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Lithium Mining in Chile

An overview of socio-environmental
governance of the sector

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Lithium Mining in Chile: An overview of socio-environmental governance of the sector

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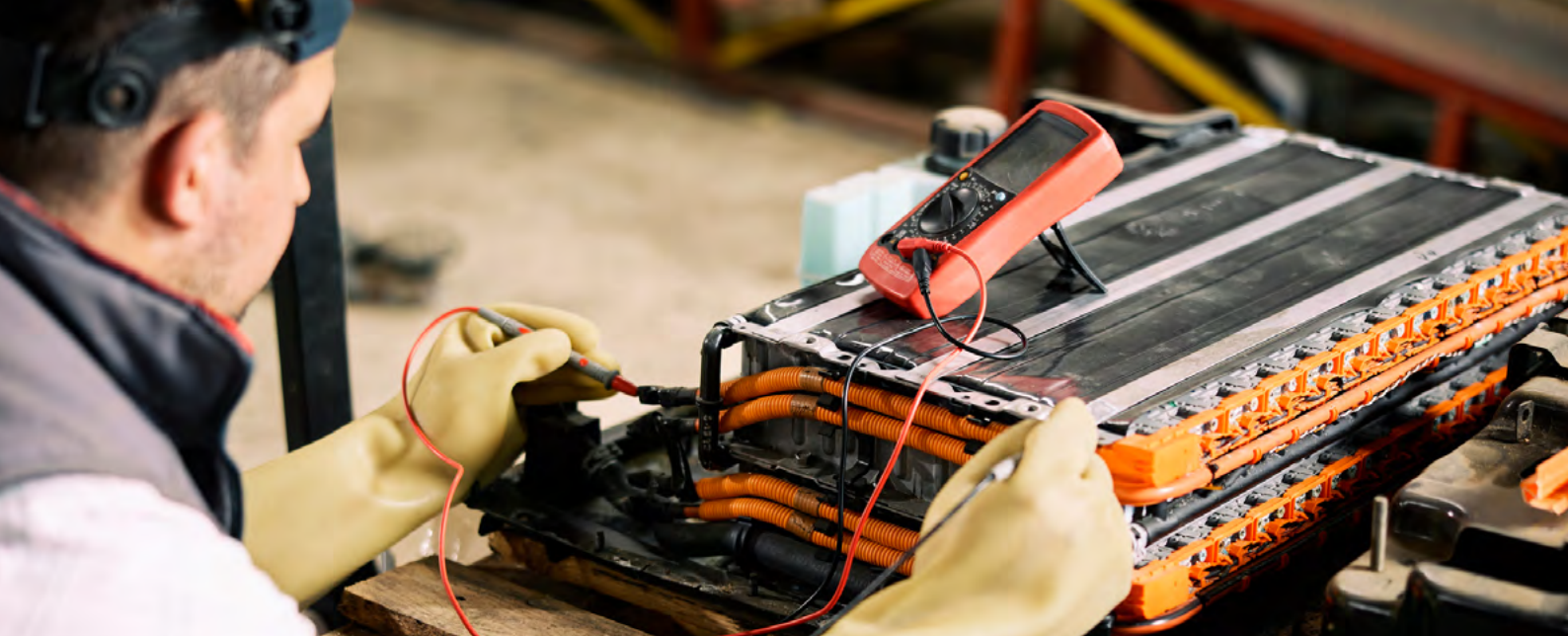


1.0 Introduction

This case study is part of a broader project focused on strengthening supply chain resilience by analyzing the environmental and associated social impacts of critical minerals extraction and processing through the development of country-commodity case studies focused on nickel, lithium, and copper. As the second in the series and one of two on lithium, this case study describes Chile's environmental challenges and associated social issues from lithium extraction from brine and examines the country's policy measures for managing them. Where applicable, differences are highlighted between hard-rock lithium mining and lithium extraction from brine. The conclusions and lessons learned from this case study can be used to guide sustainable brine lithium extraction in Chile as well as other jurisdictions.

2.0 Methodology

This case study is based primarily on desk-based research, including documentation from research papers and news articles. The research was conducted from February to May 2026.



3.0 Context

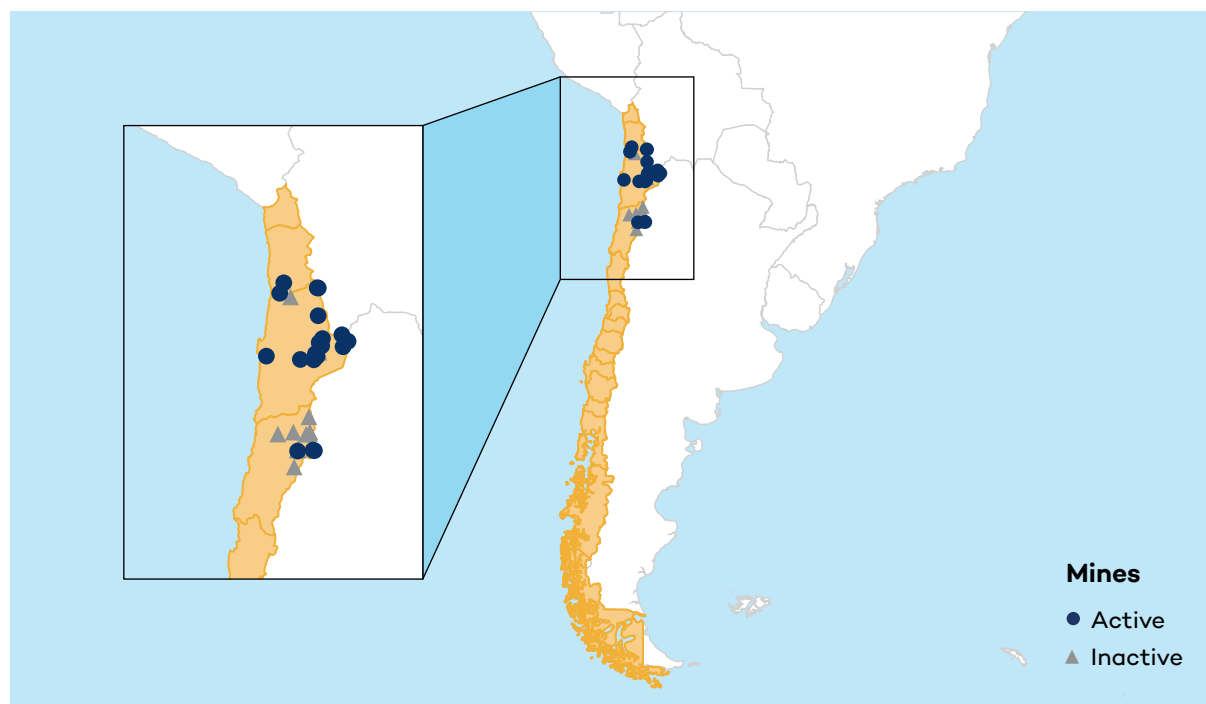
Detailed contextual information is available from two Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF) publications: a country factsheet on Chile (IGF, 2026a) and a commodity profile on lithium (IGF, 2026b). This country-commodity case study draws on these sources and provides a more in-depth view of lithium as a strategic commodity in Chile.

3.1 Geological and Mining Context

Northern Chile is characterized by its salt flats (in Spanish: *salares*), which formed over thousands of years because of geological, morphological, hydrological, and climatic factors (Aylwin et al., 2025). The salt flats formed through the drying of previous lakes and the accumulation of saline materials from evaporated water bodies into basins (Aylwin et al., 2025). These salt flats contain significant amounts of saline groundwater that is enriched in lithium and other elements, such as boron, potassium, and magnesium (Khakmardan et al., 2023). Chile has the world's largest lithium reserves and is the third largest lithium producer in the world, producing 56,000 tonnes of lithium in 2025 (United States Geological Survey, 2026). About 90% of Chile's lithium reserves are located in the Antofagasta region (Figure 1; Pullinger et al., 2025), where lithium has been processed since the 1980s (Aylwin et al., 2023). Other lithium production sites are in the Tarapacá and Atacama regions (Aylwin et al., 2025; Sociedad Química y Minera [SQM], 2023).



FIGURE 1. Map of lithium mines in Chile



Source: Author.

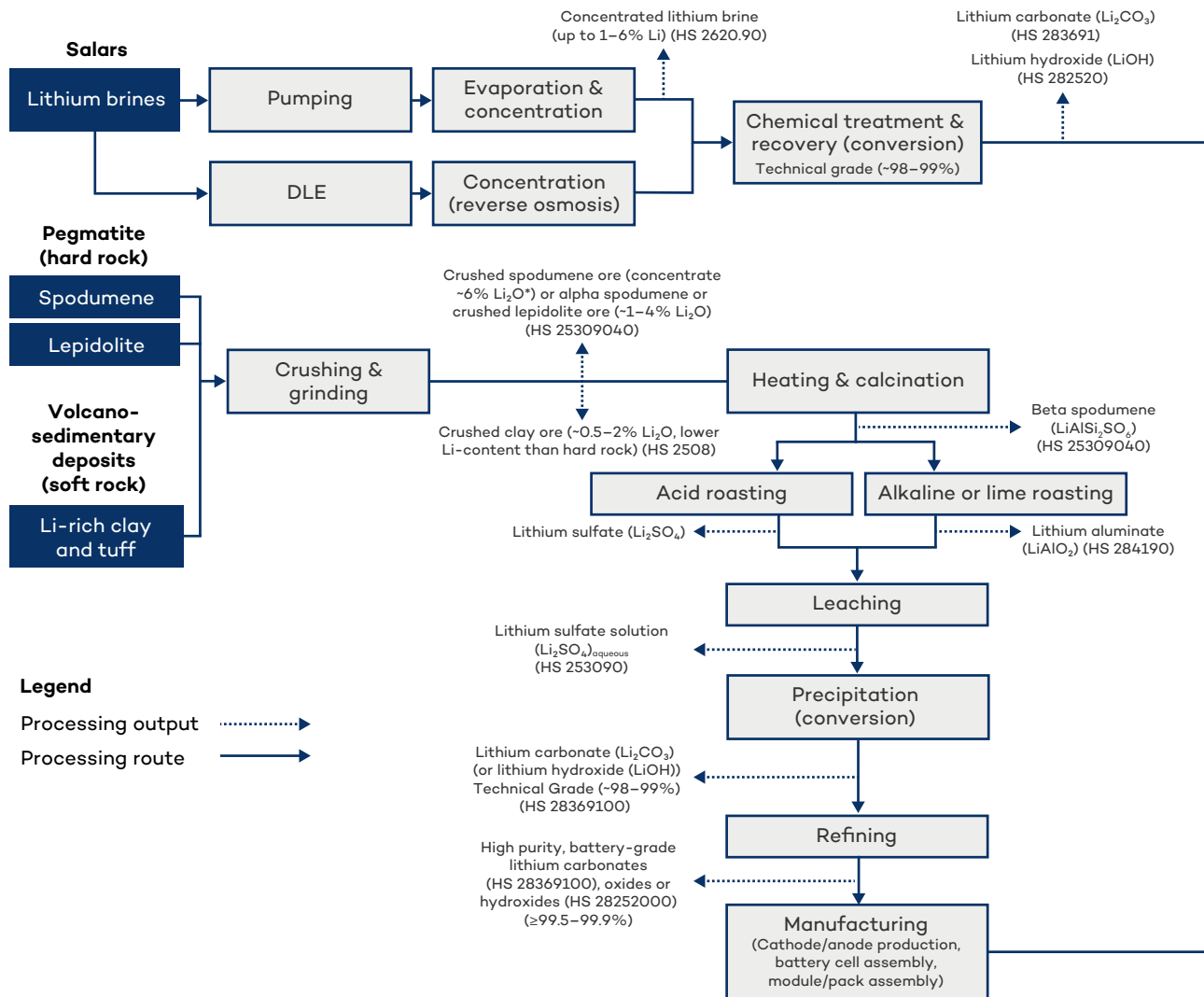
As of 2023, two companies extract and process lithium in the Salar de Atacama: SQM—currently controlled by both a Chilean conglomerate and Tianqi Lithium, a Chinese company—and United States-based Albemarle. In 2025, a joint venture, NovaAndino Litio, was formed between state-owned copper company Codelco and SQM to extract lithium from the salt flats until 2060 (Parra, 2026).

In the South American lithium regions, including Chile, lithium is extracted and processed from brine, unlike in Australia, where it is obtained from ore. Lithium extraction from brine involves pumping the brine to the surface, where it is deposited into large ponds (Figure 2; Universidad de Chile, 2024). As water evaporates, the remaining solution becomes a concentrated brine that is sent to chemical plants for the removal of impurities and to convert lithium into a solid form by adding soda ash and heating (Lagos et al., 2024; Peñaloza-Pacheco et al., 2026). The lithium is then crystallized and dissolved in cold water. This solution is reheated to 80°C to produce battery-grade lithium carbonate (Peñaloza-Pacheco et al., 2026).

More recently, other technologies, such as direct lithium extraction (DLE) to extract lithium from brine, have been piloted in Chile, with one project in the environmental impact assessment (EIA) stage as of 2026. DLE is touted as offering higher lithium recovery rates while also reducing the amount of brine extracted, as well as requiring less energy and land (Lithium Harvest, 2025). This is particularly important considering the Atacama Desert is the driest in the world, and thus, water usage is a challenge.



FIGURE 2. Lithium value chain

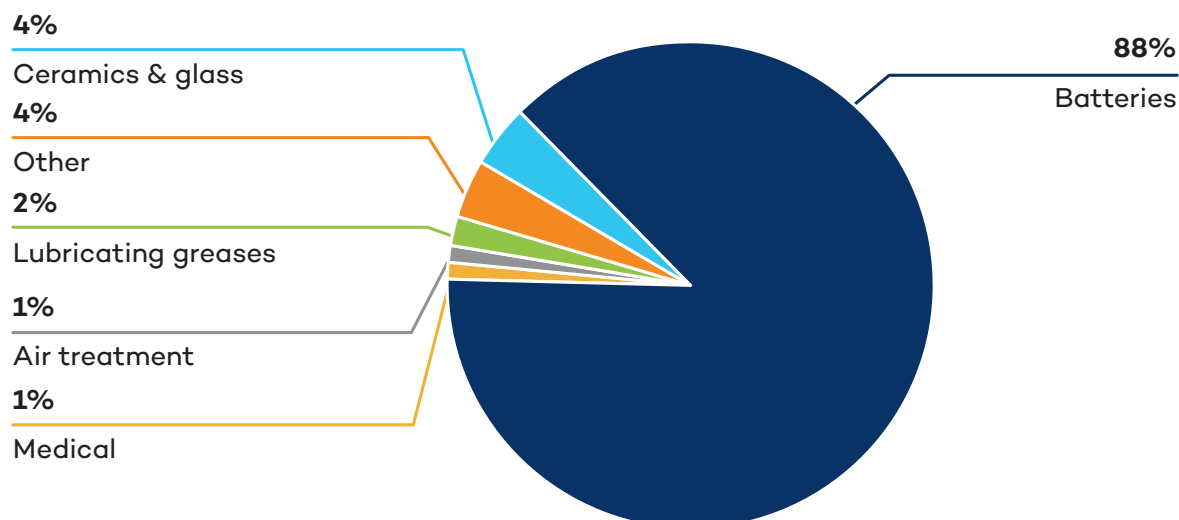


Source: Flexer et al., 2018; Petrakis et al., 2025; Putzolu et al., 2025; Saltworks, 2023.

As depicted in Figure 3, the majority (88%) of lithium is used for batteries, given the increasing market for electric vehicles, energy grid storage, portable electronic devices, and electric tools (United States Geological Survey, 2026).



FIGURE 3. Lithium end uses



Source: Based on United States Geological Survey, 2026.

3.2 Governance and Regulatory Framework

Chile is a unitary republic, meaning that mining and environmental regulations are set at the national level and implemented through the regional offices of national agencies. Environmental assessment runs through the Environmental Impact Assessment System (Sistema de Evaluación de Impacto Ambiental [SEIA]) created by Law No. 19,300 and regulated by Supreme Decree No. 40/2012, Regulation of the Environmental Impact Assessment System. Enforcement lies with the Superintendency of the Environment/ Superintendencia del Medio Ambiente (SMA), created alongside the Environmental Assessment Service by Law No. 20,417, which audits and sanctions compliance with Environmental Qualification Resolutions (Resoluciones de Calificación Ambiental [RCAs]). On mine closure, the National Geology and Mining Service approves closure plans and financial guarantees under Law No. 20,551 and its Regulation (Supreme Decree [DS] 41/2012).

The ownership and exploitation of lithium are constitutionally reserved to the state. Article 19(24) of the Constitution grants the state absolute, exclusive, inalienable, and imprescriptible domain over all mines. Lithium is expressly declared “nonconcessionable” in the Organic Constitutional Law on Mining Concessions (Law No. 18,097) and in the Mining Code (Law No. 18,248, 1983) (National Congress of Chile, 2024a), so exploitation may occur directly by the state, by state companies, through administrative concessions, or through Special Lithium Operation Contracts (Contratos Especiales de Operación de Litio) issued by Supreme Decree. The reservation does not extinguish certain mining rights constituted before lithium was reserved to the State in 1979. Together with contractual arrangements administered by Corporación de Fomento de la Producción (CORFO), those pre-existing rights have enabled private operators in the Salar de Atacama to continue producing lithium. The Mining Code also confirms that *salares* form part of “mines,” and Decree Law No. 2,886/1979 requires authorization from the Chilean Nuclear Energy Commission for sales and exports of lithium and derivatives.



Policy direction comes from the *National Lithium Strategy: For Chile and its People*, launched in 2023 (Government of Chile, n.d.). The strategy keeps the state at the centre of development, prioritizes lower impact extraction technologies and has established the National Institute of Lithium and Salt Flats (Instituto Nacional del Litio y las Salinas [INLiSa]) via Supreme Decree No. 8/2024 of the Ministry of Mining and Supreme Decree No. 34/2024 of the Ministry of Science. The INLiSa was set up to generate, apply, and share knowledge, technology, and information to contribute to the sustainable development of the lithium industry's value chain (Diario Oficial de la República de Chile, 2024). Chile's strategy reflects its international commitments to protect biodiversity via the establishment of protected areas and priority sites for biodiversity conservation in zones that would otherwise be open to hosting lithium extraction operations. The latter has been done through the Protected Salt Flats Network. This network is intended to lift protected coverage of these ecosystems from about 8% to roughly 32% by 2030, in line with the Kunming–Montreal “30 by 30” biodiversity target. In 2025, the Council of Ministers for Sustainability and Climate Change approved the first six protected areas, covering 10 salt-flat and high-altitude lagoon ecosystems in the Atacama Region (Ministerio del Medio Ambiente [MMA], 2025).

3.3 Socio-Economic Context

Gender, Diversity, Equity, and Inclusion

A 2023 global study on women's participation in the mining workforce revealed that Chile had one of the lowest rates of women's participation among the Organisation for Economic Co-operation and Development member countries, at 10% (Ramdoo et al., 2023).

Data from lithium-mining companies shows that as of 2024, 22% of SQM's employees were women and 78% were men (SQM, 2024), a significantly higher percentage than the national average of 10%. The average wage gap in SQM ranged between 31%—for senior management, where women earned only 69% of their male counterparts—to -1%—for supervisors and some technician categories—with women in that group earning on average 1% more than their male counterparts (SQM, 2024). SQM's apprenticeship programs include targeted participation from local communities: 44% of the workforce in the Salar de Atacama SQM mine are local staff (SQM, 2023, 2024).

While not specific to the mining sector, it is important to note that between 2023 and 2024, Chile introduced several legal reforms strengthening gender-equitable labour rights. These reforms include:

- Law on the Reconciliation of Personal, Family and Working Life (Law No. 21, 645), which grants workers caring for children under 14, or for a person with a disability or in a situation of dependence, a right to remote work and related flexibility;
- Law for the Reduction of Working Hours (Law No. 21,561), which gradually lowers the statutory working hours from 45 to 40; and
- “Karin Law” on Labour, Sexual Harassment and Violence in the Workplace (Law No. 21,643), which imposes a preventive duty on employers to prevent sexual harassment and violence (Contreras et al., 2024).

These reforms are directly relevant to mining employment. Remote operations are typically characterized by hierarchical and male-dominated workforces, pronounced power imbalances,



isolation, fly-in/fly-out and camp-based arrangements, heavy contractor dependence, and blurred boundaries between workplace, accommodation, transport, and community space—conditions that heighten the risk of harassment and gender-based violence and make it harder for workers to report (IGF, forthcoming). The Karin Law responds squarely to this environment: it extends protection from repeated conduct to single acts, covers violence committed by third parties such as contractors and suppliers, and places a preventive duty on employers. The working-time and family-reconciliation reforms further address the long rosters and prolonged family separation that have long shaped the sector.

3.4 Indigenous Peoples

Lithium mining in the Salar de Atacama takes place on the ancestral lands of the Lickanantay and Atacameño people¹ (Aylwin et al., 2021; Pullinger et al., 2025). There are over 30,000 Lickanantay and Atacameño people in Chile, who have for centuries depended on agriculture (developed on irrigated terraces) and on livestock breeding (primarily of llamas and alpacas) (Aylwin et al., 2023).

Indigenous communities' attitudes to lithium mining in Chile are divided. Financial contributions from mining have funded essential public services for many isolated Atacameña communities, such as health care and other infrastructure (Parra, 2026). Lithium mining has also created financial opportunities for local communities, including through direct employment as well as the supply of gastronomy and hospitality services to the mining industry (Pullinger et al., 2025; SQM, 2023). However, Indigenous communities are concerned about the environmental impacts of lithium mining (Parra, 2026), which has led to persistent protests and legal claims (refer to Section 4.5 for additional details).

Indigenous Rights

Chile endorsed the United Nations Declaration on the Rights of Indigenous Peoples in 2007 and the American Declaration on the Rights of Indigenous Peoples in 2016, though neither instrument is legally binding. Chile has also ratified International Labour Organization (ILO) Convention No. 169 (2008, in force 2009), a legally binding international convention specifically dedicated to the rights of Indigenous and Tribal Peoples. The convention sets out two distinct consultation duties relevant here: under Article 6, governments must consult Indigenous Peoples on legislative or administrative measures that may affect them directly; separately, under Article 15(2), where the state retains ownership of mineral or sub-surface resources, governments must consult the peoples concerned through established procedures “before undertaking or permitting any programmes for the exploration or exploitation of such resources pertaining to their lands” (Articles 6, 15(2), ILO No. 169).

Chile is one of only two countries in Latin America—along with Uruguay—that do not recognize Indigenous Peoples in their constitutions (International Work Group for Indigenous Affairs [IWGIA], 2024). The constitutional reform proposals put to referendum in 2022 and 2023 were both rejected (Biblioteca del Congreso Nacional de Chile, 2022, 2023). Even so,

¹ The term *Lickanantay* originates from the local Kunza language and translates to “inhabitants of this land.” It refers to the Indigenous Peoples of the Atacama region and is often the preferred term by Indigenous people in the region. *Atacameña* is a broader term that can also refer to all Indigenous people in the Atacama region, including those that identify as Lickanantay. It is often used in legal and administrative contexts.



the ratification of ILO Convention No. 169, read with Article 5(2) of the Constitution (under which human rights treaties ratified by Chile and in force operate as a limit on the exercise of sovereignty) is generally understood to give the convention at least a *supralegal* rank in the domestic legal system, even though its full constitutional rank remains contested.

In Chile, ILO 169's consultation duty is operationalized by two instruments: DS No. 66 of 2013 of the Ministry of Social Development (Reglamento que regula el procedimiento de Consulta Indígena), which governs general administrative and legislative consultations, and the Indigenous consultation procedure of Article 85 of the Reglamento del SEIA (DS No. 40 of 2012 MMA), which governs consultation within environmental impact assessment processes for projects affecting Indigenous communities.

At a national level, the Indigenous Law No. 19,253 (1993), which created the National Corporation for Indigenous Development, requires state administrative bodies to hear and consider the views of recognized Indigenous communities on matters that affect them (Article 34), but it does not impose a general Free, Prior, and Informed Consent (FPIC) requirement. It also establishes the duty of the state to protect Indigenous lands, safeguard their ecological balance, and promote their expansion (Article 1) (Aylwin et al., 2021).

In 2023, Chile enacted Law 21,600 (Barros & Recordon, 2023), creating the Biodiversity and Protected Areas Service and the National System of Protected Areas. The law provides for Indigenous participation in the creation, modification, and management of state-protected areas and requires management plans for protected areas to include Indigenous-representative organizations located within or adjacent to the areas (IWGIA, 2024).



4.0 Environmental and Associated Social Impacts

The environmental impacts of lithium mining in Chile are broad and widespread. They range from greenhouse gas (GHG) emissions to the depletion of scarce water resources and the disruption of fragile desert ecosystems. These impacts are closely related to social issues, such as the consumption of contaminated water, the loss of arable land, and heightened threats to local community sovereignty. The following sections describe the environmental impacts and their associated social impacts in more detail.

4.1 Energy

Brine-based lithium mining is less energy intensive than hard-rock lithium mining (Bostock, 2023). This is because brine extraction does not require conversion, an energy-intensive step required to process ore from hard-rock lithium to hydroxide or carbonate products, which are already produced during brine extraction (Skarn Associates, 2024).

The primary energy source of the salt flats is the sun, since the salt-flat process relies on solar evaporation, reducing the need for additional energy sources. Energy is also derived from diesel fuel and the Chilean electricity grid (Lagos et al., 2024), more than half of which consists of renewable energy sources (Coordinador Eléctrico Nacional, 2026).

4.1.2 Energy Governance

The governance of energy use in Chile's lithium-mining sector is led primarily by the Ministry of Energy (Ministerio de Energía), which is responsible for formulating national energy plans, policies, and regulations. Its long-term policy instrument, Política Energética Nacional Energía 2050, was approved by Supreme Decree No. 148 of 2015 of the Ministry of Energy and subject to its first 5-year update by Supreme Decree No. 10 of 2022.

The Energy Efficiency Law (Law No. 21,305, 2021) imposes binding obligations on large industrial energy consumers, including mining companies. Under Article 2, companies required to report are designated by criteria set every 4 years in a Ministry of Energy decree. These criteria have been established by Exempt Decree No. 163 of 2021, renewed for the second



4-year period by Exempt Decree No. 340 of 2025. Companies required to report must submit their energy consumption annually, by use and their energy intensity, to the Ministry of Energy.

From this reporting group of companies, the Minister of Energy designates a list of Consumers with Energy Management Capacity (Consumidores con Capacidad de Gestión de Energía). Those on this list must implement at least one energy management system covering at least 80% of their total energy consumption, and they must undergo audits every 3 years, as set in the Regulation on Energy Management approved by Supreme Decree No. 28 of 2021 of the Ministry of Energy. An energy management system must include an internal energy policy, objectives, targets, action plans, and energy performance indicators; an energy manager; operational control; and measurement and verification (National Congress of Chile, 2021). The Ministry and the Superintendency of Electricity and Fuels (Superintendencia de Electricidad y Combustibles [SEC]) have issued detailed formats and requirements for verification and audit reporting and for the authorization of auditors, which operationalize these statutory obligations.

To verify and enforce compliance, the SEC is the competent supervisory and sanctioning authority for these obligations, acting under its Organic Law No. 18,410 (National Congress of Chile, 2025) and the general sanctions regulation approved by Decree No. 119 of 1989. Sanctions include fines (and, in regulated subsectors where warranted, measures up to temporary or definitive closure under the SEC's general powers) (National Congress of Chile, 2021, 2025). Recent SEC enforcement actions confirm that this is being applied in practice: in 2025, the SEC issued its first sanctions against three large companies for non-compliance with the Energy Efficiency Law's reporting and audit duties (Diario Financiero, 2025).

Overall, the National Energy Policy (Política Energética Nacional) serves as the Ministry's long-term planning instrument, outlining Chile's energy vision and establishing targets and pathways for major industrial energy consumers, including mining companies (Ministerio de Energía, 2022).

Additionally, under the National Lithium Strategy, the government plans to develop a new institutional framework that incorporates environmental aspects, including the promotion of renewable energy sources such as solar and wind (Government of Chile, n.d.).

4.2 GHG Emissions

On average, the literature shows that brine-based lithium generates approximately two to eight times fewer GHG emissions than hard-rock lithium (Kim et al., 2021; Sun et al., 2025). Lithium carbonate from brine extraction has a GHG emission intensity of 2.8 tonnes of carbon dioxide equivalent (tCO₂e)/t lithium carbonate equivalent (LCE), while lithium carbonate from hard-rock production has a GHG emission intensity of 9.8tCO₂e/t LCE (Kim et al., 2021). According to a 2025 report from the International Council on Clean Transportation (Li et al., 2025), the GHG emission intensity of lithium carbonate from Chilean brine is about 86% lower than that produced from ore in Australia. Lithium hydroxide has a GHG emissions intensity of 5.7 tCO₂e/t LCE while lithium hydroxide from hard rock has a GHG intensity of 17.1 tCO₂e/t LCE (Kim et al., 2021).

The dominant source of GHG emissions from lithium carbonate (Li₂CO₃) is soda ash (Bostock, 2023; Lagos et al., 2024), used to precipitate Li₂CO₃ from brine (Bostock, 2023). The overall emissions intensity is shaped by several factors, including the lithium concentration in the



raw brine, evaporation rate, production method of soda ash, and energy source. Brines with higher lithium concentrations tend to have lower GHG emissions, as less evaporation and fewer chemical inputs are required. When the brine evaporation period is longer, operators accelerate the evaporation process using additional reagents and energy, which increases GHG emissions (Lagos et al., 2024).

Salt lakes contain trapped brines that generate methane and secondary carbon dioxide (CO₂) (Gibert-Brunet et al., 2023). Also, the evaporation process of lithium brine extraction can dry surrounding surface water bodies and wetlands, leading to the release of stored carbon as CO₂ into the atmosphere (Wetlands International, 2023).

4.2.2 Emissions Governance

Chile's overarching climate framework is Law 21,455 (Climate Change Framework Law), which makes the Long-Term Climate Strategy (Estrategia Climática a Largo Plazo [ECLP]) and the nationally determined contribution binding management instruments and mandates sectoral mitigation plans, including for mining. The procedures for drafting, implementing, and updating these instruments are governed by Supreme Decree No. 16/2023. The ECLP sets the sector target most relevant to mining: a 70% reduction by 2050 in direct GHG emissions from fuel use in industry and mining relative to 2018 (MMA, n.d.).

As large industrial emitters, mining operations in Chile are subject to a carbon-pricing regime and cross-cutting climate legislation. Article 8 of Law 20,780, as amended by Law 21,210, levies an annual tax on air emissions of CO₂, particulate matter (PM), nitrogen oxides and sulphur dioxide from establishments whose sources, individually or in aggregate, emit at least 25,000 tonnes of CO₂ per year or 100 tonnes of PM per year (National Congress of Chile, 2026); the scope, the identification of taxpayers, and operational procedures are set by Supreme Decree No. 63/2022 of the Ministry of Environment. Chile also operates a statutory compensation mechanism for the green tax under Supreme Decree No. 4/2023, which regulates projects that reduce emissions to offset taxable emissions.

The Ministry of Environment publishes an annual list of regulated facilities required to report their emissions, while the SMA oversees compliance with monitoring, registration, and reporting obligations (National Congress of Chile, 2026), including through its Sistema de Seguimiento Atmosférico (SISAT, atmospheric monitoring platform) (SMA, n.d.).

4.3 Water

4.3.1 Water Quantity

Lithium extraction from brine is water intensive. Brine lithium consumes 4 to 25 times more water than hard-rock lithium mining (Sun et al., 2025). Water is used for pumping and to recirculate tailings water because of flotation (Lagos et al., 2024). Life-cycle analysis shows that soda ash use accounts for the greatest amount of water consumption of brine-based lithium, since brine is not considered to be water² and thus its effects on groundwater level are not taken into account (Khakmardan et al., 2023); its salinity makes it unfit for human

² It should be noted that some authors argue that brine should be considered water due to its physical properties of molecules and atoms and because of its potential to affect local water cycles (Roche et al., 2025).



consumption, agriculture, and ecosystems (Lagos et al., 2024). However, 90% of the water from the evaporation ponds (Universidad de Chile, 2024) or around 2 million litres of water are lost to the atmosphere during the evaporation process (Wetlands International, 2023).

Water extraction for lithium mining has significantly lowered the water table across the high Andes salt flats, with groundwater levels at the Salar de Atacama falling 15% between 2010 and 2019, exceeding that aquifer's natural recharge rate (Peñaloza-Pacheco et al., 2026; Universidad de Chile, 2024). Research also indicates that the area of the Salar de Atacama is experiencing land subsidence and is sinking by 1 cm to 2 cm per year, where groundwater decline is greatest, though a direct causal link to lithium mining cannot be confirmed (Universidad de Chile, 2024).

The impacts of water extraction are widespread. Reduced soil moisture, including in the Los Flamencos National Reserve, and the drying of surface water bodies have damaged wetland ecosystems, leading to decreased vegetation density, including of alfalfa and tamarugo (Peñaloza-Pacheco et al., 2026). These hydrological changes have also caused the drying and death of carob trees, further contributing to vegetation loss (Sticco et al., 2021).

Reduced surface water availability linked to lithium brine extraction has also contributed to population declines in endemic species such as flamingos (Fernández & Alba, 2023), with two of the three flamingo species in the Salar de Atacama being negatively affected (Gutiérrez et al., 2022). Salt flats are interconnected with surrounding wetlands, which serve as a critical habitat for migratory birds and lagoons that support both migratory and native wildlife (Blair et al., 2022). As water stress intensifies, these ecosystems and the unique microbial and bacterial species they host face the risk of extinction (Blair et al., 2022). Despite many of these areas being designated as Ramsar sites, several are next to or overlap with lithium operations (Blair et al., 2022; Fernández & Alba, 2023).

4.3.2 Water Quality

Water resources, particularly underground ones, risk being contaminated by lithium brine extraction. Without mitigation measures, chemicals such as hydrochloric acid used in evaporation ponds and other waste products from brine can leak into the local water supplies (Koop, 2023). In addition, lithium extraction from brine produces large volumes of saline water, increasing the risk of salinization of underground water reserves, which could harm local ecosystems (Koop, 2023; Wetlands International, 2023). These aquifers sustain lagoons, meadows, and peatlands in the salt flats region, some of which are designated as national parks, reserves, and Ramsar sites (Fernández & Alba, 2023).

Water-Related Impacts on Local Communities

The intensive extraction and use of water resources for lithium mining in the water-scarce Salar de Atacama has significantly reduced the availability of water for local and Indigenous communities for domestic use and traditional livelihoods (Aylwin et al., 2021). Agricultural activity in the area has been reduced due to a lack of available water (Peñaloza-Pacheco et al., 2026) and due to dust coming from lithium evaporation ponds (Aylwin et al., 2021).



BOX 1. THE IMPORTANCE OF WATER FOR LICKANANTAY PEOPLE

Apart from being essential for traditional livelihoods, water sources, wetlands, and landscapes have cultural and spiritual significance for Lickanantay people and have been deemed essential for maintaining their Indigenous culture and the ability to pass Indigenous knowledge across generations (Aylwin et al., 2021). The depletion of water sources (lagoons, rivers, and groundwater) by lithium operations in Chile has led to persistent resistance and protests by Indigenous communities (Parra, 2026). These impacts are not gender neutral: in Lickanantay culture, women are responsible for domestic labour, including agriculture, and are therefore disproportionately affected by environmental impacts that render agricultural labour more difficult (Pullinger et al., 2025).

Chile's Indigenous Act (Law No. 19, 253) contains specific protections for Indigenous water rights. Article 64 recognizes the water located in the lands of Aymara and Atacameño communities—including rivers, canals, irrigation channels, and springs—as belonging to those communities. It also prohibits the granting of new water rights over sources that supply multiple Indigenous communities unless the normal water supply of the affected communities is first guaranteed. The Third Transitory Article further requires the National Corporation for Indigenous Development, the directorate tasked with protecting Indigenous Peoples, and the Dirección General de Aguas (DGA), the directorate in charge of water management, to conclude an agreement (*convenio*) for the protection, establishment and restoration of the ancestral water rights of Aymara and Atacameño communities (Aylwin et al., 2021).

Mining Companies' Commitments on Water

As part of NovaAndino's governance deal, SQM and Codelco have pledged to adopt technologies to reduce water use and mitigate the environmental impacts of lithium extraction (Parra, 2026). In 2023, SQM reduced brine extraction by 25%, aiming to reduce it by 50% by 2030 (SQM, 2023). SQM has also committed to reducing continental water consumption by 40% by 2030 and 65% by 2040 (SQM, 2023).

Water Governance

Water in Chile is governed by the Water Code (DFL 1122) (Ministry of Justice, 1981), administered by the DGA within the Ministry of Public Works. The Water Code is the principal instrument that allocates and protects rights to use freshwater. It was substantially reformed by Law 21,435 of 2022, which prioritizes human consumption, sanitation, and ecosystem preservation in the granting and exercise of water rights and reinforces the protection of fresh water in terrestrial ecosystems.

The Water Code does not regulate lithium-rich brine. Article 1 of the Mining Code (Law 18,248) (National Congress of Chile, 2024a) brings salt flats within the definition of "mines," and brine is treated as a mineral rather than as water. The practical consequence is that brine extraction in salt flats is permitted and conditioned through the mining and environmental regimes—the Mining Code and the Special Lithium Operation Contract on the mining side, and the SEIA's environmental approval, through an RCA, on the environmental side—rather than through the Water Code's allocation and sustainability regime. This matters because it is the Water Code, and specifically the DGA's powers in declared prohibition and restriction



zones (*zonas de prohibición and zonas de restricción*), that control extraction levels in stressed aquifers; brine extraction sits outside that lever and is instead constrained only by the project-specific conditions set in each RCA and supervised by the SMA. In 2023, the SMA signed an inter-agency cooperation agreement with the DGA to coordinate enforcement of water-related obligations in environmental approvals (SMA, 2023).

The “brine-as-mineral” classification is contested. Recent academic work has argued that lithium-bearing brine should be treated as water for purposes of the Water Code, on the basis that brine is hydrologically connected to fresh aquifers and that pumping it can lower water tables and damage freshwater wetlands (Fernández & Alba, 2023).

Chile’s National Lithium Strategy of 2023 commits to growing lithium production in the Salar de Atacama while keeping its aquifers stable, principally through a shift to lower-impact extraction technologies that reduce freshwater use and minimize net brine extraction (Government of Chile, n.d.).

Given that the Water Code still does not regulate brine, those commitments are enforced project by project through each operation’s RCA, with the new Biodiversity and Protected Areas Service, created by Law 21,600 of 2023 (Barros & Recordon, 2023), providing the institutional anchor for protecting the salt-flat ecosystems themselves through inspection and sanction.

4.4 Land Use

Brine extraction (via evaporation ponds) typically requires more land per tonne of LCE than hard-rock extraction due to the significant area taken up by the solar evaporation and processing ponds and infrastructure needed to transport raw materials (Abrishami et al., 2026; Sun et al., 2025). Peer-reviewed studies suggest that land use intensity is approximately 357 m² to 3,660 m² for brine extraction and 335 m² to 525 m² per tonne of LCE for hard-rock mining, depending on infrastructure and site conditions (Abrishami et al., 2026).

Beyond the extensive amount of land required for brine extraction, the process also alters the physical landscape. Large mounds of salt accumulate on the surface of the salt flats, which can contaminate the environment with toxic chemicals such as the diesel used for electricity generation and transportation (Lagos et al., 2024), lime, and organotin used in pond linings (Blair et al., 2022). Magnesium can also be left behind, and in high concentrations it can damage soil properties and vegetation (Niu et al., 2014).

Land-Use Governance

Under Article 39 of Law No. 19,300, the General Environmental Bases Act (*Bases Generales Del Medio Ambiente*), the state commits to ensuring through legislation that soil is used in a rational manner to avoid its loss and degradation (National Congress of Chile, 2024b). Article 10 lists the projects that must enter the SEIA. These include mining development projects (letter i), forestry development or exploitation in native forest or fragile soils (letter m), execution of works in protected areas (letter p), and—as inserted by Law 21,202 of 2020 (*Ley de Humedales Urbanos*)—works that alter urban wetlands, including the alteration of hydric or riparian vegetation and the extraction of peatland vegetative cover (letter s). Whether a project must file an EIA or an Environmental Impact Declaration (*Declaración de Impacto*



Ambiental [DIA]) depends on Article 11's significance criteria and on the SEIA Regulation DS 40/2012 of the Ministry of the Environment.

4.5 Indigenous People's Rights to Consultation

The environmental impacts of lithium mining in the Atacama Salt Flat on the rights of the Lickanantay people, particularly those relating to their lands, territories, water, and culture, have faced ongoing criticism from Indigenous rights groups, including from the Council of Atacameño Peoples (IWGIA, 2024; Aylwin et al., 2021).

In 2021, the Observatorio Ciudadano carried out an Human Rights Impact Assessment (HRIA) with the support of the Council of the Atacameño People (Consejo de Pueblo Atacameños [CPA]). The findings of the assessment signalled human rights risks regarding the right to prior consultation and FPIC; the right to self-determination and definition of development priorities; the right to benefit sharing and fair compensation for the harm caused; the right to land and territory; and water rights (Aylwin et al., 2021). The findings of the HRIA held not only Chile and SQM accountable for mitigating the risks, but also Canada and China (through their companies' prior/current stake in the operations of SQM) (Aylwin et al., 2021).

Under ILO Convention 169 and Chile's Indigenous Law No. 19,253 (1993), the duty to consult Indigenous communities rests with the state, which must consult before authorizing measures or projects that may directly affect them. Mining companies participate in these processes and are expected to contribute to the social and economic development of the communities in which they operate. However, Indigenous groups allege that consultations over lithium-mining projects have not taken place, not followed necessary procedures, or not adequately disclosed data on environmental risks to meet the standard for informed consultation. This has resulted in some notable legal cases, including the following:

- In 2018, the CPA filed a constitutional protection action (*recurso de protección*) seeking to annul the agreement between the state development agency that owns the Salar de Atacama mining concessions and leases them to operators, the CORFO and SQM. The CPA argued that there was a lack of consultation and transparency about impacts on water systems in the 2018 agreement to authorize SQM to continue lithium operations in the Atacama Salt Flat until 2030 (IWGIA, 2024). CORFO and SQM argued that the agreement was merely administrative and did not require consultation (de Vincente, 2018). The legal action proceeded through domestic courts but did not result in annulment of the agreement. The Court of Appeals determined that prior consultation applies only when there is a direct impact on Indigenous communities, not when the possibility of affecting them is hypothetical (Álvarez, 2018).
- In 2025, the Coyo community and the Atacameño Association of Irrigators and Farmers filed a *recurso de protección* before the Court of Appeals, alleging that CORFO had failed to provide adequate time and information for informed consultation on the Codelco–SQM partnership to extract lithium until 2060, and that the consultation did not meet the standards in ILO Convention 169 (Solomon, 2025). In an earlier action brought by the Coyo community against Codelco and CORFO, the Court of Appeals of Antofagasta had already rejected a challenge to the partnership in December 2024, determining that the agreement only established a framework for future association between the companies, and that any actual



exploitation of lithium by the companies in the Atacama Salt Flat was dependent on obtaining environmental permits and conducting Indigenous consultation (El Diario de Antofagasta, 2024). As such, the Court decided that the agreement did not violate the claimants' constitutional rights (El Diario de Antofagasta, 2024).

Though the claims at the domestic level were unsuccessful, the CPA has since escalated these concerns to the Inter-American Commission on Human Rights, alleging a structural failure of Indigenous consultation in lithium governance in the Atacama Salt Flat (Aylwin et al., 2023). No publicly available decision on the admissibility or merits of the claim had been issued by the Commission at the time of writing.

4.5.1 Private Sector Governance on Human Rights

In recent years, lithium-mining companies in Chile have made efforts to align their policies with international human rights frameworks—for instance, SQM has developed a human rights policy and due diligence plan for its operations in the Atacama Salt Flat (Aylwin et al., 2023) on the basis of an external HRIA it commissioned in 2021 (SQM, 2021). The HRIA identified five focus priorities: mitigation of environmental pollution; remediation of environmental pollution; optimization of water use; Indigenous rights and consultation; and citizen participation (SQM, 2021). The company also has community benefit agreements in place focusing on women's empowerment and agriculture, including a community benefit agreement exclusively for women with the Atacameña Women's Alliance (Pullinger et al., 2025). As part of this benefit agreement, local women form part of the advisory committee (co-led by nine women from Atacama and five from SQM), in which they co-create specific areas of intervention and monitor their implementation (Pullinger et al., 2025).

NovaAndino Litio's governance model provides local people with enhanced environmental oversight and governance powers (Parra, 2026). It commits to holding over 100 annual meetings in "good faith" with community representatives from all 25 signatory communities, as well as one-on-one meetings with each community on the hiring of local people and Indigenous workers' protection (Parra, 2026). The communities are also slated to be directly involved in monitoring the project's progress. The model does not give communities a veto right on projects, and the communities continue to be divided over what constitutes positive steps toward meaningful consultation. Concerns also remain around irreparable environmental impacts and the destruction of Indigenous life (Parra, 2026). Nevertheless, it remains a significant improvement on previous governance models toward a more inclusive and sustainable model of lithium mining.



5.0 Strengths and Gaps

5.1 Strengths

Chile Has Developed a National Lithium Strategy

Given Chile's position as a leader in the production of lithium, the government developed a National Lithium Strategy, which aims to guide the industry to incorporate capital, technology, sustainability, and value addition. As part of the strategy, Chile is exploring new technologies such as DLE to help address key impacts on water resources while leveraging enhanced lithium recovery rates.

Transition to Direct Lithium Extraction

Albemarle Corporation has submitted an EIA for its Transition to Direct Lithium Extraction project, marking a significant step toward more sustainable lithium production in Chile. By using DLE technology, piloted at the company's La Negra complex, the project aims to double current lithium recovery rates while reducing brine extraction volumes. According to the company, lithium-depleted brine will be returned to the Salar de Atacama via gravity flow, which it expects will minimize energy use and preserve the Salar's hydrological and geochemical balance (Albemarle, 2026).

Well-Established Laws and Policies to Address Energy Use and Air Emissions

Chile has well-established laws addressing energy use in mining, notably the Energy Efficiency Law, which requires large energy consumers, including major mining operations, to implement energy management systems and report on energy consumption. Responsible for supervision and enforcement, the SEC has issued penalties for non-compliance. Regarding air emissions, Chile has a carbon-pricing regime and cross-cutting climate legislation. Law No. 20,780 applies to the mining sector establishments that exceed the statutory emission thresholds, which must report annual emissions of CO₂, PM, nitrogen oxides, and sulphur dioxide. Further, the Climate Change Framework Law sets a legally binding national GHG target for 2050 and creates a framework for setting sectoral emission mitigation plans, including for the mining sector.

Labour Law Reforms Supporting a Conducive Gender-Equitable Work Environment

Chile has recently made legal reforms to several labour laws that support gender-equitable labour, including Chile's Karin Law on sexual harassment and violence in the workplace, which adopts the preventive duty of employers to address sexual harassment and violence, a widespread risk factor in the mining industry globally. Expanding the protection against acts committed by people outside the formal labour relationship, such as contractors and suppliers, is relevant in the context of the mining sector and ensures a more comprehensive scope of protection than is guaranteed in many other jurisdictions.

Commitments by Lithium-Mining Companies to Adhere to International Good Practice on Human Rights

External, independent assessments that adhere to international principles are critical for capturing risks accurately and suggesting appropriate mitigation strategies. The external 2021 HRIA commissioned by SQM adopted the methodology of the Danish Institute for Human Rights and based its findings on the UN Guiding Principles on Business and Human Rights (SQM, 2021). Following this assessment, SQM has aligned its policies with the UN Global Compact and has strengthened its human rights governance framework (Aylwin et al., 2023). In 2023, SQM's Salar de Atacama lithium mine achieved a performance rating by the Initiative for Responsible Mining Assurance (IRMA) of 75, following an audit by IRMA (SQM 2023; IRMA, 2023).

5.2 Gaps

Contested Definition of Brine

Chile legally classifies brine as a mineral rather than a water resource. Since the Water Code does not cover brine, lithium brine extraction falls outside the DGA's jurisdiction and is instead governed through the EIA process. This creates a lack of clear interpretation on how to govern lithium brine extraction's impacts on water. There is no mechanism to account for the fact that brine extraction can impact fresh water and wetlands, a concern emphasized by some academics and Indigenous groups who do classify brine as water. This illustrates how a water-intensive industry already operating in an arid area is exempt from the country's core water governance framework.

Insufficient Data on Water

The gap in water governance has also produced a lack of reliable data on how mineralized groundwater interacts with aquifers and water balances, as well as knock-on impacts on agricultural activity. Since the DGA does not manage brine extraction, it has little basis to monitor these hydrological relationships. This absence of data creates the risk that brine may be extracted from basins that are already water deficient or have been declared depleted or subject to a prohibition on the granting of new water rights. Without this knowledge, regulators cannot make informed decisions about sustainable extraction levels, and the cumulative impacts of lithium mining on local water systems and agriculture may go undetected until potentially significant damage has occurred.

Weak Implementation of National Law on Consultation With Indigenous Peoples

Although the state is required, under national law and ILO Convention 169, to consult Indigenous communities, inadequate consultation has in practice led to several legal claims concerning lithium mining projects coming before national courts and, more recently, the Inter-American Commission on Human Rights. In 2026, the UN Office of the High Commissioner for Human Rights (2026) called for increased consultation of Indigenous Peoples in Chile on lithium mining, in order to align with the concept of FPIC and secure their right to a healthy environment.

Political Composition of the Regional Comisión de Evaluación

The Comisión de Evaluación that decides on environmental permits is chaired by the regional presidential delegate and composed of regional ministerial secretaries and the regional director of the Environmental Assessment Service (Article 86, Law No. 19,300). This predominantly political composition, together with limited technical capacity at the regional level, has produced inconsistent decisions that are regularly overturned on judicial review. The live reform project, Evaluación Ambiental 2.0, approved by the Council of Ministers for Sustainability and Climate Change (Consejo de Ministros para la Sustentabilidad y el Cambio Climático) and currently in Congress, is partly aimed at addressing these regulatory gaps. However, it is contested by civil-society and Indigenous organizations as a weakening of the system (Chile Sustentable, 2024; MMA, 2023).



6.0 Conclusions

Chile holds the world's largest lithium reserves and is the third largest producer, positioning itself as a major player. While the country's institutional framework addresses many of the environmental issues associated with lithium extraction, some ambiguities remain, particularly around the definition of water, which can leave room for inconsistent interpretation and enforcement.

Brine extraction generally has a smaller environmental footprint than hard-rock lithium mining in terms of energy use and air emissions. However, it occupies more surface area and requires a greater amount of water, which, if not adequately regulated and managed, can pose serious risks to local ecosystems and to the communities that rely on them.

As demand for lithium continues to grow, so too does the responsibility of industry and government to uphold and refine the standards that govern mining practices. Ensuring that extraction meets global demand without compromising the natural environment or the rights of local communities remains a critical challenge. In Chile, the National Lithium Strategy signals a commitment to continuous improvement, and whether it will fully achieve its environmental and social objectives remains to be seen.



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Appendix A. Relevant Chilean Legal Instruments³

TABLE A1. Chilean legal instruments relevant to environmental and social impacts

Type of legal instrument	Title/description of legal instrument	High-level summary of objectives
International instruments		
International convention	International Labour Organization Convention No. 169 on Indigenous and Tribal Peoples in Independent Countries (1989)	Binding international convention that obliges states to consult Indigenous Peoples on measures that may affect them directly and before any program to explore or exploit mineral or sub-surface resources on their lands. In the lithium context, it is the principal international source for the consultation duties engaged in by brine-extraction projects in the Salar de Atacama. It also informs international expectations on benefit sharing and the protection of Indigenous water rights affected by lithium operations.
International framework	United Nations Declaration on the Rights of Indigenous Peoples, 2007	Non-binding United Nations instrument articulating Indigenous Peoples' rights to self-determination, lands and territories, cultural integrity, and Free, Prior, and Informed Consent on measures affecting them. In the lithium context, it sets the international standard against which Chile's consultation and consent practices for Salar de Atacama operations are measured, even though it does not itself create binding domestic obligations.
International framework	American Declaration on the Rights of Indigenous Peoples, adopted by the General Assembly of the Organization of American States on June 14–15, 2016	Regional, non-binding Organization of American States instrument affirming Indigenous Peoples' rights to self-determination, territory, consultation and consent in matters affecting them. It complements the United Nations Declaration on the Rights of Indigenous Peoples within the inter-American system and provides a regional normative reference for Indigenous claims arising from lithium development in Chile.

³ Updated as of May 26, 2026.



International framework	United Nations Guiding Principles on Business and Human Rights, 2011	Soft law framework setting out the state's duty to protect human rights, the corporate responsibility to respect them, and access to remedy. It underpins corporate human rights due diligence and impact assessment practice and is the international benchmark against which lithium producers' policies, due diligence systems, and Salar de Atacama community engagement are assessed.
International convention	Convention on Biological Diversity, adopted at the Earth Summit in Rio de Janeiro on June 5, 1992; in force on December 29, 1993	Multilateral treaty for the conservation of biological diversity, sustainable use, and equitable benefit sharing, supplemented by the Kunming–Montreal Framework and its “30 by 30” protection target. In the lithium context, it provides the international baseline for protecting salt-flat and high-Andean wetland ecosystems and anchors Chile's commitments to expand protected coverage in lithium-producing <i>salares</i> .
International convention	American Convention on Human Rights, 1969, and the Statute of the Inter-American Commission on Human Rights	Establishes the inter-American human rights system, including the commission's competence to examine petitions alleging state violations of human rights. In the lithium context, it is the institutional channel through which Indigenous communities in the Salar de Atacama have escalated claims of inadequate consultation and rights protection beyond Chilean domestic courts.
Domestic instruments		
Constitution	Constitución Política de la República de Chile (1980, con sus reformas posteriores) [Political Constitution of the Republic of Chile (1980, as subsequently amended)]	Chile's supreme legal text. It places mines, including <i>salares</i> , under the absolute, exclusive, inalienable, and imprescriptible domain of the state and channels ratified human rights treaties as a limit on the exercise of sovereignty. It is the constitutional basis for treating lithium as non-concessionable and for exploiting it only directly by the state, state companies, or through Special Lithium Operation Contracts.



Decree	Decreto Ley N° 2.886 de 1979, del Ministerio de Minería [Decree Law No. 2,886 of 1979, Ministry of Mining]	Reserves lithium for the Chilean state and prohibits any juridical act over extracted lithium and its concentrates, derivatives, and compounds unless authorized by the Chilean Nuclear Energy Commission. It is the legal foundation for the Nuclear Energy Commission's clearance for the sale and export of lithium products coming out of the Salar de Atacama.
Law	Ley N° 18.097, Ley Orgánica Constitucional sobre Concesiones Mineras (1982) [Law No. 18,097, Organic Constitutional Law on Mining Concessions (1982)]	Constitutional–organic statute that defines the regime for mining concessions and identifies substances excluded from concession. It expressly classifies lithium as non-concessionable, so its exploitation in Chile is restricted to the state, its companies, or holders of Special Lithium Operation Contracts.
Law	Ley N° 18.248, Código de Minería (1983) [Law No. 18,248, Mining Code (1983)] (National Congress of Chile, 2024a)	Provides the general statutory framework for mining activities in Chile. It brings <i>salares</i> within the legal definition of “mines” and confirms lithium’s non-concessionable status, which is why lithium-bearing brine in the Salar de Atacama is regulated through the mining and environmental regimes rather than the Water Code.
Law	Ley N° 18.410, crea la Superintendencia de Electricidad y Combustibles (SEC) (1985) [Law No. 18,410, creates the Superintendency of Electricity and Fuels (1985)] (National Congress of Chile, 2025)	Organic law of the SEC (National Congress of Chile, 2025), the regulator for electricity, gas, and liquid fuels. It supplies the institutional and enforcement architecture used to supervise and sanction energy-related obligations applicable to mining operations, including the duties imposed on lithium producers under the Energy Efficiency Law.
Ministerial decree	Decreto N° 119 de 1989 del Ministerio de Economía – Reglamento General de Sanciones de la SEC [Decree No. 119 of 1989, Ministry of Economy – General Sanctions Regulation of the SEC]	Procedural regulation governing how the SEC investigates, decides, and imposes sanctions for breaches in its regulated sectors. It is the operational vehicle through which the SEC fines—and where warranted, restricts—large industrial energy users in mining, including lithium operators.



Law	Ley N° 19.253, Ley Indígena (1993) [Law No. 19,253, Indigenous Law (1993)]	Domestic statute on Indigenous rights that creates the National Corporation for Indigenous Development and imposes duties on state administrative bodies to hear and consider recognized Indigenous communities, protect their lands and waters, and promote their development. In the lithium context, it grounds national-level participation duties and the protection of Indigenous water rights linked to the Salar de Atacama, though it does not impose a general Free, Prior, and Informed Consent requirement.
Law	Ley N° 19.300, Ley sobre Bases Generales del Medio Ambiente (1994) [Law No. 19,300, General Foundations Law on the Environment (1994)]	Chile's core environmental statute. It creates the Environmental Impact Assessment System (SEIA) that lithium projects must enter, sets the criteria for choosing between an environmental impact study and a declaration, and obliges the state to ensure rational soil use. It is the principal vehicle through which environmental conditions are imposed on brine-extraction projects and their associated infrastructure.
Decree	Decreto con Fuerza de Ley N° 1.122 de 1981 – Código de Aguas [Decree with Force of Law No. 1,122 of 1981 – Water Code]	The principal statute allocating rights to use fresh water and protecting fresh water in terrestrial ecosystems, administered by the Dirección General de Aguas. In the lithium context, it is the reference point for the unresolved governance gap, since lithium-bearing brine is treated as a mineral and therefore sits outside the Water Code's allocation and sustainability levers.
Law	Ley N° 20.417 (2010), crea el Ministerio del Medio Ambiente, el Servicio de Evaluación Ambiental y la Superintendencia del Medio Ambiente (SMA) [Law No. 20,417 (2010), creates the Ministry of the Environment, the Environmental Assessment Service and the SMA] (National Congress of Chile, 2023)	Reorganizes Chile's environmental governance by separating policy, evaluation, and enforcement functions across the ministry, the Environmental Assessment Service, and the SMA, each territorially deconcentrated through regional directorates. In the lithium context, it provides the institutional architecture through which environmental permits for brine projects are evaluated and enforcement actions are taken when conditions are breached.



Law	Ley N° 20.551 (2011), regula el Cierre de Faenas e Instalaciones Mineras [Law No. 20,551 (2011), regulates closure of mining operations and facilities]	Requires every mining operation to have a closure plan approved by the National Geology and Mining Service, backed by a mandatory financial guarantee for larger operations and a simplified pathway for smaller ones. In the lithium context, it governs how operators in the Salar de Atacama and elsewhere must plan, fund, and execute the closure and post-closure stewardship of brine-extraction sites.
Law	Ley N° 20.780 (2014), Reforma Tributaria que modifica el sistema de impuesto a la renta e introduce diversos ajustes (impuesto verde) [Law No. 20,780 (2014), Tax Reform that modifies the income-tax system and introduces various adjustments (creates Chile's "green tax")]	Establishes Chile's annual tax on emissions from large stationary sources, covering carbon dioxide, particulate matter, nitrogen oxides, and sulphur dioxide. As large industrial emitters, lithium-mining and -processing facilities fall within its scope when their emissions cross statutory thresholds, triggering monitoring, reporting, and payment of the tax.
Supreme decree	Decreto Supremo N° 41/2012 del Ministerio de Minería – Reglamento de la Ley N° 20.551, con modificaciones de 2020 [Supreme Decree No. 41/2012, Ministry of Mining – Regulation of Law 20,551 (Mine Closure Regulation), as amended in 2020]	Operational regulation of the Mine Closure Law. It sets the technical content of closure plans, the eligible financial-guarantee instruments, and the simplified or declaration regimes for smaller operations, framing how lithium operators in Chile discharge their closure obligations in practice.
Supreme decree	Decreto Supremo N° 40/2012 del Ministerio del Medio Ambiente – Reglamento del Sistema de Evaluación de Impacto Ambiental (SEIA) [Supreme Decree No. 40/2012, Ministry of the Environment – Regulation of the SEIA]	Operational regulation of the SEIA. It develops the criteria for deciding between an environmental impact study and a declaration and sets the Indigenous consultation procedure within environmental assessment for projects affecting Indigenous communities. It is central to how lithium-project permits, including Indigenous consultation in the Salar de Atacama, are processed.



Supreme Decree	Decreto Supremo N° 66/2013 del Ministerio de Desarrollo Social – Reglamento que regula el procedimiento de Consulta Indígena [Supreme Decree No. 66/2013, Ministry of Social Development – Regulation governs the Indigenous Consultation procedure]	Operationalizes the International Labour Organization Convention 169's consultation duty for general administrative and legislative measures in Chile. In the lithium context, it governs how non-project consultations on policies and broader administrative measures affecting Indigenous communities should be conducted.
Supreme decree	Decreto Supremo N° 148 de 2015 del Ministerio de Energía – aprueba la Política Energética Nacional “Energía 2050” [Supreme Decree No. 148 of 2015, Ministry of Energy – approves the National Energy Policy “Energía 2050”]	Long-term policy instrument that defines Chile's energy vision and decarbonization pathways, including objectives relevant to large industrial consumers such as mining companies. It sets the policy context within which lithium operations are expected to manage and decarbonize their energy use.
Law	Ley N° 21.202 (2020), Ley de Humedales Urbanos [Law No. 21,202 (2020), Urban Wetlands Law]	Brings activities altering urban wetlands into the SEIA assessment regime, including the alteration of hydric or riparian vegetation and the extraction of peatland vegetative cover. It is relevant where lithium-related infrastructure interacts with wetland systems, even though its primary focus is on urban wetlands.
Law	Ley N° 21.210 (2020), Moderniza la Legislación Tributaria; modifica la Ley N° 20.780 (impuesto verde) [Law No. 21,210 (2020), modernizes tax legislation; amending Law 20,780 (green tax)]	Amends Chile's green tax by tying liability to actual annual emission thresholds rather than installed thermal power and introduces an offset/compensation mechanism. It tightens the carbon-pricing framework that large industrial emitters, including lithium operations, must comply with.
Law	Ley N° 21.305 (2021), Ley de Eficiencia Energética [Law No. 21,305 (2021), Energy Efficiency Law]	Imposes binding energy management and reporting obligations on large industrial energy consumers, including mining companies. Designated consumers must implement energy management systems and undergo periodic audits, supervised and enforced by the SEC, a regime that directly captures Chile's lithium producers.



Supreme decree	Decreto Supremo N° 28 de 2021 del Ministerio de Energía – Reglamento del Sistema de Gestión de la Energía [Supreme Decree No. 28 of 2021, Ministry of Energy – Regulation of the Energy Management System]	Operationalizes the Energy Efficiency Law. It specifies the content of an energy management system, the coverage threshold, and the 3-year audit cycle, shaping the practical compliance regime for large energy consumers in the lithium sector.
Ministerial decree	Decreto Exento N° 163 de 2021 del Ministerio de Energía – establece criterios para la designación de empresas reportantes bajo la Ley de Eficiencia Energética [Exempt Decree No. 163 of 2021, Ministry of Energy – sets the criteria for designating reporting companies under the Energy Efficiency Law]	Sets the criteria used to identify which large companies must report under the Energy Efficiency Law for the first 4-year period. It determines whether and how individual lithium producers fall within the reporting and energy management capacity regime.
Law	Ley N° 21.435 (2022), Reforma al Código de Aguas [Law No. 21,435 (2022), reform of the Water Code]	Substantially reforms the 1981 Water Code by prioritizing human consumption, sanitation, and ecosystem preservation in the granting and exercise of water rights and reinforcing the protection of fresh water in terrestrial ecosystems. It strengthens Chile's freshwater regime but leaves the treatment of lithium-bearing brine outside its direct scope.
Supreme decree	Decreto Supremo N° 10 de 2022 del Ministerio de Energía – Actualización de la Política Energética Nacional 2050 (primer quinquenio) [Supreme Decree No. 10 of 2022, Ministry of Energy – First Quinquennial Update of the National Energy Policy 2050]	First 5-year update of Chile's National Energy Policy, refreshing the medium- and long-term decarbonization pathway. It reinforces the policy framework within which lithium producers are expected to manage their energy mix and emissions trajectory.



Law	Ley N° 21.455 (2022), Ley Marco de Cambio Climático [Law No. 21,455 (2022), Climate Change Framework Law]	Chile's overarching climate statute. It makes the Long-Term Climate Strategy and the nationally determined contribution (NDC) into binding management instruments and mandates sectoral mitigation and adaptation plans, including for mining. In the lithium context, it frames the climate obligations and emission-reduction trajectory applicable to brine operations.
Supreme decree	Decreto Supremo N° 63/2022 del Ministerio del Medio Ambiente – Reglamento del impuesto verde [Supreme Decree No. 63/2022, Ministry of the Environment – Regulation of the green tax]	Sets the scope, identification of taxpayers, and operational procedures of the green tax on emissions from large stationary sources. It governs how lithium operations are identified, monitored, and required to comply with Chile's carbon tax.
Supreme decree	Decreto Supremo N° 4/2023 del Ministerio del Medio Ambiente – Reglamento del sistema de compensación de emisiones [Supreme Decree No. 4/2023, Ministry of the Environment – Regulation of the emission compensation system for stationary sources subject to the green tax]	Operationalizes the offset mechanism through which regulated facilities can compensate taxable emissions by funding projects that reduce emissions elsewhere. It is relevant to how lithium-mining operations may discharge part of their green-tax liability.
Supreme decree	Decreto Supremo N° 16/2023 – Reglamento de procedimientos de la Ley Marco de Cambio Climático [Supreme Decree No. 16/2023 – Procedural Regulation of the Climate Change Framework Law (procedures for drafting, implementing and updating the Long-Term Climate Strategy, NDC and sectoral plans)]	Sets the procedures for drafting, implementing, and updating the Long-Term Climate Strategy, the NDC, and sectoral mitigation and adaptation plans. In the lithium context, it is the procedural backbone through which Chile's climate commitments translate into binding requirements for the mining sector.



Law	Ley N° 21.561 (2023), Ley de 40 Horas – reduce la jornada laboral [Law No. 21,561 (2023), 40-Hour Law, reduces the statutory working week]	Gradually reduces Chile’s statutory working week from 45 to 40 hours, with salary-protection clauses. In the mining context, including lithium operations, it constrains the long-roster, camp-based working patterns that have historically shaped the sector and affects how shift arrangements are structured.
Law	Ley N° 21.600 (2023), crea el Servicio de Biodiversidad y Áreas Protegidas y el Sistema Nacional de Áreas Protegidas [Law No. 21,600 (2023), creates the Biodiversity and Protected Areas Service and the National System of Protected Areas]	Creates a dedicated biodiversity authority and a National System of Protected Areas, with mandates to conserve biodiversity, manage protected areas, and enforce compliance. In the lithium context, it is the institutional anchor for protecting salt-flat and high-Andean ecosystems and for embedding Indigenous participation in protected-area management.
Law	Ley N° 21.643 (2024), “Ley Karin” sobre acoso laboral, acoso sexual y violencia en el trabajo [Law No. 21,643 (2024), “Karin Law” on labour harassment, sexual harassment and violence in the workplace]	Imposes a preventive duty on employers to address sexual and labour harassment and workplace violence, extending protection to single acts and to conduct by third parties such as contractors and suppliers. It is directly relevant to remote, male-dominated lithium operations, where harassment and gender-based-violence risks are heightened.
Law	Ley N° 21.645 (2023), modifica el Código del Trabajo en materia de conciliación de la vida personal, familiar y laboral [Law No. 21,645 (2023), modifies the Labour Code on Reconciliation of Personal, Family and Working Life]	Grants workers caring for children under 14 or for dependents a right to remote work and related scheduling flexibility. In mining, including lithium operations, it bears on long rosters, prolonged family separation, and the gendered distribution of care responsibilities that shape workforce participation.



Supreme decree	Decreto Supremo N° 8/2024 del Ministerio de Minería – autoriza a ministros a constituir y participar en el Instituto Nacional de Litio y Salares (INLiSa) [Supreme Decree No. 8/2024, Ministry of Mining, authorizes Ministers to constitute and participate in the National Institute of Lithium and Salt Flats (INLiSa)]	Authorizes the relevant ministers to constitute and participate in INLiSa, the technological and research institute supporting Chile's National Lithium Strategy. It is the mining-side legal basis for setting up the entity that is expected to generate and share knowledge for sustainable lithium value chain development.
Supreme decree	Decreto Supremo N° 34 de 2024 del Ministerio de Ciencia, Tecnología, Conocimiento e Innovación – aprueba la constitución y los estatutos INLiSa (Supreme Decree No. 34 of 2024, Ministry of Science, Technology, Knowledge and Innovation – approving the constitution and bylaws of the INLiSa)	Approves INLiSa's constitution and bylaws as a private-law non-profit corporation headquartered in San Pedro de Atacama. Together with DS 8/2024, it formally backs up the research and knowledge institution that supports the state's lithium agenda while the proposed Empresa Nacional del Litio still lacks an enabling statute.
National policy	Estrategia Nacional del Litio “Por Chile y su Gente” (2023) [National Lithium Strategy: “For Chile and Its People” (2023)]	Executive branch policy that positions the state at the centre of lithium development, opens space for public–private partnerships, and pushes lower-impact extraction. It frames the proposed Empresa Nacional del Litio, the Red de Salares Protegidos, and the exclusion of new lithium projects from protected areas and priority biodiversity sites, although as of May 2026 the state enterprise still lacks an enabling statute.

Source: Author.



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