ALERT MEMORANDUM

The Lithium Triangle: Challenges and Opportunities for Latin America

September 25, 2023

Demand for lithium has been rapidly increasing in recent years, driven by global clean energy projects which rely on lithium to meet their sustainability goals. This global demand presents investment opportunities for companies that are looking to capitalize on the lithium boom within Latin America's Lithium Triangle. Companies operating within this space will have to adapt to the challenges that exploration, development, and production of lithium confront across countries with different legal regimes. Effective dispute resolution, particularly through international arbitration, could serve as a crucial tool when addressing potential challenges in the lithium industry or disputes arising from the various contractual relationships in the lithium mining value chain, including because arbitration may:

- provide a neutral forum for multi-national parties to resolve their disputes; and
- allow parties greater flexibility to opt into bespoke procedures governing their disputes, particularly with respect to confidentiality and the potential for consolidation of multi-party disputes arising from the same or different contracts in a value chain.

This memorandum summarizes certain challenges and legal disputes that may arise for businesses involved in into the Latin American lithium mining industry, and highlights the use of arbitration as a potential dispute resolution mechanism.

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Latin America's Lithium Industry: Leading The World's Energy Transition

In recent years, lithium has become critical to the world economy due mainly to two factors: (1) a demand for rechargeable lithium-ion batteries which power phones, laptops, and electric vehicles, among other items;[2] and (2) an increased focus on renewable energy, as large lithium-ion batteries can be used to store excess power generated from wind, solar, and other renewable energy sources.[3]

Latin America as a region will be key to meeting the demand for more lithium production. Chile, Argentina, and Bolivia – referred to as the "Lithium Triangle Countries," or "LTCs" – have more than 75 percent of the world's supply of lithium.[4] This already booming lithium industry will likely only continue to grow as other countries explore potential lithium reserves. For example, Peru has begun development of the Falchani lithium exploration project, which is estimated to hold the sixth-largest hard rock deposit in the world, and therefore may allow Peru to enter the market as a top lithium producer in the future.[5] Similarly, in Brazil, the governor of Minas Gerais, one of Brazil's largest states recently held an event at Nasdaq in New York to launch Lithium Valley Brazil, an initiative aimed at attracting capital markets and private investment in the lithium industry in Brazil. In addition to increasing production, the Lithium Valley Brazil initiative aims to "facilitate the development of a green industrial footprint" in lithium mining, while advancing social development goals in one of Brazil's least developed states.[6]

In recent years, there has been a surge of private company interest in the LTCs, and in lithium production specifically. There has also been a corresponding influx of foreign investment in the lithium industry, which has helped expand production – including by introducing advanced mining technologies and specialized equipment to improve efficiency and sustainability – while alleviating some of the financial burden that the LTCs have carried in promoting lithium mining.[7]

Current Regulatory Landscape Of Lithium In The LTCs

While the LTCs share similar extraction processes and concerns with respect to each country's lithium industry, their investment approaches differ in important respects.

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[2] *See* Marcelo Azevedo *et al*., *Lithium Mining: How New Production Technologies Could Fuel the Global EV Revolution*, MCKINSEY & CO. (Apr. 12, 2022), https://www.mckinsey.com/industries/metals-and-mining/our-insights/lithium-mining-how-new-production-technologies-could-fuel-the-global-ev-revolution. In 2022, rechargeable battery manufacturing accounted for 74% of global lithium demand.

[3] *See The Role of Critical Minerals in Clean Energy Transitions*, IEA (May 2021), https://www.iea.org/reports/the-role-of-critical-minerals-in-clean-energy-transitions.

[4] Samar Ahmad, *The Lithium Triangle: Where Chile, Argentina, and Bolivia Meet*, 41 HARV. INT'L REV. 51 (2020), https://hir.harvard.edu/lithium-triangle/.

[5] *See* Patricia I. Vásquez, *The Lithium Triangle: The Case for Post-Pandemic Optimism*, WILSON CTR. 1, 6 (Oct. 2020), https://www.wilsoncenter.org/sites/default/files/media/uploads/documents/LAP_201002_vasqyez%20brief_update_v1b%5B1%5D.pdf.

[6] Press Release, Nasdaq (May 11, 2023), https://www.nasdaq.com/press-release/sigma-lithium-and-brazilian-government-officials-ring-nasdaq-opening-bell-to.

[7] The costs associated with lithium mining may be especially high in the LTCs, located in one of the driest regions on earth. Lithium requires a water intensive mining process – approximately 500,000 gallons of water are needed to extract one ton of lithium. *See* Ahmad, *supra* note 4, at 53. *See also* Stefan Ellerbeck, *Lithium: Here's why Latin America is Key to the Global Energy Transition*, WORLD ECON. F. (Jan. 10, 2023), https://www.weforum.org/agenda/2023/01/lithium-latin-america-energy-transition/.

Bolivia controls the lithium production process through the state-owned company, Yacimientos de Litio Bolivianos ("YLB").[8] Recently, Bolivia has announced potential partnerships with foreign firms to allow these firms to extract lithium using new technologies, in one instance partnering with a Chinese company to increase lithium production.[9]

Chile allows private initiatives with respect to lithium, which is classified as a strategic resource, subject to certain limitations. Like oil and gas, the state leases the right to exploit lithium for a given period of time (subject to a maximum term imposed by law) to private companies. Currently, two main lessees control the extraction industry: Albemarle, a U.S.-based company, and Sociedad Química y Minera de Chile ("SQM"), Chile's largest lithium mining company.[10] These companies' leases are set to expire in 2030 and 2043, respectively.[11]

On April 21, 2023, Chilean President Gabriel Boric announced plans for a national lithium strategy.[12] While this proposal has not yet been submitted to Chile's National Congress, which will need to approve any plan, the proposal will likely entail the creation of a national lithium company, which will own a significant stake in the industry and oversee lithium mining, while also potentially granting private companies more rights to lithium mining in exchange for allowing the state mining firm to own part of their projects.[13] The creation of a national lithium company will also likely lead to negotiations and partnerships with private companies looking to hold minority participation stakes in lithium mines in Chile.[14]

Argentina allows for private initiatives and has adopted what has been considered an investor-friendly approach to its lithium industry. Under Argentina's approach, provinces have control over mineral rights but must manage resources in accordance with the federal mining code,[15] which allows state-owned enterprises and private companies (domestic and foreign) to participate in mining.[16] Within these public-private projects, the domestic state-owned company retains a minority stake while the investor generally provides funding, resources, and know-how.

Challenges And Potential Disputes In LatAm's Lithium Industry

Like other mining businesses, the LTCs' lithium industries present opportunities that bring potential challenges. There is a basic commercial reality that lithium is in high demand – and is likely to continue to be in high demand for the foreseeable future – for use in various commercial applications that are increasingly viewed as essential in the modern world. This means that companies and countries

[8] Marcelo Rochabrun, *Bolivia Still Evaluating Six Firms for Lithium Mining Partnerships*, REUTERS (Jun. 7, 2022), https://www.reuters.com/markets/deals/bolivia-still-evaluating-six-firms-lithium-mining-partnerships-2022-06-07/.
[9] Ward Zhou, An Limin, Luo Guoping, and Lu Yutong, *China consortium to develop lithium deposits in Bolivia*, NIKKEIASIA (Jan. 27, 2023), https://asia.nikkei.com/Spotlight/Caixin/China-consortium-to-develop-lithium-deposits-in-Bolivia.
[10] *See* Vásquez, *supra* note 5, at 14-15.
[11] Catherine Osborn, *Chile Details Its National Lithium Strategy*, FOREIGN POL'Y (Jun. 23, 2023), https://foreignpolicy.com/2023/06/23/chile-boric-lithium-strategy-minerals-industry-green-energy-batteries/?tpcc=onboarding_trending.
[12] *Id.*
[13] *Id.*
[14] *Id.*
[15] Ministerio de Desarrollo Productivo Argentina, *Doing Business: Main Fiscal & Legal Issues of the Argentina Mining Industry*, GOV'T OF ARG. 1, 4, https://www.argentina.gob.ar/sites/default/files/argentina_legal_framework.pdf (last visited Jun. 26, 2023).
[16] *Id.* at 6.

around the globe depend on the LTCs to extract and export lithium, and will continue to do so in the years and decades to come. This has spurred – and will continue to spur – the execution of long-term lithium purchase and sale agreements. To comply with those agreements, lithium extraction companies typically need to make long-term, capital-intensive investments in lithium extraction projects in the LTCs. The result is a series of interlocking, often international contracts in the lithium value chain, which doubtless satisfy an important economic need, but also open the door to potentially complex disputes in the event that there are disturbances or breaks in the value chain. These disputes may play out across different contracts under different laws and at different points in the value chain.

1. Exploration And Exploitation Agreements

In the LTCs (and in most countries around the globe), minerals such as lithium are the property of the state while they remain in the ground. Accordingly, where private companies are permitted to engage in lithium extraction activities in the LTCs, such as in Chile and Argentina, they generally must obtain authorization to explore and exploit lithium through the execution of a license, concession, or some similar agreement authorizing them to extract natural resources belonging to the state. Disputes may arise under these license or concession agreements for any number of reasons, including the alleged failure to pay adequate royalties or to explore and exploit in accordance with the required standard of care or under the expected timetable.

For example, a dispute arose from a concession agreement between Chile's development agency, Corporación de Fomento de la Producción, and one of its lessees, Albemarle Corporation, pursuant to which Chile initiated two separate ICC proceedings against Albemarle: one in 2019, regarding the level of preferential pricing to companies willing to invest in lithium materials, and another in 2021 for allegedly underpaying royalties.[17] While the 2019 arbitration settled, Chile's 2021 arbitration remains pending.

In the lithium industry, as in many other mining industries, disagreements are also particularly likely to arise in relation to changing regulatory policies, including specifically in relation to environmental and social issues, as well as water use issues. Because lithium mining may generate environmental impacts, and given that lithium mining requires significant amounts of water and is often carried out in extremely arid climates, environmental, social, and water use regulations may have a substantial impact on lithium extraction activities. This impact in turn may lead to disputes under license or concession agreements, as the economic equation upon which these agreements were based may be substantially altered.

2. Joint Venture Agreements

Joint ventures are undertakings in which two or more parties – in the case of the LTCs, commonly a state-owned enterprise and a private company or companies – agree to share risks, resources, and profits. Joint ventures are a widely used mechanism in the mining industry generally and in lithium mining specifically for spreading risk and ensuring state participation, especially in Bolivia and Argentina.

Disputes between parties in joint ventures can arise for a number of reasons, such as disagreements

[17] Oliver Hailes, *Lithium in International Law: Trade, Investment, and the Pursuit of Supply Chain Justice*, 25 J. INT'L ECON. L. 148 (2022), https://academic.oup.com/jiel/article/25/1/148/6529346#341263562.

between parties regarding operations and management, financial obligations, equitable sharing of revenues, and environmental concerns. Disputes can also arise when parties engaged in a joint venture attempt to sell part of their stake to a third-party without the other party's consent. This recently occurred in Chile when the Chinese mining company, Tianqi, purchased a stake in SQM from a Canadian shareholder.[18] Although SQM and the Chilean government raised objections to the sale, a Chilean court ultimately allowed the transaction to proceed.[19] This has also occurred outside of the LTCs, such as in the Democratic Republic of the Congo, where a joint venture between the Australian company AVZ Minerals and Jin Cheng Mining Company and Congolaise d'Exploitation Miniere ("Cominière") has led to several claims in an ICC arbitration after Cominière and Jin Cheng Mining Company attempted to terminate the joint venture and transfer a 15% interest to another company, which AVZ alleges was improper.[20]

In some cases, joint ventures can fail before they have even been finalized. Bolivia entered into a joint venture in 2018 with ACI Systems Alemania ("ACI"), a German company.[21] The joint venture would have resulted in ACI's investment of US $1.3 billion in exchange for the rights to build a lithium hydroxide plant and a factory for electric vehicle batteries in Bolivia.[22] After a number of civil protests over allegedly low royalties in the city of Potosí, the joint venture was terminated on November 3, 2019.[23] This collapsed joint venture serves as an example of how difficult it can be to conclude and operate joint ventures, especially if there is little social license.

3. Offtake/Streaming Agreements

Offtake and streaming arrangements are an important source of financial support in mining extraction projects, as they provide revenue certainty through agreements to purchase specified amounts of product at specified prices, as well as strategic value to investors by securing access to certain levels of lithium product output. Under these agreements, prices and quantity are often agreed upon at the outset, which may generate disputes in the event that changed or unexpected conditions undercut the logic of the agreed prices or the agreed quantities cannot be supplied or received. Disputes may also arise when one party attempts to unilaterally terminate the agreement, which may be an especially salient concern in the lithium industry given shifts towards the nationalization of resources.

4. Construction Agreements

At the outset of a lithium project, it is common for companies to sign construction agreements to govern the civil engineering works necessary to get a lithium mine ready for operation. Construction agreements, which typically take the form of Engineering, Procurement and Construction ("EPC") contracts or Engineering, Procurement and Construction Management ("EPCM")

[18] Antonio De la Jara, *Tianqi Buys Stake in Lithium Miner SQM from Nutrien for $4.1 Billion*, REUTERS (Dec. 3, 2018), https://www.reuters.com/article/us-chile-tianqi-lithium-idUSKBN1O217F.

[19] *Id.*

[20] Jack Ballantyne, *Claims Pile up in Congo Lithium Dispute*, GLOB. ARB. REV. (May 16, 2023), https://globalarbitrationreview.com/article/claims-pile-in-congo-lithium-dispute. The estimated damages in the case currently exceed $1 billion USD, and counterclaims have also been brought by AVZ against Cominière, with AVZ recently obtaining interim relief from an emergency arbitrator to stop Cominière from taking further steps to terminate the joint venture.

[21] Daniel Ramos *et al*., *Bolivia's Lithium Partnership with Germany's ACI Systems Hits Snag*, REUTERS (Nov. 4, 2019), https://www.reuters.com/article/us-bolivia-germany-lithium-idUSKBN1XE01N.

[22] *Id.*

[23] *Id.*

contracts, are common legal instruments to govern the construction of mining civil works. Various form EPC and EPCM contracts are used in the mining industry, which must be tailored to the specific construction project. Construction disputes are common, often arising from delays, quality issues, and cost overrun issues.

Benefits Of Arbitrating Lithium Disputes

As the world continues to transition toward renewable energy sources, demand for lithium is expected to grow beyond current supply capacity. As this demand grows, so too will potential disputes. Much of the legal industry's focus has been on the potential for disputes between foreign investors and sovereigns, given the relatively novel legal regimes in various lithium-producing countries and the potential impact of future regulatory changes.[24] Such investor-state disputes or any resulting disruptions could spawn additional actions – and in particular, commercial disputes – among other entities in the lithium value chain, which would likely have cascading consequences for other contracts and contractual parties, given the interrelated nature of the agreements and parties.

Given the potential for disputes all along the lithium value chain, building strong dispute resolution provisions into commercial arrangements will be crucial in maintaining the success of lithium-related projects over the long-term. International arbitration – as the preferred dispute resolution mechanism for many foreign and multinational companies already operating in the mining space in Latin America – may prove to be a useful tool. This is particularly true in situations where multiple contracts comprise a value chain featuring various participants at different stages of construction, development, extraction, and production. Arbitration also allows for disputes to not become mired in the national courts of any one state, which is important when considering a cross-border value chain.

As such, there are issues that both companies and states will need to consider when drafting agreements relating to lithium mining. Companies will need to take care to incorporate bespoke arbitration provisions in order to maximize the potential benefits of arbitration, and should consider, even in the pre-dispute contractual negotiation phase, whether specific clauses relating to consolidation and confidentiality, for example, may ultimately prove helpful. International arbitration would also allow companies to potentially consolidate arbitrations, assuming the clauses are compatible, which is an important consideration when drafting arbitration agreements. In concert, states should consider adding arbitration clauses in their concession agreements as a means of encouraging investment and reassuring investors of effective and balanced dispute resolution. As the lithium industry grows in the LTCs, there are various considerations for both states and private companies, particularly as challenges and potential disputes arise due to the complicated nature of contracts within the value chain. International arbitration is likely to serve as an effective dispute resolution tool in this industry, and provide a way to resolve issues in a manner that preserves the continuation of the value chain.

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[24] *See, e.g.*, Juan Pablo Escudero, *The Latin American Lithium Industry is at a Crossroads*, LEGALPLANET (Apr. 20, 2023), https://legal-planet.org/2023/04/20/the-latin-american-lithium-industry-is-at-a-crossroads/.