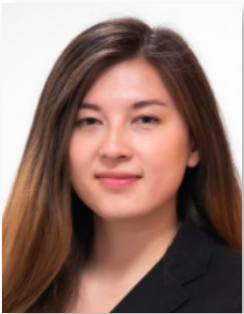




GLOBAL CHINA INITIATIVE



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Green Horizons?

CHINA'S GLOBAL ENERGY FINANCE IN 2022

CECILIA SPRINGER, ISHANA RATAN, YUDONG NATHAN LIU, JIA GU

EXECUTIVE SUMMARY

A new update to the China's Global Energy Finance (CGEF) Database, managed by the Boston University Global Development Policy Center, estimates that from 2000-2022, China's two development finance institutions (DFIs)—the China Development Bank (CDB) and the Export-Import Bank of China (CHEXIM) — have provided 331 loans, totaling \$225 billion for 65 public borrowers for energy projects around the world.

For the year 2022, the CGEF Database recorded a total of zero new energy sector loan commitments from CDB and CHEXIM to government borrowers, signifying two consecutive years of no new lending.

The CGEF Database is an interactive data project that provides an estimate of lending commitments for global energy projects from CDB and CHEXIM. The commitments tracked are international sovereign loans, which means the recipient is a public entity, public majority owned or a private entity with a sovereign guarantee.

Main findings:

- From 2000-2022, CDB and CHEXIM provided 331 loans, totaling \$225 billion, for 65 public borrowers for energy projects around the world.
- 2022 marks the second year in a row that China's DFIs did not issue new loan commitments for the energy sector overseas.





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- Despite the decline since 2016 in loan commitments and size, the amount of energy finance China's DFIs have provided surpasses the energy sector lending offered to public entities by any other global lender and significantly outpaces the cumulative energy sector lending by the World Bank.
- The largest share of existing loan commitments from China's DFIs has been to exploration and extraction activities in the energy sector.
- Power generation received the second largest amount of lending commitments across energy subsectors. In terms of energy source, fossil fuels have received the most support, with coal, oil and gas representing 73 percent of the lending. Oil was the largest energy source by amount of finance, followed by gas and liquefied natural gas (LNG).
- China's commitments to stepping up support for green and low-carbon energy have yet to emerge in the form of development finance.

A decline in China's overseas energy finance since 2016 is evident, especially with the lack of new commitments in the last two years. The factors behind this decline include the impacts of the COVID-19 pandemic and a pivot within China's financial institutions towards domestic economic growth. Additionally, a changing regulatory environment in China and debt distress in host countries further contributed to this decline prior to the COVID-19 pandemic. Nevertheless, from a comparative perspective on global development finance, China's cumulative contributions in the energy sector overshadow those of other major DFIs, including the World Bank.

The 2023 update to the CGEF Database confirms that the largest energy subsector that Chinese DFIs have supported is exploration and extraction, followed by power generation. Oil is the largest funded energy source in the database, followed by gas and liquefied natural gas (LNG).

Several trends have emerged in China's global energy finance that are profiled in this policy brief, in addition to the ongoing dearth of new lending commitments. First, suspension and cancellation of China's energy projects underscore a paradigm shift in both global energy decision-making and China's overseas financing practices. This is especially pertinent for coal and hydropower ventures, given environmental concerns. Project-level issues reflect a larger trend in China's overseas lending towards a 'small is beautiful' approach and alternative types of finance and investment besides development finance. In addition, experiences in the energy sector have in part led China to emphasize sustainable and environmentally conscious development.

Despite China's 2021 commitment to step up support for green and low-carbon energy in developing countries, a shift towards renewable energy development finance has yet to emerge. As the world recovers from the pandemic and as the costs of renewable energy components decrease, China's established financial and technical prowess is uniquely positioned to foster green energy transitions abroad. In addition, China's recent Belt and Road Forum indicates significant support for scaling up overseas green-energy related activities.

Future updates to the CGEF Database will continue tracking the trajectory of China's overseas energy finance both in terms of scale and composition.

UPDATES TO THE CHINA'S GLOBAL ENERGY FINANCE DATABASE

The China's Global Energy Finance (CGEF) Database, updated annually by the Boston University Global Development Policy Center (GDP Center), is an interactive data project that provides an estimate of lending commitments for global energy projects from China's key development finance institutions (DFIs): the China Development Bank (CDB) and the Export-Import Bank of China

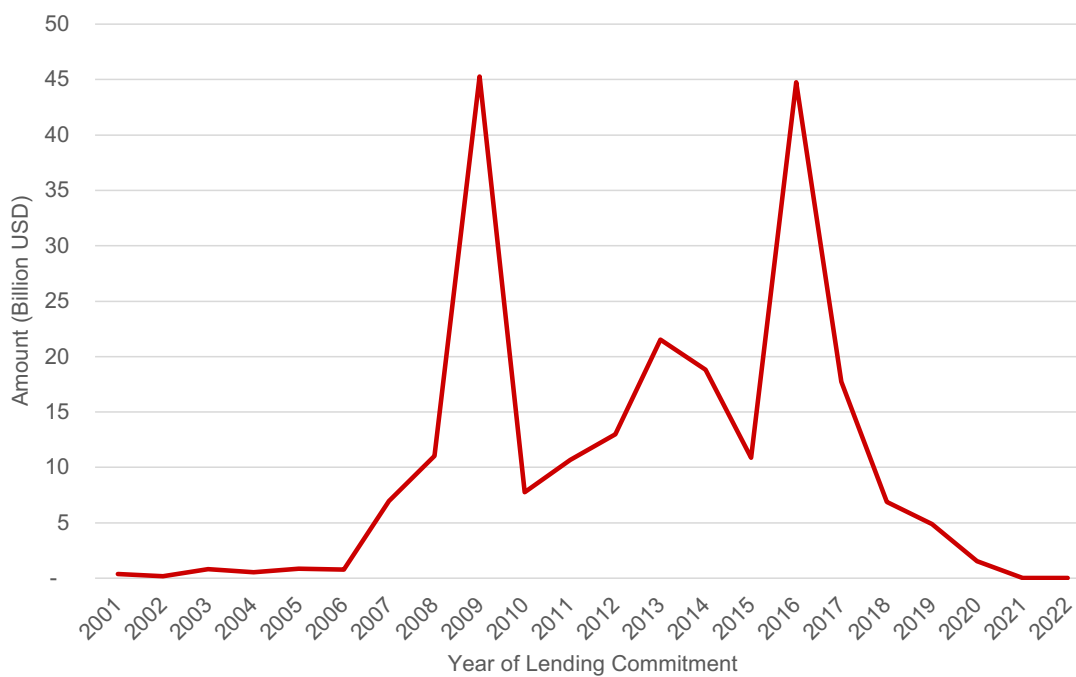


(CHEXIM).¹ The commitments tracked are international sovereign loans, which means the recipient is a public entity, public majority owned or a private entity with a sovereign guarantee.²

During the most recent update, the CGEF Database was cross-checked with other databases managed by the GDP Center. Manual and algorithmic web searches were performed in order to search for new lending commitments according to the GDP Center’s established database methodology (Springer et al. 2023). All entries within the CGEF Database have undergone double verification. The CGEF Database tracks development finance for loans extended to overseas recipients with majority public ownership and private entities with sovereign guarantees. Prior entries falling outside the purview of the CGEF Database have been removed, existing entries’ attribute information has been updated and missing entries have been incorporated. A summary of changes is available in the Appendix.

From 2000-2022, the CGEF Database identified a total of 331 loans amounting to \$225 billion committed to 65 public borrowers for energy-related projects from CDB and CHEXIM. In 2022, for the second year in a row, China’s DFIs provided no new loan commitments for overseas energy-related projects, as shown in Figure 1.

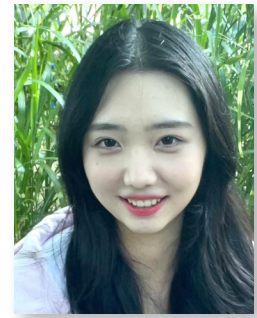
Figure 1: China’s Global Energy Finance, 2000-2022



Source: Boston University Global Development Policy Center 2023a.

¹ China Development Bank (CDB) and the Export-Import Bank of China (CHEXIM) were referred to as “policy banks” in previous GDP Center publications. The government of China classifies CDB as a commercial bank that is also a development finance institution (DFI). CHEXIM is also considered an export credit agency that supports goods and services exports for the purpose of domestic development in China. Given different classifications, the GDP Center bases the classification on definitions from Finance in Common, the global network of public development banks. They state that DFIs are stand-alone entities that primarily issue financial instruments such as loans for project-specific purposes with a public policy mandate, under a government-led strategy (Xu et. al. 2021). For this reason, both CDB and CHEXIM are labelled as DFIs.

² Across GDP Center databases on China’s overseas finance, when an entity is private, researchers aim to identify whether there is a sovereign guarantee.



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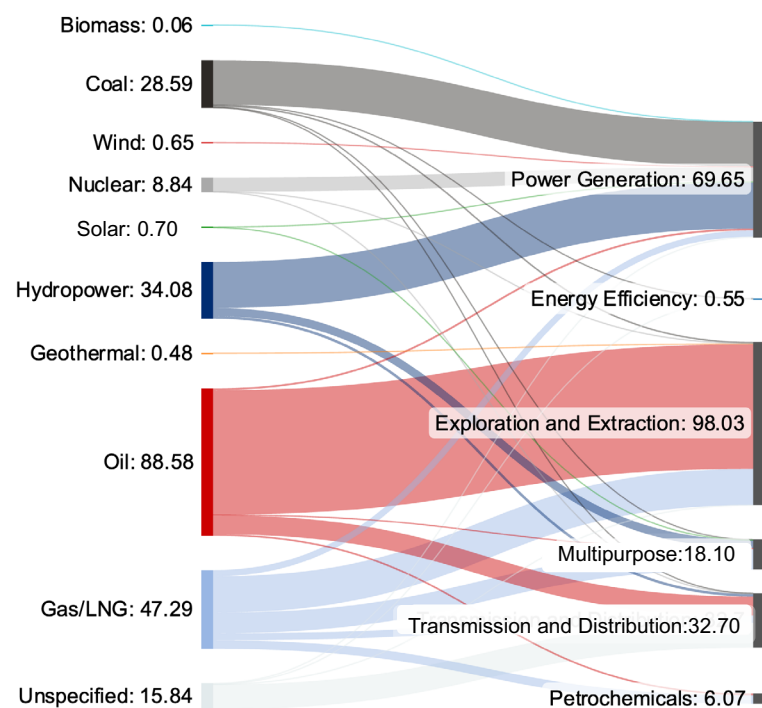


China's overseas energy finance has declined since a peak in 2016, largely due to two key factors: the COVID-19 pandemic and changing lending and borrowing practices in China and host countries, discussed further on. The peak in finance in 2009 was driven by several massive oil loans, with just four projects representing 80 percent of that year's total.³

In the broader context of global development finance, new commitments from DFIs have been decreasing, especially multilateral development banks (MDBs), in part due to restricted borrowing capacity in host countries. Analysis of energy sector development finance from 2016-2021 reveals that the collective energy finance from CDB and CHEXIM still outstrips contributions from other prominent DFIs, including the World Bank (Ma et al. 2022). From 2016 onward, China's DFIs distributed 87 loans, valued at \$75.7 billion to 25 public borrowers within the energy sector. This amount surpasses the energy sector lending offered to public entities by any other global lender and significantly outpaces the cumulative energy sector lending by the World Bank during the same time-frame. Thus, while China's overseas energy lending has decreased since 2016, it is still substantial when compared with other multilateral and national development banks.

The largest share of existing loan commitments from China's DFIs has been to exploration and extraction activities in the energy sector, as shown in Figure 2.

Figure 2: Flows of Energy Sources to Energy Subsectors (billion USD)



Source: Boston University Global Development Policy Center 2023a.

Power generation received the second largest amount of lending commitments across energy subsectors. In terms of energy source, fossil fuels have received the most support, with coal, oil and gas representing 73 percent of the amount of lending tracked in the CGEF Database. Oil was the largest energy source by total loan amount, followed by gas and liquefied natural gas (LNG).

³ The four projects were a ten-year oil supply plan for Brazil (\$7 billion), the Eastern Siberia–Pacific Ocean Oil Pipeline in Russia (\$10 billion), a loan for oil export from Russia (\$15 billion) and a joint fund for oil exploration and extraction in Venezuela (\$4 billion). The 2016 peak was also driven by two massive loans representing half of that year's lending – the Yamal LNG project in Russia (\$11.8 billion) and a Sonangol recapitalization in Angola (\$10 billion).



THE DRIVERS OF DECLINE IN CHINA'S GLOBAL ENERGY FINANCE

There are several noteworthy factors driving the recent decline in China's global energy development finance. In the past three years, the COVID-19 pandemic has been a key factor limiting China's overseas development finance in the energy sector and writ large, as has growing levels of debt distress in the Global South. At the project level, some energy projects have encountered delays and cancellations, which may shape overall levels of lending, as well as the types of projects that receive support in the future. Finally, China has made several announcements about a shift towards green and low-carbon energy overseas, but development finance for these types of energy is still forthcoming (Springer 2022). The following section delves deeper into describing these drivers, explaining how they have shaped China's past overseas energy lending and how they may shape future projects.

COVID-19 Pandemic, Changing Domestic Priorities and Increasing Debt Distress

China's overseas energy finance levels have declined since 2016, with no new lending commitments in 2021-2022. In the past three years, the COVID-19 pandemic has been a key factor limiting China's overseas development finance in the energy sector and writ large. The pandemic substantially curtailed cross-border activities and the ability to negotiate large infrastructure packages, with travel restrictions lifted in early 2023. The pandemic has had substantial impacts on China's economy, including dampening growth in gross domestic product (GDP). China's financial institutions have pivoted away from overseas lending and towards bolstering domestic economic growth (Moses et al. 2023). Indeed, CDB's most recent annual report shows that it is primarily focused on domestic activities (Myers and Ray 2023), while development finance as a whole has shifted towards a 'small is beautiful' approach and projects with smaller geographic footprints (Ray 2023).

Additionally, prior to the COVID-19 pandemic, the regulatory landscape in China was shifting towards more risk-averse lending practices. The China Banking and Insurance Regulatory Commission has steadily issued guidelines since 2016 aimed at risk mitigation for overseas lending (Ma and Gallagher 2020). Host country factors have also played a role. For instance, certain countries are facing rising debt-to-GDP ratios and debt distress (Ramos et al. 2023). Countries may also be facing limits in terms of their ability to borrow for new projects due to challenges managing existing loans (and associated projects). The recent rash of loan renegotiations and requests give credence to the notion that at least certain countries are now more concerned with the consequences of earlier debts than with enthusiastically taking on new loans (Cash 2023). These factors combined have limited China's overseas energy development finance in recent years.

Project Suspensions and Cancellations

China's energy projects, specifically power generation projects, have experienced different levels of suspension and cancellation based on the type of energy used for electric power generation. China has become one of the largest power plant financiers in the world in terms of both development finance, as well as commercial lending and foreign direct investment (FDI). A dataset on Chinese-invested power plants found that between 1997-2020, out of a total of 1,393 overseas power projects across 78 countries with investment by Chinese firms, 75 units have been suspended or canceled (Lu et al. 2023). Coal and hydropower projects have higher suspension rates compared to wind and solar projects. Moreover, project suspension and cancellation are linked with specific environmental risks. The suspension rate for coal projects is positively correlated with population density, climate-related fatalities and the presence of environmental protests. For hydropower projects, the proximity to protected areas is associated with a higher likelihood of being halted. Coal and hydropower have been the largest destinations for Chinese development finance and FDI in the global power sector, yet, in recent years, new policies have limited China's overseas support for these technologies, in part due to the environmental risks encountered.



Specific project experiences can shed light on suspensions and cancellations of China's overseas power projects. The Mazar Dudas hydropower plant in Ecuador in Cañar Province was meant to consist of three small units totaling 21 MW of capacity. CDB supported this plant via a \$41.6 million loan committed in 2011, and the China National Electric Engineering Company (CNEEC) was contracted for project construction. However, of the three units, only one, the 6.2MW Alazán unit, was commissioned in 2017. The other two units are indefinitely delayed. The Electric Corporation of Ecuador terminated the construction contract with CNEEC due to non-compliance (Lozano 2019). China has provided development finance for several hydropower projects in Ecuador; however, many of these projects have been associated with cost overruns, debt distress and construction quality issues (Gunderson 2023). According to the CGEF Database, China's last loan for hydropower development in Ecuador was committed in 2013, a \$312 million loan for the Minas San Francisco hydropower plant.

Another example of a suspended project is the expansion of the Tuzla coal plant in Bosnia and Herzegovina. The Tuzla coal plant, first commissioned in 1963, is the largest coal-fired plant in Bosnia and Herzegovina and is operated by Elektroprivreda Bosne i Hercegovine (EPBiH). In May 2022, Bosnia and Herzegovina's State Aid Council revoked approval of a public guarantee for a CHEXIM loan to build an expansion for the Tuzla coal plant, called Block 7 (JFI 2022). CHEXIM's prospective financing for the Tuzla expansion began with an agreement with EPBiH in 2017. However, the process was slowed by local pushback, as well as a changing policy environment for coal-fired power generation, with withdrawal of Western equipment providers and a 2021 announcement that China would stop building new coal plants overseas (Springer and Ma 2021). The 2021 no-coal announcement induced significant speculation about the future of the Tuzla expansion, although, ultimately, the host country government drove the suspension of the project. Although renovations and expansions of the Tuzla coal plant are still under planning, it seems extremely unlikely that Chinese DFIs will be involved.

The dynamics of suspension and cancellation of China's overseas energy projects show the evolving environmental and social sensitivities both within host countries and in China's international financing practices. As coal and hydropower projects, previously major destinations for Chinese finance and FDI, increasingly face hurdles due to environmental concerns, it signals a significant shift in the global energy landscape, underscoring the growing importance of sustainable development considerations in global infrastructure projects, to which China has increasingly expressed commitment. However, the actual composition of energy projects receiving development finance from China has not yet shifted significantly, as detailed in the following section.

CONCLUSION: WILL CHINA'S OVERSEAS ENERGY FINANCE MAKE A GREEN REBOUND?

The announcement in 2021 that China would step up support for green and low carbon energy and not build new overseas coal projects gave rise to hopes that China would become a major renewable energy financier. This declaration marked a sharp departure in policy from China's role as the largest public financier of overseas coal plants from 2013-2018 and signaled a potential pivot towards renewable energy finance (Ma and Gallagher 2021).

However, China's financing of foreign wind and solar projects has remained low in recent years, especially for financing from China's DFIs. Since 2000, only 1 GW of wind and solar generating capacity had been financed through China's DFIs, compared to 12GW through direct investment by Chinese companies (Springer 2022). Previous GDP Center research shows that wind and solar investment comes primarily from direct government requests in developing countries (Kong and Gallagher 2021). Indeed, the select countries that have turned to China for renewable energy finance, including Pakistan, Ethiopia, Argentina and Kenya, had all adopted demand-side policies to promote local renewable energy deployment. However, host country demand for renewable energy



finance from Chinese DFIs has abated – after a flurry of wind and solar loans between 2010-2017, the most recent renewable energy loan commitment in the CGEF Database is for a relatively small solar project in Lesotho (\$67 million) in 2018. There are several potential reasons for this decrease. First, as renewable energy costs have dropped, a wider range of investors have been attracted to the market. Furthermore, host countries have typically looked to MDBs such as the World Bank for renewable energy financing (Bhandary et al. 2022), potentially due to more pre-existing renewable energy projects with such institutions.

China's DFIs have been concerned about the bankability of solar and wind projects abroad, which are typically smaller in capacity than other types of power generation projects. Many renewable projects are not grid-connected, and those that are may be located in areas with poor grid infrastructure, leading Chinese DFIs to perceive the projects as riskier and less bankable (Kong and Gallagher 2021). However, Chinese development finance is well positioned to scale up renewable energy financing as global demand rebounds in the wake of the COVID-19 pandemic and the cost of renewable energy components continues to decline. Chinese DFIs have significant experience in financing renewable energy from their role in promoting domestic market growth in the early 2000s (Nahm 2017). China's DFIs also supported leading domestic solar manufacturers during the 2008 global financial crisis, which was a turning point for the global solar industry (Corwin and Johnson 2019). In 2010, CDB authorized \$30.1 billion in credit to the leading five domestic solar manufacturers: LDK Solar, Yingli, JA Solar, Trina and Suntech Power. This access to finance allowed Chinese solar manufacturers to sustain output and continue operating during a credit crunch (Ball et al. 2017). In addition, as the CGEF Database demonstrates, China's DFIs have extended \$32.5 billion to transmission and distribution projects abroad from 2000-2022, demonstrating significant experience in the grid expansions and revitalizations that are needed in tandem with renewable energy generation.

To achieve policy commitments, China's DFIs can play a catalytic role in meeting the goal to step up support for green and low carbon energy in developing countries. China's financial and technical expertise could translate into assistance for green Belt and Road Initiative (BRI) participants, especially as China's engagement abroad shifts towards a more aid- and assistance-based model through the Global Development Initiative. While the CGEF Database has not identified instances of Chinese development finance for other segments of the renewable energy supply chain abroad, in order to meet policy commitments, China's DFIs could help host country firms with the high capital costs of both technology for manufacturing and for new solar projects. Downstream, development finance is increasingly poised to support innovative technologies like solar photovoltaic systems with storage or other capabilities (PV+), which can tailor renewable energy to local environmental needs. Projects like PV+ and agriculture or aquaculture can increase the co-benefits of renewable energy and engage local communities, tailoring the application of new technology to existing economic activities. Focusing more on local community engagement can also address some of the issues with project suspensions and cancellations discussed above.

In summary, it will take some years to understand what China's shift towards renewables will mean for China's development finance. China's commercial financial institutions and investors continue to be involved with energy projects abroad, both brown and green, such as the Industrial and Commercial Bank of China's financial advising for the East Africa Crude Oil Pipeline and China Energy's proposal for a solar farm in Zimbabwe. Although China's DFIs have significant capacity to support renewable energy – derived from domestic experience – there continue to be larger macroeconomic constraints on host country borrowing and Chinese lending, in addition to project level issues that have plagued previous Chinese engagement in the power sector. However, China's policy commitments to green energy remain strong. In fact, at the 2023 Belt and Road Forum, China announced the Green Investment and Finance Partnership, a mechanism to deliver on earlier commitments (Zhang and Gallagher 2023), leaving hope for a greener horizon.



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APPENDIX

The 2023 update to the CGEF Database cross-checked records of past projects with other available databases published by the Boston University Global Development Policy Center and those of peer institutions, including the most recent update of the Boston University Global Development Policy Center's Chinese Loans to Africa Database, the Boston University Global Development Policy Center's China's Overseas Development Finance Database and AidData's Global Chinese Development Finance Dataset, Version 2.0. All CGEF Database entries have sources compiled according to the GDP Center's double verification methodology, with source documents archived internally and available upon request. The CGEF Database only includes loans to overseas borrowers with public ownership. Entries beyond the scope of the CGEF Database, including those loans that have not been disbursed and canceled, projects that Chinese DFIs have withdrawn from, projects without host country public sector borrowers, have been removed; and entries that were missing have been added. The list of BRI countries was also updated according to the list of countries that have signed cooperation documents with China as of September 15, 2023. These updates will also be reflected in the upcoming versions of other databases managed and maintained by the Boston University Global Development Policy Center. The list of transactions that have been added or edited in this round of verification are recorded below in Table A1 and Table A2, and changes in transaction attributes have been tracked internally and are available upon request.

In addition, for the 2023 update definitions for the energy subsector categories tracked in the database were standardized, drawing from the North American Industry Classification System (NAICS) and generalizations of the types of projects. These definitions are:

- **Exploration and Extraction:** The Exploration and Extraction subsector refers to activities to identify and extract primary energy resources, including oil, gas and coal. Activities within this subsector span from prospecting, where surveys and assessments are undertaken to identify areas abundant in potential energy resources, to drilling, which employs specialized equipment and techniques to extract resources. Mining is another way to extract energy resources.
- **Transmission and Distribution:** The Transmission and Distribution subsector refers to the infrastructure and systems that transport energy resources from their extraction points to end-users or points of conversion. This involves the transmission process, which carries electricity or fuels over typically long distances using power lines or pipelines. Distribution refers to the delivery of electricity or fuels to individual consumers or businesses via local grids or smaller pipelines.
- **Power Generation:** The Power Generation subsector refers to the infrastructure for converting primary energy sources into electricity.
- **Energy Efficiency:** The Energy Efficiency subsector refers to projects meant to optimize the relationship between useful energy output and energy input. This could include measures to reduce energy consumption or installation of technologies to use energy more efficiently.
- **Petrochemical:** The Petrochemicals subsector refers to manufacturing of petrochemicals, which are chemicals derived from fossil energy sources, namely oil and gas. Through various refining and chemical processes, these energy feedstocks are transformed into a wide array of products, such as plastics and fertilizers.
- **Multipurpose:** The Multipurpose subsector refers to energy projects that span more than one of the above subsectors, for example, a loan for an energy project that entails power generation with transmission and distribution infrastructure.



Table A1: Added Entries

New BU ID	Year	Project Name	Loan (USD M)	Country	Lender	Energy Source	Energy Sub-sector
BD.005	2014	Shahjibazar Power Plant (330MW)	239	Bangladesh	CHEXIM	Gas/LNG	Power Generation
VN.006	2011	An Khanh 1 Coal-Fired Power Plant (100MW)	36	Vietnam	CHEXIM	Coal	Power Generation
VN.015	2016	Vinh Tan 3 Coal Plant (1980MW)	2,000	Vietnam	CDB	Coal	Power Generation
GA.028	2018	Chutes de l'Impératrice Eugénie Hydropower Plant 88MW in Fougamou on the Ngounie River	3.11	Gabon	CHEXIM	Hydropower	Power Generation
GH.005	2007	Bui Hydropower Project 400 MW (CL part, Total 749.6mn)	306	Ghana	CHEXIM	Hydropower	Power Generation
GH.006	2007	Bui Hydropower Project 400 MW (CommL part, Total 749.6mn)	292	Ghana	CHEXIM	Hydropower	Power Generation
KE.102	2017	Kenya Power Distribution System Modernization Project Phase II	73.52	Kenya	CHEXIM	Unspecified	Transmission and Distribution
MU.038	2011	Financing for Central Electricity Board	5.81	Mauritius	CHEXIM	Unspecified	Transmission and Distribution
NE.003	2011	Azelik Uranium Mine	100.62	Niger	CHEXIM	Unspecified	Exploration and Extraction
MR.013	2013	Mali Gouina Hydropower Project (140MW) (Mauritania finance)	138.8	Mauritania	CHEXIM	Hydropower	Power Generation
SN.011	2013	Mali Gouina Hydropower Project (140MW) (Senegal finance)	141.73	Senegal	CHEXIM	Hydropower	Power Generation
ZW.018	2013	Kariba South Hydropower Plant (300MW) (Concessional Loan)	159.75	Zimbabwe	CHEXIM	Hydropower	Power Generation

Source: Boston University Global Development Policy Center 2023a.



Table A2: Deleted Entries

Former BU CGEF ID	Year	Project Name	Loan (USD M)	Country	Lender	Energy Source	Energy Sub-sector	Reason for Deletion
2	2001	Bushat Hydro-power Station	150	Albania	CHEXIM	Hydropower	Power Generation	Project likely canceled; insufficient information to confirm activity
107	2012	install and expand the medium and high voltage power grid in the city of Menongue	53	Angola	CHEXIM	Unspecified	Transmission and Distribution	Does not meet inclusion criteria
123	2018	Kodda Power Plant	129.3	Bangladesh	CHEXIM	Coal	Power Generation	Project likely canceled; insufficient information to confirm activity
220	2017	Tuzla 7 Lignite Power Plant	732	Bosnia & Herzegovina	CHEXIM	Coal	Power Generation	Project canceled
32	2007	Candiota C Coal Plant	281	Brazil	CDB	Coal	Power Generation	Does not meet database inclusion criteria for PPG debt
82	2011	Busanga Hydro-power Plant (240 MW)	367.5	Congo, Democratic Republic of the	CHEXIM	Hydropower	Power Generation	Does not meet database inclusion criteria for PPG debt
229	2017	Indonesia Morowali Industrial Park Captive Coal-Fired Power Plant (300MW)	700	Indonesia	CHEXIM	Coal	Power Generation	Does not meet inclusion criteria
28	2007	Jatigede Dam Phase I	215.6	Indonesia	CHEXIM	Hydropower	Power Generation	Does not meet inclusion criteria for energy-related projects
369	2008	Turkmenistan-China Gas Pipeline Lines A,B (Kazakhstan portion)	7500	Kazakhstan	CDB	Gas/LNG	Transmission and Distribution	Does not meet database inclusion criteria for PPG debt
8	2002	Papalanto Gas Plant, Phase I (335 MW)	114.9	Nigeria	CHEXIM	Gas/LNG	Power Generation	Not financed by CDB or CHEXIM
7	2002	Omosho Gas Plant (335 MW)	114.8	Nigeria	CHEXIM	Gas/LNG	Power Generation	Not financed by CDB or CHEXIM
245	2017	Hubco Coal Power Plant Co-Financed by Consortium	1496	Pakistan	CDB-CHEXIM Cofinancing	Coal	Power Generation	Does not meet database inclusion criteria for PPG debt



Former BU CGEF ID	Year	Project Name	Loan (USD M)	Country	Lender	Energy Source	Energy Sub-sector	Reason for Deletion
386	2009	Drilling Equipment	300	Russia	CHEXIM	Gas/LNG	Exploration and Extraction	Does not meet database inclusion criteria for PPG debt
23	2006	High Voltage Transmission Line	340	Tajikistan	CHEXIM	Unspecified	Transmission and Distribution	Insufficient information to confirm activity
272	2019	Emba Hunutlu Coal Plant (1320 MW)	1381	Turkey	CDB	Coal	Power Generation	Does not meet database inclusion criteria for PPG debt
193	2015	HPC Nuclear Project	7772	United Kingdom	CDB	Nuclear	Power Generation	Does not meet inclusion criteria
104	2011	Buying 40% Share of Abreu e Lima (from Petrobras)	1500	Venezuela	CDB	Oil	Exploration and Extraction	Does not meet inclusion criteria
171	2014	Bilateral Cooperation Agreement, Tranche 1	3,000.00	Brazil	CDB	Oil	Exploration and Extraction	Unable to confirm existence of loan
353	2015	Photovoltaic System, Electrification of 350 Communities - Phase II (184 Communities)	123.25	Cameroon	CHEXIM	Solar	Power Generation	Does not meet inclusion criteria

Table A3: Entries with Updated Attributes (Highlighted in Red)

BU ID	Year	Project Name	Loan (USD M)	Country	Lender	Energy Source	Energy Sub-sector
AO.005.02	2007	Benguela, Huambo and Bié MT and BT Networks, Phase I	123.02	Angola	CHEXIM	Unspecified	Transmission and Distribution
AO.005.06	2007	Lubando MT and BT Networks, Phase II	24.51	Angola	CHEXIM	Unspecified	Transmission and Distribution
AO.006.15	2007	Luanda Electrical Network Rehabilitation and Expansion, Phase II	7.46	Angola	CHEXIM	Unspecified	Transmission and Distribution
AO.006.16	2007	Caxito Grid Expansion and Rehabilitation of the Quifangondo-Cazenga Line (60 kV)	31.88	Angola	CHEXIM	Unspecified	Transmission and Distribution
AO.009.71	2014	Tchihumbwe Hydropower Plant (12MW); 110km Transmission Line (99.6km)	112.00	Angola	CHEXIM	Hydropower	Multipurpose
AO.061	2016	Caculo Cabaca Hydropower Project (2170MW); Transmission Lines	4,099.50	Angola	CHEXIM	Hydropower	Multipurpose
BD.003	2013	Summit Gazipur Oil Plant (156MW)	129.30	Bangladesh	CHEXIM	Oil	Power Generation



BU ID	Year	Project Name	Loan (USD M)	Country	Lender	Energy Source	Energy Sub-sector
BD.007.02	2016	Payra Patuakhali Coal Plant (1320MW)	1,984.00	Bangladesh	CHEXIM	Coal	Power Generation
BD.007.01	2016	Single Point Mooring, Double Pipelines	552.10	Bangladesh	CHEXIM	Gas/LNG	Transmission and Distribution
BY.001	2008	Minsk Gas Plant (250MW)	362.00	Belarus	CDB	Gas/LNG	Power Generation
BY.003.01	2010	Berezovskaya Gas Plant (483MW)	321.30	Belarus	CHEXIM	Gas/LNG	Power Generation
BY.004	2010	Dvina Hydropower Plant (40MW)	186.00	Belarus	CDB	Hydropower	Power Generation
BR.012	2019	Petrobras Development (Line of Credit)	750.00	Brazil	CHEXIM	Oil	Exploration and Extraction
KH.007.03	2014	Rural Power Grid Extension Project, Phases 3 and 4	95.00	Cambodia	CHEXIM	Unspecified	Transmission and Distribution
KH.009.01	2016	Rural Power Grid Extension Project, Phases 5 and 6	84.98	Cambodia	CHEXIM	Unspecified	Transmission and Distribution
CM.010	2010	Mekin Hydropower Plant (15MW)	49.78	Cameroon	CHEXIM	Hydropower	Power Generation
CM.018	2011	Memve'ele Hydropower Plant (211MW)	541.57	Cameroon	CHEXIM	Hydropower	Power Generation
ET.017	2010	Adama Wind Farm Array 1 (51MW)	99.45	Ethiopia	CHEXIM	Wind	Power Generation
CD.012	2011	Zongo II Hydropower Plant (150MW)	367.00	Congo, Democratic Republic of the	CHEXIM	Hydropower	Power Generation
CG.009.11	2012	Transmission Line, Liouesso Hydropower Plant - Ouesso-North (110kV, 74km)	36.39	Congo, Republic of the	CHEXIM	Hydropower	Transmission and Distribution
CI.048.01	2015	National Power Grid Upgrade, Tranche 1	177.37	Cote d'Ivoire	CHEXIM	Unspecified	Transmission and Distribution
CI.048.02	2015	National Power Grid Upgrade, Tranche 2	592.01	Cote d'Ivoire	CHEXIM	Unspecified	Transmission and Distribution
CI.041	2019	Gribo Popoli Hydropower Project (112MW)	289.10	Cote D'Ivoire	CHEXIM	Hydropower	Power Generation
DJ.012	2016	Addis-Djibouti Railway Electrification, Nagad-HollHoll-AliSabieh (90km)	20.40	Djibouti	CHEXIM	Unspecified	Transmission and Distribution
DO.001	2019	Electrical Distribution System, Upgrade	600.00	Dominican Republic	CHEXIM	Unspecified	Transmission and Distribution
EC.001.02	2011	Paute-Sopladora Hydropower Plant (321MW)	571.00	Ecuador	CHEXIM	Hydropower	Power Generation
ET.033	2013	Adama Wind Array 2 (153MW)	293.30	Ethiopia	CHEXIM	Wind	Power Generation
EC.003.08	2011	Mazar-Dudas Hydroelectric Dam	41.60	Ecuador	CDB	Hydropower	Power Generation
EC.003.05	2013	Minas San Francisco Hydropower Plant (270MW)	312.48	Ecuador	CDB	Hydropower	Power Generation



BU ID	Year	Project Name	Loan (USD M)	Country	Lender	Energy Source	Energy Sub-sector
EG.056	2017	Transmission Line (500kV) (1210km) (CDB Loan)	231.00	Egypt	CDB	Unspecified	Transmission and Distribution
GQ.024	2016	Power Grid, Bata City, Phase 2	290.32	Equatorial Guinea	CHEXIM	Unspecified	Transmission and Distribution
GQ.027.02	2019	Akpoga Electricity Infrastructure	12.33	Equatorial Guinea	CHEXIM	Unspecified	Transmission and Distribution
GQ.027.03	2019	High Voltage Electricity Network, Extension and Maintenance	83.32	Equatorial Guinea	CHEXIM	Unspecified	Transmission and Distribution
ER.008	2014	Hirgigo Oil Plant (48MW)	100.00	Eritrea	CHEXIM	Oil	Power Generation
CM.070	2015	Photovoltaic System, Electrification of 350 Communities - Phase II (184 Communities)	123.25	Cameroon	CHEXIM	Solar	Power Generation
ET.069	2015	Ethiopia-Djibouti Railway Transmission Line Power Supply (750km)	31.00	Ethiopia	CHEXIM	Unspecified	Transmission and Distribution
ET.068	2016	Transmission Lines and Substation, Genale Dawa III - Yirgalem II - Wolayita Sodo II - Hawassa II (400KV) (355km)	249.32	Ethiopia	CHEXIM	Hydropower	Transmission and Distribution
ET.075	2016	Power Network, Addis Ababa, Rehabilitation and Upgrading	172.44	Ethiopia	CHEXIM	Unspecified	Transmission and Distribution
CM.083	2015	Djourn Solar Plant (0.5 MW)	90.10	Cameroon	CHEXIM	Solar	Power Generation
ET.064	2017	Transmission Lines to Bole and Kilinto Industrial Zones, Addis Ababa (230KV) (28.4km); Kilinto and Bole Lemi Plant Substations	83.30	Ethiopia	CHEXIM	Unspecified	Transmission and Distribution
GA.004	2008	Grand Poubara Hydropower Plant (160MW)	336.32	Gabon	CHEXIM	Hydropower	Power Generation
GA.006	2011	Power Grid, Libreville, Upgrade	131.58	Gabon	CHEXIM	Unspecified	Transmission and Distribution
GH.015.02	2012	Western Corridor Gas Infrastructure Project, Jubilee Oil Field	850.00	Ghana	CDB	Gas/LNG	Petrochemicals
GH.022	2012	Bui Hydropower Project (400MW) (Loan 1)	75.35	Ghana	CHEXIM	Unspecified	Power Generation
GH.066	2012	Bui Hydropower Project (400MW) (Loan 2)	76.21	Ghana	CHEXIM	Hydropower	Power Generation
GY.001	2010	Guyana Power and Light (GPL) Transmission and Distribution Infrastructure Development Project	38.96	Guyana	CHEXIM	Unspecified	Transmission and Distribution
ID.003.02	2008	Indramayu Coal Plant (990MW)	84.60	Indonesia	CDB	Coal	Power Generation
ID.005.01	2009	PLTU Nanggroe Aceh Darussalam (NAD) - Meulaboh Power Plant	124.34	Indonesia	CHEXIM	Coal	Power Generation



BU ID	Year	Project Name	Loan (USD M)	Country	Lender	Energy Source	Energy Sub-sector
ID.005.02	2009	Pelabuhan Ratu Coal Plant (945MW)	481.94	Indonesia	CHEXIM	Coal	Power Generation
ID.005.03	2009	Banten Suralaya Coal Plant (625MW)	280.00	Indonesia	CHEXIM	Coal	Power Generation
ID.006	2009	Labuan Angin Coal Plant (230MW) (Additional Loan)	31.80	Indonesia	CHEXIM	Coal	Power Generation
ID.022	2012	Sumsel 5 Coal Plant (300 MW)	318.00	Indonesia	CHEXIM	Coal	Power Generation
ID.010	2013	Teluk Sirih Coal Plant (448MW)	138.00	Indonesia	CDB	Coal	Power Generation
ID.012.01	2014	Pangkalan Susu Coal Plant (440MW)	482.00	Indonesia	CHEXIM	Coal	Power Generation
ID.012.02	2014	Takalar Coal Plant (200MW)	240.98	Indonesia	CHEXIM	Coal	Power Generation
ID.020	2016	Cilacap Sumber Coal Plant (600MW)	98.00	Indonesia	CDB	Coal	Power Generation
KZ.001	2008	Ayrau Petrochemical Complex	1,138.00	Kazakhstan	CHEXIM	Gas/LNG	Petrochemicals
KE.020	2006	Kenyan Urban Power Grid, Phase I	20.20	Kenya	CHEXIM	Unspecified	Transmission and Distribution
KE.038	2007	Procurement of Power Lines Material Loan 1	5.12	Kenya	CHEXIM	Unspecified	Transmission and Distribution
KE.021	2009	Kenya Power Distribution System, Modernization (213km)	93.27	Kenya	CHEXIM	Unspecified	Transmission and Distribution
KE.007	2010	Olkaria IV Geothermal Drilling (140MW, 26 wells)	98.97	Kenya	CHEXIM	Geothermal	Exploration and Extraction
KE.029	2010	Transmission Line, Rabai-Malindi-Garsen-Lamu (572kV) (320km)	92.95	Kenya	CHEXIM	Unspecified	Transmission and Distribution
KE.011	2012	Drilling Materials for Olkaria Geothermal Wells	382.50	Kenya	CHEXIM	Geothermal	Exploration and Extraction
KE.031	2014	Transmission Network, Nairobi, Upgrade and Reinforcement, Phase 2 (132kV, 66kV)	107.49	Kenya	CHEXIM	Unspecified	Transmission and Distribution
KE.040	2015	Garissa Solar Plant (50MW)	136.00	Kenya	CHEXIM	Solar	Power Generation
KE.088	2017	Transmission Line, Garsen - Hola - Garrissa	86.39	Kenya	CHEXIM	Unspecified	Transmission and Distribution
KE.090	2017	Transmission Line, Kamburu - Embu - Kibirigwi - Thika (220 KV); Substation (220kV, 132kV); Uplands Substation (132kV, 66kV)	90.29	Kenya	CHEXIM	Unspecified	Transmission and Distribution
KE.095	2017	Transmission Network, Upgrade and Reinforcement, Nairobi City Center (EHV and 66kV)	127.65	Kenya	CHEXIM	Unspecified	Transmission and Distribution
KG.004.02	2012	Datka-Kemin (Chuy) Transmission Line; Power Plant	390.00	Kyrgyz Republic	CHEXIM	Unspecified	Transmission and Distribution
LA.002	2008	Nam Lik 1-2 Dam (100MW)	119.30	Lao People's Democratic Republic	CDB	Hydropower	Power Generation



BU ID	Year	Project Name	Loan (USD M)	Country	Lender	Energy Source	Energy Sub-sector
LA.003.03	2009	230kV Hin Heup—Naxaythong Transmission Line; Substation	65.00	Lao People's Democratic Republic	CHEXIM	Unspecified	Transmission and Distribution
LA.007	2012	Nam Ou 2-5-6 Hydropower Plants (540MW)	660.00	Lao People's Democratic Republic	CDB	Hydropower	Power Generation
LA.009.02	2012	Nam Khan 3 Hydropower Plant (60MW)	127.00	Lao People's Democratic Republic	CHEXIM	Hydropower	Power Generation
LA.010	2013	Nam Phay Hydropower Plant (86MW)	367.29	Lao People's Democratic Republic	CHEXIM	Hydropower	Power Generation
LA.012.01	2014	Xeset 3 Hydropower Plant (23MW)	51.00	Lao People's Democratic Republic	CHEXIM	Hydropower	Power Generation
LA.012.02	2014	Nam Ngum 3 Hydropower Plant (540MW)	1,290.00	Lao People's Democratic Republic	CHEXIM	Hydropower	Power Generation
LA.016	2017	Ring Network, Vientiane (500/230 kV)	266.00	Lao People's Democratic Republic	CDB	Unspecified	Transmission and Distribution
MV.005	2016	Stelco Oil Plant (50MW)	75.40	Maldives	CHEXIM	Hydropower	Power Generation
MN.003	2013	Amgalan Coal Plant (348MW)	76.00	Mongolia	CDB	Coal	Power Generation
MN.006.01	2015	Transmission Line, Ulaanbaatar-Mandalgobi (330kV)	113.04	Mongolia	CHEXIM	Unspecified	Transmission and Distribution
MN.009	2018	Erdenet Coal Plant (50MW)	51.80	Mongolia	CHEXIM	Coal	Power Generation
MA.005	2014	Jerada Coal Plant (350MW)	304.50	Morocco	CHEXIM	Coal	Power Generation
MM.001	2009	Yadana-Yangon Natural Gas Pipeline	258.00	Myanmar	CDB	Gas/LNG	Exploration and Extraction
MM.002	2010	Sino-Myanmar Pipeline	1,087.00	Myanmar	CDB	Gas/LNG	Transmission and Distribution
NE.009	2013	SORAZ-Zinder et Maradi-Malbaza Transmission Line (132kV) (259km)	74.68	Niger	CHEXIM	Unspecified	Transmission and Distribution
NG.010	2013	Zungeru Hydropower Plant (700MW)	984.32	Nigeria	CHEXIM	Hydropower	Power Generation
PK.003.01	2010	Chashma Power Station, Units 3 and 4 (680MW)	1,570.00	Pakistan	CHEXIM	Nuclear	Power Generation
PK.004	2011	Guddu Gas Plant (511MW)	464.00	Pakistan	CHEXIM	Gas/LNG	Power Generation
PK.020	2017	Suki Kinari Hydropower Plant (884 MW)	708.10	Pakistan	CHEXIM	Hydropower	Power Generation
PG.008.02	2017	National Power Grid Development Project, Transmission Lines (132kV); Mt Hagen, Mendi, Paunda, Tari Substations (on-lending to PNG Power Ltd)	133.38	Papua New Guinea	CHEXIM	Unspecified	Transmission and Distribution



BU ID	Year	Project Name	Loan (USD M)	Country	Lender	Energy Source	Energy Sub-sector
RU.011	2014	Far East Coal Fields, Equipment Purchase (Loan to VEB)	300.00	Russian Federation	CDB	Coal	Exploration and Extraction
RU.012	2014	Far East Coal Fields, Equipment Purchase (Loan to Sberbank)	500.00	Russian Federation	CDB	Coal	Exploration and Extraction
RU.018	2016	Yamal LNG	11,795.58	Russian Federation	CDB-CHEXIM Cofinancing	Gas/LNG	Multipurpose
RU.020	2019	Amur Gas Processing Plant	2,772.25	Russian Federation	CDB	Gas/LNG	Petrochemicals
SN.001	2007	28km Dakar Loop Power Transmission Projects, 4x90kV (360kV), Phase I	48.62	Senegal	CHEXIM	Unspecified	Exploration and Extraction
SN.006	2010	Dakar Loop Power Transmission Projects, Phase 2 (360kV) (28km)	75.78	Senegal	CHEXIM	Unspecified	Transmission and Distribution
RS.004	2014	Kostalac Coal Plant (350MW), Phase 2; Drmno Mine	608.00	Serbia	CHEXIM	Coal	Power Generation
RS.008	2020	New Belgrade District Heating System	214.09	Serbia	CHEXIM	Coal	Transmission and Distribution
LK.024	2005	Norocholai (Lakvijaya) Coal Plant and Transmission Lines, Phase 1 (300 MW) (Preferential Buyer's Credit)	300.00	Sri Lanka	CHEXIM	Coal	Multipurpose
LK.025	2006	Norocholai (Lakvijaya) Coal Plant and Transmission Lines, Phase 1 (300 MW) (Buyer's Credit Loan)	155.00	Sri Lanka	CHEXIM	Coal	Multipurpose
LK.005.01	2010	Northern Province Power Sector Development Programme	32.00	Sri Lanka	CHEXIM	Unspecified	Transmission and Distribution
LK.007.05	2012	Equipment Purchase, Lighting Sri Lanka, Eastern Province, Negenahira Nawodaya	32.50	Sri Lanka	CHEXIM	Unspecified	Transmission and Distribution
LK.008	2012	Moragahakanda Hydropower Plant (25MW)	214.20	Sri Lanka	CDB	Hydropower	Power Generation
SD.002	2001	El-Jaili (Garri/Qarre) Gas Power Station Phase I 212MW	128.00	Sudan	CHEXIM	Gas/LNG	Power Generation
SD.003	2002	Khartoum State Electricity - equipment and spare parts	38.60	Sudan	CHEXIM	Unspecified	Transmission and Distribution
SD.077	2003	Merowe Hydropower Plant and Transmission Lines	989.00	Sudan	CHEXIM	Hydropower	Multipurpose
SD.097.09	2010	Transmission Lines, South Kordofan (630km)	232.90	Sudan	CHEXIM	Unspecified	Transmission and Distribution
SY.001	2009	Oil Drilling Rigs Purhcase	36.60	Syria	CHEXIM	Oil	Exploration and Extraction
TJ.001	2008	Lolazor-Khatlon and South-North Transmission Lines, Additional Works	51.00	Tajikistan	CHEXIM	Unspecified	Transmission and Distribution



BU ID	Year	Project Name	Loan (USD M)	Country	Lender	Energy Source	Energy Sub-sector
TJ.004	2011	Sughd Substation (500/220kV)	26.50	Tajikistan	CHEXIM	Unspecified	Transmission and Distribution
TJ.008	2014	Dushanbe 2 Coal Plant (400MW)	332.00	Tajikistan	CHEXIM	Coal	Power Generation
TZ.006	2012	Tanzania Petroleum Development Corporation (TPDC) Natural Gas Processing Plants; Pipeline, Mnazi Bay - Dar es Salaam - Mtwara Province (432km) (Preferential Export Buyer's Credit)	920.00	Tanzania	CHEXIM	Gas/LNG	Transmission and Distribution
TZ.007	2012	Tanzania Petroleum Development Corporation (TPDC) Natural Gas Processing Plants; Pipeline, Mnazi Bay - Dar es Salaam - Mtwara Province (432km) (Export Buyer's Credit)	275.00	Tanzania	CHEXIM	Gas/LNG	Transmission and Distribution
TG.013	2013	Electric Transformer Station, Sokode	23.99	Togo	CHEXIM	Unspecified	Transmission and Distribution
LS.012	2020	Ramarothole Solar Plant (70MW)	66.83	Lesotho	CHEXIM	Solar	Power Generation
TM.002	2009	Turkmenneft Oil and Gas Equipment Purchase	58.60	Turkmenistan	CHEXIM	Oil	Exploration and Extraction
TM.003	2011	Türkmengaz Oil and Gas Equipment Purchase	30.90	Turkmenistan	CHEXIM	Oil	Exploration and Extraction
UG.009	2014	Isimba Falls Hydropower Plant (183MW)	482.50	Uganda	CHEXIM	Hydropower	Power Generation
UG.008	2015	Karuma Falls Hydropower Plant (600MW); Karuma-Kawanda, Karuma-Olwiyo, Karuma-Lira transmission lines (80km) (Preferential Export Buyer's Credit)	789.34	Uganda	CHEXIM	Hydropower	Power Generation
UG.039	2015	Karuma Falls Hydropower Plant (600MW); Karuma-Kawanda, Karuma-Olwiyo, Karuma-Lira transmission lines (80km) (Export Buyer's Credit)	645.82	Uganda	CHEXIM	Hydropower	Power Generation
UG.034	2019	Bridging the Demand-Supply Gap through Accelerated Rural Electrification Programme (BDSGAREP)	213.00	Uganda	CHEXIM	Unspecified	Transmission and Distribution
UZ.005.02	2010	Angren Coal Plant (150MW), Upgrade	273.00	Uzbekistan	CHEXIM	Coal	Power Generation
UZ.008	2012	Novo-Angren Coal Plant, Upgrade, Units 105 (1500MW), Phase 1	113.80	Uzbekistan	CHEXIM	Coal	Power Generation
UZ.011	2013	Central Asia-China Gas Pipeline, Route C	1,200.00	Uzbekistan	CDB	Gas/LNG	Transmission and Distribution



BU ID	Year	Project Name	Loan (USD M)	Country	Lender	Energy Source	Energy Sub-sector
UZ.013	2013	Ustyurt Natural Gas and Petrochemicals Complex, Surgil Gas Field	250.00	Uzbekistan	CDB	Gas/LNG	Petrochemicals
UZ.017	2014	Mubarek Gas Chemical Complex Project	85.00	Uzbekistan	CDB	Gas/LNG	Petrochemicals
UZ.023	2017	Baisun and Shargun Coal Deposits, Modernization	105.50	Uzbekistan	CHEXIM	Coal	Exploration and Extraction
UZ.026	2018	Gas-to-Liquid Plant, Kashkadarya (Cofinanced)	1,000.00	Uzbekistan	CDB	Oil	Petrochemicals
UZ.027.01	2018	Kamolot Hydropower Plant (8.5MW)	85.80	Uzbekistan	CHEXIM	Hydropower	Multipurpose
UZ.029	2019	Shaudar Hydropower Plant (7MW)	65.50	Uzbekistan	CHEXIM	Hydropower	Power Generation
VE.000	2007	Joint Fund - Tranche A	4,000.00	Venezuela	CDB	Oil	Exploration and Extraction
VE.017	2009	Joint Fund - Tranche B	4,000.00	Venezuela	CDB	Oil	Exploration and Extraction
VE.009	2013	Sinovensa Production, Orinoco Belt	4,000.00	Venezuela	CDB	Oil	Exploration and Extraction
VN.003.01	2010	Vinh Tan 2 Coal Plant (1244MW) (Concessional loan)	84.00	Vietnam	CHEXIM	Coal	Power Generation
VN.003.02	2010	Vinh Tan 2 Coal Plant (1244MW) (Preferential Export Buyer's Credit)	995.00	Vietnam	CHEXIM	Coal	Power Generation
VN.008	2012	Duyen Hai 3 Coal-Fired Power Plant 1245MW	1,001.00	Vietnam	CHEXIM	Coal	Power Generation
ZM.012	2008	Kariba North Hydropower Plant (360MW)	315.60	Zambia	CHEXIM	Hydropower	Power Generation
ZM.025	2017	Kafue Gorge Lower Hydropower Plant (750MW)	1,530.58	Zambia	CHEXIM	Hydropower	Power Generation
ZW.086	2013	Kariba South Hydropower Plant (300MW) (Preferential Export Buyer's Credit), Kariba South Hydropower Plant (300MW) (Preferential Export Buyer's Credit)	159.75	Zimbabwe	CHEXIM	Hydropower	Power Generation
ZW.064	2016	Hwange 3 Coal Plant (600MW)	997.70	Zimbabwe	CHEXIM	Coal	Power Generation

Source: Boston University Global Development Policy Center 2023a.



GLOBAL CHINA INITIATIVE

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