

Energy: what has changed

30 September 2020

A mountain of debt and load shedding. These are the two things at Eskom that concern South Africans' most. In March we wrote about energy and Eskom in great detail, so what has changed since then?

Debt

Eskom's debt has grown to R488bn. The company has no way to repay that from operations. However, in various public statements CEO André de Ruyter has revealed his plans on how to deal with the debt.

Several governments, international development institutions and banks are willing to replace current Eskom debt with cheaper "green money", on condition that Eskom transitions from coal-fired power to cleaner energy. Governments and development institutions want to see a reduction in global emissions; banks want to ensure that they will be repaid their current loans to Eskom, so refinancing at lower rates suits them. Dealing with debt and transitioning to green energy have become two sides of the same coin.

The transition to cleaner energy is already part of South Africa's IRP (Integrated Resource Plan), approved in 2019. It envisages the decommissioning of some 11 000MW of coal-fired power capacity by 2030 and some 24 000 MW after 2030. Coal will be with us for a long time, but its role will be ever declining.

Part of De Ruyter's vision is that existing Eskom power plants can be refurbished as gas-fired stations and land adjacent to power stations used for solar energy. He observes that though the Northern Cape is ideal for solar energy, Mpumalanga has more sunshine than Germany, where solar power forms a large part of generation. Eskom itself may form joint ventures with private companies by putting the power stations and adjacent land into joint ventures as a capital contribution, with private sector partners providing the cash to refit stations for gas or build renewable plants.

The way out of debt and to a stronger balance sheet is greener power. A target date that suggests itself for debt restructuring is the next global climate change conference in Glasgow in November 2021.

Load shedding

Load shedding is determined by three things: maintenance, Medupi and Kusile coming online, and new generating capacity.

In a presentation to parliament in September, Eskom stated that "deep **maintenance**" will be completed by March 2022. Until then, plants will be taken out of commission for proper maintenance, which can lead to load shedding.

As we wrote in March, the cooling towers at **Medupi and Kusile** are 12m too short and must be lengthened to enable full capacity. This takes 75 days per tower. The current completion dates are 2021 for Medupi and 2023 for Kusile.

The most dramatic change since March concerns **new capacity**. The green light has been given for nearly 14 000 MW new capacity to be installed by 2024. This is big: consider that Eskom can produce about 34 000 MW on a good day. The 14 000 MW is part of 30 000 MW to be procured by 2030. All of it will be procured from independent producers. A big boost for investment.

The 14 000 MW consists of two rounds. The first is 2 000 MW of "emergency power". Following the shock of Stage 6 load shedding in December 2019, Mantashe referred it to NERSA in February 2020; the regulator gave concurrence at the end of May; the procurement was gazetted in July; the tender documents went out at the end of August; bids close in November and preferred bidders will be announced by 15 December, one year after the shock load shedding. (The slow pace is exasperating for a country in load shedding.) The power must be available not later than June 2022.

The bid documents require that the energy must be "dispatchable", meaning it can be switched on and off as power is required. Neither coal nor nuclear power plants can do that. Switching solar and wind power on and off is not really in human hands. The implication is that the 2 000 MW will be gas. Gas is 50% cleaner than coal. It fits with the

vision of green power and to refurbish some Eskom power stations for gas. Existing diesel plants can also be converted to gas, making them cheaper to run.

The real boost to capacity will come from the second round: the 11 813 MW for which NERSA gave concurrence in July and which was gazetted on Friday 25 September. The bid documents will be out by end December. Realistically, 2021 will be used for the auctions and selecting the bidders, finalising contracts, and putting finance in place. Construction will probably commence in 2022. Energy can flow by mid-2023.

(Again, the delays in approval are exasperating. The IRP was published in October 2019, the 11 813 referred to NERSA in February 2020, concurred to by NERSA in July, and only gazetted end September....)

Investment

The 2 000 MW emergency power is expected to generate investment of R80bn by June 2022.

The investment impact of the 11 831 MW will only become clear as the auctions proceed, but it is useful to remember that 6 000 MW in renewables since 2011 has generated more than R200bn in investment.

The IRP envisages that after 2030 more coal fired capacity will be closed and more new capacity be built. Apart from greener power, these plans support industrialisation and will dramatically expand the gas industry. Energy is indeed the new investment frontier in South Africa.

Eskom unbundling

In 2019 the president announced the break-up of Eskom. Eskom met the March 2020 target date for functionally separating into three units: generation, transmission and distribution. Accounting, IT, HR and administrative systems are now being disentangled and reconfigured. The next big step is legislative change to separate the three companies, probably in 2021. Connect the dots and it is clear Eskom is under severe pressure from cabinet to make this happen.

The most important element of a legislative split is an independent transmission company. That will open the door to competition in generation and distribution; drive transparency in prices; squeeze inefficiencies out of the system; and pave the way for private investment in both generation and distribution. Transmission will remain state owned and controlled.

Politics and electricity

Over the last two and a half years, the Ramaphosa government took several decisions on Eskom and electricity. We summarised them in March. Since then we have seen consistent if slow implementation. It includes the resumption of signing IPP contracts in 2018 (two months after Ramaphosa took power); the decision in 2019 to break Eskom up; substantially overcoming the resistance to such break-up by 2020 (no small political feat); the launch of the IRP with 30 000 MW of new capacity, 70% of which are renewable; and the green light that has now been given for 14 000 MW to be procured. Because these decisions were spread out over two and a half years, the impact on the public mind is diffuse, but that does not make them less real.

The much talked about Treasury paper lists 10 “to do” actions in respect of electricity and Eskom ... 8 of them have been done or are being implemented, two are still outstanding.

If one is looking for political decisions and political will on the economy, the energy decisions are it.

Still outstanding

The timelines outlined above clearly illustrate that the current system is too time-consuming. In fact, one of the two outstanding items on the Treasury’s “to do” list, is to “shorten the NERSA turnaround times”. (The other is that municipalities should be made less dependent on electricity income.)

Not mentioned in the Treasury paper but certainly very real, is the requirement for sec 34 ministerial determinations before capacity can be installed. It makes the system very rigid. Within appropriate guidelines, producers who want to risk their capital and generate power should be allowed to do so, selling to any willing buyer. The door has been opened for municipalities to buy power from providers other than Eskom. It needs to open

wider. More competition will serve everybody better.

Own generation must also be made easier and the re-sale of such power to other parties permitted. Currently, generation above 1 MW requires a cumbersome licensing process, restraining South Africa from using own generation opportunities to the fullest. The CSIR estimates that between 2 000 MW and 5 000 MW can be installed in this way. If they are half-way correct, load shedding can be resolved much more quickly.

This note focuses on generation only, but distribution is a big outstanding issue. Municipalities largely neglect the distribution networks, increasing breakdown risks. Distribution technology is also changing fast, offering many new possibilities. After generation, it is the next big thing to tackle.

So What?

- The biggest change since March is that the green light has been given for 14 000 MW of new capacity to be installed by 2024, largely from renewables and gas. The IRP is being implemented.
- It is now clear that the debt can be resolved by transitioning to a greener economy. Debt restructuring and greener power go together.
- New capacity and the move to greener technologies will generate many billions of rand of investment over the next two decades. It is the new investment frontier.
- Load shedding is likely to be with us for another 18 months or so till March 2022.
- The energy landscape has shifted significantly since our note in March 2020. That is the cumulative result of several government decisions over the last two and a half years. It illustrates political will, despite a lamentable lack of urgency, and meet most than the actions in the Treasury paper on energy.
- Governance is also about perceptions: confidence generated by electricity decisions will be undermined by the mooted bailout of SAA. Two steps forward, one step backwards.

REQUEST FOR FEEDBACK PLEASE:

I would very much like to hear your thoughts on the 3 or 4 things that SA should get right in the next 5 years. That way we can do longitudinal research and focus our efforts on what is important to you. Please feel free to drop me a note on jpland@iafrica.com