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Greening China's investments in Africa: issues and challenges

The 8th Forum on China-Africa Cooperation (FOCAC), which was held in Dakar in November 2021, strengthened the pillars of a "new era" of China-Africa cooperation in various fields, including energy, which is geared towards a "quality" development combining financial and environmental sustainability. This document provides a summary of the main analyses from an AFD study which firstly examined the current situation of China's achievements focusing on fossil fuels and hydropower, secondly, the outlines of the shift towards less risky and less polluting projects and, finally, the issues this change raises for Chinese banks and investors.

China in energies in Africa today

Investments focused on hydropower and fossil fuels

Over the last decade, the breakdown of financing by Chinese banks in the energy sector in Africa (Figure 1) shows the predominance of hydropower (the main renewable energy), followed by fossil fuels (oil then coal) and transmission and distribution (T&D) projects. One of the reasons for China's substantial investments in the hydropower sector (49% of energy capacity additions by China over the decade in Africa) is the fact that Chinese companies and donors have taken advantage of the gap left by the other foreign donors at the turn of the 2000s (Chiyemura et *al*., 2021). China's presence in oil and gas developed in the 1990s with the "Going Out" strategy. At the time, the two objectives were to build the knowledge of Chinese companies and secure its energy supply, as Africa accounts for 20% of China's gas and oil imports. However, the Middle Kingdom was especially present upstream, at the extraction stage, due to the lack of expertise in certain components of thermal power plants.

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Figure 1 — Breakdown of financing in the energy sector in Africa by Chinese development banks ($43 billion) for 2010-2020

SOURCE: AUTHORS' CALCULATIONS USING THE BOSTON UNIVERSITY CGEF DATABASE AND JOHNS HOPKINS INSTITUTE CAL DATABASE

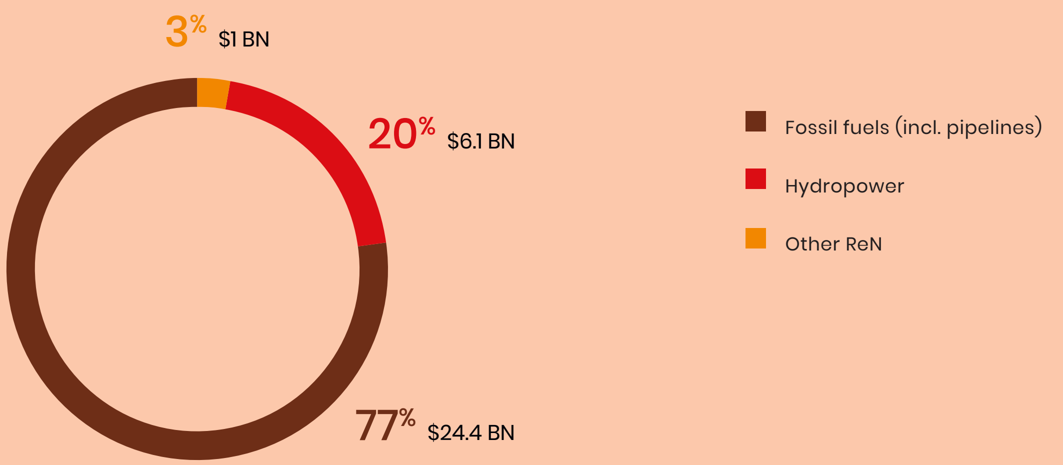
Since the 2000s, there has been a series of incentives for energy investments by China's private sector. The ambition of the Belt and Road Initiative (BRI) is to encourage the private sector to invest in renewable energy production, in particular in solar and wind energy, for which China is the world leader. However, over the last decade, investments in the field of energy in Africa have remained undiversified (Figure 2). Investments allocated to oil and gas projects by Chinese state-owned companies largely dominate in terms of volume and the number of projects.

The financing allocated by banks to renewable energies other than hydropower amounts to less than 3% of the volumes committed and business investment in these renewable energies only accounts for 3% of total investment. While China is the world leader in solar and wind energy production, there is no consortium specialized in developing this type of project abroad and China mainly operates as an equipment manufacturer (supply of photovoltaic panels).

Decline in Chinese commitments

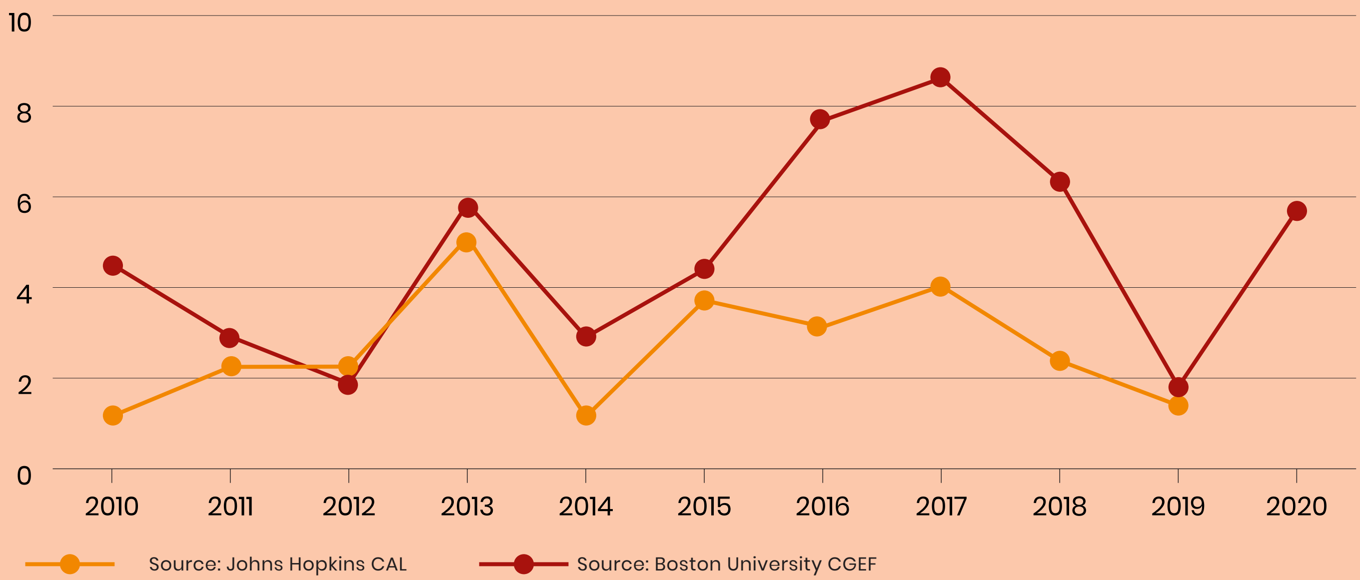
China's loan commitments in Africa are declining in all sectors. The data available from Boston University and Johns Hopkins University used in Figure 3 show this decline since 2017. There are many reasons for this slowdown: firstly, the growing debt of African countries has limited their capacity to borrow for major infrastructure projects and, secondly, the slowdown in China's domestic growth, which requires a change in its projection abroad. But it is also due to a change in its energy strategy.

Figure 2 — Breakdown of investments in energy in Africa by Chinese state-owned and private companies ($32 billion) for 2010-2020



SOURCE: AUTHORS' CALCULATIONS USING THE BOSTON UNIVERSITY CGEF DATABASE AND JOHNS HOPKINS INSTITUTE CAL DATABASE

Figure 3 — Trend in China's energy finance in Africa in $ BN for 2010-2020



Strategic shift: the end of financing for unprofitable or polluting large-scale projects

China has recently modified its projection strategy with two changes already underway in Africa. Firstly, a shift towards a more restrictive risk management policy (caution against financing "vanity projects"). Secondly, the growing awareness of "the importance of promoting green development and addressing the challenges of environmental protection and climate change" (Bertuzzi et *al.*, 2019).[1] In Africa, this translates into a decline in public financing and the abandonment of large-scale projects that pollute or have a high-risk profile. These decisions naturally have major implications for the contours of energy cooperation with the continent.

Changes in the fossil fuel sector: coal phase-out and less interest in oil and gas

In September 2021, China announced that it wished to phase out coal (which accounts for less than 5% of Chinese foreign investment). It has indeed become less profitable, politically undesirable and Africa is only a secondary supplier. However, the modalities of this withdrawal have yet to be determined. Furthermore, the limited successes in the oil sector over the past decade (fall in prices in 2014 and 2015) have caused some disappointment for Chinese oil companies on the continent. China's supply of African oil has thereby been declining for over ten years (30% of total imports in 2008, against 18% in 2018). This trend is likely to continue with a decrease in the number of projects in the coming years.

Finally, there are an increasing number of strategic issues concerning gas, in a context where 20 Western countries committed to stop financing fossil fuel projects at COP26. The FOCAC declaration in Dakar in support of green investments and financing for gas projects aptly demonstrates this. Yet China could fill the gap which has been created. Indeed, Africa has the largest gas deposits discovered over the decade. This point should be compared with the figures on Chinese gas consumption, which is constantly increasing. However, the main source of supply will continue to be its neighbors (Central Asia, Qatar and Australia).

Changes in the renewable energies sector: less risky hydro projects and more solar and wind energy

Over the last decade, risky large-scale hydro projects have been financed, generally with a capacity of over 50 MW. The greening of the BRI and the high-quality development policy could result in their downscaling. Indeed, these large-scale projects take time to set up and the growing apprehension over the environmental and social consequences make them less attractive. However, large-scale hydro projects will continue to be central to China's presence in Africa. This is shown by the forecasts of the IEA[2] (International Energy Agency) which expects 70% of additional hydro capacity in Africa between 2021 and 2030 to be provided by Chinese operators. The challenge in this sector therefore lies in ensuring there are robust preliminary environmental and social studies, operative conflict resolution systems and credible transparency mechanisms to reduce the risk profile of these projects.

The few Chinese renewable energy projects are led by the private sector, where the smaller size of projects sometimes corresponds with the size of the companies. But their transaction costs make them uneconomical for large Chinese state-owned companies, which focus on large-scale hydro projects. However, there are sometimes joint ventures between private and state-owned companies in the field. In addition, the proliferation of BRI greening initiatives, which involves a more stringent application of environmental and social standards, should help Chinese state-owned and private companies to better prepare their entry into the non-hydro renewable energies sectors.

[1] Bertuzzi, M., Melonio, T., Pornet, A. et Tremel, L. (2019). *Towards a Sustainable Belt and Road Initiative, Paving the Way for a Common Sustainable Development Finance Framework, Paris, AFD.*

[2] IEA (2016). *Boosting the Power Sector in Sub-Saharan Africa: China's Involvement.*

Including renewable energies in the energy mix requires addressing several challenges

Involve Chinese commercial banks and private companies more

Two strategic policy banks dominate the financing sector and six state-owned companies the investment sector. Out of the $43.4 billion of energy financing implemented by the Chinese banks identified over the decade 2010-2020 in Africa, China Eximbank and China Development Bank account for 60% ($26 billion) and 37% ($16 billion) of this financing, respectively. Commercial banks taken alone represent a marginal share (3%). State-owned companies are the other major Chinese economic actors. They are both beneficiaries of bank financing as contractors and also take part in investments in large-scale projects ($30 billion since 2010). The government also counts on the participation of private companies as investors or contractors, mainly for wind and solar projects. But to date, the projects remain limited ($2 billion since 2010).

Move away from the "turnkey" project model

Most of these sovereign loans are based on the "turnkey" project model, where the contractor handles all the engineering, from the design to the installation and including the choice of materials. The company has recourse to Chinese banks for the financing, but is not involved in the operation phase. But this model is losing ground for two reasons. Firstly, because this situation generates a moral hazard, because it is in the interest of the companies to "oversell" the interest of projects, taking advantage of the lack of visibility of banks, which have a low field representation (Zhang, 2021). Secondly, because this loan system, which attaches little importance to the viability of projects, also generally comprises a clause obliging the developers to take out costly insurance designed for fossil fuels with large funding amounts. This insurance is unsuitable for renewable energies, as the insurance premiums are not proportional to the project amount.

Move from the status of builders to the status of developers-investors for renewable energies

At issue is the entry into a "new age of internationalization" for Chinese state-owned and private companies (Sze and Wu, 2016). They would need to move from the status of builders to the status of developers-investors with a greater capacity to assess the risk and the environmental and social impacts, so that they are no longer dependent on very costly guarantees. The lack of incentive of the existing model for the development of analytical capabilities and the preference for government-to-government agreements have restricted their ability to assess risks, and therefore the competitiveness of these projects. To develop their skills, Chinese players must open up more to external co-financing or to multiple funding sources, create transparent governance mechanisms for projects, and also develop a common repository on environmental and social risks.

Greening the BRI as a springboard

The proliferation of greening initiatives for the BRI has come with a plethora of publications promoting respect for more stringent environmental and social standards. The Green Investment Principles, followed by the Green Development Guidance, are important milestones: it is the first time that a document at this government level has produced such recommendations (Ray, 2021). To attract investors and develop co-financing, these measures now need to be operationalized. The greening of the BRI, but especially of China's energy mix and industrial policy, redefines the resource diplomacy exercised by Beijing and should support its transition towards a lower-carbon model.

This shift towards more sustainable "New Silk Roads", which implies major changes, could pave the way for a dialogue and enhanced cooperation between Chinese financial players and Public Development Banks in the energy sector. However, it is important to keep in mind that this BRI initiative also serves the objective of promoting Chinese technical and relational standards (Ekman, 2021), with the underlying assertion that China must not be benchmarked against Western standards but by its own terms, which is a central tenet of the rationale of the Chinese Communist Party (Bondaz, 2021).

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