Eskom – more than just looting 12 March 2019

Recently, Trevor Manuel said at the Zondo commission on state capture that Eskom was once the envy of the world. Indeed. In 2001 it was crowned the global "Power Company of the Year". In 2004 it was SA's "most admired brand."

Corruption, maladministration, looting and the wrong people in the wrong jobs put an end to that.

But something else played a role too: the changing world of electricity provision. Even if not a single cent was stolen at Eskom, the utility would still be in trouble. It is worthwhile tracing the underlying structural forces at work.

It started with diamonds and gold

The first electric street lights in SA were switched on in Kimberley in 1882, thanks to diamond mining. Then came the discovery of gold on the Witwatersrand in 1886.

In 1906 the Victoria Falls Power Company (VFP) was established, aiming to supply mines in SA with hydro power. This scheme was abandoned due to technical and financial difficulties, and the VFP started building coal-fired power stations. Thus commenced the era of coal as the country's primary source of energy.

Gradually the idea of one central supplier providing electricity at low prices took shape. Eskom was established in 1923. It took over the VFP in July 1948 in the last big transaction the founder, Hendrik van der Bijl, initiated before his untimely death at age 61. In the ultimate triumph of the idea of one central supplier, Eskom became the country's central integrated supplier of power, with a country-wide transmission grid.

Those two features, coal-fired power stations and one dominant integrated supplier (in due course a monopoly), became the defining characteristics of the SA electricity industry.

Cracks started appearing

The monopoly model served SA well for several decades, but strains started appearing in the 1970s, mainly on pricing.

In 1977 government tasked the Board of Trade & Industry to investigate "the effect that increases in electricity tariffs had … on the cost structure and competitiveness of the SA economy". It made no difference. Tariff increases continued and consumer and political pressures against it mounted. In 1983, government appointed the De Villiers Commission of Enquiry, which submitted a hard-hitting reported in 1984 with several recommendations, mainly financial, aimed at curbing the rising cost of electricity.

In electricity circles another idea started to take hold: independent power producers should be allowed. This would promote competition and drive efficiencies, curbing the cost of electricity. The monopoly model was being questioned, but it remained in effect.

The 70/30 decision and U-turn

Four years into democracy, in December 1998, the Energy White Paper foresaw independent power producers and a shrinking market share for Eskom. The idea was that there should be more competition in the industry and more choice for consumers. Cabinet decided that Eskom would build no new power stations, and that new private producers would in time produce 30% of the country's electricity, with Eskom's share decreasing to 70%. In 2001 the Eskom board recommended that the utility should be split into two businesses – generation and transmission.

All these good intentions came to naught. Several factors played a role, price being a major one – nobody could build a new power station and still produce power at the price Eskom did. (Eskom itself of course could not do that either, as evidenced by subsequent hefty tariff increases to pay for new build.)

With no one building any capacity, the country experienced its first load-shedding in 2007. The decision was taken to build not one, but two power stations simultaneously – Medupi and Kusile. The 70/30 decision was abandoned. It was up to Eskom to solve the capacity problem.

After years of not having built a plant, with skills and capacity demobilised, Eskom suddenly had to build two!! Things were bound to go wrong.

Independent power producers

Around 2009 government decided that renewables must become part of the energy mix. Tenders were called for. The first contracts with independent producers were signed in 2012 and construction commenced in 2013. Currently non-coal IPPs deliver about 5% of the country's electricity, which is set to increase further.

Since those first contracts the cost of solar (photovoltaic) power has declined by 80% and wind power by some 60%. These are now the cheapest new-build technologies available in SA – much cheaper than coal. They also enable embedded power – small-scale production close to the point of consumption. Eskom's rising tariffs spur on this trend. Solar panels are appearing everywhere. New battery technology makes this option ever more attractive.

Death spiral

These developments put Eskom into a "utility death spiral" – as new technologies provide alternatives, traditional utilities sell less power, forcing an increase in their prices, causing less to be sold … exactly where Eskom finds itself. It can no longer cover its cost of capital and is heavily reliant on state subsidies (R23 billion a year for the next ten years). Even if every cent at Eskom is spent wisely and prudently, it cannot escape the utility death spiral.

Clearly something has to give, and what is giving is the monopoly supplier model. The decision to split Eskom in three is the beginning of the end of this model.

Hindsight is perfect, but not following through on the 1998 vision is where things went wrong.

Shape of things to come

In terms of the break-up plan all Eskom's power plants will go into one business, a generation company.

The power generated will be sold to a second company, which will house Eskom's transmission infrastructure. Critically, this company will buy power from both Eskom and independent producers and sell it on to distributors (e.g. municipalities, large customers).

A third company will house Eskom's retail distribution network which connects households and businesses to the national grid.

Initially only the transmission company can hope to be profitable. Generation and distribution will have to be supported (that is probably where the R23 billion a year for ten years will go).

Will it make a difference?

Some of Eskom's plants are old and will have to be closed. Others can be sold off to retire debt and provide funds to complete Medupi and Kusile. The generation company could also take on private capital to help Eskom build its own renewable energy plants, but it will first have to digest Medupi and Kusile.

As the transmission company starts buying more from alternative producers, it will pile competitive pressures on Eskom generation, with plants having to "shape up or ship out". IPPs' 5% share in the market can be scaled up significantly. That 70/30 target of twenty years ago can now be achieved. New sources like gas can now be developed and the power sold to the transmission company.

A critical question is whether consumers would be allowed to buy power from producers of their choice. If choice is limited, it will probably be challenged in court (which is already happening in the Western Cape).

Distribution is at the interface with the consumer and a much-neglected area of SA's electricity system. Municipalities have not maintained the distribution grid. Last Friday's power outage in Johannesburg and Midrand illustrated the severe disruption caused by faulty distribution. It needs dedicated attention, which a focused company can provide. This is also where the problem of non-payment will manifest. Government will have to decide how to deal with that.

With three different businesses SA will have a clear line of sight on utilisation of capital, efficiency of operations and performance in comparison with other similar operations. It should promote focus and singularity of purpose. It will introduce flexibility and options and allow for the introduction of private capital. It will also make it easier for SA to meet its commitments under the Paris Agreement. Overall, the change will make for a better electricity industry.

Why capital is better than debt for new build

A critical issue is that currently Eskom must use borrowings from the capital market to finance new power plants. It does not have the option of inviting private investors to put in capital to build new plants. Simple arithmetic shows why this must be reconsidered.

Let's assume it cost R100 to build a plant and the full R100 was borrowed at 9% interest, with the capital repayable after 20 years. At the end of the period, R180 would have been paid in interest (R9 p.a.). Add to that the capital of R100, and a total of R280 would be repaid on a loan of R100. If the debt was structured differently and repaid from the beginning (like a home mortgage), the annual payment would be R10,95 p.a.. That will bring the total over 20 years to R219. Still more than double the R100 borrowed, but less than R280. Also, more money would be needed at the beginning (R10,95 vs R9 p.a.) so tariffs would have to be higher initially.

Now assume the R100 was raised as capital from shareholders. Further assume they want a 10% return on their capital, not 9% (a very good rate when compared to 10-year bonds and property REITs on the JSE). After 20 years the utility would have paid out R200 in dividends – less than the R219 or R280 repayable in the case of borrowings.

The capital does not have to be repaid, it remains in the business. How then will the shareholders get their R100 back? They sell their shares on the secondary market to other people who would like the benefit of R10 dividend a year. Shares in utility companies are very popular with some classes of investors – it is a real "widows' and orphans' share" or a "defensive stock".

It is clear from this simple sum that tariff increases could be contained if the capital investment for a new plant did not have to be repaid. Breaking up Eskom opens the door to this kind of financing.

Political opposition

There is of course intense opposition to these plans in some circles. Trade unions have already expressed their dismay. Beyond that we find an unlikely 'coalition' of erstwhile Zuma supporters, genuine nuclear enthusiasts, supporters of the monopoly model and the usual suspects of political protest, all united in opposition. They are vociferous users of social media to express their views and propagate all kinds of conspiracy theories.

It is unlikely that they will derail the process of change. The Eskom crisis is now so profound that the only way out is to go forward. A U-turn now will be more devastating than the U-turn in the 2000s on the 70/30 decision. The Eskom model served SA well, but it is about two decades past its sell-by date.

So What?

- Eskom is a national worry for two reasons: generating capacity and debt.
- A once proud institution has been laid waste by looting and corruption, but historical structural forces also play a role.
- The Eskom model was developed half a century ago: a single integrated supply and distribution system with effectively a countrywide monopoly.
- Crises of finance, delivery and management have now forced a change. Eskom will be broken into three.
- This will make it possible to open up the system to private investment, which could go some way to deal with the debt.
- There is opposition to the plan, but it is unlikely to derail it.