Global Risks and Investment Uncertainty:

Chinese Global Energy Finance in 2018

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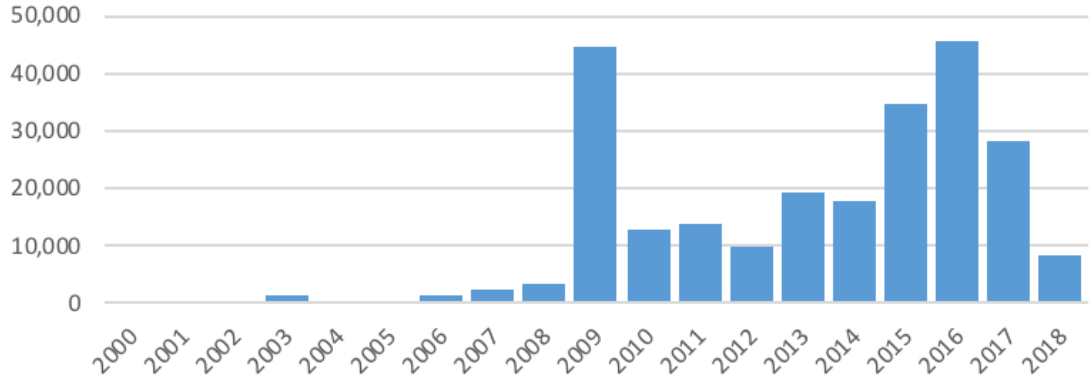
In 2018, overseas energy financing by China's two global policy banks—the China Development Bank and the Export-Import Bank of China—was at its lowest level since 2013. These two banks provided just $8.62 billion to foreign countries in financing for energy sector activity overseas in 2018, down 69 percent from the $28.04 billion in lending to foreign governments in 2017. In 2018, 93 percent of China's energy loans went to BRI countries. While annual flows of energy finance by China's policy banks since 2000 now sum to 244.2 billion, it is clear that the five-year anniversary of the Belt and Road Initiative is marked by a significant dip downward.[1] Figure 1 shows annual energy finance by China Development Bank (CDB) and the Export-Import Bank of China (CHEXIM) since 2000 according to our database.

According to our research the slowdown in overseas policy lending is due to an increase in uncertainty and risk in China, in host countries, and in the broader world economy. Turbulence in the domestic Chinese economy from internal and external forces has increased caution on the part of all economic actors, triggering the government to pragmatically increase regulations on cross-border capital flows. Moreover, uncertainty and risk in emerging market and developing countries has also led Chinese authorities to be very cautious in 2018 as well. Given this uncertainty, extrapolating from the past may not a good predictor of the future.

1 Estimates of the previous years are different from the 2018 version of the database, as the numbers have been adjusted as we gathered and verified more data.

FIGURE 1 CHINA'S ANNUAL ENERGY FINANCE FROM POLICY BANKS 2000-2018 (MILLION USD)



"In 2018, measuring by the number of loans, we recorded 11 projects backed by CDB and CHEXIM, a lowest since 2015."

In 2018, measuring by the number of loans, we recorded 11 projects backed by CDB and CHEXIM, a lowest since 2015. The majority of overseas energy financing of these two banks was in power generation, with coal power plants accounting for the largest share at 42% of the total. The region that received the largest of amount of energy finance is Africa, at 55% of the total. Countries that have signed BRI cooperation documents with China received 93% of 2018's total overseas energy finance from China's two policy and development banks; 28% of the total went to new countries that signed BRI cooperation documents in 2018. We also record two canceled projects in 2018 – the 750-MW West Seti hydropower project in Nepal[2] and the Rahim Yar Khan Coal Fired Plant in Pakistan[3].

This short brief has three additional sections. First, we describe this year's data in detail and context. Second, we outline the revisions and updates to the database for 2018. Finally, we discuss the drivers that have led to a decrease in China's overseas energy finance in recent years.

China's Global Energy Finance

The China Global Energy Database at Boston University's Global Development Policy Center (GDP Center) tracks the international financing by China's two global policy banks, the China Development Bank (CDB) and China Export-Import Bank (CHEXIM), in consultation with the China-Africa Initiative at the Paul Nitze School for Advanced International Studies at John Hopkins University (SAIS-CARI) (for full methodological discussion see Jin et al, 2018)[4]. These banks do not regularly and systematically publish their annual global disbursements in a disaggregated form. Therefore, we join a number of efforts that attempt to build estimates of Chinese overseas development finance 'from the ground up.'

TABLE 1: OVERVIEW OF 2018 OVERSEAS ENERGY LOANS IN CONTEXT

	2008-2012 Average	2013-2017 Average	2018
Loan Amount (Million USD)	16,920	28,976	8,620
Number of Loans	16	22	11
Number of Recipient Countries	12	17	9

2 SCMP, 2018. China Eyes Exit, Nepal's West Seti Hydropower Project in Jeopardy. Available at https://www.scmp.com/week-asia/geopolitics/article/2161968/nepals-west-seti-hydropower-project-jeopardy-china-eyes-exit. Accessed January 29, 2019.

3 Dawn, 2019. Govt puts major CPEC power project on hold. https://www.dawn.com/news/1457449/govt-puts-major-cpec-power-project-on-hold. Retrieved January 29, 2019.

4 Jin, Junda, Xinyue Ma, and Kevin P. Gallagher (2018), Global Development Policy Center Database Coding Manual - July 2018, China's Global Development Finance: A Guidance Note for Global Development Policy Center Databases, Boston University, Global Development Policy Center http://www.bu.edu/gdp/files/2018/08/Coding-Manual-.pdf

Table 1 exhibits the aggregated 2018 figures alongside our revised estimates of 2008-2017. Looking at five years before and after 2013, the annual average loan amounts, number of loans, and number of recipient countries consistently increased after 2013. In 2017, the annual loan amount decreased, but both the number of loans and the number of recipient countries increased. However, in 2018, all three indicators significantly dropped.

Among these loans in 2018, $4 billion of loans came from CDB, and $4.6 billion of financing came from CHEXIM. The average size of CDB loans is more than twice the size of CHEXIM loans in dollar terms. The sectoral distribution of these loans in context of the recent decade of their financing is summarized in Table 2 below.

TABLE 2: SECTORAL DISTRIBUTION OF CHINESE DEVELOPMENT FINANCE IN ENERGY (MILLION USD UNLESS SPECIFIED OTHERWISE)

	2008-2012 Average		**2013-2017 Average**		**2018**	
Sector	Loan Amount	% total	Loan Amount	% total	Loan Amount	% total
Energy Efficiency		0%	50	0%	500	6%
Gas/LNG		0%		0%	500	6%
Unspecified Source		0%	50	0%		0%
Exploration and Extraction	**6,482**	**38%**	**9,604**	**33%**	**1,000**	**12%**
Gas/LNG	1,432	8%	240	1%	1,000	12%
Geothermal	19	0%	80	0%		0%
Nuclear	20	0%		0%		0%
Oil	5,012	30%	9,284	32%		0%
Multipurpose	**452**	**3%**	**3,759**	**13%**		**0%**
Coal	252	1%	400	1%		0%
Gas/LNG	200	1%	2,400	8%		0%
Oil		0%	959	3%		0%
Power Generation	**6,737**	**40%**	**13,133**	**45%**	**6,321**	**73%**
Biomass		0%	12	0%		0%
Coal	4,349	26%	4,513	16%	3,598	42%
Gas/LNG	264	2%	51	0%	1,000	12%
Hydropower	1,610	10%	4,794	17%	1,723	20%
Nuclear	31	0%	2,854	10%		0%
Oil	130	1%	318	1%		0%
Solar	326	2%	431	1%		0%
Wind	27	0%	160	1%		0%
Transmission and Distribution	**3,249**	**19%**	**2,430**	**8%**	**799**	**9%**
Gas/LNG	1,160	7%	1,364	5%		0%
Hydropower	6	0%	286	1%		0%
Oil	2,000	12%	102	0%		0%
Transmission		0%		0%	199	2%
Unspecified Source	83	0%	663	2%	600	7%
Unspecified Electricity		0%	17	0%		0%
Grand Total	**16,920**	**100%**	**28,976**	**100%**	**8,620**	**100%**

As in recent years, the majority of 2018's overseas energy finance is in power generation, of which coal power plants take up the largest proportion. Even though the absolute amount of finance in all sectors (exploration and extraction, power generation, transmission and distribution) except energy efficiency[5] decreased, CDB and CHEXIM's energy finance became more concentrated in power generation in 2018, especially in coal power generation. CDB committed loans to the 4,800MW Kusile coal power plant in South Africa and a 330MW Mine Mouth Lignite Fired Power Project at Thar Block-II in Pakistan. CHEXIM agreed to finance the 300MW Kam'mwanba coal plant in Malawi. Other involvement in fossil fuel projects include a gas-to-liquid plant in Uzbekistan by CDB and a 1GW Hambantota Natural Gas-Powered Electrical Station by CHEXIM in Sri Lanka.

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Aside from three hydropower projects, there was no finance for renewable energy in 2018 from the two policy banks. The hydropower projects this year include the 15MW Thalpitigala Reservoir Dam in Sri Lanka, the 450MW Souapiti Hydro Project in the Republic of Guinea, and the 168MW Nam Tha 1 Hydro Power Project. There were also two transmission projects in Laos and the Dominican Republic.

As shown in Table 3, the average size of coal power plant deals remained high in both dollar terms and capacity terms. However, the average size of hydropower plant deals kept going down in 2018, and reduced more drastically in terms of capacity than dollar amount per deal comparing with 2017.

TABLE 3 AVERAGE SIZE OF OVERSEAS POWER PLANT FINANCING DEALS BY CDB AND CHEXIM

		2014-2016 Average	2017	2018
Coal	Million USD	768	1,200	1,200
	MW	868	1,463	1,810
Hydropower	Million USD	1,017	957	574
	MW	496	589	221

The Kusile power plant in South Africa to which CDB agreed to provide $2.5 billion in 2018 is a supercritical power plant, and will be the first in South Africa to install flue-gas desulphurisation (FGD) – a state-of-the-art technology used to remove oxides of sulphur.[6] This $2.5 billion only contributes to a portion of the cost of the power plant, and is to the rescue of a funding shortfall with the plant's owner company Eskom. This particular loan has been scrutinized in South Africa and globally.[7]

Over the past two years we have built in information about the generation capacity of Chinese Overseas Finance and now have information for 95 percent of the 166 power plants in our entire database—totaling to roughly 91,394 MW for all Chinese overseas power plants (excluding upgrading projects, and not pro-rating the generation capacity by the portion of Chinese finance). For the eight power generation projects financed by the CDB and CHEXIM in 2018 that we identified, their generation capacity combined for 6,463 MW, 54% down from 14,103 MW in 2017.

5 We categorized a refinery gas flare recovery programme in Nigeria as energy efficiency improvement.
6 http://www.eskom.co.za/Whatweredoing/NewBuild/Pages/Kusile_Power_Station.aspx.
7 https://www.iol.co.za/news/politics/eskom-urged-to-divulge-r33bn-loan-terms-with-china-bank-17684405

TABLE 4 GEOGRAPHICAL DISTRIBUTION OF CHINESE DEVELOPMENT FINANCE IN ENERGY

Row Labels	2008-2012 average		2013-2017 average		2018	
	Loan Amount (USD Million)	Percent Total	Loan Amount (USD Million)	Percent Total	Loan Amount (USD Million)	Percent Total
Africa	1,154	7%	5,743	20%	4,775	55%
Europe/Central Asia	8,397	50%	6,009	21%	1,000	12%
LAC	3,047	18%	8,990	31%	600	7%
Middle East		0%	618	2%		0%
South Asia	1,890	11%	4,514	16%	1,646	19%
Southeast Asia	2,432	14%	3,102	11%	599	7%
Grand Total	**16,920**	**100%**	**28,976**	**100%**	**8,620**	**100%**
BRI Countries	**14,438**	**85%**	**20,156**	**70%**	**8,020**	**93%**

At $4.8 billion, Africa remains the largest recipient of Chinese energy loans in 2018, with coal and hydropower generation being the major types of Chinese energy investment in the region. South Asia and Central Asia respectively received 19% and 12% in energy finance. According to the current list of 122 countries that have signed BRI framework agreements with China, 76.3 percent of all Chinese energy loans since 2000 have gone to BRI countries.

Revisions and Updates to the Database

Over the course of the year, the GDP Center team and colleagues work to identify new Chinese overseas energy finance, and also seek to update and correct past data as new information reveals itself. The following are changes in this year's database that were detected over the course of the year..

We deleted 3 entries that were duplicative, one previous entry that was not financed by CDB or CHEXIM, one previous entry that was not an energy project, and 2 projects that were canceled:

- Nagan Raya/PLTU Nangroe Aceh Darussalam Power Plant in Indonesia (deleted 2005 entry);
- Karot Hydropower Project in Pakistan (deleted 2015 entry);
- San Gaban III hydropower plant in Peru (deleted 2016 entry);
- Bagatelle Dam Project in Mauritius (water supply project rather than energy project);
- Maamba Power Station in Zambia (financed by ICBC);
- West Seti Hydropower Project in Nepal (canceled); and
- Rahim Yar Khan Coal Fired Plant in Pakistan (canceled).

We also added 26 entries that we missed in previous years, namely:

- 76 MW Xeset II Hydropower Project in Laos (2014);
- N'Djamena Refinery and Pipeline in Chad (2007);
- Sino-Myanmar Oil and Gas Pipeline co-financed with International Financiers (2009);
- Power transmission lines from Gibe III to the Wolayta substation in Ethiopia (2009);
- Central Asia-China Gas Pipeline Route C Co-Financed with CNPC in Uzbekistan (2011);
- The 25 MW Moragahakanda Reservoir in Sri Lanka (2012);
- Mtwara–Dar es Salaam Natural Gas Pipeline in Tanzania (2012);
- 2x200MW Pangkalan Susu Coal Fired Power Plant Unit 3 & 4 in Indonesia (2013);
- Teluk Sirih Coal-Fired Power Plant (224MW) in Indonesia (2013);

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- Thang Long Power Plant (600MW) in Vietnam (2014);
- Takalar Steam Coal-Fired Power Plant (200MW) in Indonesia (2014);
- 23 MW Xeset III Hydropower Project in Laos (2014);
- 50-MW Upper Marsyandgi hydroelectric plant in Nepal (2014);
- 20 MW Jesus Rabi Biomass Power Plant in Cuba (2015);
- Geothermal Steam Drilling project in Kenya (2015);
- Kendari-3 Power Station (100MW) in Indonesia (2015);
- Java-7 Coal-Fired Power Plant (2000MW) in Indonesia (2015);
- Duyen Hai 2 Thermal Power Plant (1200MW) in Vietnam (2017);
- Indonesia Morowali Industrial Park Captive Coal-Fired Power Plant (300MW) (2017);
- 86-MW Nam Phay hydropower project in Laos (2017);
- 50 MW Solar Park in Cuba (2017);
- Garissa-based 55MW solar farm in Kenya (2017);
- 230kV Pak Ngeuy-Pha Oudom Transmission Line and Associated Substation Project in Laos (2017)
- 2x52MW Nam Chiane Hydro Power Station in Laos (2017);
- Electricity Supply Project for Bole-Lemi and Kilinto Industrial Parks in Ethiopia (2017);
- Aysha Wind Project in Ethiopia (2017).

And we corrected the amount of Chinese development loans, loan agreement years, and other categorization information for another 29 entries, including:

- Hai Phong Thermal Power Plant Phase 1 in Vietnam (loan amount and description);
- Norocholai (Lakvijaya) Power Station Phase 1 in Sri Lanka (loan amount);
- Revamping Minsk CHP Plant No. 5 in Belarus (energy source);
- Hai Phong Thermal Power Plant Phase 2 in Vietnam (loan amount and description);
- Olkaria IV Geothermal Field Drilling in Kenya (energy source and borrower);
- Oil-related amount of a 2011 Ecuador loan package (loan amount);
- Esmeraldas thermoelectric plant in Ecuador (energy source);
- Extension of the Electric Transmission Network of Bata City in Equatorial Guinea (subsector, and project description);
- Taoussa Hydropower Plant in Mali (year and amount);
- Azelik Uranium Mine in Niger (Suspended) (amount, subsector and suspension information);
- Djarmaya to Lamadji Oil Pipeline in Chad (subsector);
- Gas to Coal Project in Ukraine (subsector);
- Duyen Hai 3 with Sinosure/BOC & ICBC in Vietnam (loan amount);
- Gouina Hydropower Project in Mali (loan amount);
- 132KV Transmission Project, Preferential Loan in Nigeria (loan amount);
- Zungeru Hydropower Plant in Nigeria (loan amount);
- Karuma Hydroelectric Power Station in Uganda (loan amount);
- Kostolac B2 (retrofit), Kostolac B3 (new), and Expansion of Drmno Mine in Serbia (year);
- 2014 Coca Codo Sinclair Hydroelectric Transmission Facility in Ecuador (subsector);
- Dushanbe-2 Combined Heat and Power (CHP) Plant in Tajikistan (loan amount);
- Vinh Tan 1 Coal-Fired Thermal Power Plant with ICBC, BOC & Sinosure in Vietnam (loan amount);

- Quaid-e-Azam Solar Park Phase II and III in Pakistan (project discription);
- HPC Nuclear Project in the U.K. (loan amount);
- Hwange Power Station (7 and 8) in Zimbabwe (energy source);
- Payra 1320 (2x660) MW Thermal Power Plant Project (Kalapara Phase I) in Bangladesh (loan amount);
- Loznica Thermal Power Station in Serbia (energy source and loan amount);
- Egyptian Unified Power Grid (transmission stations, cable, transmitter) (year);
- ThalNova 330MW Power Project with Bank of China, China Credit Insurance Agency and Habib Bank Limited in Pakistan (loan amount)
- Karot Run-of-River Hydropower Project with Silk Road Fund and IFC (lender and loan amount).

Behind the decrease

While acknowledging the fact that our methodology of tracking loans via internet search engines and multi-source verification has its limitations, according the currently available information that we have gathered with consistent methodologies as previous years, we are witnessing a **clear downward trend in CDB and CHEXIM's overseas energy finance since the BRI momentum peaked in 2016**.

Even though trends of the energy sector do not represent the whole picture of China's overseas development finance, the observation is in parallel with the backdrop of China's economic slowdown, declining foreign reserves, stagnant FDI flows, more stringent financial regulations, and the global setting of tightening financing conditions, trade tensions, significant financial market stress and policy uncertainty in multiple large emerging and developing economies.[8] While one could interpret it as somewhat reactive to the more antagonistic global discourse against China's development finance behaviors led by the U.S. government this year, we may also recognize this trend as a strategic shift to more prudent lending, more selective project screening, or possibly evolving financing practices.

The drop in China's overseas energy finance could be seen as a systematic phenomenon against 2018's downward trends in the emerging markets and developing countries – China's major destination of development finance. A global negative sentiment for growth prospects alongside the appreciation of the U.S. dollar in 2018 has contributed to both equity and debt outflows from the emerging markets and developing countries, reflecting a broad-based portfolio sell-off.[9] While financial market stress was most pronounced in Turkey and Argentina, many other emerging markets and developing countries were also impacted by policy uncertainty and commodity price fluctuation.[10]

Meanwhile, the lower financial flows are also not surprising when juxtaposed with China's stagnant FDI flows and overseas contracting activities. According to China's Ministry of Commerce, China's non-financial outbound FDI in 2018 increased by 0.3% in dollar terms,[11] following a 29.4% decrease in 2017 from the previous year.[12] Gross overseas EPC revenues also increased by 0.3% (in dollar terms), while the value of new EPC contracts signed dropped by 8.8% in 2018.[13] The slowing down of these major activities that the two development and policy banks support could also have been a major driver of the decrease since 2017.

Another factor that might have contributed to this slowdown is China's strengthening domestic and cross-border financial and capital account regulations. Since 2016, the China Banking Regulatory Commission

8 World Bank. 2019. *Global Economic Prospects, January 2019: Darkening Skies*. Washington, DC: World Bank. doi: 10.1596/978-1-4648-1343-6. License: Creative Commons Attribution CC BY 3.0 IGO. Accessed at http://documents.worldbank.org/curated/en/307751546982400534/pdf/133493-PUB-9781464813863.pdf.

9 *Ibid*. See Figure 1.9 – C. EMDE portfolio flows during recent stress episodes. P17.

10 *Ibid*. See Figure 1.10. P18.

11 MOFCOM, 2019. 2018年我国对外全行业直接投资简明统计. http://hzs.mofcom.gov.cn/article/date/201901/20190102829082.shtml. Retrieved January 29, 2019.

12 MOFCOM, 2018. 2017年我国对外非金融类直接投资简明统计. http://hzs.mofcom.gov.cn/article/date/201801/20180102699454.shtml. Retrieved January 29, 2019.

13 MOFCOM, 2018. 2018年1-12月我国对外承包工程业务简明统计. http://hzs.mofcom.gov.cn/article/date/201901/20190102829083.shtml. Retrieved January 29, 2019.

(CBRC) has issued a series of regulations (See Table 5), which particularly emphasize risks control, capital adequacy regulations, monitoring and evaluation, and aligning the banks' operations with their roles of policy and development banks. Internal adjustments of financing practices towards more prudent lending behaviours, risk management, and project selection following these regulations might have contributed to the decrease of the loan volumes this year.

TABLE 5 CBRC REGULATIONS CONCERNING POLICY BANKS SINCE 2016[14]

Year Effective	Regulatory Document
2016	*Notice on Further Strengthening the Administration of Overseas Operation Risks of Banking Financial Institutions*
2017	*Guiding Opinions on Regulating Banking Services for Enterprises Heading Overseas and Strengthening Risk Prevention and Control*
2017	*Guiding Opinions on Risk Prevention and Control of the Banking Sector*
2018	*Measures for the Supervision and Administration of China Development Bank*
2018	*Measures for the Supervision and Administration of the Export-Import Bank of China*

As development finance institutions including Chinese banks and enterprises invest globally in public utility and infrastructure sectors such as energy over the years, while energy access levels have significantly improved in many countries,[15] **some countries have begun to witness saturation of investment in these sectors, especially in electricity generation from conventional sources such as coal and hydropower.** Reports of over-commitment for domestic electricity consumption and insecure electricity export markets have been seen in cases of Indonesia, Laos, Pakistan, etc..[16] Despite the demand for higher renewable energy supply ratio and local, especially rural, electricity access, systematic electricity demand lagging behind the growth of generation capacity creates significant wastes from potentially idled capacity, and poses risks for both local utilities and the financiers. As these risks expose themselves over the years, it seems that the Chinese development banks have reasonably slowed down in many of these markets over all.

The domestic policy shock to the China's renewable sector in 2018 is another likely contributor to the lack of overseas renewable energy finance in our database. The accelerated reduction of domestic feed-in-tariffs and public policy support for the PV industry has led to numerous cases of bankruptcy and price fluctuation.[17] Even though overseas markets could be an opportunity for Chinese renewable energy sector under the domestic stress, the domestic issues are also likely to have affected the international renewables market, constituting another reason for the lack of renewable energy projects supported by CDB and CHEXIM this year.

Meanwhile, **the limited scope of this database calls for more information on China's overseas engagement in the renewable energy sector, as to whether they are being financed by Chinese commercial banks, international commercial banks, international development finance institutions, or rely more on equity investment.** A study based on cumulative global finance provided over 2004-2014 shows that state bank

14 CBRC, 2016. 中国银监会关于进一步加强银行业金融机构境外运营风险管理的通知. http://www.cbrc.gov.cn/chinese/home/docDOC_ReadView/19166B3E084B496689523C9FDB0209B2.html. Retrieved January 29, 2019; CBRC, 2017. 中国银监会关于规范银行业服务企业走出去加强风险防控的指导意见. http://www.cbrc.gov.cn/chinese/home/docDOC_ReadView/E2D221D7C7BB463A85D8D-3F8059947AE.html. Retrieved January 29, 2019; CBRC, 2017. 中国银监会关于银行业风险防控工作的指导意见. http://www.cbrc.gov.cn/chinese/home/docView/717B009106CB42BBBD9D6422BD67DC29.html. Retrieved January 29, 2019; CBRC, 2017. 中国进出口银行监督管理办法. http://www.cbrc.gov.cn/govView_8CE5EF195B654C20ACB5077415C8A210.html. Retrieved January 29, 2019; CBRC, 2017. 国家开发银行监督管理办法. http://www.cbrc.gov.cn/chinese/home/docView/33EAC264ADEE4865B2AED2C5CF90C4CD.html. Retrieved January 29, 2019.

15 World Bank, Tracking SDG7 – the energy progress report. https://trackingsdg7.esmap.org/results. Retrieved January 29, 2019.

16 IEEFA, 2017. IEEFA Indonesia: A Potential Overcommitment to Coal-Fired Electricity Puts a Nation at Risk Out of Step With a Global Shift in the Energy Economy. http://ieefa.org/ieefa-indonesia-potential-overcommitment-coal-fired-electricity-puts-nation-risk/. Laos News Agency. 2017. Laos Expects to Have100 Hydropower Plants by 2020. http://kpl.gov.la/En/Detail.aspx?id=25944. MOFCOM. 2017. 巴基斯坦国家输电公司警示电力过剩风险. http://www.mofcom.gov.cn/article/i/jyjl/j/201705/20170502581692.shtml. Retrieved January 29, 2019.

17 China Dialogue, 2018. China's solar industry is at a crossroads. https://www.chinadialogue.net/article/show/single/en/10775-China-s-solar-industry-is-at-a-crossroads. Retrieved January 29, 2019.

finance does provide for a significant share of renewable energy finance in general (15% among 11 categories of financial actors, second to 17% from private utilities).[18] However, one may also speculate that as Chinese renewable energy sector becomes more competitive in terms of both technology and profitability, they might have accessed more equity finance and international commercial finance with lower borrowing costs and those financial resources that are more inclined to financing relatively smaller green projects than large-scale infrastructure projects.

"As China enters a more cautious stage of overseas financing, host country NDCs could prove to be a fruitful pipeline as the CDB and CHEXIM devise their investment strategies."

In a series of papers based on countries' National Determined Commitments (NDC) for climate actions, our 2017 database and beyond, we estimate that there is an over 1-trillion-dollar demand for investment in renewable energy sector globally[19], of which BRI countries are seeking 469 billion until 2030.[20] The scale of China's past investments in overseas energy sector shows that the country has the potential of becoming a major driver of meeting the NDC renewable energy goals if its investments could be calibrated towards sustainable green projects. As China enters a more cautious stage of overseas financing, host country NDCs could prove to be a fruitful pipeline as the CDB and CHEXIM devise their investment strategies. Governments of BRI countries would also be well advised to communicate their NDC priorities, national strategies, and associated project pipelines with sufficient granularity to financial institutions, including Chinese development finance institutions such as the CDB and CHEXIM.

18 Mariana Mazzucato, Gregor Semieniuk, 2018. Financing renewable energy: Who is financing what and why it matters, Technological Forecasting and Social Change, Volume 127, Pages 8-22, ISSN 0040-1625, https://doi.org/10.1016/j.techfore.2017.05.021. Retrieved January 29, 2019.

19 Cabré, M.M., Gallagher, K.P. and Li, Z., 2018. Renewable Energy: The Trillion Dollar Opportunity for Chinese Overseas Investment. *China & World Economy*, *26*(6), pp.27-49. https://doi.org/10.1111/cwe.12260.

20 L. Zhou, S. Gilbert, Y. Wang, M. Muñoz Cabre, and K.P. Gallagher. 2018. "Moving the Green Belt and Road Initiative: From Words to Actions.." Working Paper. Washington, DC: World Resources Institute. Available online at http://www.wri.org/publication/moving-the-green-belt.

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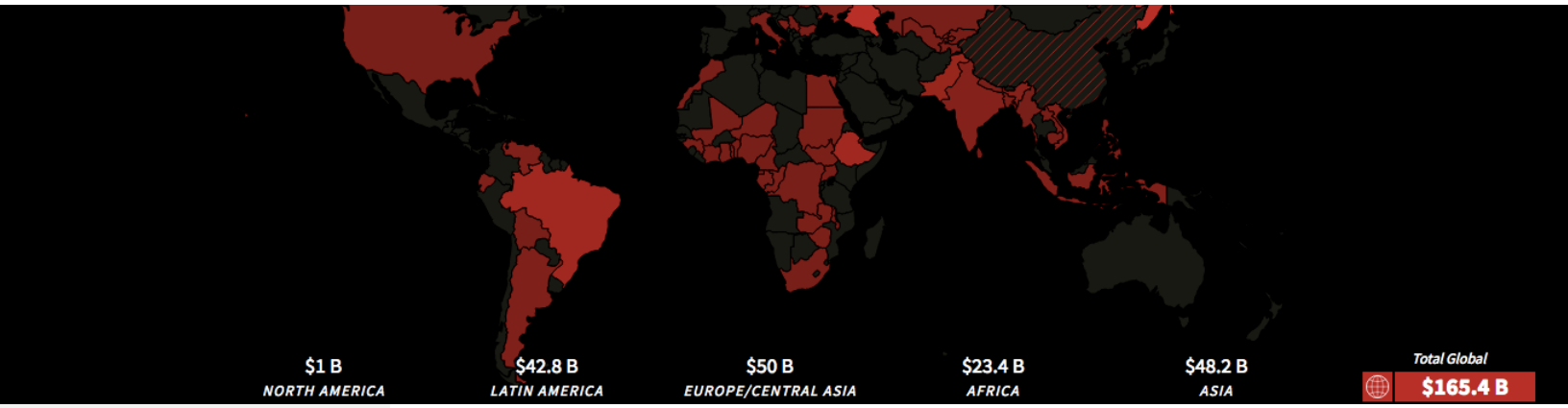

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