

Toromocho Copper Mine

Junín Region, Peru

Chinese Financing for Transition Minerals



February 2025

Katherine Walsh



AIDDATA

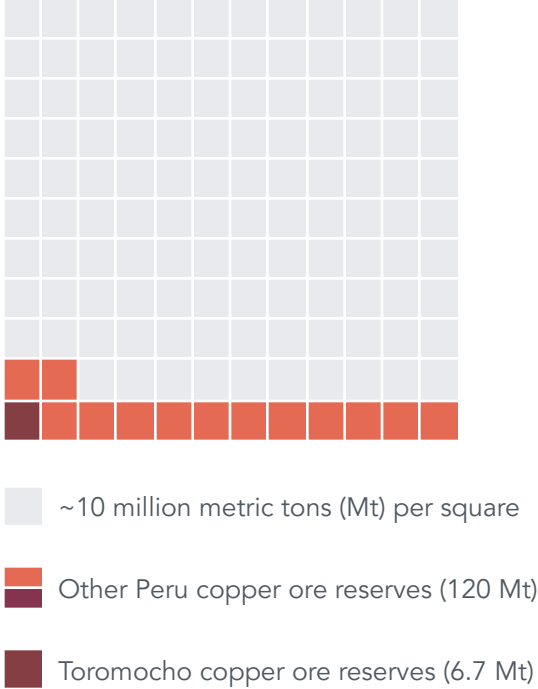
A Research Lab at William & Mary

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: 1,000 Mt



Source: USGS Commodity Summaries 2024

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

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 2024, Peru held an estimated 12% of global copper reserves.

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, three Chinese state-owned banks provided 10 bilateral loans between 2010 and 2017 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 Toromocho copper mine. China Eximbank later 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 provided by the two state-owned policy banks, Shanghai Pudong Development Bank Co., Ltd. (SPDB) also provided a \$27 million loan in 2015 to support the development of the mine.

In total, between 2010 and 2017, China Eximbank, CDB, and SPDB extended \$3.86 billion of credit (in constant 2021 prices) for the Toromocho copper mine development and operations, as represented in

the visual below. 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 2021 prices to adjust for inflation and enable aggregation over time.

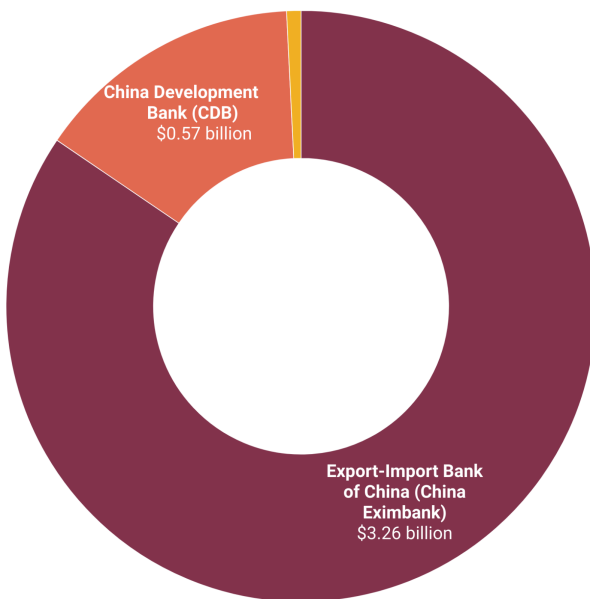
Toromocho Copper Mine: Overview of Chinese Lending and Ownership

Loans	Lenders	Co-financing	Equity Holders	Ownership
\$3.9 billion	3	0%	1	100%
Provided between 2010-2017	Chinese state-owned banks	from non-Chinese lenders	Chinese state-owned enterprise wholly owns the special purpose vehicle	Of the special purpose vehicle is Chinese-owned

Funding Sources

Loans from Chinese State-Owned Banks Constant 2021 USD Billions

- Export-Import Bank of China (China Eximbank)
- China Development Bank (CDB)
- Shanghai Pudong Development Bank Co., Ltd. (SPDB)



Funding By Year

Loans from Chinese State-Owned Banks Constant 2021 USD Billions

- Export-Import Bank of China (China Eximbank)
- China Development Bank (CDB)
- Shanghai Pudong Development Bank Co., Ltd. (SPDB)



Note: The financial commitment amounts represented in the infographic are deflated to constant 2021 prices, which adjusts for inflation and enables aggregation over time. Other financial commitment values in the profile are represented in current prices (i.e., their values in the years when they were committed).

Ownership of Minera Chinalco Perú

(Special Purpose Vehicle)

Aluminum Corporation of China (Chinalco)



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 is discharged into the Yauli River. The plant has significantly improved the region's underground water, which had been contaminated by decades of irresponsible mining by a range of companies from Peru and North America (such as the Cerro de Pasco Corporation and Doe Run from the United States, and subsidiaries of Pan American Silver from Canada).

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

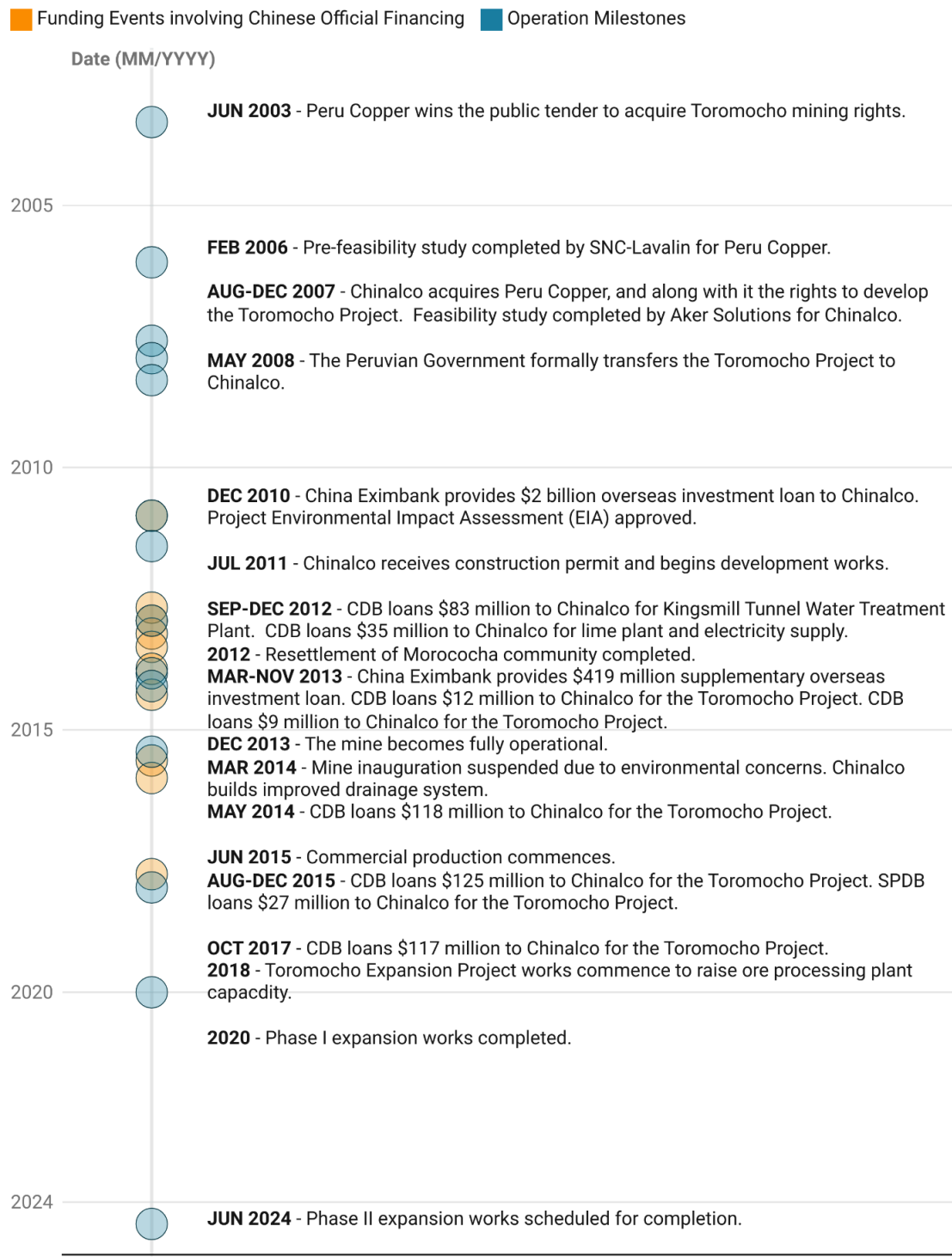
2013, a \$9 million loan in November 2013, a \$118 million loan in May 2014, a \$125 million loan in August 2015, and a \$117 million loan in October 2017. The borrowing terms of these loan facilities are unknown; however, certain contractual terms are known. The \$125 million facility from 2015 was 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 provided by the two state-owned policy banks, Shanghai Pudong Development Bank Co., Ltd. (SPDB) also provided a \$27 million loan in December 2015 to support the development of the mine.

Toromocho Copper Mine in Peru

Estimated closure phase: 2034-2039

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 decades) 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. However, three months after its inauguration, the operation of the mine was suspended by Peru's Environment Assessment and Enforcement Agency (OEFA), after it discovered illegal discharge of acid effluents in two nearby lakes. Chinalco quickly resolved this matter by building improved drainage and explained the incident as a result of unusually heavy rainfall which caused unexpected acid runoffs. The Toromocho copper mine 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 scheduled for completion in June 2024. 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 above, Chinalco Peru received 10 bilateral loans from 3 different Chinese state-owned banks between 2010 and 2017 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. Following an acid runoff incident in 2014, Chinalco upgraded the drainage system to prevent future occurrences. 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 over 4,000 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. 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.

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 transfer agreement, Chinalco Peru would be required to pay a royalty to the Peruvian Government and to establish a social investment fund, which would become known as the Fondo Social Toromocho (Toromocho Social Fund). According to Peru's government agency ProInversión, as of 2024 the Toromocho project had generated \$49.3 million in contractual royalties for the Peruvian Government, and Chinalco Peru had deposited \$1.8 million in the Toromocho Social Fund, which would be allocated to projects to improve the economic and social conditions of the surrounding

communities. Expansion works underway at the site as of 2024 would be expected to generate another \$200 million in contractual royalties and another \$4.4 million and 5.9 million Peruvian Soles for the Toromocho Social Fund.

The insights in this profile are derived from [AidData's Chinese Financing for Transition Minerals Dataset, Version 1.0](#) (CFTM 1.0), and the sources referenced therein. The dataset captures \$56.9 billion of official sector financial commitments that China provided to 19 low- and middle-income countries between 2000 and 2021 for projects involving the extraction or processing of copper, cobalt, lithium, nickel, and rare earth elements. An accompanying report, [Power Playbook: Beijing's Bid to Secure Overseas Transition Minerals](#), analyzes the dataset and provides evidence about the nature, scale, and scope of the PRC's overseas financing for the extraction and processing of energy transition minerals.

There are 10 records in the dataset which detail financing for the Toromocho mining site from 2000-2021. The unique record IDs are as follows: 96311, 96305, 56099, 96312, 96310, 96309, 56098, 63411, 55899, and 36064.

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

To cite this profile:

Walsh, K. (2025). *Toromocho Copper Mine: Chinese Financing for Transition Minerals*. Williamsburg, VA: AidData at William & Mary.



AidData & William & Mary,
PO Box 8795, Williamsburg, VA 23185.
www.aiddata.org | @AidData