

# Innovation will light up Africa

Energy project roll-outs are evolving from large-scale power generation to smaller renewable plants to increase access to electricity in Africa.

## Improved storage

“Considerable innovation has taken place in terms of energy storage, through the development of battery technology,” says Warrick Stewart, SRK Consulting associate partner and principal environmental scientist.

“Up until a year or two ago, this was not readily available in a cost-effective format, but there’s been an increase in uptake, mainly in the domestic space. There’s been dramatic increase in commercial rooftop solar systems in countries like South Africa.”



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As energy storage capacity evolves, there will be opportunity for renewables to start moving from non-baseload to baseload status, says SRK partner, Darryll Kilian.

“New technology is proving that bigger is not necessarily better, and that hybrid projects involving more than one technology can be structured to provide continuous energy supply,” he says.

“This is also creating more opportunity for captive solutions, which provide power for commercial companies or mines. Inventive funding solutions are also emerging for smaller projects of about 5MW or less. There is still a need for reliable off-takers of energy, as the financial capacity of many African utilities can make it difficult for them to provide guarantees.”

## **Gas as a power source**

Gas discoveries are also likely to change the future energy landscape, says Stewart, providing another option for baseload production or a more flexible energy source to supplement renewables.

“At the end of the day, it is in the interest of consumers for African countries to use the cheapest available source of electricity. Gas is likely to play an important part in a future system in which energy supply is structured so that the least-cost energy sources can be employed most often.”

## **Effective policy**

Kilian mentions concerns about policy and political consistency as a foundation for energy developments in Africa. Kenya and Ghana are examples of governments that are making positive policy adjustments aimed at providing confidence to investors, and these efforts are attracting investment in energy projects.

“It is clear that policy uncertainty will discourage investment. It’s therefore no surprise that there is significant focus on the latest problems in South Africa regarding renewable energy and independent power projects (IPPs) – when Eskom appeared to be holding back on signing off power purchase agreements with providers.”

He says it’s vital for the regulatory regime to be transparent and consistent, particularly as South Africa’s renewable energy IPP procurement programme has been so successful that it was viewed as a model approach across the continent.

## **Infrastructure and development funding**

One of the key obstacles to broader energy access in Africa is the quality of the existing grids, which limits the ability of new power generation to be effectively harnessed and distributed. The good news is that development funding for energy projects is available and is increasingly used to bridge the gap when governments are not able to provide the necessary guarantees. On the down-side, however, many projects are still plagued by delays.

“The roll-out of large projects – both generation and distribution – has in the past often been delayed by a lack of alignment between in-country regulatory requirements for environmental and social approvals, and those standards set by the lenders themselves,” says Stewart.

“Working with the South African Power Pool (SAPP) to address key factors behind these delays, SRK has developed an environmental and social management framework (ESMF) to facilitate the screening of projects in line with lenders’ requirements,” he says. “This will help accelerate the implementation of SAPP’s priority projects in the region, which promise to extend access to affordable electricity.”

Stewart says the ESMF would ensure that the project development teams within the utilities and independent power producers (IPPs) are more aware of the project funders’ requirements. It would also facilitate the earlier involvement of these institutions’ environmental and social experts in the project planning process – as early as the concept phase and prefeasibility stage.