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Chinese Energy Projects in Africa.
Are they building a sustainable development? Or are they devastating the environment?[1]

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ABSTRACT: China maintains a very close relationship with African countries prior to the creation of the Non-Aligned Movement (NAM). Even the influence of Russia and China during the Cold War helped countries in Africa achieve their independence after World War II. The lack of a strong bourgeoisie in the newly independent countries made it difficult to establish a democratic regime without achieving successes in social welfare. On the contrary, dictatorial governments protected by colonial countries were consolidated. The influx of investment from China, regardless of whether they are democracies or governments resulting from coups, has helped governments reduce the social debt of their populations. We are referring to the social debt, the lack of infrastructure in access to energy, transport on roads, airports and ports. In this paper we will analyze the infrastructure projects financed by Chinese banks; secondly, how Chinese investments in renewable and non-renewable energies have spread in the different countries of Sub Sahara; third, investment funds and institutional investors in Chinese corporations in the region; finally, we will ask ourselves whether it is possible to achieve the 'Just Transition' in a region characterized by great economic, political and social inequalities.
JEL B15, F54, 014

Key Words: Africa, China, Energy Projects

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Are they building a sustainable development? Or are they devastating the environment?[3]

Alicia Girón y Andrea Reyes[4]

1. Introduction

At the core of the People's Republic of China's macroeconomic policy, the sustainable development goals of the 2030 Agenda have been embedded. The transition to sustainable economies, the reduction of greenhouse gases and the path towards a decarbonized economy that will involve the transformation of several sectors in three directions: 1. implement mitigation policies, 2. implement adaptation measures and 3. Achieve the transition to low-carbon economies. These three measures require a collective effort, not only through cooperation between countries or international cooperation, but between private and public actors.

In words of Xi Jinping

"To realize the above goal, this year's G20 has, for the first time, put the issue of development front and center of the global macro policy framework. The first action plan has been formulated for implementing the 2030 Agenda for Sustainable Development, and for the first time, cooperation is being carried out to support African countries and LDCs in their industrialization. All these are moves of pioneering significance. The parties have all committed themselves to working for an early entry into force of the Paris Agreement on climate change. We have also formulated joint action plans on energy accessibility, energy efficiency, renewable energy and entrepreneurship, and have strengthened cooperation on food security and agriculture. We care for the needs of different social strata and communities, especially the needy, and encourage discussions among countries concerned on public administration and adjustment of redistribution policies." (Xi Jinping, 2016)

One of the most important issues for climate action is the need for significant financial investments by governments and companies. Specifically, financing that aims at the energy transition is needed, as it is considered one of the keys to achieving decarbonized economies, as the World Bank points out "We will support transformative public and private investments in five key systems: energy; agriculture, food, water and land; towns; transportation, and manufactures." (World Bank Group, 2021, p.iv). The same report states that "These systems will be prioritized because they are the largest contributors to emissions (together, they produce more than 90% of global GHG emissions)" World Bank Group, 2021, p.iv)

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In recent years, the importance of financing has become clear, and this is one of the reasons why it is so important to analyze China's role at the international level. Firstly, it continues to be the largest emitter of GHGs, secondly it is one of the fastest growing economies, and thirdly and most importantly, most of its investments are made in developing economies and it is these same economies that currently "account for more than half of the world's growth in production and consumption, and are the ones that will drive global growth, it is essential to flatten the GHG emissions curve and accelerate the downward trend, especially in emerging economies with higher emissions, and to decouple emissions from growth through green, resilient and inclusive development, which, in turn, will result in new jobs and growth opportunities." (World Bank Group, 2021, p. 3)

The increase in financing granted by China to countries in Latin America or Africa responds to or is part of its domestic and foreign policy, which has been complemented by the situation at the international level such as the 2008 crisis, the pandemic and the recent elections in the United States. "Since the beginning of the 21st century, China has increased its global financing for the energy sector. This trend accelerated after the global financial crisis of 2007-2008 and constitutes China's most comprehensive development strategy, integrating both its domestic and foreign policy." (González Jáuregui, 2021).

The relevance of financing is once again present during COP29, as both the main objectives and the agreements made included "a new objective in terms of climate finance, the guarantee that all countries have the necessary means to adopt much more forceful climate measures" (Uinted Nations, 2024)

This paper seeks to delve into the role of China and its investments in achieving the energy transition not only domestically but also internationally, especially in developing economies

2. Methodology

"China's Global Power (CGP) database tracks global power plants outside China financed by foreign investment and/or China's two global policy banks, the China Development Bank (CDB) and the Export-Import Bank of China (CHEXIM).[5] The database also tracks and displays the types of deals, Chinese investors and/or lenders, percentage of ownership per investor, amount of capacity in megawatts (MW), type of direct transfer chinecnology, operating status, and estimated annual CO2 emissions from power plants." [Boston University Global Development Policy Center, 2022].

The China's Global Power (CGP) database records all power projects around the world involving Chinese capital, including foreign direct investment (FDI) and public finance through Chinese national development bank and export-import credit agency.
First, the data structure of China's Global Power Database was analyzed, the data of the plants were filtered by region, country, and type of energy; in this way they could be classified by renewable and non-renewable energy. Likewise, other data were taken into account such as type of business (foreign

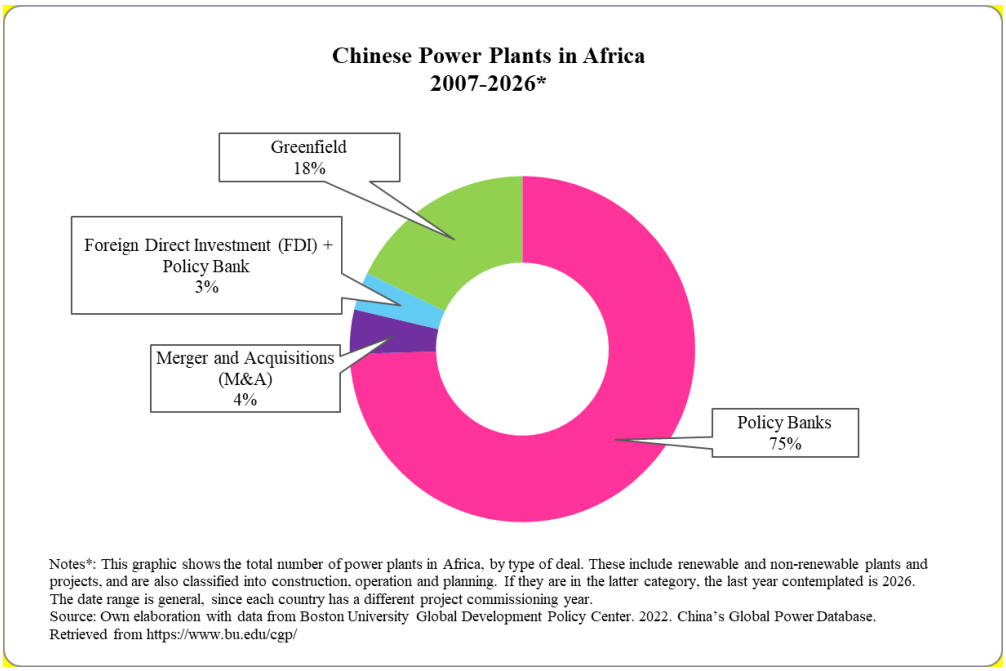
[5] "The commitments tracked are international sovereign loans, meaning that the recipient is a public, majority-owned public entity, or a private entity with sovereign collateral on a loan." (Boston University Global Development Policy Center, 2023).

direct investment, FDI, development banking, or development banking plus FDI),[6] investment company, and year of commission of the project, which covers a range from 2007 to 2026, however, this information does not provide financial data on the level of investment in each plant or project. Therefore, a second analysis was carried out with China's Global Energy Finance Database. While this database shows only projects financed by two of China's development policy banks, it allows for an approximation of disbursements for energy infrastructure development in the region. In this case, data on power plants by region, country, and type of energy were leaked, as well as the amount in millions of dollars, lender, borrower, and year of the loan in the period from 2000 to 2020 for the Africa region. Subsequently, a search for the companies was carried out on financial portals, with the aim of obtaining data on their main shareholders. Or, if the main company shown by the tracker was not listed, the search was carried out for a subsidiary company whose business was also the renewable and non-renewable energy sector, respectively. Once the data was collected, they were grouped by shareholder based on the percentage of outstanding shares held by each shareholder and thus, the top ten for each type of energy were obtained.

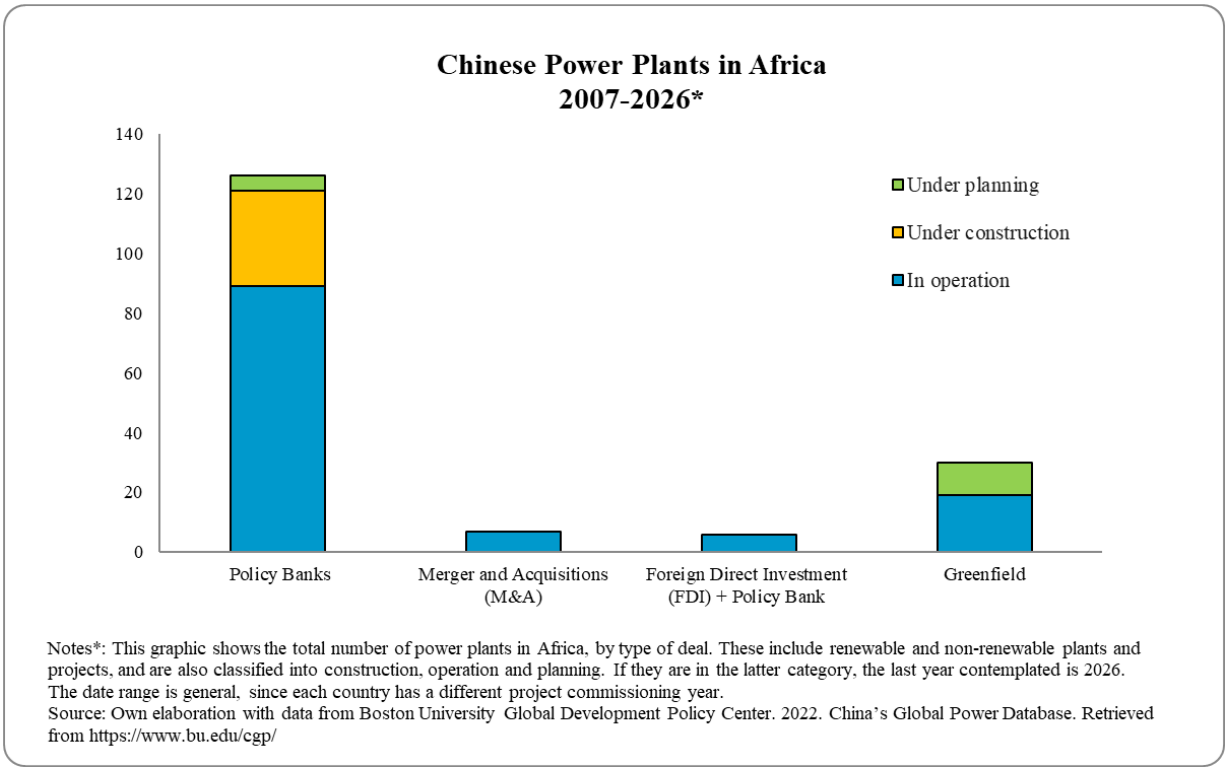
3. Energy projects in Africa by type of financing

Graph 1 shows the distribution by financing of the total power plants as well as the percentage they represent of the total. From 2007 to 2026, energy plants and projects in this region total 169, of which 75% (126) oversee two Chinese development banks; in second place, there are the plants through Greenfield investment, which represent 18% of the total (30). Finally, there are energy plants through mergers and acquisitions, as well as the combination of foreign direct investment and development banking, which represent only 4% each.

[6] Type of agreement or business under which the project or power plant was developed. The Boston University Global Development Policy Center (2022) classification orders the information into: 1) Greenfield: "means the investment of a project from the beginning"; 2) mergers and acquisitions (Merger and Acquisitions M&A), "are related to the purchase of shares in an existing company"; 3) Policy Bank or Chinese development bank; 4) FDI+Policy Bank, foreign direct investment and development banking.

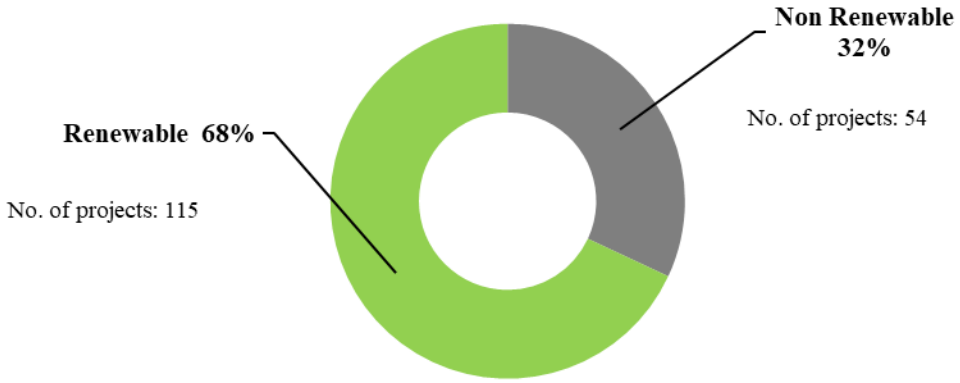


If we look at the status of these power plants, we find that of the 89 financed by development banks, 89 are in operation, 5 are in planning and 32 are under construction. Of the plants with Greenfield financing, 19 are in operation and 11 are still in the planning stage.
In the area of mergers and acquisitions, there are 7 power plants in operation; Finally, for projects that combine cooperation between development and foreign investment banks, all 6 are in operation. (See Graph 2)



Of the total projects, 68% correspond to renewable energies, with a total of 115 of which 91 are in charge of China's development banks. They also own 25 of the 54 non-renewable energy projects. More specifically, 101 projects are in hydropower production, 8 in solar and 6 in wind. Meanwhile, for non-renewable energies, there are 30 projects in gas production, 9 in oil production and 15 in coal production. (Graph 3)

Chinese Power Plants in Africa by Type of Energy 2007-2026*



Notes*: This graphic shows the total number of power plants in Africa, by type of deal. These include renewable and non-renewable plants and projects, and are also classified into construction, operation and planning. If they are in the latter category, the last year contemplated is 2026.
The date range is general, since each country has a different project commissioning year.
Source: Own elaboration with data from Boston University Global Development Policy Center. 2022. China's Global Power Database. Retrieved from https://www.bu.edu/cgp/

Chinese Power Plants in Africa by Type of Energy 2007-2026*		
Deal	*Non-Renewable*	*Renewable*
Policy Banks	35	91
Merger and Acquisitions (M&A)	7	0
Foreign Direct Investment (FDI) + Policy Bank	0	6
Greenfield	12	18
Total	54	115
169	32%	68%

Notes*: This table shows the total number of power plants in Africa, by type of deal. These are also classified into construction, operation and planning. If they are in the latter category, the last year contemplated is 2026.

The date range is general, since each country has a different project commissioning year.

Source: Own elaboration with data from Boston University Global Development Policy Center. 2022. China's Global Power Database. Retrieved from https://www.bu.edu/cgp/

4. Chinese power plants renewable and non renewable in Africa

Regarding the projects and plants under the greenfield, mergers and acquisitions, and foreign investment category developed by Chinese companies, the participation of seven corporations with investments in renewable energies is observed, listed below:

1. Anhui Conch, with investment in the Democratic Republic of Congo in four hydropower plants.
2. China Metallurgical Group Corporation with investment in Zimbabwe, with a solar power plant.
3. Chint, with investment in South Africa with a solar power plant.
4. Fuxing Xiaocheng has a solar energy project in Ghana
5. Guodian Group has two wind power plants in South Africa.
6. Power China, with 11 hydropower projects distributed in Cameroon, Uganda and Zambia. It also has 3 wind power plants in Ethiopia.
7. Tebian Electric Apparatus (TBEA), with a solar power plant in Tunisia.

In the case of non-renewable energies, there are six companies with investments in this category:

1. China General Nuclear Power Group, with four gas-fired power plants in Egypt.
2. China Gezhouba, with an oil plant in Liberia.
3. China National Petroleum Corporation, with five oil plants in Chad.
4. Jiangsu Communication Clean Energy Technology (CCETC), with a gas plant in Nigeria.
5. Shenzhen Energy has five gas plants in Ghana.
6. State Grid Corporation of China, which has three gas plants also in Nigeria.

Chinese Renewable and Non-Renewable Power Plants in Africa by Corporation 2007-2026*			
Renewable			
Corporation	*Countries*	*Type of Energy*	*Total of Power Plants*
Anhui Conch	Democratic Republic of Congo	Hydropower	4
China Metallurgical Group Corporation	Zimbabwe	Solar	1
Chint	South Africa	Solar	1
Fuxing Xiaocheng	Ghana	Solar	1
Guodian Group	South Africa	Wind	2
Power China	Cameron, Uganda and Zambia	Hydropower	11
Power China	Ethiopia	Wind	3
Tebian Electric Apparatus (TBEA)	Tunisia	Solar	1
			24
Non-Renewable			
Corporation	*Countries*	*Type of Energy*	*Total of Power Plants*
China General Nuclear Power Group	Egypt	Gas	4
China Gezhouba	Liberia	Oil	1
China National Petroleum Corporation	Chad	Oil	5
Jiangsu Communication Clean Energy Technology (CCETC)	Nigeria	Gas	1
Shenzhen Energy	Ghana	Gas	5
State Grid Corporation of China	Nigeria	Gas	3
			19

Notes*: This table shows the total number of power plants in Africa, by type of deal. These are also classified into construction, operation and planning. If they are in the latter category, the last year contemplated is 2026.

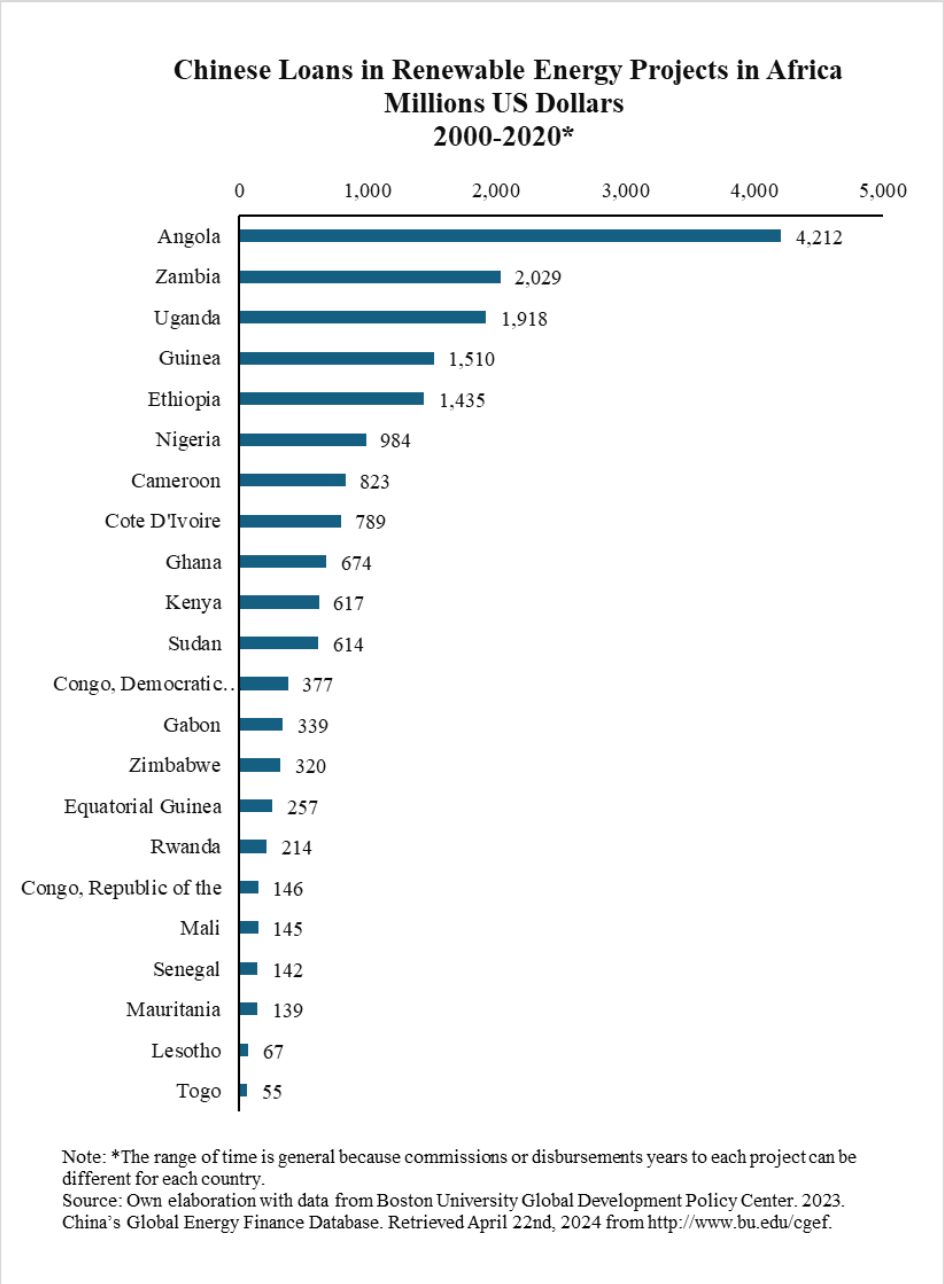
The date range is general, since each country has a different project commissioning year.

Source: Own elaboration with data from Boston University Global Development Policy Center. 2022. China's Global Power Database. Retrieved from https://www.bu.edu/cgp/

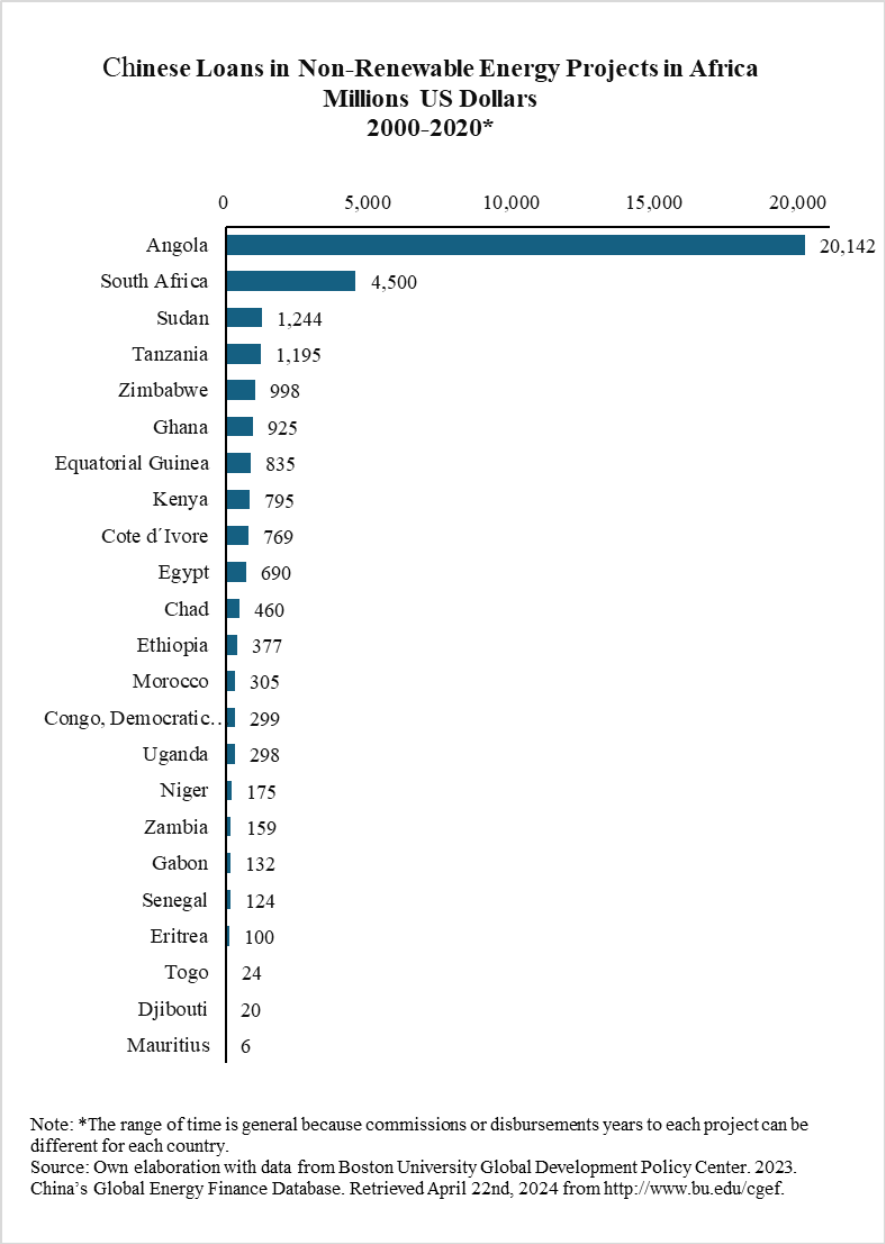
5. Financing in renewable and non-renewable energy projects by country

With information from China's Global Energy Finance Database (Boston University Global Development Policy Center, 2022), data was found on the financing granted by development banks to renewable energy plants. Figure 4 shows China's loans to renewable energy projects in African countries between 2000 and 2020, in millions of US dollars.

Angola is the country that has received the largest number of loans, totaling USD 4,212 million, followed by Zambia with USD 2,029 million and Uganda with USD 1,918 million. Other countries such as Guinea, Ethiopia and Nigeria have also received significant amounts, although smaller compared to the first three. The list includes a total of 21 African countries, with Togo receiving the least funding, with US$55 million.



On the other hand, loans to non-renewable energy projects in Africa also by banks of Chinese policy banks where the graph shows Chinese loans granted for non-renewable energy projects in various African countries between 2000 and 2020, in millions of US dollars. In the category of loans for non-renewable energy projects in Africa from 2000 to 2020, Angola is by a wide margin the largest recipient with $20.142 billion. South Africa remains in second place with $4.5 billion, while other countries such as Sudan, Tanzania and Zimbabwe received considerably smaller amounts of between $1.244 billion and $998 million.



6. Mutual Funds in Chinese renewable and non-renewable energy corporations in Africa.

6.1 Mutual Funds with investments in Chinese corporations in renewable energy plants

1. AIFMC Herun Structured Hybrid Securities Investment Fund holds 8.04% of the outstanding shares of State Grid Corporation.
2. ICBCCS Logistics Industry Equity Fund owns 4.18% of the outstanding shares of State Grid Corporation.

3. ABC CA Strategic Income 1-Year Period Hybrid Fund holds 3.11% of the outstanding shares of State Grid Corporation.
4. ABC-CA Strategy Selected Hybrid Fund owns 1.88% of the outstanding shares of State Grid Corporation.
5. Vanguard Emerging Markets Stock Index Fund owns 1.86% of the outstanding shares of China General Nuclear Power Group, Shenzhen Energy Group Co. Ltd., China Gezhouba.
6. Vanguard Total International Stock Index Fund TOTAL holds 1.75% of the outstanding shares of China General Nuclear Power Group, Shenzhen Energy Group Co. Ltd., China Gezhouba.
7. ICBCCS Emerging Manufacturing Hybrid Fund with 1.70% of the outstanding shares of State Grid Corporation.
8. Kopernik Global All Cap Fund holds 1.57% of the outstanding shares of China General Nuclear Power Group.
9. ICBCCS Small Medium Capital Growth Balanced Fund owns 1.38% of the outstanding shares of State Grid Corporation.
10. CIFM Prosperity Selected Mixed Fund holds 1.16% of the outstanding shares of State Grid Corporation.

6.2 Mutual Funds with investments in Chinese corporations with non-renewable energy plants:

1. Huatai-PineBridge CSI 300 ETF Units holds 1.71% of the outstanding shares of China National Chemical (ChemChina), SDIC Power Holdings Co Ltd.
2. Huatai-Pinebridge CSI Photovoltaic Industry Index ETF holds 1.62% of the outstanding shares of Chint, TBA.
3. GF CSI Infrastructure Engineering ETF Fund with a 1.39% stake in the outstanding shares of China National Chemical (ChemChina).
4. Tianhong CSI Photovoltaic Industry Index Fund with 1.30% of the outstanding shares of Chint, TBA.
5. China AMC SSE 50 ETF holds 1.23% of TBA's outstanding shares.
6. CITIC Dividend Value 1Yr Mix Collective Asset Mgmt Plan owns 0.56% of the outstanding shares of Chint.
7. China AMC Large Cap Select Fund holds 0.45% of the outstanding shares of China Metallurgical Group Corporation and Chint..
8. E Fund Seeded Csi 300 Etf with 0.41% of the outstanding shares of Guodian Power Development, TBA.
9. Huaan SSE 180 ETF Index Fund holds 0.37% of the outstanding shares of China Metallurgical Group Corporation, Power China, TBA.
10. First Sentier Invs. Glb. Umb. - FSSA China Growth Fund with 0.35% of Chint's outstanding shares.

Mutual Funds in Chinese Energy Corporations in Africa .						
	Name	*Corporation*	*Shares Held*	*% Shares Out*	*% of Assets*	*As of Date*
Mutual Funds in Renewable Corporations	AIFMC Herun Structured Hybrid Securities Investment Fund	State Grid Corporation	6,606,126	8.04%	1.16%	31/12/21
	ICBCCS Logistics Industry Equity Fund	State Grid Corporation	3,436,110	4.18%	5.23%	31/12/22
	ABC CA Strategic Income 1-Year Period Hybrid Fund	State Grid Corporation	2,555,034	3.11%	2.19%	31/12/22
	ABC-CA Strategy Selected Hybrid Fund	State Grid Corporation	1,544,435	1.88%	2.12%	31/12/22
	Vanguard Emerging Markets Stock Index Fund	China General Nuclear Power Group, Shenzhen Energy Group Co. Ltd., China Gezhouba	158,143,514	1.86%	0.04%	30/11/23
	Vanguard Total International Stock Index Fund TOTAL	China General Nuclear Power Group, Shenzhen Energy Group Co. Ltd., China Gezhouba	153,240,720	1.75%	0.01%	31/10/23
	ICBCCS Emerging Manufacturing Hybrid Fund	State Grid Corporation	1,393,927	1.70%	4.81%	31/12/22
	Kopernik Global All Cap Fund	China General Nuclear Power Group	174,806,000	1.57%	2.07%	30/11/23
	ICBCCS Small Medium Capital Growth Balanced Fund	State Grid Corporation	1,135,736	1.38%	2.25%	31/12/22
	CIFM Prosperity Selected Mixed Fund	State Grid Corporation	952,897	1.16%	1.73%	31/12/22
Mutual Funds in Non-Renewable Corporations	Huatai-PineBridge CSI 300 ETF Units	China National Chemical (ChemChina), SDIC Power Holdings Co Ltd	29,408,948	1.71%	0.15%	31/12/22
	Huatai-Pinebridge CSI Photovoltaic Industry Index ETF	Chint, TBA	10,949,736	1.62%	2.81%	31/12/22
	GF CSI Infrastructure Engineering ETF Fund	China National Chemical (ChemChina)	91,557,300	1.39%	4.21%	31/12/22
	Tianhong CSI Photovoltaic Industry Index Fund	Chint, TBA	8,809,466	1.30%	2.47%	31/12/22
	China AMC SSE 50 ETF	TBA	62,010,666	1.23%	1.12%	31/12/23
	CITIC Dividend Value 1Yr Mix Collective Asset Mgmt Plan	Chint	12,137,968	0.56%	6.10%	31/12/22
	China AMC Large Cap Select Fund	China Metallurgical Group Corporation and Chint.	40,999,920	0.45%	3.99%	30/06/23
	E Fund Seeded Csi 300 Etf	Guodian Power Develoment, TBA	25,029,877	0.41%	0.28%	31/12/23
	Huaan SSE 180 ETF Index Fund	China Metallurgical Group Corporation, Power China, TBA	12,447,635	0.37%	0.27%	31/12/22
	First Sentier Invs. Glb. Umb. - FSSA China Growth Fund	Chint	7,452,895	0.35%	0.94%	30/09/23

Source: Own elaboration with data from the each company's profile on the Wall Street Jounal Market Data' portal. Accessed October 7th, 2024.

7. Institutional Investors in Chinese renewable and non-renewable energy corporations in Africa.

7.1 Institutional Investors with investments in Chinese corporations in renewable energy plants:

Regarding the 10 institutional investors of Chinese corporations with renewable and non-renewable energy plants that have the highest percentage of outstanding shares. Starting with Chinese corporations with renewable energy plants, the shareholders are:

1. China Merchants Fund Management Co., Ltd. owns 8.84% of the outstanding shares of Chint.
2. Taiping Asset Management Co., Ltd. holds 4.95% of the outstanding shares of Power China.
3. Huatai-PineBridge Fund Management Co., Ltd. with a 2.68% interest in the outstanding shares of Guodian Power Develoment, Power China, TBA.
4. The Vanguard Group, Inc. holds 2.33% of the outstanding shares owned by China Metallurgical Group Corporation, Guodian Power Develoment, TBA.
5. Aegon-Industrial Fund Management Co., Ltd. holds 1.52% of the outstanding shares of Chint, TBA.
6. Rosefinch Fund Management Co., Ltd. with 1.28% of the outstanding shares of Chint, Power China.
7. Tian Hong Asset Management Co., Ltd. owns 1.26% of TBA's outstanding shares.
8. ICBC Credit Suisse Asset Management Co., Ltd. holds 1.18% of the outstanding shares of Power China.
9. Guotai Junan Assets (Asia) Ltd. holds 1.03% of the outstanding shares of Power China.
10. First Sentier Investors (Hong Kong) Ltd. owns 0.94% of the outstanding shares of Chint.

7.2 Institutional Investors with investments in Chinese corporations in non-renewable energy plants:

Institutional Investor Funds in Chinese Corporations with Non-Renewable Energy Plants:

1. ICBC Credit Suisse Asset Management Co., Ltd. holds 11.18% of the outstanding shares of State Grid Corporation.
2. Invesco Great Wall Fund Management Co. Ltd. (Invt Mgmt) holds 9.66% of the outstanding shares of State Grid Corporation.
3. ABC-CA Fund Management Co., Ltd. with 5.99% of the outstanding shares of State Grid Corporation.
4. The Vanguard Group, Inc. owns 5.27% of the outstanding shares of China General Nuclear Power Group, Shenzhen Energy Group Co. Ltd, China Gezhouba.
5. GIC Pte Ltd. (Investment Management) holds 4.93% of the outstanding shares of China General Nuclear Power Group.
6. E Fund Management Co., Ltd. holds 3.85% of the outstanding shares of State Grid Corporation.

7. Bosera Asset Management Co., Ltd. owns 2.86% of the outstanding shares of State Grid Corporation.
8. Fullgoal Fund Management Co., Ltd. holds 2.47% of the outstanding shares of State Grid Corporation.
9. China Southern Asset Management Co., Ltd. with 2.26% of the outstanding shares of State Grid Corporation.
10. Kopernik Global Investors LLC with a 2.12% interest in the outstanding shares of China General Nuclear Power Group.

Institutional Investors in Chinese Energy Corporations in Africa

	Name	*Corporation*	*Shares Held*	*% Shares Out*	*% of Assets*	*As of Date*
Institutions Investors in Renewable Corporations	China Merchants Fund Management Co., Ltd.	Chint	190,100,245	8.84%	0.00%	30/06/23
	Taiping Asset Management Co., Ltd.	Power China	543,478,260	4.95%	100.00%	13/07/23
	Huatai-PineBridge Fund Management Co., Ltd.	Guodian Power Develoment, Power China, TBA	69,205,907	2.68%	0.11%	31/12/23
	The Vanguard Group, Inc.	China Metallurgical Group Corporation, Guodian Power Develoment, TBA	15,554,533	2.33%	0.01%	30/11/23
	Aegon-Industrial Fund Management Co., Ltd.	Chint, TBA	17,910,461	1.52%	0.32%	31/12/22
	Rosefinch Fund Management Co., Ltd.	Chint, Power China	15,899,555	1.28%	2.40%	31/12/22
	Tian Hong Asset Management Co., Ltd.	TBA	63,614,027	1.26%	0.56%	31/12/23
	ICBC Credit Suisse Asset Management Co., Ltd.	Power China	154,209,605	1.18%	0.39%	31/12/22
	Guotai Junan Assets (Asia) Ltd.	Power China	113,664,596	1.03%	100.00%	13/07/23
	First Sentier Investors (Hong Kong) Ltd.	Chint	20,216,854	0.94%	0.56%	30/09/23
Institutions Investors in Non-Renewable Corporations	ICBC Credit Suisse Asset Management Co., Ltd.	State Grid Corporation	9,186,248	11.18%	0.18%	31/12/22
	Invesco Great Wall Fund Management Co. Ltd. (Invt Mgmt)	State Grid Corporation	7,933,976	9.66%	0.08%	31/12/22
	ABC-CA Fund Management Co., Ltd.	State Grid Corporation	4,919,938	5.99%	0.36%	31/12/22
	The Vanguard Group, Inc.	China General Nuclear Power Group, Shenzhen Energy Group Co. Ltd, China Gezhouba	364,907,191	5.27%	0.03%	30/11/23
	GIC Pte Ltd. (Investment Management)	China General Nuclear Power Group	550,788,000	4.93%	100.00%	31/01/23
	E Fund Management Co., Ltd.	State Grid Corporation	3,164,906	3.85%	0.02%	31/12/22
	Bosera Asset Management Co., Ltd.	State Grid Corporation	2,200,555	2.68%	0.04%	31/12/22
	Fullgoal Fund Management Co., Ltd.	State Grid Corporation	2,027,785	2.47%	0.03%	31/12/22
	China Southern Asset Management Co., Ltd.	State Grid Corporation	1,854,437	2.26%	0.03%	31/12/22
	Kopernik Global Investors LLC	China General Nuclear Power Group	236,596,000	2.12%	3.22%	30/11/23

Source: Own elaboration with data from the each company's profile on the Wall Street Jounal Market Data' portal. Accessed October 7th, 2024.

Institutional Investors in Chinese Energy Corporations in Africa .						
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Institutions Investors in Renewable Corporations	China Merchants Fund Management Co., Ltd.	Chint	190,100,245	8.84%	0.00%	30/06/23
	Taiping Asset Management Co., Ltd.	Power China	543,478,260	4.95%	100.00%	13/07/23
	Huatai-PineBridge Fund Management Co., Ltd.	Guodian Power Develoment, Power China, TBA	69,205,907	2.68%	0.11%	31/12/23
	The Vanguard Group, Inc.	China Metallurgical Group Corporation, Guodian Power Develoment, TBA	15,554,533	2.33%	0.01%	30/11/23
	Aegon-Industrial Fund Management Co., Ltd.	Chint, TBA	17,910,461	1.52%	0.32%	31/12/22
	Rosefinch Fund Management Co., Ltd.	Chint, Power China	15,899,555	1.28%	2.40%	31/12/22
	Tian Hong Asset Management Co., Ltd.	TBA	63,614,027	1.26%	0.56%	31/12/23
	ICBC Credit Suisse Asset Management Co., Ltd.	Power China	154,209,605	1.18%	0.39%	31/12/22
	Guotai Junan Assets (Asia) Ltd.	Power China	113,664,596	1.03%	100.00%	13/07/23
	First Sentier Investors (Hong Kong) Ltd.	Chint	20,216,854	0.94%	0.56%	30/09/23
Institutions Investors in Non-Renewable Corporations	ICBC Credit Suisse Asset Management Co., Ltd.	State Grid Corporation	9,186,248	11.18%	0.18%	31/12/22
	Invesco Great Wall Fund Management Co. Ltd. (Invt Mgmt)	State Grid Corporation	7,933,976	9.66%	0.08%	31/12/22
	ABC-CA Fund Management Co., Ltd.	State Grid Corporation	4,919,938	5.99%	0.36%	31/12/22
	The Vanguard Group, Inc.	China General Nuclear Power Group, Shenzhen Energy Group Co. Ltd, China Gezhouba	364,907,191	5.27%	0.03%	30/11/23
	GIC Pte Ltd. (Investment Management)	China General Nuclear Power Group	550,788,000	4.93%	100.00%	31/01/23
	E Fund Management Co., Ltd.	State Grid Corporation	3,164,906	3.85%	0.02%	31/12/22
	Bosera Asset Management Co., Ltd.	State Grid Corporation	2,200,555	2.68%	0.04%	31/12/22
	Fullgoal Fund Management Co., Ltd.	State Grid Corporation	2,027,785	2.47%	0.03%	31/12/22
	China Southern Asset Management Co., Ltd.	State Grid Corporation	1,854,437	2.26%	0.03%	31/12/22
	Kopernik Global Investors LLC	China General Nuclear Power Group	236,596,000	2.12%	3.22%	30/11/23

Source: Own elaboration with data from the each company's profile on the Wall Street Jounal Market Data' portal. Accessed October 7th, 2024.

8. Conclusions

China's actions in the coming years could prove crucial to combat climate change, as both financing and the energy transition are two of the most relevant issues in this area. China's actions will have to be closely monitored both internally and externally, for example if it will present any more specific plan to achieve the commitment announced in 2020 during the United Nations General Assembly, when it spoke of achieving carbon neutrality before 2060.

Climate financing is being developed under the economic growth model that China has promoted for decades, characterized by a combination of state involvement and private companies. China has sought to maintain state control or at least state participation, especially in key sectors, to promote its economic growth.

Although the diplomatic relationship between China and Africa is not recent, it is evident that while European countries and the United States have lost influence in recent years, China has become the continent's largest trading partner. According to the China-Africa Cooperation Forum held in 2024, a quarter of Africa's exports go to this country. During the same summit, the need for cooperation to help the continent achieve a fair and equitable modernization was emphasized, particularly to protect its population from the climate crisis. This is of great importance because many African countries are facing debt situations that pose challenges for investing in actions, infrastructure, needed for sustainable development.

On one hand, African countries demand financing or investment in infrastructure projects, and on the other hand, China is interested in rare metals —in Arica—, which are crucial for technological development. Therefore, it will be necessary to closely monitor not only financing but also trade and diplomatic relations to determine whether China's involvement in Africa is contributing not only to mitigating climate change in developing economies but also to their broader development.

Given that several African countries are facing debt problems, it will also be important to observe other variables such as repayment terms, interest rates, etc., and assess whether this type of financing is truly beneficial. In other words, it will be essential to thoroughly understand the conditions of this financing and observe any potential negative implications it may have.

Finally, the closing speech of COP29 pointing out as one of the agreements "Triple finance to developing countries, from the previous goal of USD 100 billion annually, to USD 300 billion annually by 2035" (United Nations, 2024). For their part, at the same COP 29 "The representatives of China made it very clear that they will participate in climate finance as long as it is voluntary. While industrialized countries collectively pay $100 billion annually for climate finance, China has contributed, according to its own figures, about $24.5 billion since 2016" (Young, 2024).

1. Bibliography

Xi Jinping (2016) A New Starting Point for China's Development: A New Blueprint for Global Growth. G20 Summit, Hangzhou, September 3th.

https://g20.utoronto.ca/2016/160903-xi.html

Boston University Global Development Policy Center. (2023). *China's Global Energy Finance Database*. Retrieved April 22, 2024, from http://www.bu.edu/cgef

Boston University Global Development Policy Center. (2022). *China's Global Power Database*. Retrieved April 22, 2024, from https://www.bu.edu/cgp/

United Nation, 24 November 2024. COP29 UN Climate Conference Agrees to Triple Finance to Developing Countries, Protecting Lives and Livelihoods, from https://unfccc.int/news/cop29-un-climate-conference-agrees-to-triple-finance-to-developing-countries-protecting-lives-and

Uinted Nations, 2024) "¿Qué es la COP29?" https://unfccc.int/es/cop29/about-cop29

Young, H. (22.11.2024) "¿Ejercerá China el liderazgo climático internacional?", DW, from: https://www.dw.com/es/ejercer%C3%A1-china-el-liderazgo-clim%C3%A1tico-internacional/a-70864623