

Forging a new dialogue around the trends, challenges and opportunities in power project development in sub-Saharan Africa (SSA) is your 'bedrock' to power more energy intensive goods and services for the region's growing middle class.

Infrastructure development under surveillance

By Inosi Nyatta and Joba Akinola of Sullivan & Cromwell LLP

The past few years have seen increased investment in the power sector across the continent. Understandably for a continent so culturally, economically and politically diverse, different African countries have recorded varying levels of growth in their power sectors. Outside North Africa, which is already close to full electrification, countries such as South Africa, Nigeria, Ethiopia and Kenya have witnessed increased private sector investment, in addition to the well-established channels of support from foreign governments and multilateral agencies.

Others have also made major strides – Uganda, for instance, has the largest number of independent power projects (IPPs) in SSA after South Africa. Many of these IPPs have been developed under Uganda's global energy transfer feed-in tariff (GET FiT) programme, a joint initiative of the Government of Uganda and KfW Development Bank designed to leverage private investment into

renewable energy generation projects in Uganda. A common thread among these countries has been systematic efforts to reform and liberalise their power sectors, typically involving the privatisation of electricity utility monopolies previously owned and managed by the governments.

Much of the progress has been down to the work being done by multilateral agencies such as the International Finance Corporation (IFC) and other development finance institutions (DFIs), which have partnered with sponsors and commercial lenders on power and infrastructure development projects. In addition to financing these projects, DFIs provide partial risk guarantees (covering risk of payment default due to non-performance by host governments) and partial credit guarantees (covering a portion of project debt against all risks). For example, the World Bank has approved a number of partial risk guarantees for projects in Nigeria – \$245 million and

\$150 million for the 450MW Azura-Edo IPP and the 533MW Qua Iboe IPP respectively. Africa Development Bank also provided a \$20 million partial risk guarantee for the Lake Turkana Wind Power Project in Kenya.

Initiatives such as Power Africa have also played a catalytic role in funding and supporting power projects across the continent. As at July 2016, the US's initial \$7 billion commitment had leveraged nearly \$43 billion in commitments from the public and private sectors to be directed towards developing and accelerating power projects across SSA. Ernst & Young, in a February 2017 report, indicates that while greenfield deals still dominate power sector transactions in Africa and the Middle East (attracting investment in excess of \$8 billion in 2016) power sector M&A increased significantly in 2016. This highlights a growing area of broader African power sector investment. Chinese companies have also been active in the SSA power sector, with AidData estimating Chinese

ENRICH YOUR KNOWLEDGE

OF AFRICA'S POWER AND ENERGY SECTOR

We've delivered news and information for more than 20 years to key professionals in Africa's power sector, ensuring they don't miss out on trending information.

GET THE INDUSTRY'S TRUSTED KNOWLEDGE SOURCE, **SUBSCRIBE** TO ESI AFRICA.



DELIVERING NEWS ON AFRICA'S POWER AND ENERGY SECTOR.
TO SUBSCRIBE CONTACT SAHRA:
t: +27 21 700 3556 or e: sahra.heuwel@spintelligent.com

official finance to SSA's energy sector to exceed \$16 billion between 2000 and 2012 (excluding the value of contracts awarded to Chinese companies over about the same period, which is estimated at \$18 billion).

Persistent challenges

Despite these positive developments, there remains great room for improvement. Statistics reported by the IEA indicate that the number of people in SSA without access to electricity still stands at about 620 million. The Africa Progress Panel estimates that investment in electricity infrastructure would have to rise to about \$55 billion a year (from the current \$8 billion) to provide grid connections for the entire continent. As a result, the continent would require an estimated \$835 billion in power sector investment to achieve full connectivity by 2030.

Of course, there are many obvious challenges besides the capacity constraints. Even in the relatively limited areas where grid connections and generation assets do exist, substantial upgrades in capacity are required to power more energy intensive goods and services for the growing middle class. Inefficiency in markets, lingering social and political issues and unsuitable regulatory frameworks also accentuate the core problems while making practical solutions hard to implement. That said, it is beyond question that the primary area of need is electricity generation, a dire situation which is further worsened by the fact that the existing transmission and distribution infrastructure in many countries requires significant investment.

The financing gap

In most of SSA, public utilities have historically funded and performed power generation, transmission and distribution functions and most governments in the region have gradually come to the view that this model is both fiscally unsustainable and systemically inefficient. In line with this policy direction, private sector financing is becoming recognised as the main source of funding for IPPs in many countries in SSA. However, the financial sectors in many of these countries have largely been hampered in power sector participation by the lack of liquid, longer-term, domestic investment instruments. To a lesser extent, banking regulations also limit sector exposure.

In addition, domestic political pressures and socio-economic realities have historically served to limit governments' capacity and/or willingness to fully deregulate prices or make meaningful electricity tariff increases across the region, thus cooling interest from investors who considered the potential returns insufficiently attractive. As a result, a lack of adequate investment financing remains one of the major barriers to expanding power generation capacity across the region.

While DFIs and foreign state-backed entities (mainly from China and the US) have done a great deal to assist in closing the financing gap, solutions will be required to attract more private capital to the African power sector. One potential solution is to provide greater incentives for private investors. This can be done by establishing and maintaining a cost-reflective tariff methodology, which would ensure an appropriate investor return and insulate investors from certain economic risks. This partly explains the increased influx of investment seen in countries that have taken major steps to prescribe tariffs which are geared towards ensuring that investors recoup their investments, taking into account funding costs, feedstock price and aggregate technical, commercial and collection losses.

Given that power projects typically require large-scale and long-term financing in a mix of local and foreign currencies, project bonds seem well suited to help broaden the pool of financing for power sector development across the continent. However, these are less traditional financing sources in Africa compared to other jurisdictions, such as the US and Latin America. Domestic bond issuances could potentially tap pools of domestic investors interested in the long-term consistent yield offered by power projects. Multilateral institutions have also begun to recognise this. In 2013, the African Development Bank identified project bonds as a suitable strategy for infrastructure investment on the continent – although they noted that African countries would, among other things, need to upgrade their regulatory frameworks to attract the broader pool of investment.

Some of the other structural issues with the power sector in Africa are due to the fact that most electricity markets in the region are in a relatively nascent

phase of their evolution. For instance, many African countries with recently privatised power sectors typically act – through an existing national utility or a newly established government-backed company – as the sole purchaser of electricity generated by IPPs. This is sometimes slated to be a transitional measure designed to provide liquidity pending market maturity. However, doubts as to the financial viability and creditworthiness of these entities continue to create significant bankability issues for power projects. While this is a significant challenge, it presents an interesting opportunity for institutional investors and multilateral agencies to provide debt or equity financing or credit support to help shore up capitalisation or credit profile of these entities and boost their creditworthiness. For instance, the World Bank is refinancing and restructuring Kenya Power's long-term debt. Other multilaterals, such as the IFC and Overseas Private Investment Corporation (OPIC), provide partial credit guarantees and other products that can enhance these off-takers' credit.

Gas opportunities

A number of countries in SSA possess substantial gas reserves but lack the required supply infrastructure to put the gas produced domestically to use in their own or neighbouring countries' power sectors. In light of this, liquefied natural gas (LNG) presents some interesting opportunities for power generation. Shorter-term solutions, such as floating regasification and storage terminals, offer many countries an opportunity to use LNG until gas infrastructure domestically or in neighbouring countries can be developed.

However, LNG infrastructure can itself be capital intensive – resulting in significant foreign exchange exposure due to US dollar LNG pricing – and be subject to the volatility of the pricing index used for the underlying LNG contract. Even so, some countries are beginning to take major steps in this direction. South Africa, for instance, has responded to this by making LNG-to-power a key component of its Integrated Energy Plan and Integrated Resource Plan; and countries such as Nigeria, with massive natural gas reserves, have communicated a desire to commit resources towards this sector, a move which could open many opportunities for strategic investors.

Off-grid solutions

Given the extensive need, other investment channels, especially in the form of private equity (including social impact funds and investors providing catalytic first-loss capital) and micro-finance, can play an important role in bridging the power access gap. There are opportunities for investment in companies providing off-grid power solutions in addition to their investments in larger IPPs. This is expected to complement the growing trend of big utilities such as Engie, Enerdeal and Enel SpA investing in mini-grid projects across Africa.

In particular, off-grid solar options have increasingly come into focus in sunshine rich SSA and have grown from being practically non-existent to giving power access to an estimated 600,000 households in Africa in recent years, according to an October 2016 report in *The Economist*. The same report projects that in 2017 the number of solar-power systems in African households will grow by 60–100%. It also predicts that at the current rate, off-grid connections will outstrip grid connections within a few years (assuming, of course, that there is no corresponding increase in grid-based power growth). Off-grid access can generally be developed at a lower cost compared to the outlay required to provide grid-based access with the same reach.

One of the biggest drawbacks to faster growth of off-grid connections is funding. The consumer base of off-grid connections and their payment structures can lead to cash flow problems, which in turn affect the ability of the developers to source external financing. However, with pay-as-you-go structures being increasingly adopted, alleviating some of these problems, the arena seems more viable for banks, venture capital, social impact and other funds providing debt and equity funding. This has been demonstrated by the success of companies such as Off-Grid Electric in raising financing for its expansion in Tanzania.

Key bankability issues and solutions

Generally unfavourable perceptions of the risks related to investing in Africa continue to negatively impact investors' appetites for greenfield power projects in Africa. Key risk areas for investors evaluating

potential power sector investments in SSA include construction, regulatory and counterparty risks; as well as underlying market conditions such as liquidity, asset scale and exit prospects. Other concerns span a wide number of specific issues such as currency convertibility and exchange controls, import/export limitations, local content requirements, procurement requirements and fuel supply certainty. While many countries have taken steps to reform their power sectors and prescribe modernised regulations, there are still concerns about the unpredictability of regulatory behaviour – due in no small part to the absence of a clear track record on the part of most of these sector regulators, as well as unsettled jurisprudence on many vital credit issues.

A strong, transparent and consistently-applied regulatory framework is important to encourage private sector involvement in SSA's power sector. In addition, proper risk allocation in commercial and financing documentation is critical. Similarly, risk mitigation structures and strategies can create significant value. Government guarantees, put and call options on core assets, complex hedging solutions and equity structures are just some of the tools that can be deployed to mitigate some of the risk.

Investors need to also pay close attention to key issues such as certainty of fuel supply and licence duration, which could adversely affect the bankability of power projects. In Nigeria, problems in the gas sector – ranging from market economics that make export sales more attractive, to inadequate gas transportation infrastructure and unrest in the Niger-Delta region – have led to shortages of domestic gas supply on the spot market. Some new IPPs being developed, such as the Azura-Edo IPP in Nigeria, are working around these issues by securing firm, long-term gas supply arrangements with reputable energy companies. For licence term issues, lenders tend to take comfort from industry-wide assurances provided by sector regulators – though more bespoke solutions may be designed depending on the size, nature and structure of the investment.

In addition to addressing some of these bankability issues, greater standardisation of project documentation will help improve front-end project efficiency by minimising transaction costs and shortening timescales. Initiatives such as Scaling Solar – which are being implemented by the World Bank for solar IPPs in Madagascar, Senegal and Zambia – are expected to shorten project delivery timelines. IFC has also helped countries like Egypt and South Africa develop standardised contracts and financial terms for renewable energy production that can be bid out at auction – with bids for projects with a value in excess of \$1 billion having already been made.

New challenges arising

There are also new challenges and uncertainties on the horizon, which could adversely impact growth. Notably, there are concerns as to how recent political developments in countries which have typically been the exporters of capital to Africa might potentially impact the flow of funds to support power projects on the continent. Specifically, there is considerable uncertainty about whether crucial initiatives such as Power Africa will remain a feature of US policy towards Africa. Also, increasing instability of global markets has seen many investors begin to reach for safer investments in more stable markets. It therefore remains to be seen whether SSA will continue to see increasing levels of capital investment in energy and power infrastructure.

Regardless of which way the needle moves, it is essential for investors to carefully structure power sector investments in SSA, with a view to identifying, allocating and adequately mitigating risks. Early stakeholder (host communities, local and municipal governments, national regulators, etc) engagement has consistently proved to be crucial to the success of power projects in the region, as has effective collaboration with experienced and reputable partners. Lastly, due to the complexity of the legal, regulatory and market landscape it is important to engage advisers to coordinate efficiently to achieve project targets in a manner that maximises value for all involved. **ESI**