luis Arce, Bolivia's new president, will be maximizing the public benefits from the sector without stifling private investment and innovation, as Bolivia competes with Argentina and Chile for foreign investment.

### HIGH IN THE ANDES

High in the Andes lie the salt flats (*salares*) of Bolivia, Chile and Argentina, South America's "Lithium Triangle." This region possesses [nearly two-thirds](#) of the world's known lithium deposits. Bolivia's Salar de Uyuni alone is estimated to hold [over a quarter](#) of the world's lithium, giving the country the largest share in the world. But unlike in Argentina and Chile, Bolivia's vast lithium resources remain largely untapped. Under former President Evo Morales (2006-2019), resource nationalism did not achieve the expected results; while a [commodities boom](#) allowed Bolivia to capitalize on its natural gas and other mineral resources, the state-controlled lithium sector stumbled over technical and financial challenges.

By the time Mr. Morales fled Bolivia in 2019, it had failed to establish meaningful lithium production, let alone commercialize battery manufacturing at [two pilot plants](#). Mr. Arce, Mr. Morales's former finance

minister, inherited these policy failures, as well as low prices and logistical challenges presented by the pandemic.

To win the presidency, Mr. Arce relied on the popularity of his party, the Movimiento al Socialismo (MAS), a political juggernaut founded by Mr. Morales in the late 1990s. But unlike his political mentor, Mr. Arce has taken a less hostile stance towards foreign investment. That pragmatism will help Mr. Arce breathe life into Bolivia's lithium sector. But despite [ambitious promises](#) from the campaign trail, what lies ahead for Bolivia's lithium industry remains unclear.

## STATE-RUN STAGNATION

Bolivia's idiosyncratic, at times quixotic, approach to its lithium sector was rooted in Mr. Morales's commitment to maintain lithium under [full state control](#), through the state-owned Yacimientos de Lito Bolivianos (YLB). To limit outside involvement, he made sure Bolivia's new constitution [enshrined the nationalization](#) of mineral resources, including lithium. Not surprisingly, Bolivia could not independently manage the technological and [financial requirements](#) to stand up lithium production. When Bolivia did accept foreign partners, it also stumbled. It cancelled a joint venture with German ACI Systems in 2019 after [fierce protests](#) in the mining region of Potosí over whether the investment would benefit the local economy. Similarly, YLB's agreement with the Chinese firm Xinjiang TBEA Group, for a [\\$2.3 billion project](#) in the Oruro and Potosí salt flats, made little progress. Efforts by the interim government to [neglect state-owned enterprises](#) to promote privatization further paralyzed the lithium sector.

Technical obstacles explain many of the [delays](#) in Bolivia's efforts to produce lithium. One of the challenges is the Uyuni brine, which differs from other brines in the region and the hard rock and other extractible forms of lithium worldwide. Bolivia's lithium deposits might be the world's largest, but they are among the most challenging to extract, reducing potential profitability, especially compared to the low-cost production in Argentina and Chile. Bolivian salt flats have low concentrations of lithium and are relatively high in impurities such as magnesium, increasing financial and environmental costs.

Another challenge is the brine extraction process used in Bolivia, which requires a large amount of water and can take up to [18 months](#) to produce commercially viable lithium. Additionally, unlike in Argentina or Chile, Bolivia's lithium is located on [lower, wetter ground](#) and requires the longest evaporation time in the region. Given these challenges of geography and chemistry, the new Bolivian government might find it difficult to attract international investors even if Arce improves lithium policy.

## EL PUEBLO UNIDO

Mr. Arce was elected on his reputation as the pragmatist who helped pay for Mr. Morales's populism. He has been credited as the architect behind a period of rapid growth and strong economic fundamentals known as the "[Bolivian miracle](#)." He won this year's election by [over 20 percentage points](#). Even with this mandate, however, he might find it hard to balance the diverse coalition that supported his candidacy, especially MAS figures loyal to Mr. Morales.

That coalition includes foreign investment skeptics and critics of the social and environmental impacts of lithium production. Under Bolivia's interim government, which ruled following Mr. Morales's departure, indigenous groups and laborers in southern Potosí [protested](#) for access to an environmental impact assessment on lithium mining's impact on ground and surface waters. Given anti-lithium demonstrations during the Morales administration, Mr. Arce will likely face similar popular mobilizations should he pursue lithium extraction. Meanwhile, the political opposition, such as the Potosí organization Comcipo, could also disrupt lithium production. In the past, it has erected [roadblocks](#) that crippled the region's mining industry.

## RECHARGING AN INDUSTRY

Nevertheless, Mr. Arce sounds optimistic about the country's lithium future. Depending upon government policy, Bolivian lithium production could [grow five-fold by 2025](#), powered by rising metal prices and rising global interest in clean energy. It is already lining up buyers; in 2019, Bolivia signed an agreement with India to manufacture batteries in India using Bolivian lithium. There is also the possibility of U.S. collaboration, given President-elect Joseph R. Biden Jr.'s commitment to fight climate change by speeding the adoption of renewable energy. That diplomatic relationship, however, could be complicated. The United States strongly backed Bolivia's far-right interim government. Mr. Arce, meanwhile, has prioritized restoring relations with the leftist authoritarian regimes in Cuba, Nicaragua and Venezuela.

For Bolivia, there is little time to spare. Although demand for lithium [is expected to rise](#) rapidly following the pandemic, battery producers are already searching for the next disruptive technologies, threatening to upend the lithium industry as soon as [2030](#). But should he move quickly, welcome foreign investment and address social and environmental considerations, Mr. Arce could still take advantage of Bolivia's "white gold."

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