



China's Bid to Dominate Electrical Connectivity in Latin America

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Introduction

On March 31, Chilean regulators unconditionally approved the \$3 billion sale of Chile's Compañía General de Electricidad (CGE) to the Chinese state-owned electric utility company State Grid (InfoBae, (<https://www.infobae.com/america/agencias/2021/03/31/regulador-chileno-aprueba-sin-condiciones-compra-de-electrica-cge-por-china-state-grid-2/>), March 31). The deal follows China Southern Power Grid's 2018 purchase of a 27.7 percent interest in Transelec for \$1.3 billion; China Water and Electric (CWE)'s purchase of Atiaia Energy and State Grid's \$2.23 billion acquisition of Chilquinta Energia, giving Chinese companies control of 57 percent of total electricity transmission in the country (Transelec (<https://www.transelec.cl/china-southern-power-grid-international-concreta-compra-de-277-de-transelec/>), March 15, 2018; CWE (<http://english.cwe.cn/contents/88/9250.html>), June 26, 2018; La Tercera (<https://www.latercera.com/pulso-trader/noticia/es-oficial-firma-china-sgid-toma-el-control-de-chilquinta/OZNJFGCEMVAY5ARKWAHRPXLPSQ/>), June 24, 2020; El Mercurio (<https://www.emol.com/noticias/Economia/2020/11/13/1003677/china-compra-chilena-cge-espanola.html>), November 13, 2020).

These acquisitions are part of a broader pattern that has accelerated in recent years, in which companies based in the People's Republic of China (PRC) have expanded their control over Latin American energy generation, transmission and distribution through acquisition and infrastructure construction. China's expanding control may be understood as an additional dimension of its Belt and Road Initiative (BRI), a wide-ranging foreign policy strategy in which the PRC employs the

巴西美丽山水电±800kV特高压直流送出二期项目
Cerimônia de Lançamento da Pedra Fundamental do Projeto Xingu Rio
±800kV UATCC da Transmissão de Energia de Belo Monte

开工仪式



Brazil's then-Minister of Mines and Energy Fernando Coelho Filho spoke at a groundbreaking ceremony for the Belo Monte-Rio de Janeiro UHV DC transmission line project on September 28, 2017, to be constructed and operated by the China State Grid subsidiary Xingu Rio Transmissora de Energia. (Source: Sohu).

combined tools of statecraft, state-directed finance and state-owned or state-subsidized companies to build physical and other networks within the global economy in ways that serve the accumulation of wealth and power by the Chinese state.

China's advances in electricity infrastructure are consistent with, and complementary to, its better-known building and operation of physical infrastructure such as roads, ports and—more recently—“Digital Silk Road” infrastructure such as telecommunications and e-commerce. Such projects generate business for Chinese companies and banks, facilitate access to markets and products and create leverage for the PRC to advance its commercial interests in other areas.

Chinese Energy Projects in Latin America

With respect to electricity generation, Chinese companies have acquired and built a broad array of hydropower, wind, solar and nuclear projects in the region. Major Chinese hydropower projects in the last decade include:

- At least seven in Ecuador (Coca Coda Sinclair, Toachi Pilaton, Minas San Francisco, Termoesmereldas II, Delsitansagua, Mazar Dudas, and Quijos);[1]
- Three in Bolivia (Rositas, Misicuni and San Jose);[2]
- Two in Argentina (Nestor Kirchner and Jose Copernic) (Dialogo Chino (<https://dialogochino.net/es/clima-y-energia-es/33727-con-nuevo-gobierno-argentina-reactiva-las-represas-en-la-patagonia/>), March 25);
- Five in Chile, acquired through SPIC's 2017 purchase of Pacific Hydro (People's Daily (<http://en.people.cn/n3/2017/0209/c90000-9175998.html>), February 9, 2017), in addition to the (failed) Hidroaysen project in Patagonia, Chile (El Mercurio (<https://www.emol.com/noticias/economia/2014/03/11/649167/badenier-dice-que-rapidamente-se-resolveran-reclamaciones-pendientes-por-hidroaysen.html>), March 11, 2014);
- Two facilities in Peru (Chaglla and San Gaban II) (El Comercio (<https://elcomercio.pe/politica/actualidad/resuelven-pedido-de-odebrecht-noticia/>), November 5, 2019; BNAmericas (<https://www.bnamericas.com/es/noticias/grupo-liderado-por-firma-china-obtiene-contrato-por-proyecto-hidroelectrico-en-peru>), February 18);
- Two attempted projects in Honduras (Aqua Zarca and Patucha III) (La Prensa (<https://www.laprensa.hn/honduras/1309624-410/patucha-iii-fiasco-enee-pagaran-abonados-crisis>), August 12, 2019);
- The Hydroituango project in Colombia (La Republica, (<https://www.larepublica.co/economia/segundo-intento-de-sinohydro-para-quedarse-con-obras-del-rio-magdalena-2475491>), February 23, 2017).
- And the failed attempt to build the Amaila Falls facility in Guyana (Stabroek News (<https://www.stabroeknews.com/2012/09/12/news/guyana/amaila-hyro-project-construction-agreement-signed-in-china/>), September 12, 2012).

In addition to the above list, China Three Gorges spent \$1.2 billion in 2016 to acquire the Brazilian assets of Duke Energy, which included 8 hydroelectric facilities with more than 2 Gigawatts of power (Duke Energy (<https://news.duke-energy.com/releases/duke-energy-to-sell-its-brazilian-business-to-china-three-gorges-corporation-for-1-2-billion-enterprise-value>), October 10, 2016).

Regional Chinese wind projects include:

- Goldwind's participation in the three phase Villonaco project in Ecuador (BNAmericas (<https://www.bnamericas.com/en/news/ecuador-to-award-villonaco-wind-and-el-aromo-photovoltaic-projects-in-september>), March 19, 2020);
- Power China and Goldwind's participation in the four-phase Loma Blanca project in Chubut, Argentina (Xinhua (http://www.xinhuanet.com/english/2019-04/29/c_138021701.htm), April 29, 2019);
- Hydrochina's construction of a 3 MW windfarm in Cochabamba, Bolivia (Xinhua, (<http://en.people.cn/business/8502796.html>), January 3, 2014);
- And China State Power Investment Corporation (SPIC)'s acquisition of Zuma energy, with wind and solar projects in four Mexican states (BNAmericas (<https://www.bnamericas.com/es/noticias/grupo-liderado-por-firma-china-obtiene-contrato-por-proyecto-hidroelectrico-en-peru>), February 18).

Regional Chinese solar projects include:

- Latin America's largest solar park, Cauchari, in Argentina ([La Nacion \(https://www.lanacion.com.ar/economia/jujuy-cauchari-parque-solar-mas-grande-america-nid2461924/\)](https://www.lanacion.com.ar/economia/jujuy-cauchari-parque-solar-mas-grande-america-nid2461924/), September 26, 2020)
- The El Aroma project in Ecuador ([BNAmericas \(https://www.bnamericas.com/en/news/ecuador-to-award-villonaco-wind-and-el-aromo-photovoltaic-projects-in-september\)](https://www.bnamericas.com/en/news/ecuador-to-award-villonaco-wind-and-el-aromo-photovoltaic-projects-in-september), March 19, 2020).

In addition, Chinese solar panel makers such as JinkoSolar have been key suppliers to other projects across the region ([Jinko Solar \(https://ir.jinkosolar.com/news-releases/news-release-details/jinkosolar-supply-609-mw-first-industrial-hybrid-plant-chile\)](https://ir.jinkosolar.com/news-releases/news-release-details/jinkosolar-supply-609-mw-first-industrial-hybrid-plant-chile), June 22, 2020). Globally, China supplies around half of all solar panels ([International Energy Administration \(https://www.iea.org/data-and-statistics/charts/chinas-share-in-global-solar-pv-manufacturing-and-demand-2006-2017\)](https://www.iea.org/data-and-statistics/charts/chinas-share-in-global-solar-pv-manufacturing-and-demand-2006-2017), December 10, 2019).

The Chinese construction of nuclear projects in the region is a relatively recent development, including the experimental Hualong-1 reactor in Argentina's Atucha complex and a bid to build a new reactor for Brazil's Angra nuclear complex ([La Nacion \(https://www.lanacion.com.ar/economia/la-energia-nuclear-una-herencia-a-resolver-con-china-nid2326138/\)](https://www.lanacion.com.ar/economia/la-energia-nuclear-una-herencia-a-resolver-con-china-nid2326138/), January 22, 2020; [NucNet \(https://www.nucnet.org/news/brazil-plans-to-choose-partner-by-end-of-year-says-minister-8-1-2020\)](https://www.nucnet.org/news/brazil-plans-to-choose-partner-by-end-of-year-says-minister-8-1-2020), August 24, 2020).

Apart from these new energy investments, China has also been involved in fossil fuel-based energy generation in Latin America, including acquisitions of gas-fired power plants in the port of Açú in Brazil by State Power Investment Corporation (SPIC) and work on the Jaguar thermoelectric facility in Guatemala and the Martano gas fired generation facility in Colon, Panama—although the latter two projects are currently suspended ([Reuters \(https://www.reuters.com/article/gna-Ing-brazil-idUSL1N2FC0QJ\)](https://www.reuters.com/article/gna-Ing-brazil-idUSL1N2FC0QJ), August 10, 2020; [Kluwer \(http://arbitrationblog.kluwerarbitration.com/2018/11/06/singapore-high-court-upholds-multi-million-dollar-icc-award-relating-power-plant-project-guatemala/?print=print\)](http://arbitrationblog.kluwerarbitration.com/2018/11/06/singapore-high-court-upholds-multi-million-dollar-icc-award-relating-power-plant-project-guatemala/?print=print), November 6, 2018; [Reuters \(https://www.reuters.com/article/us-shell-Ing-panama-exclusive/exclusive-shell-wins-Ing-deal-to-supply-chinese-firms-power-plant-in-panama-idUSKCN1M02IS\)](https://www.reuters.com/article/us-shell-Ing-panama-exclusive/exclusive-shell-wins-Ing-deal-to-supply-chinese-firms-power-plant-in-panama-idUSKCN1M02IS), September 20, 2018).

Constructing Energy Projects: Long-Term Investments & Low-Cost Components

In general, China's advance in electricity generation has benefitted from its capacity for large-scale state financing. China has also leveraged the work of infrastructure construction companies such as China Harbor to gain a competitive edge in bidding for hydroelectric projects in particular. In the wind and solar sectors, China has exploited its ability to combine long-term financing with the supply of relatively low-cost components, often working with European or other system integrators and local partners ([Reuters \(https://www.reuters.com/article/us-chile-energy-solar/in-chiles-atacama-desert-a-cautionary-tale-for-bold-renewable-energy-vows-idUSKBN1X9132\)](https://www.reuters.com/article/us-chile-energy-solar/in-chiles-atacama-desert-a-cautionary-tale-for-bold-renewable-energy-vows-idUSKBN1X9132), October 30, 2019).

Case Study: State Grid in Brazil

In electricity transmission, distribution and generation, the PRC has advanced by building facilities and also by acquiring Western companies with Latin American holdings. Chinese companies first began to expand their presence in electricity transmission and distribution on a significant scale in 2010, beginning with the \$1 billion acquisition of seven power firms in Brazil ([China.org \(http://www.china.org.cn/business/2010-08/27/content_20805031.htm\)](http://www.china.org.cn/business/2010-08/27/content_20805031.htm), August 27, 2010). State Grid then bought the Brazilian assets of the Spanish company ACS in 2012, and later acquired the Brazilian company CPFL through a series of acquisitions, including a \$1.8 billion purchase from Camagro in 2016 (followed by the purchase of \$3.4 billion in stock from the remaining minority shareholders in 2017 (CPFL (<https://www.cpfl.com.br/institucional/stategrid/Paginas/default.aspx>), accessed May 10; Reuters, (<https://www.cpfl.com.br/institucional/stategrid/Paginas/default.aspx>) July 1, 2016 (<https://www.reuters.com/article/us-cpfl-energia-state-grid-corp-m-a/chinas-state-grid-to-pay-1-8-billion-for-big-stake-in-brazils-cpfl-idUSKCN0ZI02Z>); November 30, 2017 (<https://www.reuters.com/article/cpfl-energia-delisting/state-grid-buys-3-4-bln-in-cpfl-from-minority-shareholders-idUSL1N1O02LI>)).

State Grid's construction of a 1,578 mile transmission line in 2019 cemented China's expanding presence in Brazil, connecting the new Belo Monte hydroelectric facility to Brazil's southeastern power grid, which supports the economic core of the country ([China Daily \(https://www.chinadaily.com.cn/a/201911/14/WS5dcc8604a310cf3e35577345.html\)](https://www.chinadaily.com.cn/a/201911/14/WS5dcc8604a310cf3e35577345.html), November 14, 2019). State Grid currently holds an estimated \$25 billion in assets in Brazil ([China Daily \(https://www.chinadaily.com.cn/a/201911/14/WS5dcc8604a310cf3e35577345.html\)](https://www.chinadaily.com.cn/a/201911/14/WS5dcc8604a310cf3e35577345.html), November 14, 2019).

In addition to State Grid's increasing capture of Brazilian electricity generation, Chinese companies have also sought contracts connecting their new hydroelectric facilities in Ecuador, Panama, Peru and Chile. Chinese companies unsuccessfully attempted to build a fourth electricity generation line across Panama in 2019. Notwithstanding this failure, they continue to compete for other transmission projects there ([La Estrella \(https://www.laestrella.com.pa/economia/190509/linea-etesa-cuarta-inconsistencias\)](https://www.laestrella.com.pa/economia/190509/linea-etesa-cuarta-inconsistencias), September 5, 2019; [ETESA \(https://www.etesa.com.pa/es/noticias/proceso-licitacion-para-puesta-en-marcha-la-linea-transmision-sabanitas-panama-iii\)](https://www.etesa.com.pa/es/noticias/proceso-licitacion-para-puesta-en-marcha-la-linea-transmision-sabanitas-panama-iii), September 24, 2020). Beginning in 2019, Chinese companies acquired important transmission and distribution assets in Peru in the strategically important greater Lima area, with Yangtze Power's \$3.6 billion acquisition of Luz de Sur from Sempra Energy ([Sempra \(https://www.sempra.com/sempra-energy-completes-359-billion-divestiture-luz-del-sur-peru\)](https://www.sempra.com/sempra-energy-completes-359-billion-divestiture-luz-del-sur-peru), April 24, 2020). And as already noted, PRC-based companies have acquired 57 percent of the Chile's electricity distribution and a significant portion of its generation and transmission potential through the purchases of interests in Transelec, Atiaia, Pacific Hydro, Chilquinta and CGE.

Impact of Chinese Presence in Latin America's Energy Industry

China's role in electricity generation and transmission in the region allows it to contribute low-cost components and long-term financing for infrastructure expansion, which has arguably played a role in the advance of clean energy and low-cost electricity in general. At the same time, Chinese investments have run into a combination of project difficulties and frequently generated social

unrest. In addition, long-term questions about who ultimately benefits from Chinese projects remain, along with growing concerns about the degree of Chinese influence over the region's business, administrative and political dynamics based on its outsized presence in the energy industry.

In the hydroelectric sector especially, Chinese projects have been repeatedly linked to problems with local communities, including protests regarding the displacement of indigenous and other populations from areas facing flooding and other damages. Notable examples include violent protests associated with the Aqua Zarca and Patuca III hydroelectric projects in Honduras, Rositas and Misicuni in Bolivia and Hidroaysen in Chile (BBC (<https://www.bbc.com/mundo/noticias-america-latina-39149512>), March 3, 2017; El Herald (<https://www.elheraldo.hn/regionales/828907-469/honduras-siguen-detenido-trabajos-en-represa-patuca-iii>); Monogabay (<https://es.mongabay.com/2020/01/hidroelectrica-rositas-indigenas-y-ambientalistas-temen-reactivacion-de-polemico-proyecto/>), January 20, 2020; (La Razon (https://elpais.com/elpais/2015/07/13/planeta_futuro/1436796771_984802.html), July 30, 2015 UChile Radio (<https://radio.uchile.cl/2012/03/14/protestas-por-hidroaysen-marcan-dia-mundial-contra-las-represas/>), March 14, 2012).

Across the board, Chinese electricity projects have had a striking record of problems. Indeed, of the Chinese hydroelectric projects mentioned in this article, almost every construction project has been associated with social conflicts, significant delays and questions of defects, with the PRC-based partner withdrawing or being removed from several projects. The otherwise pro-Chinese government of Rafael Correa in Ecuador fined China Water and Electric \$3.25 million for falling behind on the Toachi Pilaton project in 2015 (El Comercio (<https://www.elcomercio.com/actualidad/multa-cwe-china-toachi-pilaton.html>), February 15, 2015). Regarding a separate incident in January 2016, Ecuador found China National Electrical Engineering Corporation to be in non-compliance with its contracted work on the Mazar Dudas and Quijos facilities and blocked it from further contracts with the state (El Comercio (<https://www.elcomercio.com/actualidad/empresa-china-electrica-ecuador-incumplida.html>), January 18, 2016). Most recently, poor engineering on the Chinese Coca Coda Sinclair project in Ecuador—already plagued by numerous defects—led to rapid and significant shifts in the Coco river that produced dangerous erosion and forced the closure of one of the country's main export-oriented oil pipelines (BBC (<https://www.bbc.com/mundo/noticias-america-latina-47144338>), February 25, 2019; El Comercio (<https://www.elcomercio.com/actualidad/deslizamiento-cauce-rio-coca-marker.html>), July 18, 2020).

Conclusion

The PRC's continued focus on clean energy, transmission and distribution technologies, however obtained, with the support of Chinese financing partners and the government, makes it likely that PRC domination of the sector will only broaden. The combination of Latin American fiscal constraints and economic needs exacerbated by Covid-19 further contributes to the likelihood of a Chinese advance, with cash-strapped countries now more likely to agree to Chinese-financed projects on terms that they might have rejected in better days. The continued weakness of the Latin American

market also increases the likelihood that Western companies will continue to sell off their Latin American assets to concentrate on more familiar domestic markets or the more lucrative Asian market, as they did following the 2008 financial crisis.[3]

Perhaps of greatest concern is that the PRC's move toward a dominant position in electricity generation and transmission, including new clean energy and transmission technologies, positions it to support commercial advances elsewhere and capture an increasing share of value added across an array of strategic sectors in the region. The PRC has a track record of using regulation and other tools to limit foreign companies' access to its own domestic markets, while simultaneously leveraging its dominant market position in certain sectors to help Chinese companies expand globally. For example, the PRC used Brazil's need for Chinese-made Covid-19 vaccines to secure a place for itself in the nation's 5G telecommunications auction ([New York Times \(https://www.nytimes.com/2021/03/15/world/americas/brazil-vaccine-china.html\)](https://www.nytimes.com/2021/03/15/world/americas/brazil-vaccine-china.html), January 15). China's role as a major regional electricity supplier could help support PRC-based companies in the future, allowing China to reward collaborators and undercut adversaries or competitors by making strategic choices regarding the supply of electricity and the construction of critical infrastructure.

Electricity is key to almost every dimension of Latin America's economies, and will be key to the region's development of technology-intensive economic growth. China's ever-expanding position in the sector merits continued vigilance as yet another "double edged" sword of its Belt and Road engagement, facilitating economic activities in the region in ways that ultimately steer global flows of wealth to its advantage.

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Notes

[1] R. Evan Ellis, "Ecuador – Leveraging China to Pursue an Alternative Political and Development Path," *Air & Space Power Journal en Español*, 3rd Trimester, 2019, https://www.airuniversity.af.edu/Portals/10/ASPJ_Spanish/Journals/Volume-30_Issue-4/2018_4_05_ellis_s_eng.pdf (https://www.airuniversity.af.edu/Portals/10/ASPJ_Spanish/Journals/Volume-30_Issue-4/2018_4_05_ellis_s_eng.pdf).

[2] R. Evan Ellis, "Chinese Engagement with Bolivia – Resources, Business Opportunities, and Strategic Location," *Air & Space Power Journal en Español*, 2nd Semester 2016, http://www.airpower.au.af.mil/apjinternational/apj-s/2016/2016-2/2016_2_03_ellis_s_eng.pdf. Pp. 3-19.

[3] R. Evan Ellis, "Covid-19 acelerará avance de China en un mundo más desconfiado: Proyecciones para América Latina," *RedCaem*, June 1, 2020, <http://chinayamericalatina.com/covid-19-acelerara-avance-de-china-en-un-mundo-mas-desconfiado-perspectivas-para-america-latina/>.



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