

WEBINAR KEY TAKE-OUTS

Reform of SA's energy sector: A pipe dream or a window of opportunity

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The panellists were:

- Chris Yelland: Energy expert and Founder of EE Business Intelligence
- Bongile James: Investment Analyst, Futuregrowth
- Paul Semple: Portfolio Manager & Head of Unlisted Credit, Futuregrowth
- Maseabi Marageni (Facilitator): Head of Business Development, Futuregrowth.

WITH GREAT POWER COMES GREAT RESPONSIBILITY

These words come to mind when one thinks of energy reform. The energy sector in South Africa (SA) requires reform, and this mainly stems from Eskom's financial and operational challenges and its inability to sustainably meet the nation's electricity demands.

Eskom's power plants also have a very poor environmental performance with SA producing more carbon dioxide (CO₂) from its various coal-fired power stations than all the CO₂ produced by China, the USA and Europe combined.

SA has done very little to address its extremely high carbon emissions. Eskom has estimated it will need about R33 billion to re-purpose its coal-fired power stations to produce cleaner power, but there are significant financial constraints facing Eskom and government in implementing this process.

Energy reform needs a combination of political will and the assistance of the private sector to address the three pillars of sustainability at Eskom: its very weak financial position (it cannot service its debt from its current operational cashflows); its operational problems (the very old fleet, giving rise to persistent loadshedding); and its environmental impact.

The other notable key take-outs from the forum were:

A NEW LOOK IRP

- A new, refreshed Integrated Resource Plan (IRP) is required to address the gaps caused by plant decommissions and delays in bringing planned power on-stream. Eskom's "energy availability factor" has been on a downward trend for some years now – indicating the significant operational problems with the Eskom fleet. Since the current IRP was published in 2019, not a single additional MW of energy has been procured, and Chris Yelland believes there are significant gaps in the current plan, with elements that are not financeable (e.g. new coal) - and he doubts that the planned hydro projects from the DRC will happen.
- The IRP needs to be urgently updated to accord with current realities. Public procurement is very slow, and the private sector needs to be part of the solution to address the gaps in electricity supply over the next three years.
- Paul highlighted the tendency of government policy to be too focused on planning and not enough on execution. Given the magnitude of our electricity supply problem, there should be a focus on bringing new energy onto the grid as soon as possible. This is where the private sector can play a role: we have the capital to invest in bankable projects. The Renewable Independent Power Producer Programme (REIPPP) highlights what is possible - and arguably more could have been done had the project not been stalled by government inaction for six years.
- Bongile emphasised that the REIPPP has been successful, and is an example of what is possible, with 6.4GW of renewable energy procured, 67 new producers connected to the national grid, and R210 billion in capital deployed (with no procurement irregularities or hints of corruption or

malfeasance). These projects have also created 52 000 jobs and spent R1.6 billion in social development initiatives in the communities in which these projects were constructed.

A BLEND OF TECHNOLOGIES

- Dirty technologies are finding it challenging to attract new capital, whereas cleaner technologies, like wind and solar, are able to raise the necessary capital. This may lead to a decrease in funding costs for cleaner energy sources due to supply and demand factors.
- Climate change is a global problem, and international capital markets want to assist in the transition to cleaner energy, but the window for SA to access this finance on preferential terms is closing.
- Nuclear power as a long-term solution is a sensitive topic, partly due to concerns about the process undertaken by the government, historically. The panellists believe that this option should not be dismissed outright, as SA is geographically stable (e.g. earthquakes are negligible), which would mitigate the geological risk. The price of any technology (including nuclear) is critical, as this is normally transferred to the end user (i.e. the consumer) - so it is important that decisions are made based on the least cost to the consumer. If the nuclear option is explored, this should be done in an open and transparent manner. Paul highlighted that we cannot rely on Eskom to procure nuclear power, and any nuclear project would need to be done on a public-private partnership basis. A major concern is that nuclear power plants take a long time to design, construct, operate and decommission (more than 10 years just to construct according to Chris) and electricity generation costs are the most expensive over the lifetime of the plant. At the moment, small modular reactors are not commercially available. Given the pace at which new energy technologies (in the renewable energy space for example) are advancing, it is not sensible to lock ourselves into the long-term projects, technologies or commitments that nuclear projects would require.
- Gas can be seen as a transitional energy source towards green hydrogen, but there are concerns about the environmental impact of gas (there is a lifetime of emissions from the burning of gas) and it thus becoming a stranded asset.
- Blended technology is required to ensure sustainable costs to produce electricity but also to limit energy variability. This combination requires the use of battery storage systems that will limit the resource variability inherent in renewable energy sources. The sun doesn't shine at night for example, and wind can be intermittent, requiring battery storage to ensure that power is available when consumers demand it.

OUR ADVANTAGE AND OPPORTUNITY

- SA has competitive advantages when it comes to renewable energy, such as good sites for solar and wind renewable energy. The electricity grid network is a valuable strategic asset for the country, but it requires expansion and upgrades in order to connect further renewable energy generation sources. SA can also attract fixed investments, as shown in the successful REIPPP projects to date.
- Our biggest challenge is also our biggest advantage, in that decarbonisation costs in SA are low compared to developed markets. Therefore, South Africa is an attractive destination for international funders who want to fund green energy with the objective of reducing carbon emissions.
- Another economic opportunity for SA is that the components needed for new energy technologies can be manufactured locally. If we can obtain a competitive edge in the manufacturing of such parts, this may lead to export markets opening. This is an opportunity to improve industrialisation and reignite our economy.
- The "just transition" requires that any transition to new energy technologies needs to consider various stakeholders, such as communities that have historically relied on coal power stations to make a living. It is inevitable that a transition to cleaner energy will occur, but this should consider the economic impact on the various stakeholders and can be considered an opportunity to bring those affected along on the journey.

- Chris believes that localisation should not be driven at a project level – it should rather be demand driven. We need to look where we have a competitive advantage in global markets, and this will lead to a sustainable localisation industry. This also needs policy certainty and a regular programme of projects so that the value chain can prepare accordingly.

CONCLUSION – A WINDOW, NOT A PIPE DREAM

The panellists concluded that the energy sector in SA is at a tipping point. We are in a pioneering phase with new technologies and have a proven track record of public–private partnership (as demonstrated in the successful REIPPP rounds). We can become a global leader again – as we were 10 years’ ago. An abundance of capital is waiting to invest in bankable projects, and we need government to create policy certainty and open up the sector.

Energy reforms in South Africa come with great responsibility. We believe this is not a pipe dream, but a window of many opportunities.

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