MANOHAR PARRIKAR INSTITUTE FOR DEFENCE STUDIES AND ANALYSES
मनोहर पर्रिकर रक्षा अध्ययन एवं विश्लेषण संस्थान

MP-IDSA
Issue Brief

# India, Chile and the Lithium Supply Chain

*Avi Singhai*

July 21, 2026

## Summary

Chile is the largest supplier of critical minerals to India. A major share of lithium, including 32 per cent of lithium carbonate and 41 per cent of lithium oxides and hydroxides, has been imported from Chile in fiscal year 2025. For Chile, India offers one of the world's largest consumer markets with stable and long-term demand.

India and Chile share more than seven decades of diplomatic relations, which have provided the foundation for growing economic cooperation. In recent years, the relationship has expanded to include strategic sectors such as critical minerals and renewable energy. As global demand for lithium continues to rise, Chile has become an important partner in India's efforts to secure a stable supply of critical minerals.

This brief examines the prospects for an India–Chile partnership in the lithium supply chain. It explores whether the complementary strengths of the two countries can support cooperation across upstream (mining), midstream (refining and processing), and downstream (battery manufacturing) sectors. The brief argues that a mutually beneficial partnership can strengthen supply chain resilience while contributing to the growing global demand for lithium.

## India–Chile Economic Relations

India and Chile economic relations have increased by more than threefold in 2020–25 (see Table 1). Chile is the fifth-largest trading partner of India in the Latin America and the Caribbean Region. Indian investments in Chile are around US$ 620 million, while Chile's investments in India total US$ 118 million.[1] The Preferential Trade Agreement (PTA) was negotiated in 2007,[2] and both countries have now entered into negotiations towards the Comprehensive Economic Partnership Agreement (CEPA). India and Chile signed the Terms of Reference for a CEPA in May 2025.[3] During the visit of the former Chilean President Gabriel Boric to India in 2025, both countries agreed to accelerate collaboration in exploration, mining and processing, with research and development, to increase investment across the critical minerals value chain for mutual benefit.[4]

Francisco Pérez Mackenna, the Minister of Foreign Affairs of Chile, visited India in May 2026 for bilateral engagements aimed at strengthening economic cooperation. In an interview with ANI, Chilean Ambassador Juan Angulo said that

[1] **"India - Chile Bilateral Trade"**, Ministry of External Affairs, Government of India, March 2025.

[2] **"India-Chile Bilateral Relations"**, Embassy of India Santiago, 3 July 2026.

[3] **"India and Chile Sign Terms of Reference for Comprehensive Economic Partnership Agreement Negotiations"**, Press Information Bureau, Ministry of Commerce & Industry, Government of India, 9 May 2025.

[4] **"India-Chile Joint Statement"**, Press Information Bureau, Prime Minister's Office, Government of India, 1 April 2025.

there is a huge possibility for partnerships between India and Chile in the field of critical minerals and would like to see Indian investments in the country.[5]

**Table 1. India–Chile Bilateral Trade (US$ million)**

| Year | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
|---|---|---|---|---|---|---|
| **Export from Chile to India** | 836.06 | 1,125.12 | 1,702.15 | 1,351.58 | 2,598.94 | 3,970 |
| **Import from India to Chile** | 709.15 | 1,246.1 | 1,421.7 | 1,315.08 | 1,244.09 | 1,410 |
| **Total Trade** | 1,545.21 | 2,371.22 | 3,123.85 | 2,666.66 | 3,843.03 | 5,380 |

*Source: Ministry of External Affairs, Government of India and Embassy of India Santiago*[6]

Chile is also the largest supplier of critical minerals to India. A major share of lithium, including 32 per cent of lithium carbonate and 41 per cent of lithium oxides and hydroxides, has been imported from Chile in fiscal year 2025.[7] Chile ranks first in proven lithium reserves worldwide.

**Table 2. World Lithium Reserves and Production**[8] (Metric Tonne)

| Country | Reserves | Production (2025) | Production (2024) |
|---|---|---|---|
| Chile | 9,200,000 | 56,000 | 48,900 |
| Australia | 8,400,000 | 92,000 | 82,700 |
| China | 4,600,000 | 62,000 | 41,400 |

[5] ANI, **"Juan Angulo, Ambassador of Chile to India Interview to ANI"**, X, 9 January 2026.

[6] **"India - Chile Bilateral Trade"**, no. 1, p. 3.

[7] Kaira Rakheja and Saloni Sachdeva Michael, **"Fact Sheet: A Concentrated Supplier Base for India's Critical Mineral Imports"**, Institute for Energy Economics and Financial Analysis, 30 April 2026.

[8] **"Mineral Commodity Summaries 2026"**, United States Geological Survey, February 2026.

| | | | |
|---|---|---|---|
| Argentina | 4,400,000 | 23,000 | 13,800 |
| *United States | 4,400,000 | - | - |
| Canada | 1,600,000 | 5,600 | 4,820 |
| Brazil | 540,000 | 12,000 | 10,200 |
| Zimbabwe | 500,000 | 28,000 | 20,000 |

*Source*: United States Geological Survey (Mineral Commodity Summaries 2026)[9];
*Production data unavailable for the United States.

Lithium has emerged as white gold. From its use in batteries for electronic equipment in various fields like defence, renewable energy, and medical equipment to non-battery industrial uses in glass and ceramic production as a heat-resistant, durable component that adds strength to the host material, demand for this white metal is soaring. Chile currently has lithium mining and refining operations but lacks the downstream value chain of cathode and anode production, cell production, battery pack and module assembly.[10]

## Lithium Producers

India secured exploration rights for five lithium brine blocks in Argentina's Catamarca region in January 2024.[11] In April 2026, Khanij Bidesh India Limited (KABIL) received environmental clearance from the Government of Argentina, but production is expected to begin only after 2029.[12] Bolivian brines have a high magnesium-to-lithium ratio of around 21:1, compared to Chile's 5:1. This makes them more complex to refine and process. Apart from quality, there are other complexities such as climate limitations, drilling restrictions, altitude challenges, political instability and policy uncertainty.

9 Ibid.

10 Eyal Li, Stefano Sacco and Georg Bieker, **"Expanding the Lithium Value Chain in Chile"**, The International Council on Clean Transportation, October 2025, p 5.

11 **"India Signs Agreement for Lithium Exploration & Mining Project in Argentina"**, Press Information Bureau, Ministry of Mines, Government of India, 15 January 2024.

12 Atul Mathur, **"Khanij Bidesh Gets Environmental Clearance from Argentine Govt for Deep Exploration of Five Lithium"**, *The Times of India*, 10 April 2026.

**Table 3. Lithium: Country Comparison**

| Parameters/ Countries | Chile | Argentina | Bolivia | Australia | China | Zimbabwe | United States |
|---|---|---|---|---|---|---|---|
| **Lithium Source** | Brines (Largely in Salar de Atacama) | Brines (Salta, Catamarca, Jujuy) | Brines (Largely in Salar de Uyuni) | Hardrock (spodumene) | Hardrock+ Brines+ Lepidolite | Hardrock (In Bikita Mines) | Hardrock + Clay (In Thacker Pass, Nevada) |
| **Lithium Quality** | High grade, low impurities, low Mg to Li ratio | High grade, Varying magnesium impurities (higher than Chile) | Low grade, very high Mg to Li ratio, complicates purification | High grade in raw ore, less lithium content | Mid-grade, more impurities in Brines | Mid-grade in raw ore, more Iron impurities | Mid-grade ore |
| **Production Techniques** | Solar Evaporation and Direct Lithium Extraction (DLE) | Solar Evaporation and pilot Direct Lithium Extraction (DLE) | Solar Evaporation and less Direct Lithium Extraction (DLE) | Hardrock Mining and Crushing | Brine and Hard rock mining | Hardrock mining using open-pit method | Hardrock mining and Clay extraction |
| **Estimated Production Cost (USD/ton LCE)*** | $4,500-$5,500 | $6,000-$6,300 | - | $2,500-$4,000($8,000-$12,000 after processing) | $5,000-$7500 | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Estimated time taken to reach Indian ports** | 35–45 days | 40–50 days | 45–60 days | 12–18 days | 10–20 days | 20–30 days | 35–45 days |
| **Major Challenges for India** | Environmental restriction and water use | Infrastructure bottleneck, low production | State monopoly, high Mg to Li ratio, landlocked | High production cost, more carbon footprint, China-dominated midstream | Geopolitical tension with India | Low infrastructure, Massive Chinese presence | High capex, less developed production known |
| **Strategic Importance** | High: low cost, high quality, established supply | High: high quality, KABIL agreement | Low: low quality, underdeveloped Infrastructure, strict regulations | High: largest producer but midstream dependence, QUAD Partners | High: Major import dependence on refining and downstream components. | Medium: Diversifying option in Africa but largely dependent on China | High: medium-to long-term partnership, Mineral Supply Partnership (MSP) |

**Source: S&P Global Market Intelligence and Mordor Intelligence*[13]

[13] Adam Webb, **"Lithium Sector: Production Costs Outlook"**, S&P Global Market Intelligence, 10 May 2019; **"Lithium Carbonate Market Size and Share"**, *Mordor Intelligence*, 10 June 2026.

Australia, on the other hand, has high production and beneficiation costs. Hardrock Mining in Australia also has a larger carbon footprint than brine production.[14] Similarly, lithium production in Zimbabwe is largely dominated by Chinese presence, infrastructure and investments, making Indian entry into Zimbabwe's lithium production and refining market difficult.

On the contrary, Chile has one of the world's best quality lithium deposits in the Salar de Atacama. Chile has 45 salt lakes and 18 lagoons with lithium deposits, of which only 23 have been explored so far.[15] Additionally, the study conducted by the National Geology and Mining Service of Chile (SERNAGEOMIN) found that 18 other salt flats in Chile's Antofagasta and Atacama regions may be of interest for assessing their geological potential for future lithium mining projects.[16] Other geographical advantages, such as access to roads and electricity, and proximity to international ports, make Chile even more unique. Due to the low GHG emission intensity of sourcing lithium from Chile and the comparatively high renewable energy sources in the country's electricity mix, the average emission intensity of Lithium Iron Phosphate (LFP) battery pack production in Chile is estimated to be 35 per cent, 16 per cent and 9 per cent lower than China, the United States and Europe, respectively.[17]

## Mutual Requirements

Chile is shifting aggressively towards renewable energy for its electricity needs. These initiatives are entirely private but focus on building a green energy channel in Chile to support the targets driven by Chile's Energy Policy 2050. As of June 2025, there is no battery cell or electric vehicle manufacturing plant in Chile.[18] The solar plants are working on Lithium Iron Phosphate (LFP) batteries, which have been imported entirely from China. Secondly, the lithium demand for battery and plug-in hybrid electric vehicles in Chile is expected to rise to 13–17.8 GWh in 2030 to 27.7–38 GWh in 2035.[19] Chile exports processed lithium to China, and that lithium then returns to Chile as batteries for use in the solar plant, creating a loop.

[14] John Zadeh, **"The Different Types of Lithium Projects Explained: From Brines to Hard Rock"**, *Discovery Alert*, 30 March 2025.

[15] **"Chile, Salt Lakes and Lithium: Current Production Status - Mining Report"**, Glückauf Mining Report, 2023.

[16] **"National Lithium Strategy"**, Government of Chile, p. 10.

[17] Eyal Li, Stefano Sacco and Georg Bieker, **"Expanding the Lithium Value Chain in Chile"**, no. 10, p. 2.

[18] Ibid., p. 5.

[19] Ibid., p. 1

India is largely import-dependent for lithium supply, including raw lithium, processed lithium and LFP batteries. Notably, 75 per cent of lithium-ion batteries used in Battery Electric Vehicles (BEVs) in India are sourced predominantly from China.[20] As a result, India's import bill of lithium-ion cells has risen eightfold from US$ 384 million (Rs 3,571 crores) in FY2019 to over US$ 3 billion (Rs 27,900 crores) by FY 2025.[21] In October 2025, China announced export controls on lithium-ion batteries, components and technologies for their manufacture. As per the National Programme on Advanced Chemistry Cells Battery Storage, a Production Linked Initiative (PLI) of the Ministry of Heavy Industries of the Government of India, Rs 18,100 crores have been allocated to establish 50 GWh of domestic capacity. So far, no firm has reached the specified capacity. One of the main reasons cited for this is the lack of upstream components[22] in the lithium supply chain.

## Building Strong Partnership

Chile and India hold complementary strengths in establishing a partnership in the lithium supply chain. Compared with the other two lithium triangle countries, Chile already has high production capacity, which is favourable for fulfilling the demand of the Indian market. Similarly, Chile's lithium is extracted from sub-surface brines, which have significantly lower production and beneficiation costs than hard-rock spodumene mining in Australia. Chile, apart from lithium, also produces Molybdenum, rhenium and copper, which are essential elements used in the production of LFP batteries. Also, nearly all lithium mined in Chile is refined domestically, and both lithium carbonate and lithium hydroxide refined in Chile are battery-grade. They can be used in the production of cathode materials.[23]

On the other hand, Indian firms are setting up battery manufacturing units in India to increase the Battery Energy Storage System (BESS), with primary firms like Ola Cell Technologies Ltd. and Reliance New Energy Battery Ltd. Altmin Pvt. Ltd. will commence operations at its 8 GWh LFP Cathode gigafactory plant in Telangana in Quarter 4 of 2026. It will produce 20,000 metric tonnes of LFP material annually

[20] Charith Konda and Dhruv Garg, **"Securing India's Battery Supply Chain Is More Critical Than Ever"**, Institute for Energy Economics and Financial Analysis, 29 May 2026.

[21] Ibid.

[22] **"Advanced Chemistry Cell (ACC) Batteries And Domestic Capacity"**, Press Information Bureau, Ministry of Heavy Industries, Government of India, 12 December 2025.

[23] Eyal Li, Stefano Sacco and Georg Bieker, **"Expanding the Lithium Value Chain in Chile"**, no. 10, p. 3.

in collaboration with the International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI).[24]

Indian firms like Tata Chemicals North America produce large quantities of soda ash, which is a key component used to remove contaminants and precipitate lithium carbonate from solution. Sodium carbonate accounts for around 36 per cent of the total processing cost.[25] Tata Chemicals ranks third in global low-cost, sustainable natural soda ash capacity. This makes India a prominent player for Chile to fulfil its sodium carbonate demand.

The Chilean Economic Development Agency, CORFO, states that specialised producers will receive a guaranteed supply of lithium carbonate from Albemarle at preferential prices if they commit to building a clean-tech, value-added supply chain.[26] Secondly, Chile's National Lithium Strategy mentions that major multinational companies in the battery manufacturing and electromobility sectors require a reliable long-term supply of lithium. Chile can provide this supply through public–private partnerships with these companies, enabling them to establish operations in Chile and collaborate on developing the country's scientific, technological and industrial ecosystem. These provisions can help India integrate with Chile to secure its upstream supply chain for the success of PLI. The production of cathode material alone could generate up to US$ 1.1 billion in annual revenue in 2030, and could exceed US$ 2 billion by 2035 for Chile.[27]

In February 2026, Coal India Ltd. approved the creation of an intermediate holding company in Chile to explore opportunities in critical minerals, including lithium and copper, and affirmed that it will hold a 100 per cent stake in the Chilean entity.[28] The board also approved a Rs 6,300 crore investment in the area.[29] Building a strong partnership with Chile can help ensure supply security, enable direct technology integration, and reduce dependence on China for the domestic demand fulfilment of both India and Chile in the lithium supply chain.

---

[24] Srinivas G. Roopi, **"Altmin Targets Q4 2026 for Launch of 8-GWh LFP Cathode Giga-Factory in Telangana"**, *Economic Times*, 17 June 2025.

[25] Adam Webb, **"Lithium Sector: Production Costs Outlook"**, S&P Global Market Intelligence, 10 May 2019.

[26] **"International Call for Specialized Producers of Lithium Products with Added Value"**, Chilean Economic Development Agency (CORFO), May 2025.

[27] Eyal Li, Stefano Sacco and Georg Bieker, **"Expanding the Lithium Value Chain in Chile"**, no. 10, p 1.

[28] **"Why This Under-the-Radar FTA Could Strengthen India's Strategic Position"**, *Kotak News Desk*, 1 February 2026.

[29] **"Coal India Board Clears Chile Arm for Lithium, Copper; Approves Over ₹6,300 Cr"**, *Economic Times*, 5 February 2026.

India acknowledges Chile's National Lithium Strategy, focusing on attracting investments and developing the lithium value chain, in its National Critical Mineral Mission, and focuses on the strategic implementation of pivotal measures such as acquisition of critical mineral assets abroad, developing trade and markets, scientific research and technological advancement, human resource development, etc.[30] With the approval of the Rs 32,000-crore National Critical Mineral Mission (NCMM) in 2025, India is focused on securing a stable supply of key minerals vital to EVs, renewable energy and electronics manufacturing. Indian companies are also keen to explore Greenfield & Brownfield mining investments in Chile, fostering stronger G2G & B2B partnerships.[31] For Chile, India offers one of the world's largest consumer markets with stable and long-term demand. India's continued support for developing its downstream value chain can help Chile diversify its lithium sector by facilitating technology transfer, generating domestic downstream capacity, and increasing employment opportunities.

[30] **"National Critical Mineral Mission"**, Ministry of Mines, Government of India, January 2025, p 9.

[31] **"India-Chile Mining Industry Round Table"**, Ministry of Mines, Government of India, 1 April 2025.

## About the Author

**Mr. Avi Singhai** is a former Research Intern, Africa, Latin America, Caribbeans & UN Centre at MP-IDSA, New Delhi.

**Manohar Parrikar Institute for Defence Studies and Analyses** is a non-partisan, autonomous body dedicated to objective research and policy relevant studies on all aspects of defence and security. Its mission is to promote national and international security through the generation and dissemination of knowledge on defence and security-related issues.



Manohar Parrikar Institute for Defence Studies and Analyses
1, Development Enclave, Rao Tula Ram Marg
New Delhi 110 010 India
T +91-11-2671 7983 F +91-11-2615 4191
www.idsa.in
Twitter @IDSAIndia
www.facebook.com/ManoharParrikarInstituteforDefenceStudiesAnalyses