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Raising the bar on sustainable development: Renewable energy and environmental standards in FOCAC VI

The 6th Forum on China-Africa Cooperation (FOCAC) is taking place at a time when Sustainable Development Goals (SDGs) are high on most international development agendas. Two important aspects of this agenda include environmental protection and the promotion of renewable energy. This policy briefing examines the promotion of renewable energy and the importance of environmental standards in Africa, within the China-Africa relationship.

Renewable energy in China-Africa co-operation

The African continent continues to struggle under a severe shortage of energy, including electricity. In the continent's largest economy, Nigeria, electric power outages occur on a daily basis; in Africa's most advanced economy, South Africa, "load-shedding" (scheduled power-outages) have become common occurrences. Beyond the immediate inconvenience, electricity shortages have a direct impact on economic growth, particularly the discouragement of future investment. Without power, African industries have to either stop operations for the duration of the cuts or invest in expensive alternative energy sources such as oil generators. Energy shortages have significant implications for future sustainable African growth models. For instance, beneficiation, which promises a shift away from low value-added resource exports, is energy-intensive and cannot be effectively implemented without a stable source of power.

Renewable energy is increasingly viewed by African governments and development stakeholders as a potential source of energy which can assist African electricity deficits ([SAIREC2015](#)). China is strategically positioned to assist, not only due to its extensive economic engagement on the continent but also because it is the largest global investor in renewable energy research and development, and a world leader in renewable energy industries ([Frankfurt School of Finance & Management](#), 2015).

Trends in China-Africa renewable energy

Following the 2009 FOCAC event, China pledged to construct 100 clean energy projects across the African continent, along with another 100 demonstration projects focusing on research

and development (FOCAC Action Plan 2009). Researchers and interested parties in the business sector have had difficulty taking stock of these pledges (Esterhuysen, 2015). They have found it difficult to distinguish between general investments projects, where Chinese firms have secured contracts, like any other market-driven actor, compared to non-commercial projects at a government-to-government level (Esterhuysen, 2014).

We can however identify general trends: in 2011, a Norwegian World Wildlife Fund (WWF) report identified a total of 70 hydro projects in Africa with Chinese involvement (Pöyry, 2011). In addition to expertise in solar and wind energy, China has engaged in large-scale national hydro developments over the last half century. This technological and engineering expertise allows Chinese companies to be competitive internationally, including in Africa. The size and associated cost of hydro power makes it attractive to Chinese investors as these large scale projects are mainly financed through resource-backed loans. Some of the projects mentioned by Pöyry include Ethiopia's Gibe III with 1870MW, Nigeria's Mambila with 2600MW and Sudan's Merowe with 1250MW.

Beyond hydro power, Chinese involvement has remained very limited in the renewable energy sector. The deficit of Chinese involvement in other sources of renewable energy may be due to the general lack of active projects on the continent. South Africa is currently the only sub-Saharan African country with a large scale renewable energy programme. The South African Minister of Energy, Tina Joemat-Pettersson (2015), has indicated that the South African government wishes to expand its much lauded Renewable Energy Independent Power Producer Procurement (REIPPP) programme – the bidding

process for new renewable energy projects selling power to the national grid - to the rest of southern Africa and potentially the rest of the African continent.

Since the REIPPP programme is seen as a home grown (African) success, the programme potentially serves as a best-practice example for other African governments. In South Africa's renewable energy tendering process, Chinese solar companies have been relatively successful in winning projects. Chinese wind companies have predominantly remained suppliers. Some Chinese solar companies have been able to establish themselves in South Africa (with Jinko's photovoltaic factory in Cape Town as the best known example), whilst others have been unable to navigate South Africa's competitive tendering process, mainly due to a lack of local knowledge. Chinese companies such as Jinko that produce locally will be best placed to expand into the rest of the African market, especially if the demand for local content is exported along with the REIPPP programme. Whether Chinese companies producing "Made in South Africa" products will count as "local" content in other African markets, remains to be seen. It will be beneficial for other southern-African states to make use of South Africa's solar industry rather than building their own (with all the associated costs in training, construction, research and development). Current trends towards market integration within the Southern African Customs Union and Southern African Development Community, suggest that this may be the most economical way forward.

Challenges that remain for utility scale renewable energy projects

When looking at the current data as discussed above, Chinese involvement in the African renewable energy sector will continue to focus on large-scale hydro. Depending on the competitiveness of Chinese renewable energy companies, Chinese involvement as investors in renewable energy tendering processes will also continue. On the supply side, Chinese dominance of photovoltaic (PV) panels will continue, along with the dominance of German brands in invertors.

China additionally has the potential to play a significant role in the construction of utility-scale renewable energy projects, such as wind farms, large scale PV and concentrated solar plants. Chinese development assistance and funds, made available through agreements originating from platforms such as FOCAC, can be accessed to develop renewable energy projects in African countries. To date, however, the lack of African government engagement with local African renewable energy companies entails that such funds have not been made available to companies. Access to Chinese-backed loans will require government involvement, with the onus on African governments in assisting local companies in developing bankable projects. As the Southern African example suggests, African states should be careful not to replicate industries: not all African countries need

renewable energy technologies. A system whereby various African countries do not vie for dominance but rather act as an integrated unit (with reduced tariffs and the reduction of other trade barriers) will be more competitive and allow for the development of regional renewable energy expertise.

Once African states begin the process of developing renewable energy they should be clear on what it is that they want to achieve. The development of renewable energy should take place within a development plan. The acquisition of technology through turnkey projects (if manufacturing is desired) may offer a straightforward (albeit expensive) solution. However, turnkey is not desirable in technology intensive industries, especially in renewable energy where the technology dates very quickly. If African states desire to have local renewable energy industries, a concerted effort needs to be made to train technical personnel able to assist in research and development. Keeping in mind that China invested US\$ 83.3 billion in renewable energy in 2014 alone, it is clear that vast sums will have to be invested. Whether African states have the required capital is questionable. If African states can agree on a broad development focus, similar to the spirit of agreement in the Common African Position (CAP) of 2014, national development plans can tie in with overarching or regional development plans and reduce additional regional competition.

The importance of adhering to environmental standards within the China-Africa relationship

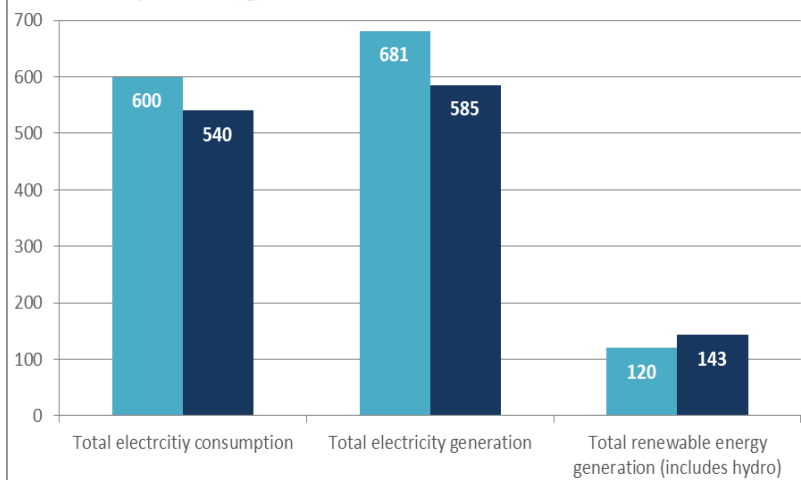
Environmental aspects of the China-Africa relationship are becoming increasingly relevant, not only for those working in civil society and the scientific community but also for policy-makers. For instance, China has recently signalled intentions to relocate some of its most heavily polluting industries, such as steel and cement factories, to other developing regions, including Africa (Shinn, 2015). In 2014, Hebei Iron and Steel announced intentions to build a plant in South Africa capable of making five million tons of steel annually. Although this offers potential employment opportunities for South Africans, it also poses environmental dangers, including air and water pollution. The environmental impacts of Chinese engagement in Africa have been frequently (and often negatively) reported in the media and by scholars working in the area. Impacts range from illegal wildlife trading and logging to the evasion of environmental impact assessments (EIAs) by some Chinese companies. Globally, an EIA is a process of evaluating the likely environmental impacts of a proposed project or development, taking into account inter-related socio-economic, cultural and human-health impacts, both beneficial and adverse. Many African nations have passed legislation making EIAs mandatory, especially for large and environmentally sensitive projects. However, they are often found to be ineffective or not implemented at all. As an example, in Kenya, an EIA is needed

to get a planning licence for major projects. In the case of the Nairobi Thika Highways Improvement Project (NTHIP), a project funded by the African Development Bank (AfDB) and the Chinese Government, the National Environment Management Authority (NEMA) required the project to be subject to an EIA, and the AfDB required an ESIA (Environmental and Social Impact Assessment). Due to pressure from politicians, the project gained approval despite serious shortcomings in both the EIA and the ESIA. There have, however, been some improvements in environmental engagement between China and its African counterparts in recent years, including China introducing guidelines on environmental protection for companies working outside of China as well as the establishment of environmental bilateral agreements. This has been complimented by a growing discussion on environmental concerns in many China-Africa dialogues, including FOCAC. The following discusses some of the successes and challenges in China-Africa environmental co-operation.

Improving China-Africa environmental engagement

After facing much criticism for its domestic environmental challenges, as well as the environmental impacts of Chinese investment overseas, the Chinese government has started introducing policies in order to protect a host country's environment when Chinese companies work on major projects. A successful endeavour in this regard has been the introduction of China's Guidelines on Environmental Protection for China's Outbound Investment and Co-operation in 2013. There has been growing evidence that China is now encouraging its companies as they invest in Africa and elsewhere to follow better environmental practices by adhering to host countries' environmental standards. The guidelines aim at enhancing Chinese companies' corporate social responsibility (CSR) performance and compliance in host countries while abroad, focusing on aspects such as compliance of local laws and regulations, stakeholder engagement, as well as the systematic management of corporate sustainability. One of the areas where this is evident is in the forest industry. The Chinese government introduced a comprehensive legal framework for the timber industry (The Forestry Law of the People's Republic of China as amended in 1998), including tariffs, import licensing and quota limitations to regulate wood imports, exports, tax rebate reductions and new trade policies. The laws and regulations relevant to the trade (import and export) of forest products in China were amended and have included conditions which apply to Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)-listed species and tree species

Figure 1: Comparing Africa and Germany's electricity consumption and generation in billion kilowatthours



Source: Compiled from U.S. Energy Information Administration data

under state protection (along with their products and/or derivatives). Additionally, the necessary paperwork may include the import and/or export contract along with the name of the products, species, quantity, and purpose for import or export of the protected plant (and its products and/or derivatives). At present, however, these guidelines are voluntary, with no penalties for transgressors. While China has made significant strides in recent years, there is still much room for improvement in the implementation of environmental policy. As the largest importer of Africa's timber, there have also been cases where Chinese companies have been found to violate local forestry laws together with African counterparts.

Further successes include the agreements made by China and certain African countries on environmental protection in general, as well as specifically for the eradication of the illegal wildlife trade. China has entered into Memorandums of Understanding (MoUs) with both South Africa and Kenya, two countries plagued by the poaching of rhinos and elephants respectively. In 2014, South Africa's Department of Environmental Affairs (DEA) reported a record number of 1215 rhinos poached. Besides the MoUs, China has also begun to fight this trade by associating with international operations, for example, during Cobra II, large amounts of illegal wildlife products were confiscated and more than 400 suspects were arrested in 2014. China has also embarked on a domestic campaign by using the media to encourage citizens not to consume endangered wildlife products. Airports and railway stations around China have billboards of Chinese celebrities encouraging Chinese citizens not to use these products. A report published in 2014 by the international organisation, WildAid, showed that awareness among Beijing residents, who know that ivory comes from poached elephants, increased from 25.2 per cent in 2012 to

53.1 per cent over 2014, illustrating an increase of 110.7 per cent.

Implementation lapses of EIAs in major projects

Much of China's investment in Africa is concentrated in sectors that are vulnerable to environmental concerns such as energy, mining, fishing and forestry. Environmental reports have shown that Chinese companies have invested in certain mines located in ecologically fragile areas where there is a higher risk of environmental degradation. China's significant role in hydro-power also poses threats to the environment. Dam building has been viewed as a positive aspect for many African countries as it provides hydropower and thus energy for many communities where it is currently lacking. These dams do, however, have the potential for major environmental impacts in its surrounding areas as well as the rivers that are affected by the construction. In the past, projects undertaken by China with high environmental risk included the Kongou Dam, proposed to power the Belinga iron ore project in Gabon, which would negatively affect the forests of the Ivindo National Park. In 2007 a Gabonese NGO reported that Kongou Falls, a 56m, 3.2 km cataract on the Ivindo river in the Congo rainforest, would be flooded by the dam. Environmental groups called for the contract for the dam be made accessible for public input, and that the government provide adequate accountability over issues related to transparency, anti-corruption, and environmental social protections, that the project comply with relevant national laws, and that the dam at Kongou Falls be re-sited to the Tsengué-Lélédi Falls. After negotiations and EIAs in 2011, the project was put on hold with the Chinese company eventually losing rights to the project.

In 2014, oil production was stopped by the Chad government as environmental standards were not being adhered to by China National Petroleum Corporation (CNPC). The government suspended all of CNPC's activities in the country in August that year for violating environmental standards while drilling for oil in the south, and ordered an audit of all crude oil explorations in the country. CNPC was allowed to resume operations in October after the company improved its environmental practices. The Chadian government urged the company to strictly respect environmental rules, in particular those concerning the management of waste. The government demanded that CNPCIC (CNPC International Chad) pay a fine of US\$ 1.2 billion, as well as takes steps to repair all damage and future damage caused through pollution of the Bongor Basin. This example illustrates that although there may be a lack of adherence to environmental standards, Chinese companies are showing signs of improvement. The examples of projects in Kenya, Gabon and Chad exemplify the need for more discussion on environmental

aspects during FOCAC VI. It further illustrates the need for improving local officials' capacity to ensure that EIAs are completed and that environmental standards are maintained. Moreover, there needs to be a growing environmental awareness on both the Chinese and Africa sides to ensure that development occurs alongside the protection of the environment.

Recommendations

- African governments should assist local African business in benefitting from funding opportunities available through China-Africa forums such as FOCAC. This can be achieved by identifying bankable projects which fit into national development plans.
- It will be beneficial for African states to continue reducing regional trade barriers such as tariffs. The reduction of trade barriers will assist in the development of renewable energy industries by encouraging the flow of renewable energy products between countries allowing industries to benefit from neighbouring countries. This will prevent the duplication of industries between countries and reduce costs in a capital intensive industry.
- The Chinese government need to make the Guidelines on Environmental Protection for China's Outbound Investment compulsory. At present companies can voluntarily implement them thus gaps in implementation remain. By making these guidelines policy, companies will be forced to comply.
- African governments need to implement adequate environmental legislation and policy, especially through EIAs, in order to strengthen law enforcement where it is lacking. For example, in Kenya.

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