# GLOBAL CHINA INITIATIVE \$46.1 B \$78.5 B \$78.5 B \$53.1 B \$AFRICA \$46.1 B \$192.5 B \$245.8 B



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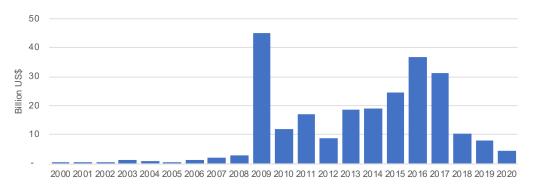
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# China's Global Energy Finance in the Era of COVID-19

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In 2020, China's Global Energy Finance Database recorded \$4.6 billion of overseas energy sector finance provided by China's two development banks with global operations — the China Development Bank (CDB) and the Export-Import Bank of China (CHEXIM). This represents a continued decrease from the \$8.1 billion in lending to foreign countries recorded in 2019. Energy sector finance provided by these two banks since 2000 now totals \$245.8 billion.1 Annual energy finance by the CDB and CHEXIM is depicted in Figure 1.

Figure 1: China's Annual Energy Finance from Policy Banks, 2000-2020



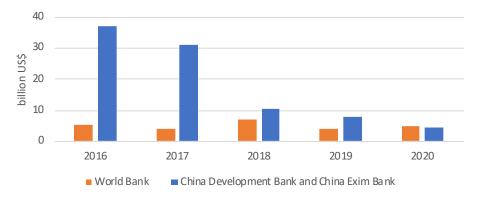
Source: China's Global Energy Finance database, 2021. Boston University Global Development Policy Center.

Estimates of the previous years have been revised as we gathered and verified more data. See Appendix for a full list.



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Figure 2: International Energy Finance from the World Bank and Chinese Development Banks, 2016-2020



**Source:** World Bank project data; China's Global Energy Finance database, 2021. Boston University Global Development Policy Center.

**Note:** For multi-sector projects financed by the World Bank, the amount is weighted by the energy sector percentage according to the World Bank's project database.

As shown in Figure 1, China's overseas development finance in the energy sector has been on a downward trend since 2016, likely due to both lower external demand for borrowing and greater domestic discretion for lending (Ma, Gallagher, and Bu, 2019; Ma and Gallagher 2020). As the pandemic wreaked havoc globally on business activities, energy demand decreased (IEA, 2020), and countries approached debt ceiling levels, a contraction in China's overseas development finance was to be expected. Yet despite the contraction in energy financing provided by the CDB and CHEXIM, it still provided approximately the same level of energy finance as the World Bank in 2020.

In 2020, the CGEF database recorded eight new overseas energy sector loans issued by CDB and CHEXIM – four transmission and distribution (T&D) projects, three power generation projects, and one multipurpose (power generation plus T&D) project, distributed in eight countries across Africa, Europe, South Asia, and Southeast Asia (Table 1).

**Table 1: Overseas Energy Projects Financed by CDB and CHEXIM in 2020** 

Region	Country	Energy Source	Energy Subsector	Lender	Amount (\$m)	Description
Africa	Nigeria	Gas/LNG	T&D	CHEXIM	2500	Ajaokuta, Kaduna, Kano (AKK) gas pipeline project
Africa	Cote d'Ivoire	Hydropower	Power Generation	CHEXIM	286	Gribo-Popoli hydro project
Africa	Rwanda	Hydropower	Multipurpose	CHEXIM	214	Nyabarongo II power plant
Africa	Lesotho	Solar	Power Generation	CHEXIM	70	Mafeteng solar PV power plant
South Asia	Bangladesh	Unspecified	T&D	CHEXIM	970	Power Grid Network Strengthening Project
South Asia	Pakistan	Coal	Power Generation	CDB etc.	260	Thar Block-2 TEL 1x330MW Power Station Phase II Project with consortium led by China Minsheng Bank
Europe	Serbia	Coal	T&D	CHEXIM	214	New Belgrade district heating system (power plant cogeneration)
Southeast Asia	Cambodia	Unspecified	T&D	CHEXIM	80	Rural Power Grid Extension Project Phase 7

Source: China's Global Energy Finance, 2021. Boston University Global Development Policy Center.

Africa received the greatest amount of financing, led by the AKK gas pipeline project in Nigeria, along with hydropower projects in Cote d'Ivoire and Rwanda, and one solar project in Lesotho, all financed by CHEXIM (AIP, 2020; BHI, 2021). In South Asia, Bangladesh received a concessional loan for a national power grid network upgrade, the materialization of a primary deal signed during Bangladesh Prime Minister Sheikh Hasina's visit to China in 2019 (Financial Express, 2020). Pakistan also received a CDB loan with the participation of multiple Chinese banks, for the Thar Block-2 TEL 1x330MW Power Station Phase II Project, another priority project for the China-Pakistan Economic Corridor (SinoMach, 2020). In Europe, Serbia received a CHEXIM loan for the construction of a district heating system for Belgrade (BHI, 2021). In Southeast Asia, Cambodia received another concessional loan for the seventh phase of its rural power grid extension project, all of which has been financed by CHEXIM (Ibid.; CGEF, 2021).

Table 2: Overseas Energy Finance Provided by CDB and CHEXIM in 2020, by Energy Subsector and Energy Source (\$million)

Energy Source	Power Generation Transmission and Distribution		Multipurpose	Grand Total by Source
Gas/LNG		2,500		2,500
Coal	260	214		474
Hydropower	286		214	500
Solar	70			70
Unspecified		1,050		1,050
Grand Total by Subsector	616	3,764	214	4,594

Source: China's Global Energy Finance, 2021. Boston University Global Development Policy Center.

As shown in the aggregation in Table 2, besides the natural gas pipeline project in Nigeria and the district heating project in Serbia, investment in the electricity transmission and distribution sector became prominent within CDB and CHEXIM's overseas power sector finance in 2020, exceeding power generation investment for the first time. Finance in the power generation sector is still dominated by hydropower and coal, with the exception of one solar project in Lesotho. The district heating project is categorized as a transmission and distribution project in this database; it is also an energy efficiency project that uses hot water from a thermal power plant for heating, thus reducing gas consumption (Serbia Energy, 2019).

While CHEXIM and CDB have been participating in the G20 Debt Service Suspension Initiative (DSSI) in response to fiscal challenges under COVID-19 (Xinhua, 2020), which suspends debt payments until June 2021 and calls for no new non-concessional debt during the suspension period for participating low-income countries (G20, 2020), developing countries still need financial assistance to sustain development and economic activities (World Bank, 2020a). Table 3 shows that besides the Serbia district heating project, all energy sector loans CDB and CHEXIM made in 2020 went to low- or lower-middle income countries (World Bank, 2020b). All loans made after the DSSI agreement took effect were for countries not participating in DSSI. Three loans are reported to be in concessional terms – two issued after the DSSI agreement, and one before.

Table 3: Debt Sustainability and China's 2020 Overseas Energy Development Finance

Country	2020 Loan Amount (\$m)	Eligible for DSSI?	DSSI Participation?	Risk of External & Overall Debt Distress	Signed Before/After DSSI Agreement Took Effect?	Confirmed Concessional?
Cote d'Ivoire	286	Yes	Yes	Moderate	Before	
Serbia	214	No	No	-	Before	
Lesotho	70	Yes	Yes	Moderate	Before	
Pakistan	260	Yes	Yes	-	Before	
Rwanda	214	Yes	No	Moderate	Before	Concessional
Cambodia	80	Yes	No	Low	After	Concessional
Bangladesh	970	Yes	No	Low	After	Concessional
Nigeria	2,500	Yes	No	-	After	

**Source:** China's Global Energy Finance database, 2021. Boston University Global Development Policy Center; COVID 19: Debt Service Suspension Initiative, 2021. World Bank; The World Bank and International Monetary Fund (IMF) Debt Sustainability Ratings, 2020. World Bank.

**Note:** Nigeria and Pakistan are eligible for International Development Association (IDA) and DSSI support based on per capita income levels, but are also creditworthy for some International Bank for Reconstruction and Development (IBRD) borrowing. The World Bank and IMF do not provide risk estimates for these countries.

Table 4 compares the sectoral composition of CDB and CHEXIM's overseas energy finance from 2013-2016 and 2017-2020 – the first four years since the initiation of the BRI when lending was on the rise, and the most recent four years as annual lending is slowing down. A noticeable change is that the proportion of lending for power transmission and distribution has increased remarkably. Financing for power generation remains high – the 2015 deal with the UK's Hinckley Point C nuclear power plant aside, the two banks' overseas power generation investment has remained almost the same over the two periods. There has been an increase in their investment in renewable electricity generation; the two periods each saw one natural gas power generation project – a bigger project in the second period; and there has been a slight decrease in coal power finance. Hence, the decrease in the total loan amount has mainly been driven by decline of investment in the exploration and extraction sector, which is mainly dominated by oil and gas.

As the number of countries that have signed cooperation agreements with China on the Belt and Road Initiative (BRI) has grown to 140 (BRI Portal, 2021), \$192.5 billion, or 78 percent of CDB and CHEXIM's total overseas energy finance, has been directed to BRI countries. The percentage of loans given to BRI countries also increased during the most recent period of the BRI (Table 5). In terms of regional distribution, lending to African countries remained high; the percentage of loans in South Asia and Southeast Asia remained stable; while lending in Europe, Central Asia, and Latin America decreased in recent years.

While the world economy suffers from the impact of COVID-19, China, as the world's largest bilateral creditor and the only major world economy to record economic growth last year (WSJ, 2021), is in a unique position to help fund economic recoveries and the shift toward clean energy. While China's overseas investment and contracting for construction remained relatively stable in 2020 (MOFCOM, 2021a, 2021b), given the increasing demand within China for recovery support and fiscal constraints in many countries around the world, overseas lending by CDB and CHEXIM in the energy sector expectedly decreased.

Table 4 Sectoral Distribution of Chinese Overseas Development Finance in Energy (Million US\$, Unless otherwise specified)

	2013-2	2016	2017-2	020	2000-2	2020
Sector	Loan Amount	% total	Loan Amount	% total	Loan Amount	% total
Energy Efficiency	250	0%	-	0%	3,750	2%
Coal	-	0%	-	0%	3,500	1%
Unspecified	250	0%	-	0%	250	0%
<b>Exploration and Extraction</b>	31,190	32%	8,900	16%	71,021	29%
Gas/LNG	-	0%	2,700	5%	9,800	4%
Geothermal	400	0%	-	0%	493	0%
Oil	30,790	31%	6,200	11%	60,728	25%
Multipurpose	15,030	15%	3,798	7%	22,026	9%
Coal	2,000	2%	-	0%	3,260	1%
Gas/LNG	10,830	11%	2,772	5%	14,602	6%
Hydropower	-	0%	1,026	2%	1,634	1%
Oil	2,200	2%	-	0%	2,530	1%
Power Generation	43,073	44%	29,913	55%	110,014	45%
Biomass	60	0%	-	0%	60	0%
Coal	14,806	15%	14,302	26%	44,671	18%
Gas/LNG	255	0%	1,000	2%	3,311	1%
Hydropower	13,053	13%	13,421	25%	41,069	17%
Nuclear	14,272	14%	-	0%	16,192	7%
Oil	-	0%	150	0%	975	0%
Solar	83	0%	597	1%	2,558	1%
Wind	543	1%	442	1%	1,178	0%
Transmission and Distribution	9,383	9%	11,615	21%	38,991	16%
Coal	-	0%	214	0%	214	0%
Gas/LNG	5,748	6%	2,500	5%	14,073	6%
Hydropower	1,136	1%	169	0%	1,334	1%
Nuclear	-	0%	-	0%	323	0%
Oil	-	0%	694	1%	11,535	5%
Unspecified	2,499	3%	8,038	15%	11,512	5%
Grand Total	98,926	100%	54,227	100%	245,802	100%

**Source:** China's Global Energy Finance database, 2021. Boston University Global Development Policy Center.

Table 5: Geographical Distribution of Chinese Development Finance in Energy (million US\$ unless otherwise specified)

	2013-2	2016	2017-2	2020	2000-2020	
Sector	Loan Amount	% total	Loan Amount	% total	Loan Amount	% total
Africa	20,836	21%	19,843	37%	53,104	22%
East Asia	113	0%	-	0%	113	0%
Europe/Central Asia	24,932	25%	8,938	16%	76,678	31%
LAC	25,731	26%	6,357	12%	46,136	19%
Middle East	-	0%	1,650	3%	1,780	1%
South Asia	15,543	16%	9,418	17%	36,065	15%
Southeast Asia	11,770	12%	8,021	15%	31,925	13%
Grand Total	98,926	100%	54,227	100%	245,802	100%
BRI Countries	73,489	<b>74</b> %	48,745	90%	192,529	78%

Source: China's Global Energy Finance, 2021. Boston University Global Development Policy Center.

Nevertheless, 2020 has been a pivotal year, as China placed significant emphasis on climate actions and green finance. In September, China's President Xi Jinping made the commitment of peaking China's CO2 emissions before 2030, and reaching carbon neutrality by 2060 (UN, 2020). In December, State Councilor and Foreign Minister Wang Yi emphasized "the development of a Green Silk Road" in the Belt and Road Forum for International Cooperation (FMPRC, 2020). Multiple official documents and guidelines have been issued to promote climate investment and finance, including articles suggesting the promotion of international cooperation on climate investment and finance, low-carbon development of the BRI and South-South Cooperation, implementing climate mitigation and adaptation programs overseas, etc. (MEE, 2020a). Major power companies such as State Grid are moving to drive green development in China (MEE, 2020b, 2021).

Meanwhile, many developing countries have updated their energy development plans in response to climate change, including Bangladesh, Pakistan, and the Philippines, which all restricted new coal plants. Major public and commercial financiers, including the governments of Japan and the UK, BlackRock, HSBC, and the Asian Infrastructure Investment Bank (AIIB), pledged to move away from financing coal projects. Given this domestic and international momentum, Chinese development finance institutions could seek synergy with domestic policies in their overseas financing strategies to phase out fossil fuels and scale up sustainable energy finance. A sustainable recovery from the COVID-19 crisis requires multilateral efforts across the world, and sustainable energy investment and finance can be a key driver.

### **APPENDIX**

This version of the CGEF database also made updates to 31 past entries. We deleted six entries that were suspended or beyond the scope of our database, added nine new entries that could be verified per our methodology in the past years, and updated information for 16 past entries. We also updated the list of BRI countries according to the list of countries that have signed cooperation documents with China as of January 30, 2021 (latest available).

### **Added Entries of the past years:**

Date	Country	Energy Source	Energy Subsector	Lender	Amount (\$m)	Description
2011	Brazil	Wind	Power Generation	CDB	55	34MW wind farm project in Sergipe state
2012	Belarus	Nuclear	Transmission and Distribution	Ex-Im Bank	323	Power distribution system of Belarusian NPP
2014	Brazil	Oil	Exploration and Extraction	CDB	3000	Bilateral cooperation agreement 1st tranche
2017	Bangladesh	Unspecified	Transmission and Distribution	Ex-Im Bank	1021.8	Modernization of the Dhaka Power Distribution Company (DPDC) power system networks
2017	Uzbekistan	Hydropower	Power Generation	Ex-Im Bank	58.5	Construction of four small hydro power plants in Uzbekistan
2019	Laos	Unspecified	Transmission and Distribution	CDB	266	Power Grid Project in Northern Laos
2019	Russia	Gas/LNG	Multipurpose	CDB	2772.3	Amur Gas Processing Plant (as lead arrange of Chinese syndication)
2019	Uzbekistan	Hydropower	Power Generation	Ex-Im Bank	65.5	Construction and modernization of Uzbek hydroelectric power plants (HPP)
2019	Vietnam	Coal	Power Generation	CDB-Ex-Im Cofinancing	1790	Nam Dinh 1 (1200 MW)

### **Deleted entries of the past years:**

Date	Country	Energy Source	Energy Subsector	Lender	Amount (\$m)	Description
2015	Brazil	Oil	Exploration and Extraction	Ex-Im Bank	3150	Unspecified Oil Cooperation
2015	Pakistan	Solar	Power Generation	CDB-Ex-Im Cofinancing	1500	Quaid-e-Azam Solar Park Phase II and III
2018	Lesotho	Solar	Power Generation	Ex-Im Bank	69.9	Neo2 70 MW solar PV plant
2018	Malawi	Coal	Power Generation	Ex-Im Bank	667	Kamwamba Power Plant
2013	Kazakhstan	Coal	Power Generation	CDB	400	Third Unit of Ekibastuz GRES-2 Power Plant with Russia
2010	India	Coal	Power Generation	CDB	600	Anpara Second Phase (Built) and Himawat (Lanco - Himavat Ther- mal Power Plant, Suspected to be Abandoned)

## Past entries with specific information corrected (Yellow cells are corrected):

Date	Country	Location	Energy Source	Energy SubSector	Borrower	Lender	Amount (\$m)	Description
2002	Nigeria	Papalanto, Orgun State, Nigeria	Gas/LNG	Power Generation	Government	Ex-Im Bank	114.8	Papalanto Gas-Fired Power Station Phase I
2007	Chad	Oilfields in Bongor Basin to Djarmaya	Oil	Multipurpose	Government	Ex-Im Bank	330	N'Djamena Refinery and Pipe- line (Loan Offered as Chadian Government's Share)
2007	Uzbekistan	Tashkent and Andijan	Hydropower	Power Generation	Government	Ex-Im Bank	15.93	Akhangaran water reservoir and Andijan HPP-2
2008	Brazil	Rio Grande do Sul, Brazil	Coal	Power Generation	Petrobras	CDB	281	Presidente Médici Candiota Power Station (Third Expansion)
2009	Brazil	Unspecified	Oil	Exploration and Extraction	Petrobras	CDB	7000	10-Year Oil Supply Plan (10Mt/ Year), "Oil for Loan"
2012	Chad	D'jermaya to N'Djamena	Oil	Transmission and Distribution	Government	Ex-Im Bank	91	N'Djamena 90kV loop line and mid-low voltage distribution net- work; Djarmaya to N'Djamena 66kV transmission line
2012	Indonesia	Celukan Bawang, Bule- leng Regency, North Bali	Coal	Power Generation	PT General Energy Bali	CDB	426	Celukan Bawang
2016	Ethiopia	Addis Ababa	Unspecified Electricity	Transmission and Distribution	Ethiopian Electric Power	Ex-Im Bank	83.3	Electricity Supply Project for Bole-Lemi and Kilinto Industrial Parks
2016	Pakistan	Tharparkar District, Sindh, Pakistan	Coal	Power Generation	Sindh Engro Coal Mining Company	CDB	207	Thar Engro Power Station with ICBC, CCB, Commerical Bank of China
2016	Brazil	Unspecified	Oil	Exploration and Extraction	Petrobras	Ex-Im Bank	900	Unspecified Oil Export; Debt Financing
2016	Brazil	Unspecified	Oil	Exploration and Extraction	Petrobras	CDB	5000	Supply Contract to China National United Oil Corp, China Zhenhua Oil Co Ltd, and Chem- china Petrochemical Co Ltd
2017	Kenya	Garissa and Isiolo	Unspecified Electricity	Transmission and Distribution	Ketraco	Ex-Im Bank	131	285km/220KV Electricity Transmission Line and Three Converting Stations
2017	Laos	沙耶武里省巴 莱县 (Chinese v/)	Hydropower	Power Generation	Government	Ex-Im Bank	1700	Pak Lay Dam
2018	Uzbekistan	Pskem River, in the Tash- kent region	Hydropower	Power Generation	Uzbek Bank	Ex-Im Bank	85.8	Construction of Kamalot small hydropower and modernization of 4 HPPs
2018	South Africa	Emalahleni, Mpumalanga	Coal	Power Generation	Eskom	CDB	2500	Kusile Power Plant
2011	Bulgaria	Pleven, Kazanlak, Kar- lovo, Silistra municipalities, Bulgaria	Solar	Power Generation	海润广伏 (保加利亚, Chinese v.)	CDB	248.1	Hareon Pobeda & Cherganovo & Karlovo & Kolarovo Solar Plants

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