

Toromocho Copper Mine

Junín Region, Peru

Chinese Financing for Transition Minerals



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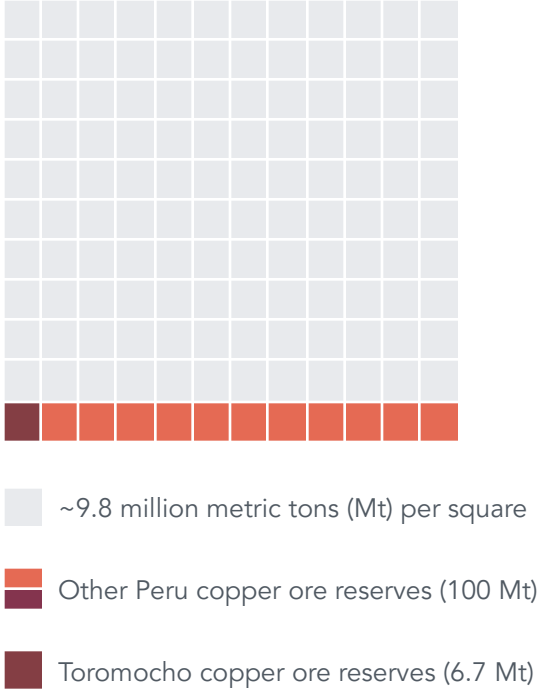
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Toromocho Mining Site Overview

| Location | Minerals | Metric Tons | Exploitation | Life of Mine |
|--|---|---------------------------------|---|---|
| Peru | Copper | 6.7 million | Open-pit | 36 years |
| Morococha District, Yauli Province, Junín Region | With by-products including molybdenum, silver | Of copper in total ore reserves | Surface mining technique to extract ore from the site | Minimum anticipated years of production |

Located in the Morococha District in Peru, Toromocho is one of the world's largest copper mines, and the first overseas greenfield copper mine developed by a Chinese company. The Aluminum Corporation of China Limited (Chinalco), a Chinese state-owned company, completed a \$782 million acquisition in 2007, giving it the rights to develop the mine, and launched commercial operations at the site in 2015. Since the early stages of development, which required the resettlement of the Morococha population, Toromocho has faced significant environmental and social challenges.

Global Copper Ore Reserves: 980 Mt



What are ore reserves?

When we refer to the reserves of a certain type of mineral, we are describing the amount of mineral output that can be recovered in a way which is economically viable. Feasibility studies assess whether it is practical and profitable to extract ore reserves.

Reserves estimates change over time. They may decrease as mineral extraction activities deplete existing deposits, and they may increase as technological advancement makes additional mineral extraction feasible. As of 2025, Peru held an estimated 10.2% of global copper reserves.

Source: USGS Commodity Summaries 2025

Introduction

A significant player in the global copper market, Toromocho is an open-pit site with estimated annual production levels exceeding 200,000 tons of copper in recent years. The Toromocho project tenements consist of 46 mineral concessions covering 1,320 hectares of land, containing estimated reserves of 6.7

million metric tons (Mt) of copper and 0.23 Mt of molybdenum. The estimated mine life is 36 years from the start of commercial production, with the gradual closure phase expected to begin in 2043. Chinalco's acquisition of this mining operation in 2007 from the Canadian company Peru Copper Inc. represented a significant strategic development in the copper mining industry.

Geography

The Toromocho Mining Unit is located in the Morococha District of the Yauli Province in Peru's Junín Region, about 142 km east of Peru's capital city Lima. It is a porphyry copper deposit, which is considered one of Peru's most important polymetallic deposits, containing reserves of copper, molybdenum, and silver. Porphyry deposits are formed from magma chambers in the Earth's crust, and they are known for being large, low-grade mineral deposits in which copper is usually the dominant metal (although these deposits also contain a range of other subsidiary metals alongside the dominant metal). The mine operates at a high altitude (approximately 4,500 meters above sea level) amidst steep, mountainous terrain.

PRC Financing Summary

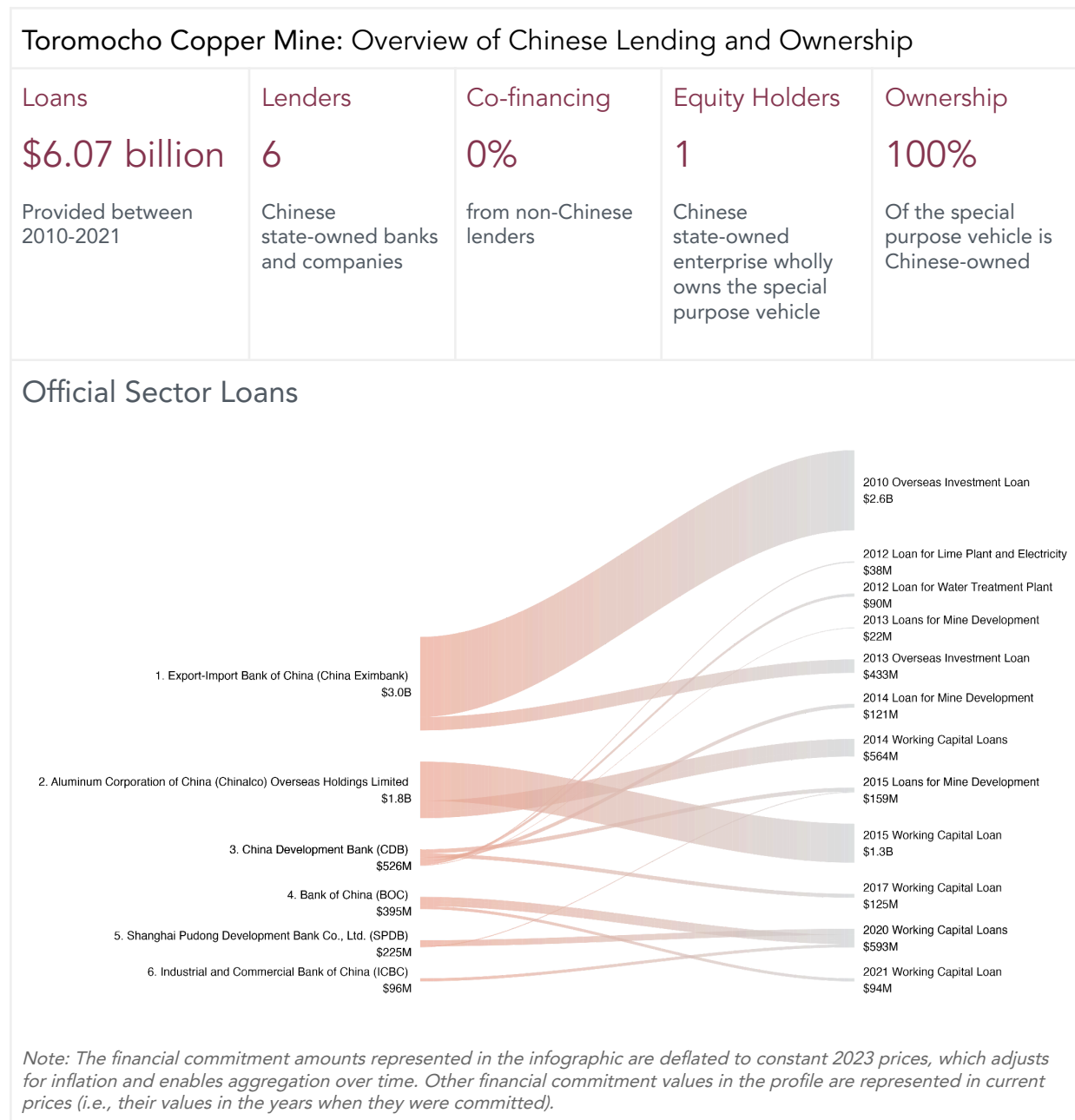
After Chinalco acquired the rights to develop the Toromocho copper mine, Chinese state-owned banks and companies provided 19 bilateral loans between 2010 and 2021 to support the development and operations of the mine.

In 2010, the Export-Import Bank of China (China Eximbank) provided a \$2 billion overseas investment loan to Minera Chinalco Perú S.A. (Chinalco Peru)—a special purpose vehicle and wholly-owned subsidiary of Chinalco—to finance capital expenditures related to the development of the Toromocho copper mine. China Eximbank provided a \$419 million supplementary overseas investment loan in 2013.

China Development Bank (CDB) first provided financing for the project in 2012, including a \$83 million loan for the development of the Kingsmill Tunnel Water Treatment Plant and a \$35 million loan for the construction of a lime plant and electricity supply at Toromocho. Between 2013 and 2017, CDB provided five additional loans to support the development of the mine and the working capital requirements at the site: a \$12 million and a \$9 million loan in 2013, a \$118 million loan in 2014, a \$125 million loan in 2015, and a \$117 million loan in 2017.

In addition to financing from the two state-owned policy banks, Aluminum Corporation of China Overseas Holding provided three shareholder loans – a \$200 million loan and \$350 million loan in 2014, as well as a \$1.2 billion loan in 2015 – also for working capital purposes. State-owned commercial banks have similarly provided loans for Toromocho. These include a \$27 million loan in 2015 to support the development of the mine from Shanghai Pudong Development Bank Co., Ltd. (SPDB), as well as six RMB-denominated working capital loans in 2020 and 2021 from Bank of China (BOC), the Industrial and Commercial Bank of China (ICBC), and SPDB collectively worth about \$677 million.

In total, between 2010 and 2021, Chinese state-owned financiers extended \$6.07 billion of credit (in constant 2023 prices) for the Toromocho copper mine development and operations, as represented in the visual on page 4. Other financial commitment values in the profile are represented in current prices (i.e., their values in the years when they were committed), but for the purposes of cross-year comparison, the values are deflated to constant 2023 prices to adjust for inflation and enable aggregation over time.



Ownership of Minera Chinalco Perú

(Special Purpose Vehicle)

Aluminum Corporation of China (Chinalco)

100%



PRC Financing Details

On December 1, 2010, China Eximbank and Chinalco Peru—the special purpose vehicle and wholly-owned subsidiary of Chinalco—signed a \$2 billion overseas investment loan agreement to finance capital expenditures related to the Toromocho copper mine project. The loan carried an interest rate of 6-month LIBOR plus 185 basis points and a 15-year maturity. The parent company Chinalco entered into a guarantee agreement with China Eximbank for the entire outstanding amount, accrued interest, penalties, and other expenses arising from the loan. Chinalco Peru was also required to pay a 1% commission for each drawdown. This overseas investment loan facility is secured by (i.e., collateralized against) all property, plants, and equipment pertaining to the Toromocho project, if Chinalco’s credibility or financial status deteriorates.

Chinalco Peru signed its second loan agreement with China Eximbank in March 2013, a supplementary overseas investment loan (facility) agreement worth \$419 million for additional capital expenditures related to the Toromocho copper mine project. The loan carried an interest rate of 6-month LIBOR plus 350 basis points. Chinalco Peru was required to pay a 1% commission fee for each drawdown, and this second facility was also guaranteed by the parent company Chinalco. The supplementary loan agreement was also collateralized against all property, plants, and equipment pertaining to the Toromocho mining project if Chinalco’s credibility or financial status deteriorates. As of 2016, the entirety of this loan facility was drawn down.

On September 7, 2012, Chinalco Peru entered into a \$83 million loan (facility) agreement with CDB. The loan carried an interest rate of LIBOR plus a 3.5% margin. The parent company Chinalco entered into a guarantee agreement with China Eximbank for the entire outstanding amount, accrued interest, penalties, and other expenses arising from the loan. The purpose of the loan was to finance the construction, maintenance, and operation of the Kingsmill Tunnel water treatment plant at the Toromocho project. The Kingsmill Tunnel water treatment plant treats wastewater before it reaches the Yauli River, mitigating both contamination from the Toromocho project and existing groundwater contamination from previous mining operations in the area.

On December 25, 2012, Chinalco Peru entered into a \$35 million loan agreement with CDB. The purpose of the loan was to finance the construction of a lime plant and the construction of the electricity supply of the Toromocho project. The parent company Chinalco entered into a guarantee agreement

with China Eximbank for the entire outstanding amount, accrued interest, penalties, and other expenses arising from the loan.

Between 2013 and 2017, CDB provided five additional loans to Chinalco Peru to support the development of the mine and the working capital requirements at the site: a \$12 million loan in June 2013, a \$9 million loan in November 2013, a \$118 million loan in May 2014, a \$125 million loan in August 2015, and a \$117 million loan in October 2017. The borrowing terms of these loan facilities are unknown; however, certain contractual terms are known. The \$125 million facility from 2015 was secured by (i.e., collateralized against) trade receivables from several copper concentrate sales agreements, and as of June 2016, the facility had been fully drawn down and \$24.8 million had been repaid. The \$117 million facility from 2017 benefited from a security interest on accounts, a contract for the registration of the security interest in the People's Republic of China, and a trust commission designating ICBC Peru Bank as an agent bank.

In addition to financing from the two state-owned policy banks, Aluminum Corporation of China Overseas Holding Limited (Chinalco Overseas Holding) – a Hong Kong-based subsidiary of Chinalco – provided three shareholder loans for general corporate purposes, including working capital requirements at Toromocho. These included a \$200 million loan in April 2014, a \$350 million loan in November 2014, and a \$1.2 billion loan in January 2015. The borrower of record for these loans, Chinalco Mining Corporation International, was another wholly owned subsidiary of Chinalco, this time incorporated in the Cayman Islands.

State-owned commercial banks have also provided a series of loans for Toromocho's development and working capital. Shanghai Pudong Development Bank Co., Ltd. (SPDB) provided a \$27 million loan in December 2015 to support the development of the mine. SPDB also provided a RMB 1.31 billion (\$190 million) working capital loan in December 2020, which carried a 2.25% interest rate and just under a 1-year maturity. The Industrial and Commercial Bank of China (ICBC) also provided a RMB 641 million (\$93 million) working capital loan with an interest rate of 2.44% and just under a 1-year maturity.

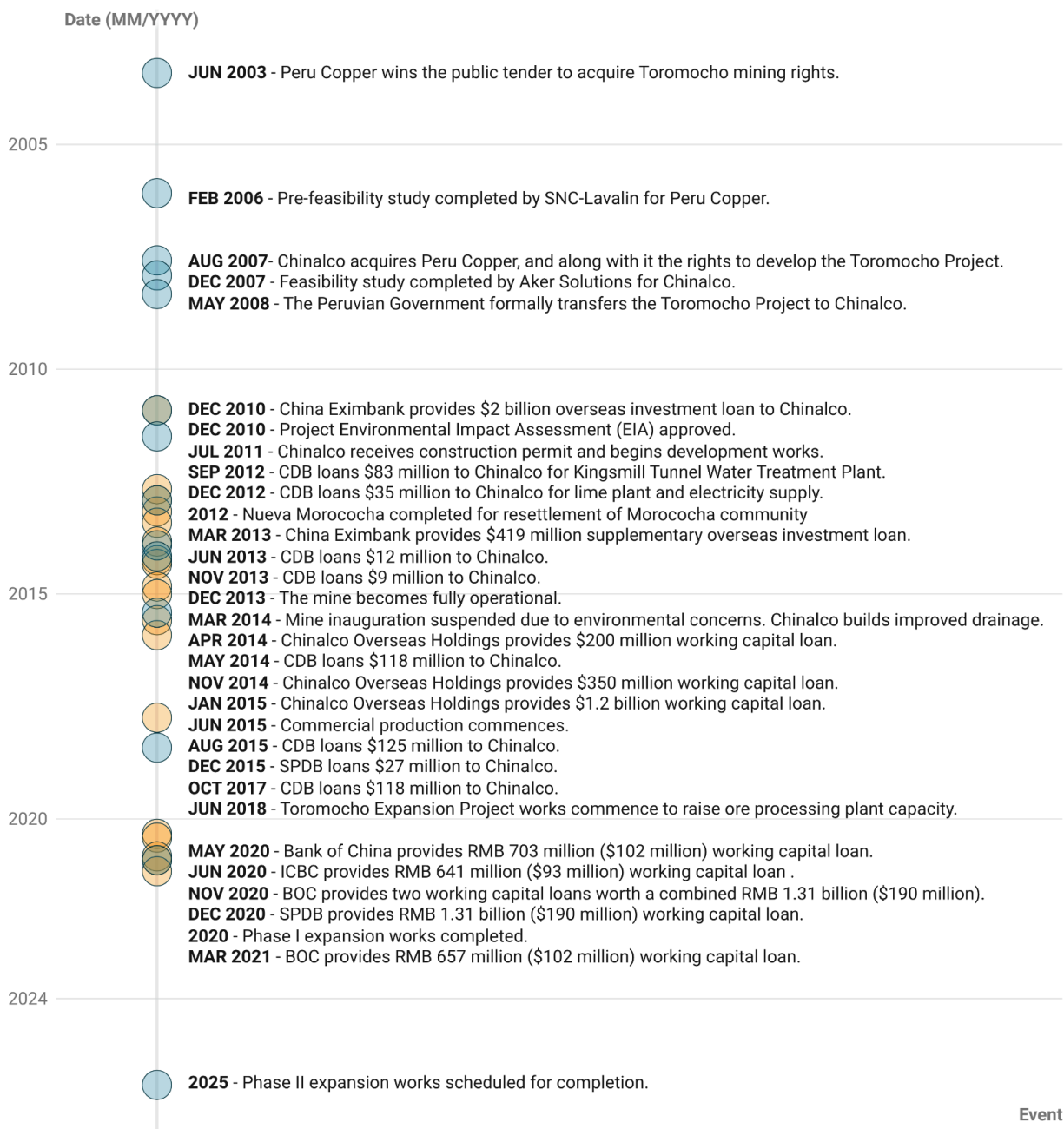
Bank of China (BOC) similarly provided a series of RMB-denominated, short term working capital loans during the expansion phase of the project: an RMB 703 million (\$102 million) loan in May 2020 with a 2% interest rate and 1-year maturity, two RMB 655 million (\$95 million) loans in November 2020 with interest rates of 1.7% and maturities of just under 1 year, and an RMB 657 million (\$102 million) loan in March 2021 with an interest rate of 1.55% and a maturity of just under 1 year.

Toromocho Copper Mine in Peru

Estimated closure phase: 2034-2039

Milestones

■ Funding Events involving Chinese Official Financing ■ Operation Milestones



Implementation

Toromocho is an open-pit mining operation producing copper concentrate with by-products of molybdenum and silver. According to 2019 estimates, Toromocho has 1,516.7 Mt of proven and probable reserves, with average grades of 0.439% copper and 0.015% molybdenum. Recent expansion works have brought Toromocho's ore processing capacity up to 170,000 tons per day. In recent years, estimated annual production levels have exceeded 200,000 tons of copper concentrate.

On August 1, 2007, Chinalco completed the acquisition of 100% of the shares in Canada-based company Peru Copper Inc. for CAD 840 million (\$782 million). By way of this acquisition, Chinalco acquired the rights to the Toromocho copper mine project in Peru. McCarthy Tétrault LLP, a Canadian law firm, represented Chinalco in this acquisition deal.

On May 5, 2008, the Peruvian Government transferred the Toromocho mining concessions to Chinalco's wholly-owned subsidiary, Chinalco Peru. After the approval of the Environmental Impact Assessment (EIA) in December 2010, Chinalco Peru received the construction permit in July 2011 and began development works. CCCC Del Peru SAC—a subsidiary of China Communications Construction Company, Ltd.—was the contractor responsible for developing the Toromocho copper mine. Chinalco Peru also invested in surrounding infrastructure, including the construction of the Kingsmill Water Treatment Plant (resolving a contaminated water issue that had plagued the area for years) and investment in the Callao port which, along with other existing transportation networks, would facilitate the shipment of Chinalco Peru's products.

The mine was officially commissioned on December 10, 2013 and began commercial production on June 17, 2015. In 2018, Chinalco Peru began expansion works at Toromocho with an investment of \$1.36 billion. Phase I of the Toromocho expansion project was completed in 2020, increasing the ore processing plant capacity from 117,200 to 140,640 tons per day. Phase II of the Toromocho expansion project, which would increase the ore processing plant capacity to 170,000 tons per day, was originally scheduled for completion in June 2024, then pushed back to 2025. In July 2024, Peru's Minister of Economy José Arista made a visit to China and met with Chinalco executives, who expressed interest in further investment in expansion activities at Toromocho.

As shown in the financing and ownership visual on page 4, Chinalco Peru received 19 bilateral loans from 6 different Chinese state-owned banks and companies between 2010 and 2021 to finance the development and operations of the Toromocho copper mine. Environmental consultants involved in the project have been companies based in Peru, including Knight Piésold Consultores S.A., which completed the initial Environmental Impact Assessment (EIA) in 2010, and Walsh Perú, which completed a modification to the EIA in June 2020 for an expansion project which would increase the daily production capacity from 140,640 tons to 170,000.

Environmental, Social, and Governance Risks and Mitigation Measures

Chinalco has implemented environmental risk mitigation measures at the Toromocho mine, including constructing the Kingsmill Tunnel Water Treatment Plant in 2011 to treat wastewater and improve water quality in the Yauli River. Peru's Environment Assessment and Enforcement Agency suspended mine operations in March 2014, just three months after its commissioning, due to acid wastewater runoff from the mine into nearby lakes. Chinalco upgraded the drainage system within several days to prevent future occurrences and received authorization to continue operating. Despite these efforts, concerns persist, such as high levels of silver in children's blood reported in 2019, indicating potential gaps in environmental risk mitigation.

The Toromocho project's Environmental Impact Assessment (EIA) was approved on December 14, 2010. However, the process received criticism for lacking transparency and meaningful community participation. A significant source of contention is Chinalco's claim to 34 hectares of land in Antigua Morococha, which locals argue was unjustly transferred. Efforts to challenge the claim in court have failed, exacerbating tensions and highlighting the need for more equitable and transparent governance practices to ensure that local communities benefit from the project. As Chinalco Peru has undertaken efforts to increase production capacity at the site, the EIA has been modified a number of times. The most recent modification to the EIA, approved in 2020, was connected to efforts to increase the daily processing capacity from 140,640 to 170,000 tons.

To mitigate social risks associated with the Toromocho project, Chinalco funded the resettlement of between 4,000 and 5,000 residents to Nueva Morococha, providing improved infrastructure and public services. However, locals have criticized poor housing conditions, high unemployment, and a lack of economic opportunities in the new settlement. The shift to capital-intensive open-pit mining displaced many unskilled local workers who previously relied on underground mining, leaving them with precarious, short-term jobs. They have also cited geographic isolation and unsafe conditions in Nueva Morococha, including high levels of arsenic and lead in the soil. The relocation process began in 2012, but the process has been ongoing for years as a result of, in part, local resistance to relocation. On September 19, 2025, the final five families continuing to live in Antigua Morococha were forcibly displaced by over 250 police officers.

While a "Dialogue Table" between Peruvian government officials, representatives from Chinalco Peru, and the local community was introduced to address community grievances, it has been perceived as ineffective, further straining relations between Chinalco Peru and the affected communities.

Host Country Costs and Benefits

There are certain contractual terms connected to Chinalco Peru's mining rights which are meant to ensure adequate economic benefits to the Peruvian Government and affected communities. According to the terms of the May 2008 concession transfer agreement, Chinalco Peru would be required to pay a royalty to the Peruvian Government, which is split between regional and local governments impacted by the mine. According to Peru's government investment agency ProInversión, as of 2023, the Toromocho project had generated \$166 million in contractual royalties for the Peruvian Government. The transfer agreement also required Chinalco Peru to establish the Fondo Social Toromocho (Toromocho Social Fund) and contribute \$100,000 semi-annually from the start of the mine's operation phase. As of 2024, Chinalco Peru had deposited \$1.8 million in the Toromocho Social Fund.

At the same time, on March 9, 2009, Chinalco Peru S.A. and the Ministry of Energy and Mines of Peru entered into a Guarantee and Investment Promotion Contract that contained tax stability clauses. This agreement stipulates that the legal regime in place at the time the agreement was signed, including tax law, would continue to govern for 15 years. As a result, it prevents Chinalco Peru from being affected by changes in the law that could result in more tax revenue for Peru. However, if Chinalco Peru's tax burden were to decrease, they would still be required to pay the amount agreed to previously. This includes corporate income tax, which was stabilized at 32% and is split according to Peru's Canon Minero laws. These laws send a 50% share of income tax from the central government to the governments of the regions, departments, provinces, districts, and provinces in which a mine is located. According to the updated 2020 EIA, Canon Minero payments to local governments began in 2017 and averaged about 40.7 million Peruvian soles (about \$12.4 million) per year. As a result of the stabilization agreement, Chinalco Peru S.A. is also subject to Peru's Special Mining Contribution ("Gravamen especial a la minería" in Spanish), a charge on quarterly operating profits.

Chinalco Peru also participated, in a limited way, in Peru's Works for Taxes (Obras por Impuestos) program. Through this program, a private firm uses their own resources to fund public works to fill an identified infrastructure gap in exchange for tax credits. The company contributed just under 1 million soles (about \$0.35 million) to a project through this program as of January 2026, which expanded drinking water access and sewage treatment in Yauli.

The Toromocho project was also expected to contribute to the Peruvian economy via local employment and local procurement of goods and services. The Minister of Energy and Mines stated that about 14,000 Peruvian workers were (directly or indirectly) involved with the initial project construction in 2013. The 2020 EIA for the Toromocho expansion project estimated a requirement of 1500 workers (600 skilled, 900 unskilled) during the construction phase, 1,350 of which were expected to be local. Chinalco Peru also must, by law, share 8% of profits with employees. However, lack of employment opportunities is a common criticism among locals. Moreover, the 2020 EIA estimates only a workforce of about 300 direct workers total during the operation and maintenance phase across the entire Toromocho project.

The insights in this profile are derived from [AidData's Chinese Financing for Transition Minerals Dataset, Version 2.0 \(CFTM 2.0\)](#), and the sources referenced therein. The dataset captures \$98 billion of official sector financial commitments that China provided to 47 low-, middle-, and high-income countries between 2000 and 2023 for projects involving the extraction, processing, or trading of transition minerals.

There are 19 records in the dataset which detail financing for the Toromocho mining site from 2000-2023. The unique record IDs are as follows: 36064, 55899, 63411, 56098, 96309, 96310, 108913, 96312, 108914, 108915, 56099, 96305, 96311, 108969, 108973, 108970, 108971, 108972, and 108974.

For any questions or feedback on this profile, please email china@aiddata.org.

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