Insight_11 August 2023

Innovating Infrastructure

www.icintelligence.co.uk

From the desk of our Chief Economist:
Dr Desné Masie

Innovating Infrastructure

Welcome to the latest edition of IC Intelligence Insights.

As the global economy begins to adjust to the volatile operating environment of sequential polycrisis shocks and interventionist policy, green shoots are tentatively emerging, and headline inflationary pressures seem to be slowly coming under control - from 8.7% in 2022 to 6.8% in 2022 and 5.2% in 2024 - after significant tightening of monetary policy. Supply chains too, are gradually correcting from the war in Ukraine and the pandemic. Growth, while still slow at a projected 3% for 2023, has been better than expected, business and leisure travel is buoyant and deal flow is trickling into an upward trajectory.

All of this will require increased infrastructure capacity for mobility, for energy for projects, urbanisation and construction. But sovereign debt distress remains a risk to capital mobilisation and financial sector stability, particularly in developing countries. The US economy is still recovering from the debt-ceiling standoff and lower growth in China could remain a drag on overall system recovery. While the balance of risks to global growth remains tilted to the downside, particularly with extreme weather events, and the risk of intensified conflict in Ukraine, the mood remains one of cautious optimism, which has seen infrastructure activity increase. The majority of infrastructure activity is also being driven by investor demand for energy transition solutions as climate change continues to move up the global policy agenda.

Given most of the world's future infrastructure will be built in developing countries and rapidly accelerating markets with huge demand for speedy implementation, it is important to bake energy efficiency into the process. As Africa races to get its populations connected to energy grids and scale up baseload capacity, building energy efficiency into its development pathway will be key for its long-term energy transmission. Its most prominent infrastructure investors, including the Private Infrastructure Development Group and the groundbreaking Africa50 initiative, have put climate mitigation, adaptation and resilience at the heart of their strategies.

In light of this context, Lord Peter Hain sets out in his Chair's Letter how the extent of Africa's seemingly limitless infrastructure needs means it is imperative that infrastructure development is sustainable and climate-smart. He explains how political will and capital mobilisation are stimulated by initiatives like Africa50, well-placed to make a huge difference. I then explain in a macro analysis of these issues, what the global infrastructure investment outlook is for 2023, and how this is likely to play out for developing countries, and Africa in particular, with intensive capital needs. To give a comparative perspective: the current energy generation capacity of all of Sub-Saharan Africa is equivalent to that of Spain. A statistic I could not get out of my mind as I wrote this. But in this insight, we are not just restating the problems, we are also discussing the innovative solutions being offered by African countries themselves, not least of these is the Africa Continental Free Trade Area, which will facilitate scaling up at pace.

In conclusion, I offer some food for thought on energy efficiency, a topic gaining momentum in energy infrastructure investment, and being advocated for by the International Energy Agency in the context of the cost of living crisis as energy security alongside heightened geopolitical risk has increased inflationary pressures, and extreme weather due to climate change renders energy infrastructure vulnerable. Another big proponent of energy efficiency is Jonathan Maxwell, CEO of Sustainable Development Capital LLP who explains why energy efficiency needs to be a focus for the infrastructure we already have, as well as the renewables we are building. "By improving, diversifying and strengthening the energy system, it will be better prepared to take the clean energy when it arrives, rather than wasting it," he says.

We hope you enjoy reading.

Dr Desné Masie, Chief Economist, IC Intelligence

Chair's Letter

August 2023

Lord Peter Hain

Local resources and solutions could meet Africa's green infrastructure needs

Africa's ability to meet its almost limitless infrastructure needs requires a huge, coordinated agenda. Around half the continent's countries face dire debt distress, with risks of sovereign defaults high, debt service burdens crippling, and extreme climate events exponentially magnifying these problems.

The priority surely is new green infrastructure, which holds the key both to build better climate resilience and to drive growth, because it has been shown that countries prioritising green growth generate greater all-round growth by being better able to ride climate shocks.

Yet, apart from suffering disproportionately from money laundering and illicit smuggling of precious metals and minerals, African countries have mobilised the lowest share of private climate finance in the world: although their needs are the greatest, help is the least according to the African Development Bank.

And that despite infrastructure investment in low-carbon climate-resilient sectors in Africa offering very high returns for private climate finance.

Plenty of options for climate finance are on offer: social bonds, green bonds and loans, sustainability bonds and sustainability-linked bonds and loans, carbon pricing, debt-for-climate swaps, and blended finance. Yet Africa's share of green finance has been pitifully low, generally less than 0.5%.

A notable exception is 'The Great Green Wall' Initiative which plans to benefit the Sahel region by funding carbon sequestration through tree plantation, restoring degraded landscapes and revitalising thousands of communities. Launched in 2007 by the African Union, it would be the largest living structure on the planet, stretching 8,000km across 22 African countries.

The African Development Bank's 'Desert to Power' project also has huge potential, especially in harnessing the Sahara's vast solar energy potential. Another is for Africa to be a supplier of green hydrogen globally, with large-scale hydrogen projects planned in South Africa, Egypt, Mauritania, Morocco, Namibia and Niger.

Since the Continent's vast resources of critical green minerals – such as cobalt, copper, lithium, nickel, graphite, and manganese – investment in African infrastructure can also bring big returns in driving greener forms of power for vehicles, whether by electric batteries or hydrogen. With 600 million Africans or 43% of the continent lacking access to electricity, and less than one in five connected to a national energy grid, investment in green energy infrastructure is an absolute priority.

In May 2013, African heads of state signed a commitment to a 50-year development plan for the continent, including an integrated high speed train network; the Grand Inga Dam Project (in the DRC); a single African air transport market; and an intra-African broadband terrestrial infrastructure. The latter is urgently needed because Africa's mobile internet availability lags well behind other regions.

To help address such needs, the Africa50 company is positioning itself to be a leading infrastructure investor by mobilising private finance – and with all African governments as shareholders, it is well placed to make a huge difference. Its focus upon climate-friendly infrastructure investments and in the use of new technologies to help the continent accelerate its transition to Net-Zero is very welcome.

But what remains crystal clear is that the Developed World needs to deliver on financing the green infrastructure the African continent desperately needs – and without which developing countries' own climate emergencies cannot be combated.

Infrastructure investment environment outlook and trends for 2023: African solutions gather pace

*By **Dr Desné Masie***

Even though the need and appetite for infrastructure investment has remained robust globally, especially after the pandemic showed the long-term attractiveness of the sector, the investment environment for infrastructure remains on the tougher side, with challenges to dealmaking and fundraising. Institutional investors, in particular, are also being kept busy with a mandate to incorporate environmental, social and governance (ESG) issues into their portfolio selection. These remain top of the agenda despite the culture wars backlash against so-called "woke capital", particularly for investments incorporating climate mitigation strategies, in the US. In this analysis I evaluate how these issues affect Africa, with its increasing infrastructure and climate adaptation demands, and hence capital needs.

Extreme weather events are making it harder to deny the importance of looking at ESG and climate themes such as "decarbonisation, energy transition, and circular economy" for infrastructure investments, as identified by Siongkoon Lim, a partner at Roland Berger in London. So energy infrastructure investment is very favourably looked upon by investors currently. These issues are also rapidly changing the classification and long-term trend outlooks for infrastructure investment, according to Roland Berger.

However, infrastructure investors should not be complacent, risks persist in 2023, even though the infrastructure industry will broadly continue to do well from decarbonization, and digitalisation, which will also be a key driver for capital raising. But how do these global financial market trends square alongside the still-difficult macro outlook for African infrastructure investment?

On the macro side, the IMF's most recent 2023 Regional Outlook notes that persistent global inflation and public debt, combined with other factors, could mean a shortage of funding for infrastructure projects. This could end up "weakening [Africa's] growth potential", although there is variation across the continent both in terms of need and in terms of market fragmentation.

According to Europa World, Sub-Saharan Africa has been confronted by a number of serious energy challenges, mainly related to insufficient generation capacity and an over-reliance on fossil fuels. Due to the region's small, fragmented energy markets, electrical supply systems struggle to find economies of scale, and electricity is thus expensive (although often heavily subsidised). The region's entire electric generation capacity (63 GW) is comparable to that of Spain. The region (excluding South Africa) has the world's lowest per capita consumption of electricity at 150 kWh), compared with a world average of 3,133 kWh.

As Lord Hain notes above, in 2022, 600 million people in Africa, or 43% of the continent, lacked access to electricity. However, Africa's resource base and associated investments could help accelerate progress by developing diverse energy sources.

African solutions fast-emerging for demand

Indeed, so much media attention is focused on Africa's problems and needs, so where are the solutions?

Industrialisation and economic development needs in regions like Sub-Saharan Africa has meant that demand for infrastructure continues to gather pace while capital formation and mobilisation has required more innovation and collaboration - now - as identified by the Africa50 initiative, which is introducing cutting-edge financing techniques and encouraging blended finance initiatives, examples are:

- The landmark asset-recycling deal agreed with the Republic of Togo in July, which allows the small economies to find hacks to the tough capital raising conditions for African countries.
- The Africa50 Infrastructure Acceleration Fund (IAF), set up to catalyse investment flows into the development of critical infrastructure across the continent. This historic collaboration brings together a diverse group of influential stakeholders including sovereign wealth funds, development finance institutions, banks, pension funds, and asset managers.

Africa50 also advocates for nuance and fairness in credit risk profiling to ensure greater access to affordable pools of international capital for less-developed countries.

This echoes recent pushbacks from African leaders about the paltry allocations of sustainable finance in particular, and the unlevel global market playing field overall. Leaders of South Africa and Zambia called for a "transformation" of the world's financial system at French President Emmanuel Macron's Summit for a New Global Financing Pact.

Alongside becoming more vocal about having fair access to development capital, African countries are also innovating with their solutions and rapidly implementing policy supports including energy efficiency and other regulatory reforms such as those announced by South African president Cyril Ramaphosa in late July.

The acceleration towards decarbonisation described above and promulgated and reinforced in the EU's new green deal will have implications for Africa, particularly those hoping to sell their hydrocarbon finds on to the global market.

In our June Insight, 'The New Geopolitics', I discussed with Lord Jim O' Neill the risks of stranded assets for African countries and the tightrope they must walk between managing domestic demand from industrialisation against a declining global market for fossil fuels, all the while, still emitting the least carbon even as baseload capacity improves. Indeed, Africa may decide to increasingly rotate its gaze to the east, where initiatives like China's Belt and Road have already invested heavily in light rail corridors between countries like Djibouti and Ethiopia. With all the buzz around the New York Times' demographics feature in July, investors elsewhere would do themselves a disservice to ignore Africa's promising infrastructure investment environment. By 2050 most people on the planet will be African, mostly Nigerian and Ethiopian.

Solutions will also be accelerated by the foundations being laid for a single market in Africa through the African Continental Free Trade Area (AfCFTA), which, when implemented, will be the world's largest free trade area by number of countries (54). By mid-2022 35 countries had ratified the AfCFTA Agreement, thus fulfilling the requirements for the agreement to come into effect.

Once in full operation the AfCFTA will eliminate tariffs on 90% of intra-regional trade flows and establish a market of 1,200 million people with a combined GDP of US $250,000m. In addition, the pact will also reduce or eliminate many non-tariff barriers, as well as standardise the trade process through digitalization, which may prove to be more important in the long term. This will increase connectivity and freedom of movement, ultimately making domestic capital raising more independent from capital markets in the so-called Global North.

AfCFTA and Africa50 could turn Africa's current perceived weaknesses for scaling infrastructure into strengths. Because many natural resource projects are located in remote and rural communities, the scale-up of green energy investments and regional infrastructure could be leveraged to alleviate rural poverty and promote productivity gains. African countries can leverage their resources to bring together its energy mix to meet domestic needs while decarbonising at pace to ensure a just transition that includes good governance and sound macro-fiscal management of resource revenues.

Dr Desné Masie, Chief Economist, IC Intelligence

Energy efficiency policy gaining momentum for ensuring energy security and climate resilience

*By **Dr Desné Masie***

Recently, in my conversations with investors and policy makers, I have been hearing a lot about energy efficiency in infrastructure, particularly when it comes to climate resilience alongside extreme weather events, which puts energy infrastructure at risk, and heightened geopolitical risk, which threatens energy security and independence. I have found this fascinating because, for the past decade or so, renewables have been made out to be the panacea for energy independence, broad-based economic development and sustainability. This has certainly been the strategy of China, which has rolled out renewables at pace, while the rest of the world looks on in awe. But according to the International Energy Agency (IEA) the best approach alongside all the infrastructure solutions in the current environment, is actually energy efficiency.

There is no doubt that lowering record-high consumer bills and securing reliable access to supply is currently a central political and economic imperative for almost all governments. As such, the IEA believes that "focusing on energy efficiency action is the unambiguous first and best response to simultaneously meet affordability, supply security and climate goals". The agency reports that member countries which have implemented energy efficiency-related measures across the buildings, industry and transport sectors are estimated to be saving households and businesses around USD 680 billion this year, or around 15% of the total 2022 energy bill of USD 4.5 trillion. With statistics like these, amidst the cost of living crisis and climate crisis, efficiency progress is gaining momentum and attracting investors' attention.

But what exactly is meant by "energy efficiency"?

Jonathan Maxwell, CEO of Sustainable Development Capital LLP (SDCL) explains that "the world is currently wasting most of its energy, across the points of generation, transmission, distribution and end use. Solutions to this problem would save gigawatts of energy, and are badly and urgently needed. They could be delivered at scale with existing technology, at low cost and in time frames of six months to three years, compared with decades for other solutions." Maxwell explains that clean and renewable energy represents less than 20% of the energy system today and new supplies at utility scale will take years if not decades to develop, from whatever source. "Major new offshore wind and other large-scale renewable generation ordered now can be expected from the late 2020s and the more controversial nuclear in the 2030s and 2040s. New natural gas capacity involves similar timeframes. In the meantime, while we build incrementally on renewable energy capacity, we are likely to see more – rather than less – coal and gas used to balance grids in Germany, Ireland and other European markets," he says.

The multi-phase approach cohering in Europe alongside rolling out its landmark green deal, could be a game-changer if applied to the energy mix in sub-Saharan Africa, particularly its two major economies, Nigeria and South Africa, which both have less than 20% of their energy mix in renewables. Moreover, South Africa is the world's largest user of coal power. Energy efficient infrastructure on existing facilities could mitigate climate change and ensure resilience to extreme weather events, while renewables come on-stream. Needless to say, all renewable infrastructure should incorporate efficiency as a starting point.

Maxwell urges government policymakers and infrastructure investors to reduce energy demand at the point of use, as well as making supply and distribution more efficient. He says: "We can do this with commercially proven technologies at scale that are readily available today, such as on-site cogeneration, solar and storage, renewable heat, bioenergy, green gas and hydrogen, efficient lighting, heating, cooling and controls. By reducing the 'size of the cake', rather than relying on the supply side alone, we can find gigawatts of energy demand reduction (or 'negawatts"), reducing and removing costs and carbon while reinforcing resilience and energy security." For SDCL, the solution would be for governments to mandate immediate and annual reductions in energy consumption per unit of GDP output and pass obligations down both to the public and private sector, and that they should invest in project development and reduce credit risks for investors decarbonising private buildings and industry.

Dr Desné Masie, Chief Economist, IC Intelligence