

Eskom has a long and rich history, with its roots and growth intertwined with the industrialisation of South Africa. This quarter we look at how Eskom came to be and the current challenges facing the biggest power producer in Africa.

The first lightbulb was demonstrated in 1860 at the Castle of Good Hope - signalling the dawn of electric lightening in the country. It would however take another two decades before Kimberley proudly became the first town in South Africa with electrical street lighting and 16 lamps.



*Streetlamps in Kimberley*

Electrical use was mostly limited to smaller mines and factories that were able to generate their own electricity. Use of electricity expanded with time, and eventually larger cities such as Cape Town, Port Elizabeth and Johannesburg constructed their own small generating plants to power public services like trams.



*Electrical tram in Cape Town*

Gold was discovered in the Rand, necessitating the construction of bigger power stations. In 1906 the “Victoria Falls Power Company” (VFP) was formed to consolidate existing generating capacity and import power from Victoria Falls. With an abundance of mineable coal supplies, the Victoria Falls Hydro station plans were abandoned, but the VFP did obtain concessions to supply power to the mines and constructed multiple power stations and a network serving the mines.

By 1918 the South African Railways (SAR) considered the feasibility of using electrical power, rather than steam. The SAR commissioned a research report that was presented to government, resulting in the Electricity Act of 1922. Government appointed the brilliant Dr Hendrik Johannes van der Bijl to spearhead the widespread electrification of South Africa. His Task: “stimulate the provision, wherever required, of a cheap and abundant supply of electricity” And So ESCOM (Electricity Supply Commission) was born on 1 March 1923.

ESCOM proceeded to build power stations around the country. The first was a hydro station at Sabie River, followed by stations in Salt River for Cape Town and a further station near Witbank. During this time, VFP was a for-profit company that still had concessions and a monopoly in certain areas, while ESCOM was a state-owned entity created to facilitate industrialisation.

With the continued growth of the mining industry, it became clear that further generation capacity was needed. ESCOM raised capital in debt markets and contracted VFP to develop and operate further power stations on its behalf. Numerous power stations were constructed or expanded in most regions around the country in the following years. During this time, ESCOM was financially strong and was able to repay the initial debt owed to government, raising further capital for planned projects.

By 1948 the concessions granted to VFP came to an end and ESCOM purchased all VFP assets, consisting of power stations, transmission lines and substations. In the post war years, economic growth was strong and during the 1950’s ESCOM built a further 8 stations country wide, more than doubling existing capacity.

Economic growth, industrialisation and power needs grew throughout the 1960’s and by 1972 ESCOM had establish a countrywide generation and transmission network that made it possible to export power from the coal rich Eastern Transvaal to Cape Town. An abundance of cheap coal in the north as well as scale and operational efficiency meant cheap and abundant electricity facilitating economic growth. During the 1970’s -1980’s some of the biggest coal-powered plants in the world were constructed and currently still serve as the base load for South Africa decades later. The Koeberg nuclear power station was commissioned in 1984, marking a first for the continent.

Widespread electrification and electricity supply to rural communities continued and Eskom's user base grew dramatically, but many smaller municipalities supplying the new clients were not financially viable. The first of Eskom's subsequent financial problems started with these municipalities not being able to pay Eskom for electricity delivered. The increased demand, without further building of generation capacity, also resulted in what would widely become known as "load shedding" in 2007.

The following decade was indeed tumultuous for Eskom, with numerous governance issues, management changes and allegations of corruption. Lack of generation capacity increased the need for more power plants. In 2008, construction started on the now infamous Medupi and Kusile power stations. Medupi and Kusile have been plagued by mismanagement, project delays, engineering faults and corruption.



*Kusile Power Station Construction*

Debt started increasing from 2008 with these new-build projects. A significant proportion of operating profit goes to service interest payments and the South African Government has made numerous capital injections since 2015. Eskom currently has approximately R450 Billion Rand of debt.

Eskom faces another challenge, in that operational and governance failures have resulted in older generation plants falling into a state of disrepair. Although electricity tariffs have been increasing above inflation for the last decade, revenues generated by Eskom have not been sufficient to cover the replacement cost of existing assets.

Eskom finds itself in the unfortunate position of being lossmaking, highly indebted and without the financial capacity to replace assets that are reaching the end of their life in the next decade. With around 75% of Eskom's debt backed by government guarantees, and the country also facing a possible sovereign debt crisis, continued bail outs are not a feasible solution. Failure to address the current issues will have far reaching consequences. The success of the country is intertwined with the success of Eskom. Only time will tell if Eskom is able to address its numerous issues while keeping the lights on in a time of heightened economic distress exacerbated by the COVID-19 outbreak.