

The future of SA utility management into 2022 and beyond

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Now, more than ever, attention in South Africa has shifted to how best generate electricity at affordable rates and how to optimise utility management during these uncertain times. The National Energy Regulator of South Africa (Nersa) recently approved several electricity generation licences for floating power ships - could this become a viable alternative for the future?



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As the name suggests, a power ship is a special purpose ship on which a power plant is installed that can provide developing countries with ready-to-go infrastructure that plugs into the national grid when required. Essentially, a power ship is a fully self-contained power station. Each power ship has capacity for its own generation, electrical control, and substation components. The ship also has a maintenance workshop and engineering capabilities.

The three licences (awarded to Karpowership SA) are expected to generate 60% of the 2,000 megawatts of electricity targeted under the Nersa Risk Mitigation Independent Power Producer Procurement Programme scheme.

And while there have been questions raised in the media about the awarding of these contracts as well as speculative environmental concerns, power ships generate electricity at an affordable, all-inclusive cost, which comprise all capital expenditure, fuel, and all operational and maintenance costs. The value that these power ships could bring to help alleviate loadshedding concerns cannot be ignored. However, they form only one piece of the increasingly complex puzzle that is the energy crisis in South Africa.

Hydrogen potential

PwC estimates that South Africa could become an exporter of cost-effective green hydrogen to the world given its immense renewable energy potential. According to PwC, the infrastructure needed to export hydrogen is similar to existing natural gas networks and is already being piloted in Australia and Japan. South Africa could leverage its existing and new infrastructure to support this initiative.

So, despite the potential of power ships, renewable energy remains a key element for dealing with the energy issues the country is facing. Hardly surprising then that South Africa's renewable energy sector experienced explosive growth in the past few years and has the potential to create thousands of long-term sustainable jobs and ensure energy security in the future.

Asset management

But what about the potential of enhancing the efficiency of the national energy grid? Municipalities have already begun implementing their own processes to manage this vital asset as opposed to relying on Eskom to take care of everything. Being more efficient extends beyond revisiting traditional operational processes – it includes embracing more sophisticated technologies that improve the way in which assets are managed.

Putting in place better energy solutions can facilitate more efficient economic growth through a sustainable approach. New technology is important in this regard, but it can only be truly leveraged if a smart data platform is in place that can provide

stakeholders with the required insights to pro-actively manage weak areas in the grid, asset management, and even payment from municipal customers.



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Overcoming uncertainties

A 2018 study identified four major uncertainties that will determine the future of utilities not only in South Africa, but the rest of the continent.

Firstly, how will the precarious fiscal position of utilities be resolved to produce long-term sustainability? The solution has the potential to create viable alternative funding models. Secondly, the low quality of governance that currently exists must be addressed through an appropriate regulatory response that facilitates a more enabling environment to use new opportunities in the sector.

The third factor to consider as we approach 2022 is the importance of private and public sector partnerships. Seeds have been sown by individual municipalities who are taking charge of their own environments, but there is so much untapped potential waiting to be claimed. The fourth uncertainty is perhaps the most difficult to plan for as it centres on climate change and its effects throughout the continent. Scenario planning becomes essential.

The comprehensive analysis and better understanding of data – whether it is related to power ships or climate change – is key to identifying the most effective ways to optimise the energy sector in South Africa.

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