



LONDON POLITICA

REPORT

The Lithium Triangle

Political and Social Risks

January 2024

Simran Sawhney, Ana Sofia German, Fernando Prats, Toribio Iriarte, Orlando Massari-Beníquez, David Neef, and Camilo Quiroga



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London Politica

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Contents

Section 1 Introduction to the Lithium Triangle	1
1.1 Introduction	1
1.2 Global Lithium Demand & Supply Trends and Projections (5-10 years)	2
1.3 Lithium in South America	3
Section 2 Argentina	5
2.1 Argentina's Lithium Sector	5
2.1.1 Andean Expansion	5
2.1.2 Riding the Lithium Wave	6
2.1.3. Comparative Advantage	7
2.2 Political and Social Risks	8
2.2.1 A changing national political landscape	8
2.2.2 Provincial landscapes as a key to Argentina's lithium sector	8
2.2.3 Social risks	9
2.3 Economic Opportunities	10
Section 3 Bolivia	12
3.1 Bolivia's Lithium Sector	12
3.1.1 The lithium industry through different political administrations	12
3.1.2 Current market and ambitious production projects	13
3.2 Political and Social Risks	14
3.2.1 Nationalisation policies	14
3.2.2. Impact on local communities	15
3.2.3. Water scarcity	15
3.2.4. Environmental risks	16
3.3 The road ahead for Bolivia's lithium industry	16
Section 4 Chile	17
4.1 Chile's lithium sector	17
4.1.1 Mining sites	17
4.1.2 Growth and Development	18
4.2 Political and Social Risks	19



4.2.1 Uncertain regulatory environment	19
4.2.2 The uncertainty over the constitutional process and upcoming elections	20
4.2.3. Environmental concerns and indigenous rights	21
4.3 Economic Forecasts	23
Section 5 What's Ahead for the Region's Lithium Sector?	24
5.1 Key obstacles	24
5.2 The influence of extra-regional powers	25
Section 6 Conclusion	27



Section 1

Introduction to the Lithium Triangle

1.1 Introduction

As climate change is presented as one of the largest challenges of the 21st century, searching for green solutions has become an intrinsic part of global economic ventures. The green transition has led to a larger demand for sustainable resources of energy and less oil-intensive alternatives. One of the main trends has been an increasing demand for lithium-ion (li-ion) batteries. The majority of this surge in demand can be attributed to the rise of electric vehicles (EVs), which captured 51 per cent of the total lithium demand in 2018. The [sale of EVs](#) grew 35 per cent from 2022 to 2023, making it a record-breaking year. Estimates project a rise in li-ion battery demand from 700 GWh in 2022 to 4.7 TWh in 2030. This signals a significant transition in the energy sector, which, according to the [IEA](#), has avoided the use of 5 million barrels of oil per day in 2023. Therefore, to replace oil-based energy use, lithium production, and exploration will be crucial for advancing these green solutions in the following years.

With experts and investors seeking to capitalise on opportunities arising from the lithium boom, South America has become a hotspot for investment in lithium mines. In particular, the 'Lithium Triangle' geographic region has huge potential for lithium extraction, as it encompasses desert areas in Argentina, Bolivia, and Chile. The area holds around 58 per cent of global lithium reserves, making these countries key players in this expanding market. Such a scenario presents a significant opportunity for these nations to become leaders of the green transition, potentially benefiting substantially in terms of socioeconomic development. However, before realising this potential, it is key for these countries and the industry, in general, to comprehensively understand the opportunities available as well as the significant risks each nation faces.

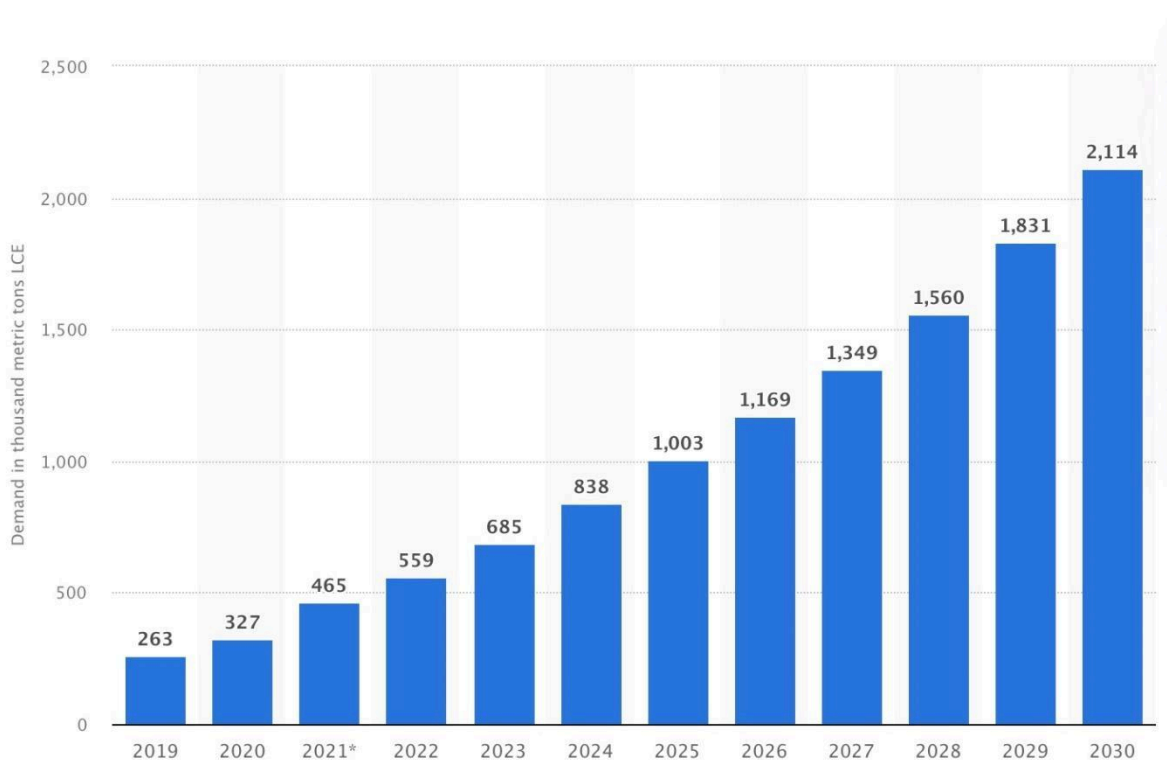
For that reason, this report aims to explore the case of the Lithium Triangle by examining the complex dynamics of the lithium market, influenced by geopolitical factors, government policies, and the evolving landscape of global energy demands. The report will give an introduction to the global lithium demand and supply trends and projections for the next five to ten years followed by expanding on the state of play of the lithium market risks and opportunities for each country and the regional and geopolitical risks affecting the Lithium Triangle.



1.2 Global Lithium Demand & Supply Trends and Projections (5-10 years)

The [demand](#) for lithium in thousands of metric tonnes of lithium carbonate equivalent (LCE) is expected to reach 2,114 by 2030, a 146.4 per cent increase from the demand in 2020.

Projection of worldwide lithium demand from 2019 to 2030 (*in 1,000 metric tons of lithium carbonate equivalent*)



Source:

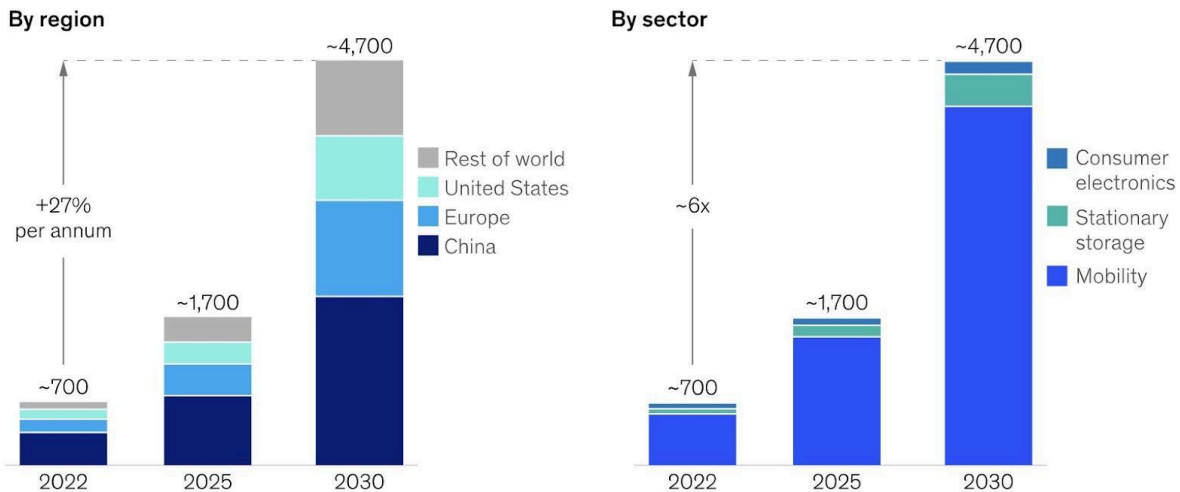
<https://www.statista.com/statistics/452025/projected-total-demand-for-lithium-globally/>

Over the next ten years, industry leaders and scholars forecast that there will be a massive increase in the demand for lithium-ion batteries, with the necessary amount of GWh rising from 700 GWh in 2022 to 4.7 TWh in 2030. The great majority of demand for batteries in 2030, roughly 4,300 GWh, will be for mobility applications, such as EVs. Because the majority of the battery-chain sectors in China are already developed, [China](#) may account for 40 per cent of global lithium-ion demand in 2030, and 45 per cent of it in 2025. Despite this, recent legislative reforms are projected to be the main drivers of growth in the European Union (EU) and the United States (US). Between now and 2030, at least 120 to 150 brand-new battery facilities will have to be constructed globally.



Li-ion battery demand is expected to grow by about 27 percent annually to reach around 4,700 GWh by 2030.

Global Li-ion battery cell demand, GWh, Base case



¹Including passenger cars, commercial vehicles, two-to-three wheelers, off-highway vehicles, and aviation.
Source: McKinsey Battery Insights Demand Model

Source:

<https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/battery-2030-resilient-sustainable-and-circular>

Within [20 years](#), the battery sector went from a relatively small consumer of lithium to the main driver of the market. Previously lithium was principally utilised by the glass, ceramics, and grease sectors, with the battery sector only accounting for 22 per cent of lithium demand in [2006](#), mostly for the use of portable electronic devices. Since then, an uptick in demand for EVs meant that, in 2016, lithium-ion batteries accounted for a larger share of global lithium demand—increasing by 16 per cent to 38 per cent. However, by 2018, the battery sector's demand for lithium accelerated by 13 per cent to 51 per cent of total demand, to the extent that the rate of growth from the decade prior was achieved in just two years. According to the [benchmark](#), the battery industry is expected to meet 90 per cent of the world's lithium demand by 2026. Global lithium production is [expected to surpass](#) lithium consumption by 2027, insofar as production is anticipated to expand to 2.1 million mt in 2028. This is expected to be fulfilled by current lithium-producing countries, such as Australia, Chile, and Argentina, raising their production output, alongside increased [supply](#) from nations like China, Brazil, and Canada. By 2027–2028, Australia is expected to continue to be the world's top lithium producer, accounting for around 32 per cent of the total production of lithium carbonate equivalent.

1.3 Lithium in South America



The Lithium Triangle countries have a unique opportunity to capitalise on the surging demand for lithium. To fulfill this potential and enable these markets to thrive, it is essential to understand and accurately assess the significant challenges associated with operating in each of these countries. Diverse political landscapes, uncertain regulatory environments, social and community-based conflicts closely tied to environmental issues, and economic uncertainty are among the risks that companies, investors, governments, and civil society groups need to comprehend when considering the potential of lithium exploitation in these countries.



Section 2

Argentina

Argentina has emerged as a pivotal player in the global lithium market, rapidly evolving since the initiation of its first lithium mine, 'Proyecto Fénix,' [in 1997](#). Despite its recent establishment, Argentina stands as the fourth-largest lithium carbonate producer globally, competing with industry leaders Chile, China, and Australia. The industry's dynamic growth, substantial investments, and global partnerships position Argentina as a key player in the evolving lithium market. However, this growth is not without challenges. The country faces issues related to environmental concerns with lithium projects, recent social protests in mineral-rich regions, and navigating a new government with an entirely contrasting perspective from its predecessor.

2.1. Argentina's Lithium Sector

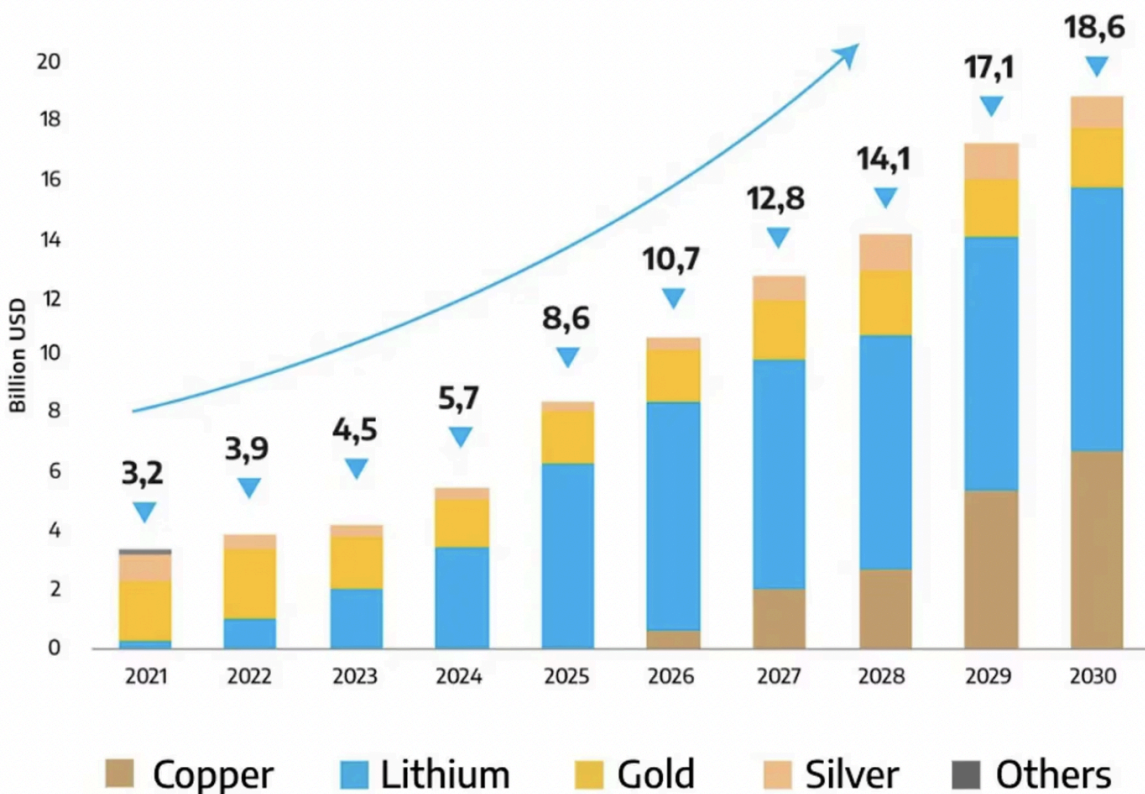
2.1.1 Andean Expansion

Argentina has had a late start in the race toward becoming a key producer in the EV supply chain, and it seeks to increase its stakes in the global lithium market by exploiting its abundant natural resources. The Argentine territory is home to [20 million metric tonnes](#) of lithium resources and [2.7 million confirmed reserves](#), making up [21 per cent](#) of global lithium reserves. Most lithium deposits are found in [underground brines](#) in the Andean region of the nation, mostly in the northwestern provinces of Catamarca, Salta, and Jujuy, and experts believe the nation could quickly increase its 6 per cent share of global lithium exports. Current yearly production output stands at 40,000 metric tonnes, with 2022's 38,000 metric tonnes of output being provided by the Salar del Hombre Muerto, run by Livent, and the Salar de Olaroz Lithium Project, operated by Allkem, Toyota Tsusho, and Jujuy Energia.

The nation's vast mineral wealth has made it a main destination for foreign investments, amassing total investments of [\\$1.5 billion](#) in 2022 and a predicted \$5 billion in the following years. [Ten](#) extraction and production projects have been set forward by these investments, all run by or partly owned by international corporations. Extraction activities have recently broken ground in the Antofalla North project, based in Catamarca. Lithium Energi Exploration Inc. (LEXI), an energy company operating in [72 thousand hectares](#) of lithium in two different salt flats, has spearheaded the project and has developed eight mining operations within Antofalla. Ten exploration wells began drilling in April 2023 and are among the most promising projects in the country.



The Argentine government expects growth to increase steadily, predicting a capacity of 200,000 metric tonnes of annual production by 2025. [Estimates](#) from the Eurasia Group show production growing by a factor of 10 by 2027, and Global Data [reports](#) compound annual growth rates growing by 34 per cent by 2026. With these advances, Argentina is set to surpass Chile in lithium production by 2023. According to [JP Morgan](#), Argentina's production should reach 487,000 by that date, producing nearly 13 per cent of the world's lithium and falling just short of Australia's 23 per cent and China's 16 per cent. These installed capacities would provide export values of \$5.6 billion, an 800 per cent increase from 2022's landmark achievement.



Argentine Mineral Exports Forecasts for 2030

Source: [Bloomberg](#)

2.1.2 Riding the Lithium wave

Many investors in the Argentine lithium sector are looking to benefit from the rapidly growing demand and profits that result from price volatility. The last five years have been the commodity's most volatile period, with roughly twice the mean absolute deviation since 2018 than the previous five-year period. The coefficient of variance of lithium carbonate in Chinese spot markets in the last five years is 93, far larger than the previous five years' 61.5. A large portion of this volatility is due to the price increases recorded in 2022, where average prices grew to \$37,000 per metric tonne, with a [record high](#) of nearly \$71,315 (500,500 yuan) being recorded in December. Argentina benefited greatly from these lithium price fluctuations, as injections of [Chinese demand](#) propped up national exports by 235 per



cent, causing lithium export revenues to grow by roughly 240 per cent, from \$206 million in 2021 to \$700 million.

Lithium's recent price volatility stands out even among other energy commodities, many of which Argentina has become heavily invested in. Lithium's five-year coefficient of variance (CV) value of 93 exceeds crude oil's ([BRENT](#)) 26.4 and [natural gas](#)'s 45.1. Despite its short-term benefits, many investors may be wary of investing in lithium as they consider it a risky investment relative to the other two energy commodities, causing potential issues within the nation's sectors. As of recently, crude oil is receiving a larger volume of investment, exceeding [\\$10.7 billion](#) in 2023 alone. The current downtrend in lithium prices, which saw a 72 per cent drop relative to previous years, could divert foreign investment to Argentina's 'safer' energy projects.

2.1.3. Comparative Advantage

Argentina has been able to leverage a relatively permissive legal and regulatory mining structure to set itself apart from other Latin American producers. The government, in a bid to chip away at its crippling debt and sinking economy, has passed laws to rapidly develop its extractive activities. In 2021, the executive branch and Congress passed a series of decrees providing guarantees, benefits, and protection to mining companies and exporters. The 'Mining Investment Law' ([N 24.196](#)) provides incentives to investments in new or pre-existing mining projects over \$100 million in the form of guaranteed access to foreign currency on domestic FOREX markets, 0 per cent tax on imported capital goods destined for mining, double income tax deductions for exploration expenditures, and 100 per cent income tax deductions for investments in project testing. Approved projects also receive an exchange rate regulation stability for 15 years, protecting projects from future FOREX regulations and policy changes.

Guarantees and protection are also being provided to investors at a provincial level, as Catamarca, Jujuy, and Salta [collaborate](#) with government authorities to provide stability to investments and projects. These efforts have culminated in a favourable profit retention rate after taxes of 72 per cent and a reduced royalty payment of 3 per cent. These stipulations, apart from increasing profit margins, drastically reduce production costs and break-even prices. One issue currently faced by domestic companies is the increasing price of extraction equipment, which must be imported at an unfavourable currency rate. The ever-depreciating exchange rate, which saw the Argentine peso lose [50 per cent](#) of its value in 2023 alone, has [increased the cost of equipment](#) for the Rio Tinto project in recent months, gravely impacting its production. With import tax reductions and guaranteed access to FOREX markets, these issues could be mitigated.

Argentina's lithium industry stands at a crossroads, balancing unprecedented opportunities with significant challenges. As the nation navigates political shifts, social dynamics, and economic complexities, a comprehensive and sustainable approach is essential to secure the industry's long-term success. Monitoring the development of a robust legal framework, fostering regional collaboration, and addressing environmental and social concerns will be critical in ensuring Argentina's continued prominence in the global lithium market.



2.2. Political and Social Risks

2.2.1 A changing national political landscape

The recent introduction of far-right leader Javier Milei as Argentina's new president has swiftly shifted the country's political landscape, as President Milei advocates for a market-oriented economy, compared to the previous state-driven approach, potentially impacting the lithium industry due to the deregulation of the economy he has advocated for.

However, Milei's weak support in Congress presents a significant challenge for his ambitious policy agenda. Milei's party, *La Libertad Avanza*, needs to form [legislative alliances](#) with other political forces, as it lacks the legislative majority it needs to achieve the ambitious reforms it has already [started to introduce](#). Therefore, gaining *Juntos'* - a centre-right wing coalition led by former President Mauricio Macri - support will be pivotal for the success of Milei's agenda. A legislative alliance between these forces is likely since Macri has endorsed Milei in the runoff and some renowned Macri allies have been appointed in key Ministries by Milei - notably Patricia Bullrich as Security Minister and Luis Caputo as Economy Minister, both of whom had served as Ministers under the Macri administration.

However, it should also be noted that Macri's support to Milei has sparked [criticism](#) within his coalition, resulting in some divisions inside the bloc which may challenge their intentions of pursuing structural reforms, at least through Congress. Nonetheless, the legislative alliances and realignments remain unclear, making the *Juntos'* coalition behaviour in Congress a key dimension of Argentine politics in the next two years.

On the other side of the political spectrum, the Peronist coalition *Unión por la Patria* and other minor center-left and leftist parties are undergoing some internal tensions, although it seems highly unlikely that any of these coalitions will support Milei's radical proposals. This scenario adds to the uncertainty for the private sector in the country affecting all businesses, including the lithium sector.

2.2.2 Provincial landscapes as a key to Argentina's lithium sector

In addition to the national landscape, regional political dynamics in Jujuy, Salta, and Catamarca also play a crucial role, as these provinces are [concentrated](#) with the vast majority of the country's lithium resources.

Jujuy

In 2023, the province of Jujuy experienced strong social protests tied to lithium exploitation, with violent confrontations between locals and the police. These protests involved the indigenous communities of the region on one side, and the former governor, Gerardo



Morales, on the other. Morales championed a mining [reform](#) to the provincial constitution, which indigenous communities strongly opposed, as they argued that it was implemented without prior consultation with them. According to a report by [Amnesty International](#), concerns raised by local communities with the reform included restrictions on public demonstrations, environmental issues, and the repudiation of indigenous people's rights to consultation, participation, and territorial ownership. Although lithium exploitation was not the central issue at the heart of the protests, it was deeply tied to the issues raised. Subsequently, the reform was only [partially implemented](#).

In the next provincial election in December 2023, Governor Morales' party, *Unión Cívica Radical* (UCR), retained office, with Carlos Sadir as the new party leader and, hence, governor. Given the reported violence during the confrontations, as noted by Amnesty International, a tense relationship can still be expected between Governor Sadir's administration and local communities. To mitigate future risks, Governor Saidir now faces the challenge of rebuilding trust within the indigenous communities.

Despite losing to UCR in the province's legislature, left-wing parties in Jujuy achieved their [best results](#) in provincial executive elections since Argentina's return to democracy in 1983, owing to the mining reform protests. Lithium exploitation played a crucial role in their campaigns as they advocated for the establishment of a State-Owned Enterprise with a monopoly on lithium production in the province, to be controlled by its workers. This stance strongly opposes the free-market position of Governor Sadir and UCR on lithium. Given the significant divergence in perspectives and the growth of the left, it remains to be seen whether this will obstruct governance or if Mr Sadir's administration will be able to find common ground through negotiation.

Also, due to the recent presidential election in Argentina, there is also the challenge of how Governor Sadir's administration will negotiate with the newly elected central government, which Morales has opposed during the presidential campaign. Morales has also clearly stated his party's position with regard to lithium, [indicating](#) their support for free trade agreements.

Salta and Catamarca

In Salta, none of the major political parties show contention towards the current lithium exploitation regime. As the current governor, Gustavo Sáenz—leader of the centrist Salta Identity Party, has favoured and promoted foreign investment in the lithium sector.

As in Salta, all the top candidates in Catamarca, including the incumbent Governor Raúl Jalil, have demonstrated their commitment to the current approach towards lithium exploitation and do not seek any structural reforms. "Argentina has a good scheme with regard to lithium" declared Governor Jalil in an interview with [El Cronista](#).

2.2.3 Social risks



Social risks to sustaining the lithium industry in Argentina arise from the urgent need to strike a balance between lithium production, regional economies, and the social and cultural practices of local communities. Ongoing [socio-environmental challenges](#), particularly high water consumption in areas facing water stress, raise concerns about biodiversity impact and potential disruptions to the traditional economic activities of communities in lithium-rich regions. To mitigate these risks, the Economic Commission for Latin America and the Caribbean ([ECLAC](#)) recommends that the industry adopt stricter environmental and social regulations and standards. This should be done by emphasising the necessity of incorporating societal views, particularly including the local actors' perspectives concerning lithium extraction, as the territories where they live are the ones affected by the extraction of this mineral.

The significant unrest in 2023, with indigenous and local communities [expressing strong opposition](#) to lithium mining due to environmental concerns and impacts on their livelihoods, for instance in terms of access to water for these communities, underscores the need for a balanced approach. This approach should address water consumption, biodiversity impact, and coexistence with traditional economic activities in lithium-rich regions, particularly in the Salinas Grandes in Jujuy and Laguna de Guayatayoc basin in Salta. The current absence of a legal framework addressing these concerns poses a potential threat to the industry's sustainability.

2.3 Economic Opportunities

Argentina, despite grappling with [complex economic challenges](#) marked by high inflation and significant international debt to the International Monetary Fund, presents an intriguing opportunity for investors in its burgeoning lithium industry. While the current downtrend in lithium prices has negatively impacted extraction projects throughout the world, it does not undermine the long-term prospects of mining activities in Argentina. As the country boasts abundant lithium reserves, it is strategically positioned to play a pivotal role in meeting the rising global demand for lithium. [Projections indicate](#) that Argentina's lithium production is set to increase significantly, with a remarkable 50 per cent annual growth compared to Chile and Australia's more modest estimates of 8 per cent and 16 per cent, respectively, by 2027. This optimistic outlook, coupled with a [surge in employment](#) within the lithium mining sector, growing by 68 per cent annually and creating 1,482 new positions between January 2022 and January 2023, underscores the industry's potential for economic contribution and job creation.

Although price volatility can make for impressive net profits, it also provides uncertainty that could deter risk-averse investors. When dealing with a country as politically and economically unstable as Argentina, volatility tends to be cause for concern. Despite all the legal provisions and stipulations, investors have no real guarantee for their activities,



especially when the guarantor has defaulted on its national debt three times in the last two decades.

Argentina's production and foreign direct investment (FDI) benefit from loose mining regulations and its relationship with global superpowers like China comes at the expense of deteriorated trade prospects with major Western nations. As the United States seeks to increase its stake in the lithium market by securing supply chains, Argentina's [ethical issues](#) in mining and ties to China could cause it to be classified as a foreign entity of concern, precluding access to the [US Inflation Reduction Act](#). Rio Tinto's managing director has expressed his concern for the issue, [stating](#) that the lack of a free trade deal with the US could prevent Argentina from tapping into a major market. This Act passed in an attempt to mitigate climate change by providing federal subsidies for EVs, is expected to stimulate demand for lithium, expanding the US' lithium demand. The capital-intensive nature of lithium production expansion requires a great deal of FDI but also relies on having a consistent consumer of exports, so balancing investment incentives and trade relations with the US and EU will be key to ensuring current estimates of production growth are accomplished.

Despite social and political instability, Argentina's lithium sector remains a magnet for foreign investment, benefiting from favourable mining policies. The impending merger between two major producers, Livent Corp and Allkem, slated for the end of the year, demonstrates such [international interest](#). The resultant company will rank as the world's third-largest lithium producer in terms of annual production capacity and the fifth-largest in market capitalisation.

While the lithium industry presents significant economic opportunities, potential investors should navigate the challenges posed by the country's political instability and looming economic crises. Balancing the promising economic prospects with a keen awareness of these challenges will be crucial for investors seeking to capitalise on Argentina's evolving lithium market.



Section 3

Bolivia

The US Geological Survey [estimates](#) that Bolivia has about 21 million tons of lithium, making it the largest holder of lithium in the world. Bolivia has made lithium a top priority, with Luis Arce's government having signed multiple deals with Chinese and Russian companies, while at the same time inviting other countries to invest and establish themselves in the country. Although Bolivia's extracting capacity is considerably lower than that of Australia and Chile, these deals could accelerate Bolivia's lithium industry.

3.1 Bolivia's Lithium Sector

Bolivia holds an [abundance](#) of lithium in the brine beneath the salt flats. Salt flats or saltwater lakes have subsurface reservoirs where these brine deposits might be located, and the [Salar de Uyuni](#) in Bolivia is not only the greatest lithium source but also the largest salt lake on earth, covering more than 4,050 square miles. According to [S&P Global](#) Market Intelligence, Bolivia's huge salt flats have an estimated 39 million tonnes of lithium deposits, making it an important supplier in a market that is anticipated to grow significantly over the following ten years. Though Bolivia is not one of the top 10 [global producers](#) of the metal, it has the largest global deposits, with Argentina coming in second and Chile third.

3.1.1 The lithium industry through different political administrations

Former president [Evo Morales](#) (2006-2019) sought to employ indigenous and rural Bolivians through lithium mining ventures as he viewed lithium as a valuable resource that would help boost Bolivia's economy to be more competitive internationally. As part of the nationalisation wave that President Morales embarked on during his early presidency, Bolivia's lithium industry was nationalised in 2009. Thus, today, lithium in Bolivia is managed by a State Owned Enterprise (SOE): *Yacimientos Bolivianos de Litio* (YBL). According to YBL, their [mission and vision](#) are to industrialise their lithium resources, in an environmentally responsible way while at the same time benefiting local and indigenous communities and the country as a whole. However, initial lithium mining plans were unsuccessful due to skill deficiencies, and the difficulty finding jobs in lithium mining for rural and indigenous people who would work for operations that produce lithium close to their homes and villages. Moreover, environmental concerns were another factor in some communities' opposition to the construction of lithium plants.



Bolivia has been treading unstable waters for the last few years. Former president Evo Morales has been a looming presence in Bolivian politics for almost 20 years. Although Morales managed Bolivia's [economic growth](#), his tenure ended in 2019 in [controversy](#). From exile, Evo Morales endorsed his former finance minister, Luis Arce, to become the presidential candidate of *Movimiento al Socialismo* (MAS), who ultimately won the election to become [president](#) on November 8, 2020. The expectation was that Arce would become a placeholder for Morales, but this has proven not to be the case. Arce has demonstrated to chart his own way and become more pragmatic. Luis Arce's government has gone into a charm offensive both to expand Bolivia's international reach and its lithium investments. As explained before, Arce has tried to attract foreign investments and companies to further develop its lithium mining.

Through international investments and partnerships, President Arce fostered agreements to increase Bolivia's lithium production significantly. For instance, the administration signed deals with Chinese and Russian companies to encourage FDI and boost the lithium industry. At the same time, they have been signaling to the [European Union](#) that they are welcome to establish themselves as lithium extractors in Bolivia. President Arce says that deals to develop lithium are possible on the condition that they act responsibly and [respect Bolivia sovereignty](#). La Paz has set up many ambitious goals when it comes to lithium extraction and developing a local base for this mineral. However, while aims are high, controversies and concerns are intertwined with the expansion of the lithium extraction industry.

3.1.2 Current market and ambitious production projects

The Bolivian government has several ambitious projects regarding the use of lithium, including building the capacity not only for extracting the lithium but also making the country a [manufacturing hub for batteries](#). There is even a nascent plan to create a local car industry- through a company called [Quantum Motors](#). Although the company has gained some [momentum](#) it will still be a long road ahead to become a regional competitor. Bolivia also faces challenges with its neighbours and internationally facing pressures of developing its lithium mines quickly. This, of course, does not come without its challenges, from the lack of technical expertise to the environmental concerns of extracting lithium.

The Bolivian has spent over [\\$800 million](#) pumping brine into ponds, processing the lithium salts that form once the water has evaporated, and claimed to be able to manufacture 15,000 tonnes of lithium carbonate annually, starting in 2023. Bolivia stated in January of this year that YLB would [collaborate](#) with Chinese consortia Contemporary Amperex Technology (CATL), the world's largest battery manufacturer, to mine lithium, costing over 1 billion dollars and generate 250,000 tonnes of lithium carbonate annually from one of Bolivia's three salt flats using [direct lithium extraction \(DLE\)](#). DLE is publicised as a more efficient and cleaner way to mine lithium, as it requires less water per ton of lithium extracted, as well as producing more lithium for battery production usage. The way DLE



works is by separating the lithium from the brine and processing it. The [DLE companies](#) point out that through this method it can recover from 70 per cent to 90 per cent of the lithium. This would make the process faster and more cost-efficient to extract the lithium and bring it to [market](#) and further develop it into other products. In contrast with current methods which require [large amounts of water](#) and are time-consuming. But as these companies and insiders point out these are expectations since the technology is fairly new and has not been implemented at scale.

Global electric vehicle (EV) behemoths like CATL plan to [invest billions](#) in Bolivia to help it produce 300,000 tons of lithium between 2025 and 2030. In the Uyuni salt flats, which house the majority of Bolivia's deposits, CATL will construct [two facilities](#), producing 100,000 tons before ramping up with more money invested. Because just two Chinese companies, CATL and BYD, make more than half of the world's batteries, and since China processes over 60 per cent of the world's lithium, the purchase further solidifies Chinese [domination](#) of the battery industry and its supply chains. Bolivian President Luis Arce has also indicated that Bolivia would start exporting electric batteries in 2025. Additionally, the government-backed Citic Guoan Group in China and Rosatom, a state-owned energy company in Russia, will set aside [\\$1.4 billion](#) to extract an additional 100,000 tons of the lightest metal in the world. According to Minister of Hydrocarbons and Energy, Franklin Molina, these deals will allow Bolivia “to produce some 100,000 (metric) tons of lithium carbonate in 2025 in the Uyuni, Coipasa, and Pasto Grandes salt flat”. Molina also floated the idea that the Chinese firm was looking into building a [battery factory](#) in Bolivia.

These investments and projects are significant for Bolivia, in that opening the largest mining deposits in the world grants it the ability to shape the market and become a powerful player in the energy game. Bolivia's government [seeks to expand](#) its homegrown lithium battery industry further and become a significant player in producing and selling batteries [by 2025](#). Bolivia aims to surpass its extraction economy and history to become a hub of battery production, [initialising a process of industrialisation](#) for the country. Furthermore, Arce's administration [aspires to](#) manufacture and export car batteries produced in the country by the year 2026. If Bolivia succeeds in achieving this goal, it would be a game-changing accomplishment for the Andean nation, signifying a transition from an extraction-based to an industrialised economy in a strategically vital sector.

3.2 Political and Social Risks

3.2.1 Nationalisation policies

While President Arce ambitiously aims for the country to become “[the world capital of lithium](#)” by having the country produce up to 40 per cent of the world's supply by 2030, his government's policies are restrictive against outside investment and call for the state to possess most of every initiative. Bolivian [law](#) mandates that the state must control the extraction process with 51 per cent ownership, and working with the central government has proven to be difficult for foreign investors. Moreover, [according to](#) a specialised consultant, Bolivia faces an uphill battle to achieve its objective of becoming a leading producer of



lithium requiring a \$5 billion further investment for it to ramp up manufacturing to significant levels to be competitive in the international marketplace. Without action from the government to negotiate licensing and profit-sharing arrangements with major mining companies, Bolivia also runs the risk of disappearing from the radar of manufacturers and battery makers. However, given that Bolivian law mandates that lithium resources remain in local hands, achieving this will be very challenging.

3.2.2. Impact on local communities

There are some concerns among local communities when it comes to mining and the extraction industry. One of them is who benefits from the profits of the mining. The second is the environmental impact this extraction has on a place. Bolivian society will have to confront these problems head-on while expanding its lithium mining operations.

Many of the communities that live around the lithium deposits have [concerns](#) that they will be cut out of the benefits of lithium extraction. Although nascent, the population is already advocating for long-term investments and planning. For example, these communities have asked for the central government to implement training programs and technical schools that would eventually employ the community. However, yet this has not happened just yet. Bringing concerns that these communities will be further isolated, marginalised, and not be able to grow with the industry.

A complication that arises from these lithium deposits is that it is located in remote areas in the Atacama desert. Local communities live and, therefore, have opposed the extraction of lithium on and around their land because they are concerned that they will [compete](#) and lose against companies and the mining industry. As with most mining operations, [clashes](#) between mining companies and local communities are common, especially as mining raises [environmental concerns](#). For instance, resource extraction can cause land erosion, sinkholes, loss of biodiversity, and soil or groundwater contamination. Furthermore, [human rights](#) concerns also arise in the region, as the mining industry does not have a great track record when it comes to how local populations are treated by them. One of the main concerns when it comes to these scarce resources comes from the lack of water in the desert.

3.2.3. Water scarcity

Water is one of the key resources needed to [extract lithium](#). It takes an estimated [2 million litres of water](#) to get one ton of lithium. The mining method Bolivia has been trying to implement is called '[Brine](#)'. This extraction method consists essentially of filling some areas in this mixture and waiting for them to dry. This is extremely time-consuming, making mining more difficult and slower. In contrast, technologies like DLE (Direct Lithium Extraction) prove to be far more efficient in terms of water usage.

There is a significant [lack of information](#) regarding water usage and its impact on lithium mining, which makes it hard for governments to implement regulations and proactively address the environmental crisis. However, an insightful [research paper](#) by the National Resources Defense Council has provided valuable recommendations on how countries and companies can enhance their efforts to protect water resources.



3.2.4. Environmental risks

Due to its location in some of the driest regions of the world, lithium resources in Bolivia are particularly susceptible to the effects of [climate change](#), especially as Bolivia has had numerous floods and droughts over the past six years.

3.3 The road ahead for Bolivia's lithium industry

Tensions between President Arce and former President Evo Morales could carry significant implications for the Bolivian lithium industry. In fact, they do hold different visions regarding lithium exploitation, among several other issues which have caused these former allies to take distance from each other, often criticising each other's administrations. These internal tensions within the MAS party might [create opportunities](#) for the conservative opposition, potentially influencing the direction of lithium exploitation. For instance, a right-wing administration with pro-market inclinations might pose a challenge to Bolivia's current industrialisation strategy, favouring a more extraction-focused approach.

Besides internal tensions between political factions, Morales has also raised concerns about possible [intervention](#) by the US to secure a lithium supply, which the American government has strongly denied. All of these narratives around the lithium strategy and the role of foreign powers will play a key role in the campaign toward the 2025 presidential elections.

The global climate crisis has presented Bolivia with a historic opportunity as the possessor of the largest lithium deposits. However, this potential prosperity comes with substantial challenges. Historically, many nations, including Bolivia, have struggled to harness their natural resources for the benefit of their citizens. Instead, they often find themselves in a disadvantageous position compared to more powerful entities, such as developed nations and multinational corporations, which has led to inequitable development. Bolivia, too, has faced decades of resource exploitation without commensurate local benefits. In the context of the lithium boom, Bolivia must navigate a complex path to shape its extraction and production methods, aiming for equitable benefits, as well as protecting the environment. While the government is working to build relationships and garner allies, the journey toward realising Bolivia's potential remains arduous, requiring sustained effort to secure its place as a relevant player in the green transition.



Section 4

Chile

Despite having fewer lithium resources than Bolivia and Argentina, Chile has the world's largest lithium reserves ([36 per cent](#)), and it stands out as the [second-largest](#) lithium producer globally and the [largest producer](#) in the Lithium Triangle. In the year 2020, with [124,600 tonnes](#), it supplied 26 per cent of the world's lithium. Chile's years of experience in the mining sector have engendered a far superior productive capacity, placing it above competitors, with the latest estimates showing an annual productive capacity of 33800 metric tonnes. The nation's largest lithium producer, SQM, is the second-largest producer in the world and is key to the sector's prosperity. The industry in Chile is characterised as being fully destined for export, totalling [\\$896 million in 2021](#). Nonetheless, Chile's market share in lithium production has been decreasing in the past year to other countries, such as Australia, which surpassed it [in 2017](#), and [Argentina is set to do the same by 2028](#) according to a [JP Morgan forecast](#).

4.1 Chile's lithium sector

4.1.1 Mining sites

Chile has around [23 salt flats](#) of lithium sites, most of which are located in the Northern part of the country, especially in Antofagasta and Atacama. The major lithium mining sites in Chile are in the Atacama desert salt flat, which notably holds the world's largest reserves of lithium. The majority of Chile's [lithium extraction](#) has taken place in this area, close to the country's borders with Argentina and Bolivia. Currently, [two major producers](#), U.S.-based Albemarle and Chilean [SQM](#), extract lithium from Chile's salt flats. However, mining companies are now eager to exploit the much smaller Maricunga salt flat, which lies about 100 miles northeast of [Copiapó](#).

The lithium mining sites located in the Atacama desert salt flat contain are those with the world's largest reserves of lithium. Amongst the 23 lithium salt flats identified, only two include enough detailed evaluations to define their lithium reserves. The first one is the Atacama Salt Flat, the largest salt flat in Chile and holds [80 per cent of the country's lithium](#) reserves. It is located [1500 km north of Santiago](#) and is home to two major producers, Albemarle and SQM, which are responsible for [\\$2.3 billion of investment](#) in 2022 alone. It is estimated that the reserves of the Salar de Atacama are around [9.2 million tonnes](#). The second one is the Maricunga Salt Flat which is much smaller and located about 100 miles northeast of Copiapó. It is estimated that reserves in Maricunga have around [0.39 million tonnes](#). Making the Salar de Atacama of particular importance for the lithium industry in Chile.



The mining industry overall is presented as Chile's most important sector for its economy. This makes the mining sector an important share of the country's economy with a [direct share of 14.6 per cent](#) of its GDP. However, taking into account other industries that directly benefit from the mining sector could see its contribution rise to 20 per cent and [lithium specifically to 10 per cent of it](#). The mining industry also is the main sector attracting FDI in Chile, with 29 per cent of the national total. It also represents 55 per cent of the country's total exports. While most of these are copper, lithium still represents around 10 per cent of these exports. The lithium mining industry is also significant contributor to Chile's economic growth. In 2021, Chilean lithium exports totaled [\\$896 million](#). The upcoming lithium projects in Chile, such as Albemarle's expansion of La Negra plant phase 3 and the SQM expansion initiatives, are [valued at more than US\\$1.8 billion](#), which will further boost the country's economy.

4.1.2 Growth and development

Similar to other lithium-producing nations, the Chilean lithium sector benefited greatly from the price increases in 2022. SQM alone [reported](#) total sales volumes of 41,000 metric tonnes, resulting in \$1.1 billion in net profits for July, August, and September, a 1000 per cent increase in third-quarter net profit in November, and lithium revenue growth of 1200 per cent. The Chilean lithium export value saw an 800 per cent increase, increasing from \$896 million to \$8.14 billion.

The developed nature of the mining sector does pose detriments to new projects and foreign investors. The established legal framework in the sector is far stricter than that of its neighbour and competitor, Argentina, deterring project development and FDI. The developed nature of the sector also means less opportunity for foreign entities, and the limited territory and resources also increase costs and break-even prices. In November of this year, the Chilean economy minister [estimated](#) a breakeven price of \$20,000 per tonne, far above average Latin American brine and salt flat projects' [\\$4000-\\$5000](#) per tonne breakeven prices. As costs rise and prices slump, grim prospects befall investors looking to develop or create extraction projects.

Companies already present in the Chilean lithium sector also struggle with increased state involvement. Recent jurisdictional changes will likely provide unfavourable contract conditions for operating companies. Chile also imposes significantly higher taxes than its competitors, resulting in a 64 per cent post-tax yearly profit retention rate. The progressive nature of royalty payments also hampers profitability and growth, with miners paying up to 40 per cent of their profits, depending on scale and output. Special lithium regulations, contained in [Law 18,097](#), also limit the exploration and commercialisation of lithium by non-state-controlled corporations. In order for companies and non-state entities to operate in the lithium sector, administrative concessions must be awarded in supreme decrees, requesting authorisation to trade any production of lithium. This cumbersome process has led to an evident lack of competition in the private sector, as only two companies are granted permission to operate, and even their exploits are limited by state regulations.



4.2 Political and Social Risks

4.2.1 Uncertain regulatory environment

Chile's regulatory regime of the lithium industry has undergone significant changes in the last administration. Chile's regime for lithium exploitation, unlike its counterparts in the rest of the region, is a combined system where both public and private sectors share control over the industry. However, as of April 2023, President Gabriel Boric announced the National Lithium Programme, where he established that there will be the creation of a state-run lithium company that will assume most of the activities to expand the industry. The state will control [50.01 per cent](#) of the shares, with joint ventures with private investment. The Chilean government's goal with this initiative is to capture what they mention as a "[historic opportunity](#)" for the country by capturing strategic control of the industry's development while utilising private know-how, technological innovation, and capital. The government is also aiming to create a [research and development institution](#) for lithium. It will bring together resources from different state ministries of economy, energy, treasury, and science and technology.

The programme proposes that current contracts would be respected, while new ones would have to agree to specific government requirements of cleaner technology usage, with the aim of [reducing environmental damage](#), improving labour conditions, and promoting indigenous people's involvement in lithium projects so that they can partake in their benefits. However, one of the main critiques of this change of regulation is its lack of clarity. The [programme](#) established that 30 percent of Chile's lithium resources will be protected and not be available for mining operations due to sustainability issues. As of December 2023, there has been no clarity or well-defined process on how these areas will be determined, leading to uncertainty for investors on how to proceed with their operations.

The Chilean government plans on partly attracting private investment by offering [special contracts of lithium operations directly to new players](#), where state and private enterprises partner strategically instead of receiving a concession. Some examples of these include the American enterprise Albemarle and the Chilean SQM. Both private entities are the main actors operating under these special contracts in the Salar de Atacama. Investors are wary of this due to the number of challenges, operational, financial, and technical, that these companies face. Therefore, the private companies fear they will end up investing most of their resources without any decision power. The state stating that they have neither the expertise nor capabilities to run these lithium operations is considered validation for these concerns.

The creation of a state-owned lithium company, a promise made by Chilean President Gabriel Boric, faces substantial hurdles. The government lacks the technical, commercial, and operational expertise, financial resources, and proper institutional arrangements required for such an endeavour. Legislative approval for the creation of such a company



necessitates a four-seventh supermajority in the Chilean parliament, where the current government lacks a simple majority. Opposition from political rivals and the absence of community consultations further complicate the prospects for approval. Despite these challenges, the government has submitted the bill to parliament, a move that appears more aligned with placating hard-left critics advocating for full state ownership of the lithium industry rather than a genuine effort to establish a state-owned lithium company.

Chile's government has recently [reached an agreement](#) with SQM, paving the way for a public-private partnership, involving the State-owned Codelco (leader in copper mining). Under this arrangement, the ownership stakes will be allocated, with the Chilean government securing a majority share of 50% plus one.

Albemarle, for its part, intends to persist with its operations irrespective of state involvement. The company's CEO [has affirmed](#) the company's belief in the significant potential for collaboration with the Chilean government and expressed confidence that the government will honour their agreements.

4.2.2 The uncertainty over the constitutional process and upcoming elections

Chile has experienced an extraordinary period of political uncertainty since the '[Estallido Social](#)' (social uprising) in October 2019, leading to an ongoing constitutional reform process that remains inconclusive. Notably, both 2022 and 2023 witnessed unsuccessful attempts to pass new constitutional texts, with the majority of the population voting against the new draft.

In 2022, a year after Boric was elected president and with a left-majority constitutional assembly, Chileans went to the polls to vote on a notably progressive constitution aimed at fundamentally changing the Chilean system by many measures. However, as this wasn't the primary demand of most Chileans, the project was [overwhelmingly rejected](#). Interestingly, the opposite result occurred in 2023, after a right-wing-dominated assembly proposed a conservative text, which was [subsequently rejected](#) in the December 2023 plebiscite.

President Boric has announced that he will not pursue a third attempt during his administration, so the constitutional issue will remain as an open issue in the country at least until 2025 elections. This scenario of [uncertainty](#) has negatively affected Chile's economy, which slowed-down to -0.4 percent in 2023 and expected to grow by 1.8 percent in 2024, demonstrating poor projections. For instance, in a survey conducted last year among farmers revealed that 60 percent of them have decided to political uncertainty caused by the failed referendum and the overall constitutional process.

President Boric [has declared](#) that he will not pursue a third attempt during his administration, leaving the constitutional issue unresolved in the country until at least the 2025 elections. This prolonged period of uncertainty has had a [detrimental impact](#) on Chile's economy, leading to a slowdown to -0.4 percent in 2023, with projections showing



modest growth of 1.8 percent in 2024, [according to](#) the World Bank. These lacklustre economic expectations are evident, for instance, in a [survey](#) conducted last year among farmers, revealing that 60 percent of them have decided to hold off on their investment plans, influenced by the political uncertainty stemming from the failed referendum and the broader constitutional process.

Upcoming presidential elections in 2025 will face a Boric left-wing ally - as he cannot run for a second term – most likely against José Antonio Kast, who came in second in the last elections. Kast is a far-right wing candidate who is often compared to Jair Bolsonaro, Donald Trump and Javier Milei. Kast is broadly regarded as the favourite for the run-off, and will probably have a strong position as long as crime rates keep to be the issue that worries the most Chileans, and therefore which will likely dominate the presidential campaign. With regard to this, we might observe what Will Freeman called the 'crime-trap' for leftist Latin American governments, in which far-right candidates seem to be in a much stronger position to address crime-related issues publicly, as left-wing leaders (like Boric) seem to have 'no competing story to tell about crime'.

The upcoming presidential elections in 2025 are poised to feature a left-wing ally of President Boric, given that he cannot seek a second term. The likely contender from the left will face off against José Antonio Kast, who secured second place in the previous elections. Kast, a far-right candidate often likened to Jair Bolsonaro, Donald Trump, and Javier Milei, is widely considered the favourite for the run-off. Discussions about crime rates are expected to be a strength for Kast, as it has become a significant concern to most Chileans. In fact, a [recent poll](#) shows that 64 percent of them regard civil safety as their top concern.

As long as crime remains a predominant issue, Kast is likely to maintain a robust position. This scenario reflects what [Will Freeman](#) termed the 'crime-trap' for leftist Latin American governments, where far-right candidates often find themselves in a more advantageous position to address public concerns about crime. Left-wing leaders, such as Boric, may struggle to present a compelling narrative on the issue, creating challenges in the electoral landscape.

4.2.3. Environmental concerns and indigenous rights

Indigenous communities in Chile have expressed concerns about the impact of lithium extraction on their lives and environment, among them [water usage](#). Lithium extraction has been associated with environmental damage, including [soil and water pollution](#) which can poison [reservoirs and result in related health problems](#) to the communities. Indigenous communities have expressed concerns about the impact of mining on [the fragile ecosystems](#) of the region and the livelihood of some of its species. [Two species of flamingos](#), for example, have already been affected by the increased mining activity in the Atacama desert. This is a concern for environmentalists and indigenous communities concerned about the region's biodiversity.



The technique of brine evaporation used in lithium mining also drains already scarce water resources, damages wetlands, and harms communities. Lithium extraction requires around [500,000 litres of water per tonne of lithium](#) and contributes to the region's problem of [water scarcity](#). Lithium extraction in Chile's Atacama Desert exacerbates [water stress](#) in an already dry region, and mining companies have consumed 65 per cent of the region's water supply, creating extreme water shortages and impacting the abilities of local farmers to [grow crops and maintain livestock](#). To mitigate these impacts, some sustainable mining practices and technologies are being implemented. The incoming Chilean government [appears to be more open](#) to environmentalists' latest recommendations, such as ensuring the informed consent of local communities, strengthening environmental standards for mining operations, and investing in alternative ways to obtain lithium like recycling and geothermal direct lithium extraction.

Indigenous communities claim they are [suffering the impacts of lithium mining](#) while seeing none of the benefits. They claim that it has an impact on their [ancestral ways of life](#) and [scarce water resources](#). Indigenous communities have expressed [concerns](#) about the allocation of water rights to mining companies which have priority access to water. They have also expressed concerns about the lack of [job opportunities for local people](#) and about the lack of [consultation and participation](#) in decision-making processes related to lithium extraction. Indigenous communities have faced charges and [criminalisation for protesting against lithium extraction](#). Despite these concerns, the establishment of an indigenous consultation procedure and its proper follow-through has led to some mining companies claiming to have gained the support of local communities for their exploration programs. The [concern](#) from these communities in part is due to the history of Codelco, the state-owned company in charge of most of the mining in Chile. Codelco has been attributed to [several environmental disasters](#), according to many of the leaders of these indigenous communities, State officials have promised that the [dialogue](#) with these communities come before any other of the government decisions on the lithium industry and aim to learn from their mistakes.

Leader of the community Colla Pai Ote, [Ercilia Araya, has mobilised to at least pause two of the three lithium extraction projects](#) in the Maricunga salt flat, part of the communities ancestral territory. The third one is now even being investigated for environmental damage. This is also the case for the project, [Minera Salar Blanco](#), approved by the [government in 2021](#), but the decision is currently on hold due to activists' appeals. This shows the power that these communities can have if proper indigenous consultation is not realised. Among other [examples of successful resistance by indigenous communities](#) is also the case of when the government upheld a complaint by indigenous communities against SQM over water usage rights linked to lithium mining



4.3 Economic Forecasts

Despite the initial backlash to Chile's interventionist measures, international companies still hold an interest in investing in the Chilean lithium sector. The most recent example is Tsingshan Holding Group's [\\$233.2 million](#) lithium iron phosphate production plant investment, expected to be operational by 2025. While the government will be largely involved in extraction and production value chains, this does not necessarily dissuade all international investors from claiming a stake in the largest Latin American lithium producer. The current administration is discussing projects with over [40 investors](#), per the nation's trade minister, and will surely continue to develop its mining sector at a steadfast rate. The larger source of uncertainty is the ongoing lithium price slump, which currently stands at a 72 per cent decrease from its record high prices in 2022. The first half of the year saw a 37 per cent decrease in average lithium prices, reducing [SQM's net income and revenues](#) by 20 per cent and 7 per cent, respectively. The increase in demand, which drove sales up by 26 per cent, was unable to outweigh the price drop, undermining the sector's performance.

One of the driving causes of price fluctuations is China's involvement in the lithium sector. As the largest lithium importer in the world, its demand directly impacts the commodity's value in the global market. Earlier this year, the futures market saw a [50 per cent decrease](#), which caused prices to plummet throughout the world. The overreliance of the commodity on China as an importer is a source of grave uncertainty and volatility and causes many investors to be wary of long-term projects for production and extraction. If Chinese demand for lithium falls indefinitely or is satisfied by domestic production, then global prices could experience a prolonged low. To compensate for this loss, the EU and US would have to sufficiently stimulate EV development and consumption. The [\\$369 billion](#) Inflation Reduction Act has a predicted investment generation impact of \$1.7 trillion in the next 10 years, but Europe's consumption of EV investments must match the US subsidy rate to meet supply by 2030. The rapid expansion of lithium production in LATAM will likely outpace the growth in demand unless major incentives are provided in the West, meaning prices will continue to fall and the delicate break-even balance of LATAM investments will harm its current development.



Section 5

What's Ahead for the Region's Lithium Sector?

The surge in demand for lithium-ion batteries will impact the future trajectory of South America's Lithium Triangle with Bolivia, Argentina, and Chile, as it shapes, and will be shaped by regional dynamics and geopolitics. These countries are at an important juncture when it comes to the development of their lithium reserves. How quickly they will develop these reserves and who will benefit from the resource's exploitation remain two central questions. Satisfying the ever-increasing demand for lithium in the context of the green transition and the EV boom while developing sustainable ways of doing so is a major challenge for these countries, as well as for multinational companies.

As outlined, each nation and its political leaders differ considerably in how this resource is to be extracted. While some leaders seek larger state control over lithium production, with a view on sustainability and national development, others advocate for less-regulated practices, seeking to attract larger amounts of FDI. Among these heterogeneous approaches, one which stands out is the [initiative](#) by the Bolivian government – and shared by Mexico's president Andrés Manuel López Obrador – to create a 'lithium cartel', similar to OPEC. The rationale behind this initiative would be that Latin American producers should 'protect' themselves from foreign powers instead of competing with each other. However interesting this initiative may seem to some readers, there has been no progress at all in this regard.

5.1 Key obstacles

Argentina has become a key player in the lithium industry by utilising its wealth of natural resources to take a larger part in the world supply chain. However, the country is confronted by certain obstacles, including moral dilemmas, connections to China, and possible limitations on access to the US market. Milei's presidency in Argentina brings a great deal of uncertainty to an already uncertain country, as it is not yet clear what he will seek to do with lithium production and its exploitation regime. Argentina's desired output increase will then need to be sustained by successfully navigating these hurdles.



Meanwhile, Chileans will head to the polls in 2025, in which Boric's nominee from his leftist coalition is likely to face far-right candidate José Antonio Kast. If Kast wins the elections, a drastic turn in Chile's lithium strategy can be expected, which will add uncertainty to the country's situation. Furthermore, the incoming administration in 2025 will have to call for a referendum to create a new constitutional assembly, after 2022 and 2023 failed attempts to pass a new charter. While this might show a tremendously uncertain picture for Chile, its strong institutions and longstanding tradition of respect for the rule of law moderate the uncertainty.

Bolivia, for instance, has great ambitions to become the "world capital of lithium", since it has the largest lithium deposits in the world. However, Bolivia faces challenges, such as strict government regulations that demand governmental control over the lithium extraction process. Bolivia's path to success hinges on several key factors. These include achieving manufacturing standards, negotiating profit-sharing and licensing agreements with major mining corporations, maintaining international awareness, and resolving environmental issues about the effects of climate change on lithium deposits.

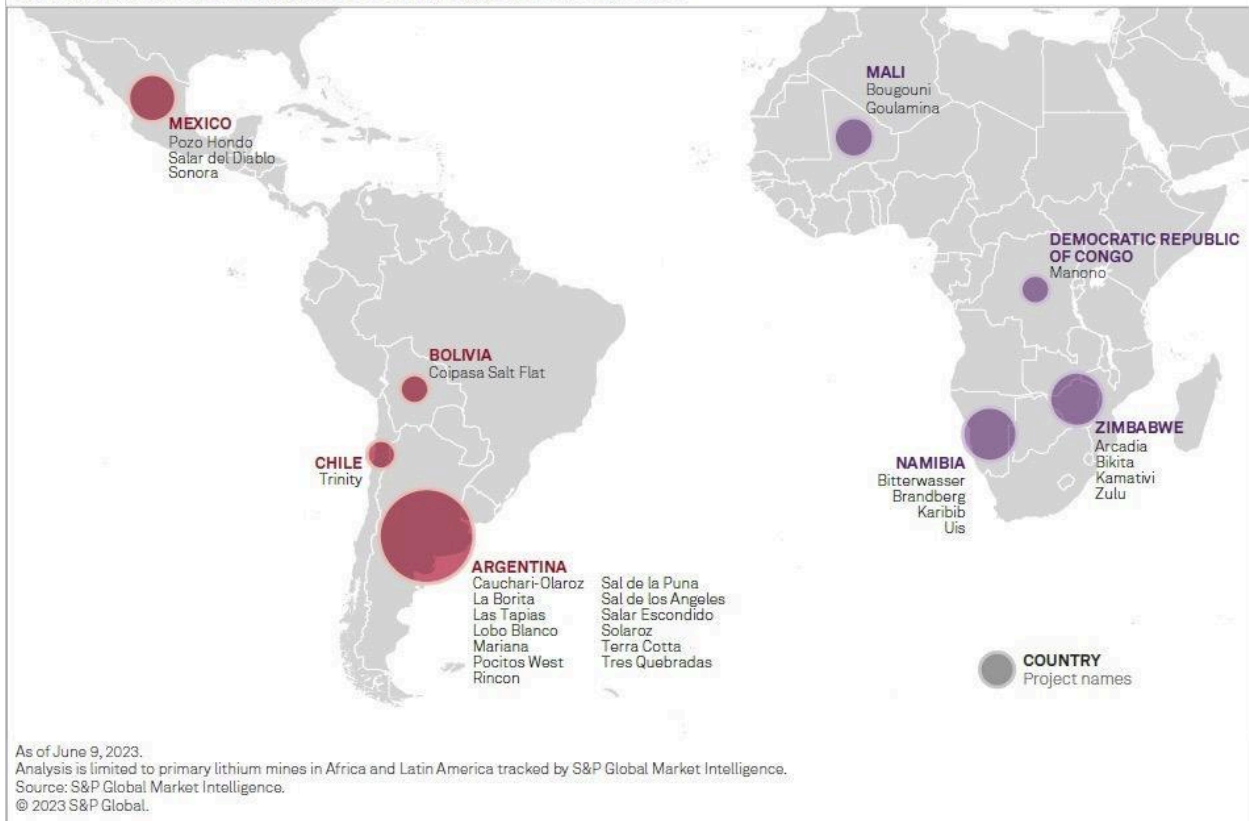
Bolivia's political scenario is marked by the increasing rivalry between Arce and Morales, both of which have striking differences in several issues, including lithium exploitation and the extent to which it should be open to foreign investors. While closely following this situation is vital to understanding Bolivia's politics, it will also be key to observing how right-wing parties construct their leadership toward the 2025 elections, as they might benefit from both the internal tensions in the MAS party and the anti-incumbent sentiment that Latin America is undergoing.

5.2 The influence of extra-regional powers

The idea of protection from foreign powers has become particularly relevant in a context of geopolitical competition between the U.S.-led West and China and Russia, although the latter is far less relevant in the green energy markets. In an increasingly conflictive environment, these actors seek to secure critical minerals such as lithium, making South American nations an arena for geopolitical competition, for which countries must be prepared in the following years and decades.

To fuel its expanding [electric vehicle](#) market, China – the world's largest consumer of lithium – vigorously pursued a significant supply of lithium in 2019, with a consumption rate of [39 per cent](#). This has led China to secure a stable supply of lithium through [increased Chinese investments](#) in Latin American countries rich with lithium reserves. Though this has brought economic opportunities and [infrastructure development](#) projects to the lithium triangle countries, it has also raised concerns about lithium extraction causing [environmental harm](#) to soil, air, and water, as well as potential [geopolitical influence](#). China's participation in the lithium market in Latin America thus highlights the extensive impact of the lithium supply chain and the complex relationships between major consumers and resource-rich areas.

Chinese firms' lithium chase in Latin America and Africa Primary lithium projects with interests from China-based companies



Source:

<https://www.spglobal.com/en/research-insights/featured/special-editorial/china-s-global-reach-grows-behind-critical-minerals>

Given China's growing [influence](#) over the lithium industries in Bolivia, Chile, and Argentina, the trajectory of lithium mining in the area may be subject to change. Thus, the geopolitical environment and the strategic objectives of these countries may change as China establishes more influence. The extent of China's influence on the region's lithium supply chains will determine how much the United States gets involved, as the two countries have a [competitive relationship](#). According to [CSIS](#), to compete with Chinese influence in Latin America, the US may respond with diplomatic and economic strategies such as investing in energy security, increasing capital for the IDB, and broadening partnerships with allied countries. Though this might increase competition for lithium deposits and influence the geopolitical environment in the Lithium Triangle, the result will depend on the diplomatic and economic strategies used by both countries.



Section 6

Conclusion

This report explored the intricate dynamics of the lithium market within the Lithium Triangle, driven by the global surge in demand for li-ion batteries amid the global green transition. The purpose was to delve into some of the complexities shaped by geopolitical factors, government policies, and evolving global energy demands. Examining each country within the Lithium Triangle, it is evident that Bolivia, Argentina, and Chile face distinct challenges and risks in their pursuit of becoming major players in the evolving lithium market.

The Lithium Triangle countries appear to be at a crucial moment in their history, potentially shifting away from resource-extraction-driven economic models towards industrialisation, at least in the battery sector. The long-standing aspiration in the region, particularly in certain political sectors, has been to locally add value to raw materials before exporting them. The current opportunity presented by the natural resources and international demand for lithium necessitates the formulation of strategic policies. These policies should not only maximise the economic benefits derived from lithium-related activities but also prioritise the protection of the environment, natural resources, and local communities that inhabit the areas where the mineral is found.

The overall geopolitical forecast suggests that these countries are poised to shape the worldwide lithium market over the next decade. Navigating geopolitical challenges and extra-regional influences, ensuring ethical mining practices, and addressing market uncertainties will be pivotal. The convergence of geopolitical, social, economic, and environmental factors will determine the trajectory of these nations in the global lithium landscape, essential for the world's shift toward sustainable energy alternatives. As the Lithium Triangle nations navigate the pivotal point in their history, they stand at the crossroads between being mere extraction sites and becoming hubs for production and manufacturing. The careful consideration of ethical, economic, and political factors will determine whether these countries can break the extraction curse, utilising their lithium resources as catalysts for a greener, more sustainable future.



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