Let there be light:

Electricity and Economic Growth in eThekwini

ETHEKWINI MUNICIPALITY

EDGE
Economic Development
& Growth in EThekwini

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Introduction

Whether it is about the type of energy (renewable vs. fossil fuels), the exact source of energy (nuclear, coal, wind, solar), how much energy (efficiency measures and taxes), or everyday issues (voltage dips and power outages), energy is always a heated issue. So when the head of the eThekwini Electricity unit, Sandile Maphumulo, states that "without power nothing will happen", we know what he means in both the political and technical sense of the word.

Electricity and economic growth are inextricably linked, and most, if not all of us experienced this in a very real way during the 2007/2008 electricity crisis and load shedding. There are many key issues at the 'coalface' of electricity and economic growth, but the particular focus of this article is on the security of electricity supply for economic growth, and touches on voltage dips, price hikes, expansion, and renewable energy.

Plugging into Electricity and Economic Growth

EThekwini Electricity supplies approximately 672 000 customers (including large industrial, commercial, and residential) in the metropolitan region, as well as pockets of areas in the iLembe district. This amounts to a serviced area of nearly 2000 km², and purchases of just over 5% of the total energy generated by Eskom.

eThekwini Electricity's vision is to be "a leader in electricity distribution providing energy for the future". Maphumulo emphasised that the Electricity Unit's role in the municipality's economic growth is to ensure an infrastructure capable of sustaining an acceptable quality of service that supports businesses, and thus drives the economy. There are numerous 'highs and lows' with providing this service, and it goes without saying that price hikes and voltage dips are two of the most critical.

NERSA, Eskom, and Electricity Tariff Increases

Eskom's price hikes are a concern for everyone as they impact inflation, business, industry, and ordinary citizens. The National Energy Regulator of South Africa (NERSA) allowed Eskom an average tariff increase of 26,7 1% for the 2011/2012 financial year. From this, and NERSA's guideline increase of 20,38%, eThekwini Electricity decided on an average tariff increase of 19,8% for that same year. In terms of future price increases, Eskom runs these on a 3 year cycle and we are now in the 3rd year. According to Maphumulo, we should expect another double digit rise from Eskom in 2012/2013 in the region of 27%, which will probably amount to an average tariff increase from eThekwini of between 22 – 23%. The final figure of course will be the result of NERSA's guidelines and discussions between Eskom, Electricity users, and the community.

2012/2013 will indeed be an electricity supply 'crunch period', according to Maphumulo, as the first phase of the Medupi coal-fired power station is only due to come online in 2013. All of this will mean a significant shift for business and industry involving even higher prices on the consumer to cover these costs and/or decreasing these costs by changing current practices. However, customers in eThekwini can be assured that the municipality "strives to maintain affordability of electricity for all" in the face of these difficulties.

The concern around electricity prices was reinforced in this year's State of the Nation Address in February where President Zuma specifically requested proposals from Eskom "on how the price increase requirement may be reduced over the next few years, in support of economic growth and job creation". According to Public Enterprises Minister Malusi Gigaba, this report will be given to the President in March 2012.

Keeping Voltage Constant

Outside of pricing, another key challenge at the interface of electricity and economic growth, particularly in connection with large industry, is that of voltage dips. Voltage dips refer to a reduction, and sometimes complete loss, in voltage. Effectively the required energy supply is not meeting the load. For larger industries, this often means the disruption of systems which are designed to turn off when power supply dips below a certain level.

When it comes to this challenge, Maphumulo stressed that dip proofing is the responsibility of both the customer and supplier; however, sometimes complete dip proofing is not feasible. Voltage dips have numerous causes such as the smoke from farmers burning cane under power lines, overgrown vegetation causing faults, cable theft, and faults being inherited from the wider Eskom network. In order to deal with these challenges the eThekwini Electricity Unit has a multifaceted approach that includes:

- Network design that allows for adequate quality to customers
- A strong maintenance philosophy which involves working with farmers, vegetation maintenance, etc.
- Serious measures against cable theft. for example, consulting forensic companies and conducting covert operations
- Rigorous monitoring and evaluation where reports are gathered and sent to concerned customers

Looking to the future, Maphumulo is confident that eThekwini Electricity has the capacity to support economic growth if they are given enough notification regarding future projects and developments. They already have a presence in the current areas of expansion, for example in the north where the development of Dube Tradeport and Cornubia will be supported by the recent upgrade of the Ottawa substation next to the King Shaka Airport. They have an integrated approach to development, and their electricity master plan - from which they base their expansion activities - incorporates a detailed study on socio-economic realities and possible growth scenarios including direct input from the Economic Development Unit among others. Moreover, Maphumulo calls for constant dialogue between departments so that they are aware, and ready, for changes in development trends.

Renewable Energy: Challenges and Current Initiatives

When it comes to a discussion on energy and economic growth, the issue of renewables and the transition to a low carbon economy cannot be ignored. Relating to the viability of renewable energy, Maphumulo is confident that it is technically possible. EThekwini already has renewable energy sources from the Bisasar Road and Marianhill landfills, and are supportive of the installation of what will be the largest solar PV system in Africa at the Dube Tradeport Agrizone.

Despite these projects, and others like them, commercially there are still some issues with renewable energy. Quite simply, renewable energy in South Africa at the moment is, according to the Electricity Unit, too expensive. Essentially, if the Electricity Unit was offered power from renewables at the same cost as Eskom they would take it, but this form of energy still has some way to go in terms of cost, production, and load factor to enable such prices.
There are however, numerous projects and initiatives seeking to tackle renewable energy issues and energy efficiency. The Electricity Unit has a 10% saving campaign, and current plans to audit and retrofit their building. There are also projects being run by the eThekwini Energy Office such as the Shisa Solar roll-out of solar water heaters.

Conclusion

Energy and power, and within this electricity, is one of the most pertinent challenges of our time relating to society, the environment, the economy, and governance. There is no doubt that economic growth and development rely on electricity, and that the energy sector in South Africa is potentially one with positive economic growth prospects. These links, along with the everyday issues at the interface of our local economy and infrastructure, demonstrate the complexity of the electricity-economic growth relationship. They present both challenges and opportunities, all having very real consequences for business, industry and citizens of eThekwini.

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