Africa's energy landscape transitions to base load-capable renewables

The advent of renewables, new storage technologies present Africa's utilities with an opportunity to increase capacity and efficiency while re-kindling their appeal to investors.

Stephen Barnes

There has been a clear and rapid evolution in Africa's energy and energy infrastructure landscape over the last decade. While much of this new technology has challenged the traditional dominance and relevance of Africa's utilities, "new storage and Peaker technologies - able to augment renewables during off-periods - present African utilities and renewable energy projects an opportunity to re-invent their relevance as both competitive energy suppliers and attractive destinations for global capital," says Stephen Barnes, head of power and infrastructure for Standard Bank Group.

Renewables have been quickly taken up and adapted to the continents' rich solar, hydro and wind resources, drove the evolution of decentralised, off-grid solutions. However, more recently the energy revolution, combining new storage technologies with renewables has delivered truly innovative ways to provide sustained energy to rural communities and industry.

New energy storage systems (ESS) include; solid state and flow batteries, flywheels, compressed air, pumped hydro-power and thermal. Lithium-ion batteries, for example, are becoming the technology of choice for solar-based energy storage systems, largely driven by rapid growth in the electro voltaic market.

The result is that the global capacity for energy storage is expected to reach 8,6GW by 2022, enough to power approximately six-million homes. "This presents an obvious opportunity for utilities to partner with or acquire ESS companies," says Barnes. Certainly, in 2017 the ESS industry had a record year globally in terms of mergers and acquisitions, with utility and energy companies such as Enel and BP focusing on growth.

Project financing

New technologies mean that commercial and development finance institutions are also challenged to asses risk. This is especially so where, "a demonstrated history of cost and income has not been established and reliable economic models are not available," says Barnes. According to Moody's Investor services, an energy storage project that has a long-term contract with a creditworthy counterparty, "provides a lower risk profile from a revenue and cash-flow generation

perspective than one using a merchant revenue model".

In this rapidly evolving funding environment, “banks need to develop a better understanding of risk appetite, along with the detail of how to structure finance for these new technologies".

Over time, as the industry experiments on a project by project basis, “we expect to see a more defined structure for project financing emerge in the energy storage space,” he adds.

Either way, as the costs of renewables come down the case for diversified generation and an ever-greater proportion of renewables supplying the national grid become stronger.

China provides a compelling case for integrating global renewables technology into legacy coal-based utility infrastructure. The introduction of renewables into existing coal-based generation infrastructure in China has not only reduced emissions but also, “made legacy power infrastructure relevant for future funding,” says Barnes. Much of the spending that large global renewables providers are dedicating to research and development has, in fact, been made possible by China’s enthusiastic integration of new global renewables technologies into its legacy coal-based energy infrastructure.