



Transformation in the Electricity Supply Industry

1. Introduction

South Africa's economy and business environment consists mainly of energy intensive industries including manufacturing, transportation, mining, and agriculture. These are some of the main contributors to the country's gross domestic product (GDP) and to economic growth. There is a series of connections linking most of these industries – and their abilities to achieve economic growth – to the electricity supply industry. Electricity supply thus has great implications for economic growth, and is therefore considered to be the largest indirect contributor to the country's GDP. South Africa's industrial decline and falling economic growth are directly associated with decreasing sustainability and certainty in the provision of electricity, as the electricity supply industry continues to decay. The power crisis that quickly escalated to a 'national emergency' in 2008¹ served as a perfect example of such a co-dependent relationship between the economy and electricity supply. During this period most local businesses were affected and the country lost significant contributions in foreign investment and opportunities, resulting in massive job losses and increasing poverty.

Eskom is solely responsible for the generation, transmission and distribution of electricity in South Africa; this makes the utility a vital entity, on which the country's economic development is entirely reliant. The utility is grappling with a debt of over R450 billion, which continues to grow as it struggles to collect revenue from its customers, most of which are municipalities.² The problem is exacerbated by Eskom's inability to provide sustainable and reliable electricity services due to operational problems. Most of Eskom's power stations are old and due for decommissioning, including Komati, Grootvlei and Camden, which

have been scheduled for repurposing through an expression of interest published by the utility recently.³ For a very long period during the Jacob Zuma administration, some of these power stations were utterly neglected and not maintained, resulting in the kind of technical failures currently being experienced.

2. Eskom and Development

Due to financial strain and operational challenges Eskom, as a development oriented entity, has neglected its primary objective of ensuring electricity access and availability to those who need it, individuals as well as corporates. While it strives to become profitable and to sustain itself as a business, energy poverty in South Africa remains a serious challenge. Statistics indicate that there have been gradual but significant improvements in electricity supply in comparison to other services. Household connections increased from 76.7% in 2002 to 84.7% in 2018, especially in rural parts of the country including in the Limpopo and the Eastern Cape provinces.⁴ Despite these improvements, there is an increasing challenge concerning affordability and reliability of electricity for many households in metros and rural areas. Due to frequent interruptions and constantly rising electricity prices, the number of households that use electricity for vital activities such as cooking and heating continues to decline; many can afford to use it only for lighting and powering small devices. Moreover, there is a growing number of households that use electricity without paying for it, which remains a problem mainly in metros.

The challenges extend to small business enterprises which battle with ever-increasing electricity tariffs, which Eskom has to implement in order to stay afloat. These costs are transferred to consumers, most of whom are already struggling to afford basic necessities. Most well established businesses venture into alternative energy exploration; solar PV and biomass combustion are widely becoming more popular with businesses and institutions, including agriculture and schools in some cases, whilst household embedded generation and battery storage is gradually gaining momentum.

3. Industry Transformation

South Africa is famous for its well-written policies and strategies which are more often than not left to gather dust on storage shelves. The energy sector is also unfortunately amongst the industries with a number of policy documents which, if only they were implemented, could have a great impact. The Integrated Resource Plan (IRP) 2010 is a typical example of the government's lack of urgency in policy implementation. By the time it was finally published in 2019, the IRP had already been superseded by quite a few developments in the sector, such as preparations for the fifth bid window of the Independent Power Producers' Programme (IPPP), and was delayed in addressing some of the sector's robust challenges. The document needed a lot of work to refine its implications for the sector and the future of electricity supply in South Africa, and to be able to align with global climate change and national sustainable development goals.

Since its publication, the Department of Mineral Resources and Energy (DMRE) has shown very little commitment to the implementation of the policy. In addition, the Department has recently opted to commit to some of the most contentious parts of the IRP, including the possibility of establishing nuclear power plants, and seeking to postpone the decommissioning of some of the old coal power plants. The same Department has a mandate to assist Eskom in its plans to restructure, and to make electricity supply sustainable once more. Cost-effective resource planning that involves large investments in renewable resources should form an integral part of such a process, as opposed to the route the Department is committing to.

2.1 Restructuring

The announcement by President Cyril Ramaphosa that Eskom would be 'unbundled' into three separate entities contributed to a significant shift in policy thinking, especially by Eskom. Since the announcement, which was followed by various commitments by the Department of Public Enterprises (DPE) and Eskom, a platform to influence transformation in the electricity industry has been opened. Despite several concerns by unions and public opinion, the idea of making Eskom sustainable again is largely welcome, mostly for the economic benefits it offers. Some unions are concerned that the restructuring of the utility will result in its privatisation, but government has re-assured people that it will remain under Eskom Holdings, a public entity. Government is convinced that unbundling the entity will help in its performance, as it will increase competition and the level of accountability. Eskom will be separated into generation, transmission and distribution entities, allowing private players to take part in the supply chain process, and giving consumers such as municipalities the opportunity to choose the most viable supply options. The process is expected to take longer than was initially envisaged, but a start was made with the appointment of board directors and division managers for each of the three different entities earlier this year.⁵

2.2 Electricity Policy & Programmes

South Africa's many energy policies and programmes recognise the constant challenge of energy poverty, but the implementation part of the process tends to drift widely from the outlined goals in the documents. The following are some of the most familiar programmes that were established with the primary goal of addressing the energy poverty gap:

- The Integrated National Electrification Programme
- Free basic electricity
- The Renewable Energy Programme

2.2.1 The Integrated National Electrification Programme

The (INEP) was established to help guide the application of subsidies and reduce the electricity price for low usage customers. The approach involved producing electricity at the lowest possible cost using appropriate technologies and exploring best possible customer service options,

which allowed great space for innovation and adjustment to socio-economic and environmental circumstances. The goal is to reach universal access to energy by 2025, through an accelerated electrification process that will catch up with increases in the number of households. Since the programme started two decades ago, a large number of households in rural areas have been electrified, but the process has slowed drastically over the years, due to a lack of available spare capacity in most substations and high/medium voltage lines. Furthermore, the success of the electrification programme has added an increased demand for electricity and has overwhelmed the electricity supply industry's infrastructure.

2.2.2 Free basic electricity

While the INEP programme has done exceptionally well to connect poor households to the grid, the inability of such households to afford electricity remains a challenge. This has led to the introduction of the free basic electricity programme. Through municipalities as primary service providers, the free basic electricity allocation per poor household was set at 50 kWh on a monthly basis.⁶ This electricity was mainly used for lights and basic appliances such as radio and phone charging, while for activities such as cooking these households used alternatives such as wood or paraffin. To accommodate electrified households which could not afford to use more than 50 kWh and households which were entirely not electrified, government declared energy fuels such as paraffin value added tax (VAT) free. This perpetuates the continuous use of fossil fuels, due to the lack of policy commitment to explore and support the localised sustainable alternatives that are available to these communities.

2.2.3 Renewable Energy Programme

The renewable energy paradigm was formally introduced through the IRP, and signalled a pivotal shift in energy policy for South Africa. It is recognised that the country is among the world's top emitters of greenhouse gases due to its source of energy generation. About 90% of South Africa's energy generation is from coal,⁷ which makes one of the country's main GDP pillars – electricity generation – environmentally unsustainable, added to its existing socio-economic unsustainability. In terms of the IRP, new generation capacity with mixed energy sources including renewables such as concentrated solar power (CSP), wind, solar PV, landfill gas and biomass, was planned. The process commenced

with smaller projects, and ultimately led to the programme known as the 'renewable energy independent power producers' procurement programme' or RE-IPPPP. Despite some progress, the programme is advancing very slowly with little consideration for the immediate needs of marginalised communities and their ability to access electricity to better their lives. Furthermore, there is a growing concern that it is an attempt to privatise the electricity supply industry, as it allows private role players an opportunity to influence the system. Conversely, others are confident that it will help Eskom to improve its customer service orientation.

3. A Just Energy Transition

The International Trade Union Confederation defines a just transition as follows: "A just transition secures the future and livelihoods of workers and their communities in the transition to a low-carbon economy. It is based on social dialogue between workers and their unions, employers, government and communities."⁸ It goes on to clarify that there has to be a plan in place to provide and guarantee better and decent jobs, social protection, more training opportunities and greater job security for those affected by global warming and climate change policies. The premise of this definition is that societies ought to be prepared for the inevitable implications of global warming and climate change, and therefore governments have to put in place viable plans to help facilitate the process of change. South Africa can learn from the case study of the drastic collapse of the gold and diamond mining industry, where a lot of workers abruptly lost their jobs and there were no plans in place for them. This has left a huge socio-economic crisis that continues to contribute to the unemployment crisis. A preparation plan for the foreseeable future in the energy industry could provide potential to leverage financial investment that will help promote sustainable energy objectives, while creating employment to stimulate economic growth and increasing access to electricity supply.

4. Conclusion

Making electricity supply sustainable remains a central challenge in developing South Africa. It is recognised that, although the main implication for the environment in our energy system is associated with how we generate electricity, the entire supply chain process requires substantive

changes if we are to attain inclusive development. It is crucial to acknowledge that for developing countries such as South Africa the starting point is development, and the objective is to continuously seek an approach that makes energy development sustainable (both in economic and environmental terms); while simultaneously creating equitable opportunities for people to gain access to the benefits of development.

Without policy commitments that prioritise inclusive development, people will always resort to available, accessible and affordable methods of powering their own world. In many cases, these

methods endangering their lives or health, and directly contradict broader policy commitments and goals. The connection between a sustainable electricity supply system and economic growth/development works in both directions. A failing electricity supply system obstructs economic growth, while a stagnant economy causes a drastic decline in electricity revenue. And poor people are always at the centre of such a struggle.

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¹<https://tinyurl.com/y3qtk92n>

²<https://tinyurl.com/y59yluew>

³ <https://tinyurl.com/y26c5ovw>

⁴ <https://tinyurl.com/y4csptew>

⁵ <https://tinyurl.com/y4m6ftjh>

⁶ <https://tinyurl.com/y6he9k59>

⁷ <https://tinyurl.com/y6ddlt6o>

⁸ <https://tinyurl.com/y3k75q4f>