Energy Investments in Africa by the U.S., Europe and China

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Introduction

The energy sector in sub-Saharan Africa (SSA) is developing rapidly, and has become a priority area for both SSA governments and international partners. The World Bank estimates that meeting SSA's power needs will require an annual investment of 4 percent of the region's gross domestic product or around USD 50 billion (Rosnes and Vennemo, 2009). We briefly explore the comparative funding for energy from the United States, China, and the European Union in order to better understand the complex political and funding landscape around public and private investment in promoting access to energy services.

As a high-profile example of recent activity, the newly elected Chinese President Xi Jinping made a visit to South Africa, Tanzania, and the Republic of Congo in his first international trip, just one week after taking office. On the occasion, the Chinese President promised more than USD 20 billion in loans for infrastructure, farming and business, with a majority of this financing understood to be heading to the energy sector (Buckley, 2013) (Stoddard, 2013).

The European Union and its member states are likewise deeply engaged in the sector. Since 2002, the European Commission has established several energy initiatives, facilities and funds, complementing the bilateral assistance of EU member countries. In addition, the EU was an early supporter of the UN *Sustainable Energy for All* Initiative, and made a pledge to assist developing countries in providing energy access for 500 million people by 2030 (EC, 2012).

Several months after the Chinese mission to SSA, U.S. President Barack Obama visited South Africa, Tanzania, and Senegal where he unveiled "Power Africa." This White House-led initiative is a largely private sector focused effort to support the SSA energy sector, with the objective of adding up to 10 GW of generation capacity, access to at least 20 million new households, and with a headline figure of USD 7 billion in financial support over five years. [1]

The U.S. plan is characterized by a strong market based approach and a substantial involvement of the private sector, but also leverages public agencies, such as the U.S. Export-Import Bank (ExIm), the Overseas Private Investment Corporation (OPIC), and grant-making agencies such as USAID. The vast bulk of the public sector financial investment will be in the form of export credits and risk insurance for U.S. companies via ExIm and OPIC . The strong emphasis on supporting investment by U.S. firms is not surprising, however, given the scale of the required investments and the perception by some American companies that they face an historical disadvantage with respect to Chinese and European firms that already have strong footholds and relationships in place. While some commentators interpreted Obama's visit and the Power Africa initiative as a belated countermove to growing Chinese influence, the focus on Africa's substantial energy gap was widely welcomed on the continent.[2]

Financial Flows and Politics

There is a broad view that China has invested heavily, both financially and politically, in Africa in the latest decades, and its influence has risen accordingly. As an example, China has promoted the Forum on China-Africa Cooperation that met regularly every three years and emerged as a leading showcase for Sino-African relationships. Additionally, the China Africa Development Fund exists as an important vehicle for Chinese investments in the continent. Merchandise trade between China and Africa also increased dramatically, and China has surpassed the United States in becoming the second largest trade partner after the EU.

This growing Chinese role has naturally encountered elements of resistance, skepticism and accusations of exploitation of natural resources, mining and fossil fuels (Okeowo, 2013). While China is interested in accessing African resources, it would be a misjudgment to reduce its involvement to that sole element, or thinking that Western counterparts have dramatically different economic interests (Kolstad & Wiig, 2011). As an example, fossil fuels are the main SSA export, but between 2011 and 2012 fossil fuels exports to the U.S. and China were similar in value-Gand, combined, still less what was exported to the EU. However, both exports towards the U.S. and China are greatly concentrated in few fossil and minerals

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See footnotes at end of text.

Product Code	Product label	SSA to China		SSA to EU27		SSA to U.S.		SSA to World	
		2011	2012	2011	2012	2011	2012	2011	2012
	All products	67	74	134	174	69	53	439	404
HS 27	Mineral fuels, oils, distillation products, etc	46	53	6	104	54	40	247	233
	(shares)	68%	72%	49%	60%	78%	76%	6%	58
HS 71	Pearls, precious stones, metals, coins, etc	0	0	9	9	3	2	39	37
	(shares)	1%	1%	7%	5%	4%	4%	9%	9%
HS 26	Ores, slag and ash	11	10	5	4	1	1	23	21
	(shares)	17%	13%	4%	2%	1%	2%	5%	5%
	Everything Else	10	11	53	56	12	10	129	113
	(shares)	15%	14%	40%	32%	17%	19%	29%	28%
	Partner Share	15%	18%	30%	43%	16%	13%	100%	100%

Table 1: SSA Exports by Partner and Product Group - USD billion and shares. Source: (International Trade Center, 2013)

product groups, while SSA exports to the EU are more diversified (Table 1).

Bräutigam (2009)(2010) affirms that Beijing's current push in Africa is part of a long-term strategy, still unfolding, but should not be reduced to a hasty "scramble" for resources. In the 1960s, China supported several anti-colonial liberation movements and then after independence remained closely allied. Chinese companies, with Chinese government support, built railroads and stadiums and then started to win construction contracts. By the 1980s Chinese state-owned companies had begun to invest more heavily on the African continent, a trend that has accelerated in the past decade. While early economic engagement was largely ideological, commercial interests have grown more prominent over time. While natural resources as inputs to Chinese domestic growth are a key driver, Chinese firms now view Africa more broadly as a positive business opportunity, characterized by lower competition than their domestic market and even as a potential export market. The principal Chinese exports into Africa are machinery and electric and electronic equipment. Chinese investments are thus diversifying into many sectors, including energy, financial, telecommunications, and transport.

Foreign aid, or concessional finance, is an important part of Chinese involvement in Africa, but quantitative analysis is difficult because of data paucity. While all members of the OECD report annually on their official development assistance (ODA), China does not participate. However, Cannan et al. (2013) affirm that while Chinese ODA is likely relatively low (estimated at around USD 2 Billion in 2010), China tends to make larger use of Other Official Flows (such as export credits, natural resourced backed lines of credit, and mixed instruments) that reached approximately USD 5-6 Billion (in 2007). Foster et. al. (2009) estimated that commitments of finance for infrastructure to be USD 7 Billion in 2006 (the Chinese "year of Africa") and USD 4.5 Billion in 2007. Bräutigam (2011) estimates that *disbursements* of aid (ODA only) in 2008 to be 1.2 USD Billion. Recently AidData has unveiled a project to track Chinese Development Finance to Africa through the analysis of media reports (Strange et al. 2013). Following this approach the estimates for 2008 *commitments* are of more than 12 USD Billion, including both ODA and Other Official Flows. These discrepancies have generated much debate and hopefully will lead to an improvement of quantitative data in the future (AidData, 2013) (Bräutigam, 2013a).

Aware of this debate, AidData figures for Chinese Development Finance for the energy sector of Sub-Saharan Africa are also very high, pointing to a total of more than 16 USD Billion between 2000 and 2012 (at 2009 constant prices), making China the largest development partner in the sector, with a share of 41% of total commitments, compared to 18% of the EU (with 7 USD Billion), and only 1% of the U.S. (0.5 USD Billion). To underscore the difficulties of comparing across datasets, the U.S. total of USD 482 million is significantly smaller than the figures reported by OPIC (USD 791 million in aggregate energy sector commitments for the same time period) and ExIm (USD 1.7 billion in long-term loans and guarantees to the energy sector).

Chinese development finance also has some particular characteristics: the first is that it is almost totally focused on Sub-Saharan Africa, contrary to European and U. S. development finance that largely

flows to North Africa (41% and 30%, respectively). The second is that it is concentrated on few, high-budget, hydroelectric projects, with the largest five representing together 50% of the total commitments, and the total share surpassing 60% (Table 2)[3].

The third, and perhaps most interesting, characteristic is that an analysis of the distribution of development finance by country reveals that China is particularly strong in countries with little or no involvement from the EU and the U.S. (Figure 1).

Foreign direct investment data is another way to assess the trends. Unfortunately, these are also scant: granular statistics of FDI per sector and country are not publicly available either for China or OECD countries, and analysis is only possible with data collected by third-part organizations or researchers. For the energy sector, the World Bank maintains a database of Private Participation in Infrastructure projects (PPI), reporting greenfield or portfolio investments (World Bank, 2013a) with limited coverage of Chinese investments, while the Heritage Foundation (HF) has built a dataset of Chinese investments worldwide by sector, often cited as the main source for quantitative data[4].

Chinese official FDI figures also have some accuracy issues, because many corporations channel their foreign direct investments through offshore centers and thus two of the three largest recipients of Chinese FDI appear to be the Cayman and the British Virgin Islands (the first is Hong Kong), likely concealing the final investment destination (MOFCOM, 2011) (Bräutigam, 2013b).

Taking into account all these differences, we note that the figures provided by HF for the investments in Africa (all sectors) is of 29 USD billion (2005-2012), significantly higher than the Chinese official figures of 11 USD billion (see appendix). Considering only the investments in the electricity sector in SSA, and combining WB and HF data (while doing our best to to avoid duplication) we obtained a total figure for 2005-2012 of 2.4 USD billion from the EU, 1.4 USD billion from the U.S., and 1.2 USD billion from China. A chart of the energy FDI by destination country from the EU, U.S. and China is provided in Figure 2. According to the data, with few exceptions (like Kenya), there is nearly always a clear dominant player in the energy investments of a specific African country. Also interestingly, of the six countries selected initially for the Power Africa initiative (Ethiopia, Ghana, Kenya, Liberia, Nigeria, and Tanzania),

US	EU	China	
30%	21%		Energy Policy and Admin. Management
2%	21%	4%	Renewable Energies
2%	13%	16%	Non-Renewable Energies
13%	13%	61%	Hydroelectricity
47%	31%	15%	Electrical Transmission
8%	1%		Other
		5%	Rural Electrification
482	6913	16328	Total

Table 2 - Sectoral Shares of Development Finance for the Energy Sector of SSA, USD Millions, total 2000-2012 (2009 constant prices). Source: elaboration on AidData.org

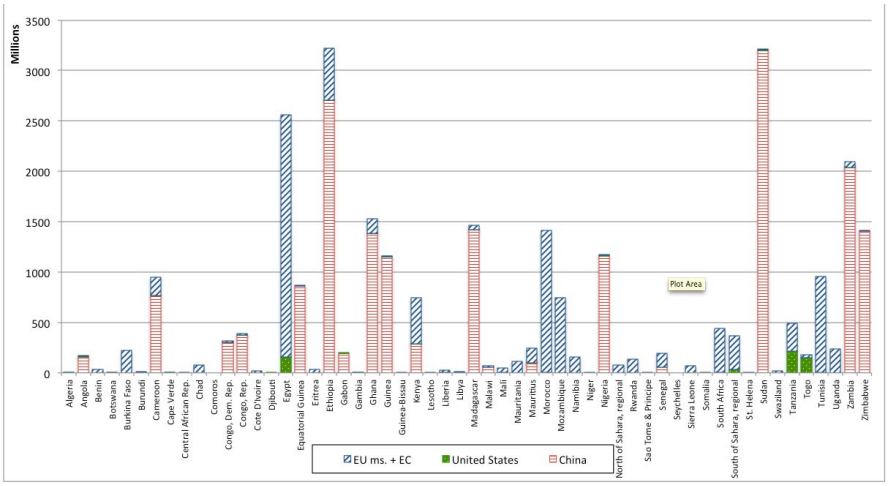

***Figure 1**: Development Finance for the Energy Sector of African Countries from US, EU and China 2000-2012 USD Millions. Source AidData.org*

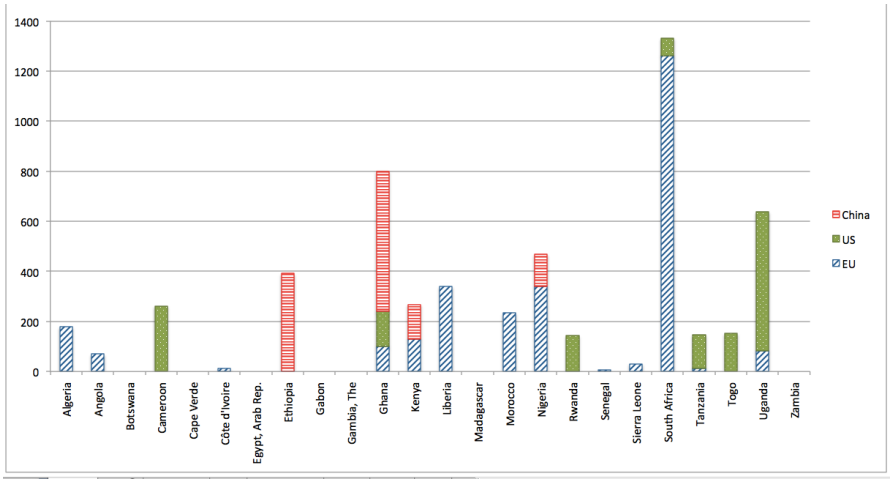

***Figure 2:** Investments for the electricity sector from US, EU and China to African Countries, 2005-2012, USD millions. Source World Bank PPI and Heritage Foundation.*

the United States is the dominant player in only one (Tanzania).

These FDI figures do not include the value of contracts that are awarded by national governments through competitive bids, though these instruments constitute another major occasion of economic involvement in the energy sector of African countries. The Heritage Foundation estimates that the value of contracts awarded to Chinese companies for the energy sector to be of more than 18 USD Billion for the period 2005-2012, and notably these contracts are all in the hydroelectricity sector, showing a clear correspondence with the distribution of Chinese aid (Figure 3).

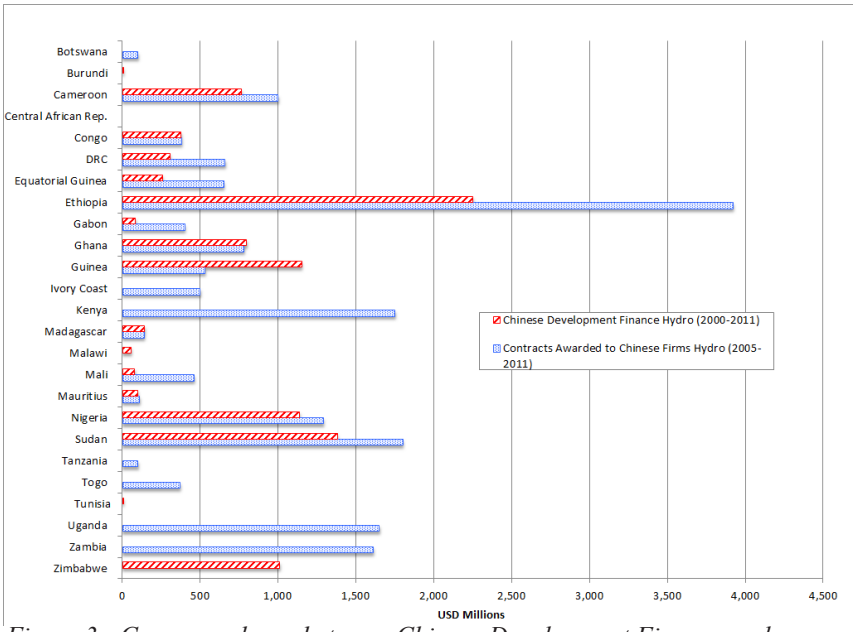

Figure 3 - Correspondence between Chinese Development Finance and contracts awarded to Chinese firms in the hydroelectricity sector, 2000-2012. Source AidData.org and The Heritage Foundation.

The relationship between Chinese Trade, FDI and Development Finance has been the object of intense academic and policy debate that highlighted some peculiar aspects: the first is that Chinese aid has tied characteristics, is often strategically integrated with trade and tends to precede FDI. The second is that the ownership of Chinese firms influences the FDI location choice and the risk aversion, with State Owned Enterprises generally more interested in larger, longer-term projects, often in natural resources, and less averse to political and economic risks, while privately-owned enterprises are more market seekers and tend to expand in richer and more stable countries. (Kaplinsky & Morris, 2009) (Sanfilippo, 2010) (Ramasamy et. al. 2012).

Conclusion

Despite shortcomings in the data, international financial involvement in the sub-Saharan African energy sector, in all its various forms, appear to be growing. After a substantial period of relative weak interest from international companies, this is a welcome trend. If SSA hopes to come close to meeting universal energy access goals by 2030, the continent will require a broad range of investors, well above the scale experienced to date. We have attempted to explore some trends for energy sector investments by three large donor and investor countries. Based on our preliminary analysis, it appears that there is less competition between these countries in many markets than had been assumed. Still, the scale of total investment remains far below the estimates of current and future demand. In other words, there remains plenty of space for all investors. Caution therefore may be warranted before drawing conclusions about the machinations of policymakers in Beijing, Brussels, and Washington. Similarly, policymakers may be driven more by commercial or development objectives than strategic counter-moves. The principal challenge for African policymakers will be to manage these giant players in a manner that maximizes the flows—and ultimately boosts the generation and distribution of energy to reach the millions currently living without.

Footnotes

[1] www.whitehouse.gov/the-press-office/2013/06/.../fact-sheet-power-africa

[2] See for example: (England, 2013) (Luce, 2013) (Stoward, 2013) (Stoddard, 2013). Of course, China and the U.S. have a history of cooperation in the energy field, a least at the diplomatic level – see e.g., http://www.whitehouse.gov/the-press-office/us-china-clean-energy-announcements

[3] The purpose of Energy Policy and Administrative Management may include also multi-sectorial projects that include physical infrastructures.

[4] These datasets differ from official FDI statistics in various ways, including: 1) both databases record the advertised financial commitment rather than the yearly financial flow (FDI flows can occasionally be negative), 2) HF includes only projects above the threshold of 100 USD Millions while for the WB-PPI the threshold is 1 USD Million and a minimum 25% of shares of the project owned by a foreign private company and, 3) the WB-PPI figures are limited to infrastructures in the energy, water, transport and telecommunication sectors (World Bank, 2013b) (The Heritage Foundation, 2013).

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