New Africa

2015

CLOSING AFRICA’S ENERGY GAP
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FOREWORD

Closing Africa’s energy gap

The International Energy Agency estimates that more than 620 million people in sub-Saharan Africa live without electricity. In two-thirds of sub-Saharan African countries, less than 50 per cent of the population has access to power, while the average energy consumption per capita of the region is not enough to continuously power a single 50-watt lightbulb.

Power is routinely cited by large and small businesses as the most significant barrier to their success, adding huge costs to them and their customers.

Poor infrastructure slows foreign direct investment and limits countries in their attempts to diversify their economies away from primary commodity export.

Unreliable or inaccessible power has a cost that goes beyond GDP figures and business growth, impacting on healthcare and education outcomes, which in turn have long-term implications for the future prosperity of individuals and societies.

The cost of addressing the gap in power infrastructure is estimated at $100bn per year – almost 10 per cent of the GDP of the region – an enormous sum, given a slowing outlook for growth across much of Africa, and a persistently complex global environment for investors.

Infrastructure investments are typically long-term and capital intensive – many take years to design, finance and build – but the need in Africa is growing.

The population dynamics of the continent, particularly in countries south of the Sahara, have inspired many research reports promising a ‘demographic dividend’.

A huge, young and increasingly well educated workforce should drive African economies’ progress, but the speed at which it is expanding risks outpacing countries’ capacity to build infrastructure.

The IEA predicts that, while 950 million people will gain access to electricity in Africa between 2014 and 2040, demographic expansion will mean that 75 per cent of the population will still be without power.

A step-change in investment into electricity generation, distribution and efficiency is needed over the next quarter of a century to unlock the potential of Africa’s demographic boom.

Africa holds some of the most exciting markets for investment in the world, and its growing and increasingly wealthy population offers enormous potential for developers who can overcome the perceptions of risk.

Conversations with investors, development professionals and industrial and individual consumers of electricity in Africa suggest that a complex but achievable mix of regulatory reforms, resource management and regional cooperation could create the environment to attract that investment and ensure that it is catalytic to the development of African societies.

Zahid Torres-Rahman is the founder of Business Fights Poverty.
ABOUT

Business Fights Poverty (BFP) is the world’s largest network of professionals harnessing business for social impact. For over 10 years, we have been driving thinking, engagement and action through peer-to-peer knowledge sharing and engagement. Our mission is to strengthen the ecosystem for all those pioneers wanting to scale business innovations with social impact, and ultimately to build a global movement that delivers transformational change for people and planet.

The Initiative for Global Development (IGD) is a nonprofit organisation that drives poverty reduction by catalysing business growth and investment in the developing world. IGD brings together an influential network of senior executives from sector-leading companies with the interest and capacity to make strategic investments in high-need, high-potential areas of Africa.

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Electrification rate and installed capacity

In the majority of sub-Saharan African countries, less than 50 per cent of the population have access to grid electricity.

Source: IEA

The entire installed capacity of the continent is just 12.1 per cent of China’s, and 56 per cent of India’s.

Installed capacity:
- Africa: 142GW
- India: 255GW
- China: 1,174GW
OFFIRO IS A TINY VILLAGE A FEW hours outside Côte d’Ivoire’s capital, Yamoussoukro. To reach it means driving several miles along a rollercoaster dirt track that is almost inaccessible by vehicle. Despite its remoteness, the village is already integrated into international markets – the cocoa grown in the surrounding countryside makes its way south to the port at San Pedro to be processed and sold into the global chocolate industry.

The community is connected by technology too – mobile phones are ubiquitous here as they are increasingly on the continent. However, Koffiro’s only electric lights are those rigged up to solar panels at the school. Mobile phones are charged with a car battery, rigged up with neatly-wound wires to a gang plug.

This is a typical scenario. For all of the visible development of the continent’s urban centres and the gross domestic product growth rates that have more often than not outstripped those of the rest of the world over the past decade, the scale and reach of sub-Saharan Africa’s power infrastructure has dramatically lagged behind.

This is evident across the continent, whether that is in the fug of diesel smoke from thousands of generators that swirls around Lagos’ archipelago, or in the clunk and sigh of the lights dropping out in Nairobi’s Central Business District. Even in South Africa, the most developed economy in the region, ‘load-shedding’ – planned power outages – have become the norm, creating significant challenges for businesses and society at large.

‘Africa Rising’ has now passed into cliché, but the statistical underpinnings of the narrative have proved sound into its second decade. Gross domestic product growth has consistently outstripped that of the developed world, and at times other emerging markets. Between 2000 and 2010, the aggregate, compound annual growth of the continent’s economy was 5.1 per cent, compared to a world average of 2.8 per cent.

Within the aggregate, there have been several outstanding performers. Ethiopia, Angola and Rwanda – three very differently structured economies – have experienced double digit or high single-digit GDP growth for most of the past decade.

This growth has been driven by a combination of demographic, political and global market trends. Buoyed in a large part by the demands of industrial China – but equally by consumption trends elsewhere in the emerging world – commodity prices spent much of the 21st Century to date on the upswing of a commodities super-cycle.

At the same time, governance across the continent’s major markets appeared to be improving considerably. Democracy – albeit flawed in some cases – has become the norm across most of sub-Saharan Africa, and governments have had to demonstrate their economic competence to their electorates.

Reforms included improved macroeconomic management, and a greater degree of accountability and transparency in budgets, which in turn led to greater latitude – and ultimately debt relief – from multinational and bilateral sovereign creditors. This opened up the fiscal space for countries that had previously been saddled with large debt service bills, and improved their attractiveness for foreign direct investment and portfolio flows.

The structure of African trade and investment has also changed dramatically. Whereas in the 20th Century, old colonial relationships and commodity exports to the developed world, the 21st Century has so far been defined by so-
called ‘South-South’ trade. China’s industrialisation and international commercial ambitions have had a transformative impact on many sub-Saharan African economies – not least because Asian investors have been willing to lay down infrastructure in return for access to resources.

**Demographics**

Perhaps more compelling are the continent’s demographics. No region’s population is growing as fast as sub-Saharan Africa, creating a huge, young workforce that is forecast to grow to more than 500 million by the end of the decade. That workforce is increasingly urbanised, with the urban population expected to pass 50 per cent of the total in the next decade.

Alongside the swollen megacities like Lagos and Kinshasa, most of this new urbanisation is expected to take place in mid-sized towns, creating new markets for consumer goods, real estate, construction and financial services. Urban dwellers are more likely to demand – and achieve – access to education, healthcare and other social and commercial services.

Alongside these huge opportunities, however, come significant challenges. Poverty reduction has not universally kept pace with economic growth, and income inequality – which is acute in many parts of Africa – is only falling in half of the continent’s countries.

Central to addressing these inequities is the creation of wage-paying jobs. While official unemployment rates in Africa are around 10 per cent, the majority of jobs in sub-Saharan countries can be classified as unstable or subsist-
“No region’s population is growing as fast as sub-Saharan Africa, creating a huge, young workforce that is forecast to grow to more than 500 million by the end of the decade.”

**Economic growth**

Sub-Saharan African GDP growth has outpaced that of the global aggregate for more than a decade.

Source: IMF

<table>
<thead>
<tr>
<th>Year</th>
<th>Sub-Saharan Africa</th>
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<tr>
<td>2015</td>
<td>7.60%</td>
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</tr>
</tbody>
</table>

**Africa’s Urban Population 1970 - 2050**

Africa is the fastest urbanising continent, according to forecasts by the United Nations, creating economic opportunity, but also new challenges of inequality and service delivery.

Source: UN

- Total urban population: 53.3m (1970) - 1.26bn (2050)
- % of Total urban population: 23.5% (1970) - 57.7% (2050)
- % of Total urban population in Sub-Saharan Africa: 39.2%

Rural electrification rates are universally far lower. The continental average is 16 per cent, and even in middle-income countries, such as Botswana and Ghana, the rate is 51 per cent and 52 per cent, respectively. This is exacerbating existing structural inequality between rural and urban areas.

“...Agriculture, much of it small-scale, remains by far the largest employer in the vast majority of countries, while the revenue-generating export sectors typically provide a relatively small number of roles. As a 2012 McKinsey Global Institute report found, the pace of job creation in African countries needs to increase if they are to absorb the large numbers of people entering the workforce. To do that, they need to diversify their economies away from a reliance on primary commodities and subsistence agriculture, creating productive jobs in manufacturing and services. To do that, they need to fix their power infrastructure. Power outages, and the cost of mitigating the risks of unreliable supply, are amongst the most significant drags on business growth in Africa, with countries south of the Sahara most seriously affected.**

**Business impact**

The World Bank estimates that 4.4 per cent of sales lost by businesses in sub-Saharan Africa came from power outages; almost 44 per cent of all enterprises surveyed identify electricity as a major constraint on growth. Only South Asia demonstrates worse performance on these indicators, but nowhere is close to sub-Saharan Africa on the cost of obtaining an electricity connection. According to the World Bank’s Doing Business rankings, in OECD countries it costs 79 per cent of income per capita to get electricity; in sub-Saharan Africa, it costs 4,737 per cent.

Micro, small and medium-sized enterprises make up more than two-thirds of all jobs in the developing world, according to research by the Overseas Development Institute. It is these that are least able to absorb the capital cost of generators, and are often – though not always – less able to mitigate the risks of outages. The ODI report determined that electricity shortages had a clear impact on investment intentions at small firms, particularly those in the manufacturing sector.

Africa’s urban populations – and businesses – do tend to have access to electricity, albeit patchy, expensive and prone to failure. The average urban electrification rate in sub-Saharan Africa is 59 per cent, versus 100 per cent in North Africa – however this ranges from 93 per cent in Equatorial Guinea and 90 per cent in Senegal and Ghana, down to 3 per cent in Liberia and 5 per cent in the Central African Republic.

Rural electrification rates are universally far lower. The continental average is 16 per cent, and even in middle-income countries, such as Botswana and Ghana, the rate is 51 per cent and 52 per cent, respectively. This is exacerbating existing structural inequality between rural...
Generator use

<table>
<thead>
<tr>
<th>Region</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>LatAm &amp; Caribbean</td>
<td>26.8%</td>
</tr>
<tr>
<td>OECD</td>
<td>13.1%</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>48.0%</td>
</tr>
</tbody>
</table>

On average, 48 per cent of businesses in sub-Saharan Africa own or share a generator, each receiving nearly 28 per cent of their total power needs from it.

Source: World Bank

and urban populations.

According to the IEA, nearly 80 per cent of those without access to electricity in sub-Saharan Africa live in rural areas. Off-grid solutions for rural areas are developing – in particular micro-hydro and other small-scale renewable energy technologies, but their roll-out has, in the most part, been slow and constrained to pilot projects.

Balancing the requirements of urban demand – where the market is more clearly definable and accessible – with those of the rural population will be a major challenge for regulators and governments.

For the time being, there is an understandable focus on getting power on the grid. Although billions of dollars have been pumped into infrastructure in Africa, the energy gap is large and growing, due to population expansion. As much as $100bn per year is needed, much of that in capital investments into greenfield projects.

The international environment is not as strong as it was. The commodity super-cycle seems to have come to an end. Oil prices halved between July and December 2014, leaving several African countries – notably Angola and Nigeria – struggling to balance their books. The deterioration of the fiscal environment in resource-dependent countries, including Ghana and Zambia, has reduced investors’ appetite for frontier African projects.

Political risks remain – investors surveyed for this report say that they are concerned by the possibility of resource nationalism and by the potential for unrest, even in countries – such as Nigeria – that have recently demonstrated the maturity of their democratic processes.

Others are concerned about the cost of doing business in sub-Saharan Africa – from the basic expenses of transport, imported construction materials and talent, through to the cost of finance, insurance and risk mitigation. Developing projects in sub-Saharan Africa can be considerably more expensive than in other parts of the emerging world, investors say.

Interviews with government officials, project sponsors and developers, financial investors and development professionals suggest that there are three key areas of focus and innovation needed to spur a revolution in African power generation: regulation and governance to create stable environments for investment; regionalisation to build cross-border markets and shared infrastructure; and resource management, to use the continent’s existing bounty in gas, wind, solar, geothermal and hydropower to build a sustainable, low-carbon future.
The liberalisation of the power sector, the improving creditworthiness of utilities and the creation of independent regulators is removing a major barrier to investment. 

Nigeria is Africa’s largest economy and, increasingly, the continent’s commercial centre of gravity. With more than 140 million people and a gross domestic product of nearly $500 billion, it now features heavily in the investment plans of global institutions and corporations. However, despite its promise, Nigeria’s electricity network has remained a perennial complaint of businesspeople and investors. Considerably more power is produced by private enterprises for their own needs than is put onto the grid; every bank branch and mobile phone mast needs a generator to stay online. Electricity costs more than twice the African average of $0.14 per kWh. World Bank estimates put the cost of power outages and shortages on GDP growth at 4 percentage points per year. 

That finally seems to be changing. For the past two years billions of dollars have been deployed into the country’s moribund power sector, after the government embarked on a major liberalisation of the sector, allowing private players to bid to run existing infrastructure and crucially, set and collect tariffs. 

In the past, a large proportion of tariffs went uncollected, while the power sector was heavily politicised, meaning that tariffs were often kept unsustainably low. This fundamentally undermined the creditworthiness of the utility, further deterring investment. 

By updating its regulatory frameworks and trying to depoliticise the power sector, Nigeria hopes to finally cut the Gordian knot that has been tied around its generation and distribution. So far, the country has issued around 70 licences for independent power producers (IPPs) and handed over ownership of several power plants. Investors say that improving regulatory frameworks – in particular more realistic tariff structures, offtaker agreements and dispute resolution mechanisms – have been vital in reviving interest in the continent’s power sector. IPP laws are being passed across the continent, in part inspired by the success of Nigeria’s reform. 

Unsurprisingly, investors value stability, predictability and creditworthiness. One investor, who is building on an existing commitment to Côte d’Ivoire, said that one of the reasons his firm felt comfortable was that the state-owned utility had paid its bills, even as the country slid into a political crisis and a technical default on its international debt obligations. 

Government guarantees have also been significant, investors say. Alongside guarantees from host governments, others are also using political risk insurance from the World Bank’s Multilateral Investment Guarantee Agency. Demanding “guarantees on top of guarantees,” as one investor called this process, can help to de-risk investments in environments that are still considered risky by many developed world institutions. However, they do add to the cost of the local government. 

Development agencies and advisors to government say that they hope by building a track record of successful projects and public-private partnership transactions, they can start to shift the burden of risk further towards the private sector, and away from already strained public finances. 

In the past, a large proportion of tariffs went uncollected, while the power sector was heavily politicised, meaning that tariffs were often kept unsustainably low.”
Regionalisation

Africa is a diverse continent of 54 countries, each with its own resources and economic drivers. Although there has been almost universal economic growth across the continent since the turn of the century, some countries, by virtue of their size, governance or location have not benefited from the large-scale investments experienced by regional poles, such as Nigeria or Kenya.

Regionalisation of infrastructure and the economic integration of Africa’s economies has been a Holy Grail for development professionals for decades. Alone, Rwanda, Burundi and Uganda are small, landlocked economies with populations of 12 million, 10 million and 40 million, respectively, each struggling to bring in sizeable project finance or investments into their productive sectors.

Yoked together into the East African Community, along with the larger coastal economies of Kenya and Tanzania, they are part of a single, fast-growing region of 140 million people, with two large industrial ports and diverse natural resources.

Building regional power links will be an important part of this regionalisation, developers say. While few countries currently have an over-supply of electricity, the potential for exports within region is enormous. Unifying legal structures and creating interconnectors between countries with similar investment and regulatory environments could dramatically increase the viability of projects.

From a development perspective, power pooling – which exists today across the continent, albeit with varying degrees of effectiveness – allows countries to build complementary assets. A solar project in one country, which only hits full capacity during the daytime, could be offset at night by geothermal or hydropower next door.
Resources

Africa’s energy mix is disproportionately skewed towards coal because a large proportion of its total installed capacity is in South Africa, which has historically made use of Southern Africa’s considerable reserves of the fuel.

Natural resources have long been the source of Africa’s revenue, and in many cases its woes, and recent discoveries have driven fresh interest in the continent’s economies.

Over the past five years, the Indian Ocean coast of East Africa has emerged as one of the last few yielding frontiers for natural gas in the world. 100 trillion cubic feet have been discovered off the coast of Mozambique, and a further 50 trillion cubic feet in Tanzanian waters. Exploration is continuing as far offshore as the Comoros islands.

Oil finds in the Gulf of Guinea – including Major discoveries in Ghanaian waters have re-ignited interest in exploration in the region. Liberia, Sierra Leone and Côte d’Ivoire became the focus of frenzied activity, until the Ebola outbreak, then a collapse in the oil price, hit investors’ appetite.

According to the IEA, between 2000 and 2014, two-thirds of investment into energy in Africa went into developing resources for export, rather than for domestic consumption.

The focus on export, rather than on domestic use, preferences short-term gain over long-term development, slowing the evolution of productive industries. It is also widely believed to fuel rent-seeking in government and to drive corruption.

2014 was a bad year for oil exporting economies. Countries such as Nigeria and Angola, depend on oil for around 70 per cent and 90 per cent, respectively, of their government revenues, making them vulnerable to fluctuations in the global markets. The benchmark Brent Crude price fell from more than $110 per barrel in June to less than $55, stabilising by early 2015 at around $60-65.

Both are coming to terms with the loss of earnings, which has caused immediate fiscal pain and reduced their capacity to make large capital expenditures on infrastructure.

Oil companies themselves are under stress – particularly in Nigeria, where many marginal and onshore oil fields are now in the hands of local players following a government push for indigenisation combined with major divestments by the international oil companies.

The fall in prices has left several of these companies close to collapse, but for the larger businesses, their saving grace has been the gas resources that they acquired alongside oil. Nigeria – along with the rest of West Africa – has long been seen as an oil economy, its gas reserves flared off as an inconvenient by-product of the oil industry.

Several industry players now say that they are re-focusing their efforts towards supplying gas to their local markets, aided by a national ‘gas master plan’, which interlocks with the privatisation of the power industry – enabled by their offtaker agreements with the utility, private power plants are able to enter into long-term gas supply contracts, providing clear revenue streams for the gas fields.

In Nigeria’s case, there is still considerable uncertainty over the gas-to-power industry. Lower government revenues from oil could hit capital expenditure on the gas pipelines needed to feed the industry, and participants are split between whether this will lead to a stall, or whether it will drive the incoming administration to push further privatisations to fill the gap.

The cost of building liquified natural gas
plants and export terminals runs into the billions, and global markets are far less lucrative since the US’ shale boom created a glut. The silver lining in the uncertainty of export markets could be that resources are diverted to meet domestic demand.

**Renewables**

Hydropower has been a mainstay of Africa’s electricity supply since the colonial period, and enormous dams continue to shape the physical landscape. The Grand Renaissance Dam, currently under construction on the Nile in Ethiopia, is one of the largest infrastructure projects in the world, costing an estimated $4.8 billion and supplying 6,000MW.

Ethiopia, along with the Democratic Republic of Congo and Zambia, source almost the entirety of their electricity supply from hydropower, but the region is still only meeting a fraction of its potential. According to the IEA, the technical potential of Africa’s hydropower resources is around 283GW – only around 10 per cent of that is currently utilised.

Debates still rage about whether that potential should be fully exploited, however. The planning and construction of the Grand Renaissance Dam have been dogged by disputes and protests from countries downstream, so large is its potential impact on the environment. In Central Africa, poorly-maintained or ageing infrastructure is struggling to maintain its output, and as the climate changes, the region’s hydrometry has become less predictable.

The balance of renewable generation is likely to change considerably over the next decade. Modern renewables make up less than 1 per cent of Africa’s installed capacity, but the continent has enormous potential in solar, almost across its entire span; in offshore wind around its east and south coasts; in onshore wind in the southern plains and the Horn of Africa; and in geothermal in the volcanic Rift Valley.

Whereas once it was considered a more capital-intensive option, the economics of renewable generation have improved. The cost of solar panels has fallen dramatically over the past decade. Bloomberg puts the current cost of solar photovoltaic generation at approximately $0.3 per watt, down from around $3.9/W in 2000, and $1.85/W just five years ago. Wind turbine costs have reduced considerably as well – albeit not quite as rapidly.

Modern renewable projects have been springing up across the continent over the past few years. The huge Lake Turkana Wind Power project in northern Kenya finally reached financial close in 2015, after years of negotiations, while South Africa’s Renewable Energy Independent Power Producer (REIPP) scheme has begun to bear fruit. However, the pace has been
relatively slow, and investors say that the bottleneck is most often at the project development stage.

Between 7-10 per cent of a project’s capital has to be sunk into the early stages, developers say, and investors tend to look for ‘shovel-ready’ opportunities. There is a gap between the willingness of investors to take on early-stage development risk, and in governments’ technical capacity to prepare and finance development.

Regulation, again, plays a huge part. ‘Feed-in’ tariffs and other subsidies for renewable generation that were common in developed markets are no longer a major part of the conversation in Africa, investors say, where the real impetus is to get power on the grid from any source, rather than to reduce carbon emissions.

Multilateral development institutions, in particular the World Bank, are trying to de-risk the process for investment in renewables using investment guarantees and through consultations with governments aimed at helping them to create transparent and stable environments for investors.

Developers and investors seem split on whether the collapse in oil prices, and the availability of cheap gas and coal, will alter the short-term appetite for renewables amongst governments and sponsors. Some say that volatility in the energy markets is a clear case for ongoing investment in renewable projects, decoupling the continent’s power supplies from the uncertainty of international supply and demand; others warn that short-termism in government could drive a search for quick-fix thermal projects.

In Southern Africa – and particularly in South Africa, which is struggling to meet power demand – coal is likely to remain a huge part of the energy mix for decades.

The global environment for investment in carbon-intensive generation, such as coal, could evolve more rapidly. World leaders are meeting in Paris this summer to try to thrash out a successor to the Kyoto Agreement on emissions, and developing countries are likely to demand more development funding for adaptation to climate change, but also for long-term mitigation and low-carbon routes to growth.
Using power to close the equality gap

Standardised power purchase agreements could accelerate negotiations for independent power projects, but all stakeholders need to be involved in creating an environment that facilitates greater access to power for both urban and rural communities.

BY
DR. MIMA S. NEDELCOVYCH
Without reliable, competitively priced power, many African countries may face social unrest and political instability as they are unable to meet the rapidly growing employment demand. The lack of electricity access is exacerbated by the long process of negotiating and implementing investments in independent power projects. The extended discussions can lead to missed investment opportunities. Overcoming these barriers to much needed investments in power infrastructure will ultimately help transform and shape Africa’s future economic growth.

The growing population in Africa will play a driving role in the continent’s development narrative. The overall population is expected to double to over 2 billion inhabitants in the next 35 years. More than half will be living in urban areas and be eager for jobs. As such, Africa’s urban centres can become hubs for manufacturing and industrialisation.

To turn this potential into reality, there is a need for access to reliable, competitively priced power. Without it, many African countries may face social unrest and political instability as they are unable to meet the rapidly growing employment demand.

Ethiopia’s new Grand Renaissance Dam is an example of one nation’s efforts to develop the infrastructure necessary to meet the demand for industrialisation. The $5 billion project is funded by the Ethiopian government with support from Chinese banks and will generate around 6,000MW of electricity to meet domestic and regional demand.

Once completed and on line, the World Bank estimates Ethiopia could earn $1 billion a year in electricity exports, making it the largest exporter of power on the continent. This project is also expected to drive economic development along the Nile basin in countries such as Sudan and Egypt.

Increasing electric power in the region will provide Ethiopia and its neighbours the ability to power homes and businesses, ultimately driving regional economic growth.

These kinds of projects are necessary to make Africa a competitor in the global economy. As China moves up the industrialisation ladder, the manufacturing jobs that have driven China’s growth will ultimately move. How can Africa compete with Southeast Asia or other regions with low labor costs for those jobs?

Urbanisation
Access to reliable, competitively priced power is the major pre-requisite. That, along with Africa’s abundant natural resources and a large, young and increasingly urban population, should make it an attractive destination for those manufacturing jobs.

The complement to rapid urbanisation is a decreased number of farmers feeding the growing population. At present, agriculture is the largest employer and major economic driver in many African economies. For African economies to take advantage of its vast, arable resources, smallholder subsistence farmers must transform to support sustainable productivity.

This means expanding the agro-allied industry to include the full complement of services along the farm to fork value chain, including provision of inputs and farm services, offtake of product and aggregation, warehousing, processing, packaging, branding, wholesaling and retailing food products.

Very efficient links along the value chain will create higher paying jobs as well as more competitively priced food to the consumer, and will drive sustainable economic growth. But again, these added efficiencies in value addition to raw food products will require reliable and affordable power in rural areas.

Outside of urban areas, there is little access to power due to poorly designed, inadequate or often missing national grid systems, or simply not sufficient power generation. The central power grid often fails to reach out to those in rural communities, and, in areas where it does reach, many countries lack sufficient generation capacity to provide reliable power year-round.

As late comers to industrialisation, African countries can take advantage of more recent innovations in technology to incorporate renewable energy and point of use power generation into their power supply mix and bank on off-grid solutions to bring power to rural areas. With the addition of mini- and off-grid systems to the often frail national grid networks, electricity can reach underserved, hard to reach communities and drive inclusive growth where there has been virtually none.

IPPs and PPAs
Private investment in the electricity sector in Africa will be fundamental to increasing access in the region. Because an independent power project (IPP) must be based upon a power purchase agree-
Electricity and growth

There is a direct correlation between a country’s electricity consumption and its gross domestic product. Use of, electricity has a clear influence on business growth, although energy efficiency is shifting this equation in developed markets.

Source: World Bank/IMF

Energy consumption per capita / kWh
GDP per capita /

USA: 13,246kWh / $53,042
Germany: 7,081kWh / $46,269
South Africa: 4,606kWh / $6,186
China: 3,298kWh / $6,807
Nigeria: 149kWh / $3,006
Kenya: 155kWh / $1,246

Getting electricity

Sub-Saharan businesses pay vastly more to obtain an electricity connection than those in other developing economies.

LatAm & Caribbean: 444.5%
South Asia: 1.536%
Sub-Saharan Africa: 4,348.5%

Cost of obtaining an electricity connection as percentage of per capita income

Source: World Bank
Access to electricity

In more than two-thirds of African countries, less than 50 per cent of the population has access to grid electricity.

Source: IEA

Countries with <50% access

Political challenges

Politicians need a deal they can sell to a sceptical public and developers need to show a rate of return that is sufficiently high to attract investors in a potentially risky project. These pieces must all come together for an investment in the power sector to succeed.

In addition to aligning interests of invested stakeholders, we see the process of developing a standardised PPA as useful to consolidating interest and creating political momentum for increased investments in the sector. Yet due to the significant legal, economic, and policy matters at stake, a government-whether in Africa or elsewhere-must have the political will to pass measures that will increase private sector investment.

A number of measures will be unpopular in the short-run. However addressing these issues such as using transparent procurement processes, adopting cost-reflective tariffs, ending corruption, implementing fiscal transparency, long-term sector planning, and respecting the sanctity of contract are necessary for long term economic growth. When these measures have been adopted in other regions, private investment has increased and where they continue to languish, investment has stalled along with development.

The “Africa Rising” narrative focuses on the continent’s resources which can alleviate poverty, strengthen inclusive growth, and turn Africa into a major player in the global economy. Access to power will play a fundamental role in realising this potential.

While the development and dissemination of the new handbook will go a long way toward increasing general understanding of the PPA and its role in a power sector investment, IGD has decided to use this document as the starting point for a program focused on developing and adopting standardised PPAs in select countries in Africa. Some of the factors that will be looked at include deal flow, i.e., significant potential for independent power production development in

“The ‘Africa Rising’ narrative focuses on the continent’s resources which can alleviate poverty, strengthen inclusive growth, and turn Africa into a major player in the global economy. Access to power will play a fundamental role in realising this potential.”
Funding infrastructure

The sources of finance for Africa’s infrastructure have diversified hugely over the past decade, with capital flowing in from all over the world.

Source: Infrastructure Consortium for Africa

2013 Figures


Bilateral trade with Africa, 2013

Source: UNCTAD/WTO

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the country, as well as for the appetite for governments to set the right conditions to attract private developers.

We will also look at the interest that local and foreign stakeholders expressed in encouraging IPPs. And of course, it is important to also consider the complex issue of navigating the country’s bureaucracy and regulatory system to gain traction for establishing a standardised PPA.

Our goal is to work with governments committed to increased private investment in the sector by crafting a PPA document specific to that country’s unique political and business landscape. It can form the basis of future negotiations with developers and banks. With a more streamlined approach, the hope is to expedite the power project development process to provide greater power access and ultimately help drive economic development on the continent at a faster pace than has been the case to date.

Dr. Mima S. Nedelcovych is the President & CEO of the Initiative for Global Development, a nonprofit organization that engages corporate leaders to reduce poverty through business growth and investment in Africa.
A problem of delivery: how to power a continent

Many independent power projects in Africa never reach financial close due to a ‘viability gap’ between the income required to make investments financially sustainable, and the revenue that can be raised from relatively poor consumers.

BY KAUSHIK RAY

In the one hand sits an urgent need for the electrification of Africa, with power infrastructure alone requiring an estimated $27bn a year in capital investment. On the other hand sits the stark reality: only around 30 large-scale (over 40MW) grid-connected independent power projects (IPPs) are in operation across the whole of the continent.

Plenty more IPPs sit in development: from vast wind farms in Morocco to ambitious solar plants in Central Africa; those exploiting the abundance of geothermal resource across the Rift Valley to projects wishing to utilise south-
ern Africa’s rich seam of coal. New oil and gas discoveries on both East and West add to an exciting future energy mix for the continent.

The gains are obvious: reliable electricity (urban and rural) allows individuals and industry to increase economic activity, reduce poverty, have greater access to education and bring about sustainable and prolonged development and growth. The problems – a lack of a regulatory framework, offtakers with limited creditworthiness, political instability and corruption – can be summarised as being a problem of delivery.

With over fifty jurisdictions, four main legal systems, countless languages and wildly differing economic indicators, any generalisation about successful delivery of IPPs across Africa must be taken in context. Nonetheless, a number of broad themes can be explored.

Before approaching the solutions however, it is worth spending a little more time on the pink elephant in the delivery room: the common theme in why IPPs don’t reach financial close – the viability gap.

Broadly speaking, the viability gap is the “gap” between, on the one hand, the revenues needed to make a project economically and commercially viable and on the other hand the revenues likely to be generated by end users who – if they are poor electricity customers in a frontier or developing country – may not be able to afford to pay the charges to support those revenues.

Aside from simply subsidising end-users, which is costly for a government’s balance sheet, plugging the viability gap in an IPP context means mobilising private sector investment whilst at the same time ensuring that the risks of construction and delivery of the infrastructure is shared with the private sector. This can be done by reducing the high upfront capital costs of the investment by providing some kind of subsidised funding for project or construction costs. In today’s reality, the options are still limited – equity, the government or some form of mezzanine or subordinated debt need to backstop this funding gap.

Seed capital; funding of early development costs and impact investments are some of the tools that can be used. Green Africa Power, GETFiT – the German government’s initiative first rolled out in Uganda – the Seed Capital Assistance Facility and many more besides are all instruments aimed at plugging this gap; key solutions to unlocking the development of IPPs in SSA.

**Law and policies**

In our research, sponsors and lenders alike say that the lack of a coherent legal and regulatory framework is the primary barrier to the successful delivery of IPPs in Africa.

Whilst liberalisation (and unbundling of generation, transmission and distribution) is largely encouraged by foreign investors to introduce competition and customer choice to lower prices, it is fair to state that incumbent (state-owned) offtakers are often favoured due to their track-records in collection and payments to producers. This slightly perverse situation can be mitigated by the existence of an independent regulator who approves energy tariffs and has general overview over the sector. Evidence suggests that transparent and independent regulators improve efficiency and reduce capital costs for IPPs.

With or without a regulator, a transparent and consistent tariff framework is key for invol...
vestor confidence. The opposite is also true, as several developed countries, the UK included, have shown.

The negotiation process of the key agreement for an IPP takes time, particularly for offtakers without private sector experience. How a power purchase agreement (PPA) deals with provisions relating to termination, change in law or tax, default, force majeure, dispute resolution, insurance, interconnection, fuel supply and risk and the dispatch and metering regime is key to a lender’s credit analysis.

Building capacity and knowledge within the offtaker’s negotiating team – and its ability to maintain this expertise for future deals – is crucial. The offtakers KPLC in Kenya and ECG of Ghana, having closed IPPs and in the process of closing several more, are examples of offtakers with that knowledge.

For IPPs that end up in dispute, inevitably it is changes to the PPA that are at the root. A PPA remains the fundamental focus point for investors and their lenders and must be drafted and negotiated in a bankable and sustainable manner.

There are inherent credit risks in financing IPPs, namely that of certainty of payment by the entity offtaking and paying for the power produced. The type of financial support available to back up these obligations are dealt with in turn below.

Escrow accounts, where the offtaker channels a percentage of revenues into a separate account (for the benefit of a particular project and its lenders) until such time as a threshold has been reached, are now a relatively common feature of (for example) Kenyan IPPs.

Structures whereby entities, such as the World Bank’s IDA, provide liquidity support to projects by backstopping the offtaker’s payment obligations (e.g. by supporting the issuance of a letter of credit) are becoming increasingly commonplace. This obviates the need for discussions with the IMF about debt ceilings.

Political risk insurance complements this, covering either or both of equity and commercial debt. MIGA and other providers like ATI have a variety of products to cover the risk of a governmental or quasi-governmental entity from failing to honour their financial obligations.

Finally, government guarantees (or their lesser cousins, letters of support) are also commonplace and tend to cover political risks and force majeure events. In all countries, sovereign guarantees are likely to be both subject to IMF criteria and to require parliamentary and central budgetary approval.

Kaushik Ray is a Partner at Trinity International LLP, a boutique law firm specializing in emerging markets energy and infrastructure.

DELIVERY TAKEAWAYS

As someone who spends pretty much all-day everyday talking to and liaising with parties looking to close IPP projects across Africa, from governments to multilaterals: developers to advisors, the most striking element of success or failure of an IPP is what business schools teach as the elements of “getting to yes”. For IPPs in Africa, they can be summarised as:

- Believing in the deal: if the key stakeholders don’t believe in a deal, it won’t close - at least, not without a lot of pain. My advice to clients – lenders, governments and sponsors alike – is to identify the champion in each team who has that belief and focus energies on negotiating with them. #findachampion

- For all parties to remember their agenda (and remind others of theirs). It’s easy if you’re a member of the US government working in Power Africa: pooling and leveraging commitments of governments and the private sector to overcome barriers that have constrained Africa’s power sector is your sole and primary agenda. It should be easy if you’re in government (though this assumes a suspension of cynicism and a belief in selfless public service). A member of the World Bank should focus on the post-2015 development agenda. Very often it is people forgetting their agendas (and not understanding others’) that gets in the way of delivery. #rememberyouragenda

- Not thinking “outside the box” but rather thinking like there is no box at all. #nobox

- The final thing worth noting is that delivering power infrastructure is not the same as a corporate or purely public sector transaction. It requires a long-term collaboration of developers, governments and lenders alike. The conclusion really is that many hands truly make light work. #collaborate
The early-stage bottleneck

One major challenge in the development of power infrastructure in Africa is investors’ reticence to participate in the early stages of projects.

BY SAMEH SHENOUDA

The spotlight on the investment opportunities created by Africa’s glaring infrastructure deficit has been getting ever brighter. Due to decades of under-investment in core infrastructure sectors, demand for infrastructure now massively outstrips supply, and that demand is forecast to continue.

The United Nations estimates that the population of Africa is set to more than double from the current 900 million to 2.1 billion by 2050, and to quadruple to 3.9 billion by the end of this century. Sub-Saharan Africa will consume nearly 1,600 terawatt hours of electricity by 2040, four times what was used in 2010.

At $8.1 billion in 2014, the total value of all private equity deals on the continent is accelerating, according to the African Private Equity and Venture Capital Association. US$2 billion was invested in utilities alone, but there is a long way to go before investment keeps pace with demand. In the power space alone, if every country in Africa builds what it needs, the region would require more than $800 billion in capital – about $490 billion of capital for new generating capacity, plus another $345 billion for transmission and distribution.

Infrastructure is a focus sector for CDC. As the world’s oldest development finance institution we have been investing in Africa since 1949 with twin objectives:

- To generate sustainable financial returns.
- To achieve a lasting development impact, primarily by creating jobs.

CDC does not view these objectives as mutually exclusive and to achieve them we provide capital in all forms – debt, equity, guarantees and mezzanine finance – to businesses in Africa and South Asia. CDC has a well-established funds business and is among the largest limited partners in Africa. We also invest directly.

Outside of South Africa, power consumption in Africa averages 124 kilowatt-hours per person per year, or just about enough to power one light bulb per person for six hours a day. To put this context, a large freezer consumes the same amount of power in a single month. In the coming years, rising urbanisation and growing consumption will mean that power demand will continue to grow strongly.

Following the global emergence of new models for the power sector and the introduction of independent power projects (IPPs) in the 1990s, reforms in Africa have not been far reaching. Only around 20 IPPs have been developed across the continent. The parameters for collaboration that are taken for granted in other geographies – such as well-defined and tested regulation, government capacity and experience, a transmission infrastructure, credible off-takers and a liberalised market – are often lacking in Africa. Additionally, grid availability is frequently limited to major cities and there are overall system inefficiencies.

The investor’s challenge

Even when these conditions are in place, it can take over five years to reach a point where construction can begin. Red tape, technical challenges, regulatory agreements and financial and political instability all contribute to extremely long time frames for development and consign many projects to premature failure.

As a result there is a critical shortage of investors and companies doing earlier stage project development. Most large players focus on later-stage developments. The earlier-stage development is often done by under-capitalised local developers who lack the support and clout of a business that operates at scale. Put simply, it is too risky for strategic players, too long-term for private equity investors, and too capital intensive.
for smaller developers to make an impact.

Development finance institutions (DFIs), such as CDC, can accept more risk than commercial players, are not constrained by finite time horizons, and have the financial strength to persist with the challenges inherent in bringing power projects to the construction phase. A recent example of this approach is CDC’s joint partnership with Norwegian DFI, Norfund, to take direct ownership and control of Globeleq Africa, Africa’s leading independent power producing company. By refocusing Globeleq on earlier-stage development, Norfund and CDC aim to bring more projects to the construction phase and expand access to reliable electricity in the region. If successful, the new strategy will result in over 5,000MW of new generating capacity in the next 10 years.

Sub-Saharan Africa needs well-capitalised investors with a long-term view, focused on developing power projects and a willingness to partner with high-quality local teams. Development finance institutions can play an important role in tackling this challenge, and in addressing the shortage of electricity in Africa.

Sameh Shenouda is Head of Infrastructure, CDC Group plc
Developing sustainable power projects

A demonstration effect is in evidence as African countries begin to improve their regulatory environments, leading to a rush to finance power projects.

BY ANDREW ALLI

HEN YOU LOOK AT INFRASTRUCTURE investments in Africa, it seems that you often see this phenomenon – the London Bus Syndrome. You wait half an hour for a bus, then three come along at once. Things come together – the financial markets are more receptive, governments move forward on projects and suddenly everything is moving.

Sometimes it is just coincidence – AFC closed our Cenpower project last year after working on it for more than four years, and it was in the pipeline for years before that. Other major projects, such as the Lake Turkana wind project in Kenya, have also finally come online.

The privatisation of Nigeria’s power sector and the continuation of South Africa’s Renewa-

“A lot of financiers do find it easy to just rely on the government guarantee, and not have to properly address whether the underlying project is bankable or not. In the future, financiers may have to move away from just requiring government guarantees as an entry level for doing these projects.”
ble Energy Feed-in Tariff, or ‘Refit’ programme have both been significant catalysts in generating investor interest. People who were perhaps unable to participate in either of those countries have been awakened to the potential of power infrastructure investment in Africa and gone looking for deals elsewhere.

With these initiatives there is also a certain amount of demonstration effect at the official level – when one country sees what is happening in their neighbours, it spurs them on to do something similar. There is no out-of-the-box solution that magically makes projects come together, but as more people understand what works, it becomes easier to replicate and adapt successful models. If something has worked in Kenya, it may be a little simpler to sell it into Rwanda, for example.

There are still a lot of bottlenecks in developing power projects though. For a start, it’s a complex business that requires a wide range of skills that go well beyond financing. You need to understand how power plants work, you need to be able to negotiate contracts with diverse stakeholders, and you need to be able to draw together the financial backers.

It is also very costly. You can spend between 5-10 per cent of the project cost before or at the close, meaning that millions of dollars need to be put down before you have even broken ground.

The other major barrier is that in many African countries the local power utility is not bankable. This means that there are typically a lot of discussions involved in making sure that the off-taker is creditworthy, and often investors look for a government guarantee in some form.

Guarantees can be expensive for the host country, and there is some back-and-forth now between investors and governments.

For investors, governments need to take steps to ensure that their off-takers are bankable – which typically means raising their tariffs so that they’re financially sustainable. Sometimes governments have set tariffs too low to recover costs because, understandably, they want to give cheap power to their people. However, by keeping those tariffs low, they actually increase the cost of the whole power sector, which is less sustainable in the long term.

On the other hand, a lot of financiers do find it easy to just rely on the government guarantee, and not have to properly address whether the underlying project is bankable or not. In the future, financiers may have to move away from just requiring government guarantees as an entry level for doing these projects.

Although it is hard to generalise, in the most part people are becoming much more comfortable about investing in African infrastructure. If you take Nigeria, where there have been negative headlines around security and politics, their track record has actually been very good – they abided by all of their agreements. There is always risk, but very often it seems those risks are overblown.

Andrew Alli is CEO of the Africa Finance Corporation.
OUTH AFRICA LIKE MANY DEVELOPING countries faces an acute power shortage. The lack of reliable access to electricity is an impediment on economic growth, investment and development.

Anglo American Platinum is deeply rooted in South Africa, where much of the world’s mineable supply of platinum is found. As a mining company, we are aware of our responsibilities to provide additional value to the local economy above and beyond our direct contribution to employment, infrastructure and national revenues.

Anglo American established the Platinum Group Metal Investment Programme to invest in emerging technologies that employ the metals, beyond their existing uses in catalytic converters and jewellery. The purpose of this is twofold – it builds markets for our product; and it opens up opportunities for beneficiation.

Out of this fund, we have built a partnership with Ballard Power Systems, a global leader in fuel cell technology, to develop a fuel cell mini-grid product, which uses platinum as a catalyst and is fuelled by methanol. This approach could, we hope, become a sustainable solution for off-grid communities.

The technology is currently being demonstrated in a field trial with 34 rural households using platinum to power off-grid communities.

Anglo American is supporting the development of platinum-based fuel cells that provide micro-grids for remote rural communities in South Africa, creating mutual benefits for the company and the country.

BY
KLEANTHA PILLAY

NEW AFRICA
“We wanted to take a more strategic approach to beneficiation – one that both builds sustainable markets for our products, and which truly adds value to the local economy, creating employment and driving social and economic growth.”

At the Naledi Trust community outside of Kroonstad, South Africa.

If deployed more widely, it has the potential to bring electricity to the approximately 600,000 South African homes that do not currently have electricity, and that are in areas where the national utility, Eskom, may not build grid infrastructure for several years.

This is a scalable solution that can be built to match the needs of individual communities, and it is clean, generating mostly water as a by-product.

At a community level, the impacts can be huge. Rural power improves health outcomes by reducing dependence on wood or paraffin for cooking, and by allowing local clinics to refrigerate vaccines and medicines. Electricity supply at schools enables improved teaching methods, while electric pumps can be used to irrigate agricultural land and improve rural livelihoods.

The micro-grids could also have wider economic benefits. The power system was designed and integrated in South Africa by local engineers, and it was built and installed by local contractors. Operations, maintenance and refueling are also being carried out by South African businesses.

The assembly and manufacturing of the fuel cell stacks is not yet located in South Africa, but a commitment from the state to procure and deploy these systems could kick-start the industry, thereby building an export base to supply the rest of the continent.

It is clear from our trials that South Africa has the necessary skills and capabilities to develop this industry, which could expand into manufacturing components for other fuel cell applications, such as back-up power systems for telecoms towers, personal electronic devices and parts for fuel cell vehicles.

This is an initiative with mutual benefits. One of the challenges of the beneficiation drive is that companies can find themselves involved in industries that are non-core. We wanted to take a more strategic approach to beneficiation – one that both builds sustainable markets for our products, and which truly adds value to the local economy, creating employment and driving social and economic growth.

So while this is a small, off-grid electrification scheme, it is both replicable and sustainable. It enables consumers to measure their energy usage and manage to a budget. The wider economy also benefits through local procurement and skills development. It is we hope a good example of how the private sector can make a contribution to wider development goals while also working to longer-term business principles.

Kleanti Pillay is Head of Market Development, Precious Metals, at Anglo American.
Power Africa partnerships for development

Standard Chartered is supporting the US-government’s ‘Power Africa’ initiative, which aims to overcome the regulatory and financial barriers to investment in Africa’s electricity infrastructure.

BY

NEIL VAN NIEKERK
It is clear that Africa has a very large shortfall in its power infrastructure. Although the continent accounts for a sixth of the world’s population, it generates only 4 per cent of its electricity. As many as 600 million people are without electricity, and 30 countries face routine power shortages. This has a huge impact on society and on economies. Lack of access to regular, affordable energy in Africa, is widely cited as one of the main constraints to doing business by small and large enterprises alike.

Overcoming the region’s power gap is estimated to cost around $100 billion per year – more than 10 per cent of the GDP of the continent. Around half of that cost will come in unlocking inefficiencies in infrastructure; and the balance will be in new capital expenditure. These shortcomings, coupled with the high cost of building new infrastructure, has sometimes undermined the commercial viability of projects.

The public sector cannot carry this responsibility alone, and thus its imperative for private sector investors to get involved and partner for a brighter future.

Historically, investments into African power infrastructure have stalled due to obstacles such as inadequate legal and regulatory frameworks, and the perception of political risks. These have made it difficult for private sector investors and lenders to take full ownership of certain risks in the countries they wish to invest in. Inefficiencies in the existing infrastructure, coupled with the high cost of building new infrastructure, are also major stumbling blocks which have been known to undermine the commercial viability of projects.

‘Power Africa’ was launched in 2013 by President Obama to address these specific constraints, and unlock investment values. This is a five-year, multi-stakeholder partnership between the governments of the United States, Ethiopia, Ghana, Kenya, Tanzania and Nigeria, along with private sector and multilateral institutions.

Collectively, this partnership aims to deliver more than 30,000 MW of cleaner, more efficient electricity to millions of homes and business
across the continent. More than $20 billion of support has already been mobilised from private sector partners for new power projects and partners have already concluded enough projects to generate over 4,000MW of electricity, and another 15,000MW will be generated from the current list of projects in the planning stage.

Standard Chartered is one of the largest private sector contributors to the Power Africa initiative through advisory, financing, debt structuring services and policy framework development. In 2014 we increased our commitment from $2 billion to $5 billion, which we anticipate will bring more than 7,500MW of the collective power commitment into African grids.

There have been attempts to bridge Africa’s electricity gap before, but Power Africa represents a far more focused, coordinated effort than we have seen in the past. Traditionally, in a true public-private partnership there is a very fine line between equitable risk allocation between public and private sector – the right party should assume risks that it is best able to manage and influence.

Working closely with the World Bank and other multilateral institutions, Standard Chartered has taken proactive steps to put risk mitigation mechanisms in place, which encourage a more equitable balance of risk-sharing between the public and private sectors.

Further investment is being unlocked through the provision of investment guarantees and political risk insurance to address international investors concerns over complexity and long tenors associated with greenfield infrastructure projects in frontier markets.

We are now seeing similar successful models being rolled out across the continent. Nigeria, for example, has remained committed to privatising its power sector and has now attracted billions of dollars in investment. We are proudly advising and funding the development of the Azura-Edo project, the country’s first-ever privately-funded power plant, which now provides a blueprint for other independent power projects (IPP’s) to replicate and secure sustainable investment flows for long term productivity.

As a financial institution with a history of over 150 years, and active across 16 African markets, Power Africa has deepened our already strong relationships with multilateral financial institutions, who play a critical role in the development of power and other infrastructure across Africa.

We are now witnessing countries make exciting new discoveries of natural resources, which adds further incentive to growing power generation. In Nigeria, Ghana, Tanzania and Mozambique we are seeing newly discovered, or newly-leveraged gas resources driving investment in power. The same is true of hydropower in Zambia, Cameroon and Ethiopia and geothermal energy in Kenya. Countries are at last beginning to leverage their natural resources to unlock their potential and break down barriers to economic growth and job creation.

With the right catalytic investments and dynamic partnerships, the next decade of Africa’s economic development could be driven by infrastructure, rather than constrained by it. Initiatives like Power Africa show that there is worldwide support from the public and private sector to help move this change forwards.

Neil van Niekerk is Managing Director for Project & Export Finance Africa at Standard Chartered Bank.

“There have been attempts to bridge Africa’s electricity gap before, but Power Africa represents a far more focused, coordinated effort than we have seen in the past.”
The politics of power

The political commitment to provide power in Africa has to be balanced with the de-politicisation of utilities and regulators.

BY SEAN LONG

UB-SAHARAN AFRICA HAS A long-term need for power infrastructure. The investment need is estimated at $40bn per year—a need that has to be filled so that the region can achieve sustainable economic development as there is a clear correlation between growth and electricity use.

Members of our management have operated in the independent power producer (IPP) sector in several markets in sub-Saharan Africa for more than a decade. Over that time one of the most significant changes to the environment for investing in power generation has been the evolution of the democratic political systems that have taken root across the region.

Bringing electricity onto the grid and into homes and businesses is an important political issue. Leadership in sub-Saharan countries are trying to make that happen as they learn about the issues relating to planning, structuring and building generation capacity.

Ultimately you need the regulations in place to establish an attractive electricity market. Historically, agreements have been made directly with governments, but that is not a long-term solution. The World Bank and others have pushed for countries to establish IPP laws and other regulatory requirements. Over the long term governments can then get out of the business of negotiating power purchase agreements and hand the responsibility to the utilities and independent regulators.

At the moment, in many sub-Saharan countries the utilities are not creditworthy. For this reason, ultimately the IPP laws in sub-Saharan Africa still require a lot of interaction with the government.

The politics can be complicated. Tariffs have historically not always been cost reflective, which has undermined the creditworthiness of utilities. This in some cases is also related to politics.

It is difficult, politically, for leadership to raise tariffs—particularly when an election cycle is near. This makes it increasingly important to decouple pricing from politics, and to establish independent regulatory bodies that can set tariffs and bring pricing out of the political domain.

In this improving environment there are many opportunities for investors in power, such as Endeavor Energy. Africa’s population and economies are growing, creating huge new markets for electricity.

Alongside this growing demand, several countries have found substantial new gas reserves and others are finding cost effective methods to import natural gas from other energy-abundant nations. Natural gas is cleaner than heavy fuels, and often cheaper, and is increasingly being used to feed power generation worldwide. Domestic demand for natural gas has changed the economics of exploration. In the past, people did not really look for natural gas, only for oil. Now, even though African markets are fairly small, power plants can become a base off-taker for gas fields, which can then ultimately be expanded for other use.

Each of our IPP projects is different, and has its own assets and requirements. We try to look at what is best for the country based on the resources the country has available.

We look forward to continuing to work with these countries, helping them to close the energy gap even further and spur sustainable economic development.

Sean Long is CEO of Endeavor Energy, a privately held international independent power producer (IPP) company, headquartered in Houston, Texas, and a sponsor of the US government’s Power Africa initiative.

“IT is difficult, politically, for leadership to raise tariffs—particularly when an election cycle is near. This makes it increasingly important to decouple pricing from politics, and to establish independent regulatory bodies that can set tariffs and bring pricing out of the political domain.”
Power Africa

Launched in 2013 by President Obama, Power Africa is a public-private initiative aimed at bridging the electricity supply gap in sub-Saharan Africa, where up to 70 per cent of people do not have access to power. The initiative initially aimed to bring 10GW of capacity, but has since revised that goal upwards to 30GW.


in private sector finance from 88 private sector partners

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