

A future beyond the energy crisis

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Scenarios and solutions for SA and SADC energy crisis

Future economic growth in South Africa and the Southern African Development community (SADC) will require diverse energy sources and an updated infrastructure to ensure supply meets demand. As millions of new households consume power from national grids, coal-fired or nuclear sources will not be able to keep up with the pace. "Alternative energy solutions have to become part of the future energy mix," says Grant Pattison, Chairman, NRG Renew Africa.



"The future of energy is changing," explains Pattison, "where SA used to have one large centrally controlled transmission network, with the increase in gas and solar power and production efficiency high at the point of production, there is a very real business case for cutting the cost of transmission altogether and producing energy at the point of need."

Both South Africa and Southern African Development Community (SADC) have significant natural energy resources. But due to the economic downturn, these countries are unable to effectively tap into many alternative energy solutions, meaning that they are trapped with coal as the primary energy resource and unable to keep up with increasing energy demand.

Marius Oosthuizen, Strategic Foresight lecturer at The Gordon Institute of Business Science, explains, "In research conducted on current factors affecting the energy supply, production, consumption and security in South Africa and SADC, there is a strong argument for a united regional approach to addressing energy challenges. South Africa has a prominent role in the SADC region, particularly in the way energy policies will progress in the future."

One of the greatest challenges is the development of the required infrastructure to deliver energy solutions. South Africa's current drive towards re-industrialisation, which will support economic growth and job creation, is hampered by its ageing infrastructure. This infrastructure will require further investment to develop a sustainable energy solution that can deliver alternative energy solutions to meet its re-industrialisation objectives.

The industry sector hit hardest by energy disruption has actually been the FMCG/manufacturing sector. While mines can reduce operational capacity, the FMCG manufacturing sector can't switch off without incurring costs associated with material waste as well as production losses, not to mention that SA has a struggling manufacturing industry as it stands. So couple this with the plan for re-industrialisation and the country is at a departure point in its energy supply.

"Africa is a continent rich in both solar resources and in opportunity for distributed generation solutions and the needs and interest of the South African business community in grid resilient clean energy solutions is compelling," said Pattison.

Governments in the Middle East and North Africa region understand that smart grids are critical to future growth plans and so these projects are largely state-driven. "The real crisis in the energy space is going to be costs associated with the transmission network. Smart grids have to be part of Africa's energy solution," explains Pattison.

According to research conducted by GIBS, the energy challenges facing the continent can be set out into three scenarios: a baseline scenario whereby the energy landscape remains highly politicised, an alternative scenario whereby collaborative solutions between public and private deliver the solutions required and, a third whereby technology disrupts the entire energy supply chain.

"The alternative scenarios emphasise the need for a range of policy and governance commitments in addition to robust collaboration with the private sector, to leverage the economic opportunities available in the region," explains Oosthuizen.

Picking up on public and private collaboration, Pattison says, "There needs to be a hybrid solution whereby there is central control over planning but, decentralised energy production, funded through government and private funding. There is now a mix of big utilities and small independently owned private companies. State-run utilities no longer meet all energy needs and so distributed generation is the global trend for the future."

These scenarios feature in the research report, *The current state of energy in SA and SADC*, which will be presented at the NRG Renew GIBS Energy Crisis conference, 28-29 October, to be hosted at GIBS. The conference will also include discussions on capital investment, technology in the energy sector, risks and business continuity planning.

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