**NEWS ARTICLE**

Grid strengthening is critical to mitigate the ongoing impact of loadshedding, says Zutari

**16 May 2023:** Bolstering the grid to enable distributed renewable energy projects to come online as quickly as possible to mitigate loadshedding with winter looming is a major focus in the energy sector at present, says **Janice Foster**, Energy MD at leading consulting engineering and infrastructure advisory firm [Zutari](https://www.zutari.com).

“Everyone is aware of the challenges in the Northern Cape specifically. A lot of that is driven by the fact that our grid is old infrastructure, and really designed around big base load technology,” says Foster. In terms of load distribution, the focus is on the main urban centres in the north-east, where the main coal supply is located as well.

“The more distributed parts of the network are therefore not as strong, so there are limitations in terms of volume.” Foster uses the analogy of a water pipe, explaining it can hold only a certain volume of water. Similarly, an electricity cable can only carry so much current, and at the moment that is at capacity in the Northern Cape.

“That is very closely linked to the unbundling of the transmission network which, according to the latest timeline, will be finalised in the third quarter. That is good news because it covers the unbundling of Eskom’s debt and enables more investment into transmission. I am very positive about the impact that will have,” highlights Foster. However, she cautions that major transmission substations take two to four years to complete. “It is not part of the short-term solution, but it is absolutely critical for the long-term success.”

Commenting on the Renewable Independent Power Producer Programme (REIPPP), where Zutari has played a leading role in the bulk of the successful bids, Foster says most Bid Window 4 projects are online and operational. In addition, most Bid Window 5 projects have closed and are entering construction phase. “There have been some preferred bidders for Bid Window 6, but that is where we saw the first impact of the grid constraints.”

The Zutari energy team is under immense pressure at the moment, as every new project that connects to the grid has to complete a grid study in terms of integration and optimisation. “We carry out a lot of early-stage strategic advisory type work where we strive to understand client loads and their energy requirements and how they can best address these,” explains Foster.

This can include a mix of potential on-site renewable generation and storage, balancing this against the grid, or taking advantage of new regulation that has enabled clients to buy directly from Independent Power Producers (IPPs) and wheel through the grid. “There are lots of options, and we definitely support our clients to find an optimised solution for their needs.”

Foster adds: “That is why I love the energy sector, which is incredibly dynamic and fast-paced. The regulatory environment is changing, the technology is changing, the needs are changing. It is a great example of a sector having to solve multiple complex problems on the fly.” It is spurring increased innovation in the energy sector, not only in terms of technology, but also solutions based on a systems thinking approach.

“Essentially, we are moving away from one big generator as an offtaker, that is our electricity utility, to multiple variations of how these projects are procured, constructed and how the entire solution is packaged,” says Foster. “Historically, generation comprised massive capital investment projects. As that has evolved, the opportunity for smaller private players to be involved is more real.”

Foster warns that privatisation has its pros and cons. “We have seen in parts of the world where separate transmission, distribution and generation entities has worked well, and other parts where it has not. However, I think an independent system operator is important, irrespective of how the balance of the system is owned and operated.

“The other side of the coin is private investment comes with significant levels of due diligence. From what we have seen in the renewables space, the majority of projects run on time. Any overspend is carried by the investors as they already have a tariff locked in, so there is high pressure on coming in on budget as well,” says Foster.

On the technology front, the IPP Office released an RFP for Batter Energy Storage Systems (BESS) in March, with that bid date closing in July. It encompasses five to seven sites predominantly in the Northern Cape to support grid strengthening. “We are seeing projects from small scale up to utility scale considering storage as part of that solution. It is not yet at the point where they are all going that way. Definitely from two years ago when it was very unusual, it is now very common,” notes Foster.

While there is a huge amount of interest and investment in green hydrogen, Foster says it is early days yet. “It is not going to have a major impact in the short term. It remains to be seen when we will see any projects of scale coming online.” Looking at e-mobility, which takes advantage of the growing distributed energy network, Foster says it is mainly focused on the bus and larger commercial vehicle segment. Uptake in the passenger vehicle market is being driven by the more affluent, large due to the tax structure around importing electric vehicles.

However, Foster cautions that both the UK and Europe have committed to halting the production of Internal Combustion Engine (ICE) vehicles by 2025, which could propel South Africa into a quicker rollout than it is experiencing at present if new vehicle production lines globally switch to electric vehicles. In Africa, Kenya is an example of a market where e-vehicle adoption is well ahead of South Africa, mainly due to a different tax environment for vehicle importation.

In terms of the Just Energy Transition and South Africa’s push for renewables and decarbonisation of major industries, Foster says the short-term focus “must be to address loadshedding, because that impacts the poor much more than the wealthy. Anyone who can afford to is starting to look at a plan and what that plan can look like to create energy security in a personal or private capacity. Those unable to do that, especially individuals and small businesses, are and will continue to suffer the most. In terms of social impact, and not just from the perspective of the Just Energy Transition, it has to be an absolute priority,” concludes Foster.

**Pull quote**

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**Notes to the Editor**To download hi-res images for this news article, please visit <http://media.ngage.co.za> and click the Zutari link to view the company’s press office.

**About Zutari**

As an engineering and advisory firm, we believe infrastructure has unparalleled potential to create enduring impact. Never more relevant, this potential can be realised only if we plan, design, deliver and manage infrastructure in ways that maximise its value. Our work in water, transport, energy, resources, and built-environment infrastructure does just this – helping to nurture thriving communities, growing economies, and healthy environments.

At Zutari we understand that radical impact doesn’t just happen; it requires more of us to connect differently, work smarter, and stay rooted.

**We connect differently**. Our broad collective of in-house experts connects across traditional disciplines to provide integrated results. We collaborate with clients, partners, and end-users, leaning into diverse perspectives to create superior solutions - together.

**We work smarter**. Our people lead the industry. We draw from deep technical skills, accrued over decades, and embrace the transformative power of digital technology to find simpler, better, and more innovative ways to deliver value.

**We stay rooted**. Few can rival our local capacity and understanding. Building on solid foundations, now 90 years in the making, we are trusted to shape locally relevant solutions through our extensive footprint in Africa and the Middle East.

At Zutari our people connect differently, work smarter, and stay rooted. Working in this way, we reliably deliver impact through infrastructure, making the world a better place – one project at a time.

**Zutari Contact**

Malebusa Sebatane

Marketing & Communications Manager

Zutari

Email: Malebusa.sebatane@zutari.com

Tel: (012) 4272000

Web: https://www.zutari.com

**Media Contact**

Rachel Mekgwe

Senior Account Executive

NGAGE Public Relations

Phone: (011) 867 7763

Cell: 074 212 1422

Email: rachel@ngage.co.za

Web: [www.ngage.co.za](http://www.ngage.co.za/)

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