STATE OF THE LITHIUM INDUSTRY

CHILE 2024

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A

PURPOSE OF THE REPORT AND INTRODUCTION TO THE SUBJECT

Images: SteveAllenPhoto999

The following report has been developed within the framework of the project “Responsible Mining for Future Technologies”, executed by the Chilean-German Chamber of Commerce and Industry (AHK Chile) and financed by the German Federal Ministry of Economic Affairs and Climate Action (BMWK). The objective of this document is to gather public information and systematize it for dissemination among stakeholders in both countries.

Lithium (Li), also known as “white gold”, is one of the world’s best known light metals. In Chile it is found naturally in brines from salt flats, geysers or geothermal fields. It is used for energy storage due to its high electrical conductivity and electrochemical potential, making it one of the world’s most important chemical resources for advancing the energy transition and leaving fossil fuels behind.

During the last few years, demand for lithium has increased significantly due to its use in the production of lithium-ion batteries, which are key to the development of cell phone batteries, computers, the pharmaceutical industry and the development of electric mobility and non-conventional renewable energy.

The largest lithium deposits in the world are found in the so-called “lithium triangle”, which includes countries such as Chile, Argentina and Bolivia, where about 85% of the world’s natural brines and 50% of the world’s metal is found. But there are also reserves in the United States, China, Zaire, Russia, Serbia, Australia, Canada, Austria, Brazil, Zimbabwe and Finland, although to a lesser extent (source: Cochilco).

Today, the global boom in lithium production has raised a series of questions regarding its demand, extraction, use and value added, among other issues, such as the adjustments

it may bring about in the mining labor market or the incentives for new investments.

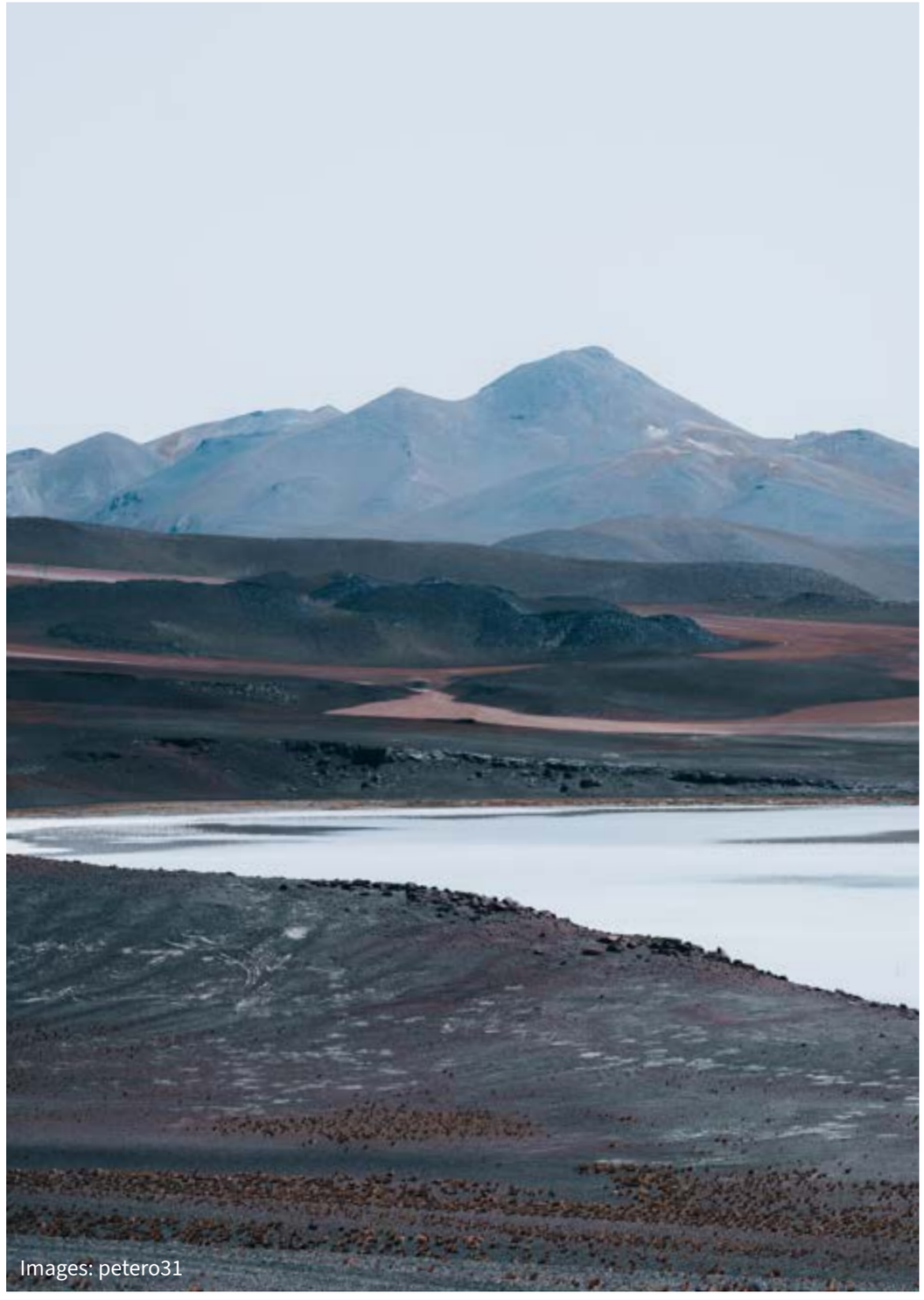
Considering the historical links between Chile and Germany in the field of cooperation in mining and mineral resources, AHK Chile observes that the development of the Chilean lithium industry may offer opportunities for research, technology transfer or supply that can enhance German cooperation, either by strengthening current initiatives or by connecting new public-private actors interested in supporting or financing lithium initiatives.

In the case of lithium between Chile and Germany, there are several instances of cooperation, both funded by private and public entities, and an active contribution to initiatives such as participation in the mirror committee of the National Institute of Standardization to negotiate ISO standards for battery materials, among others.

However, previous reports have noted that local authorities have perceived that Germany´s approach to lithium and its stakeholders is not clearly priorizing one of the aspects ofsecuring supply, ensuring responsible sourcing, or engaging with communities and creating value.

It is worth noting that there is a gap between how Germany's strong interest in being part of the Chilean lithium industry is articulated institutionally and the actual results in terms of active participation in Request for Information processes, tenders or specific expressions of interest to participate in investment and project development. As will be shown later in this report, by this moment the German industry will not participate in any lithium projects under development in Chile.

However, the Chilean perception remains favorable to German institutions and companies, all of which are highly valued. A partnership with German industry to produce lithium and value-added products such as cathodes would be welcomed and celebrated.



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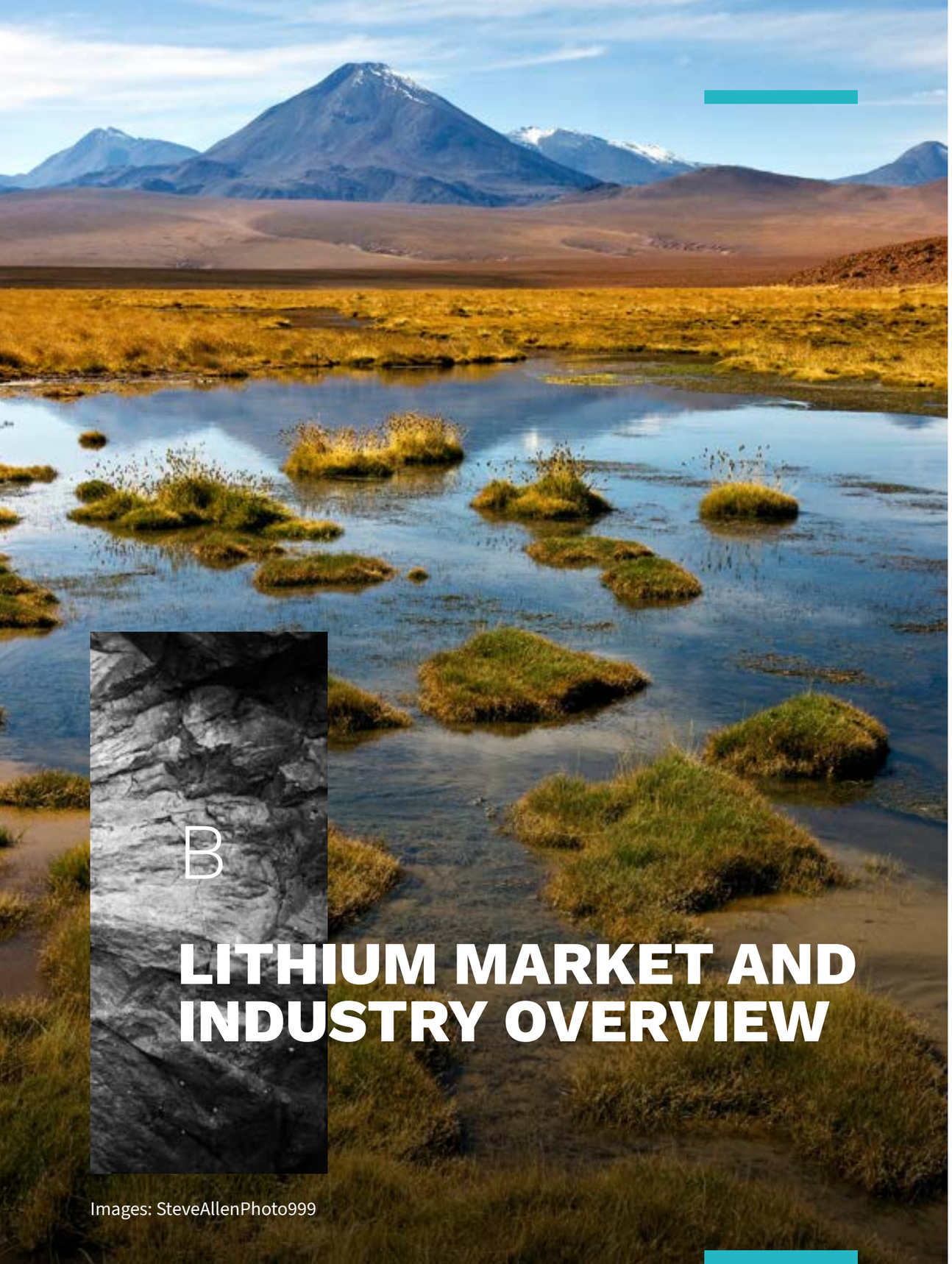

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LITHIUM MARKET AND INDUSTRY OVERVIEW

Images: SteveAllenPhoto999

Within the framework of the challenges and opportunities facing 21st century society in the struggle to mitigate and adapt to climate change, with a focus on carbon neutrality, the boom in the lithium industry worldwide has generated great economic and geopolitical expectations, especially in those territories that possess the resource and see the possibility of moving towards a sustainable productive development model.

Electromobility and renewable energies represent a global challenge capable of redefining the economic model, offering the industry of strategic minerals, such as lithium, copper, cobalt or rare earths, the possibility of making rapid and sustainable progress towards environmental protection in terms of recycling, energy storage and the development of new technological solutions focused, for example, on increasing the density of lithium batteries to increase the autonomy of electric vehicles.

In terms of market trends that point to the massification of electric mobility, the penetration rate of battery electric vehicles and plug-in hybrid electric vehicles (BEVs and PHEVs) in terms of sales will continue to rise from 16.8% in 2023 to a projected 19.8% by the end of 2024. (source: Cochilco).

In this context, measuring the impact of extractive operations on the surrounding environment and communities is one of the first steps in initiating any initiative related to Li. In this way, countries such as Chile and Australia are making it a priority to ensure that decisions on mineral production are made collectively, through dialogue roundtables, consultative spaces, applied research and other participatory and collaborative strategies.

It is also important to continue to seek cooperation among countries that can develop the lithium industry, not only at

the production level, but also to generate the scientific and technical research that is increasingly needed.

A clear example of this is the cooperation agreement signed by Chile and Argentina in 2022, especially to exchange knowledge and skills for companies and those who will work in them. At the same time, there is a great challenge in terms of innovation and science, because after the arrival of new technologies and the search for respect for the environment, it is increasingly important to have new knowledge in this regard, in addition to being able to generate new competencies and skills for workers who enter this industry.

Images: halfpoint

1 WORLD PRODUCTION

Current lithium production comes mainly from the mining of hard rock minerals and continental brines, with the most abundant resources found in brine deposits, which contain 54% of global lithium reserves. Lithium-rich deposits are located in the Lithium Triangle, formed by northern Chile and Argentina and southern Bolivia, which concentrates between 50% and 85% of reserves, followed by China as the next richest source. Hard rock minerals are also geographically concentrated, especially in Australia and China (source: USGS).

For the extraction of continental brine deposits, evaporite technology is used, which is based on the storage of large volumes of brine in open-air pools, where the lithium (along with other ions such as sodium, potassium and magnesium) is concentrated as the water evaporates. It is then sent to a processing plant to obtain lithium carbonate and hydroxide.

In addition to the water loss associated with the process, this method takes between 10 and 18 months to show results and requires a large surface area for evaporation ponds, which experts say is a rigid technique that does not allow it to respond to short-term changes in demand. For these and other methodological and environmental reasons, evaporation technology is being replaced by more sustainable lithium extraction methods with better recovery rates.

Currently, the development of Direct Lithium Extraction (DLE) technologies is advancing in countries such as Germany and the U.S. under the promise of selective production of the mineral with less environmental impact, higher water efficiency and lithium recovery rates (close to 80-90%) and up to 20 times less land use compared to traditional evaporation methods (source: Goldman Sachs, 2023).

On the other hand, hard rock lithium accounts for 26% of world production, with countries such as Australia, China, Zimbabwe and Brazil exploiting deposits in pegmatites (spodumene, petalite, lepidolite), the rocks containing the lithium, which are mined using conventional open pit mining techniques. This ensures a much shorter average production time and allows, for example, a direct transition to lithium hydroxide production from sources such as spodumene.

By 2023, Australia accounted for 70% of production from pegmatites, followed by China with 17%. Meanwhile, production from brines is concentrated in Chile with 65%, followed by China with 22% and Argentina with 12% (source: Plusmining, 2023).

According to the United States Geological Survey (USGS), Australia led world lithium production in 2023, with an estimated volume of 86,000 metric tons (LME) in early 2024. Chile and China were second and third with 44,000 and 33,000 metric tons, respectively.

It is worth noting that between 2010 and 2023, global production increased tenfold, and the countries that increased their production the most in absolute terms are Australia, Chile and China (source: ECLAC). Global production is concentrated in a handful of companies, with the two largest lithium producers (Albemarle and SQM) accounting for 53% of global production in 2022. Just six operating companies control nearly 80% of the world's lithium production, and it is expected that the reserves of these large producers will begin to decline, requiring them to replenish their reserves to maintain the same level of production.

2 GLOBAL DEMAND

World lithium demand in 2023 reached 920 thousand tons of lithium carbonate equivalent (LCE), 27% more than the previous year. And for 2024, demand is projected to reach 1,129 thousand tons (LCE), an increase of 22.7%. According to estimates, it is expected that the growing trend will continue, reaching 1,404 million tons of LCE in 2025. (source: Cochilco).

This increase would be strongly induced by the production of lithium-ion batteries, given that they are the device with the greatest potential to drive electromobility in the automotive sector and, to a lesser extent, the source of consumption of battery energy storage systems (ESS), e-bikes and electronic devices.

Thus, lithium-ion batteries accounted for 84% of demand in 2023 and the segment focused on electric cars accounted for 62% of it. It is therefore expected that the consumption of Li as a critical material for the manufacture of batteries and the transition to an economy with a high share of renewable energies will continue to increase to 1,250 thousand tons, equivalent to 89% of the total by 2025.

It is important to note that China is by far the largest consumer of lithium for the battery industry with 52% of the total, followed by Europe with 25%. The Asian giant is also the leader in battery production capacity, with a total of 893 Gwh in 2022, or 77% of the global total (source: Cochilco).

Images: SkyNextphoto

3 OFFERS AND PRICES

As in all mineral markets, the supply of resources is determined by the exploration budget. In 2023, 26.5% of the exploration budget will be allocated to Latin America, which is considered the region with the greatest potential and mining resources.

As for lithium, from 2010 onwards, a budget for its exploration began to be allocated worldwide, reaching 1.1 % of the total budget. By 2023, this proportion has increased to 6.5% of the total, distributed mainly among mining powers such as the USA (26.7%), Canada (20.9 %) and Australia (20.3%) and geographical areas of Asia Pacific (15.5%), Africa (8.8%) and Latin America (7.6%).

According to Chilean Copper Commission (Cochilco) data, in Chile the lithium exploration budget amounted to USD 25.7 million in 2023, behind Australia (USD 173.7 million), Argentina (USD 139.9 million), USA (USD 128.3 million) and Brazil (USD 40.5 million).

In 2022, expectations of high lithium consumption for electric vehicle batteries, in addition to projections of insufficient supply to meet this consumption, drove the price of lithium carbonate to nearly USD 70,000/ton. Since then, the price has fallen significantly to USD 12,000/ton for carbonate and USD 12,100/ton for lithium hydroxide at the end of July 2024.

The main reason for the decline is the failure to meet electric car sales forecasts made in 2023. These estimates have decreased by approximately 7% compared to those

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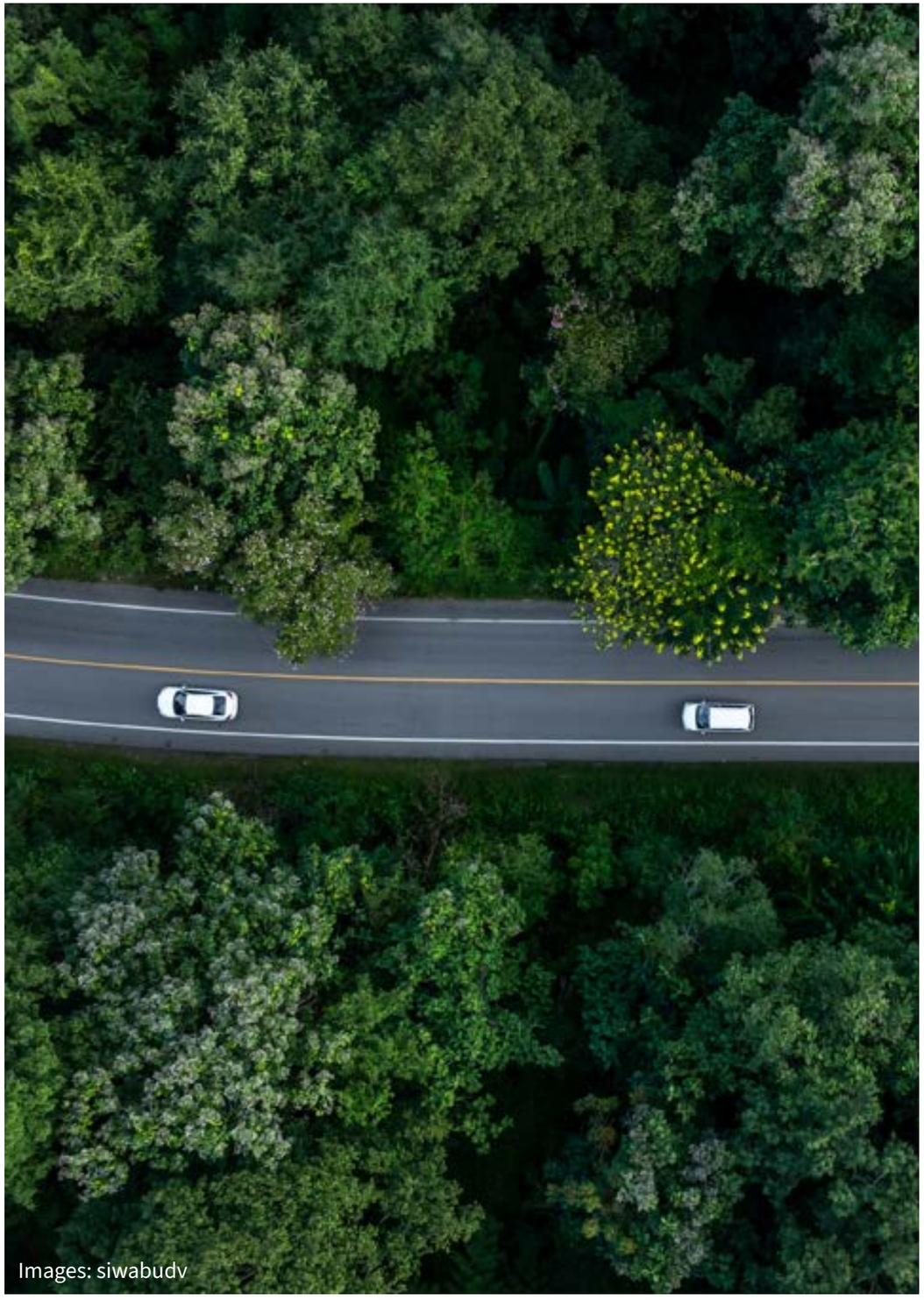
made this year for a number of reasons, including lower than expected sales of electric vehicles, the end or reduction of subsidies for the purchase of these vehicles in the countries with the most relevant car markets, the increase in the purchase of plug-in hybrid electric vehicles (PHEV), the reduction of lithium inventories by purchasing companies, and an increased supply of lithium in the market due to the commissioning of new projects.

As for the supply of the mineral, 2023 closed with global lithium mine production of 988 thousand tons of LCE, with 1,246 thousand tons expected to be produced during 2024, an increase of 26.1% over the previous year, resulting in a surplus of 117 thousand tons of LCE.

According to forecasts published by the Consensus Forecast report, by the fourth quarter of 2024, average lithium carbonate values would gradually increase to USD 15,950/ton and USD 16,450/ton in 2025. Meanwhile, for the 2029-2033 period, the average price would rise to USD 18,280/ton.

A similar scenario is faced by the price of lithium hydroxide, a resource that is useful in the production of nickel manganese cobalt (NMC) batteries, which are more prevalent in the European and U.S. markets, where buyers are looking for cars with the capacity to travel long distances. The price of lithium hydroxide is forecast to average USD 16,360/ton in the last quarter of 2024 and USD 17,900/ton in 2025, according to the Consensus Forecast report. Between 2029 and 2033, the average price published would reach USD 18,280/ton.

Images: coffeekai



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LITHIUM INDUSTRY IN CHILE

Images: Galyna_Andrushko

Known lithium reserves and mining operations are highly concentrated in a few countries, with Chile having one of the largest reserves concentrated in the Atacama Salt Flats, considered the largest operating continental brine deposit in the world.

It is worth noting that world reserves are expected to triple between 2010 and 2023 as a result of significant prospecting and exploration activities in countries such as Australia, Argentina, China and the United States (source: ECLAC).

1 CHILEAN RESERVES

Chile leads in the volume of estimated reserves per country, accounting for 34% (50 million tons LCE) of the world total, which is estimated at 147 million tons of LCE by 2023. In 2010, known reserves were 53 million tons of LCE, a year in which Chile had 76% of the world's lithium reserves distributed in continental brines, together with other valuable minerals such as potassium, sodium, magnesium, boron and chlorides, among others.

In a 2013 study, the Chilean National Geology and Mining Service (Sernageomin) stated that northern Chile has a privileged geological potential for lithium exploitation: 63 saline environments (45 salt flats and 18 saline lagoons) with different physicochemical and hydrogeological characteristics, located both between the two mountain ranges that make up its geography and neighboring nitrate fields, as well as in Andean and high Andean areas above 3,000 meters above sea level in the Arica and Parinacota, Tarapacá, Antofagasta and Atacama regions.

More than 90% of the total resource is concentrated in the Atacama Salt Flat. Located nearly 270 km from the city of Antofagasta and more than 1,580 km from Santiago, the 3,051 km² salt flat has the best conditions in the world for its exploitation due to the high concentration of lithium found there (an average of approximately 1,500 ppm), the low lithium/magnesium ratio, high evaporation rates due to radiation and low rainfall (source: Sernageomin, 2013).

All these conditions favor the Atacama Salt Flat as a low-cost and very competitive extraction site worldwide. In addition, Sernageomin has determined that there are 18 salt flats in the Antofagasta and Atacama regions that could be of interest for a specific evaluation of their geological potential to host lithium projects, in which case it will be necessary to increase knowledge through detailed exploration.
The State of Chile owns mining concessions in the Atacama, Aguilar, Pedernales and Maricunga salt flats. Corfo holds 36.3% of the established mining property in Atacama, covering 54.6% of its surface, while Enami holds 3% of the exploitation concessions in the Aguilar salt flat. Codelco holds 100% and 18% of the exploitation concessions in the Pedernales and Maricunga salt flats, respectively (source: Sernageomin, 2013).

2 PRODUCTION IN ATACAMA SALT FLAT

The Atacama Salt Flats is the largest lithium brine deposit in the world and is the source of all Chilean lithium production. It has an average concentration of 0.14% to 0.2% (or 1,400 ppm to 2,000 ppm) lithium equivalent or approximately 1,680 mg/l with a brine density of 1.2 g/cc.

During 2020, the SQM and Albemarle operations, the two companies exploiting the brines within the polygons permitted by the lease from Corfo, the state agency that owns mining properties in the Salt Flat, produced 18,000 tons of lithium metal, about 22% of the total world production of 82,000 tons, excluding U.S. production.

The geological nature of the deposit, with a high concentration of lithium, and the climatic conditions of the area, characterized by a high evaporation rate, allow low-cost production. Lithium-rich brines are pumped from the salar aquifer through extraction wells and diverted from the wellhead to a system of evaporation ponds. Through successive stages of evaporation by solar radiation, the initial brine is progressively enriched in its lithium chloride content until a solution with approximately 6% lithium is obtained. The concentration process can take between 12 and 18 months.

The lithium chloride (LiCl) rich brine from the last pond of the production system is transported to chemical processing plants near the city of Antofagasta (Salar del Carmen and La Negra plants) in northern Chile, where it is converted to lithium carbonate, lithium hydroxide or lithium chloride.

3 LITHIUM MINING

Lithium production in Chile began in 1984 in the Atacama Salt Flats. Since 1996, production in metric tons has increased steadily to date, according to data provided periodically by Sernageomin and Cochilco. The first available data shows an initial 14,180 tons of LCE, reaching a total of 124,602 tons in 2020. By 2023, the situation steepened to 270,947 metric tons. For 2024 and 2025, production is projected at 275,000 and 285,000 tons of LCE, respectively.

In this line and observing the lithium compounds produced in Chile for the year 2020, it is possible to identify a higher concentration of lithium carbonate (92%), over the rest of the other compounds such as lithium hydroxide (7%) and lithium sulfate (1%). However, while two decades ago Chile accounted for about 40% of the world market in terms of global production, today this share has fallen to 24%, surpassed by Australia, which leads with 47%. The lack of new development projects and recent competition from other countries such as Argentina and China, which have made significant progress in their respective lithium industries, would explain this decline, along with a regulatory framework that slows the processing of permits and delays the implementation of production initiatives capable of stimulating investment and seizing the unique opportunity to meet the over demand for lithium predicted by 2030 with a permanent and sustainable supply of the mineral.

This was recently reported in a study by the Energy Center of the Catholic University of Chile (PUC), which warns that if urgent measures are not taken to increase the country's competitiveness, Chile's share of the global production market could reach 10% in the next decade.

Regarding its direct competition, the report notes that between 2000 and 2017, Chile only experienced contract extensions and renegotiations with the private companies operating the Atacama Salt Flat (SQM and Albemarle), and only in 2018 was the first Special Lithium Operating Contract (CEOL) awarded. On the other hand, in the same period, Australia made progress with new projects (Mount Marion and Wodgina) that doubled its production capacity between 2010 and 2017. Furthermore, in 2018, Australia added another 50% to its production capacity in a single year with the commissioning of two new projects: Pilgangoora and Bald Hill. (Source: "State of the Lithium Industry" report, Energy Center. PUC, 2024).

For its part, Argentina has seen rapid progress in the development of its industry thanks to a more favorable regulatory framework, which has allowed the growth of lithium production, with several new projects coming online since 2016, such as: Sales de Jujuy, Cauchari-Olaroz in 2023 (Jujuy Province) and recently the Centenario-Ratones project (Salta Province). This portfolio of operating projects, together with four projects under construction and four projects in feasibility studies, could increase Argentina's production capacity tenfold by 2030 compared to 2021.

4 CHILEAN LITHIUM EXPORTS

Since 2016, lithium shipments abroad have grown exponentially in Chile. Figures from the National Customs Service show that exports increased from USD 290 million to nearly USD 1 billion between 2015 and 2018, and then stagnated at an average value of around USD 670 million for the following two years.

In 2022, lithium became Chile's main non-copper export product, generating USD 8,546 million in exports and positioning itself as a key component of the country's economy, accounting for more than 8% of total merchandise exports that year. It has surpassed the exports of consolidated national industries such as fruit and salmon farming. It has also virtually doubled the pulp and paper sector and more than tripled the wine industry.

In 2023, lithium exports amounted to USD 7,823 million, a decrease of 4% compared to 2022. As of May 2024, they accumulated USD 1,590 million, showing a decrease of 65% compared to the same period, in line with the slowdown in the price of lithium on international markets.

In the first 5 months of 2024, lithium shipments were equivalent to 3.8% of total exports, while in 2023 this figure reached 8.3%. These values reflect the economic relevance of the metal in the country's export basket.

Regarding the value of lithium exports by type of compound, Cochilco data (2020) show that since 2019, the main compound exported by Chile corresponded to lithium carbonate.

By 2023, lithium carbonate continued to be the most exported compound with a 77% share of the total. lithium hydroxide and lithium sulfate followed with 13% and 10% of the total, respectively. Lithium sulfate is a chemical compound used in the production of lithium hydroxide.

Overseas shipments of lithium hydroxide in terms of tonnage reached 23,016 tons in 2023, an increase of 51.3% compared to 2022. Cumulative shipments through May 2024 amounted to 8,863 tons, showing a decrease of 11.3% compared to the same period. The average price was USD 43,864/ton in 2023 and USD 13,651/ton in January-May 2024.

Among the main destination countries for lithium exports by 2020 are South Korea, followed by China, Japan, Belgium, the United States and Germany, much further behind are countries such as Mexico, Russia, Canada, Taiwan, Spain, Argentina, Vietnam, South Africa and India.

In 2023, China and South Korea remain among the top destinations for lithium shipments. In 2023, China accounted for 65%, South Korea for 25%, and Japan for 4% (source: Cochilco).

5 HYDROGEOLOGICAL POTENTIAL OF CHILE

Lithium-rich brines are found throughout the Central Andes region of northern Chile. However, these deposits present in the Salt Flats are variable in terms of lithium concentrations and are subject to different climatic conditions (evaporation rates, precipitation rates, wind patterns and ambient temperatures), which affect the ability to economically recover lithium from each Salt Flat and must be considered during the exploration stages.

To date, just over 60 salar systems have been registered in Chile. Only about twenty of these have been evaluated for their economic potential.

The Atacama Salt Flats is the deposit with the largest area and concentration of resources. The second largest documented concentration is in the Maricunga Salt Flats. In 2013, Sernageomin conducted a study of 18 salt flats with geological potential for lithium, potassium and manganese. Of these, the highest concentrations of lithium were found in the brines of the Aguas Calientes Sur, Pajonales, Gorbea, Agua Amarga, La Isla, Aguilar and Parinas salt flats, confirming their high potential as a source of economic concentrations of the element.

Today, the most promising basins after Atacama, not only because of their geological potential, but also because of the status of existing concessions, are Aguilar, Maricunga and Pedernales.

D HISTORY AND LEGAL FRAMEWORK OF LITHIUM IN CHILE

Images: SteveAllenPhoto999

To explore lithium investment opportunities and future development in Chile, it is important to clarify that lithium mining concessions in the country are governed by two coexisting legal regimes. The first is enshrined since 1932 in the Mining Code of the time and considers lithium as any other concessionable mineral, in force until 1979.

It was under this regime that the first lithium concessions were granted, including Corfo's properties in the Atacama Salt Flats (54.6% of the area), Codelco's properties in the Pedernales (100%) and Maricunga (18%) salt flats, and Enami's properties in the Aguilar Salt Flats (3%).

On the other hand, there is the current legal framework that gives it an exceptional, non-concessionable legal status, reserved to the State through regulations such as DL N°2,886 of 1979, the Constitutional Organic Law on Mining Concessions, Article N°8 of the Mining Code and the Political Consti-

Images: SteveAllenPhoto999


Images: diegograndi

tution of the Republic of Chile.

Therefore, it is an exception to the Chilean mining concession system, since the legislation, through Decree-Law No. 2,886 of 1979, reserved it to the State, excluding it from the mining substances that can be concessioned and imposing prohibitions and restrictions on its commercialization. This decree law consecrated lithium as a material of nuclear interest, equating it with natural atomic materials such as uranium and thorium.

Exceptions to this provision were made for properties constituted or in process before January 1, 1979. By means of this decree, the Chilean Nuclear Energy Commission (CCHEN) was also granted the power to authorize any legal act, since it was included in its Organic Law as a substance of "nuclear interest" (1976).

In the same sense, it is also established in the Constitutional Organic Law on Mining Concessions No. 18,097 of 1982 and the Mining Code of 1983, which stipulate that non-concessionary minerals, including lithium, can only be explored or exploited through some of the mechanisms established by the Political Constitution of 1980 in Article 19, N°24, paragraph 10°, that is, "directly by the State or by its companies, or by means of administrative concessions or special operating contracts, with the requirements and under the conditions that the President of the Republic shall establish for each case by Supreme Decree".

Since lithium is a non-concessionable resource, the exploration and exploitation of post-1979 properties are governed by special lithium operating contracts. This legal instrument, together with other existing authorizations, allows public and private companies to extract lithium.

A Special Lithium Operating Contract (CEOL) is a legal title of a contractual nature that authorizes third parties to explore and exploit lithium as a non-concessionable substance, without prejudice to other applicable regulations and administrative authorizations that may be required.

CEOL establishes rights and obligations of the holder, such as compliance with environmental and social regulations and responsible resource management. Besides clearly defines the period during which a company has the right to operate. This period may vary according to the terms of the agreement and phases of each project. Just as the original reason for the unique character that Chilean legislation grants to lithium lies in its quality as a material of nuclear interest, nowadays its strategic character is added - as emphasized in the report of the National Lithium Commission (2015) - due to its great importance in the development of technological applications necessary for the global energy transition.


Images: SteveAllenPhoto999

Likewise, within the framework of the voices that have been raised in recent years to eliminate the non-transferable nature of the mineral, the main justification of the Ministry of Mining to maintain its non-concessionable status is of a geological nature, since the granting of a mining right on a solid mineralized body, as in the case of copper, gold and other substances with similar characteristics, is very different from the granting of a right of exploration or exploitation in a salt flat, where the lithium contained in Chile is found.

In any case, the policy remains a matter of debate: some defend the role of the State in guaranteeing compliance with regulations, while others see the key to liberalize the model in order to accelerate development and attract more investment.
The granting of mining concessions in salt flats can irremediably affect the property of other owners in the same area, thus eliminating the possibility of taking into account the productive, social and environmental aspects of each project to be developed.

Finally, for clarification, the peculiar regime that regulates the concession system (before and after 1979) has created in some foreign investors the erroneous idea that the non-concessionary nature of Chilean lithium means the prohibition to establish mining properties or regular exploration or exploitation concessions in salt lakes or salt flats. Today, the available surface of Chilean salt lakes is almost entirely claimed by mining companies, some of which extract substances such as sodium chloride, potassium, iodine, boron, among others. The exploitation of lithium by these companies, without authorization or concession, is illegal and should be denounced.

INFOBOX: SOME CONSIDERATIONS ON CHILEAN ENVIRONMENTAL LEGISLATION


Images: SteveAllenPhoto999

In Chile, the Environmental Impact Assessment System (SEIA) functions as an environmental management tool for evaluating and predicting the environmental impact that may be caused by projects and activities carried out in the territory. According to the law, any project or activity that may cause environmental impact, including its modifications, can only be executed or modified after an environmental impact assessment has been carried out through the presentation, as appropriate, of an Environmental Impact Statement (EIS) or an Environmental Impact Assessment (EIA).

Therefore, any project or activity likely to cause environmental impact, including its modifications, can only be executed or modified after an environmental impact assessment has been carried out by submitting, as appropriate, an EIS or an EIA.
Submitting a project or activity to the SEIA is a way of proving compliance with applicable regulations and obtaining the respective environmental authorizations. In the case of EIAs, it also makes it possible to determine whether the project or activity mitigates, repairs or compensates for the environmental effects it generates.

As established in the current legal framework (Law No. 19.300/1994 on the General Basis of the Environment - Mining Code), in general, in the case of non-metallic mining projects (i.e. lithium), it is always considered the environmental interest and impact, so this exercise is carried out prior to the execution of the project or activity and is therefore based on a prediction of the evolution of the environmental components in scenarios with or without the execution of the project.

The Chilean government is currently discussing in Congress a bill to reform Law No. 19,300 and modernize the SEIA to prevent environmental impacts, strengthen citizen participation and ensure its effectiveness.

The main objective is to provide certainty and improve processes to reduce processing times without lowering the environmental standards of the assessment.

E

DISTRIBUTION OF CURRENT CHILEAN LITHIUM PRODUCTION

Images: petero31

Lithium is currently extracted in the Atacama Salt Flat through leases assigned to SQM and Albemarle by the Chilean Economic Development Agency (Corfo), an entity under the Ministry of Economy.

The importance of the Atacama Salt Flats to the Chilean lithium industry began in 1962 when the US-based Anaconda Copper Mining Company, then operator of the Chuquicamata copper deposit, discovered salt water while exploring the basin in search of water for its operations. Analysis of the chemical content of the brine revealed high concentrations of lithium, potassium, magnesium and boron, prompting the Ministry of Mining to request a study of the Atacama Salt Flats in 1969. In 1974, the lithium reserves and the excellent conditions of the salt flat were confirmed, making it possible to exploit the brine at a lower cost than in the United States.

Since 1978, Corfo has owned 32,768 mi-

Images: Reuters

ning concessions in the Atacama Salt Flat, covering a total area of 163,840 hectares, most of which are covered by DL No. 2,886 of 1979, which exempted mining concessions established before that date from the non-concession of lithium.

Between 1980 and 1982, Corfo transferred 3,344 mining rights to Chilean Lithium Society (now Albemarle), subject to a conditional position under the defined basic agreements. Of the remaining 29,424 mining rights held by Corfo, 1,370 rights were ceded to Chilean Lithium Society in a buffer strip called "no man's land".

The road to consolidate the exploitation of the Atacama Salt Flats began in November 1983, when Corfo issued a call for tenders for 27 studies - valued at US$1.5 million - containing all the necessary information for those wishing to enter the potassium and lithium business. This offer was the foundation of a business for which Corfo was seeking partners with financial backing for the exploration and, later, the exploitation, production and marketing of potassium, boron and lithium until 2030.

Corfo contributed the studies and 16,384 of its mining concessions in Atacama. In January 1986, the deal was finalized with a contribution of USD 4.5 million from the consortium formed by the North American company Amax Exploration Inc. and the Chilean company Molibdeno y Metales (Molymet). Sociedad Minera Salar de Atacama, better known as Minsal, was born. Amax had control with 63.75% of the rights, while Molymet took 11.25% and Corfo kept the remaining 25%. It was then that the two contracts were signed, which would be the basis of Chile's "lithium policy" for the next three decades.

The first contract, 80 pages long, defined the role of each partner, the conditions under which the initial evaluation phase would be carried out, and the changes that would be made once the production phase began, which was not expected until 1992. The second contract, signed in April 1986, leased the 28,054 mining concessions to what is now SQM, under a regime of exploitation of 16,384 mining concessions and 11,670 with a prohibition of exploitation ("Reserve Area").

Finally, through Corfo and after a series of controversies and lawsuits for non-payment of commissions, the Chilean State negotiated new contracts with Rockwood (currently Albemarle) and SQM in 2016 and 2018, respectively, achieving a greater participation in revenues. This is due to the fact that the royalties were determined by a graduated, progressive and marginal commission rate (from 6.8% to 40%) for the different lithium compounds, i.e. lithium carbonate and hydroxide.

In the same way, the result of the conciliations allowed budget decentralization through direct contributions in favor of the regional government; participation of the communities close to the productive processes through resource transfers that they receive directly from the producing companies; incentives for the productive chains of lithium value addition; quota reserve at a preferential price for industrialization projects of the resource; and financial resources for innovation, research and development that are channeled through Corfo's investment programs.

As part of these contract amendments, and after nearly five years of extensive arbitration, both companies have agreed to capacity and production expansions that will take place between 2020 and 2025, in addition to their own development plans.

Images: John Moore/Getty Images

Images: Reuters

1 SQM: CAPACITY AND PRODUCTION

SQM has some of the lowest costs in the industry. It can exploit the world's richest brine deposit and use an evaporation process that consumes far less fresh water, chemicals and energy than the hard rock mining used in Australia, the world's leading lithium producer.

By the end of 2022, SQM reported a capacity of 180 kt of lithium carbonate. And through the Carmen Lithium Plant Capacity Expansion and Production Optimization Project, the company is working to gradually increase its installed capacity to 270 kt/a.

On the lithium hydroxide side, SQM realized the third phase of its expansion plan at the Salar del Carmen salt flats in 2022, reaching a hydroxide production capacity of 32 kt/year. In addition, the Board of Directors approved the expansion of domestic hydroxide capacity to 100 kt/a, which will require a total investment of USD 360 million in addition to the previously announced capital expenditure plan. This expansion is expected to be operational by 2025. This is in addition to the September 2022 announcement of the purchase of a plant in China to produce up to 30 kt of lithium hydroxide from Chilean lithium sulphate. Thus, between domestic capacity and capacity in China (from sulfate production), SQM projects a capacity of 130 kt of lithium hydroxide.

In September 2022, SQM announced its sustainable innovation project, Salar Futuro, with an investment of nearly USD 1.5 billion to develop new lithium extraction technologies, which, according to the company, implies a 50% reduction in the use of fresh water, in addition to achieving carbon neutrality. The initiative has not yet entered the environmental impact assessment phase and also requires the approval of CCHEN for the extraction and commercialization of lithium, as well as the finalization of the definitions of the agreement reached with Codelco.

In April 2024, SQM announced an investment of USD 2.44 billion for the period 2024-2025, of which USD 1.44 billion will be invested in the expansion of its lithium production capacity in Chile, while USD 340 million will be invested in the Mount Holland lithium plant in Australia and in exploration in that oceanic country. This implies allocating 73% of its Capex to lithium, a mineral that accounted for 70% of the company's revenues in 2023.

In this way, SQM continues to increase its production capacity in Chile. By the end of 2023, its chemical plant reached 200,000 metric tons of lithium carbonate, and during 2024 SQM expects that capacity to rise to 210,000 metric tons.

The mining company is also working to expand its total lithium hydroxide capacity in Chile to 100,000 metric tons by 2025.

In addition, as part of its international expansion plan, SQM partnered with Australian miner Hancock Prospecting to submit a joint bid for 100% of Azure Minerals, a company that controls a lithium megaproject in Western Australia. The transaction was finalized in May 2024 for USD 1,116 million.

SQM's interest in the company is focused on the development of the Andover Project, an initiative that preliminarily reports resources of between 2.5 million and 9 million tons of lithium carbonate.

Images: Shutterstock

2 ALBEMARLE: CAPACITY AND PRODUCTION

In 2023, the U.S.-owned company, which shares 3.5% of its lithium sales with the indigenous communities of the Atacama Salt Flat, produced a total of 54,359 metric tons of LCE for USD 1.63 billion.

Following the expansion of its La Negra III/IV carbonate chemical conversion plant in Antofagasta and technology improvements implemented in 2022, Albemarle increased annual capacity to over 80,000 metric tons per year and reduced freshwater consumption by up to 30%.

At the end of May 2024, Albemarle signed a new agreement with Corfo to resolve the dispute they had been having since 2021 over the calculation of royalty payments. This agreement between the two parties provides Albemarle with the option to double its lithium production quota in the Atacama basin by 2043, from 85,000 tons of LCE per year to 170,000 tons per year, potentially making its Chilean operation the company's largest in the world.

The agreement also includes a payment of USD 15.1 million and the condition of using a direct extraction method that does not cause environmental damage and allows for re-injection of brine. To this end, the company has announced an investment of more than USD 1 billion in a direct lithium extraction plant to be completed in the next decade.

Images: Reuters

3 LITHIUM REVENUES TO THE STATE OF CHILE

Estimates made by Corfo in 2018 indicate that the new contracts would generate an additional resource contribution for Chile of more than USD 12,000 million by 2030, distributed as follows: USD 10,900 million for the State (between taxes and royalties); USD 981 million for the Antofagasta region; and a contribution to R&D of USD 352 million. Adding the incremental value of the Albemarle contract for the period 2031 - 2043 would generate a contribution of USD 16,000 million.

By 2022, fiscal revenues from lithium, including payments to Corfo, the specific mining tax, mining patent payments and estimated income tax payments, totaled more than USD 5.4 billion. This represented 1.8% of GDP and 6.9% of fiscal revenues for that year. For comparison, this contribution was more than double the fiscal contribution of Codelco's gross copper, which represented 0.7% of GDP.

However, the sharp decline in average resource sales prices in 2024 meant that Corfo received 87% less in payments from SQM and Albemarle in the first three months of 2024. The government agency received USD 135 million for the lease of its properties in the Atacama Salt Flats, compared to USD 1,046 million in the same period of 2023.

During 2024, the continued decline in the price led the latest public finance report from the Budget Office of the Chilean Ministry of Finance to project lithium revenues of around USD 766 million for the year, less than half of what the agency had estimated for the same period in the last report presented in 2023.

Images: Bloomberg

4 OTHER POTENTIAL PLAYERS IN THE CHILEAN LITHIUM MARKET

With an area much smaller than the 280,000 hectares of the Atacama Salt Flats, Maricunga is the second most interesting basin for lithium extraction in Chile. Located at 3,750 meters above sea level in the Atacama region, its 14,000 hectares of brines contain over 1,000 mg/l of lithium.

Today, several companies have mining concessions that allow them to operate their projects there if they are pre-1979 properties. This left three companies in the equation until 2024: Codelco, Minera Salar Blanco, controlled by Australian junior Lithium Power International, and Simco, with Chilean and Singaporean capital.

In 2018, Codelco requested a CEOL from the Ministry of Mining for the rights it held on about 2,500 hectares on the south side of the salar, representing 18% of the basin's surface area. On top of that, since 2017, it has had an authorization for mining quotas of 325 thousand tons of lithium metal equivalent (LME) until 2057.

After the announcement of the National Lithium Strategy in 2023, Codelco accelerated its presence in Maricunga by acquiring in March 2024 the Australian firm controlling the Salar Blanco project, which was the only one of the three initiatives with an Environmental Qualification Resolution (RCA) approved to date. Thus, with the acquisition of Lithium Power International (LPI), for USD 244 million, Codelco was able to add 2,541 hectares of the salt deposit, adjacent to the other hectares it has in the territory.

However, the Ministry of Mining has yet to issue its opinion on the application to modify the CEOL, which would give the state-owned copper company ownership of the entire salt flat. Including the previous possessions of other actors dating back to 1979.

Thus, the other relevant actor in Maricunga was lodged in the program of Simco, which has opposed Codelco's CEOL expansion request and has 54 thousand LME tons authorized by the CCHEN. In 2018, its project considered USD 350 million to produce 5,700 tons of lithium carbonate and 9,100 tons of lithium hydroxide.

On the other hand, in the Atacama region, the French company Eramet, which inaugurated a large plant in Argentina in 2024 and has rights to the same salt flats that Enami will operate, acquired in November 2023 for USD 95 million the 120 thousand hectares of properties controlled by the Vecchiola family in the Siete Salares sector - Agua Amarga, Parinas, Piedra Parada, Aguilar, La Isla, Grande and Infieles - three of which are part of Enami's lithium project. In fact, Eramet is one of the 12 companies selected in July 2024 by the state-owned company to define a partner for its Salares Altoandinos project in March 2025.

Foreign investors interested in the Chilean lithium market are often confronted with information from two other lithium property and project players in Chilean territory: Wealth Minerals, which promotes its Atacama Salt Flat and Ollagüe properties, and Lithium Chile, which claims a presence in the Llamara, Aguilar, Rio Salado, Coipasa and Aguas Calientes deposits.

However, neither has pre-1979 properties, so their projections are subject to the conditions established by the progress of the National Lithium Strategy.

Finally, the British company Clean Tech Lithium, in collaboration with Sunresin, has advanced the Laguna Verde and Viento Andino projects. The company aims to apply direct extraction in the former and start production in 2025 using geothermal energy, which is highly efficient for heat generation in the DLE process. Thus, in order to be awarded a CEOL, the company reported that it participated in the Chilean government's RFI process. Laguna Verde was recently nominated by the Chilean government as one of the priority salt systems for future projects.

It is important to note that in early October 2024, Rio Tinto achieved an important step that could confirm its latent possibility of partnering with the two state-owned companies for the development of the industry in Chile. This thanks to an agreement reached to acquire Arcadium Lithium, which has 8% of the world market.

Rio Tinto is on Enami's short list to continue the search for an operating and/or financing partner for its Salares Altoandinos project. It is also one of the 12 companies that will be able to test the brines extracted from the basins that make up the area of this initiative.

Meanwhile, Rio Tinto's second option to enter lithium production in Chile is the process underway at Codelco since June 2024 to attract a strategic partner for the development of its project in the Maricunga Salt Flats.

According to Codelco's press release, the goal is to have a defined offer and partner by the end of 2024 or at the latest by the first quarter of 2025.

Images: Bloomberg

5 PLAYERS TO ADD VALUE

To advance the national strategy of downstream value creation, the Chilean government announced investments by the Chinese companies BYD and Yongqing Technology Co. for an amount of approximately USD 500 million in 2023, within the framework of the tenders for lithium carbonate quotas at preferential prices contemplated in the current contracts of Albemarle and SQM with the state development agency Corfo.

In this way, the Chinese companies linked to the quotas referred to SQM would install in Chile, cathode material production plants in the region of Antofagasta.

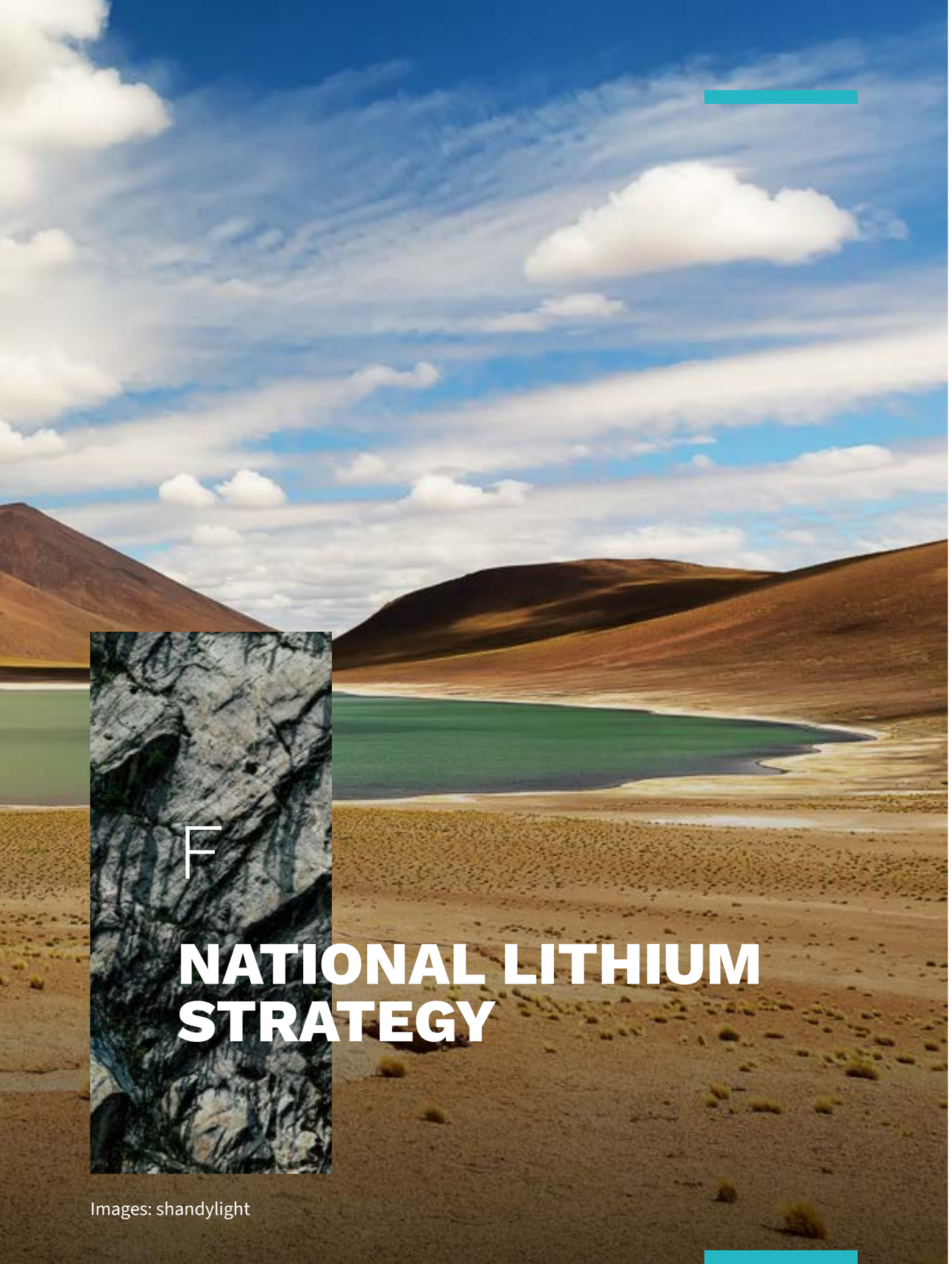
On the one hand, BYD announced a project to install a factory to produce up to 50,000 tons per year of lithium iron phosphate cathode material (LiFePO4 for LFP type batteries), with an estimated investment of USD 290 million, to be operational by the end of 2025.

Similarly, Yongqing Technology Co. plans to commission a 120,000 metric ton per year lithium iron phosphate cathode material plant by 2025 with an estimated investment of USD 233 million.

The preferential lithium carbonate quotas under the Albemarle contract are still subject to tender. The opening of the tender is expected to be announced by the agency in 2024.

Also analyzing opportunities in the lithium market, Summit Nanotech Corporation, a Canadian cleantech organization, opened a facility in the Chilean capital in April 2023 to continue the 2022 implementation of its denaLi™ DLE pilot program with six lithium mining customers. The investment provides additional capacity to expand this direct lithium extraction technology, improve services to potential industry clients, and demonstrate a greater commitment to Chilean communities.

Images: Cristobal Olivares



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NATIONAL LITHIUM STRATEGY

Images: shandylight

On April 20, 2023, Chilean President Gabriel Boric presented the National Lithium Strategy to the public and the world.

This strategy consolidates a vision in which the country has the space to be a world leader in the technological development of lithium production and the opportunity to take advantage of these economic benefits for the well-being of its people and the development of its territories.

In its conception and in the course of its consolidation, this strategy takes into account the various interests expressed in the public debate and by the different stakeholders who play a central role in the development of the industry and in life around the salt flats.

The National Lithium Strategy has seven main objectives that, in summary, contribute to fulfilling the desire to collect more, generate knowledge and learning to develop new industries in the country in a sustainable manner, generate linkages and advance in greater economic complexity, diversify the national productive matrix and promote scientific and technological development, while caring for ecosystems and all the richness of territorial diversity:

1. Sustainable development of productive potential

2. Social and environmental sustainability

3. Technological development and productive linkages

4. Country participation in lithium revenues

5. Fiscal sustainability

6. Stakeholder diversification

7. Contribution to productive diversification and growth potential

To achieve these goals, the strategy considered fundamental strategic definitions. The first is the conviction that the state must be involved in the entire production cycle, from exploration to production, through public-private partnerships and the development of value chains.

It also addresses the need to build scientific and technological capacity in the country, and to promote public-private partnerships, fostering virtuous associations that take advantage of the best of each of the parties involved in such partnerships.

A fourth strategic definition is related to the need to update the institutional framework around lithium and salt flats to take into account the complexity and importance of salt flats and the activities related to the exploitation of the brines and the mineral. Finally, the strategy emphasizes the importance of establishing high standards of social and territorial sustainability related to the involvement of communities through the participation of various stakeholders in the development of the lithium industry, including indigenous peoples associated with the areas of extraction and production. It is relevant to highlight that, according to what has been established by the strategy as the government of President Boric advances in its implementation, Chile is open to the private sector with flexible alternatives for capital contribution technologies, value added or DLE.

While the Chilean state will have a majority stake in the Atacama and Maricunga salt flats through public-private partnerships, the Salares Altoandinos and Pedernales projects of the state-owned companies Enami and Codelco, respectively, could see the private sector take a larger stake. As the National Lithium Strategy has been implemented, its consolidation is progressing around the following milestones:

- Dialogue and Participation Process
- Creation of the Protected Salt Flats Network.
- State participation in the Atacama Salt Flat
- Exploration of new salt flats
- Creation of the Public Technological and Research Institute of Lithium and Salt Flats.

In order to report on the progress of the National Lithium Strategy, the Chilean government has created a website, https://www.gob.cl/chileavanzaconlitio/ which contains an update of its milestones.

1 PROJECTS MANAGED BY CHILEAN STATE-OWNED COMPANIES

To date, state-owned companies Codelco and Enami have made progress in the development of three of the most important lithium projects in Chile.

On the one hand, in March 2024, Codelco signed an agreement with SQM for the continuity and increase of lithium production in the Atacama Salt Flat, with the state's participation in production starting in 2025, thus ensuring a majority stake from 2031. At the same time, in Maricunga, Codelco has consolidated its position with the acquisition of the Salar Blanco project from LPI, and an indigenous consultation process will soon begin for the modification of the CEOL currently in progress.

Meanwhile, National Mining Company (Enami) is leading the Salares Altoandinos project, which includes five saline environments in the Atacama region, and has a CEOL in place since 2022 that is advancing with the corresponding indigenous consultation process led by the Ministry of Mining and in accordance with International Labor Organization (ILO) Convention 169 on Indigenous and Tribal Peoples.

These 3 projects, together with the Pedernales Salt Flat, represent approximately 49% of the country's salt flat area and are the salt flats with the greatest productive potential in Chile.

Images: Ministerio de Hacienda - Chile

1.1 CODELCO-SQM AGREEMENT: STATE PRESENCE IN THE ATACAMA SALT FLAT

On May 31, 2024, Codelco and SQM signed the association agreement that they had announced in December 2023 through a Memorandum of Understanding (MoU). The agreement details all the steps, phases, rights, obligations, terms and conditions of the public-private partnership that will assume the production of refined lithium in the Atacama Salt Flats from 2025 to 2060.

The association, formed by Codelco through its subsidiary Minera Tarar, and SQM, through SQM Salar, will take effect once all legal, regulatory, technical and environmental requirements have been met, as well as the corresponding indigenous consultation process, which is expected to be completed in the first months of 2025.

The agreement states that the objective is to achieve a total additional production of 300 thousand tons of LCE for the period 2025-2030, while for the period 2031-2060 a lithium production of 280 to 300 thousand tons of LCE per year is defined. This increase in lithium production will be achieved by improving process efficiency, introducing new technologies and optimizing operations. This increase will not involve an increase in brine extraction or the use of continental water.

The signed agreement contains the following conditions precedent:

1. The association will be implemented through a joint venture in which Codelco will hold 50% plus one share.

2. The continuity of operations and the respect of the SQM lease until 2030 will be guaranteed, as well as the respect of existing agreements with communities and other social organizations.

3. The plant is expected to become operational during 2025, once the necessary conditions have been met. These include the indigenous consultation process led by Corfo and the fulfillment of all processes and authorizations for the operation, such as: authorization by the Chilean Nuclear Energy Commission, approval by the Comptroller General of the Republic, and various free competition authorizations by the National Economic Prosecutor's Office (FNE) and other foreign authorities.

4. The partnership will have two periods of operation. The first, from the effective date of the association until December 31, 2030, where SQM will be responsible for the general management. And the second period, from January 1, 2031 to December 31, 2060, during which Codelco will be responsible for the general management of the company.

5. The association will be tasked with designing and developing a new production project that will incorporate new technologies to increase lithium recovery while maintaining the highest environmental standards.

In this way, the State of Chile, through Codelco, Corfo and the Treasury, will receive approximately 70% of the operating margin generated by the new production between 2025 and 2030. Meanwhile, as of January 1, 2031, it will receive 85% of the operating margin through payments to Corfo, taxes and the profits received by Codelco as a shareholder.

For the 2031-2060 production period, the agreement stipulates that the companies will submit the project to the SEIA, including indigenous consultation on environmental impacts that could directly affect indigenous peoples.

Currently, both companies are continuing the process of dialogue with the communities of San Pedro de Atacama to achieve their participation in all matters of common interest related to the productive activities of the joint venture, especially in socio-environmental matters, in accordance with ILO Convention 169.

This dialogue process will go beyond the signing of the agreement to reach consensus on human development, socio-environmental and governance issues.

Meanwhile, in August 2024, the FNE initiated the period of investigation or review of the antitrust background necessary for the approval of this association agreement between the two companies.

It is important to note that Tianqi controls 22% of SQM through Inversiones TLC SpA. And since the rapprochement with Codelco was known, the Chinese company has opposed the operation and filed an appeal of illegality in the Court of Appeals of Santiago in order to paralyze the alliance. The appeal was rejected by the court and the decision was upheld by the Chilean Supreme Court on September 4, 2024.

At the end of October 2024, Tianqi filed a new petition with the Court of Appeals of Santiago requesting the suspension of the effects of Exemption Resolution No. 6441 of the Financial Markets Commission (CMF), which determined that the Agreement did not need to be approved by an Extraordinary Shareholders' Meeting of SQM.

Images: Getty Images/Bloomberg Creative Photos

1.2 ENAMI AND SALARES ALTOANDINOS PROJECT: STATE PARTICIPATION IN A PUBLIC-PRIVATE PARTNERSHIP

In March 2024, Enami launched an international technology call to gather information on the advances and opportunities offered by the different alternatives for DLE. This process responded to the challenge of considering the best extraction alternatives with the lowest possible environmental impact in future salt mining, as defined by the Chilean government's National Lithium Strategy, which seeks to bring about a change from traditional mining using evaporation ponds.

Thirty institutions with experience in DLE development from 14 countries responded to the call for technology. After an analysis by a multidisciplinary committee of experts, the state-owned company announced in September 2024 that it would test its brine in 8 laboratories in Australia, Canada, China, the United States, France and UK.

The selected institutions are Adionics (France), CADL - LANSHEN (China), Eramet (France), LiLac Solutions (USA), Rio Tinto (Australia), SLB (USA), Summit Nanotech (Canada) and WaterCycle Technologies (UK).

Similarly, in May 2024, Enami announced the opening of a call for expressions of interest (RFI) to form a public-private partnership for the development and operation or financing of the Salares Altoandinos project. As announced in July, a total of 12 companies from eight countries would be willing to join the initiative.

Empresas interesadas en este proceso fueron: Axionit (Russia); Besalco (Chile); BTR Consorcio (China); BYD Chile SpA (China); CNRG Advanced Material Co. Ltd (China); Eramet Chile S.A. (France); Grupo Errázuriz-IBC (Chile); LG Energy Solution (South Korea); POSCO Holdings Inc. (South Korea); Rio Tinto Mining and Exploration Limited - Agencia en Chile (Australia); Summit Nanotech-HATCH (Canada) y Tecpetrol (Argentina).

In August 2024, after a period of evaluation and analysis of the proposals received, Enami announced the selection of six companies to continue the process and deepen the analysis of the future partner.

Thus, the list of interested parties consists of BYD Chile SpA (China); CNGR Advanced Material Co. Ltd (China); LG Energy Solution, LTD. (South Korea); Eramet Chile S.A. (France); POSCO Holdings Inc. (South Korea); and Rio Tinto Mining and Exploration Limited - Agency in Chile (Australia).
The next step in the process is to negotiate with the companies that are part of this list of interested parties, with whom the technical information on the deposits collected after the exploration campaign developed by the state company in the area will be shared. It is expected that by March 2025 a partner and/or financier will be selected to form the public-private alliance for the project.

It should be noted that the indigenous consultation with the communities in the area, related to the granting of the special operating contract requested from the Ministry of Mining, is in full development. In September 2024, the second phase of the basic exploration campaign was resumed, which will improve the estimation of the lithium resources available in these deposits. To date, 1,350 meters have been drilled at Aguilar and La Isla salar flats. Preliminary data positions Salares Altoandinos as one of Latin America's premier projects.

1.3 CODELCO STRENGTHENS ITS PRESENCE IN THE MARICUNGA SALT FLATS

When the agreement reached with SQM in the Atacama Salt Flats is finalized, Codelco will be able to control 65% of the exploitation of Maricunga once SQM transfers its interests in that basin.

Following the acquisition of the entire Salar Blanco project from LPI, Codelco announced that it will consider binding offers to add value to the project with partners interested in 49% of Maricunga by March 2025, through a process established in June 2024 with the investment bank Rothschild & Co.

Codelco's financial advisor has begun the search for candidates to become partners in what is now called the "Paloma Project," which is expected to begin production by 2030.

To date, the Chilean state mining company has protected the confidentiality of the process in order not to identify the offers received from the participants with whom it is negotiating. And before the end of 2024, the process would continue with the binding phase associated with a short list of offers. Nevertheless, Codelco recently informed the media of the possibility of having a definitive partner by the end of 2024.

Construction of the project is expected to begin in early 2027 and production is expected to start in early 2030. The estimated capital investment is USD 2.3 billion and the project is expected to commence operations in two phases. The first phase is expected to produce 20,000 metric tons of LCE per year through evaporation ponds, and a second phase would add another 30,000 metric tons through direct extraction technology to reach levels of 50,000 metric tons of LCE per year.

The first phase will have a useful life of 30 years, while the second phase will have a useful life of 27 years. The feasibility study is planned for the fourth quarter of 2025. The initial estimated direct production costs are USD 4,696 per ton LCE and USD 4,143 for the direct mining phase.

Paloma is an important bet for Codelco, as it will build lithium production from the ground up, with the goal of leading the state control of the lithium industry.

Images: Ministerio de Hacienda - Chile

2. ENCOURAGE PRIVATE SECTOR TO PARTICIPATE IN THE NATIONAL LITHIUM STRATEGY

In April 2024, the Chilean government issued a call for domestic and foreign investors, companies and consortia to express their interest in developing one or more projects for the exploration and/or exploitation of lithium deposits in the national territory.

The main purpose of the Request for Interest (RFI) process was to gather updated information in order to efficiently design the requirements, conditions, mechanisms and procedures for the granting of Special CEOLs. With this background, the government sought to define the priority deposits where the Chilean state will be able to promote the implementation of private exploration and exploitation projects in the industry. The following areas of the national territory were excluded from this call for expressions of interest:

• The Atacama and Maricunga salt flats, which have been identified as strategic.

• The Pedernales Salt Flat and the Grande, Los Infieles, La Isla and Aguilar salt flats, where Codelco and Enami, respectively, will develop a project through public-private alliances for which they will seek partners.

• Geographical areas that have the category of "National Park", "Natural Monument" and "National Reserve".

• High Andean salt flats and saline lagoons, or geographical areas within them, which the Council of Ministers for Sustainability and Climate Change has entrusted to the Ministry of the Environment to study in order to gather the necessary background information to determine their protection. In July 2024, the RFI process concluded with the receipt of 88 expressions of interest, demonstrating the attractiveness of Chile in areas other than the Atacama Salt Flats for the global lithium market. A highlight was that most of the expressions of interest were in areas that, according to the information available to Sernageomin, would have the greatest geological potential for lithium.

Of the total number of claims, 53 were on 16 salt flats or salt lagoons registered by Sernageomin, while another 28 were on unregistered deposits and 7 were on salt flats or areas excluded from the call.

It is also noteworthy that companies from 10 countries participated, and on average each company or consortium submitted more than one expression of interest. 16% were from consortia or joint ventures of companies, while 84% were from a single company, national or international.

80% of the submissions indicated interest in the use of DLE technologies, a mechanism positioned as an innovative strategy that promises to maximize lithium recovery from brine.

With the information received, between July and September 2024, the Chilean government analyzed the proposals based on factors such as financial capacity, estimated annual production, technology to be used and experience in mining projects, among others.

Thus, at the end of September 2024, the Chilean government announced the first six areas prioritized by the Strategic Council of the Lithium and Salt Flats Committee in the Tarapacá, Antofagasta and Atacama regions for the development of new lithium exploration and exploitation projects in the country. These are the Coipasa, Ollagüe, Ascotán, Piedra Parada, Agua Amarga and Laguna Verde salt flats.

These basins represent 38% of the expressions of interest received and correspond to the basins that have the best feasibility conditions (geological characteristics and environmental aspects) to advance the development of projects.

The Chilean government informed that in order to enable the CEOL allocation process, the corresponding indigenous consultations will be carried out in the first six announced deposits, in accordance with the standards of ILO Convention 169 and Supreme Decree No. 66 of 2013 of the Ministry of Social Development. It should be noted that the Ministry of Mining will grant only one CEOL for each prioritized salt flat or lagoon.

In November 2024, resolutions were published in the Chilean Official Gazette directing the start of the call for the first planning meeting of the indigenous consultation process with the representative institutions of the indigenous peoples associated with the Ascotán, Ollagüe and Coipasa salt flats.

The processes for Laguna Verde and the Piedra Parada and Agua Amarga salt flats in the Atacama region will begin once the indigenous consultations currently underway for the CEOL requested by Enami's Salares Altoandinos project and the modification of Codelco's CEOL for its Maricunga project have been completed.

Once the consultation is concluded in each case and the Supreme Decree establishing the requirements and conditions for the CEOL has been issued, public tenders will be opened. These will take into account the experience of the interested parties in each stage of the lithium industry value chain and the financial capacity of the company or consortium to carry out the project.

However, the process will consider a simplified alternative procedure to expedite the award of CEOLs in the six prioritized salt systems to ensure the prompt execution of the most viable projects.

To qualify for this simplified process, companies or consortia must have experience in any stage of the lithium industry value chain, have the financial capacity to develop the project and, in addition, have a percentage of mining concessions equal to or greater than 80% of the reference polygon in one of the prioritized salt systems.

It was not until October 30, 2024 that the Ministry of Mining published the requirements for access to this simplified alternative procedure for private participation in Laguna Verde and Piedra Parada, Agua Amarga, Ascotán, Ollagüe and Coipasa salt flats.

Those interested in participating in this simplified alternative procedure will have until December 31, 2024 to submit an application for CEOL by saline system, attaching the documents proving that they meet the requirements specified in the resolution published on the website of the Ministry of Mining, www.minmineria.cl

Once the requirements have been verified, the Ministry of Mining will present the applicant with a model CEOL and, if there is agreement between the parties, the contract will be signed only after the indigenous consultation, including any agreements reached therein, has been completed and the Supreme Decree establishing the requirements and conditions of the CEOL has been issued.

Once the requirements have been verified, the Ministry of Mining will present the applicant with a model CEOL and, if there is agreement between the parties, the contract will be signed only after the indigenous consultation, including any agreements reached therein, has been completed and the Supreme Decree establishing the requirements and conditions of the CEOL has been issued.

Finally, on December 5, 2024, the Chilean government has announced that a second listnew group of six priority areas for the development of lithium exploration and exploitation projects in the Tarapacá and Antofagasta regions. These are the Hilaricos and Quillagua Norte sectors in the Tarapacá Region and part of the Antofagasta Region; and the Quillagua Este, Quillagua Sur, María Elena Este and Cerro Pabellón sectors in the Antofagasta Region.

As in the first announcement, a simplified procedure is also being considered in this announcement to speed up the completion of CEOLs in these six priority areas. In the case of the so-called “Cerro Pabellón Sector”, a different procedure will be followed in view of the exceptional situation of the existence of a project for the generation of electricity from a geothermal source currently operating in the area.

Those interested in participating in this simplified procedure will have until January 31, 2024 to submit an application for CEOL by saline systems and deposits will be system, attaching the documents proving that they meet the requirements specified in the resolution published in the last quarter of 2024.on the website of the Ministry of Mining, www.minmineria.cl.

3 PROTECTED SALT FLATS NETWORK

Chile currently has approximately 591,000 hectares of salt flats and lagoons, of which 7.7% are under some category of official protection.

According to the current Chilean Minister of the Environment, this means that salt flats are under-represented in the country's protected areas. For example, San Pedro de Atacama is the area with the largest number of salt flats in Chile - approximately 371,000 hectares - and yet only 6% are officially protected within the Los Flamencos National Reserve (Antofagasta Region). There are also three protected areas under the category of Ramsar Sites, within the framework of Chile's subscription to the Convention on Wetlands of International Importance (Ramsar Convention).

Therefore, the National Lithium Strategy, under the leadership of the Chilean Ministry of the Environment, is committed to the creation of a network of protected salt flats, with the goal of protecting a representative percentage of saline ecosystems (saline lagoons and salt flats), in accordance with the Global Framework for Biodiversity of the Convention on Biological Diversity. In the case of ecosystems with projects, we will seek to ensure the use of low environmental impact technologies.

With the creation of the Protected Salt Flats Network, the Strategy would fulfill the commitment to protect at least 33% of ecosystems by 2030, in line with the aforementioned international commitments.

Based on several criteria for defining the saline systems that will be part of the proposed network, it was determined that their creation requires studies, participation and consultation with indigenous peoples at the appropriate levels.

Since the high Andean salt flats are the areas where the most complete information is available and where there is also the greatest interest in extraction, several ecosystems of high biodiversity value were prioritized early on for protection, in which companies cannot present projects.

Currently, the Ministry of the Environment is making progress in the detailed characterization of each ecosystem in order to assign it a level of legal protection. This process includes consultation with indigenous peoples and citizens.

Some of the salt flats announced as part of the network, such as those of Atacama or Maricunga, already have part of their surface area protected and another declared strategic for the lithium industry. In these cases, the Chilean government's criterion has been to protect the aquifers as subsystems within the saline system. In this sense, the role of the Public Technological and Research Institute of Lithium and Salt Flats (ITIP) will be fundamental in monitoring the aquifers and promoting better extraction techniques to reduce the impact of the industry.

4 PUBLIC TECHNOLOGICAL AND RESEARCH INSTITUTE OF LITHIUM AND SALT FLATS

In order to ensure that the development of the lithium industry is based on scientific knowledge, ITIP has been created, which already has administrative statutes and will have offices in the Antofagasta and Atacama regions.

Its mission will be to generate, apply and share knowledge, technology and information to contribute to the sustainable development of the lithium industry value chain and the sustainable management of the economic, environmental and social value of Chile's salt flats.

The Institute's first board of directors will be composed of representatives from the Ministries of Mining, Environment and Science, Corfo, the regional governments of Atacama and Antofagasta, and the indigenous peoples or ethnic groups whose culture is traditionally linked to the salt flats and their ecosystems.

Its basic lines of research will be:

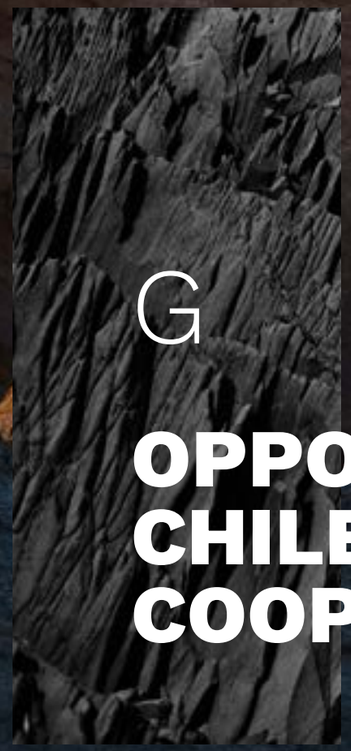
- Technology Research
- Public Outreach
- Socio-cultural impacts of the lithium industry and salt flats

The direct antecedent of this new institute was the competition Thematic Research Rings in Lithium and Salt Flats 2023 of the National Agency for Research and Development (ANID), whose lines of work were defined by a multidisciplinary group of experts based on the main research gaps identified in the field of lithium and salt flats.

As a result of this competition, in July 2024, the Chilean Ministry of Science, Technology, Knowledge and Innovation awarded 6 billion pesos to 10 relevant research projects in the new institutional framework that accompanies the development of the strategy. Advanced technologies for sustainable production, identification of biotechnological potential, impact of the industry on local communities, recycling of batteries and recovery of lithium from electronic waste are some of the diverse research on lithium and salt flats that Chile will fund over the next three years.

In addition, for the first 10 years of ITIP's operation, the national budget for 2025 has allocated a total of 6.25 billion Chilean pesos.

Images: Matyas Rehak/Shutterstock



G

OPPORTUNITIES FOR CHILE-GERMANY COOPERATION

Images: Image-Source

Although the simplified procedure alternative for private participation announced by the Chilean government in the recent announcements of its National Lithium Strategy has been well received by the companies interested in one of the first six prioritized salt systems (for example, Clean Tech Lithium or Wealth Minerals), some industry analysts believe that the government's definition of only one contract per deposit could complicate the allocations where there are more than one holder with mining properties.

The main threat pointed out by experts is that the process could be prolonged or fail due to the possibility of litigation and lawsuits if any of the applicants find that the Ministry has defined forms of allocation that do not favor them. Therefore, allocations to companies that comply with the requirement to hold mining concessions in the priority areas could lead to lawsuits or claims before the Comptroller General of the Republic, questioning the validity of the process.

In addition, considering that, as communicated at the end of September 2024, the indigenous consultations associated with the Coipasa, Ollagüe, Ascotán, Piedra Parada, Agua Amarga and Laguna Verde salt basins would be about to begin, the Ministry of Mining would not be able to evaluate the applications of the private companies until the beginning of 2025, which adds a significant risk to the process of finalizing the award of a CEOL.

Following the announcement of the new phase of the National Lithium Strategy, Chile currently has 12 potential projects: two by Codelco (Atacama and Maricunga), four by Enami (Salares Altoandinos) and six proposals for full development by private investors. This scenario will allow the country to increase its lithium production by more than 70% by 2030 and more than double it within the next decade.

Taking into account this main background on the current state of development of the Chilean lithium industry, it is clear that Chile's ambition is to achieve an expansion of its production in a sustainable manner, taking into account social, environmental and technological dimensions. In this sense, the experience, knowledge and commercial trajectory that countries such as Germany can contribute to all or part of the production and value chain of this industry represent a clear opportunity for linkage and cooperation in strategic aspects such as investment, science, technology and innovation, and sustainable environmental practices.

Germany has an investment stock of USD 3,000 million in Chile (source: estimation AHK Chile), with participation in sectors such as medicine and pharmaceuticals, mining, global services, construction, trade and industry. As the country's fourth largest trading partner, Germany has the potential to increase its investment opportunities and scientific cooperation, especially in the supply of essential minerals to achieve its goal of 80% renewable energy by 2050.

For the German automotive industry, for example, diversifying the supply and processing of lithium raw materials would allow it to increase its resilience in the event of geopolitical tensions in the international production chain. Indeed, Chile is also a strategic partner for Germany in the production of green hydrogen-based fuels, as evidenced by Porsche's USD 75 million investment in HIF Global, a Chilean company that inaugurated an e-fuel demonstration plant in Punta Arenas in 2022.

Images: Ministerio de Hacienda - Chile

1 INVESTMENT/SUPPLY

The development of the lithium industry in Chile has been strongly driven by the progress made in the implementation of its national strategy between 2023 and 2024.

Also, since the legal status of lithium remains non-concessionable and the scenario of stakeholders and projects reported is becoming more defined, the main recommendation in terms of exploration and extraction continues to be to identify opportunities to approach the project portfolios of the two public mining companies, Codelco and Enami, which have been assigned by the national strategy a central role in terms of the presence of the State in the entire industrial cycle of the mineral in the priority salt flats (Atacama, Maricunga, Pedernales and Salares Altoandinos); and in the task of diversifying the participation of stakeholders by seeking partnerships with private companies.

In this regard, the Chilean lithium strategy keeps open the possibility of entering the market with two active simplified procedures for the development of lithium projects through the allocation of CEOLs for a total of 12 prioritized areas. The first of these opened at the end of September 2024 in six salt systems between the Tarapacá and Atacama regions. A second set of six new available fields was released in the first week of December 2024 between the Tarapacá and Antofagasta regions.

To access both simplified procedures, companies or consortia must have experience in any stage of the lithium industry value chain; financial capacity to develop the project; and, in addition, a percentage of mining concessions equal to or greater than 80% of the polygon in one of the prioritized salt systems that meet the background requirements detailed in Exemption Resolution No. 3136 published on December 4, 2024 by the Ministry of Mining.

Those interested in participating in the simplified procedure in any of the 12 priority areas will have until January 31, 2025 to submit an application for CEOL by saline system, attaching the documents proving compliance with the requirements set forth in Exemption Resolution No. 3136.

Images: Cristobal Olivares

Check here for details on the polygons in the first announcement https://n9.cl/i2aa8

Click here to see the polygons prioritized in the second announcement https://n9.cl/41pax

Read here about the Resolution No. 3136 https://n9.cl/jcmdl

According to the Chilean government, the Ministry of Mining will conduct indigenous consultations in order to allocate future CEOLs. At the beginning of November 2024, the resolutions were published in the Official Gazette, ordering the beginning of the consultations of Ollagüe and Ascotán, in Antofagasta, and Coipasa, in Tarapacá. These consultations will have their first planning meeting in the first half of December 2024 in their respective territories.

Once the consultation process is completed in each case and the Supreme Decree establishing the requirements and conditions of the CEOL is issued, public tenders will be opened. These will take into account the experience in each stage of the lithium industry value chain and the financial capacity of the company or consortium to carry out the project.

On the other hand, the process launched by Codelco, with the support of the investment bank Rothschild & Co, to seek a binding offer for its “Paloma Project” in the Maricunga salt flats is still active (see details on page 29 of this report).

With regard to the presence of private actors who claim to have authorized possessions or permits for exploration campaigns or lithium extraction projects in salt deposits in Chilean territory, the recommendation is not to explore agreements if there is no guarantee regarding the legal and regulatory terms that protect these production initiatives within the framework of the definitions and calls of the National Lithium Strategy implemented by the Chilean government.

Any approach to proposals without sound information or without proper regulatory compliance carries a high risk of sanctions by the applicable regulatory and environmental institutions, in addition to the initiation of possible legal proceedings by interested parties that may be affected. Although the CCHEN quotas are only mandatory for the commercialization of lithium, the explicit search for lithium and the obligation to inform the authorities if lithium is found on their properties could be grounds for sanctions.

Images: Cristobal Olivares

Images: Juan Carlos Recabal Diaz

2 TECHNOLOGY

Exploration involves the identification and evaluation of viable deposits where lithium is extracted from natural sources, such as brines, and then the brine is concentrated. This stage mainly involves mining processes, geohydrology, chemical processing to concentrate the brine into lithium and its extraction technology. In this line, since it is still in an experimental phase, the development of extraction technologies and the integral exploitation of the salt flats can be a good opportunity to approach the Chilean lithium market.

Especially since one of the definitions of the current national strategy is to expand the development of the industry while ensuring the environmental sustainability of new projects. To this end, the wide range of direct extraction technologies allows the establishment of alternatives aimed at optimizing the lithium mining industry by producing higher quality lithium at lower cost with shorter time to market.

Likewise, the technological development and the creation of productive linkages with local communities and other economic sectors required by the implementation of the National Lithium Strategy opens a window to explore spaces for collaboration, piloting, knowledge transfer or ventures focused on improving efficiency and competitiveness by adding value and optimizing currently available capacities.

Lithium refining, which concentrates much of the value associated with the extraction and production of the mineral, represents a potential rapprochement for Germany based on its proven practical experience as the only place in Europe where battery-compatible lithium hydroxide is currently refined, in line with the challenges posed by the Critical Raw Materials Act (CRMA) adopted by the EU Council in March 2024, which sets three benchmarks for the annual consumption of raw materials in the EU: 10% locally mined; 40% processed in the EU; and 25% from recycled materials by 2030.

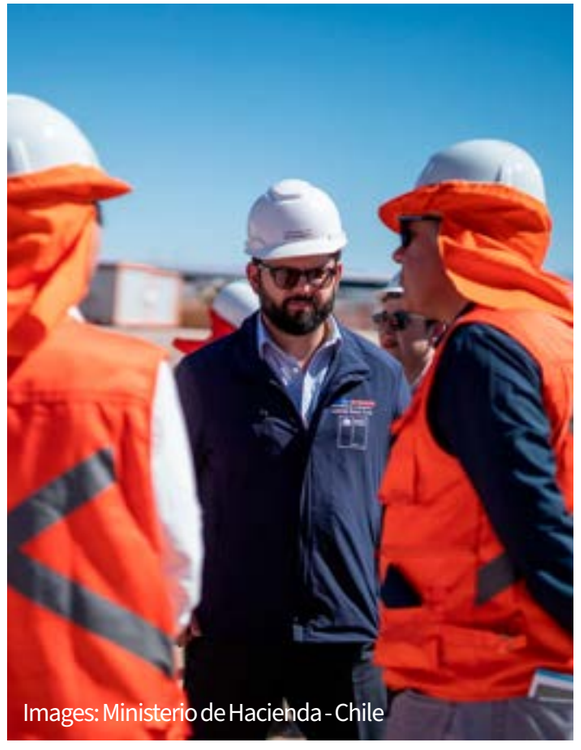
In this sense, Corfo and the Helmholtz Center for Materials and Energy (HZB) of Germany signed a MoU in June 2024, considering the development of lithium applications in batteries and electrochemical industry and for the elaboration of fuels based on green hydrogen.

The alliance will also seek to establish cooperation mechanisms for groundwater monitoring and research and development activities in the use of lithium in new materials and industrial applications, between the German entity and Chilean or German companies or institutions specialized in innovation and development of sustainable energy technologies.

Images: Martin Silva

Another point of interest for Germany is the possibility to participate in the next call for tenders prepared by Corfo for the initial quota of 9,500 tons/year of LCE from Albemarle at a preferential price until 2043 to specialized companies seeking to scale up the mineral value chain and linkages even to solid-state batteries. Germany also has experience and technological developments in this area. This last point is very attractive in Chile because there is a potential demand for energy storage batteries related to the green hydrogen sector, an area in which the Germans have a great advantage and knowledge.

Information on how to participate in the next Corfo call for proposals (no date yet) should be available on https://www.corfo.cl/sites/cpp/productores-especializados in the near future. Once opened, interested parties can send their questions to the following e-mail address: lithiumprojects@corfo.cl



Images: Ministerio de Hacienda - Chile

In any case, it is important to note that Corfo's call is addressed to national and international companies, already established or to be established in Chile, with experience, technical and financial capacities that can be verified, that propose projects for the production of value-added products in Chile, using as an input the lithium produced by Albemarle in the Atacama Salt Flats.

In this sense, the competition seeks to encourage companies to invest and produce value-added products in Chile, such as precursors and/or cathode materials, battery cathodes, other lithium or lithium metal battery components, among other applications.

They are also expected to create capacity and local value, promote technological development, encourage the development of production chains and create conditions for the sustainable development of Chile.

3 INVESTIGATION

With the National Lithium Strategy, Chile is moving forward in creating conditions for research, collaboration and development in the salt flats and their unique, dynamic and fragile ecosystems. The creation of the ITIP and the definition of the Protected Salt Flats Network point in this direction.

Therefore, it is advisable that any bilateral cooperation agreement for research and new knowledge in human capital formation and development related to lithium exploration and exploitation consider collaboration among key stakeholders (companies, local governments, academic institutions, and civil society organizations) with the aim of deepening the innovation challenges related to methodologies for identifying mineral reserves and resources in salt flats, establishing environmental protection standards, and applying new technologies that allow environmentally friendly exploration.

The aim is to explore value creation opportunities both upstream and downstream of the lithium production chain. In particular, there is a lack of scientific knowledge about the geohydrology of salt flats and the subsoil, its climatic and biological conditions, and its chemical composition. In addition, there is the conflict with the local communities over access and use of the resources and the impact of the activity.

In this regard, the proposal to provide incentives from Germany or the EU for the development of salt flat science opens the space to investigate the implementation of new programs or cooperation actions.

This could include possible agreements to support lines of research identified as priorities in a process of dialogue between the scientific community, universities and Chilean ministries. The areas identified are engineering and geology in lithium and salt flats, ecology and biodiversity in salt flats and their relationship to lithium production, social, cultural and territorial development of the lithium industry and salt flats.

This research will allow progress to be made on issues as diverse as new methods of brine and lithium extraction, special uses in batteries other than the traditional ones, recovery and reuse of materials related to the lithium value chain, biodiversity related to salt flats, modeling the impact of salt flat exploitation processes, effective monitoring of ecosystems, social and environmental conflicts in the different basins, the relationship between lithium mining and territorial development, and the balance between new technologies and their possible effects and socio-environmental impacts.

The aforementioned signing of the MoU between Corfo and the Helmholtz Center for Materials and Energy (HZB) in Berlin, Germany, aims to promote the implementation of cooperative research projects, information exchange between HZB and Chilean research institutions or companies in the field of lithium or green hydrogen applications.

Technische Universität Berlin recently initiated a German-Chilean-Bolivian joint project to develop modular separation configurations to reduce the environmental and in particular the water footprint of lithium extraction. Chilean partners are Universidad de la Frontera and Ad Infinitum SpA, German partner is also aqua & waste International GmbH.

Another recent initiative is the planned partner structure BRIDGE (German-Chilean Institute for Element Extraction from Brines and Integrated Geological Reservoir Modeling). The project intends to intensify the already existing German-Chilean partnership of the participating institutions and to establish a virtual institute. The scientific goal is to compare and evaluate raw material extraction techniques for fluids from different reservoirs in Germany and Chile. Karlsruhe Institute of Technology (KIT) manages the project, German partners are the Federal Institute for Geoscience and Natural Resources (BGR), Chilean Partners are Universidad de Chile and the Geological Survey of Chile (Sernageomin).

Fraunhofer Chile CSET, is advancing the development and technological transfer of solutions focused on critical minerals, particularly lithium, to support a sustainable and equitable energy transition. Two flagship projects highlight this mission. First, the Lithium R&D+i Center at Universidad Católica del Norte (UCN) (https://www.lithium.ucn.cl), in collaboration with Fraunhofer ISE, focuses on designing and installing world-class laboratories for lithium battery development and energy storage systems. These efforts include research strategy design, trend analysis, and leveraging Fraunhofer's global expertise. Second, the Battery Second Life project, funded by CORFO, collaborates with UCN to develop infrastructure for testing, categorizing, and repurposing used batteries from public and private transportation for stationary applications, promoting circular economy practices. These initiatives underline Fraunhofer Chile CSET's role in driving knowledge creation and sustainable innovation in Latin America, addressing global energy and environmental challenges.

Images: jocienemelo

TERMINOLOGY

BEV	Battery Electric Vehicle
Capex	Capital Expenditures
CCHN	Chilean Nuclear Energy Commission
CEOL	Special Lithium Operation Contract
CMF	Financial Markets Commission
Cochilco	Chilean Copper Commission
Corfo	Chilean Economic Development Agency
DLE	Direct Lithium Extraction
DL	Decree Law
DS	Supreme Decree
ECLAC	Economic Commission for Latin America and the Caribbean
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EU	European Union
FNE	National Economic Prosecutor's Office
ILO	International Labor Organization
ITIP	Public Technological and Research Institute of Lithium and Salt Flats
Enami	National Mining Company
PHEV	Plug-in hybrid electric vehicle
LCE	Lithium carbonate equivalent
LME	Lithium Metal Equivalent
LPI	Lithium Power International
MoU	Memorandum of Understanding
PUC	Catholic University of Chile
RCA	Environmental Qualification Resolution
RFI	Request for Interest
SEIA	Environmental Impact Assessment System
Sernageomin	National Geology and Mining Service
USD	US dollar
USGS	United States Geological Survey

STATE OF THE LITHIUM INDUSTRY

CHILE 2024

Deutsch-Chilenische
Industrie- und Handelskammer
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